

SETEP V.3 | ISSN Print: 2447-0481 | ISSN Online: 2447-049X





These proceedings contain technical papers presented at the Technology Conference – 29<sup>th</sup> Edition, August, 21 - 24, 2017.

Reproduction or publication of the content, in whole or in part, without expressed permission is prohibited. No liability is assumed with respect to the use of the information contained herein.



## SET EXPO PROCEEDINGS

## SETEP v.3, 2017

Online version available at www.set.org.br/SETEP

ISSN print: 2447-0481 ISSN online: 2447-049X

São Paulo/SP

Av. Auro Soares de Moura Andrade, 252- Cj. 31 e 32 01156-001 Phone: +55 (11) 3666 9604 www.setexpo.com.br | set@set.org.br

## SET Board of Directors 2017 – 2018

Office of the Presidency President: Liliana Nakonechnyj Vice-President: Claudio Eduardo Younis Institutional Advisory Roberto Dias Lima Franco

**Superintendent** Olímpio José Franco Fiscal Council Cintia Leite do Nascimento Eduardo de Oliveira S. Bicudo Fernando Antônio Ferreira João Braz Borges Ricardo de Fonseca Kauffmann

Deputy Director: Luiz Fausto de

Director: Fernando M. Bittencourt Fº

Deputy Director: Ana Eliza F.e Silva

#### Publishing

Director: José Raimundo L.da Cunha Deputy Director: Francisco de Assis Campos Peres

#### Education

Director: José Frederico Rehme Deputy Director: Valderez de A. Donzelli Leite

#### Cinema

North

Salles

Northeast

Fernandes

Director: Celso Eduardo de Araújo Silva Deputy Director: Almir Almas

Interactivity Director: David Estevam de Britto Deputy Director: Marcelo Santos Souza

Industrial Director: Luiz Bellarmino Polak Padilha Deputy Director: Yasutoshi Miyoshi

Deputy Director: Ricardo Alberto Pereira

Director: Esdras Miranda de Araújo

Deputy Director: Jaime Manuel C. F.

Director: Nivelle Daou Junior

Events

Director: José Carlos Aronchi Deputy Director: Alexandre Y. Sano

Marketing Director: Daniela Helena M. e Souza Vice- Director: Paulo R. F. de Castro

MARKET SEGMENT DIVISIONS

Content Production Director: José Dias Vasconcelos de Assis Deputy Director: Paulo Mitsuteru Kaduoka

Pay TV and New Medias Director: Roberto Pereira Primo Deputy Director: Rodrigo Dias Arnaut

#### **REGIONAL DIVISIONS**

#### Mid-West

Director: Emerson Weirich Deputy Director: Paulo Ricardo Balduino

#### Southeast

Director: Paulo Roberto Monfrim Canno Deputy Director: José Raimundo Cristovam Nascimento South Director: Ivan Miranda Deputy Director: Caio Augusto Klein

This open access Journal is distributed under a Creative Commons Attribution (CC-BY) license. Available at: http://www.set.org.br/setep

Technology

Souza Brito

International

Director: Carlos Fini

Radio

Director: José Eduardo Marti Cappia Deputy Director: Marco Túlio Nascimento

**Open TV** Director: Raymundo Costa Pinto Barros Deputy Director: Sergio Eduardo di Santoro Bruzzetti

## SET EXPO PROCEEDINGS

SETEP v. 3, 2017

## Expedient

EDITORIAL

**Board SET** 

President Liliana Nakonechnyj

Vice President Claudio Eduardo Younis

Superintendent Olímpio José Franco

**Executive director** José Munhoz

**Editorial** José Raimundo Lima da Cunha Francisco de Assis Campos Peres

**Education** José Frederico Rehme Valderez de Almeida Donzelli Leite

**Marketing** Daniela H.M. e Souza Paulo Roberto Feres de Castro

Staff Communications Manager Carla Dórea Bartz

Design Gráfico: Solange Lorenzo

## 29th Technology Conference

## SUMMARY

Editorial	4
Presentation	9

### Aug.21,2017 Monday

01	Innovation and Disruptive Technologies	Increasing Audience: Engaging with Big Data & AI & IOT & MR – Real Interactivity (demo CHATBOT) Rodrigo Dias Arnaut, Jefferson Prestes, Rodrigo Terra, Renato Teixeira, Marcelo Blum e Robson Ferri	10
02	Regulatory Issues and Standards	Spectrum and Future Services André Trindade, Hiroyuki Ogawa, Paulo Ricardo Balduino, Leonardo Euler de Morais e Ilham Ghazi	14
03	Content Production	Technology in Journalism: Impacts on Production and News Publishing Raimundo Lima, Avi Cohen, Rafael Gomide, Rafael Boni Marques e Eduardo Brandini	17
04	Hot Session	Destiny and Evolution of TV Fernando Bittencourt, Lisa Hobbs, Skip Pizzi, Masayuki Sugawara e Simon Fell	19
05	Workshop	IP Production – Grass Valley José Antônio Garcia e Robert Erickson	21
06	New Platforms and Infrastructure	Information Security and Data Privacy for the Audiovisual Market – Cyber Security Emerson Weirich, Leandro Valente, Vinícius Brasileiro, Tácito Augusto Silva Leite e Lucimara Desiderá	22
07	Technology and Business	Audiovisual Startups – Opportunities and New Business Models José Carlos Aronchi, João Carlos Massarolo, Raquel Molina, Charles Boggiss, Edson Mackeenzy e Fernando Chamis	25
08	Innovation and Disruptive Technologies	Making Virtual Reality (VR) a Reality! Daniela Souza, Renato Citrini, Ricardo Laganaro e Marcos Alves	29
09	Technology for TV and Radio	Evolution of TV Standards Cristiano Akamine, Kenichi Murayama, Skip Pizzi, Lisa Hobbs e Sidnei Brito	31

### Aug.22, 2017 Tuesday

10	Regulatory Issues and Standards	Meeting with MCTIC and ANATEL Tereza Mondino, Vitor E. Goes de Oliveira Menezes, Ivan Miranda, Vanda Bonna e Samir Nobre	34
11	New Platforms and Infrastructure	Video OTT: Best Practices and New Frontiers José Salustiano Fagundes, Zalkind Lincoln, Masaru Takechi , Flavio Amaral, Marcelo Knörich Zuffo , Marcello Azambuja e Luiz Bannitz Guimaraes	37
12	Technology and Business	How to reach New Generations of Audience in a Competitive Market? Hugo Nascimento, Karina Israel, Carolina Duca, Marcela Doria e Manuel Monroy	41
13	New Platforms and Infrastructure	<b>Next Generation Solutions for TVs, OTTs and VODs with IP Via Satellite</b> J.R. Cristóvam, Jurandir Pitsch, Ricardo Calderón, Edio Gomes, William John Hemmings, Mauro Wajnberg, Marcio Brasil e Geraldo Cesar de Oliveira	44
14	Management and Workflow	<b>The Recipe for Innovation</b> Daniel Monteiro, Fabio Castro, Net Marin, Glauter Jannuzzi e Juliana Munaro	48

15	Hot Session	Switch-off: Lessons Learned and what lies ahead Fernando Ferreira, Raymundo Barros, Antônio Carlos Martelletto, Dora Câmara e Louis Libin	51
16	Regulatory Issues and Standards	Security and Copyright Integrity in UHD Content Antonio Salles, Marcelo Bechara, Ygor Valerio e Daniel Pitanga	53
17	Technology for TV and Radio	Brazilian Pioneering in Immersive Audio: Practical Experiences Rafael Castro, Luana Bravo, Carlos Watanabe, Gabriel Thomazini, Carlos B. Ronconi e Rodrigo Meirelles	56
18	Regulatory Issues and Standards	The Role of the Technology Area in the Analog Switch-off Process and the Start of the 4G / LTE in the 700 MHz Band Rafael Leal, Carlos Cauvilla, Luiz Fausto, Mara Raquel Ballam, Fernando Gomes de Oliveira	59
19	Technology and Business	Broadcasting Market: the Uncertainty facing the Digital World Paulo Canno, Luana Bravo, Daniela Souza, Rodrigo Navarro Marti, Akihiko Chigono e Rodrigo Neves	62
20	Hot Session	The Technology of Independent Content Production – BRAVI Celso Araújo, Esdras Miranda, Tiago Mello, Sabrina Nudeliman Wagon e Marcio Yatsuda	65
21	Technology for TV and Radio	HDR Master Class – SMPTE Paulo Henrique Castro, Joel E. Welch e Matthew Goldman	68

## Aug. 23, 2017 Wednesday

22	Regulatory Issues and Standards	Accessibility: Closed Caption, Brazilian Sign Language (LIBRAS), Audio Description and Updating of Standards Caio Augusto Klein, Luiz Fausto, Raphael Oliveira Barbieri, Leandro Duarte Fernandes e Marcos Luis Padeti Junior	70
23	Hot Session	Consumer Habits and the Future of Media Roberto Franco, Alberto Menoni, Gregor McElvogue e Skip Pizzi	73
24	Innovation and Disruptive Technologies	Innovations in the industry of Cryptocoins, Games and Startups José Dias, Fernando Chamis, Cidinaldo Boschini, Octávio Moura e William Soares	75
25	Technology and Business	The Subscriber TV Market and OTT in Brazil Claudio Borgo, Hugo Amaral Ramos, Damien Sterkers, Alessandro Maluf e Fabiano Barbieri	77
26	Management and Workflow	IP Live Production: Status, Evolution and Best Practices José Antônio Garcia, Matthew Goldman, Robert Erickson, Boris Kauffmann, Antonio Leonel da Luz	79
27	Technology and Business	Internationalization of ISDB-T Luiz Fausto de Souza Brito, Masayuki Sugawara, María Eugenia Muscio e Carlos Eduardo Valle	82
28	Technology for TV and Radio	AM Radio Migration and the Revision of the Technical Regulation Eduardo Cappia, Andre Ulhoa Cintra, Caue Franzon e José Mauro de Ávila	85
29	Technology and Business	Subscriber TV / VoD and OTT Maurício Donato, Marcelo Coutinho, Oscar Vicente Simões de Oliveira e Guilherme Saraiva	87
30	Regulatory Issues and Standards	Drones: flying Legally Francisco Peres, Felipe Filgueiras Costa, Flávio Fachel e 1o.Ten Mário Ferreira Ferraz	89
31	New Platforms and Infrastructure	Evaluation and Quality Control of IP Distribution Gilvani Moletta, Renan Cizauskas, Fabio Acquati, Samuel Yuen e Carlos E. O. Capelão	91
32	Technology for TV and Radio	FM in Mobile and Radio in Car Panel – Pathways to the Future of Radio Marco Túlio Nascimento, Skip Pizzi, Alexandre Barros, Andre Ulhoa Cintra e Mathias Michael Oeelein	94
33	Technology and Business	Future of Multiplatform TV Monetization Marcelo Souza, Vinicius Reina, Gilles Chetelat, Amanda Signorini e Neil Berry	97
34	Content Production	<b>Drones: Flying Real</b> Eduardo Bicudo, Eduardo Mascarenhas, Fernando Villares, Raquel Molina, Fábio Pardini Campesi e Vitor Ferrari Fozzatti	100

35	New Platforms and Infrastructure	Cloud and Virtualization Alexandre Sano, Washington Cabral, Felipe Domingues, Eduardo Rezende e Benjamin Desbois	103
36	Technology and Business	Migration of Radio and the Market Rodrigo Neves, Roberto Dimas Ribeiro do Amaral, Paulo Machado de Carvalho Neto, Carlos Rubens Doné e Ricardo Gandour	106
37	New Platforms and Infrastructure	Lives Broadcast (360 4K and 8K) on Social Media – saving on SEO, Ads and Resources (demo live 360 4K) Rodrigo Arnaut, George Bem, Juliano Kimura, Pedro Zambarda, Juliano Milanez, Charles Boggiss	109

## Aug. 24, 2017 Thursday

38	Hot Session	Project UHD – Brazil: a Bridge to the Future Olímpio José Franco, Skip Pizzi, Mike Bergman e Liliana Nakonechnyj	112
39	Academic	Scientific Academic Panel – Morning Edition Ronald Siqueira Barbosa, Daniel Rodrigues Ferraz Izario, Deisy Fernanda Feitosa, Evandro Franco Tiziano, Victor Morales Dionísio, Ricardo Seriacopi Rabaça, Diego Arturo Pajuelo Castro e Kassia Toccolini	115
40	Content Production	Ultra High Definition and Super Ultra High Definition in Audiovisual Productions Almir Almas, Claudio José Lima Peralta, José Francisco Neto, Luis Ignacio Barrague e Luiz Gonzaga Assis De Luca	119
41	Innovation and Disruptive Technologies	<b>5G and the Future of Mobility</b> Paulo Ricardo Balduino, Lisa Hobbs, Francisco Giacomini Soares e Emilio Loures	122
42	Technology for TV and Radio	Inventing the Future – Research & Development – R&D Cristiano Akamine, Kenichi Murayama, Skip Pizzi, Diego Arturo Pajuelo Castro e Julio Omi	124
43	Content Production	The Audio Scenario in Dramaturgy Rodrigo Meirelles, Ricardo Cutz, Geraldo Ribeiro e Paulo Ricardo Nunes	127
44	Innovation and Disruptive Technologies	Innovations and News of Consumer Electronic Products Alberto Seda Paduan, José Francisco Alvarenga, Mike Bergman e Igor Krauniski	129
45	Academic	The Communication Outlook for the Future of Broadcasting and New Media Fernando Moura, Alvaro Bufarah, Francisco Machado Filho, Renato Tavares Junior e Willians Cerrozi Balan	131
46	Technology for TV and Radio	Your Station Performance: Infrastructure Sharing & Energy Efficiency & Coverage Valderez Donzelli, José Roberto Elias, Sérgio Luís Nogueira Martines, Ramiro Frugoli Franco, Andre Vinicius de Andrade Araujo e Glenn Zolotar	134
47	Technology for TV and Radio	5 i X]c <sup>·</sup> ' 8 <sup>·</sup> UbX <sup>·</sup> <b>=a a Yfg]j Y</b> Nelson Faria, Rodrigo Meirelles, Rafael de Castro, Eduardo Andrade e Alfonso Carrera	138
48	Technology and Business	Ultra HD – Production and Consumer Market impacts Leonardo Chaves, Giselle de Liz, Gustavo Marra, Carlos Watanabe e André Felipe	141
49	Content Production	New technologies: Sensor and Lens UHD-8K Full Frame 24x36mm with Agnostic Aspect Ratio Celso Araújo, Mario Jannini, Gordon Tubbs, Erick Soares, Eric J Johnston, Cristiano Barbieri e Snehal Patel	144
50	Academic	<b>Scientific Academic Panel – Afternoon Edition</b> Luana Carolina Bravo, Euclides Lourenço Chuma, Kassia Toccolini, Lucas Vieira de Araújo, Reinaldo Padilha França, Paulo Eduardo dos Reis Cardoso e Guilherme Boscolo dos Santos	148

51	<b>Content Production</b>	IT'S SHOW TIME!	152
		Carlos Ronconi, Gabriel Thomazini, Manoel Gonçalves Tavares e Beto Neves	
52	Technology for TV and Radio	Theory and Experiences of Digital TV Coverage	154
		José Frederico Rehme, Marcello Martins, Anderson de Oliveira, Paulo Eduardo dos Reis Cardoso, Luiz	
		Ricardo Tonin, Valderez De Almeida Donzelli, Milos Pavlovic	

## **Presentation**

The **SET EXPO Technology Conference**, as well as the related concurrent events, seek to discuss the future of the Broadcast, Telecommunications, Audiovisual and New Media industry, as well as their inherent relationships with a range of issues: computing, infrastructure, communication, production and regulatory affairs. This magazine, called **SET EXPO PROCEEDINGS**, also known by its acronym SETEP, is a compilation of the entire conference agenda, that is, a description of the entire contents of all sessions at what is largest encounter of its kind in this region of the globe. Thus, as the entity staging this event, SET (the Brazilian Society of Television Engineering) believes that information sharing can but work to the benefit of rich and innovative discussions so that we can continue to build an active community and a strong sector, in addition to achieving the desire, with which we have always been imbued, to push the envelope. The board, president, members, associates, staff, directors, partners, organizations and supporters, whether from the public or private sector and/or government, Brazilian and/or international, wish to thank all those who have always been instrumental in helping us to fulfill our passion for the development of this area.

We would also like to reiterate the information that this publication has been properly registered with the ISSN in printed and electronic formats, and that each session was recorded and allocated a persistent link. That is, all sessions are reproduced as published articles and receive a Digital Object Identifier (DOI) from CrossRef, a record in the form of a persistent link on the web that allows them to be indexed by the key indicators of impacts and quotes (such as: Scopus, Web of Science, JCR, SciELO, etc.). It is worth pointing out that this magazine is available in three languages: Portuguese and English.

### 9h - 11h | Aug. 21, 2017 – *Monday* | ROOM 16

INNOVATION AND DISRUPTIVE TECHNOLOGIES

## INCREASING AUDIENCE: ENGAGING WITH BIG DATA & AI & IOT & MR – REAL INTERACTIVITY (DEMO CHATBOT)

Chair: Rodrigo Dias Arnaut - Director - EraTransmidia/ FAAP/ SET/ Esconderijo

In the 1990s the great label of creativity was Research and Development (R & D), in 2000 we started to call it "Innovation" and in this decade the concept of "Disruptive Innovation" is geting stronger.Of an outdated and old model to be replaced by a new and contemporary model, a rupture of concepts, bringing disruption as the "beyond" of the new, an interruption of the normal course of a process. Given this scenario of new labels, we will translate in a practical way what BigData means, where large volumes of different information are quickly accessed, as well as AI (Artificial Intelligence) where algorithms and tools are increasingly present in our day-to-day life, in complex software or even in our social media chats. Other alphabet soup are Virtual Reality (VR), AR (Augmented Reality) and MR (Mixed Reality), which lead users to interact with virtual environments increasingly common in brand experiences, and IoT (Internet Of Things) that will reach more than 50 billion connected devices in the internet in 2020, involving the whole chain of the consumer industry. With all this Disruption, our lives are becoming totally interactive, we talk to machines all the time, and it may be that we will not talk to humans any more. Really? Come listen to what this disruptive folks will present in the debate, bring your friends and come and discuss with us the future of media interaction. We will do a real-time demonstration of the creation and programming of a chatbot within a fanpage, a Facebook messenger robot.

## • TALKING WITH MACHINES

### Speaker: Jefferson Prestes - Director Novatrix / Chronos Bot

Using AI tools to optimize costs, amplify the quality and accuracy of information for consumers, users and viewers through the use of Machine Learning and AI integrated into social media, such as fanpages within Facebook. Cases even from TV stations that release videos through chatbot, an OTT (Over The Top) via AI!

## • MIXED REALITY HAS ARRIVED!

# Speaker: Rodrigo Terra – Founder and Director Arvore.io / President EraTransmidia

How MR (Mixed Reality) will transform our world of content and immersive experiences, blending holography with real images. Productions in VR (Virtual Reality), case McDonalds; Applications AR (Augmented Reality) as Pokémon and Transmedia, are state of the art in building brand experiences for the new generation of audience that the media world is facing today.

## • ENGAGEMENT AND ONLINE VOTING Speaker: Renato Teixeira - Choicely Brazil / FAAP

Advertising professional is a consultant for market research and media, and digital marketing strategies. Professor of behavior of the television audience at FAAP. With experience in media and market research for 28 years at IBOPE Media and Datafolha institutes.

# HOW THE INTERNET OF THINGS AND BIG DATA WILL CHANGE OUR LIVES AND THE BROADCAST WORLD

### Speaker: Marcelo Blum - Videodata Systems and Technology Manager

The new generations are accustomed to "all at the same time now". We live in a world in which things grow exponentially and paradigms are constantly broken. Consolidated businesses disappear and new businesses come up quickly, changing habits and making people's lives easier. The media and entertainment industry needs more and more to incorporate these concepts, to become more efficient, profitable and therefore keeping itself relevant. The internet of things will revolutionize homes and businesses in general, interconnecting devices, social networks, automating processes and at the same time generating an enormous mass of data, which through Big Data tools, can anticipate the yearnings of people. The contents and advertising will be increasingly transmedia and multiscreen experiences, in which the reactions will be monitored in real time and the experiences adapted to each person.

## CREATING CONTENT USING AUDIENCE DATA

### Speaker: Robson Ferri - Radio and Advertising Professional

Creating content for radio shows is a challenge, especially for diversified audience segmentation. We have almost 10,000 educational, commercial and community TV and radio stations throughout the country, 4377 community radios and 1501 FM radios. Analyzing audience data and getting to know the target audience of these radios is essential in the content production strategy. Conducting research and using interactivity with bigdata and engagement technologies can transform content creation into the starter engine of the broadcaster, increasing or even decreasing audience leakage for other media.



### Rodrigo Dias Arnaut - Director - EraTransmidia/ FAAP/ SET/ Esconderijo

Transmedia consultant and planner for producers and agencies, by Esconderijo das Crianças, digital media professor at FAAP in communications courses, undergraduation and pos graduation. Master of Science from USP (Poli), specialization on Business Management and Technological Innovation at ESPM, Computer Engineer at USJT. Concluded an extension course in E-business in UofT (University of Toronto). President at EraTransmidia Association, where he currently develops audiovisual production research in the field of immersive video, virtual reality / augmented and actions of social impact. With 25 years of professional and academic experience in Technology, Business and Communication in brainstorming and Transmedia projects, IT, Telecom, TV, IoT, Mobile, Web, Games, Wearables, Interactivity, Holography, Virtual and Augmented Reality, Media , Advertising and marketing, 21 years in the Globo group at R&D Research and Development for technology to Sports areas, Journalism and Entertainment, where he developed more than 50 projects received 15 awards, highlighting IBC Special Awards of the "float" (Amsterdam). It is also a partner at startup Gigamobb and consulting at Esconderijo das Criancas, focused on developing projects with MAMP methodology (Multi Platform Multi Audience) created by EraTransmídia. Vice Director of Pay TV and New Media at SET. Speaker at over 200 events in Brazil and abroad.

#### Jefferson Prestes - Director Novatrix / Chronos Bot



Jeff is Entrepreneur and a Polymath Developer, from C to Go he has worked with many different technologies during his 21 year career including Business Intelligence, e-commerce and web development. Internet of Things, Physical Web and Machine Learning are his new passions. As a specialist and researcher, he creates new technology uses for the future that combines mobile, server technologies and electronics to build Cognitive Computing.



### Rodrigo Terra - Founder and Director - Arvore.io / President EraTransmidia

Post-Graduate in Administration by FGV. Specialist in Entrepreneurship by IBMEC-SP. Graduated in Radio and TV by FAAP-SP. He studies and develops Transmedia content since 2006. He has directed and conducted several projects in audiovisual and transmedia for broadcasters and producers. He was co-author, director-general and artistic director of the series Sexo no Sofá, screened by TV Futura and Glitz \* (Turner). Consultant in Transmídia in the program Objetiva Audiovisual of Sebrae/APRO, professor of Content Production in Audiovisual module at PUC-PR. He is creative director and evangelist of immersive experiences, Virtual Reality, Augmented and Mixed. Today he is president of the EraTransmidia Association, partner-director of Fazenda Urbana and COO of Arvore Experiências Imersivas.



#### **Renato Teixeira - Choicely Brazil / FAAP**

Advertising professional is a consultant for market research and media, and digital marketing strategies. Professor of behavior of the television audience at FAAP. With experience in media and market research for 28 years at IBOPE Media and Datafolha institutes.



### Marcelo Blum - Videodata Systems and Technology Manager

Graduated in Electronic Engineering from UFRJ, with 25 years of experience in the market of Television Engineering, Videodata Systems and Technology Manager, specialized in Playout Systems, Cloud Playout, Media Asset Management, Video and Media Workflows Orchestration, Video Compression and Transport, Production and Post Production and Critical Mission Systems. Member of SET for more than 24 years, has contributed presenting numerous lectures in its events.



#### **Robson Ferri - Radio and Advertising Professional**

Cite this article:

Arnaut, R. D., Prestes, J., Terra, R., Teixeira, R., Blum, M., and Ferri, R.; 2017. Increasing Audience: Engaging with Big Data & AI & IOT & MR – Real Interactivity (demo CHATBOT). SET EXPO PROCEEDINGS. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.1. Web Link: http://dx.doi.org/10.18580/setep.2017.1

### 9h - 11h | Aug. 21, 2017 - MONDAY | ROOM 13

## **REGULATORY ISSUES AND STANDARDS**

## **SPECTRUM AND FUTURE SERVICES**

Chair: André Trindade - Engenheiro de Comunicação - ABRATEL

The panel will present the current spectrum situation and the demand for future broadcasting services in Japan and Brazil. Regulators have the challenge of addressing the spectrum requirements of different sectors and, given the strong pressure in some countries to adopt 600 MHz for broadband, the positioning of Anatel as a regulator of the Brazilian spectrum will be presented and discussed. We will also see how this issue has been conducted in international forums, with an emphasis on the Americas. Moreover, the panel will discuss the use of the VHF band by some channels.

# POLICY AND VISION OF USE OF SPECTRUM IN JAPAN -AFTER ASO

## Speaker: Hiroyuki Ogawa - Director for Digital Broadcasting Technology, Ministry of Internal Affairs and Communications, Japan

Japan completed ASO in March 2012. After ASO, some VHF and UHF bands that used by analogue-TV has been re-allocated to other services. In the presentation, how the spectrum was re-allocated after ASO in Japan and current issues related to the spectrum allocation towards the launch of 5G mobile system are explained

## • A DANGEROUS SCENARIO...

# Speaker: Paulo Ricardo Balduino - Diretor de Planejamento de TV/Espectro da ABERT

...is taking shape much more quickly than was expected where the use of the UHF band for broadcasting is concerned. Adding to the continually inflated projections for the broadband spectrum arising from inappropriate and biased studies by the ITU and large companies, the attitudes of the governments of countries in Region 2 are challenging both the decisions of the WRC 15, and the scope of the forthcoming WRC 19, which also puts at risk the validity of the decisions of a world conference of the ITU, an entity known for its consensual decisions. Global studies of demand cannot be used on a national basis, how does a country check in Recife override a globalized projection for

traffic growth. And the efficient use of the spectrum remains a taboo. These issues will be dealt with to encourage discussions.

## SPECTRUM: THE VISION OF ANATEL

# Speaker: Leonardo Euler de Morais - Presidente do Comitê de Uso do Espectro e de Órbita (CEO)

The President of the CEO - Spectrum and Orbit Use Committee - will present how Anatel thinks about the future of TV in Brazil and its vision on spectrum needs for current demand and new broadcasting technologies. He will also address the positioning and performance of the Brazilian administration in the international forums of the Inter-American Telecommunication Commission (Citel) and the International Telecommunication Union (ITU) on the spectrum used by broadcasting.

### THE ITU (INTERNATIONAL TELECOMMUNICATION UNION) AND WRC 2015 RESULTS (WORLD RADIOCOMMUNICATION CONFERENCE) Speaker: Ilbam Ghazi - Head of Broadcasting Services at the

## Speaker: Ilham Ghazi - Head of Broadcasting Services at the Radiocommunications Office of the International Telecommunication Union.

In this live video participation, Ms. Ghazi will make a brief introduction about the International Telecommunication Union so that the importance of this organization can be understood for broadcasters in Brazil and Latin America. The results of the WRC 2015 will also be presented with respect to the spectrum used by the broadcasting and possible scenarios for WRC 2019 and 2023 will be presented. The process of regional coordination of VHF and UHF frequencies for Central America and the Caribbean has already begun and Brazil, for border issues, also participates. The ITU representative will also talk about the importance of this process.



### André Trindade - Engenheiro de Comunicação - ABRATEL

Network Engineer by UnB, with specialization in Public Management and Information Security. Trindade is a member of the Brazilian delegation to the Inter-American Telecommunication Commission (PCC.II CITEL). In addition, he is a full member of Gired -.Grupo de Implantação do Processo de Redistribuição e Digitalização de Canais de TV e RTV



## Hiroyuki Ogawa - Director for Digital Broadcasting Technology, Ministry of Internal Affairs and Communications, Japan

Hiroyuki Ogawa is currently a Director for Digital Broadcasting Technology, Ministry of Internal Affairs and Communications, Japan. He is in charge of technical assistance for the ISDB-T adopted countries and international promotion of 4K/8K technology. He joined the Ministry in 1998 and has the extensive experience of coordination of R&D projects, regulations, and international affairs in the field of telecommunications and broadcasting. He was also dispatched to the Embassy of Japan in Russia as a telecommunications attaché. He graduated from the University of Tokyo with a degree of B.E. in electrical engineering. He is also an avid amateur radio operator.



### Paulo Ricardo Balduino - Diretor de Planejamento de TV/Espectro da ABERT

Paulo Ricardo H. Balduino, born 1949, electronics engineer from the University of Brasília, married, with three children. Oversees the work of the Brazilian Association of Radio and Television Broadcasters - ABERT, focusing on the policy, planning and use of the electromagnetic spectrum. He worked at the Ministry of Communications as coordinator of international regulatory activities in different forums of the International Telecommunications Union - ITU and the Inter-American Telecommunication Commission - CITEL, having created, as far back as 1974 and 1975, the process for Brazil's participation in the work of the ITU and the CITEL, including Brazilian commissions of studies designated at the time as CBR.s and CBTT.s, nowadays restricted and renamed CBC.s. He has headed up Brazilian delegations at several meetings, assemblies and conferences of the ITU and the CITEL on a range of subjects, including planning for the use of the spectrum for different services. When the 12-GHz Satellite Broadcasting Service was in the planning phase, he presided over a group of experts who came up with the planning algorithms and the procedures for updating the plan. He was a founding member of the "National Infrastructure Committee on Information of ANATEL (C.INI - ANATEL), where he was responsible for the Telemedicine Group, having carried out his activities to an advanced level of development. He has represented ANATEL on several forums and working environments on this issue. He was Director and Co-founding Partner of the company, Spectrum Latino America, a joint venture with European company, Spectrum Strategy Consultants



## Leonardo Euler de Morais - Presidente do Comitê de Uso do Espectro e de Órbita (CEO)

Leonardo Euler holds a degree in Economics and a Master's degree in Economics from the University of Brasília. He has been a career servant of Anatel since 2005. Approved in the first public exam held by the Agency, where he served as head of the Technical Advisory. He is currently a member of the Board of Directors of Anatel and Chairman of the Spectrum and Orbit Use Committee (CEO).



# Ilham Ghazi - Head of Broadcasting Services at the Radiocommunications Office of the International Telecommunication Union

Graduated in Radiocommunications Engineering from the International Aviation Institute of Kiev, Ukraine and a Master's degree in Business Administration from the Ecole polytechnique Federale in Lausanne, Switzerland. She is currently charged by ITU to lead regional coordination meetings to allow administrations to have additional frequencies in the Band 470-694 MHz and facilitate the release of the first and second digital dividends.

Cite this article:

Trindade, A., Ogawa, H., Balduino, P. R., Morais, L. E. de and Ghazi, I. ; 2017. Spectrum and Future Services. SET EXPO PROCEEDINGS. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.2. Web Link: http://dx.doi.org/10.18580/setep.2017.2

### 11h30 - 13h | Aug. 21, 2017v- Monday | ROOM 16

CONTENT PRODUCTION

## **TECHNOLOGY IN JOURNALISM: IMPACTS ON PRODUCTION AND NEWS PUBLISHING**

Chair: Raimundo Lima - Diretor de Tecnologia e Operações – SBT – Sistema Brasileira de Televisão

The advancement and offers of new technologies in the newsroom and production environments have brought facilities, dynamism, speed in production, research and dissemination of news content. On the other hand, professionals who work in these environments need to understand, master and operate these tools to get the best out of technolgy which must be at the service of the news product, not the other way around. The different forms of disclosure in different platforms, require agility and charge more efficiencies of the professionals involved in the processes. Panelists will bring some of their experiences to meet these challenges, while providing insight into what awaits us in the near future.

- LIVEU A NEW WAY TO CAPTURE AND DISTRIBUTE LIVE VIDEO Speaker : Avi Cohen - COO e GM da LiveU Americas
- Speaker: Rafael Gomide Chefe de redação do Núcleo de Reportagens Especiais da Record TV
- Speaker: Rafael Boni Marques Technology Operations Manager TV Globo
- Speaker: Eduardo Brandini Head of Media and Entertainment YouTube -Brasil



## Raimundo Lima - Diretor de Tecnologia e Operações – SBT – Sistema Brasileira de Televisão

With more than 35 years of activities in Brazilian television, he has worked for Associated Diaries, TV Manchete, TV Globo (GINY), TV Band, TV Cultura / SP and Interactive Sport.During this period, he held several positions in the departments of Journalism, Sports, Drama and

Entertainment. With an eclectic background, he took courses at the University of Brasília, PUC-SP and Universidade Federal Fluminense, among other institutions.



### Avi Cohen - COO e GM da LiveU Americas



#### Rafael Gomide - Editor-in-chief of Record TV's Special Reporting Center

Already 23 years of journalism work, these 18 years are dedicated to telejournalism, as a reporter, editor, investigative reporter, producer, executive editor, editor-in-chief, screenwriter, editor, journalism manager and editor-in-chief. In addition to the TV Record, already passed by the Band and Rede TV stations. Rafael graduated in journalism from the Methodist University of São Paulo in 1997. He won important prizes, just to mention a few: the International King of Spain Award 2016 (the largest journalism award in the world in the Portuguese and Spanish languages), the Esso Journalism Award in 2011 and 2015; Vladimir Herzog Award 2009 and 2015; Tim Lopes Award for Investigative Journalism 2015; Libero Badaró 2014 Award; Latin America Award for Human Rights 2012, 2013 and 2015; Anamatra 2016 Award; Award from the Federal Labor Ministry 2016 (Southeast Region) and 2017 (National).

#### Rafael Boni Marques - Technology Operations Manager - TV Globo



I graduated in 2006 in Electrical Engineering with emphasis in Telecommunications by FEI (Faculty of Industrial Engineering)In 2010 I completed a Post Graduation in Telecommunications Networks and Systems Engineering by INATEL (National Telecommunications Institute)And in 2015 I finished a Post Graduation in Strategic Project Management at FAAP (Fundação Armando Alvares Penteado)I joined Tv Globo in 1999 and since then I have had some important functions within the company, such as Support Engineer, Systems Engineer, Project Supervisor, Operations Supervisor and in the last two years I am acting as Technology Operations Manager attending Journalism.

### Eduardo Brandini - Head de Media e Entretenimento - YouTube - Brasil



Graduated in Social Communication - Radio and TV by Fundação Armando Alvares Penteado (FAAP), he holds a postgraduate degree in Business Management and Technological Innovation from Escola Superior de Propaganda e Marketing (ESPM). With more than 15 years of experience in the communication area, Brandini has worked in the biggest TV stations in Brazil, such as SBT, Globo, Bandeirantes and Cultura. He is also a professor at the Armando Alvares Penteado Foundation (FAAP).

Cite this article:

Lima,R.,Cohen, A., Gomide, R.,Marques, R.B. and Brandini, E.; 2017. Technology in Journalism: Impacts on Production and News Publishing. SET EXPO PROCEEDINGS. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.3. Web Link: http://dx.doi.org/10.18580/setep.2017.3

### 11h30 - 13h | Aug. 21, 2017- Monday | ROOM 13

HOT SESSION

## **DESTINY AND EVOLUTION OF TV**

### Chair: Fernando Bittencourt - International Director - SET

Consumers, especially young people, are watching TV less and less open TV. Why is this happening? How to reverse this situation? What new technologies could help? These questions run the world. In this panel/debate, experts from three continents will help us reflect on how to face the challenges that the new digital world brings to the traditional Broadcasting industry.

- Speaker: Lisa Hobbs Commercial Portfolio Strategy Compression Solution Area Media - Ericsson
- Speaker: Skip Pizzi Vice President, Technology Education and Outreach (NAB)
- Speaker: Masayuki Sugawara President DiBEG (Digital Broadcasting Expert Group)
- Speaker: Simon Fell Director of Technology & Innovation EBU



### Fernando Bittencourt - International Director – SET

International Director – SET/ Consultant at FB Consultants Former General Manager for Engineering at TV Globo. Graduated in Electronic Engineering from the Federal University of Rio de Janeiro (UFRJ) Beginning in 1994, he was Coordinator of the SET/ABERT group created by the ABERT and SET to study and plan the implementation of Digital TV in Brazil. He was a full member of the Council for Social Communication in the Brazilian Senate, as an engineer with renowned knowledge in the field of social communication. Participates in the Deliberative Council of the Forum on the Brazilian Digital TV System. He is also a member of the IEEE, IBC and the SMPTE.



### Lisa Hobbs - Commercial Portfolio Strategy - Compression Solution Area Media - Ericsson

Lisa Hobbs joined Ericsson in 1997 after spending nine years in the satellite communications and video compression divisions of Scientific-Atlanta (now Cisco.) As Vice President, Compression Commercial Portfolio Strategy for Ericsson, she shares global responsibility for defining the direction of the compression portfolio across all of the market segments in which Ericsson has a presence, with a focus on market direction and ROI.

### Skip Pizzi - Vice President, Technology Education and Outreach (NAB)



Skip Pizzi is Vice President, Technology Education and Outreach, at the National Association of Broadcasters (NAB) in Washington, DC, USA. His career has spanned the broadcast and digital media industries, working in audio engineering at NPR, and in audio production, media standards and technical policy at Microsoft. He was also an editor at Broadcast Engineeringmagazine, and a columnist for several other international industry publications. He remains a technology journalist, editor, author and trainer today. His most recent book is A Broadcast Engineering Tutorial for Non-Engineers, 4th edition, published by Focal Press. He is currently Associate Editor on the NAB Engineering Handbook, 11th edition, which will be published later this year. Skip serves as Vice-Chair of the Advanced Television Standards Committee (ATSC) Technology Group 3 (TG3), which is developing the ATSC 3.0 standard. He is also a member of the Board of Directors of the Ultra HD Forum. Skip is a graduate of Georgetown University, where he studied Electrical Engineering, International Economics and Fine Arts.



#### Masayuki Sugawara - President DiBEG (Digital Broadcasting Expert Group)

Masayuki Sugawara received the B.S. and M.S. degrees in electric communication engineering and a Ph.D. degree in electronic engineering from Tohoku University, Sendai, Japan. He joined NHK in 1983. He researched solid-state image sensors, HDTV cameras, and the UHDTV system at NHK STRL from 1987 to 2015. He was an associate professor at the University of Electro-Communications, Tokyo, Japan, from 2000 to 2004. Since 2004, he has been involved in the standardization activity at ITU-R Study Group 6 including the UHDTV standard known as Recommendation BT.2020. At present, he is the chairman of digital broadcasting experts group (DiBEG) and an executive engineer at NEC Corporation. Dr. Sugawara is a SMPTE Fellow, a Senior Member of IEEE, and a member of IEICE, and ITE.



### Simon Fell - Director of Technology & Innovation - EBU

Simon Fell leads the team spearheading developments in media technologies at the EBU. He has four decades of experience, formerly with ITV as Director of Future Technologies; previously he helped establish Carlton Television where he held several executive positions and helped launch digital broadcasting. He has chaired the Technical Council at the UK's Digital Television Group, and was Chairman of the HD Forum. Additional roles include Director of Engineering for Rushes, Chief Engineer of 625 and establishing Channel Four. His early career included periods in the USA with Rank Cintel and at YTV in Leeds.

Cite this article:

Bittencourt, F., Hobbs, L., Pizzi, S., Sugawara, M. and Fell, S.; 2017. Destiny and Evolution of TV. SET EXPO PROCEEDINGS. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.4. Web Link: http://dx.doi.org/10.18580/setep.2017.4

### 14h - 15h30 | Aug.21,2017 - Monday | ROOM 12

WORKSHOP

## **IP PRODUCTION – GRASS VALLEY**

### Speaker: Robert Erickson - IP Evangelist - Grass Valley

The purpose of the workshop will initially be to provide a theoretical basis on Video and Audio over IP, information on standards (AIMS), architectures and applications. And in the end a practical demonstration of procedures for configuring, monitoring and troubleshooting a functioning IP system.



### Robert Erickson - IP Evangelist - Grass Valley

Member of Grass Valley since 2008, with more than 17 years of experience in the Broadcast and IT market. In his career he has worked on projects and maintenance of infrastructure and playout systems based on emerging technologies. Participates in the Alliance for IP Media Solutions (AIMS). He spends much of his time with client education for emerging IP technologies and internal team training. Design and manage 'proof of concept' - POC - for customers, testing and deploying solutions - including cameras, servers, routers, multiviewers, processors and software solutions. Robert is an active participant of SBE, SMPTE and HPA..

Cite this article: Garcia, J.A., Erickson, R.; 2017. IP Production – Grass Valley. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.5. Web Link: http://dx.doi.org/10.18580/setep.2017.5 14h - 15h30 | 21/08/2017 - Aug.21,2017 | ROOM 16

NEW PLATFORMS AND INFRASTRUCTURE

## INFORMATION SECURITY AND DATA PRIVACY FOR THE AUDIOVISUAL MARKET – CYBER SECURITY

### Chair: EMERSON WEIRICH, Gerente Executivo de Engenharia da EBC

After the digitization of the Audiovisual market, developing correctly the strategies of Information Security and Data Privacy is not an expense but an obligatory investment. Currently audio and video files are distributed on different platforms and on different devices, especially with the expected growth of IoT (Internet of Things) where media devices multiply and the risks increase proportionally. It is a constant monitoring of threats, vulnerabilities, risks, sensitivities and impacts, in order to allow adequate sizing and modeling of solutions. In this session, experts on the subject will discuss not only the security of data and information, but also that of the systems themselves.

### INTERNET OF THINGS: A VIEW OF THE CYBER SECURITY CHALLENGES IN THE MEDIA AND ENTERTAINMENT INDUSTRY Speaker: Leandro Valente, Especialista em Segurança da Informação - TV Globo

The main objective of this lecture is to demonstrate an executive view of the main cyber security risks related to IoT devices, focusing on the media and entertainment sector, exposing how cyber attacks can harm this industry by discussing real cases of attacks Involving companies in this sector. In addition, IoT-focused market frameworks, best practices and the main challenges in implementing these will be exposed.

## THE HUMAN FACTOR IN INFORMATION PROTECTION Speaker: Vinícius Brasileiro, Supervisor Executivo de Segurança da Informação – TV Globo

With the advancement of technologies and protection tools, criminals direct their actions to a factor little worked by the organizations: the behavior and the attitude of the collaborators regarding the security of the information. Learn about the main forms of this type of approach, protection models and techniques, and how to build a safety culture.

## INFORMATION SECURITY STRATEGIES IN DIGITAL MEDIA COMPANIES AND CORPORATE RISK MANAGEMENT. Speaker: Tácito Augusto Silva Leite, Diretor - T-Risk Método de avaliação de Riscos

Important digital media companies have already suffered cyber attacks on their information electronic basis causing millionaire losses. The media industry is increasingly exposed to the threats posed by its main assets - video and audio - that now travel in the digital information world. Risk assessment should be integrated and involve the various sectors of organizations. Proper controls, to be efficient, should strike a balance between technology, processes and people. To minimize exposure of organizations to the risks of the digital world, it is desirable to adopt consistent information security policies in addition to awareness training for all involved.

## IOT BOTNETS: "THINGS" TO ATTACK..

### Speaker: Lucimara Desiderá - Analista de Segurança - CERT.br/NIC.br

The Internet of Things (IoT) is already a reality and the entertainment industry makes use of several connected devices such as cameras, drones, TVs, antennas, wi-fi routers, etc. Most IoT devices are not designed with safety in mind. To a large extent, the hardware industry does not have the software security view and repeats primary errors that lead to the production of vulnerable devices that are "recruited" by criminals for malicious purposes such as denial of service attacks. Such attacks can reach large scales and severely impact the operation of online entertainment (such as streaming, games, polls). This presentation will discuss technical security issues related to IoT, how botnets abusing IoT, including statistics of infected devices, and some measures to improve the scenario.



### EMERSON WEIRICH, Gerente Executivo de Engenharia da EBC

Emerson Weirich is the director of the SET Center-West Region. He is the current executive manager of Engineering of Empresa Brasil de Comunicação (TV Brasil, TV NBR, Radios Nacional and Radios MEC). He have a master in Science and Technology Management, a specialist in Strategic Management of Technology and has worked in several communication companies in Brazil (RBS, TVE, Radiobrás e TV Justiça).



### Leandro Valente, Especialista em Segurança da Informação - TV Globo

Leandro Valente has 13 years of experience in information security and has already been part of the security team of large companies in the market, such as Arcon / NEC, Oi Telecomunicações, Ernst & Young and is currently part of TV Globo's information security projects team. He is CISSP certified and is currently studying for an MBA in Business Management at IBMEC.



### Vinícius Brasileiro, Supervisor Executivo de Segurança da Informação – TV Globo

Vinicius has 15 years of experience in auditing systems and business processes, information security, business continuity, process mapping, internal controls, corporate risk management and compliance. He holds a degree in Computer Science and Accounting from Estácio de Sá University and a post-graduate degree in IT Auditing from Estácio de Sá University. Certified Information Systems Auditor (CISA), Certified Information Security Manager (CISM) and ISACA Certified in Risk and Information System Control (CRISC); Certified Chief Information Security Officer (C | CISO) by EC-Council; Lead Auditor in Information Security Management System (ISO 27001 LA) by BSI; Information Security Management Advanced based on ISO / IEC 27002 (ISMAS) by EXIN. He is a Member of the Special Risk Management Study Committee and the Information Technology Study Committee - Security Techniques of the Brazilian Computer and Data Processing Committee at ABNT.

#### Tácito Augusto Silva Leite, Diretor - T-Risk Método de avaliação de Riscos

He has been working in the area of security and risk management since 1994, developing activities of integrated risk management, loss prevention, global security projects and administration of security companies. Director of the Brazilian Association of Security Professionals, author of the book Gestão de Riscos na Segurança Patrimonial – consultoriadeseguranca.com.br, creator of Total Risk method and the platform totalrisk.com.br, organizer of the bibliotecadeseguranca.com.br, coauthor of the 1st and the 2nd ABSEG Business Security Collection. Postgraduate in Business Security from Universidad Pontificia Comillas in Madrid, MBA in Business Security Management from Universidade Anhembi-Morumb, MBA in Information Systems from UnP with in-depth information security, Training named Gestão de Recursos de Defesa by the Escola Superior de Guerra - ESG, Course on Risk Management and Audit Based on ISO 31000 by the QSP and Officer of the Reserve of the Brazilian Army. Has the DSE certification by UPCO - Spain, ASE by ADESG-ABSEG and Certified ISO 31000 Risk Management Professional by The Global Institute G31000 & International Accreditation Board for Risk Management, Geneva, Switzerland.



### Lucimara Desiderá - Analista de Segurança - CERT.br/NIC.br

Lucimara Desiderá is a Security Analyst at CERT.br/NIC.br, where she focuses on the areas of Outreach and Internet Security Awareness. Its activities include developing materials related to good security practices, delivering lectures and workshops, organizing conferences, working in cooperation with other incident response teams, with international forums (such as LACNIC, LACNOG, FIRST, M3AAWG) and with different Internet sectors in Brazil. She is also the cofounder and coordinator of the Anti-Abuse Working Group for Latin America and the Caribbean (LAC-AAWG). He holds a Master's Degree in Electrical Engineering from UNICAMP and CISSP.

Cite this article:

Weirich, E., V., Leandro, Brasileiro, V., Leite, T. A. . and Desiderá, L.; 2017. Information Security and Data Privacy for the Audiovisual Market – Cyber Security. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.6. Web Link: http://dx.doi.org/10.18580/setep.2017.6

14h - 15h30 | Aug.21,2017 - Monday | ROOM 13

**TECHNOLOGY AND BUSINESS** 

## AUDIOVISUAL STARTUPS – OPPORTUNITIES AND NEW BUSINESS MODELS

## Chair: José Carlos Aronchi - SEBRAE-SP

The startups of cross-platform audiovisual bring disruptive and innovative solutions. Entrepreneurs, with shortened companies, gain market share and switch from content to low-tech, high-tech solutions. The panel presents innovations brought by audiovisual startups, indicates ways for the broadcasting industry through entrepreneurship and innovation and the support of the SET to stimulate the audiovisual startups ecosystem and its new business models.

## • STARTUPS NO MERCADO AUDIOVISUAL Speaker: João Carlos Massarolo – UFSCar

The Multiplatform Audiovisual Startups bring disruptive and innovative solutions. Entrepreneurs from lean companies gain market share from content to low-tech, high-tech solutions. In this panel we will talk about the training of the audiovisual professional to perform in multiplatforms, seeking to define an innovative and entrepreneurial profile, based on the experience acquired with the Graduate Program - Specialization Course in Audiovisual Content Production for Multiplatforms, at UFSCar.

## • THE CAPTURE OF IMAGES BY DRONES AND THE POTENTIAL OF THE MARKET FOR STARTUPS

### Speaker: Raquel Molina - Diretora Executiva da Futuriste

Futuriste is a pioneer startup in the use of drones capture in Brazil, which has expanded to services, training, maintenance, consulting and sales of customized drones to meet the needs of companies in various segments. Futuriste was the company with the highest number of nominations for the TOP3 DroneShow Brazilian Market. The presentation is about startup development, prototype, validation with clients, fundraising and investors, your business team and results. What is your business model and startup scalability projection.

## • UVIEW360 - INNOVATION STARTUP IN 360 IMAGES

### Speaker: Charles Boggiss - CEO - UView360

Founded in 2010, the startup focused on 360-degree Video and live 360-degree video broadcasting, bringing innovation, interactivity and immersion to users. Acting in the most diverse sectors like Events, music clips, real estate projects, TV programs and more, UView360 is a case of virtual reality.

## • SET INNOVATION ZONE: STARTUPS OF CROSS-PLATFORM AUDIOVISUAL GAINING BROADCAST AND BROADBAND MARKET Speaker: Edson Mackeenzy - Head SET Innovation Zone

The ecosystem of startups. What is. The profile of the entrepreneur, the team, the idea and modeling of the innovative business that goes out in search of the customer with MVP. Because startups are gaining market share. Where are the opportunities for audiovisual startups and broadcasters. The support of SET to the startups of the audiovisual. SIZ and the stimulus to startups in regional SET.

## • GAMIFICATION CONTENT - GAMES STARTUPS ADVANCING ON SMART TVS AND MULTIPLATFORM

## Speaker: Fernando Chamis - Presidente da ABRAGAMES - Associação Brasileira dos Desenvolvedores de Jogos Digitais

Paths to the startups of the gaming segment show a great business opportunity due to digital multiplatforms, such as smart tvs, and content with virtual reality and gamificados. ABRAGAMES, the Brazilian and international gaming market, cases of entrepreneurs that started as startup and now have national and international market results. ABRAGAMES support to stimulate game startups, with support from BNDES and APEX.



### José Carlos Aronchi - SEBRAE-SP

SET Events Director. Consultant of Innovation and Technology in the Entrepreneurial Culture Unit - Business School of Sebrae-SP Alencar Burti. Journalist and broadcaster, MSc in Scientific and Technological Communication from Universidade Metodista / SP, doctorate in Communication Sciences from ECA / USP and postdoctoral fellow at UFSCar. Received at SET EXPO, in 2010, the Award for Best Innovation-Interactivity for Digital TV by the Roda dos Gêneros app from Digital TV. In 2016, he received the Sebrae Manager Award for Startups Like a Boss, at Campus Party SP. Mentor of companies startups of the audiovisual segment. He is a professor of the RTVi course at FacCamp / SP and a guest professor at UFSCar in the specialization course in Audiovisual Content Production for Multiplatforms. Author of "Genres and Formats in Brazilian Television" (2nd

Edition) and "Be the first to know - CNN and the globalization of information". Member of GEMINIS - Study Group on Interactive Media in Image and Sound.



#### João Carlos Massarolo - UFSCar

João Carlos Massarolo: filmmaker, professor; PhD in Cinema by USP, is director and scriptwriter of several films, among which, São Carlos / 68 and O Quintal dos Guerrilheiros (2005). Published: Audiovisual script for Transmedia Storytelling (2016); Regarding the mediatization of transmedia fictional consumption and its effects (2015); Storytelling Transmedia: Narrative for multiplatforms (2014), among other papers. He is Associate Professor at UFSCar; Coordinator of the research group GEMInIS and Editor of the GEMInIS Journal. Email: massarolo@terra.com.br

### Raquel Molina - Diretora Executiva da Futuriste

Co-founder of Drones Futuriste Tecnologia, she is the company's executive director. She is considered the first woman instructor of Drones in Brazil, starting in the area in 2015. With a background in Technology, she has worked for several years as Systems Project Manager at major financial companies such as Itaú-Unibanco and Bradesco. Raquel holds a postgraduate degree in IT governance from Universidade Presbiteriana Mackenzie, an IT graduate with an Emphasis in Business Management from FATEC, Certified in ERP (Systems Requirements Engineering), certified in COBIT (IT Governance) and Technical Logistics by State Technical school.



#### **Charles Boggiss - CEO - UView360**



#### **Edson Mackeenzy - Head SET Innovation Zone**

Edson Mackeenzy, Experienced Entrepreneur, specialist in Innovation and Business Development. Radialist, Presenter, Facilitator and Keynote at Technology, Marketing and Business events. Mack is an important agent in the formation of Startups Ecosystems throughout Brazil and a link between them and the market. He is currently Head of Innovation at SET, Curator of the cooperative innovation platform Plataforma.Space for Sicoob. He acted as Dir. Of Relationship with Startups at Bossa Nova Investimentos, BizDev responsible for the LatAm expansion ofCodeFellows.org, executive producer of Relate Live by Zendesk, Head of Communication and Partnerships of the iMasters Group | E-CommerceBrasil, CEO and founder of the world's first video portal Videolog tv, Mentor, Facilitator and Community Leader at TechStars for actions like Startup Weekend. In 2015, he was named the best Startups Mentor in the country in the SparkAwards award of Microsoft, elected in 2013 one of the most influential entrepreneurs in Brazil, a member of RioSoft's board (agent Softex), involved in hundreds of conferences on communication, entrepreneurship, And business around the World.



Fernando Chamis - Presidente da ABRAGAMES - Associação Brasileira dos Desenvolvedores de Jogos Digitais

Cite this article:

Aronchi, J. C., Massarolo, J. C., Molina, R., Boggiss, C., Mackeenzy, E. and Chamis, F.; 2017. Audiovisual Startups – Opportunities and New Business Models. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.7. Web Link: http://dx.doi.org/10.18580/setep.2017.7

### 16h - 17h30 | Aug.21,2017– *Monday* | ROOM 16

## INNOVATION AND DISRUPTIVE TECHNOLOGIES

## **MAKING VIRTUAL REALITY (VR) A REALITY!**

### Chair: Daniela Souza - Director Marketing of SET - SVP - AD Digital

The recent development of VR technologies gave wings to all our creative dreams. Content creators are now able to take viewers through an immersive experience with an almost unlimited potential and transport consumers to any place in this or other worlds. Virtual reality is unique, especially when compared to other types of media, in that the viewer's attention is full and exclusively focused on the experience, making for a powerful and lasting impression.

## • WHAT IS ALREADY REAL IN VIRTUAL REALITY? Speaker: Renato Citrini - Product Marketing Manager - Samsung

Virtual reality glasses, 360 cameras for the ultimate consumer, smartphone processing capabilities and content for these glasses available on Facebook and YouTube. Where does Virtual Reality go and where are you going?

# • IMMERSIVE NARRATIVES: THE PRESENT OF STORYTELLING Speaker: Ricardo Laganaro, Diretor, O2 filmes,

Ricardo Laganaro tells how the immersive narrative is already a reality in telling stories, after producing 360° movies and virtual reality for big brands, totaling over 60 million views, as well as museums, exhibitions and a short film produced by Oculus with participation in film festivals like Tribeca and Sundance

## • GLOBAL VR ECOSYSTEM: WHERE ARE THE BIG OPPORTUNITIES?

### Speaker: Marcos Alves, Director of Ventures at YDreams Global

How is the global Virtual Reality market currently organized? Who are the main players and trends, where are the big business opportunities and what could be the next killer-apps.



### Daniela Souza - Director Marketing of SET - SVP - AD Digital

Daniela is the founder of AD Digital and today serves as SVP and is also the Marketing Director of SET. She is a guest speaker at key events related to the creation, management and distribution of content, to share her vision about the market, new business models and Trends for the industry.



### Renato Citrini - Product Marketing Manager - Samsung

Renato Citrini is Senior Product Manager for the Mobile Devices Division of Samsung Brazil since 2014. Prior to that, Citrini developed a career at Microsoft, working as a product marketing manager for six years, through the Office, Windows and Mobile Services divisions. The executive also toured a major trajectory in Motorola, Siemens and Ericsson. Electrical engineer graduated from USP



### Ricardo Laganaro, Director, O2 filmes,

Ricardo Laganaro, director of O2 Films, has been specializing in new ways of telling stories since directing the film to the entrance dome of the Museum of Tomorrow in Rio de Janeiro. Since then, she has directed projects in 360° and virtual reality, such as the video clip "O Farol" by singer lvete Sangalo (most seen in the world in this format in 2016), a documentary series for the 20 years of SPFW, as well as advertising for clients such as MasterCard, Google and "O Boticário", among others, that total more than 60 million views. He was chosen by Oculus to be part of the project "VR For Good", where he directed the documentary "Step to The Line", filmed inside maximum security prisons in the USA. The film premiered as part of the official selection of the 2017 Tribeca Film Festival and has been gaining widespread worldwide repercussion, as well as being shared on the personal page of Facebook creator and CEO Mark Zuckerberg.

#### Marcos Alves - Diretor de Ventures na YDreams Global



Marcos Alves is Director of Ventures at YDreams Global, a Canadian company that combines sensory technology, integrated narratives and transformative design to enable the boldest ideas to be realized. He is responsible for idealizing, building and scaling new digital startups and products for global audiences in domains such as Virtual Reality, Augmented Reality, Internet of Things, Artificial Intelligence and Computer Vision. His next release will be Arkave VR, the first global network of arenas connected to Virtual Reality games. For more than 20 years, it has been working in the digital technology and business market, with Globo.com, TV Globo, ThoughtWorks Brasil and Dextra Digital in sales, management and delivery of digital products.

Cite this article:

Souza, D., Citrini, R., Laganaro, R. and Alves, M.; 2017. Making Virtual Reality (VR) a Reality!. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.8. Web Link: http://dx.doi.org/10.18580/setep.2017.8

16h - 17h30 | Aug.21,2017 - *Monday* | ROOM 13

TECHNOLOGY FOR TV AND RADIO

## **EVOLUTION OF TV STANDARDS**

# Chair: CRISTIANO AKAMINE - Researcher and Professor - UNIVERSIDADE MACKENZIE/ SET

Digital TV is a reality in the world and, here in Brazil, analogue TV will be shut down in the largest centers by the end of 2017. But does that evolution stop there? In this panel, we will hear about the next generations of open TV being developed around the world.

## R&D FOR NEXT GENERATION TERRESTRIAL BROADCASTING IN JAPAN

## Speaker: Kenichi MURAYAMA Senior Research Engineer Advanced Transmission Systems Research Division Science & Technology Research Laboratories NHK

Last August, the trial broadcasting of Super Hi-Vision by satellite in Japan had been lauched with our predetermined schedule. Moreover, studies to realize next-generation terrestrial broadcasting are planned. NHK STRL has been conducting R&D on large-capacity transmission technologies to realize terrestrial Super Hi-Vision broadcasting and TV-Globo and NHK had successfully conducted 8K terrestrial transmission experiments during Rio Olympics. This presentation mainly introduces an overview of R&D for next generation terrestrial broadcasting in Japan.

## NEXT-GEN TV – THE ATSC 3.0 STANDARD Speaker: Skip Pizzi - Vice President, Technology Education and Outreach (NAB)

The world's most advanced terrestrial broadcast television standard is nearing completion, and early deployments are already underway. This presentation will provide an overview of the system's unique characteristics and advantages for broadcasters and their audiences.

# INNOVATIVE APPLICATIONS FOR NEXT GENERATION BROADCASTING

## Speaker: Lisa Hobbs - Commercial Portfolio Strategy - Compression Solution Area Media - Ericsson

Terrestrial television broadcasting has changed very little since the first over the air broadcasts were conducted. Technology has changed: black and white to color, analog to digital, improved compression algorithms. But generally the application has remained free to air television transmission to the masses. All that is about to change, however, with the realization of the new ATSC 3.0 standard. At its core, the standard still provides a means to transmit programming over the air to consumers. But if broadcasters think this is simply a new way to do what they've always done-they are unlikely to be broadcasters in the long term. ATSC 3.0 consists of standards designed to allow broadcasters to achieve the goal of "anytime, anywhere" content already embraced by content providers and cable/satellite/telco operators. It allows them to deliver different content based on viewer preferences. And it allows them to achieve all this by leveraging some of the technologies currently utilized by mobile operators-bringing the possibility of future cooperation into the realm of possibility. This presentation will focus on some of the new applications expected to be launched by broadcasters leveraging the ATSC 3.0 standard, and the application already commercially launched in Korea. The hope is to start broadcasters elsewhere in the world thinking about new ways to leverage their own existing (or perhaps newly modified) standards in order to realize similar opportunities in their own markets

## • NEW GENERATION OF SOFTWARE BASED ENCODING: BARE METAL, DOCKER AND NEW FEATURES TO SUPPORT 4K/8K. Speaker: Sidnei Brito - Sales Director - SDB MULTIMIDIA - Harmonic Authorized

He presentation will discuss new trends and technologies to handle the amount of data and new enhancements that come with 4K/8K formats.



### CRISTIANO AKAMINE - Researcher and Professor - UNIVERSIDADE MACKENZIE/ SET

He holds a degree in Electrical Engineering from Mackenzie Presbyterian University (1999), a master's degree and a Ph.D. in Electrical Engineering from the State University of Campinas (2004/2011). He is a researcher at Mackenzie's Digital TV Research Laboratory since 1998. He took an internship at NHK Laboratories for Research in Science and Technology (STRL) and was Visiting Specialist Professor at Unicamp's Faculty of Technology. Currently, he is a professor in Electrical Engineering and the Post-Graduate Program in Electrical and Computer Engineering (PPGEEC) of Mackenzie Presbyterian University and Coordinator of Mackenzie's Digital TV Research Laboratory. He has a scientific grant of Productivity and Technological Development and Innovative Extension - Level 2 from National Counsel of Technological and Scientific Development (CNPq). He is also a member of the Board of the Brazilian Digital Terrestrial Television (SBTVD) Forum. He has several patents and

several articles published and has experience in the area of Electrical Engineering, with emphasis on digital TV, digital communication, channel coding, embedded systems, reconfigurable logic and software defined radio.



### Kenichi Murayama- Senior Research Engineer Advanced Transmission Systems Research Division Science & Technology Research Laboratories NHK

Kenichi Murayama joined NHK (Japan Broadcasting Corporation) in 2002. From 2002 to 2008, he has worked at the NHK Engineering Administration Department / Transmission & Audience Reception Engineering Center. From 2008 to 2013, he has worked at the Advanced Transmission Systems Research Division in NHK Science and Technology Research Laboratories (STRL) and has been engaged in research and development related to next generation of digital terrestrial broadcasting.

### Skip Pizzi - Vice President, Technology Education and Outreach (NAB)



Skip Pizzi is Vice President, Technology Education and Outreach, at the National Association of Broadcasters (NAB) in Washington, DC, USA. His career has spanned the broadcast and digital media industries, working in audio engineering at NPR, and in audio production, media standards and technical policy at Microsoft. He was also an editor at Broadcast Engineeringmagazine, and a columnist for several other international industry publications. He remains a technology journalist, editor, author and trainer today. His most recent book is A Broadcast Engineering Tutorial for Non-Engineers, 4th edition, published by Focal Press. He is currently Associate Editor on the NAB Engineering Handbook, 11th edition, which will be published later this year. Skip serves as Vice-Chair of the Advanced Television Standards Committee (ATSC) Technology Group 3 (TG3), which is developing the ATSC 3.0 standard. He is also a member of the Board of Directors of the Ultra HD Forum. Skip is a graduate of Georgetown University, where he studied Electrical Engineering, International Economics and Fine Arts.



### Lisa Hobbs - Commercial Portfolio Strategy - Compression Solution Area Media - Ericsson

Lisa Hobbs joined Ericsson in 1997 after spending nine years in the satellite communications and video compression divisions of Scientific-Atlanta (now Cisco.) As Vice President, Compression Commercial Portfolio Strategy for Ericsson, she shares global responsibility for defining the direction of the compression portfolio across all of the market segments in which Ericsson has a presence, with a focus on market direction and ROI.



### Sidnei Brito - Sales Director - SDB MULTIMIDIA - Harmonic Authorized

Electronic Engineer graduated from Pontificia Universidade Católica, with more than 20 years of experience in the television area. He is currently Commercial Director of SDB Multimidia, Platinum Partner and Harmonic Authorized Repair Center in Brazil.

Cite this article: Akamine, C., Murayama, K., Pizzi, S., Hobbs, L. e Brito, S.; 2017. Evolution of TV Standards. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.9. Web Link: http://dx.doi.org/10.18580/setep.2017.9

## 11h30 - 13h | Aug.22, 2017 - Tuesday | ROOM 16

**REGULATORY ISSUES AND STANDARDS** 

## **MEETING WITH MCTIC AND ANATEL**

## Chair: Tereza Mondino - Diretora da TM Consultoria em Telecomunicações

The panel will update the information on the regulatory actions of MCTIC and ANATEL, concluded and planned, promoting a discussion about its adequacy to the needs and expectations of the Broadcasting sector.

FUTURE PERSPECTIVES ON THE REGULATORY ACTIVITIES OF
ANATEL

Speaker : Vitor Elísio Góes de Oliveira Menezes - Superintendente de Outorga e Recursos à Prestação da ANATEL

## THE CHALLENGES OF OPEN TV FACING DIGITAL TRANSITION AND MULTIPLATFORM SCENARIO

Speaker: Ivan Miranda - Director of Engineering at GRPCOM / RPCTV (Globo TV Affiliate in Paraná) and member of the Executive Board of SET as a director for the Southern Region.

We will address the importance of Open TV to Brazil, given its importance in a country with continental dimensions, emphasizing its role as the main instrument of social inclusion, in the face of the digitization process and the multiplatform scenario. Open TV in Brazil has unique characteristics in the world, since its capillarity and penetration in a country of continental dimensions, playing an important role of social inclusion since its reach of more than 97% of the population. With the process of digitization and availability of content on several platforms, Open TV has been reinventing itself, but its foundations continue to be based on services originally of broadcasting. In order to give the necessary speed, close participation of MCTIC and ANATEL is necessary, working in perfect synergy with the industry , in a common interest, that is, of the population. In this way, we will counterbalance the current reality of the Sector versus its needs, discussing how legislation can be updated to give the necessary speed to broadcasting.

 DEREGULATION OF THE BROADCASTING SECTOR AND NEW PERSPECTIVES.

Speaker: Vanda Bonna - Secretária de Radiodifusão do MCTIC

• Speaker: Samir Nobre - Diretor de Radiodifusão Educativa, Comunitária e de Fiscalização do MCTIC



### Tereza Mondino - Diretora da TM Consultoria em Telecomunicações

Consultant to SET from 1999 to 2003 and again since 2006, being involved in regulatory affairs and digital TV planning. She graduated in Electrical Engineering (Electronics option) from UnB, in 1974. She served at the Ministry of Communications until 1998, working in the Broadcasting and Pay TV – Cable TV, MMDS and DTH areas in drafting regulations, technical standards and in planning. She took part in the broadcasting commissions of MERCOSUR, CITEL and ITU.



## Vitor Elísio Góes de Oliveira Menezes - Superintendente de Outorga e Recursos à Prestação da ANATEL

Is a lawyer specializing in Administrative Law, Public Management and the Regulation of Public Telecommunications Services; he has been a career civil servant at Anatel since 2007, having spent time at the Superintendence for Private Services, Legal Counsel to the President of Anatel and currently holds the position of Superintendent for Concessions and Provision of Resources.



## Ivan Miranda - Director of Engineering at GRPCOM / RPCTV (Globo TV Affiliate in Paraná) and member of the Executive Board of SET as a director for the Southern Region.

He holds a degree in Electrical Engineering, specializing in Telecommunications. He holds a graduate degree in Enterprise Management from the Getúlio Vargas Foundation – FGV and Program for Management Development from the University of Navarra. He is in charge of implementing digital TV transmissions at the 8 television stations of RPCTV in the state of Paraná, the migration of RPCTV journalism to the HD format, setting up the HD View production unit (truck for covering events) and the implementation of OTV (subscriber TV station).



### Vanda Bonna - Secretária de Radiodifusão do MCTIC

Lawyer, Professor of Broadcasting Legislation by SENAC / DF and has held the positions of Head of Legal Affairs of the Dentel Supervision; Coordinator of Supervision of the SNC; General Coordinator of MTC's Regional Supervision and Supervision; Deputy Director of the Department of Communications Supervision; Chairman of the Board of TELASA; Member of the Board of Directors of TELEPARÁ and currently holds the position of Secretary of Broadcasting.



Samir Nobre - Diretor de Radiodifusão Educativa, Comunitária e de Fiscalização do MCTIC Lawyer, has held the positions of Assistant of the Department of Commercial Broadcasting, Coordinator of Corporate Acts; General Coordinator of Inspection; General Coordinator of Community Broadcasting; General Coordinator of Commercial Broadcasting; Chairman of the Broadcasting Bidding Commission; General Coordinator of Educational Broadcasting and Consignations of the Union and currently holds the position of Director of the Department of Educational, Community and Supervision Broadcasting.

Cite this article:

Mondino, T., Menezes, V. E. G. de O., Miranda, I., Bonna, V. and Nobre, S.; 2017. Meeting with MCTIC and ANATEL. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.10. Web Link: http://dx.doi.org/10.18580/setep.2017.10

### 11h30 - 13h | Aug.22, 2017 - Tuesday | ROOM 13

# NEW PLATFORMS AND INFRASTRUCTURE

# VIDEO OTT: BEST PRACTICES AND NEW FRONTIERS

### Chair: Jose Salustiano Fagundes, CEO, HXD OTT SOlutions

Between 2010 and 2017, more than 200 OTT video platforms were launched in Latin America and the Brazil, which already occupies the 7th place in online video viewing and still has space to grow, has become one of the main market for this segment, with The presence of local and international players. In this panel we will know the current status of development, best practices and new technological frontiers, such as the use of cognitive computing Technologies.

### COGNITIVE COMPUTING IN MEDIA AND ENTERTAINMENT INDUSTRY Speaker: Zalkind Lincoln - IBM Global Markets Technical Leader

Data from media consumption is rapidly growing in volume, variety and complexity. This digital data may be the most valuable asset the industry has. Let's explore how cognitive computing can harness insights that reside in all this data and make them useful for discovery, decision support and ways of interaction with clients.

# LANDSCAPE OF HYBRIDCAST IN JAPAN

# Speaker: Masaru Takechi - Advanced R&D Department, NHK Engineering System Inc. and NHK Science & Technology Research Laboratories

Hybridcast is the world's first HTML5 based Integrated Broadcast-Broadband (IBB) system. Since its commercial launch in 2013, more than five million TV receivers have been deployed in Japan, and more than 20 broadcasters experiences offering service by Hybridcast. Hybridcast is capable to offer various services including second screen and VOD/streaming. Recently, MPEG-DASH is widely used to deliver audio-visual content over the Internet. In Hybridcast, handling of MPEG-DASH based delivery is standardized by the use of the technique called Media Source Extension (MSE) which is a set of APIs in JavaScript. A software called "dashNx" is developed to use it on TVs where available system resources are quite limited. "dashNx" can also be used on usual smartphones or tablets,

which allows service providers to offer their services on second screens in a common way. In this talk, how MPEG-DASH works in Hybridcast, and some examples will be addressed.

# • NETFLIX OPEN CONNECT, THE NETFLIX CONTENT SERVER

## Speaker: Flavio Amaral - South America Network Strategist do Netflix

To operate as a global provider of streaming movies and television series serving more than 100 million users, Netflix has invested in innovative technologies to provide a good access experience. In this talk we will learn about the Netflix Open Connect solution, a CDN installed on ISPs to allow users to access and watch content faster.

# • HYBRID CONVERGENCE MODELS OTT & OPEN DIGITAL TV

# Speaker: Marcelo Knörich Zuffo - Coordinator of the Interdisciplinary Center on Interactive Technologies University of Sao Paulo (USP)

OTT is an established concept in the audiovisual industry. New paradigms of distribution and consumption of access to digital media continue to emerge. We will focus our presentation on trends in hybrid models where there is the convergence of OTT technology with Digital Terrestrial TV.

# • OTT VIDEO: GLOBO PLAY AND GLOBOSAT PLAY CASES

### Speaker: Marcello Azambuja - Director of Digital Platforms - Globo.com

We'll talk about the learnings and challenges of the biggest media group in LATAM regarding two cases: Globo Play and Globosat Play, and the challenges in building such a technological platform.

# BUILDING A BRAZILIAN OTT VIDEO PLATFORM

### Speaker: Luiz Bannitz Guimaraes - Director of Content and Business for Looke

In this session we will present the lessons learned to create and position Looke, a Brazilian platform launched in 2015, in the video OTT services market. With more than 10,000 titles cataloged, organized into 19 categories, Looke now has a base of approximately 600 thousand users who access the platform by SVOD and TVOD for rent or purchase of videos. Currently it promotes actions to consolidate itself among the Brazilian public and to expand its service in Latin America.



#### Jose Salustiano Fagundes, CEO, HXD OTT SOlutions

Founder of HIRIX Systems Engineering and CEO of HXD Smart Solutions - a Brazilian company that since 2007 has been "thinking and doing the new television", building cases with clients such as Caixa Econômica, Bandeirantes Communication Group, TV Globo, Climatempo TV, LG, Amazon Sat, Panasonic, Philips and History Channel, among others. He was vice-president of SUCESU (Society of Users of Information Technology and Telecommunications), evaluator of the Dorgival Brandão Award for Quality and Productivity in Software MCTI / PBQP / Softex and member of the

Deliberative Council of the SBTVD Forum. He currently participates in the New Media Research Group of the Brazilian Society of Television Engineering (SET) and LabArteMidia-Laboratory of Digital Arts, Media and Technologies of USP.



#### Zalkind Lincoln - IBM Global Markets Technical Leader

Software Engineer with experience in the Digital TV area, having participated in Coordination of software implementation projects for ISDB-T. He works at IBM leading companies to create disruptive solutions using technologies such as Cognitive Computing and Cloud.



# Masaru Takechi - Advanced R&D Department, NHK Engineering System Inc. and NHK Science & Technology Research Laboratories

Mr. Takechi received B.E and M.E. degree from Tohoku University, Sendai, Japan in 1987 and 1990 respectively. He joined NHK in 1990. Since then, he studied many areas of broadcasting technologies at its STRL including satellite digital broadcasting system, multiplexing, and middleware and interactivity. Among them, his particular interest is middleware and architecture of interactive TV. His research contributed to receiver architecture and system design of Japanese interactive TV systems and Integrated Broadcast-Broadband (IBB) systems, namely BML, ARIB-J and Hybridcast. He has also been active for international standardization. He took a lead to create more than 15 ITU-R and ITU-T Recommendations and ITU-R Reports for interactive TV systems, IBB systems, and accessibility. He is Co-Chair of IRG-IBB which are in charge to develop Recommendations for interactivity and IBB systems at ITU-R and ITU-T. He also made a contribution to ISO/IEC JTC 1/SC2 to revise Universal coded Character Set (UCS, ISO/IEC 10646) 5th edition to add new symbols for UHDTV services in Japan to the UCS standard. Currently he is Senior Research Engineer at NHK Engineering System Inc. and works for implementation, deployment, and harmonization of Hybridcast.

#### Flavio Amaral - South America Network Strategist do Netflix



Graduated in Computer Science with a Master's Degree in Electrical Engineering from UFRN. Since graduation, she has been working in projects related to the Internet, starting as a fellow in the Department of Informatics at UFRN in 1994, when we connected several computers from the laboratory to the Internet. ? Works in the implementation of PoP-RN in 1996, project of RNP, where he held the position of network engineer and security. He was a professor at the Federal Technical School of Rio Grande do Norte from 1998 to 2000, where, in addition to teaching, he helped expand the institution's provider. In 2000, he joined Yahoo! Brazil as an operations engineer to start the site expansion project in Brazil and Latin America. Joined Netflix in May 2012, serving today as network strategist for Latin America, is a content winner for a region and a user experience.



# Marcelo Knörich Zuffo - Coordinator of the Interdisciplinary Center on Interactive Technologies University of Sao Paulo (USP)

Graduated in Electrical Engineering from the Polytechnic School of the University of São Paulo -EPUSP - (1988). Master, Doctor of the Polytechnic School. Visiting professor at the University of Calgary. Researcher at the Integrative Systems Laboratory and coordinator of the Interdisciplinary Center on Interactive Technologies. Chairman of the Superior Council of the Association of Polytechnic Engineers.



#### Marcello Azambuja - Director of Digital Platforms - Globo.com

Graduated in Electronic and Computer Engineering from UFRJ, MBA degree from COPPEAD/UFRJ, pursued a Management degree from Hardware and finishing his PhD in Artificial Inteligence/Computer Science from PUC-Rio. Joined Globo.com in 2003 as software engineer, was in the team of the first OTT launch in Brazil, Globo Media Center (2004). Currently Director of Digital Platforms at Globo.com, responsible for the development of Globo Play and Globosat Play.



#### Luiz Bannitz Guimaraes - Director of Content and Business for Looke

Lawyer, Economist and Business Administrator, worked in company like HBO Brasil, GEO Eventos, EMI Music. He is content evaluator and business development for Fitness Channel, and Director of Content and Business for Looke. He participates as a speaker in events of technology, digital distribution and audiovisual.

Cite this article:

Fagundes, J. S., Lincoln, Z., Takechi, M., Amaral, Flavio, Zuffo, M. K., Azambuja, M. and Guimaraes, L. B.; 2017. Video OTT: Best Practices and New Frontiers. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.11. Web Link: http://dx.doi.org/10.18580/setep.2017.11

### 11h30 - 13h | Aug.22, 2017 - Tuesday | ROOM 12

**TECHNOLOGY AND BUSINESS** 

# HOW TO REACH NEW GENERATIONS OF AUDIENCE IN A COMPETITIVE MARKET?

# Chair: Hugo Nascimento, CTO AD Digital

Technology is rapidly affecting in a way. This panel will be guided by the discussion on new ways of generation, distribution in the cloud, operations scanning, engagement via social networks and new business models. These bases for digital transformation coupled with the production of high value content for large audiences are a good recipe for attracting subscribers to their target audience. Companies that achieve billions of views of their content in a few months still need to deal with the growth of their audience within social platforms that reach different audiences with different ambitions need to work to increase their online audience. The sophistication of new interfaces and means of analyzing customer and media behavior brings a world of possibilities yet unexploited.

# • PHYGITAL: FROM CLICKS TO BRICKS Speaker: Karina Israel, CGO, YDreams Global

In this hyper-connected world we live in, the more digital advances, the more customers look for unique experiences, personalized interactions, engagement, and relationships. For a long time, the message spread that the future would be dominantly digital, supplanting everything that was physical. However, there is a new path being explored, including by the digital giants, which is to act on both fronts (digital and physical spaces), it is a strategy of mixed approach, multichannel, with all the convenience of digital and preserving what There is better in the face-to-face experience.

# • THE NEW TV GLOBO IN RECIFE: EVERYTHING IN IP

# Speaker: Carolina Duca, gerente sênior de Tecnologia da TV Globo em Recife

The presentation will address the solution that is being implemented in Recife and how it is being done in order to leave the site prepared for any new technology that may come to appear in TV Globo Recife, 4k, 8K in the next few years.

# • THE ROLE OF TWITTER IN TELEVISION VIEWING 3.0

Speaker: Marcela Doria, Director - Twitter Media Research LATAM

Marcela Doria, Twitter's director of research for Latin America, talks about the new profile of the TV audience and how Twitter contributes to programs and broadcasters engaging relevantly with this audience. The executive also brings insights and trends of behavior in the Brazilian market.

# TANGIBLE APPLICATIONS OF AI THROUGHOUT LATIN AMERICA, IN THE MEDIA SECTOR & BEYOND Speaker: Manuel Monroy, VP Latam, Veritone

Artificial intelligence ("AI") is already in commercial use in applications such as Apple's Siri, Amazon's Alexa, and Google's standalone vehicles. These applications use multiple cognitive mechanisms to process large amounts of audio and video (unstructured data) and provide, in seconds, results and knowledge equivalent to those that require dozens of humans much longer to deliver. Al applications are no longer limited to those offered by the Silicon Valley elite. A growing ecosystem is already offering the power of AI to businesses of all sizes.



#### Hugo Nascimento, CTO AD Digital

Hugo has a degree in engineering and has worked for 12 years in PAY TV projects in various fields such as IPTV, DTH and cable TV in the most demanding markets, such as Germany, the United States, Mexico, Denmark and others. Cisco and Irdeto. In his career he worked in pre and post sales in projects involving multidisciplinary teams.



#### Karina Israel, CGO, YDreams Global

A solid background in project management and planning, acquired over several years of work with high profile Brazilian technology and interactive media companies. In 2002 finished a MA in Technology, Science and Society from Universidade de Salamanca and, at YDreams, manage a variety of commercial and research projects. Specialties: branding and identity, interactive consulting, innovations for events and advertising.



#### Carolina Duca,

Senior Technology Manager of TV Globo in Recife



#### Marcela Doria, Director - Twitter Media Research LATAM

Marcela Doria, has been on Twitter since 2015, having played important roles as a media professional for more than 15 years in the domestic and international marketing research market. The executive, who today heads the Twitter Media Research area for Latin America, has worked in companies like Discovery Networks Latin America & Brazil and ESPN Brazil.



#### Manuel Monroy, VP Latam, Veritone

Manuel, Regional Vice President of Strategy and Business Development, is responsible for the expansion of Veritone to Latin America. He lives in San Francisco and has 17 years of hands-on experience in Silicon Valley. Prior to Veritone, Manuel was Director of Intel Capital, responsible for identifying and evaluating opportunities for the Diversity Fund. While at Intel, he was also responsible for developing applications that leverage Intel's Computer Vision technology. Manuel holds an MBA from UCLA and a BS in Industrial and Systems Engineering from USC.

Cite this article:

Nascimento, H., Israel, K., Duca, C., Doria, M. and Monroy, M.; 2017. How to reach New Generations of Audience in a Competitive Market?. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.12. Web Link: http://dx.doi.org/10.18580/setep.2017.12

### 11h30 - 13h | Aug.22, 2017- Tuesday | ROOM 11

NEW PLATFORMS AND INFRASTRUCTURE

# NEXT GENERATION SOLUTIONS FOR TVS, OTTS AND VODS WITH IP VIA SATELLITE

Chair: JOSÉ RAIMUNDO CRISTÓVAM NASCIMENTO - Diretor Técnico na UNISAT / Representante do GVF - Global VSAT Forum no Brasil e Vice-Diretor da SET Sudeste

In the new context of satellite broadcasts, with the increasing use of IP Video and Audio IP and the beginning of change of concept of rent of MHz to render services in Mbit / s, Mbytes and in other possible business models and conditions Contractors, the main satellite operators will present their state-of-the-art solutions and technologies, applications, services and associated differentials for use by different companies in the audiovisual value chain, including the TV, OTT and VOD areas. The goal is that the audience has access to really new information.

# NEW APPLICATIONS IN SATELLITE DTH SYSTEMS: VOD, MULTI-SCREENS, HYBRID SYSTEMS Speaker: Jurandir Pitsch - Vice President Sales - SES

The presentation will address new applications complementing traditional DTH systems. The use of HEVC compression technology will enable the transmission of more advanced DTH systems, including 4 K UHD channels, multi-screen systems for users to watch on mobile devices in their homes, VOD systems, catch up TV and many others.

# INNOVATIVE SOLUTIONS FOR SATELLITE IP BROADCASTS Speaker: Ricardo Calderón – Sales Director - Eutelsat do Brasil

With its extensive and flexible fleet of 39 satellites covering virtually the entire globe, Eutelsat also develops IP transmission solutions to boost the use of satellites. SmartBEAM, a multi-screen content distribution solution and SmartLNB, efficient connection for Machine-to-Machine (M2M) applications are 2 examples of developments in this area.

# MYTHS AND FACTS OF TV CONSUMPTION

# Speaker: Edio Gomes - Technical and Operational Director of Hispamar Satellites

We'll look at some myths and facts about how today's consumers watch TV, and some market data.

# • MPTS VIA SATELLITE

### Speaker: William John Hemmings - Romantis Sales Director for Brasil

We will present the project of Romantis Brazil on multiple Sports Channels traveling through Satellite to the ERBs (radio base stations) of the Telecom Operator where they will travel to the end user through the LTE Broadcasting network that is adequate and designed for Video traffic with very low latency.

# • TELESAT LEO CONSTELLATION

### Speaker: Mauro Wajnberg - General Director of Telesat Brasil

Description of the low-orbit satellite system to be launched by Telesat..

# INNOVATIONS OF CONTRIBUTION WITH IP VIDEO IN MULTI-NETWORKS

# Speaker: Marcio Brasil - Managing Sales Director of the INTELSAT Office in Brazil

Do you want to simplify IP Video operations and get robust transmission of video? Learn more about cell operations technology, satellites, and the latest innovations for the best IP Media class platforms.

# SATELLITE: TRENDS AND NEW APPLICATIONS Speaker: Geraldo Cesar de Oliveira - Product Manager - Star One Space Segment

This is a very important moment for Satellite Operators. Several alternative transmission media, applications and technologies have emerged, and for this particular industry that takes around three years to specify their products and keep them alive for a period of 15 to 18, it is mandatory a correct evaluation of the New market trends (DTH, VOD, OTT, IPTV, HDTV, IOT, WI-Fi On Board ... etc).



#### JOSÉ RAIMUNDO CRISTÓVAM NASCIMENTO - Diretor Técnico na UNISAT /

**Representante do GVF - Global VSAT Forum no Brasil e Vice-Diretor da SET Sudeste** He has been active in satellite communications since 1983, having headed up project teams on several occasions. Associate Director and one of the founders of UNISAT in 1990. He is the company's technical director and a senior consultant to Brazilian and international companies. Before founding UNISAT, he worked at NEC, TELEBAHIA and EMBRATEL in the National and International areas, in communications via the Brasilsat and Intelsat satellites, having been a member of the Domestic Satellite Communications Department, known as SAT.He is an Operations Engineer in Electronics, from the School of Engineering of the UGF, a Graduate Degree from the UFF in Telecommunications, specialization courses in Japan (NEC, NTT and Anritsu) and in the USA (TCB – Thomson)..



#### Jurandir Pitsch - Vice President Sales - SES

Jurandir Pitsch is the Vice President of Sales and Business Development for the Latin America region, at SES. He is a telecom engineer, with more than 35 years acting in satellites business.



#### Ricardo Calderón – Sales Director - Eutelsat do Brasil

Graduated in electronic engineering from Escola de Engenharia Mauá, he has 29 years of experience in communications by satellite, Broadcast and PayTV. He has been the Director of Sales at Eutelsat in Brasil since 2015.



#### Edio Gomes - Technical and Operational Director of Hispamar Satellites

With over 38 years of experience in satellite communications and training in Telecommunications, IT and Business Administration, Edio Gomes occupies since 2004 the position of Chief Technical and Operational Hispamar Satellites. Previously, Edio has worked in various positions at Globalstar Brazil, Intelsat (in Washington, DC) and Embratel. Edio also holds an Executive MBA from COPPEAD.



#### William John Hemmings - Romantis Sales Director for Brasil

He worked as Director of Satellite Operators Loral Skynet and TELESAT and is currently Director of Romantis Brazil which is the representative before ANATEL of the Operator Satellite RSCC, which will be present in booth at SET EXPO 2017 with information on the satellite Express AM8 and How to bring TV Contribution in a single jump in C band of the 2018 FIFA World Cup in Russia.



#### Mauro Wajnberg - General Director of Telesat Brasil

Mauro Wajnberg has been working in the satellite communications industry for more than 25 years. He is currently serving as the Officer for Telesat Brazil, a subsidiary of Telesat Canada, the fourth largest global satellite operator. Prior to Telesat, Mr. Wajnberg was Director of Marketing and Products at Embratel's satellite operator Star One. Previously, Mr. Wajnberg held several positions in major telecom companies focusing on services for the corporate market, including the deployment of the first VSAT networks in Brazil.Mr. Wajnberg holds an Electronic Engineering degree from the Military Institute of Engineering, Brazil, and an Executive MBA from Fundacao Getulio Vargas (FGV), Brazil.In addition to his activities in Telesat Brazil, Mauro Wajnberg is also the President of the Chapter Brazil of SSPI, the Society of Satellite Professionals International.



#### Marcio Brasil - Managing Sales Director of the INTELSAT Office in Brazil

Marcio Brasil began to act as Managing Sales Director of Intelsat of the Office of Brazil in August of 2010. Since July of 2015, he is Managing Sales Director of the Sales Office of Brazil. He is responsible for managing Intelsat's sales activities in Brazil. Before that position, Mr. Marcio Brasil worked for more than 20 years in the Telecommunications and Satellite Markets, having worked in management positions in Operations, Engineering, Project Management, Business Development and Sales. Mr. Brazil obtained a BSc. In Electrical Engineering / Telecommunications at PUC-Pontifical Catholic University of Rio de Janeiro, MSc. In Electronic Engineering / Telecommunications at Universidade Mackenzie in São Paulo and an MBA in Business Administration from Fundação Getúlio Vargas in Rio de Janeiro.



Geraldo Cesar de Oliveira - Product Manager - Star One Space Segment

Graduated in Electronic Engineering in 1985, in Telecommunications Engineering in 1986, Master in Telecommunications Systems Engineering at Pontificia Universidade Católica do Rio de Janeiro (PUC - CETUC-RJ) and MBA in Executive Marketing at the Brazilian Institute of Capital Markets - RJ).

Cite this article:

Cristóvam, J.R., Pitsch, J., Calderón, R., Gomes, E., Hemmings, W. J., Wajnberg, M., Brasil, M. and de Oliveira, G. C.; 2017. Next Generation Solutions for TVs, OTTs and VODs with IP Via Satellite. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.13. Web Link: http://dx.doi.org/10.18580/setep.2017.13

### 14h - 15h30 | Aug.22, 2017- Tuesday | ROOM 16

MANAGEMENT AND WORKFLOW

# THE RECIPE FOR INNOVATION

### Chair: Daniel Monteiro - Gerente de Pesquisa e Desenvolvimento - TV Globo

Innovation has been important issue for midia companies. However, innovation development needs more than technological research, but also methodologies and entrepreneurship, mixing creativity, science and capacity of development. In this panel we will cover an innovation ecosystem through Lean Startup, Open Source Software, Emerging Technologies and Entrepreneurship.

# DO WATERFALL AO GO HORSE, DO AGILE AO LEAN Speaker: Fabio Castro - Supervisor Executivo de Pesquisa e Desenvolvimento - TV Globo

Over the past few years there has been a shift from more traditional software project methodologies to more agile and more sustainable practices. We are going to discuss some of these concepts by reflecting on different approaches to software developmentvimento.

# • WHAT'S NEW FOR INNOVATION ON THE GOOGLE PLATFORM? Speaker: Neto Marin - Developer Advocate - Google

Google offers a variaety of tools that can be the foundation for building innovative solutions such as TensorFlow, Cloud Vision API, Android Things and more. In this presentation, we'll take a look at what has already been done and what can be built using these solutions.

# STARTUP SPIRIT & DISRUPTALKS

### Speaker: Glauter Jannuzzi - Microsoft

The fourth Industrial Revolution is agile, democratic and connected, because it makes intense use of the Internet, social networking, artificial intelligence, augmented reality, cognitive computing, Internet of things and cloud computing. We live in the era of the creative economy, which explores the abundance of ideas, unlike the economy of years ago, based on scarcity. It is in this context that a kind of venture called startup gains strength and comes to make the world a better place to live. The startups feature a different look on sustainability, socio-environmental impacts and business ethics

application. Regardless of whether we own a business or we are employees, be entrepreneurial and be disruptive is mandatory to impact and influence people and get success.

### Speaker: Juliana Munaro – PEGN



#### Daniel Monteiro - Gerente de Pesquisa e Desenvolvimento - TV Globo

Research and Development Manager at TV Globo working with research and innovation since 2000. He is passionate about innovation and new technologies, with many years of experience in software development. Today he leads a team that conducts exploratory and applied research mainly in the areas of digital media, signal processing, artificial intelligence, virtual reality, computing, electronics and IoT.



#### Fabio Castro - Supervisor Executivo de Pesquisa e Desenvolvimento - TV Globo

R&D Executive Supervisor, he has led R&D teams in several projects but in recent years is dedicated to projects related to Digital Media. He is currently leading the development of GloboPlay for mobile applications and smart TVs..



#### Neto Marin - Developer Advocate - Google

Neto is a Developer Advocate experienced in mobile development, and working with Android since early releases. Based out of São Paulo, Brasil, Neto helps Brazilian developers to build high quality apps and be successful in Android ecosystem.



#### Glauter Jannuzzi - Microsoft

Master in Systems Engineering and electronic commerce (IME), MBA in Business Management (FGV), Bachelor of Computing Sciences (UNESP), passionate about digital transformation, startups, financial education, people's management, sales and marketing, is the creator of the social startup Atitude Infinita that has managed to unite public power, private sector, academic institutions and society for an innovative and creative movement to foster entrepreneurship and the creation of an inclusive ecosystem, called Vale Digital. He has been working for Microsoft for ten years, where he has been through the areas of services, technology, sales and marketing. He published the book "Startup Spirit", in May 2017 and works in the newest project DISRUPTalks. He is a co-founder of FlirtAR, a startup of Silicon Valley with innovative concepts and intense use of augmented reality.



#### Juliana Munaro - PEGN

Journalist graduated at PUC-SP. She works with television since he graduated in 2007. He has already produced reports for the local newspapers of Globo São Paulo, covered elections and participated in special projects at Globo, such as Flutuador and Respirar. She also worked as a reporter in Ribeirão Preto, in the county of São Paulo state. In 2015 she fell in love with entrepreneurship when she started working on the Pequenas Empresas & Grandes Negócios show

(TV Globo). Today, she joined the love for undertaking and technology and presents the PEGN.TEC at the show. She is co-writer of the book DISRUPTalks (to be published on Nov, 2017).

Cite this article:

Monteiro, D., Castro, F., Marin, N., Jannuzzi, G. and Munaro, J.; 2017. The Recipe for Innovation. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.14. Web Link: http://dx.doi.org/10.18580/setep.2017.14

### 14h - 15h30 | Aug.22, 2017- Tuesday | ROOM 13

HOT SESSION

# SWITCH-OFF: LESSONS LEARNED AND WHAT LIES AHEAD

### Chair: Fernando Ferreira – SET

- What we can expect in the next 12 months in cities and regions as relevant as Rio de Janeiro, Belo Horizonte, Curitiba, Porto Alegre and the São Paulo hinterland, among others.
- Looking forward, what is the view of the value of Digital TV in a new media context that exists today.
- Research Institute's view of the perceived value of Digital TV. What can free-to-air TV expect with the new media, through its own eyes.
- Sinclair's view of where free-to-air TV will go. The USA has already implemented Digital TV across a large stretch of the country.
- With the new ATSC 3.0 standard, what do they expect to obtain from the evolution of free-to-air TV.
  - Speaker: Raymundo Barros Director of Technology Rede Globo
  - Speaker: Antônio Carlos Martelletto Presidente EAD Be Digital
  - Speaker: Dora Câmara Commercial Executive Director Brazil Kantar IBOPE Media

• ATSC 3.0 IS JUST THE BEGINNING OF A NEW MOBILE EXPERIENCE!

### Speaker: Louis Libin - Sinclair Broadcast Group

ATSC 3.0 is the natural progression to higher video and audio quality. It improves the viewing experience, there is higher compression efficiency, there is much more robust transmission for reception on both mobile and fixed devices, and there is more accessibility, personalization and interactivity. ATSC 3.0 also addresses the fast-changing consumer behavioral preferences and changes, providing TV content on a wide variety of devices. ATSC 3.0 will continue to add value to the broadcasting service platform, extending its reach and adding new business models – all without

restriction of backwards compatibility with the legacy system. It is a new world, that we will explore next...



#### Fernando Ferreira - SET

Graduated in electronic engineering, specializing in Telecommunications, in Porto Alegre; has a graduate degree from the Kellogg School of Management, Northwestern University, in Evanston, Chicago. Participated on the Deliberative Council of the Forum of the Brazilian Terrestrial Digital TV System in the Broadcasting sector. Headed up the creation of digital TV broadcasters in Porto Alegre and Florianópolis, as well as other broadcasters in the same states (RS and SC)..



#### Raymundo Barros – Director of Technology Rede Globo

Raymundo Barros is an Electronic Engineer graduated from the Polytechnic School of the University of Pernambuco. He holds an MBA from IBMEC / SP and a postgraduate degree in networks and telecommunications systems from Inatel. He began his career as a trainee at Globo Nordeste. Director of Engineering of Globo Nordeste and Director of Engineering of Globo São Paulo. In 2014, Raymundo Barros took over the Technology Direction of Rede Globo.



#### Antônio Carlos Martelletto - Presidente EAD - Be Digital

Holds a degree in Electrical Engineering/ Electronics from PUC-RJ, with a specialization in Telecommunications from UNICAMP. He has been an Executive Officer of the América Móvil group since 2008, having previously CTO at Vivax and having worked at companies like Globosat, Telebrás and Promon Engineering.



#### Dora Câmara - Commercial Executive Director Brazil - Kantar IBOPE Media

Dora Câmara has a degree in Social Communication from ESPM and an MBA in business management by the FIA. She has been in Kantar IBOPE Media for 31 years. In 2010, received the Professional Contribution Award - Specialized Services category of APP. In 2011, she was nominated for the Outstanding Professional Communication Award in the Research category promoted by the Brazilian Advertising Association. Currently, she has been working on multi-screen metrics solutions and simultaneous multimedia consumption.



#### Louis Libin - Sinclair Broadcast Group

Louis Libin is Senior Director of New Technology for Sinclair Broadcast Group. At Sinclair, Louis will be building out the SFN's. Louis specializes in broadcast, new product development, and new media. Louis has worked in strategic development for advanced television in many countries. In the United States, Libin has advised on spectrum and FCC issues. Libin provides workshops on equipment and technology to international regulatory agencies. Louis chairs the advisory committee of the Advanced Television Broadcasting Alliance. Mr. Libin is the local frequency coordinator for the New York Region. Louis is involved in the ITU and has written numerous papers on spectrum.

Cite this article:

Ferreira, F., Barros, R., Martelletto, A. C., Câmara, D. and Libin, L.; 2017. Switch-off: Lessons Learned and what lies ahead. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.15. Web Link: http://dx.doi.org/10.18580

# 14h - 15h30 | Aug.22, 2017– Tuesday | ROOM 12

**REGULATORY ISSUES AND STANDARDS** 

# SECURITY AND COPYRIGHT INTEGRITY IN UHD CONTENT

# Chair: Antonio Salles Neto, Coordenador do Núcleo Inteligência Antifraude da ABTA

Understanding risks to copyright and intellectual property in the unrestricted use of neutrality by the illegal industry. Cyber crime acts in the virtual world. It invades, it steals in the cloud, it receives, it resells the product and it evades in speed next to the light. How to inhibit virtual crime with legal processes of the material world, which reacts on the speed of people and rigid objects? 402/5000 Understanding risks to copyright and intellectual property in the unrestricted use of neutrality by the illegal industry. Cyber crime acts in the virtual world. It invades, it steals in the cloud, it receives, it resells the product and it evades in speed next to the light. How to inhibit virtual crime with legal processes of the material world, which reacts on the speed of people and receives, it resells the product and it evades in speed next to the light. How to inhibit virtual crime with legal processes of the material world, which reacts on the speed of people and rigid objects?

# MPACTS OF ILLEGAL IPTV OPERATIONS ON CONTENT PRODUCTION IN BRAZIL

# Speaker: Marcelo Bechara - Director of Institutional Relations, Regulation and New Media - GLOBO Group

Market and regulatory vision of consequences on investments in content production, in the face of piracy threats in distribution.

 INTERNATIONAL LANDSCAPE - ILLEGAL EXPLOITATION OF COPYRIGHT IN IP NETWORKS
Speaker: Ygor Valerio - VP Legal and Content Protection LTAM - MPAA -Motion Pictures Association

The vision of the film industry about how countries in Latin America and other continents are dealing with the illegal distribution of copyrighted content over the Internet.

### DIGITAL LAW AND MCI - MARCO CIVIL INTERNET Speaker: Daniel Pitanga - Advogado / Associate - Siqueira Castro Advogados

Risks to copyright and intellectual property in the distribution of UHD content on the Internet, under the understanding of law and MCI.



#### Antonio Salles Neto, Coordenador do Núcleo Inteligência Antifraude da ABTA

Pioneer in Cable TV in Brazil. Former CTO in companies such as NET, United Globalcom (LGI), Adelphia BR / Blue and Director of SETA-Brazilian PayTV Union. Coordinator of Anti-Fraud Intelligence Center at ABTA - cyber security for video content, since 2011.



### Marcelo Bechara - Director of Institutional Relations, Regulation and New Media - GLOBO Group

Marcelo Bechara is a lawyer with an MBA in Economic and Business Law from Fundação Getúlio Vargas and a specialization in Communication and Technology Law. He is a participant in the ILaw Program through the Berkman Center for Internet & Society of Harvard Law School. Formerly attorney-general at Anatel, member of the Internet steering committee in Brazil – CGI.br and the Board of Directors of the Information and Coordination Center of PontoBr. He was Legal Consultant to the Ministry of Communications, President of the Organizing Committee of the I National Conference on Communication, Vice President of the Consultative Council of the National Telecommunications Agency – Anatel, having also held office as a Member of the Fiscal Council of ECT – the Brazilian Postal Service. He is certified in Intellectual Property Law by the World Intellectual Property Organization Academy..



#### Ygor Valerio - VP Legal and Content Protection LTAM - MPAA - Motion Pictures Association

Lawyer, graduated in Law from Largo São Francisco Law School - USP, specializing in intellectual property by FGV-SP. Co-coordinator of the ABPI Copyright Studies Committee and Legal Vice President and Content Protection for Latin America at the MPA-Motion Pictures Association. Worked in companies such as Adobe, Nokia and Microsoft. Author of several articles in the areas of law, technology and intellectual property



#### Daniel Pitanga - Advogado / Associate - Siqueira Castro Advogados

Daniel Pitanga is a Media Lawyer with more than 11 years of experience in the field of entertainment, internet, and technology. Senior Lawyer Associate at Siqueira Castro Advogados. LLM (Master of Laws) in Information Technology and Telecommunications Law (University of Southampton/UK). Postgraduate Diploma in Intellectual Property Law (PUC-Rio). Postgraduate certificate in Entertainment Law (UERJ). Vice-Chair from the Interactive Entertainment and Media Committee from ITechLaw (International Technology Law Association). Secretary-General of the Industrial Property and Piracy Committee at Brazilian Bar Association, Rio de Janeiro Section. Former Secretary-General of the Copyright, Immaterial Rights and Entertainment Committee at

Brazilian Bar Association, Rio de Janeiro Section. Member of the Brazilian Bar Association, Rio de Janeiro Section. Member of ITechLaw.

Cite this article:

Salles, A., Bechara, M., Valerio, Y. and Pitanga, D.; 2017. Security and Copyright Integrity in UHD Content. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.16. Web Link: http://dx.doi.org/10.18580/setep.2017.16

### 14h - 15h30 | Aug.22, 2017- Tuesday | ROOM 11

# TECHNOLOGY FOR TV AND RADIO

# **BRAZILIAN PIONEERING IN IMMERSIVE AUDIO: PRACTICAL EXPERIENCES**

# Chair: Rafael de Castro - Regional Director, Latin America Dolby Laboratories Co-chair: Luana Carolina Bravo - Educational committee - SET

The focus of this panel will be to show how immersive audio production works in practice, from a broadcast point of view. We will take as examples the Rock In Rio 2015 which was the first live event made in 4k in the world, we will also address the Carnival of this year that was again pioneer in Atmos OTT broadcasting, besides live events we will also treat post-production tools. As an Introduction we will have a brief explanation about immersive audio status in the world.

# Speaker: Carlos Watanabe - Director for Emerging Markets at Dolby Laboratories

# • IMMERSIVE AUDIO IN PAY TV

### Speaker: Gabriel Thomazini - Globosat Audio Coordinator

With Immersive Audio being presented as a desired option in 4K broadcasts, this presentation will address the characteristics of using the Dolby ATMOS format in the Broadcast chain, sharing the impressions and challenges of this technology in Pay-TV.

# DOLBY ATMOS AT RIO CARNIVAL

### Speaker: Carlos B. Ronconi - Assessor Técnico - Grupo Globo

First worldwide broadcast with remote mix using Dolby Atmos. More than 40 channels canalized from the Sambódromo to the Globo studios in Jacarepaguá, mixed with Dolby Atmos technology.

# IMMERSIVE AUDIO IN DRAMA

### Speaker: Rodrigo Meirelles - Sound Supervisor - TV Globo

Among the experiences recently performed by Globe TV in Dolby Atmos, dramaturgy is a highlight. Experimental mixes of clips from TV series directed to Dolby Atmos Home were the first performed in Latin America. Get from a single mix to generate an immersive experience to a large number of viewers promotes a change of scenery in the sound for TV that we have not seen since the implementation of the stereo. The purpose of this presentation is to discuss creative opportunities and impacts on workflows that the technology imposes on drama, from soap-opera to tv series, in the context of multiple platforms and the consumption of immersive content in soundbars and headphones.



Rafael de Castro - Regional Director, Latin America Dolby Laboratories



#### Luana Carolina Bravo - Educational committee – SET

Electrician engineer with emphasis in electronics from the Faculty of Engineering São Paulo. Post graduate in Digital TV by Mackenzie University. She has been in the television business for over 10 years.Participant in the SET board since 2012, member of the Technical Reception Group (GT-Rx) of GIRED, member of the Market Module of the Brazilian Digital TV Forum and representative of ABERT in the Project UHD- Brazil



**Carlos Watanabe - Director for Emerging Markets at Dolby Laboratories** Carlos Watanabe is Director for Emerging Markets at Dolby Laboratories, the global leader in audiovisual entertainment technologies. For more than 50 years, Dolby has created audio, video and voice technologies that transform entertainment and communications on mobile devices, movies, the home and work.Carlos is an Electrical Engineer graduated from the State University of Campinas (UNICAMP), with an MBA from the Ross School of Business at the University of Michigan. He has more than 20 years of experience in technology, media and entertainment companies, and senior management consulting.



#### Gabriel Thomazini - Globosat Audio Coordinator

Working for over 30 years with professional audio, he was a recording technician and music content mixer, P.A and Sound Designer technician. For more than 15 years in the broadcast area, he has participated in projects for the audio infrastructure of major events such as Olympics Games, World Cups and International Shows. Participated in the development of mobile units, television studios and IP infrastructure projects for professional audio and automation systems. Member of AES since 1998, holds lectures and workshops promoting new techniques and technologies for audio production He is currently the Audio Coordinator for Globosat, considered the largest cable TV programmer in Latin America.



#### Carlos B. Ronconi - Assessor Técnico - Grupo Globo

Technical Advisor at Globo Studios where he works in the audio area.He participated in the deployment of various audio technologies for live and sound post production, from the first audio workstation to the Mobile Audio Unit. Coordinates the audio of events and broadcasts of Entertainment such as Carnival, Roberto Carlos Special, Child Hope, Rock In Rio, Brazilian Day, etc. Graduated in Cinema from Gama Filho University and studied Electrical Engineering at the Fundação Valeparaibana de Ensino, São José dos Campos, SP. Graduated in Music (Classical Piano) by the Santa Cecilia Conservatory, also of SJC. He also worked at the Instituto de Atividades Espaciais, Transamérica Studios and Som Livre.

#### **Rodrigo Meirelles - Sound Supervisor - TV Globo**



Rodrigo Meirelles is Executive Supervisor of Audio of Globo. He holds a degree in Electronic Engineering and Computing, Recording and Phonographic Production and has a Masters in Education and Media. For 16 years in the audio market, he began his career as an engineer in music production studios in Rio de Janeiro, in maintenance, installation and projects of audio recording studios, he was an instructor and founder of the ProClass training center, a pioneer in official certifications In Pro Tools and Avid in Brazil, and in TV Globo, was responsible for the area of post-production from 2009 to 2014. Today he is responsible for the Entertainment Audio Production area (Estúdios Globo). He was a university professor for 8 years teaching courses in Phonographic Production, Audiovisual Production, Radio and TV and Graduation in Cinema.

Cite this article:

Castro, R., Bravo, L., Watanabe, C., Thomazini, G., Ronconi, C. B. and Meirelles, R.; 2017. Brazilian Pioneering in Immersive Audio: Practical Experiences. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.17. Web Link: http://dx.doi.org/10.18580/setep.2017.17

16h - 17h30 | Aug.22, 2017- Tuesday | ROOM 16

**REGULATORY ISSUES AND STANDARDS** 

# THE ROLE OF THE TECHNOLOGY AREA IN THE ANALOG SWITCH-OFF PROCESS AND THE START OF THE 4G / LTE IN THE 700 MHZ BAND

# Chair: Rafael Leal - TV Globo

This session will discuss technical aspects related to the analog TV switch-off, issues related to the various channel reassignments for clearing the 700 MHz band as well as discussions about the actions preceeding and following the activation of 4G / LTE in this band across the country. We will have the participation of the professionals who are heavily involved in all these processes that will be able to share with the public their recent experiences on these three fronts: switch-off, repacking and activation of 4G / LTE in the 700 MHz band.

# ANALOG SWITCH-OFF IN BRAZIL- HOW TO CONDUCT Speaker: Carlos Cauvilla / Diretor de Tecnologia de TV / Rede Anhanguera

Will be addressed in this presentation some points on how to prepare for the switch-off of analog signals including digital coverage assessment, training of technical staff and dissemination of actions. What are the roles of engineering in the pre- and post switch-off periods. How should the technology support other areas in the process of awareness of the erasure of analog signals?

WHAT SHOULD I KNOW ABOUT THE BEGINNING OF THE 4G / LTE OPERATION IN THE 700MHZ BAND?

### Speaker: Luiz Fausto - Regulatory Strategy Specialist for Globo TV Network

This presentation will cover the main points related to the beginning of the 4G / LTE operation in the 700 MHz band in Brazil, in relation to the coexistence with the TV transmissions in the adjacent band. The preventive and corrective measures adopted to avoid possible problems of harmful interference will be described, highlighting the most important aspects to be followed by the broadcasters.

# • THE ELECTRONIC WASTE, SUSTAINABILITY, OBLIGATION, RESPONSIBILITY

### Speaker: Mara Raquel Ballam - Executive Manager of ABREE

Mara Ballam, from ABREE - the Brazilian Association for Electro electronics and Home appliances Recycling - will address the challenges of the electronics sector for the implementation of reverse logistics and its environmental, social and economic impact.

# REPACKING OF TV CHANNELS

# Speaker: Fernando Gomes de Oliveira - Management and project planning - Be Digital

The repacking may require changing the antenna, transmitter, filters, etc., and each project is different. As part of the government bid, buyers of this frequency band have the responsibility of redistributing 1034 TV channels, following the analog TV shutdown schedule, which will be completed by the end of 2018, when the spectrum will be released for the activation of the the next generation of mobile broadband. In this presentation we will cover the main stages of this process.



#### Rafael Leal - TV Globo

Rafael Leal holds a degree in Telecoms Engineering from INATEL, a graduate degree in Business Administration from the FGV-SP and an MBA in Project Management, also from FGV-SP. He has more than 10 years' experience in television engineering, and has been working for 8 years at TV Globo. He worked for 6 years in support and technical interface area with affiliated station, having dedicated himself to regulatory matters and having worked closely with the analog TV disconnection and digital signal expansion processes throughout Brazil. He is deputy coordinator for the Market Module at the FBTVD (the Brazilian Digital TV Forum), coordinator of the SET Switch-Off Working Group and a member of the GT-Rm (Reallocation Technical Group) of the GIRED.



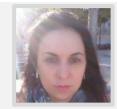
#### Carlos Cauvilla / Diretor de Tecnologia de TV / Rede Anhanguera

Engineer with an MBA in Business Management and Technology Management. Currently holds the position of Director of TV Technology at Anhanguera Network, where he is responsible for the operation, projects and implementation of technologies aimed at the Media TV business. Actively participating in its third analog disconnection in Brazil, in the Goiânia cluster



#### Luiz Fausto - Regulatory Strategy Specialist for Globo TV Network

Professional Master's Degree in Applied Computing (UECE - 2015), Executive MBA on IT (UFRJ - 2011), extension course in Networks and Video over IP (UFRJ - 2009), Bachelor's Degree in Electrical Engineering with emphasis in Electronics (UFRJ/USU - 2005). Currently working as Regulatory Strategy Specialist for Globo TV Network, Deputy Director of the Technology Board Committee of the Brazilian Television Engineering Society (SET), member of the Delegation of Brazil in ITU-R (SG 6) and CITEL (PCC.II), member of the Tv Reception Technical Group (GT-Rx) of the Brazilian TV Switch-Over Group (GIRED), member of the Technical Module of SBTVD Forum and member of the Harmonization Working Group of ISDB-T International Forum



#### Mara Raquel Ballam - Executive Manager of ABREE

Data Processing Technician from ETEC. Technical Undergraduate Degree in Telecommunications from the FATEC. Bachelor in Law from the SBC Law School. Graduate degree in Environmental law from PUC. MBA in Sustainability from the FGV. Specialization in Corporate Social Responsibility from the FGV. Leading auditor in Quality and the Environment from the IRCA. Specialization in Six Sigma, at Green Belt and Black Belt level. 15 years' managerial experience in the fields of Quality, the Environment, Occupational Health and Safety, in addition to having developed projects in the fields of the Environment and Sustainability within the industry. Has played a significant role at governmental level through the associations of the electrical, electronic and household appliance sector, involving a series of issues, especially reverse logistics and in supporting the legislation for the control and reverse logistics of batteries and wet cells. Management of corporate social responsibility departments, especially in social projects for the FIFA World Cup in Brazil and with different organizations like UNICEF and the WWF.



#### Fernando Gomes de Oliveira - Management and project planning - Be Digital

Fernando Gomes de Oliveira has been working in the telecommunications and broadcasting sector since 1996, promoting technical solutions to the main TV stations, pay-TV operators and local Internet providers. At Be Digital, he is responsible for the management and planning of TV channel repacking projects with the goal of releasing the 700MHz band, enabling the implementation of 4G / LTE networks.

Cite this article:

Leal, R., Cauvilla, C., Fausto, L., Ballam, M. R., de Oliveira, F. G.; 2017. The Role of the Technology Area in the Analog Switch-off Process and the Start of the 4G / LTE in the 700 MHz Band. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.18. Web Link: http://dx.doi.org/10.18580/setep.2017.18

16h - 17h30 | Aug. 22, 2017- Tuesday | ROOM 13

**TECHNOLOGY AND BUSINESS** 

# BROADCASTING MARKET: THE UNCERTAINTY FACING THE DIGITAL WORLD

# Chair: PAULO CANNO - Technology Director - Rede Gazeta Network ES/ SET Co-chair: Luana Carolina Bravo - Educational committee - SET

In the second half of the 20th century, open television reigned alone in entertainment for the masses. But, the century has changed ... and the game too! The Internet, which started shy with magazine face, now has billions of hours of music and video, even in 4k!. And every hour that passes thousands of hours add to this infinite collection. And you watch as you wish: at home, on the bus, on the cell phone and ... on the TV itself. And to complicate, you also watch for free. Like on open TV! How not to lose this game? How do we keep that audience which takes decades to conquer? How to attract younger, fleeing from the TV couch? What type of content, what kind of programming only open TV is able to offer? Is multiplatform a solution? How to use the internet in our favor? These are some of the many issues that challenge the future of open TV.

# • DIGITAL TRANSFORMATION – THE PATH TO INNOVATION Speaker: Daniela Souza, SVP on AD Digital

We're currently in a moment of change: disruptive models have created a public with new unhabits and new requirements, in a way that media companies need to worry about delivering a personal experience to users in multi-screens, while also revising their business approach to both commercials and the PayTV industry. Follow AD Digital in this discussion about the pillars of this transformation and new business strategies for the future (2020 Vision).

- Speaker: Rodrigo Navarro Marti Multiplataform Director SBT
- FUTURE PROSPECT OF BROADCASTING SERVICE Speaker: Akihiko Chigono - Executive Director, Chief of Engineering NHK (Japan Broadcasting Corporation)

The environment around the broadcasting is changing rapidly. IT technologies are penetrating to the broadcasting industry and NHK, along with other broadcasters, has to adapt this situation. This presentation introduces the current situation in broadcasting industry in Japan and how NHK is dealing with it for keeping initiative as an advanced media service provider..

### • Speaker: RODRIGO NEVES - Adviser and former President of AESP



#### PAULO CANNO - Technology Director - Rede Gazeta Network ES/ SET

An Electrical Engineering graduate from the São Carlos School of Engineering of the University of São Paulo and a graduate degree in Enterprise Management from the FGV. He was involved in the design and installation of radio and TV transmission systems between 1976 and 1984, as the engineer in charge at Sociedade Nacional de Eletrônica. From 1984 to 1986 he worked at Engesa Eletrônica, where he was in charge of the component quality control laboratory. He has been with Rede Gazeta in the State of Espírito Santo (a Globo Network affiliate) since 1986, where he is Technology Director with responsibility for the entire technology infrastructure that supports the group's television and radio broadcasters.



#### Luana Carolina Bravo - Educational committee - SET

Electrician engineer with emphasis in electronics from the Faculty of Engineering São Paulo. Post graduate in Digital TV by Mackenzie University. She has been in the television business for over 10 years. Participant in the SET board since 2012, member of the Technical Reception Group (GT-Rx) of GIRED, member of the Market Module of the Brazilian Digital TV Forum and representative of ABERT in the Project UHD- Brazil.



#### Daniela Souza, SVP on AD Digital

Founder of AD Digital, she joined the Media and Entertainment market in 1994. She's an invited speaker on the main events related to content creation, management and distribution, to share her view on market and future trends. Daniela's part of the board of directos of SET for more than 10 years and is responsible for some of the new concepts present on Brazil



#### Rodrigo Navarro Marti - Multiplataform Director - SBT

Graduated in Business Administration from Fundação Getúlio Vargas with an MBA from FIA. He has worked for 10 years in Consumer Goods company "Unilever", has more than 15 years of experience in media companies, "SBT", "Abril", being responsible today by SBT's Multiplatform Board..



# Akihiko Chigono - Executive Director, Chief of Engineering NHK (Japan Broadcasting Corporation)

Mr. Chigono joined NHK in 1977. After working for the Program Engineering Division, he became the Head of the Engineering Administration Department in 2006. Then he became the Director of Engineering Administration Department in 2010. He played a key role in the immediate recovery of the broadcasting network after the Great East Japan Earthquake on March 11, 2011. In the same year, he led and managed the digitalization of terrestrial television network in Japan, and successfully supervised the completion of the analog switch-off in March 2012. He transferred to the NHK Media Technology and became the President/CEO in 2013. Since 25, April 2017, he is the Executive Director, Chief of Engineering of NHK. He is currently responsible for engineering and information systems & security including the development and implementation of next-generation television services.



#### **Rodrigo Neves - Adviser and former President of AESP**

Rodrigo Neves, journalist specializing in radio journalism. Currently holds the position of General manager at Grupo Bandeirantes de Comunicação in the city of Campinas, SP, which consists of four radio stations, a television station and a daily newspaper. From July 2011-July 2015, he was president of the AESP, the Association of Radio and Television Stations in the State of São Paulo, the first industry association in Brazil and the most important regionally speaking, and presently holds the seat as 2nd Member of the Board of the association. He is Regional Vice President Regional of Amcham Campinas, a Member of the Board of the Centro Infantil Boldrini, the charity children's cancer and hematology hospital; SERTESP – the Union of Radio and Television Companies in the State of São Paulo and the Centro Corsini, a highly complex shelter for children and adolescents.

Cite this article:

Canno, Paulo, Bravo, L., Souza, D., Marti, R. N., Chigono, A. and Neves, R.; 2017. Broadcasting Market: the Uncertainty facing the Digital World. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.19. Web Link: http://dx.doi.org/10.18580/setep.2017.19

### 16h - 17h30 | Aug. 22, 2017- Tuesday | ROOM 12

HOT SESSION

# THE TECHNOLOGY OF INDEPENDENT CONTENT PRODUCTION – BRAVI

Chair: Celso Araujo- Director Cinema/SET- Director LINK Multisserviços Eletroeletrônicos

**Co-chair: ESDRAS MIRANDA DE ARAÚJO –** Northeast regional director / SET -Technical and Operational Manager / Jangadeiro de Comunicação..

The independent content production is increasingly present in various display modes. And only an excellent script, direction and actors are not enough for the success of an audiovisual work. In this panel producers will discuss the technological challenges for the production and delivery of content in multiple screens.

- Speaker: Tiago Mello Partner Boutique Filmes
- Speaker: Sabrina Nudeliman Wagon Diretora e Co-fundadora da ELO COMPANY
- Speaker: Marcio Yatsuda Presidente da Movioca Content House



#### Celso Araujo- Director Cinema/SET- Director LINK Multisserviços Eletroeletrônicos

He joined TV Globo in 1973, where he worked for 40 years at the Central Globo de Engenharia, in Rio de Janeiro. He spent more than 12 years in maintenance, during which he had the opportunity for development in various sectors of the television maintenance, such as cameras, lenses, video, audio, switchers, routers, and even the management of systems and crews for production operations in sporting events, shows, World Cup and Olympics. Since 2013 acting as Entrepreneur, Business Consultant in the area of TV Technology and providing Seminars and Workshops with SET at its regional events, to the IAV (Audiovisual and Video Institute of São Paulo).



# ESDRAS MIRANDA DE ARAÚJO – Northeast regional director / SET - Technical and Operational Manager / Jangadeiro de Comunicação..

He holds a degree in Electrical Engineering (Electronics), a graduate degree in Maintenance Management from the Polytechnic University of Pernambuco (UPE); and a graduate degree in business management from the Getúlio Vargas Foundation (FGV). He began his broadcasting activities in 1994 in FM and TV Tribuna (a BAND group affiliate in the state of Pernambuco). In 1999, he witnessed the birth and implementation of TV Guararapes (a BAND group affiliate in the state of Pernambuco). In 2003, he took over the Technical and Operations Division of the AM / FM Radio Club in Pernambuco. He is currently the Technical and Operations Manager of the Jangadeiro Communication System, with two TV stations affiliated to SBT and BAND (located in the state of Ceará) and of the Jangadeiro Radio System consisting of 8 FM broadcasters.

#### **Tiago Mello - Partner - Boutique Filmes**

Executive Producer of the series 3%, the first original series by Netflix in Brazil. Co-creator and executive producer of the series "Zoo da Zu" (nominated for the 2015 International Emmy Awards, Discovery Kids), "Extraordinary Experiments" (Cartoon Network) and the cartoon S.O.S Fada Manu" (Gloob). Also responsible for the executive production of Gigantes do Brasil – Giants of Brazil (a fiction co-production with the History Channel), Cinelab (NBC Universal), Lowrider Brasil (Discovery Channel), A Grande Luta, series (HBO), among others works. Tiago Mello was responsible for the Escola Pra Cachorro (Doggy Day School) (TV Cultura/Nickelodeon/TV Ontario), one of the first co-productions between Brazil and Canada. With TV Globo and Cartoon Network, he was at the command of the animated series, "Sitio do Picapau Amarelo" (Yellow Woodpecker Farm). He was also creator and producer of "Julie e os Fantasmas" (Julie and the Phantoms) (Band/ Nickelodeon), nominated for the 2012 International Emmy Awards. As Executive Producer, he also produced the series Descolados (MTV) and Brilhante (Brilhante F.C.) (TV Brasil)



#### Sabrina Nudeliman Wagon - Diretora e Co-fundadora da ELO COMPANY

Extensive experience in audiovisual distribution and programming in Brazil and overseas. Holds a degree in Business Administration, with a specialization in communication and leadership, and strategic consulting experience at McKinsey. She has taught classes at the Getulio Vargas Foundation, FAAP and others. She has also given talks at the Cannes Film Festival about audiovisual distribution audiovisual, been part of the jury and pitching at the São Paulo Secretariat, TV Cultura and has drawn up cultural/social projects.



#### Marcio Yatsuda - Presidente da Movioca Content House

President of Movioca Content House, TV and cinema producer specializing in branded content and storytelling and a professor at the Academia Internacional de Cinema, São Paulo. Holds a degree in applied and computer mathematics from Unicamp, and several specializations in Administration, Executive Production Leadership and People Management. Was co-founder and president of Kaizen, an IT integration company, from 1996 to 2012, elected the "Best IT & Telecom Company to Work for in Brazil" by "The Great Place to Work Institute" in 2007, having been acquired in 2010 by Chilean company, Sonda IT, Latin America's largest IT company. With extensive experience in

international business, in addition to Movioca, he is an investor and adviser to MW8 Soluções, a technology company, and works as an adviser to other companies..

Cite this article: Araújo, C., Miranda, E., Mello, T., Wagon, S. N. and Yatsuda, M.; 2017. The Technology of Independent Content Production – BRAVI. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.20. Web Link: http://dx.doi.org/10.18580/setep.2017.20

### 16h - 17h30 | Aug. 22, 2017- Tuesday | ROOM 11

# TECHNOLOGY FOR TV AND RADIO

# HDR MASTER CLASS – SMPTE

### Chair: Paulo Henrique Castro - Technology and R&D Director - TV Globo

# • SMPTE: THE NEXT CENTURY

### Speaker: Joel E. Welch - Director of Education- SMPTE

This session will open with a very brief discussion about SMPTE and its plans for its next century from the perspective of the Society's three pillars, Standards, Membership, and Education.

# HIGH DYNAMIC RANGE MASTER CLASS

# Speaker: Matthew Goldman - Senior Vice President Technology at Ericsson / Fellow & President of SMPTE / Senior Member at IEEE

The session continues with the highly popular "High Dynamic Range (HDR) Master Class": The hottest new development in viewing experience, High Dynamic Range (HDR), became real this year by landing in consumers' homes. HDR adds a level of realism that is unlike any other new image enhancement. This master class explores, in depth, what HDR is and its impact on the immersive viewing experience. The HDR schemes, based on perceptual quantizer (PQ) and hybrid log gamma (HLG) transfer functions, and how they impact the broadcaster workflows will be explained. Other topics covered include dynamic versus static metadata, interoperability, backwards compatibility, as well as the state of HDR standardization will be discussed.



#### Paulo Henrique Castro - Technology and R&D Director - TV Globo

Engineer by the Pontifical Catholic University of Rio de Janeiro in 1996 (PUC-Rio). Working with Globo since 1996, where started on an internship program. Responsible for the standardization of the Digitial TV in Brazil. -Coordinator of the Audio and Video Coding Working Group of the SBTVD Forum. -Chairman of the ABNTCommitee for Digital TV (Associação Brasileira de Normas Técnicas, Brazilian ISO Branch). -Contact point for Subgroup A – Specifications, on the Brazil-Japan Joint Work Group for Digital Television iniciative -Member of SET (Sociedade Brasileira de Engenharia de Televisão) since 1996. Also a member of many societies of IEEE(CommSoc, BTS, MTT, CE) and SMPTE



#### Joel E. Welch - Director of Education- SMPTE

Joel E. Welch is a senior Learning & Development (L&D) professional who has built a career helping people and organizations grow and advance. Joel has demonstrated the ability to develop effective strategies, building technical and leadership learning programs from the ground up while keeping an eye on initiatives of greatest strategic impact. His systemic organizational view and skill at lateral thinking help ensure the impact to the whole organization is considered and collaborative processes are utilized. Mr. Welch is currently Director of Education for SMPTE. Previously, he's held a number senior L&D leadership positions. Joel was Director, Certification and Program Development from 2002 to 2007 at SCTE. He was a key member of the core start-up team of 28 employees as National Leadership and Technical Training Manager at Optus Vision based in Chats wood, NSW, Australia, helping to grow the organization from 28 to 2,700 employees in 18 months. It is believed that during this period Optus Vision and its technical training programs enabled the company to become the first in the world to deliver television and telephone services over a single coaxial cable. Mr. Welch's



# Matthew Goldman - Senior Vice President Technology at Ericsson / Fellow & President of SMPTE / Senior Member at IEEE

Matthew Goldman is Senior Vice President of Technology, TV & Media, at Ericsson, where he is focused on video processing and media delivery solutions. He has been actively involved in the development of digital television systems since 1992. He was a prominent participant in the Moving Picture Experts Group where he helped create the MPEG-2 Systems and DSM-CC standards, and he continues to be influential in other industry organizations including the Society of Motion Picture and Television Engineers (SMPTE), the Alliance of IP Media Solutions (AIMS), the Ultra HD Forum, the Digital Video Broadcasting project, the Advanced Television Systems Committee, and the Society of Cable Telecommunications Engineers. Four of his projects have been later recognized by Technology & Engineering Emmy® Awards. Mr. Goldman received bachelor (high honors) and master of sciences degrees in electrical engineering from Worcester Polytechnic Institute. He holds six patents related to digital video transport. A SMPTE Fellow, he is also a senior member of the IEEE and an inductee of the Academy of Digital Television Pioneers. Mr. Goldman is currently serving as the President of SMPTE.

Cite this article: Castro, P. H., Welch, Joel E. and Goldman, M.; 2017. HDR Master Class – SMPTE. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.21. Web Link: http://dx.doi.org/10.18580/setep.2017.21 9h - 11h | Aug. 23, 2017 - Wednesday | ROOM 16

**REGULATORY ISSUES AND STANDARDS** 

# ACCESSIBILITY: CLOSED CAPTION, BRAZILIAN SIGN LANGUAGE (LIBRAS), AUDIO DESCRIPTION AND UPDATING OF STANDARDS

## Chair: Caio Augusto Klein - Gerente Executivo de Operações da RBSTV/ SET

The issue of accessibility is increasingly present in the daily lives of broadcasters. According to IBGE, 6.2% of the Brazilian population (13 million people) have some type of disability. In recent years, Brazilian legislation is advancing inclusion measures so that everyone has access to information, culture and leisure. This panel will address the issue of accessibility in all its forms as closed captioning, Libras (Brazilian Sign Language), audio description, and also present the rules governing the adoption of these services by broadcasters. We will present practical solutions implemented and discuss the technologies available in the market.

# ACCESSIBILITY: CONCEPTS AND RULES Speaker: Luiz Fausto - Regulatory Strategy Specialist for Globo TV Network

In this speech, we will present the fundamental concepts of accessibility in television, as well as the rules governing the provision of such services in the Brazilian broadcast television.

# SOLUTIONS FOR CLOSED CAPTION

# Speaker: Raphael Oliveira Barbieri - Gerente de Produtos EiTV Entretenimento e Interatividade para TV Digital

To meet the growing demand for hidden caption generation, new technologies for the generation of this content are increasingly necessary.. This lecture will address the advantages and disadvantages of Voice Recognition and Stenotype systems, what software and hardware solutions are required, and examples of scenarios for the generation and transmission of Closed Caption in the baseband (SD / HD-SDI) and compressed (ISDB-Tb distribution).

# CLOSED CAPTION, LIBRAS AND AUDIO DESCRIPTION ON LIVE PROGRAMMING

# Speaker: Leandro Duarte Fernandes - General Programming Coordinator, RBS TV

Leandro Fernandes presents the Case Debate RBS TV RS during the 2016 elections. A simultaneous broadcast of 12 debates, with features of closed caption, Libras and audio description.

# INFRASTRUCTURE FOR ACCESSIBILITY

# Speaker: Marcos Luis Padeti Junior - Coordenador técnico - Record TV

Infrastructure approach to provide accessibility features and framework requirements in standards guidelines. Work scenarios as a main station.



#### Caio Augusto Klein - Gerente Executivo de Operações da RBSTV/ SET

Electrical engineer graduated at UFRGS (Federal University of Rio Grande do Sul), post graduated in Business and People Strategic Leadership at ESPM-RS. Initiated his career at RBS as the Technical Coordinator of RBSTV Uruguaiana. Afterwards, he returned to Porto Alegre, where he worked in projects of RBS new facilities, such as RBS Video São Paulo and RBSTV Santa Cruz. Then, for 10 years, Caio was the Technical Director of TVE-Rio Grande do Sul. In 2005, he returned to RBS to be the Technical Manager of the Group's radio stations. During this time, he participated on the news coverage of the 2006 and 2010 FIFA World Cups, the 2008 Summer Olympic Games and the 2006 and 2010 FIFA World Cup Clubs, events where he was responsible for the RBS Group's logistic. In 2009, Caio returned to RBSTV Porto Alegre as the Operations Executive Manager and also participated on big coverages, like the 2014 Brazil's FIFA World Cup.



#### Luiz Fausto - Especialista em Estratégia e Regulatório da Rede Globo

Professional Master's Degree in Applied Computing (UECE - 2015), Executive MBA on IT (UFRJ - 2011), extension course in Networks and Video over IP (UFRJ - 2009), Bachelor's Degree in Electrical Engineering with emphasis in Electronics (UFRJ/USU - 2005). Currently working as Regulatory Strategy Specialist for Globo TV Network, Deputy Director of the Technology Board Committee of the Brazilian Television Engineering Society (SET), member of the Delegation of Brazil in ITU-R (SG 6) and CITEL (PCC.II), member of the Tv Reception Technical Group (GT-Rx) of the Brazilian TV Switch-Over Group (GIRED), member of the Technical Module of SBTVD Forum and member of the Harmonization Working Group of ISDB-T International Forum.



#### Raphael Oliveira Barbieri - Gerente de Produtos EiTV Entretenimento e Interatividade para TV Digital

Raphael Barbieri holds an MBA in Project Management from FGV (2014) and holds a degree in Computer Engineering from UNICAMP (2007) with emphasis on industrial systems and processes. He is currently studying for the Electrical Engineering Faculty of UNICAMP, Member of the Technical Module of the SBTVD Forum and Product Manager of EiTV, where he works since 2007 with the study and development of new hardware and software technologies for the Brazilian digital TV system (SBTVD)

#### Leandro Duarte Fernandes - General Programming Coordinator, RBS TV



Leandro Fernandes holds a Bachelor's Degree in Business Administration from PUC-RS with an MBA in Production Engineering with emphasis on Innovation and Quality from UFRGS. He has solid experience in maintenance, engineering and operations with 18 years of experience in television stations. Already managed areas of Technology, Network Expansion and Administrative. He is currently responsible at RBS TV RS for the General Coordination of Programming and Exhibition.



#### Marcos Luis Padeti Junior - Coordenador técnico - Record TV

Bachelor in Industrial Design with emphasis on product design by Oswaldo Cruz (2005) and Management of Information Technology (2014) extension in Project Management by FIAP (2017). Coordinator of systems of exhibition, 14 years in Record TV, always in the department of programming and exhibition, working with project development, market analysis and maintenance.

Cite this article:

Klein, C. A., Fausto, L., Barbieri, R. O., Fernandes, L. D. and Padeti Junior, M. L.; 2017. Accessibility: Closed Caption, Brazilian Sign Language (LIBRAS), Audio Description and Updating of Standards. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.22. Web Link: http://dx.doi.org/10.18580/setep.2017.22

## 9h - 11h | Aug. 23, 2017 - Wednesday | ROOM 13

## HOT SESSION

## **CONSUMER HABITS AND THE FUTURE OF MEDIA**

## Chair: Roberto Franco - Head of Institutional and Regulatory Affairs - SBT

This panel will promote a debate on the future of the media and audiovisual market. In the discussion, will be approached subjects of extreme importance and relevance, among them: How are the habits of consumption being transformed? Which emerging technologies and media will prevail? OTT services replace or complement the traditional? What are the results in terms of penetration, and audience? Profitability is still exclusive to traditional models?

- Speaker: Alberto Menoni, Head of Broadcast, Media, Entertainment and Telecommunications Brazil Google
- Speaker: Gregor McElvogue Director Video Offerings IBM Cloud
- Speaker: Skip Pizzi Vice President, Technology Education and Outreach (NAB)



**Roberto Franco - Head de Assuntos Institucionais e Regulatórios – SBT** Graduated in electrical engineering with focus in electronics and telecommunications by the Federal University of Bahia and Post in Marketing and Business Management by FGV and ESPM. During the course of his career, he was responsible for the design and implementation of several radio and television companies in Brazil. He was President of SET - Brazilian Society of Television Engineering - from 2002 to 2008 and President of the Brazilian Digital TV System Forum from 2005 to 2008 and from 2015 to 2017. After this period he joined the Council of both Entities . In 2009 He was a member of ANATEL's Advisory Board. In August 2012 took office in the Social Communication Council until 2017 and is currently Head of Institutional and Regulatory Affairs of SBT.



# Alberto Menoni, Head of Broadcast, Media, Entertainment and Telecommunications - Brazil - Google

Business executive with broad experience at prominent companies such as [X], Google, Microsoft, Rio Tinto Alcan and AT&T having built up a solid international career in sales, marketing and partnerships. A successful entrepreneur too, with 8 years leading the fast growth of a Brazilian technology company, Auteq.

#### Gregor McElvogue - Diretor - Video Offerings - IBM Cloud



As an IBMer for nearly 20 years, Gregor has held various technical and managerial positions within IBM Corp US, most recently serving as Global Solutions Manager for the IBM Media and Entertainment industry group, where he managed solution design, sales enablement and business partner interactions for IBM B2B and B2C solutions in the media sector. An expert in management and distribution, Gregor successfully bridges the divide between technical development and business operation. He is well-versed in understanding client requirements and translating them into custom, specific solutions that deliver against ROI and business process targets. Gregor received his MBA in Business Administration at London Business School.



#### Skip Pizzi - Vice President, Technology Education and Outreach (NAB)

Skip Pizzi is Vice President, Technology Education and Outreach, at the National Association of Broadcasters (NAB) in Washington, DC, USA. His career has spanned the broadcast and digital media industries, working in audio engineering at NPR, and in audio production, media standards and technical policy at Microsoft. He was also an editor at Broadcast Engineeringmagazine, and a columnist for several other international industry publications. He remains a technology journalist, editor, author and trainer today. His most recent book is A Broadcast Engineering Tutorial for Non-Engineers, 4th edition, published by Focal Press. He is currently Associate Editor on the NAB Engineering Handbook, 11th edition, which will be published later this year. Skip serves as Vice-Chair of the Advanced Television Standards Committee (ATSC) Technology Group 3 (TG3), which is developing the ATSC 3.0 standard. He is also a member of the Board of Directors of the Ultra HD Forum. Skip is a graduate of Georgetown University, where he studied Electrical Engineering, International Economics and Fine Arts.

Cite this article:

Franco, R., Menoni, A., McElvogue, G. and Pizzi, S.; 2017. Consumer Habits and the Future of Media. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.23. Web Link: http://dx.doi.org/10.18580/setep.2017.23

9h - 11h | Aug. 23, 2017- Wednesday | ROOM 11

INNOVATION AND DISRUPTIVE TECHNOLOGIES

# INNOVATIONS IN THE INDUSTRY OF CRYPTOCOINS, GAMES AND STARTUPS

## Chair: José Dias - CEO Mixmedia - Content Production Director - SET

This meeting will show how the Forex and Cryptocoins are revolutionizing the global financial ecosystem. How to make money with Cryptocoins. Learn how to lead a Startup to success. And how is the revolution of the Games industry in Brazil and abroad.

 GAMES: LEARN MORE ABOUT THE GAME MARKET IN BRAZIL AND THE WORLD Speaker: Fernando Chamis - Presidente da ABRAGAMES - Associação

## Brasileira dos Desenvolvedores de Jogos Digitais

In this presentation, Fernando Chamis, CEO of Webcore Games and President of Abragames (Brazilian Association of Game Developers) shows data, examples, technologies and curiosities about the gaming market in Brazil and in the World.

# HOW TO MAKE A STARTUP A SUCCESS Speaker: Cidinaldo Boschini - CEO | 2C Turnaround Consulting & Associates

One need not necessarily have the solution developed ... There is no business with potential where the market is small ... You can not manage what you do not measure. What is important to make a successful startup?

## CRYPTOCOINS

## Speaker: Octávio Moura - Trader em CriptoMoeda

Focusing on the Cryptocoins market, this meeting aims to provide participants with a simple and deep understanding of the complex change that has taken place in the global financial ecosystem. It will be addressed issues of collective interest, which aim to show when this movement began, what the reasons, the main consequences and how to take advantage of this new form of financial communication, which has gained supporters every day around the world.

## • FOREX (FOREIGN EXCHANGE) Speaker: William Soares - Trader Forex

The ease of trading apps enables you to invest even with little experience. Discover one of the markets that can be part of your investment portfolio from now on. FOREX - What is it? How it works? The foreign exchange market, or FOREX "foreign exchange" is the world's largest market in terms of money traded daily, with more than 5 trillion dollars transacted daily. How do you trade FOREX?



#### José Dias - CEO Mixmedia - Content Production Director -SET

He has dedicated himself over the last 40 years to Television Engineering and Production Techniques and to the study into the use of computers to give a more dynamic visual aspect and the sophisticated techniques for generating images and special effects for TV and the cinema. Between 1979 and 1984 he was leader in the development of the Computer Graphics Technology that revolutionized the visual aspects of the Globo Television Network in the 1980s.



#### Fernando Chamis - Presidente da ABRAGAMES - Associação Brasileira dos Desenvolvedores de Jogos Digitais



#### Cidinaldo Boschini - CEO | 2C Turnaround Consulting & Associates

Specialist in Turnaround with over 11 years of experience in area. Developed Reorganization projects in more than 80 companies throughout Brazil. Also Angel Investor in technology Startups, Entrepreneur & Venture Capitalist



#### Octávio Moura - Trader em CriptoMoeda

Graduate in History and Post Graduate in Clinical PsychoanalysisSpeaker and human developer began his first contacts with the market of Cryptocoins in 2011 giving lectures on the subject throughout Brazil.



#### William Soares - Trader Forex

Technician in Real Estate Transactions, Specialist in Investment Management and Professional Coach.

Cite this article:

Dias, J., Chamis, F., Boschini, C., Moura, O. and Soares, W.; 2017. Innovations in the industry of Cryptocoins, Games and Startups. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.24. Web Link: http://dx.doi.org/10.18580/setep.2017.24

#### 9h - 11h | Aug. 23, 2017- Wednesday | ROOM 12

## **TECHNOLOGY AND BUSINESS**

# THE SUBSCRIBER TV MARKET AND OTT IN BRAZIL

## Chair: Cláudio Borgo - NET

Customers are changing the habit and the way they consume Video and Entertainment for the model "Anytime, Anywhere". Pay TV companies, propellers on Video on Demand, are preparing for this new moment by delivering the content easily and mainly in an Integrated way. But what are the main innovations of Engineering and Technology to support this new moment? In this panel, with the participation of experts in innovation, we will have the opportunity to meet and discuss the key technologies that will enable this new time..

- Speaker: Hugo Amaral Ramos Chief Regional Technologist (CRT) for the Caribbean and Latin America (CALA) at ARRIS.
- Speaker: Damien Sterkers Global OTT System Architect at Harmonic
- Speaker: Alessandro Maluf Director of the TV Products of Claro Brasil
- Speaker: Fabiano Barbieri Director of Video Engineering at Telefônica Brazi I



Cláudio Borgo - NET



# Hugo Amaral Ramos - Chief Regional Technologist (CRT) for the Caribbean and Latin America (CALA) at ARRIS.

He is responsible for evangelizing ARRIS's vision for technology throughout the Caribbean and Latin America and aligning its global innovation with local service providers' needs. In collaboration with ARRIS customers, Ramos develops technology strategies that influence the future of the region and advance ARRIS's regional thought leadership and technical expertise in telco and cable

TV systems and network architectures. Ramos has over 16 years of experience in the cable industry. He holds an Electrical & Telecommunications Engineering degree from Universidade Federal do Espirito Santo.



#### Damien Sterkers - Global OTT System Architect at Harmonic

Damien Sterkers, Global OTT System Architect at Harmonic, has 18 years of experience developing a deep and wide understanding of the various aspects of digital TV technology, with a focus on the OTT domain. His experience, mostly earned in the field and in direct contact with broadcasters, service providers and media companies, gives him a pragmatic vision on how technological innovations can be translated into practical benefits for operating and optimizing systems. Damien has lived and worked in many regions around the world and is fluent in four languages. He holds a degree from Supélec, a renowned French graduate school of engineering.



#### Alessandro Maluf - Diretor de Produtos TV da Claro Brasil

Responsible for the roadmap of new video features, has a degree in Advertising, an MBA with a Specialization in Finance, work at Telecom and Cable TV for over 20 years.



#### Fabiano Barbieri - Director of Video Engineering at Telefônica Brazil

Graduated in Computer Science and holds a MBA in Project Management with more than 17 years of experience developing and implementing Video Projects in North and South America, Europe.

Cite this article:

Borgo, C., Ramos, H. A., Sterkers, D., Maluf, A. and Barbieri, F.; 2017. The Subscriber TV Market and OTT in Brazil. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.25. Web Link: http://dx.doi.org/10.18580/setep.2017.25

11h30 - 13h | Aug. 23, 2017- Wednesday | ROOM 16

MANAGEMENET AND WORKFLOW

# IP LIVE PRODUCTION: STATUS, EVOLUTION AND BEST PRACTICES

## Chair: José Antônio de Souza Garcia - EBC - Empresa Brasil de Comunicação / SET

How can television engineering chart a way for the transition from the current SDI technology towards the future of the workflow fully with IP technology? What are the current offers, best practices and next steps in this evolution?

• THE FUTURE OF BROADCAST FACILITIES: THE MIGRATION FROM SDI TO IT INFRASTRUCTURE ("ALL IP") Speaker: Matthew Goldman - Senior Vice President Technology at Ericsson / Fellow & President of SMPTE / Senior Member at IEEE

In order to become more agile in operations and leverage the economies of scale and flexibility that IT infrastructure brings, Broadcasters must consider migrating from broadcast-specific architectures to IT-based solutions. This goes hand-in-hand with the trend toward software-defined media processing and network function virtualization. This presentation will first give an overview of the challenges that Broadcasters face and the benefits of transforming to "All IP". It then will describe the major standards efforts behind "All IP", including the new SMPTE ST 2110 suite of standards for Professional Media over IP. The current state of the industry will be reviewed and what's to be done next.

## MERITS AND TECHNICAL CHALLENGES LEARNED FROM REAL WORLD IP DEPLOYMENTS Superior Debast Evidence IB Eveneralist Orace Valley

#### Speaker: Robert Erickson - IP Evangelist - Grass Valley

The initial IP workflows incorporated proprietary technologies, including non-standardized media transport layers, vendor specific physical routing technologies and media flows orchestrated through a closed ecosystem. But AIMS developed a path to open standards that included multiple vendors designing systems using COTS-based solutions. Large deployments of IP has pushed the envelope on what can currently be deployed by a COTS infrastructure, and what challenges have arisen as this system has been scaled up to meet the customer's functionality requirements.

## IP-BASED REFERENCE ARCHITECTURES FOR PRODUCTION AND DISTRIBUTION

#### Speaker: Boris Kauffmann, Solutions Architect

To provide an in-depth look at open, standards-based IP architectures, discuss joint developments with IP fabric vendors, highlight notable reference sites were IP is already a reality, design best practices from IP early adopters, facility-specific IP considerations.

## HOW TO FACE LIVE PRODUCTION CHANGES IN IP

## Speaker: Antonio Leonel da Luz, Presidente, media and content-dynamics

This is a moment of changes. The transition from HDTV to 4K, SDR to HDR and SDI to IP has haunted a lot of people. Migration strategies and future growth are popping up along with new standards. Different architectures and workflows are being proposed. New and old players are positioning themselves. What will happen to live production? What does SMPTE 2022/2110 and NDI offer us? How to manage and control this system? Which topology is appropriate? Join us and be prepared..



#### José Antônio de Souza Garcia - EBC - Empresa Brasil de Comunicação / SET

Graduated in 1975 as an Electronics Technician by ETE in Sta. Rita do Sapucaí and in 1982 in Telecommunications Engineering at São Judas University in São Paulo. He has worked in television companies, including TV Tupi-SP, TV Cultura-SP, TV Jovem Pan and currently engineering manager in TV Brasil-SP. Member of SET - Technology Board and SBTVD Forum.



# Matthew Goldman - Senior Vice President Technology at Ericsson / Fellow & President of SMPTE / Senior Member at IEEE

Matthew Goldman is Senior Vice President of Technology, TV & Media, at Ericsson, where he is focused on video processing and media delivery solutions. He has been actively involved in the development of digital television systems since 1992. He was a prominent participant in the Moving Picture Experts Group where he helped create the MPEG-2 Systems and DSM-CC standards, and he continues to be influential in other industry organizations including the Society of Motion Picture and Television Engineers (SMPTE), the Alliance of IP Media Solutions (AIMS), the Ultra HD Forum, the Digital Video Broadcasting project, the Advanced Television Systems Committee, and the Society of Cable Telecommunications Engineers. Four of his projects have been later recognized by Technology & Engineering Emmy® Awards. Mr. Goldman received bachelor (high honors) and master of sciences degrees in electrical engineering from Worcester Polytechnic Institute. He holds six patents related to digital video transport. A SMPTE Fellow, he is also a senior member of the IEEE and an inductee of the Academy of Digital Television Pioneers. Mr. Goldman is currently serving as the President of SMPTE.



#### **Robert Erickson - IP Evangelist - Grass Valley**

and Sethere before hereits

Robert Erickson, currently at GrassValley, with the mission of IP Technology Evangelist. He has worked for 18 years in Television Engineering, has been with KWTV, Sinclair Broadcast Group, Tyler Media and GrassValley since 2008

#### **Boris Kauffmann, Solutions Architect**

Solutions Architect at Imagine Communications, more then 10 years working in the audio-visual industry with film, broadcast, post-production equipment and cutting edge technologies, have developed extensive knowledge on sound and image acquisition, processing, encoding, transcoding and transport over SDI/IP infrastructures, vast experience integrating and implementing solutions from different manufacturers. Have conducted proof of concepts and technical presentations for broadcasters and telecommunication all over the country.



#### Antonio Leonel da Luz, Presidente, media and content-dynamics

Leonel da Luz is the president of media and content-dynamics that serves the Brazilian and Latin American market, offering consulting, projects, products and professional services. With masters degree in engineering and business management studying at Mauá-IMT, INATEL, FGV and MIT, Leonel has accumulated success stories in several national and international companies, such as TV Cultura-SP, Ampex, Philips, TV Anhanguera, Harris and Grass Valley, among others.

Cite this article:

Garcia, J. A., Goldman, M., Erickson, R., Kauffmann, B., da Luz, A. L.; 2017. IP Live Production: Status, Evolution and Best Practices. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.26. Web Link: http://dx.doi.org/10.18580/setep.2017.26

#### 11h30 - 13h | Aug. 23, 2017- Wednesday | ROOM 13

**TECHNOLOGY AND BUSINESS** 

# **INTERNATIONALIZATION OF ISDB-T**

## Chair: Luiz Fausto - Regulatory Strategy Specialist for Globo TV Network

After 10 years since it was adopted by Brazil as a Digital Terrestrial TV standard, the ISDB-T Japanese system has been gaining new adopters, especially in the southern hemisphere. With the exception of Colombia, Suriname and Guyanas, all other South American countries have adopted the system and, in Central America, Guatemala, Honduras, Nicaragua, Costa Rica and now, at the beginning of the year, El Salvador - have chosen the Japanese system, in the Brazilian version ISDB-TB. In Africa, it was adopted by Botswana and in Asia it was adopted by the Philippines, Sri Lanka and Maldives, as well as by Japan itself, creator of the ISDB-T standard. Today, there are about 500 million potential ISDB-T viewers. In this panel, we will have an overview of ISDB-T in the world and share the experiences and challenges faced by neighboring countries that have adopted our system.

## • PRESENT STATE OF ISDB-T DEPLOYMENT IN THE WORLD Speaker: Masayuki Sugawara - Presidente DiBEG (Digital Broadcasting Expert Group)

ISDB-T, one of the major DTTB (Digital Terrestrial Television Broadcasting) system in the world, has been adopted by 19 countries including Japan and Brazil. The state of the deployment in each country differs each other. It depends on the date of ISDB-T adoption, the analog broadcasting in the past, the future plan of the DTTB, the economic situation, etc. This lecture will survey the present state of ISDB-T deployment in each country with its background. It will also introduce the cooperative activities of the ISDB-T International Forum which was established by the ISDB-T countries.

## ARGENTINE EXPERIENCE SUMMARY

## Speaker: María Eugenia Muscio - Technical Advisor - CAPER

General characteristics of the television system deployed in Argentina. Progress from the adoption of the system to the date. Critical situation of the spectrum due to convergence.

## • IMPLEMENTATION OF THE ISDB-T STANDARD IN THE REPUBLIC OF EL SALVADOR

# Speaker: Carlos Eduardo Valle - chefe do Departamento de Monitoração do Espectro e QoS de Telecomunicações – SIGET / El Salvador

Describes the recent adoption of the ISDB-T standard and the steps taken towards the elaboration of a master plan and its trials that are already being performed.



#### Luiz Fausto - Regulatory Strategy Specialist for Globo TV Network

Professional Master's Degree in Applied Computing (UECE - 2015), Executive MBA on IT (UFRJ - 2011), extension course in Networks and Video over IP (UFRJ - 2009), Bachelor's Degree in Electrical Engineering with emphasis in Electronics (UFRJ/USU - 2005). Currently working as Regulatory Strategy Specialist for Globo TV Network, Deputy Director of the Technology Board Committee of the Brazilian Television Engineering Society (SET), member of the Delegation of Brazil in ITU-R (SG 6) and CITEL (PCC.II), member of the Tv Reception Technical Group (GT-Rx) of the Brazilian TV Switch-Over Group (GIRED), member of the Technical Module of SBTVD Forum and member of the Harmonization Working Group of ISDB-T International Forum.





Masayuki Sugawara received the B.S. and M.S. degrees in electric communication engineering and a Ph.D. degree in electronic engineering from Tohoku University, Sendai, Japan. He joined NHK in 1983. He researched solid-state image sensors, HDTV cameras, and the UHDTV system at NHK STRL from 1987 to 2015. He was an associate professor at the University of Electro-Communications, Tokyo, Japan, from 2000 to 2004. Since 2004, he has been involved in the standardization activity at ITU-R Study Group 6 including the UHDTV standard known as Recommendation BT.2020. At present, he is the chairman of digital broadcasting experts group (DiBEG) and an executive engineer at NEC Corporation. Dr. Sugawara is a SMPTE Fellow, a Senior Member of IEEE, and a member of IEICE, and ITE.



#### María Eugenia Muscio - Technical Advisor - CAPER

Electromechanical Engineer with Electronic Orientation graduated from the University of Belgrano. In addition, since 1990 to date, she is an Independent Consultant in Broadcasting and Telecommunications for multiple providers of television services (by subscription and open), telecommunications and radio in AM and FM, installed throughout the Republic of Argentina . He has an active performance and trajectory in Professional Institutions: Professional Council of Engineering of Telecommunications, Electronics and Computation (COPITEC) and Argentine Center of Engineers (CAI). At COPITEC, she is currently the Chief Adviser with a mandate until 2019 and Coordinator of the Broadcasting Commission since 2012. In the CAI, former Secretary of the Subcommittee on Audiovisual Communications from 2010 to 2012 and the CEYTIC Commission from 2005 to 2012. Former General Manager of Merlovisión S.A. 1992-1994.



# Carlos Eduardo Valle - chefe do Departamento de Monitoração do Espectro e QoS de Telecomunicações – SIGET / El Salvador

Telecommunications Technician specialized in Transmission from the Central American Institute of Telecommunications. Industrial Engineer from the Francisco Gavidia University. Post-graduation in Telecommunication Regulation from the University of Brasilia, in Brazil. Multiple training in broadcasting technologies, 3G and 4G mobile systems and radio spectrum management and monitoring systems, inside and outside the country. Currently 16 years accumulated in SIGET (1997-2010 and 2014-2017), chief of the Department of Spectrum Monitoring and Telecom QoS, as well as technical head of the Digital Terrestrial Television and Digital Dividend project.

Cite this article:

Brito, L. F. de S., Sugawara, M., Muscio, M. E. and Valle, C. E.; 2017. Internationalization of ISDB-T. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.27. Web Link: http://dx.doi.org/10.18580/setep.2017.27

11h30 - 13h | Aug. 23, 2017- Wednesday | ROOM 11

## TECHNOLOGY FOR TV AND RADIO

# AM RADIO MIGRATION AND THE REVISION OF THE TECHNICAL REGULATION

## Chair: Eduardo Cappia, EMC/SET Director

AM radio migration resulting in 300 new broadcasters in the extended range (76 to 88 MHz). New technical regulation applied. Universe of extended range receivers, equipment and FM modulation requirements.

## PLANNING OF THE FM CHANNEL EXTENDED - MIGRATION BALANCE

## Speaker: Andre Ulhoa Cintra - Radio Diretor - ABERT

FM EXTENDED (76 to 88 MHz). Planning of the 12 MHz added to the FM band, criteria of interference and protection with the conventional channeling. Modifications suggested in the adoption in Metropolitan Regions. Technical Regulation and Migration Balance.

## • RECEIVERS EXTENDED RANGE, FROM EMBEDDED TO SMARTPHONES

## Speaker: Caue Franzon - Project Manager - RBSTV and Radios

Minimal characteristics of the receivers and Technical Standards for the industry to produce and increase the number of devices, enabling the operation of new stations after 2019.

## ENERGY EFFICIENCY FM TRANSMITTERS - EFM CERTIFICATION -FM MODULATION PARAMETERS

# Speaker: José Mauro de Ávila - Technical Director - MEGASISTEMA - AESP/SET

The details of FM Modulation, its various parameters, will be displayed. The insertion RDS, PILOTO, MPX, their limits and the effects on the final result of the product "FM audio and its mass". Certification of eFM transmitters. Energy efficiency considerations in FM transmission.



#### Eduardo Cappia, EMC/SET Diretor

JOSE EDUARDO MARTI CAPPIA - Electrical Engineer since 1979. Director of EMC Company -SOLUTION IN TELECOMMUNICATIONS of 1991. EMC Performed Digital Radio tests at UFMG -Belo Horizonte and Technical Responsible for tests of HD Radio in Cordeirópolis - SP and DRM in Belo Horizonte. Evaluation and defense of thesis with the IBiquity in the USA, about the coexistence of digital broadcasters in the first adjacent FM channels. Deployment in 2014 of the testing station, in eFM - 84.7 MHz - Jovem Pan - São Paulo. At AESP - leader of the Technical Committee since 2011. Performance in the Radio SET Board - since 2011.

#### Andre Ulhoa Cintra – Radio Director – ABERT



Communications Engineer - Consultant specialized in the planning of broadcasting channels. Director of Radio Abert and currently working on the FM Channel, by ABERT to accommodate the migrant channels. Developed by SET work to accommodate the TV channeling in the process of planning the TV Digital TV channeling.



#### Caue Franzon - Project Manager – RBSTV e Rádios

Master's degree in Production Engineering, Federal University of Rio Grande do Sul UFRGS; MBA in Project Management, FGV - 2012; Infrastructure Manager - RBSTV from 2012 to 2017; Electrical Engineering - Emphasis Control and Automation - UNISINOS - 2004; Group coordinator of research of products and solutions in television - RBS TV from 2006 to 2009; Electronic Technician - Liberato Salzano Vieira da Cunha Foundation – 1996.



#### José Mauro de Ávila - Technical Director - MEGASISTEMA - AESP/SET

Electrical and Work Safety Engineer at Universidade Paulista 2008. Electronic Technician since 1982. Participates in the NAB - Broadcast Engineering Conference since 1992. Technical Seminars SET AESP.Technical Director Mega Communication System. Audiovault Automation Specialist - Broadcast Electronics. Vice Leader AESP Technical Committee since 2011.

Cite this article:

Cappia, E., Andre, U. C., Franzon, C. and Ávila, J. M. de; 2017. AM Radio Migration and Cintra, the Revision of the Technical Regulation. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.28. Web Link: http://dx.doi.org/10.18580/setep.2017.28

#### 11h30 - 13h | Aug. 23, 2017- Wednesday | ROOM 12

## **TECHNOLOGY AND BUSINESS**

## SUBSCRIBER TV / VOD AND OTT

#### Chair: Mauricio Donato - Editorial Advisor - Revista da SET

The emergence of the mass media, radio, television and the internet have caused significant changes in the most different narratives. And as technologies get better, new players are being added. In this context, the perspectives of convergence of the media in the Brazilian audiovisual market are overwhelming, considering the dizzying changes in the behavior of the viewers when watching audiovisual content. Whether via open TV, subscription, OTT and Vod. The Tv subscription panel versus OTT & Vod has the proposition of discussing in depth this convergence present in the digital era and in the lives of producers, engineers and consumers of the audiovisual market.

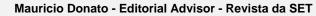
- Speaker: Marcelo Coutinho Professional Management Master's course coordinator EAESP-FGV
- Speaker: Oscar Vicente Simões de Oliveira Executive President of ABTA -Brazilian Association of Pay TV

## • TV EVERYWHERE

#### Speaker: Guilherme Saraiva – Technology Director of Telecine

Telecine Play: no mundo da informação e entretenimento ágil.

O Telecine criou uma nova plataforma tecnológica para os seus assinantes. Através do site e dos aplicativos do Telecine Play o assinante terá o serviço conhecido como TV Everywhere. Nesse painel desvelaremos qual tecnologia está a disposição do Telecine Play e em função dessa nova plataforma de mídia quais melhorias podemos trazer para a nossa audiência.





Mauricio Donato holds a degree in Radio and TV from the Methodist University of São Paulo; Master's degree in Communication in the Contemporaneity by the Cásper Líbero Faculty and doctorate by USP / ECA, developing the thesis "Applicability of new technologies in the era of digital TV in 4k and 8k". She has extensive experience in the direction of television programs, developing projects on TV Globo, SBT, and on TV Record Network. He had an active participation in the SBTVD (Brazilian Digital TV System) Forum. He is currently a professor at Universidade Anhembi Morumbi, teaching the discipline Direction in TV and Audiovisual Media and in FAPCOM directing the disciplines of audiovisual planning and broadcasting technology.



Marcelo Coutinho - Professional Management Master's course coordinator EAESP-FGV

Columnist of Meio & Mensagem and member of the Technical Committee of Media of CENP. He was Global Director of Intelligence at Terra-Telefonica, Executive Director of IBOPE Intelligence, Director of Analysis Services for Latin America at IBOPE / NetRatings, Visiting Researcher at Harvard International Technology Group, Marketing Manager and Assistant Editor of International Economics In the State Agency. He is the author of the first works in Brazil on the use of social networks and programmatic media in market research, in addition to the chapters on Brazil in the first editions of the Global Information Technology Report published by the World Economic Forum. He has held dozens of lectures, including the Cannes Advertising Festival, the American Association of Advertising Agencies and the World Association for Public Opinion Research among others.



#### Oscar Vicente Simões de Oliveira - Executive President of ABTA - Brazilian Association of Pay TV

Currently, he is the Executive President of ABTA - Brazilian Association of Pay TV, where he is responsible for the management of the entity, and for the representation of the associates, aiming at the defense and development of this economic sector, especially at the regulators of its activities. He was the President of the National Union of Signature Television Operators and Conditioned Access Service (SETA) from 2013 to July 2016. He is a member of the Advisory Board of C + Tecnologia and associated to IBGC - Brazilian Institute of Corporate Governance and FFI- Family Firm Institute and member of the Advisory Board of several national companies. He holds a Masters degree in Business Administration from the Pontifical Catholic University of São Paulo and a Specialization in Advanced Management from INSEAD - The European Institute of Business Administration and Fundação Dom Cabral, among others.



#### Guilherme Saraiva – Technology Director of Telecine

Guilherme is Telecine's Technology Director. Graduated in Telecommunications Engineering from the IME, with an MBA in Marketing and a Master in Finance from FGV, he led Globosat's technology planning area and worked at NET's corporate clients unit at the launch of Vírtua. He coordinated the planning of the expansion of the British Telecom operation in Latin America, where he participated in digital inclusion projects in several countries.

Cite this article:

Donato, M., Coutinho, M., de Oliveira, O. V. S. and Saraiva, G.; 2017. Subscriber TV / VoD and OTT. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.29. Web Link: http://dx.doi.org/10.18580/setep.2017.29

## 14h - 15h30 | Aug. 23, 2017- Wednesday | ROOM 16

## **REGULATORY ISSUES AND STANDARDS**

# **DRONES: FLYING LEGALLY**

#### Chair: Francisco Peres - Engineering Manager - TV Globo

The use of Drones has been spreading more and more in Brazil and in the world and with this we must be aware of the existing legislation. In this panel we will present the regulatory constraints for the use of RPA in Brazil with ANAC, DECEA and ABM. Showing the legal breakthroughs for commercial use of Drones.

GENERAL RULES FOR THE OPERATION OF DRONES
Speaker: Felipe Filgueiras Costa - Técnico de Telecomunicações - TV Globo

The rules imposed by ANAC through RBAC-E 94 on the use of Drones in Brazilian territory for commercial purposes.

## THE ACCESSION OF PILOTS TO NORMATIZATION Speaker: Flávio Fachel, presidente da ABM - Associação Brasileira de Multirrotores

How the professional market of the Drones has behaved after the release of legislation, and what the pilots are doing to become professional and work within the norms.

## RPAS & ACCESS TO BRAZILIAN AIRSPACE

Speaker: 1o.Ten Mário Ferreira Ferraz - Serviço Regional de Proteção ao Voo de São Paulo (SRPV-SP). Regional Flight Protection Service of São Paulo (SRPV-SP).

To present the means of requesting the use of Brazilian airspace by remotely piloted aircraft..



#### Francisco Peres - Engineering Manager - TV Globo

Graduated in Telecommunications Engineering from the Fluminense Federal University and Master in Electromagnetism applied by PUC-Rio. He has been on TV Globo since 2003, having worked as a Projects engineer, designing antennas, transmitters and contribution and distribution systems for MFN and SFN networks. He is currently manager of the projects, installations and regularization department and responsible for the expansion of digital coverage on TV Globo's 5 stations.



#### Felipe Filgueiras Costa - Técnico de Telecomunicações - TV Globo

Telecommunication Technician, has been in the business for 7 years, He has been with TV Globo for 3 years, works in the area of regularization, making requests for use of radio frequencies at ANATEL in all major company events (Formula 1, Olympic Games, World Cup) and is also responsible for creating the Drones usage rule.

#### Flávio Fachel, presidente da ABM - Associação Brasileira de Multirrotores

Flávio Fachel is a Brazilian journalist, graduated in Social Communication from Famecos (Faculdade de Comunicação Social da PUC-RS), class of 1993. He began his career as a television reporter in 1991 at RBN (Manaus, Amazonas) To the Manchete Network. In 1993 he was selected for the Caras Novas Project of RBS TV, a station in Porto Alegre, RS, where he worked until 1997 as editor and reporter. In 1998 he was invited by Rede Globo to work as a correspondent in the Amazon. For two years, he was based in Manaus, AM, on TV Amazonas (Rede Globo affiliate), where he was responsible for the coverage of five states: Rondônia, Acre, Amazonas, Roraima and Amapá. During this period, he was featured in the production of reports on environmental denunciations for the Jornal Nacional, Globo Repórter, Fantástico and other journalistic programs of the station. From 2000 to 2010, he worked as a special reporter for Rede Globo in Rio de Janeiro, highlighting in behavior, science and technology reports and special series. In 2010 he was invited to work as an international correspondent for Rede Globo de Televisão in New York for a period of 2 years, in 2012 he returned to Brazil to work as a special reporter in Rio de Janeiro. Since June 10, 2013, he has been the presenter and executive editor of the television news program Bom Dia Rio. He helped to modify the profile of the television news, making it more critical and opinionated, making strong charges to the public power. Good morning Brazil.



#### 10. Ten. Mário Ferreira Ferraz - Serviço Regional de Proteção ao Voo de São Paulo (SRPV-SP). Regional Flight Protection Service of São Paulo (SRPV-SP).

Born in Bernardino de Campos-SP. - Held the role of Flight Controller from JAN 1999 to FEV 2004 in the Corumbá Non-Radar Approach Control (APP-CR) and from MAR 2004 to DEC 2010 in the São Paulo Radar Approach Control (APP-SP). - Currently performs the role of Air Navigation Procedures Processor, Analysis of Requests for Use of Airspace for various purposes (Skydiving, Royal Shooting, Acrobatics, Manned Balloons, etc ...) in the Regional Flight Protection Service of São Paulo (SRPV-SP).

14h - 15h30 | Aug. 23, 2017- Wednesday | ROOM 13

NEW PLATFORMS AND INFRASTRUCTURE

# **EVALUATION AND QUALITY CONTROL OF IP DISTRIBUTION**

## Chair: Gllvani Moletta - Diretor Tecnico - Fundação Padre Anchieta

In a scenario of inevitable technological changes that provide significant transition period. In this context, we will explore the challenges of Quality Control in the most diverse stages of production and in the many forms of IP distribution.

## IP BROADCASTER - NETWORK SECURITY CHALLENGES AND SOLUTIONS APPLIED TO TELEVISION Speaker: Renan Cizauskas - Diretor Executivo - Asccent do Brasil

Currently, we have faced several financial, operational and technological challenges that force us to rethink the traditional engineering model of a television station. In this lecture we will approach the subject from the point of view of Security, abandoning the traditional models applied to the IT world. We will explore best practices and methodologies, protocols and new features, from the design of your network to transport IP video to day-to-day technical support.

## REFERENCE SOLUTIONS, TESTS, MEASUREMENTS, MONITORING AND QUALITY CONTROL IN IP

#### Speaker: Fabio Acquati - Diretor da NGN Telecom

Currently, we have the feeling that the world is going to IP and Broadcast is no different. This change is already taking place, right at the heart of the video operation, messing with the good old SDI, bringing new possibilities, greater flexibility, changing paradigms, but bringing with it new challenges. Let's talk a bit about how the Uncompressed Video over IP scenario is, the change in hybrid network reference (PTP), and how to monitor and maintain video quality in this IP world.

## • STREAMING INNOVATIONS FOR HIGHLY RELIABLE LOW LATENCY LIVE LINEAR TV Speaker: Samuel Yuen - Major Account Executive LATAM at Akamai

## Technologies

Trends on live linear TV and challenges involved. How to guarantee broadcast-grade quality transmission over the Internet with:

This open access Journal is distributed under a Creative Commons Attribution (CC-BY) license. Available at: http://www.set.org.br/setep\_doi: 10.18580/setep.2017.31 Web Link: http://dx.doi.org/10.18580/setep.2017.31 (a) new contribution protocols;

(b) new live ingest protocols;

(c) new self-healing live origin architectures;

(d) extremely distributed and reliable CDN servicess.

## AUTOMATED MONITORING AND QUALITY CONTROL TOOLS FOR STREAMING MEDIA

# Speaker: Carlos E. O. Capelão - Director - Phase Engenharia / Interra Systems - representative

An overview of "Streaming Media market" and why we should pay attention to changes in consumption behaviors of the market. As consumers demand more content on an ever-growing range of devices, producers strive to meet these needs. This untamed growth of different delivery markets presents numerous challenges relating to the multitude of formats, regulations and new delivery methods. Why monitoring and quality checks are important? Simply put, without a stable, standards-compliant file, content may not reach viewers. Worse yet, a poor viewing experience can drive a consumer to other service providers and the options at a high speed. In the digital realm, QC and monitoring tools play important roles throughout the content production and delivery life cycle. The presentation will highlight the primary features of industries most widely adopted file-based QC system as well as newest monitoring tool for VOD and OTT markets and how it can improve workflow. The author will discuss the elements comprising the backbone of a streaming media system and address why quality and seamless delivery is essential. The presentation will look at several important market data that will produce a wakeup call to many of industry's traditional players. The author concludes with a look at some global trends and how global ecosystems, and streaming media workflows, are changing.



#### Gllvani Moletta - Diretor Tecnico - Fundação Padre Anchieta

Technical Director of the Fundação Padre Anchieta responsible for the Engineering, Operations and Information Technology sectors; Electronic Engineer specializing in Digital Signal Processing; MBA in Project Management; Experience of 20 years in broadcasting.



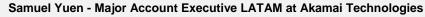
#### Renan Cizauskas - Diretor Executivo - Asccent do Brasil

Director of Technology at Asccent do Brasil, an engineer, businessman, with training in audio, video and IT solutions for the Broadcast market, is currently dedicated to promoting and directing broadcasters in the adoption of virtualized and IP video solutions. He has worked for major manufacturers such as Harris Corporation, Grass Valley and television broadcasters: TV Bandeirantes and TV Cultura.



#### Fabio Acquati - Diretor da NGN Telecom

Telecom Engineer Contributions: Started his career at Tektronix, as Video System Engineer for South America and, over this period, watched the evolution and transition of video systems, following DTV tests in Brazil from the very beginning. Nowadays, he is Director at NGN Telecom, company he founded, in 2005, to work with quality assurance solutions for Telecom and Video Networks, improving his knowledge in IP networks. He is part of GEIP SET group, video industry training instructor and has studied, along with Tektronix, the technology and the challenges of Uncompressed IP Video.



Samuel Yuen is the Akamai executive responsible for the Media & Entertainment vertical in Latin America. He helps major media companies and partners deliver top quality experiences to the end users. Prior to Akamai, he has more than 10 years of experience developing businesses and managing projects at Oracle, Ericsson and Accenture, esepecially in the Telecommunications industry. Samuel is a MBA graduate from INSEAD Business School and holds a Computer Engineering degree from University of Sao Paulo.



#### Carlos E. O. Capelão - Director - Phase Engenharia / Interra Systems - representative

Electronic Engineer graduated from UFRJ in 1974, with several postgraduate credits in the area and an MBA from FGV-RJ. Since 1973, he has worked in the television and telecommunications sector, having worked in several TV stations and Embratel. Founding partner and former president of SET- Brazilian Society of Television Engineering. Since 1980 he has directed Phase Engenharia in Rio de Janeiro, working on the planning and supply of Solutions for Television and Telecommunication Systems and distributing Interra Systems' QC products in Brazil.

Cite this article:

Moletta, G., Cizauskas, R., Acquati, F., Yuen, S. and Capelão, C. E. O.; 2017. Evaluation and Quality Control of IP Distribution. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.31. Web Link: http://dx.doi.org/10.18580/setep.2017.31

14h - 15h30 | Aug. 23, 2017- Wednesday | ROOM 11

## TECHNOLOGY FOR TV AND RADIO

## FM IN MOBILE AND RADIO IN CAR PANEL – PATHWAYS TO THE FUTURE OF RADIO Chair: Marco Túlio Nascimento - director of ZYDigital / SET

As the smartphone is virtually the universal device for media consumption, it is absolutely strategic that the radio is present in it. Ironically, most cell phones have the FM reception chip, however, only a minority have this reception activated. Noting this, NAB has begun a campaign to activate these chips. At the same time, the NextRadio hybrid radio model was launched on the American market, bringing together FM audio reception with 3G / 4G internet metadata reception. Following the same movement, the Brazilian broadcasters began to mobilize to promote the activation of the FM chips in the smartphones here. This will be the focus of this panel, the activation of FM in mobile phones. The American case, the promotion initiatives in Brazil and the proposed regulation will be presented. The panel will also include a presentation on the RDC project, a technology that allows the display of the station's logo on panels of a new generation of radio receivers in automobiles.

## POCKET CONVERGENCE: FM RADIO ON SMARTPHONES IN NORTH AMERICA Speaker: Skip Pizzi - Vice President, Technology Education and Outreach (NAB)

The inclusion of FM radio receivers in North American smartphones has been an interesting and at times difficult process – not for technical but for business reasons. This presentation will cover the technology, the history, current status and future prospects of FM radio penetration in the N. American smartphone market.

## • THE RADIOPHONE PROJECT - PROMOTING THE ACTIVATION OF FM IN CELLULARS IN BRAZIL

# Speaker: ALEXANDRE BARROS - Presidente da Associação das Emissoras de Radiodifusão do Paraná - AERP Diretor do Grupo Maringá de Comunicação

This presentation will discuss the Brazilian perspective, the activation of FM chips in cell phones, the challenges and opportunities. Will also present the Radiophone Project, an initiative of AERP ( Association of Radio Stations of Paraná State) to promote the activation of chips in Brazil.

## THE FM IN THE CELL PHONE AND THE POSSIBILITY OF REGULATION IN BR

#### Speaker: Andre Ulhoa Cintra - Radio Director - ABERT

This lecture will present the vision of ABERT on the activation of FM in mobile phones in Brazil. The possibility of making activation mandatory through regulation will also be discussed.

## EXHIBITION OF LOGOMARCA IN AUTO-RADIOS AND SECURITY OF RDS SIGNAL

## Speaker: MATHIAS MICHAEL OEELEIN - Radio Data Center (RDC)

This lecture will present the project Radio Data Center, a technology that allows to show the station's logo on the panels of a new generation of radio receivers in automobiles. RDS is one of the technology references to identify the tuned station. To prevent that misuse of the IP by third parties implies in identification errors, the platform has resources to verify the source of the signal. The new technology is already working in Brazil on MOPAR easy4u receivers used in the FIAT and Chevrolet fleets. Mercedez Bens will begin using the technology in Brazil in 2018. ABERT and AMIRT support the project and some broadcasters are already participating.



#### Marco Túlio Nascimento - director of ZYDigital / SET

Telecommunications Engineer graduated in 1983 from Universidade Federal Fluminense.With a career in the area of broadcasting, worked in the Radio Globo System where he held the position of General Manager of Technology and was responsible for the Engineering, IT and Operations areas.He is currently the director of ZYDigital, a company he founded in 2015 focused on technology consulting such as business support and development of media engineering solutions.He is deputy director of SET's Radio Market Segment.



#### Skip Pizzi - Vice President, Technology Education and Outreach (NAB)

Skip Pizzi is Vice President, Technology Education and Outreach, at the National Association of Broadcasters (NAB) in Washington, DC, USA. His career has spanned the broadcast and digital media industries, working in audio engineering at NPR, and in audio production, media standards and technical policy at Microsoft. He was also an editor at Broadcast Engineeringmagazine, and a columnist for several other international industry publications. He remains a technology journalist, editor, author and trainer today. His most recent book is A Broadcast Engineering Tutorial for Non-Engineers, 4th edition, published by Focal Press. He is currently Associate Editor on the NAB Engineering Handbook, 11th edition, which will be published later this year. Skip serves as Vice-Chair of the Advanced Television Standards Committee (ATSC) Technology Group 3 (TG3), which is developing the ATSC 3.0 standard. He is also a member of the Board of Directors of the Ultra HD Forum. Skip is a graduate of Georgetown University, where he studied Electrical Engineering, International Economics and Fine Arts.



Alexandre Barros - Presidente da Associação das Emissoras de Radiodifusão do Paraná -AERP Diretor do Grupo Maringá de Comunicação



#### Andre Ulhoa Cintra - Radio Director - ABERT

Communications Engineer - Consultant specialized in the planning of broadcasting channels. Director of Radio Abert and currently working on the FM Channel, by ABERT to accommodate the migrant channels. Developed by SET work to accommodate the TV channeling in the process of planning the TV Digital TV channeling.



#### Mathias Michael Oeelein - Radio Data Center (RDC)

MATHIAS MICHAEL OEELEIN, German, represents the company Radio Data Center (RDC) in Brazil since 2014. The DRC is a German company which operates internationally in the Consulting area at the reception frequency of the stations, providing and evaluating all factors, including the topographic data and broadcasting. The DRC also acts providing and implementing logos of broadcasting radio, in the most modern multimedia systems in automobiles. He has a law degree in Germany and Brazil, specialized in contractual and negotiation law, international speaker and author of numerous guides to contractual law, published by the international chambers of commerce of Germany, Austria, Denmark and Poland. Mathias Oefelein is responsible for the implementation of the DRC project in Brazil, aiming at legalizing the use of logos in the new generations of vehicular multimedia systems.

Cite this article:

Nascimento, M. T., Pizzi, S., Barros, A., Cintra, A. U. and Oeelein, M. M.; 2017. FM in Mobile and Radio in Car Panel – Pathways to the Future of Radio. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.32. Web Link: http://dx.doi.org/10.18580/setep.2017.32

14h - 15h30 | Aug. 23, 2017- Wednesday | ROOM 12

**TECHNOLOGY AND BUSINESS** 

# FUTURE OF MULTIPLATFORM TV MONETIZATION

#### Chair: Marcelo Souza - Digital Media Technology Director - TV Globo

Multiplatform TV value chain has become very complex and fragmented lately. These last years, subscription and transactional models have driven digital distribution monetization, however the evolution of tools for Multiplatform Ads and AdTech solutions promise to aggregate more value and performance for TV advertisers. Besides that, measurements tools are as important as the distribution ones. Without the definition of a trusted market metric, we'll still have the perception of exchanging analog dollars to digital cents. In this panel, Free Wheel will share its world panorama on Premium Video Monetization, Google will present advanced advertising tools such as Dynamic Ad Insertion, Comcast will bring some cases in US and Kantar-Ibope will tell us about future of multiplatform TV metrics..

## MULTIPLATFORM TV MONETIZATION - THE (R)EVOLUTION OF ADVERTISING

#### Speaker: Vinicius Reina - Publishing Solutions and Innovation Lead - Google

Video consumption has evolved drastically in the past years. Now, users watch what they want, where they want, when they want. Their expectations for a great experience is not limited to content alone but also to the advertising that comes with it. This creates a completely new paradigm and great opportunities arise. Vinicius Reina, Google's Specialist in Publishing Solutions and Innovation, will present the latest ad insertion technologies and how it can be used to increase ad revenues and also improve user experience

# FREEWHEEL VIDEO MONETIZATION REPORT: Q1 2017 Speaker: Gilles Chetelat - Vice-presidente Sênior em Desenvolvimento de Negócios - Free Wheel

As we turned the corner into 2017, one thing became clear: the industry has never been closer to true unification in premium video than it is now. The "FreeWheel Video Monetization Report: Q1 2017" highlights how the boundaries between what we consider "traditional TV" and digital video are

dissolving, and that at the end of the day, it's all just video. Gilles Chetelat will talk about the rise of OTT and STB VOD, how live content is now catching all eyes, and how how publishers are increasingly putting the viewer first by ensuring premium, linear quality ad experiences.

## • KANTAR IBOPE MEDIA – TOTAL VÍDEO

Speaker: Amanda Signorini - Planning and Intelligence Manager - Kantar

**Ibope Media** Kantar IBOPE Media is leading the research industry in re-defining Television and promoting the Total Video concept. It's still Television, TV, but it's TV in all of its forms. The market's current demand is to understand the cross media consumption. In this scenario, Kantar Ibope Media has the knowledge, technology and methodology to take the industry into the next level, providing a hybrid approach to measurement that brings together the best of panel data and census data.

## • THE SECOND WAVE OF THE FUTURE OF MULTIPLATFORM Speaker: Neil Berry - Comcast

Traditional revenue streams in VOD are changing, forcing MVPDs to reinvent themselves to the second wave of the future of multiplatform and multiscreen. Comcast Technology Solutions helps broadcasters, content providers and programers around the world to navigate through those challanges, as well as enable content providers to find new revenue stream. In this session, Neil Berry - vice-pesident and internationl general director of CTS - will share client and partner stories which have suceeded and overcomed the existing hurdles



#### Marcelo Souza - Digital Media Technology Director - TV Globo

Marcelo Souza is the director of Technology for Digital Media at TV Globo where he leads different initiatives on Digital Transformation such as OTT, Big Data, Second Screen and Interactive Experiences. He has been working in the company for the past 16 years with different roles including Digital TV, Satellite and Fiber Projects, Channel & Post Production Operations for the International Business and Strategic Planning for Technology. He has graduated on Electronic and Computational Engineering at Universidade Federal do Rio de Janeiro, holds a Master degree on Image Processing at COPPE-UFRJ, and a MBA on Business Management at IBMEC-RJ.



#### Vinicius Reina - Publishing Solutions and Innovation Lead - Google

Vinicius Reina holds a degree on Computer Science from UNICAMP e has vast international experience working in countries such as Canada, England and South Africa. He works at Google since 2012 bringing new business to the brazilian market.

#### Gilles Chetelat - Senior VP, International Business Development - Free Wheel



As Senior Vice President, International Business Development, Gilles leads the execution of the business in APAC and LATAM. Previously, Gilles served as COO and co-founder of StickyADS.tv. He successfully drove the global expansion of the StickyADS.tv SSP prompting the acquisition by FreeWheel in May 2016. Gilles started his career at Alcatel where he rose to key account director of strategic Telco accounts. A few years later, he joined Redback Networks and integrated the

international sales team as Sales Director for EMEA South. Gilles holds a degree from French Business School ESC Clermont and an MBA (MSM) from Georgia Tech.



#### Amanda Signorini - Planning and Intelligence Manager - Kantar Ibope Media

Amanda has 13 years of experience in media planning, multipatforms projects and market intelligence. Since 2016, she is part of the product team at Kantar Ibope Media and responsible for the Cross Media Audience Measurement project in Latin America. Graduated in Advertisiment and Marketing at Universidade Catolica de Santos, has a Marketing MBA from ESPM and holds master degree in Production Engineering from Universidade do Rio Grande do Sul (UFRGS)



#### Neil Berry – Comcast

Neil Berry is the Vice President and Managing Director International, for Comcast Technology Solutions, responsible for their strategic growth across outside of the US. With over 25 years experience in the enterprise, SAAS, Digital Media & broadcast space, Neil has extensive expertise in helping businesses monetize their content across multiple platforms having held senior executive positions at several leading online streaming companies.

Cite this article: Souza, M., Reina, V., Chetelat, G., Signorini, A. and Berry, N.; 2017. Future of Multiplatform TV Monetization. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.33. Web Link: http://dx.doi.org/10.18580/setep.2017.33

## 16h - 17h30 | Aug. 23, 2017- Wednesday | ROOM 16

## CONTENT PRODUCTION

# **DRONES: FLYING REAL**

## Chair: Eduardo de Oliveira Silva Bicudo - Co-owner - EBCom /SET

In this panel we intend to show three important aspects of Drone application in our work activity:

1. The commercialization and development of equipment. New technologies of control, size, load, cameras, sensors, etc ...

2. Use in the production department, such as soap opera, specific programs, news programs

3. The use in the RF transmission department of the TV networks This is a "tool" that has been showing endless applications in the various areas of knowledge. But everything has to go through the DRONE LEGAL, which you will watch before DRONE REAL.

## REAL DRONE

#### Speaker: Eduardo Mascarenhas, Sócio da Peixe Voador Produções

In this panel we will talk about the change of paradigms and main challenges in the use of Drones in series and soap operas. We will also talk about the type of equipment currently used in these productions, its characteristics and evolution.

## DRONES AND THEIR INNOVATIONS

Speaker: Fernando Villares - Drones Brasil / Director

## • TYPES, APPLICATIONS, BENEFITS AND SOFTWARE USED Speaker: Raquel Molina - Diretora Executiva da Futuriste

With the recent approval of the regulations in Brazil the use of Drones has expanded in several segments, mainly in the engineering sector where its use mainly results in reduction of costs, risks and increase the efficiency of professionals and companies in this segment. In this presentation we will explore the use of Drones in engineering, explaining which are the most used types and their characteristics, the main applications, their results, benefits and which are the software allied to these solutions.

## • DRONE, A TOOL FOR ALL

## Speaker: Fábio Pardini Campesi - Operator - Ebcom

The lecture aims to demonstrate the types and characteristics of Drones available in the market, as well as to explore the various applications mainly in the field of engineering and inspections.

#### • Speaker: Vitor Ferrari Fozzatti - Operator - Ebcom



#### Eduardo de Oliveira Silva Bicudo - Co-owner - EBCom /SET

Engineer, with a graduate degree in telecommunications. Mackenzie Institute – 1976 to 1997. Senior high school teacher and teacher at the school of engineering. Broadcasting Center Coordinator. Advisor to the president's office. TV Globo SP -1982 to 1998. Engineer, PCP Advisor, Director of Engineering. EBCom: 1998 – Today – Co-owner. Design and implementation of the Digital TV laboratory at the Mackenzie University; Coordinator of digital TV field measurements for the ISDB-T (Japanese) ATSC (USA) and DVB (European) systems. Manufacture of UHF antennae for Digital TV reception. Design and implementation of the TV Center of the Stock, Commodities and Futures Exchange.



#### Eduardo Mascarenhas, Sócio da Peixe Voador Produções

Bachelor of Business Administration from PUC-RJ, with an MBA in Project Management from FGV-RJ. Coming from financial market where he stayed for approximately 13 years of experience before founding Peixe Voador Produções in 2014 with his partners Rodrigo Thome and Rodrigo Figueiredo. Partner in charge for the administrative part of the production company. Rede Globo, Conspiração Filmes, Rede Record, Hungryman are some of the big clients from Peixe Voador Produções.



#### Fernando Villares - Drones Brasil / Director



#### Raquel Molina - Diretora Executiva da Futuriste

Co-founder of Drones Futuriste Tecnologia, she is the company's executive director. She is considered the first woman instructor of Drones in Brazil, starting in the area in 2015. With a background in Technology, she has worked for several years as Systems Project Manager at major financial companies such as Itaú-Unibanco and Bradesco. Raquel holds a postgraduate degree in IT governance from Universidade Presbiteriana Mackenzie, an IT graduate with an Emphasis in Business Management from FATEC, Certified in ERP (Systems Requirements Engineering), certified in COBIT (IT Governance) and Technical Logistics by State Technical school.



#### Fábio Pardini Campesi - Operator - Ebcom

Civil Engineering student at the Armando Alvares Penteado Foundation (FAAP), Aeromodelist for 10 years and 4 years working in the area of drones and multirotors.



#### Vitor Ferrari Fozzatti - Operator – Ebcom

Aeromodelist for 10 years, where 4 of these were focused on drones research, operation and development. Commercial pilot of airplane in formation and student of Civil Aviation at Anhembi Morumbi University

Cite this article: Bicudo, E., Mascarenhas, E., Villares, F., Molina, R., Campesi, F. P. and Fozzatti, V. F.; 2017. Drones: Flying Real. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.34. Web Link: http://dx.doi.org/10.18580/setep.2017.34 16h - 17h30 | Aug. 23, 2017- Wednesday | ROOM 13

NEW PLATFORMS AND INFRASTRUCTURE

# CLOUD AND VIRTUALIZATION: INCREASINGLY PRESENT REALITY IN THE OPERATION OF BROADCASTERS AND PRODUCERS COMPANIES

#### Chair: Alexandre Sano - Gerente de Engenharia SBT

Cloud services and hardware virtualization have suffered great developments in the recent years in the media and entertainment market, on account of an intense search for cost reduction and operational efficiency within the companies. The possibility of using the maximum capacity of a computational resource or the possibility of hiring (pay) only for what is consumed, has facilitated the penetration of that type of service and become the increasingly common business model within the television stations and content producers. Many specialists consider this kind of vital technology for the survival of companies, since political and economic instability, especially in countries like Brazil, causes their operations to change size according to market demand, in a very rapid way. Another factor relevant to this major market change is the possibility of accessing and producing content remotely, diminishing the need for physical space, energy consumption and air conditioning, among other infrastructure reductions.

## A JOURNEY TO THE FUTURE OF THE MICRO-SERVICES OF NATIVE MEDIA IN CLOUD Speaker: Washington Cabral - Client Technical Advisor for Media & Entertainment na IBM.

The impact of digital transformation in the media and entertainment industry has transformed the way that suppliers and broadcasters think, design and commercialize products and experiences. The current infrastructure models need to adapt to an elastic, resilient and highly distributed reality. During this presentation we will have an overview of the journey that media support services should adapt to this new reality.

## • SOFTWARE DEFINED SOLUTIONS Speaker: Felipe Domingues -Solutions Architect - SAM

Market dynamics have brought uncertainty to the media sector: companies need agile systems that can scale up and down rapidly and cost effectively. At the same time solutions to satisfy the demands of proliferating distribution platforms have become essential. A practical resolution is to migrate from fixed infrastructure to software systems which run on commodity IT equipment. Now is the perfect time for media companies to embrace the very latest datacenter and cloud technologies and reap the rewards of their inherent flexibility and beneficial cost models. Software Defined Solutions can turn the desire for flexibility and beneficial cost models into a reality by removing the need for bespoke hardware and providing software only, virtualized and cloud solutions. Media organizations are always looking to reduce capital expenditure so with virtualization closely on the horizon many companies are looking to use data centers and software defined systems to reduce working capital, operational costs and improve efficiencies, so ultimately moving challenging capex to opex.

# CLOUD WILL KILL HALF OF US... AND SAVE THE REST! Speaker: Eduardo Rezende - Solutions Arquitet - AD Digital

The media and entertainment industry is primarily in transformation. The largest disruption is not the transition to the IP, OTT, nor the deploy of applications to the cloud, but much more the fundamental change in the mode in which the broadcast technology is consumed. These are services that are on demand, used only when needed, able to enlarge and reduce the scale without prior notice, without major financial disbursements or huge implementation projects. And above all, always up to date. Traditional manufacturers of the broadcast market must revolutionize their approach in the way of developing the projects, marketing and business models of their products - or else they will be extinct. From the single-purpose traditional components to cloud-based COTS Media services, we've walked a long way. However, there is still a lot to come. Learning from the native concepts of resilience cloud, scalability, and orchestration, this session will lead you to disrupt the technologies that will pave the future of media services. We will see examples of how buyers are changing behaviour and review cases of best practices from vendors that are responding with truly innovative, elastic and on-demand services. More importantly, we will examine what vendors and integrators of broadcast and media technology must do to survive, effectively leveraging the entire potential of the cloud, as if the broadcast market was a new creation, born in the cloud business model. I hope to see vou there.

# WORKFLOW CLOUD-BASED FOR NEWS PRODUCTION Speaker: Benjamin Desbois - Senior Director of Global Strategic Accounts and Americas Media markets - Avid

Cloud-enabled workflows through the Avid MediaCentral platform for creating, managing and distributing media with deployment flexibility for private data centers, public cloud or hybrid environments.



#### Alexandre Sano - Gerente de Engenharia SBT

Deputy Director of Events at SET. He holds an Electronics Engineering degree from Mackenzie University. Graduate degree in Enterprise Management and Technological Innovation from ESPM. Graduate degree in Digital TV from Mackenzie. Joined SBT in 2002 and is currently responsible for managing the technical infrastructure management of the entire SBT network, São Paulo. He is also involved in developing solutions for the continuous improvement of the operations, using innovative processes and technology. He participates in the activities organized by SET and by the Forum of the Brazilian Terrestrial Digital TV System.



#### Washington Cabral - Client Technical Advisor for Media & Entertainment na IBM.

In a life marked by curiosity, where no knowledge is likely to be wasted, Washington has spent the last 28 years of his professional life in the Information Technology sector. Curiosity and enthusiasm for new ideas found the perfect match when he began devoting himself over the last 4 years to the media and entertainment sector. The radical IT-driven transformation the sector is facing is the ideal setting ideal for developing disruptive ideas that could make a difference to the future of the sector.



#### Felipe Domingues -Solutions Architect - SAM

With an academic background in engineering, he has been working for more than 13 years in the Broadcast market. With extensive experience in systems design, he has worked for sector companies like Grass Valley and Imagine Communications. Today, he works as a Solutions Architect for Snell Advanced Media (SAM) in Latin America.



#### Eduardo Rezende - Solutions Arquitet - AD Digital

Professional with more than 15 years in the broadcast market, having been involved in different projects at the leading Brazilian television networks. With a degree in electronics engineering and a graduate degree in Digital TV from the Mackenzie Presbyterian University, he has participated in the testing and implementation of the ISDB-T system in Latin America. He takes advantage of the know how acquired in the field of traditional broadcast, to develop projects on the new OTT, Cloud and Machine Learning platforms for customers in different markets



#### Benjamin Desbois - Senior Director of Global Strategic Accounts and Americas Media markets - Avid

Benjamin Desbois leads the Avid sales team for the Americas media markets, with focus on networks, studios, broadcast stations and post. Benjamin has significant international experience around MAM, Post, News and Sports workflows with multiple roles in EMEA and the Americas. Benjamin has been in various management roles at Avid for the last 6 years and is a graduate from Ecole des Mines de Paris.

Cite this article:

Sano, A., Cabral, W., Domingues, F., Rezende, E. and Desbois, B.; 2017. Cloud and Virtualization. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.35. Web Link: http://dx.doi.org/10.18580/setep.2017.35

## 16h - 17h30 | Aug. 23, 2017- Wednesday | ROOM 11

## **TECHNOLOGY AND BUSINESS**

# **MIGRATION OF RADIO AND THE MARKET**

## Chair: RODRIGO NEVES - General Director Rede Bandeirantes / Campinas

Representatives of Brazil's main radio stations involved in the migration of AM radio to FM, highlight the model of expected business through integration with the programming on FM, although in eFM (Extended FM). The current scenario of radio broadcasters in the advertising market. Highlights for the preservation of radio with the journalistic content, radio with image, online and hybrid platforms successful cases such as the recovery of the hearing of the Media Wave stations by migration.

## • A CASE OF SUCCESS

# Speaker: Roberto Dimas Ribeiro do Amaral - Product Director - Sistema Catarinense de Comunicações Product Director

The presentation highlights the success of Radio Clube de Lages Ltda, of the Sistema Catarinense de Comunicações, the second broadcaster to migrate in Brazil from AM to FM.Management of modeling work, content crystallization - migrant radio - with wide audience recovery in Lages and Region.Proof through audience research. Market and the Challenge!Post migration success with revenue growth. Group broadcasters strengthened and motivated.

## • PIONEER MIGRATION

# Speaker: Paulo Machado de Carvalho Neto - President of the AESP – the Association of Radio and Television Broadcasters in the State of São Paulo o

Jovem Pan: Journalism, the key to success - Social approach and audience polarization / hegemony in AM and FM with the same content. Pioneering in the operation of the FM transmitter in the extended range, in a unique test in Brazil in 84.7 MHz homologated by Anatel.

## • Speaker: Carlos Rubens Doné - Market Director - Rádio Itatiaia

• Speaker: Ricardo Gandour - News Director CBN



#### **Rodrigo Neves - General Director Rede Bandeirantes / Campinas**

Rodrigo Neves, journalist specializing in radio journalism. Currently holds the position of General manager at Grupo Bandeirantes de Comunicação in the city of Campinas, SP, which consists of four radio stations, a television station and a daily newspaper. From July 2011-July 2015, he was president of the AESP, the Association of Radio and Television Stations in the State of São Paulo, the first industry association in Brazil and the most important regionally speaking, and presently holds the seat as 2nd Member of the Board of the association. He is Regional Vice President Regional of Amcham Campinas, a Member of the Board of the Centro Infantil Boldrini, the charity children's cancer and hematology hospital; SERTESP – the Union of Radio and Television Companies in the State of São Paulo and the Centro Corsini, a highly complex shelter for children and adolescents.



# Roberto Dimas Ribeiro do Amaral - Product Director - Sistema Catarinense de Comunicações Product Director

Roberto Dimas Ribeiro do Amaral is an Electrical Engineer from UFSC and a Business Administrator from UNISUL. Doctor in Sciences and Technologies of Information, by ISCTE-IUL. Product Director of the Sistema Catarinense de Comunicações (SCC), which includes SBT Santa Catarina, radios and telecommunications companies, and is responsible for Engineering, Journalism, Programming, Operation and New Products. He is a member of the Executive Board of ACIL (Commercial and Industrial Association of Lages), SERT (Union of Radio and Television Companies of SC) and ABCOMM / SC (Brazilian Electronic Commerce Association)



# Paulo Machado de Carvalho Neto - President of the AESP – the Association of Radio and Television Broadcasters in the State of São Paulo

Paulo Machado de Carvalho Neto, aka Paulito, as he is known within the industry, is a business administration graduate, radio commentator and advertising executive, comes from a family with important roots in the means of communication in Brazil. In 1962, when still a lad, Paulito began working at Rádio Record S. A. as an office assistant, although a member of the owner's family. He gradually rose through the ranks, becoming Artistic and Programming Director of Rádio Record A. M., Finance Director, General Manager of Rádio Record, Executive Director for F.M., Executive Director of TV Record de São José do Rio Preto S/A, Executive Director of F.M. Record S/A and Executive Director of TV Record de Franca S/A. In 1990, he took up the position of Executive Director of Record S/A. Besides his functions at the United Broadcasters, Paulito was a member of the board of Fepasa and Assistant Director of the CCESP. From 2000 to 2004, he was President of the Abert- the Brazilian Association of Radio and Television Broadcasters for two consecutive terms of office. He has held several managerial positions in broadcasting entities and ...



#### Carlos Rubens Doné - Market Director - Rádio Itatiaia

In charge of the commercial, marketing and promotions areas, Carlos Rubens dos Santos Doné has worked for Rádio Itatiaia since 1992, after spending 13 years with Rede Globo. With a degree in journalism and advertising from the former FAFI-BH, and a graduate degree in Marketing Management from UNA, Doné also travels around Brazil, giving talks. He was seven-times winner of the Melhores da Comunicação de Minas Gerais (The Best in Communication in Minas Gerais) award offered by the AMP (the Advertising Industry Association in Minas Gerais) and by Sinapro-MG (the Advertising Agencies Union). Doné he was also the brains behind Itatiaia Rádio Bar and

Itatiaia no Ponto, a promotions and events agency. For him, the unceasing quest for information and speed of response are the key virtues of a communication professional.



### **Ricardo Gandour - News Director CBN**

Ricardo Gandour worked for more than 10 years in Grupo Estado. His last position was Director of Content. Previously, he had worked at Grupo Globo as director of Época magazine and Diário de São Paulo newspaper.

Cite this article:

Neves, R., do Amaral, R. D. R., Carvalho Neto, P. M. de, Doné, C. R. and Gandour, R.; 2017. Migration of Radio and the Market. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.37. Web Link: http://dx.doi.org/10.18580/setep.2017.37

16h - 17h30 | Aug. 23, 2017- Wednesday | ROOM 12

NEW PLATFORMS AND INFRASTRUCTURE

# LIVES BROADCAST (360 4K AND 8K) ON SOCIAL MEDIA – SAVING ON SEO, ADS AND RESOURCES (DEMO LIVE 360 4K)

## Chair: Rodrigo Dias Arnaut - Director – EraTransmidia/ FAAP/ SET/ Esconderijo

Multidisciplinary experts present their different visions, solutions, cases and experiences in the field of live streaming of social media video (known as lives on the web), using new technologies that include 360-degree imaging and connectivity anywhere, bringing remote immersion From the viewer to the actual scene, with quality standards at 4K and up to 8K. The use of lives on the web is increasingly popular, given the ease of the tool and the low cost of resources. For example, a \$ 170.00 VR camera such as Insta360 Air, a \$ 250.00 smartphone and a low-cost 4G or satellite internet plan, which is increasingly accessible, make anyone into a UMPP (Personal Portable Mobile Unit), ready to enter live from anywhere, anytime. Come to understand this new world of lives and discuss with the experts, and in the end, we will have a round of questions and answers, plus a demonstration with a 360 lives solution, 4K satellite!

# LIVES VIA SATÉLITE

### Speaker: George Bem - CEO & Founder – InternetSAT

This talk will present live streaming cases (PetChannel and Canal Rural) with details of the optimized infrastructure and cost reduction achieved in the projects. It will also announce the launch of a new satellite in KA band, with start of operation in October 2017, for live streaming.

# • SOCIAL MEDIA AND THE WORLD OF LIVES Speaker: Juliano Kimura - CEO & Founder - Trianos

Why using lives in social media can bring a more positive result than simply sponsoring online campaigns. How video content engenders greater engagement and reach of fans, and how using technology in a simpler way can generate profit and savings for businesses.

# LIVES AND GAMES 360 Speaker: Pedro Zambarda - CEO & Founder Drops de Jogos, editor-chefe Mundo360

Will present the global scenario of lives 360, immersive content, technology events such as E3, 360 in social media and the transmission of games over the Internet.

## • 360 CAMERA SOLUTIONS

### Speaker: Juliano Milanez - Manager - SHVAV / Pixellot / Rohde-Schwarz

Will present an overview of the current 360 cameras and will show a broadcast solution to transmit images to 360 Virtual Reality with 8K quality for applications in sports and entertainment.

## • 360 TRANSMISSIONS, FROM THE PLAYER TO THE GLASSES

### Speaker: Charles Boggiss - CEO - UView360

With more than 10 years of experience in imaging and broadcasting 360, we will present discoveries and cases that show that virtual reality technology is increasingly accessible.



### Rodrigo Dias Arnaut - Director - EraTransmidia/ FAAP/ SET/ Esconderijo

ransmedia consultant and planner for producers and agencies, by Esconderijo das Crianças, digital media professor at FAAP in communications courses, undergraduation and pos graduation. Master of Science from USP (Poli), specialization on Business Management and Technological Innovation at ESPM, Computer Engineer at USJT. Concluded an extension course in E-business in UofT (University of Toronto). President at EraTransmidia Association, where he currently develops audiovisual production research in the field of immersive video, virtual reality / augmented and actions of social impact. With 25 years of professional and academic experience in Technology, Business and Communication in brainstorming and Transmedia projects, IT, Telecom, TV, IoT, Mobile, Web, Games, Wearables, Interactivity, Holography, Virtual and Augmented Reality, Media , Advertising and marketing, 21 years in the Globo group at R&D Research and Development for technology to Sports areas, Journalism and Entertainment, where he developed more than 50 projects received 15 awards, highlighting IBC Special Awards of the "float" (Amsterdam). It is also a partner at startup Gigamobb and consulting at Esconderijo das Criancas, focused on developing projects with MAMP methodology (Multi Platform Multi Audience) created by EraTransmídia. Vice Director of Pay TV and New Media at SET. Speaker at over 200 events in Brazil and abroad.



### George Bem - CEO & Founder - InternetSAT

CEO and Founder of InternetSAT, graduated in Telecom Eng. By Fasp, Postgraduate in Critical Mission Environments and Projects. Acting in the telecom area, through IT, Internet and Broadcast. Responsible for the startup of R7.com, he acted as Mang. And Serv. Of Eng Record, responsible for new IP technologies, data networks and videos and mobile.



### Juliano Kimura - CEO & Founder - Trianos

One of the most influential professionals in the world of social networks and digital innovation. He has 15 years of experience in the digital communication market. Was a speaker and content expert for Facebook Brazil. Managing Partner of Trianons Academy and creator of Social Brunch and Tampopus.com projects. Elected best social networking professional by ABComm in 2015 and 2016. His company was voted best social networking agency by the E-Awards.



Pedro Zambarda - CEO & Founder Drops de Jogos, editor-chefe Mundo360 Journalist, writer and communicator. Graduated in Journalism from Faculdade Cásper Líbero and in Philosophy at FFLCH-USP. He is the editor-in-chief of Games Drops and editor of the Generation Gamer project. He writes about games, technology, politics, business, economics, and society.



### Juliano Milanez - Gerente - SHVAV / Pixellot / Rohde-Schwarz

Experienced as country Manager with a demonstrated history of working in the broadcast media industry. Skilled in Non-linear Editing, Broadcast Engineering, Radio, Management, and Sound. Strong community and social services professional with a IT Management, Specialized in Virtual Sets, video servers and augmented reality systems, great skills with MAM, PAM and project management.



#### Charles Boggiss - CEO - UView360

Cite this article:

Arnaut, R., Bem, G., Kimura, J., Zambarda, P., Milanez, J., Boggiss, C.; 2017. Lives Broadcast (360 4K and 8K) on Social Media – saving on SEO, Ads and Resources (demo live 360 4K). ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.38. Web Link: http://dx.doi.org/10.18580/setep.2017.38

### 9h - 11h | Aug. 24, 2017 - Thursday | ROOM 13

HOT SESSION

# PROJECT UHD – BRAZIL: A BRIDGE TO THE FUTURE

### Chair: Olimpio José Franco, Superintendent of SET

One decade has passed since the introduction of high definition television in Brazil and it is high time to consider the technical advances in pictures and sounds and plan how to facilitate their introduction in a world with progressively larger and more beautiful screens, but also in which personal devices become of utmost importance in people's lives, and new formats of video services are made available at each moment. This session will discuss this new world which awaits for us, and also include speeches about two special international efforts which are being conducted towards preparing for such future - the Ultra HD Forum and CTAs Wave Project (Web Application Video Echosystem). We will also present how Project UHD -Brazil is being structured.

# • THE ULTRAHD FORUM

# Speaker: Skip Pizzi - Vice President, Technology Education and Outreach (NAB)

The Ultra HD Forum is bringing together market leaders from every part of the industry; broadcasters, service providers, consumer electronics, and technology vendors to collaborate on solving the real-world hurdles, and accelerating Ultra HD deployment.

# • THE WAVE (WEB APPLICATION VIDEO ECOSYSTEM) PROJECT Speaker: Mike Bergman - Senior Director, Technology and Standards | Consumer Technology Association

The WAVE (Web Application Video Ecosystem) Project, hosted by the Consumer Technology Association (CTA)<sup>™</sup>, aims to improve how internet-delivered commercial video is handled on consumer electronics devices and to make it easier for content creators to distribute video to those devices. The project focuses on commercial internet video and web applications, and developing interoperability tools for global compatibility.

# PROJECT UHD-BRAZIL Speaker: Liliana Nakonechnyj, President of SET

Project UHD-Brasil brings together the various sectors of the audiovisual industry, from production to delivery, in a joint and voluntary effort to harmonize the introduction of such advances throughout the different media.



### Olimpio José Franco, Superintendent of SET

Olímpio José Franco is superintendent and member of the SET Board of Former Presidents. He is an electronic engineer with an extensive career in the field of television broadcasting. In 1969, he joined the Padre Anchieta Foundation (Radio and TV Cultura, São Paulo), as a trainee, from where he left only in 1988, when he held the position of technical director. From 1988 to 2003, he was technical director of TV Jovem Pan. He has owned Olympic Engineering in Audio and Video Systems since 1985, working on audio and video projects and installations. He is the founder of SET, having served as president for three terms, as well as being technology director and vice president at various times. He is a life member of SMPTE and member of the Technical Module of the SBTVD Forum.



#### Skip Pizzi - Vice President, Technology Education and Outreach (NAB)

Skip Pizzi is Vice President, Technology Education and Outreach, at the National Association of Broadcasters (NAB) in Washington, DC, USA. His career has spanned the broadcast and digital media industries, working in audio engineering at NPR, and in audio production, media standards and technical policy at Microsoft. He was also an editor at Broadcast Engineeringmagazine, and a columnist for several other international industry publications. He remains a technology journalist, editor, author and trainer today. His most recent book is A Broadcast Engineering Tutorial for Non-Engineers, 4th edition, published by Focal Press. He is currently Associate Editor on the NAB Engineering Handbook, 11th edition, which will be published later this year. Skip serves as Vice-Chair of the Advanced Television Standards Committee (ATSC) Technology Group 3 (TG3), which is developing the ATSC 3.0 standard. He is also a member of the Board of Directors of the Ultra HD Forum. Skip is a graduate of Georgetown University, where he studied Electrical Engineering, International Economics and Fine Arts.



# Mike Bergman - Senior Director, Technology and Standards | Consumer Technology Association

Mike has been in the electronics industry for more than 30 years, starting as a chip designer and progressing to embedded systems, wireless communications and wireless digital multimedia. Prior to CTA, he held senior positions at JVC-Kenwood, Sirius Satellite Radio, and several other well-known tech companies in the computer and communications industries. He has two patents in semiconductor design, and has contributed to a number of standards including ATSC, DVB, NRSC and USB.



#### Liliana Nakonechnyj, President of SET

LILIANA NAKONECHNYJ. President of SET. She graduated in telecommunications engineering at PUC-Rio. A large part of her professional life has been dedicated to deploying television distribution systems, initially analog, and later digital – terrestrial broadcasting stations as well as radio, satellite and fiber optics based contribution and distribution systems. Also, for many years, she was in charge of engineering support for broadcasters affiliated to TV Globo. She has always

been interested in promoting new technologies, leading studies and tests for the introduction of digital television in Brazil between 1994 and 2006, and demonstrations and tests of UHDTV in more recent years. She represents SET at the IBC Council.

Cite this article: Franco, O. J., Pizzi, S., Bergman, M. and Nakonechnyj, L.; 2017. Project UHD – Brazil: a Bridge to the Future. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.39. Web Link: http://dx.doi.org/10.18580/setep.2017.39

### 9h - 11h | Aug. 24, 2017 – Thursday | ROOM 12

ACADEMIC

# SCIENTIFIC ACADEMIC PANEL – MORNING EDITION

# Chair: Ronald Siqueira Barbosa - SET Educational Committee / Professor of Optical Communication, Television Systems, Principles of Communication and Antennas

This panel will present a set of scientific papers that have been submitted to the Call for Papers promoted annually by SET. The selected works will be published in the SET International Journal of Broadcast Engineering (SET IJBE) an international scientific journal whose objective is the diffusion of knowledge on communications engineering, especially of the broadcast areas and new media. The SET IJBE search current research that comprise the state of the art of these technologies.

# FACE RECOGNITION TECHNIQUES USING ARTIFICIAL INTELLIGENCE FOR AUDIO-VISUAL ANIMATIONS Speaker: Daniel Rodrigues Ferraz Izario - Master's student - Unicamp

Artificial intelligence application that uses face recognition for computer animation. It provides the producers simulate the face movements of the actors in a digital environment. All the inherent applications of the tool favor the area of computer-animated films and television series.

# • SOCIAL MOBILIZATION AS A TOOL TO SUPPORT THE SWITCH OFF OF TV AND HUMANIZATION OF THE PROCESS: THE EXPERIENCE OF SEJA DIGITAL IN THE BRAZILIANS CITIES OF THE RIO VERDE AND BRASÍLIA

## Speaker: Deisy Fernanda Feitosa - Regional Manager - Seja Digital

This lecture shares the process of building the social mobilization experience of Seja Digital, a nongovernmental entity responsible for operationalizing the migration process for the digital TV signal in Brazil and the switch off. The Seja Digital promotes various actions to raise awareness and involve community, political and religious leaders in their campaigns, while encouraging them to develop tools and solutions within the communities where they live.

# • ISOFREQUENCY BROADCAST FM SYSTEM, A RF SPECTRUM OPTIMIZATION EXPERIENCE IN BRASIL (JAN 2017)

### Speaker: Evandro Franco Tiziano - Director - Akron Technical Service Itda

This article proposes the description of a 16 year experience of the Isofrequency FM operation in Brazil, starting in Rio de Janeiro (2000),inclusion of the technology as part of technical rules in the Brazilian Technical Standard(1999), recognition by CONFEA (2014) as local intellectual property and operation by several FM stations, solving a coverage problem due to local geography, using same frequency of the main transmission system with no interference in common coverage signal areas and coverage extension using complimentary low power cels, Engineering Planning and Implementation challenges.

# COMPARISON OF TERRESTRIAL DTV SYSTEMS: ISDB-TB AND ATSC 3.0

## Speaker: Victor Morales Dionísio - Researcher - Universidade Presbiteriana Mackenzie

This presentation shows the difference between the points of the physical layer of each system – ISDB-T and ATSC 3.0 – and makes a theoretical comparison of performance between bit rate and carrier-to-noise ratio.

# ROBUSTNESS AGAINST THE EFFECTS OF MULTIPATH IN AN ISDB-T LDM BROADCAST SYSTEM USING DIVERSITY AT RECEPTION

## Speaker: Ricardo Seriacopi Rabaça - Researcher - Universidade Presbiteriana Mackenzie

This presentation will show the development and results for the simulations of the ISDB-T LDM system, with the Core Layer fully compatible with the traditional ISDB-T and the Enhanced Layer using the Non-Uniform Constellation 64-QNUC, in order to improve spectral efficiency, performance, robustness and useful bit rate, so that it is possible to use it for UHDTV applications. In order to reach these goals, in addition to the LDM technique, the LDPC encoder/decoder concatenated with the BCH were used. The SDR/GRC implementation was used and the reception diversity was achieved by the use of the MRC method. The tests were performed using the proposed system in environments with AWGN and multipath channels. With the use of the ISDB-T LDM system using diversity at reception it was possible to achieve gains for all the tested configurations.

# A TECHNICAL STUDY ON THE TRANSMISSION OF HDR CONTENT OVER A BROADCAST CHANNEL

Speaker: Diego Arturo Pajuelo Castro - Researcher - Unicamp

High Dynamic Range Television is a topic of current interest in academia and industry since can attribute the same level of realism without the need to increase the resolution. The reference end-to end HDR system is based on HDR10 System due to its encoding efficiency and visual quality. However, it cannot be directed apply for the current Standard Dynamic Range television system. This paper makes a technical study about the system requirements to be considered for transmitting a HDR service in broadcast television and presents objective metrics in different coding scenarios regarding the HDR10 System and a subjective assessment of the generated tone-mapped videos.

# DEVELOPMENT AND OPTIMIZATION OF ANTENNAS FOR HDTV RECEPTION

# Speaker: Kassia Toccolini - Master's student at Universidade Federal de Santa Catarina

The development and optimization of antennas for reception of high-definition digital television (HDTV) will be presented. It will be discussed as was possible to develop the antennas in an efficient way without the need of very complex calculations through an iterative method using a software based on finite elements for simulations. Comparisons are made with respect to the main parameters related to these antennas in order to establish a better choice both from a technical and economic point of view.



# Ronald Siqueira Barbosa - SET Educational Committee / Professor of Optical Communication, Television Systems, Principles of Communication and Antennas

Graduated in Electrical Engineering (Electronics) from the University of Brasília, Master of Science (MSc) from the Military Institute of Engineering of Rio de Janeiro. He has extensive experience in the broadcasting market as a consultant and participates in broadcasters and engineering associations coordinating various work groups. He is Assistant Professor II of the University Center - Institute of Higher Education of Brasília - IESB, since 2012, where he teaches the subjects of Optical Communication, Television Systems, Communication Principles and Antennas, and Adviser of Completion Works - TCC and participation in TCC Examination Boards at IESB. Current member of the SET teaching committee.



### Daniel Rodrigues Ferraz Izario - Master's student - Unicamp

Bachelor's at National Institute of Telecommunications (Inatel) / MG, Brazil - in Computer Engineering (2017), master's degree student at Computer from State University of Campinas (Unicamp). He is currently a freelancer in the web development and his interests are software, game, web design and digital image processing, focusing on the languages javascript and python.



### Deisy Fernanda Feitosa - Regional Manager - Seja Digital

Graduated in Social Communication (UFPB), master in Digital TV (Unesp) and doctor (2015) in Communication Sciences (ECA / USP). She was a researcher at Lavid/UFPB and worked at Univesp TV, TV Cultura's multiprogramming channel. He currently works at Seja Digital, the company that manages the digitization of TV in Brazil. For eleven years he has been studying: digital TV, digital convergence and digital inclusion.



### Evandro Franco Tiziano - Director - Akron Technical Service Itda

Electrical, Electronic and Telecommunication Engineer Technology,Labor and Education Specialist Ex technical Director at: Globo Radio Network, Jornal do Brasil Network, Manchete Radio Network, TV Manchete Network Member in AERJ Technical Comitee - Rio de Janeiro Broadcast Association AERJ Counselor Winner in the 71° SOEA meeting, Engineering and Agronomy oficial week, sponsored by CONFEA - brazilian federation of engineering and agronomy



#### Victor Morales Dionísio - Researcher - Universidade Presbiteriana Mackenzie

Electrical engineer graduated at Mackenzie Presbyterian University in 2010 and Master of Science in Electrical Engineering and Computing at Mackenzie Presbyterian University in 2017.



#### Ricardo Seriacopi Rabaça - Researcher - Universidade Presbiteriana Mackenzie

Ricardo Seriacopi Rabaça received his degree in Electrical Engineering with emphasis in Electronics and Telecommunications from Mackenzie Presbyterian University in 2013. He received his M.S. degree in Electrical Engineering and Computation from Mackenzie Presbyterian University in 2017. He is interested in research in the areas of Telecommunications, Broadcasting and Software Defined Radio.



#### Diego Arturo Pajuelo Castro - Researcher - Unicamp

Diego Arturo Pajuelo Castro is a doctoral student at the Department of Communications (DECOM) of the Faculty of Electrical Engineering and Computation (FEEC) of the State University of Campinas (Unicamp) and works as a researcher at the Visual Communications Laboratory (LCV). He worked for a number of years at one of Peru's leading Network Operations Centers (NOC), Telefonica, which provides digital television services to the Latin American Region. Currently, his research interests are in the area of new technologies for television and multimedia systems and as part of the master's dissertation he has presented a Video Encoding Proposal for High Dynamic Range (HDR) Television System



#### Kassia Toccolini - Master's student at Universidade Federal de Santa Catarina

She received the titles of Electronic Engineer (2016) by the Federal University of Santa Catarina (UFSC). She is currently in master's degree in Electrical Engineering in electromagnetism area also at UFSC. She is part of Electromagnetism and Electromagnetic Compatibility Laboratory (MagLab) and Electromagnetic Compatibility and Engineering Group (GEMCO) at UFSC. Her areas of interest are electromagnetic fields, telecommunication and digital signals processing.

Cite this article:

Barbosa, R. S., Izario, D. R. F., Feitosa, D. F., Tiziano, E. F., Dionísio, V. M., Rabaça, R. S., Castro, D. A. P. and Toccolini, K.; 2017. Scientific Academic Panel – Morning Edition. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.40. Web Link: http://dx.doi.org/10.18580/setep.2017.40 11h30 - 13h | Aug. 24, 2017 - Thursday | ROOM 13

CONTENT PRODUCTION

# ULTRA HIGH DEFINITION AND SUPER ULTRA HIGH DEFINITION IN AUDIOVISUAL PRODUCTIONS

# Chair: Almir Almas, Professor Doutor, Universidade de São Paulo e Vice-diretor de Cinema da Diretoria da SET

In this panel we will discuss "Innovation and Disruptive Technologies" that point to transformations in progress and in the future of the television semiosphere, encompassing audiovisual productions on multiple platforms, multiple screens, multiple windows, multiple products and multiple services. In addition to the technological focus of standardization and systems, "Production Cases" will also be presented, with their state of the art, workflows and aspect of the technical/aesthetic discussion and the reality of the Brazilian exhibition market..

# • VISUAL EFFECT'S CHALLENGES IN 4K ERA

# Speaker: Claudio José Lima Peralta - Visual Effects Supervisor - Conspiração Filmes

Production Cases of the Conspiração Filmes, in its aspects of workflows, visual effects, advertising content, cinema, institutional movies and television.

# • WORKFLOW - TECHNOLOGY, MAKING AND FINISHING Speaker: José Francisco Neto - DOT CINEMA

Workflow for digital and Ultra High Definition (4K) and Super Ultra High Definition (8K); The preparation for production, post-production and exhibition. Arrangement between filmmakers, technology and market.

# CASE STUDY: 02FILMES

## Speaker: Luis Ignacio Barrague - Post production supervisor - O2 Filmes

Aspects of the technical / aesthetic discussion about the use of Ultra High Definition technology in production. Analysis of several elements, such as HDR (High Dynamic Range), HFR and Resolutions. What are the direction and the state of the art from illustration of cases of O2Filmes producer.

# STATE OF THE ART OF THE EXHIBITION MARKET AND THE TECHNOLOGICAL FUTURE OF THEATERS

### Speaker: Luiz Gonzaga Assis De Luca - President of Cinépolis - Movie Theater Network

Reality of the Brazilian market in cinema technology. Reality of the technological possibilities of production and the technological park of the exhibition. The path of the new rooms



# Almir Almas, Professor Doutor, Universidade de São Paulo e Vice-diretor de Cinema da Diretoria da SET

Professor and researcher of the Department of Film, Radio and Television and the Program of Postgraduate Studies in Media and Audiovisual Processes; Coordinator of the Research Group LabArteMídia and Obted Observatory of ECA / University of São Paulo. PhD in Communication and Semiotics; Filmmaker / VJ; Artist of the Cobaia Art Collective. Deputy Director of Cinema of the Brazilian Society of Television Engineering. Author of "Televisão digital terrestre: sistemas, padrões e modelos

#### Claudio José Lima Peralta, Visual Effects Supervisor - Conspiração Filmes

With 20 years working with post production, Claudio Peralta signs as VFX Supervisor and Director at Conspiração Filmes, one of the main production houses on Brazil. Claudio is the director of animated series "Planeta Palavra". Recently he co-directed the Santos Dumont's film for the Rio2016Olimpic Games. Claudio is the VFX Supervisor of the latest 8 Motion Pictures produced by Conspiração Filmes. 4 of them were nominated for best Visual Effects on the brazilian motion pictures award (Grande Prêmio Nacional de Cinema Brasileiro), being the winner with "O Homem do Futuro" in 2012. At Conspiração, Claudio started as senior flame artist, and after 1 year took the position as VFX Supervisor on comercials for clients such as Coca-Cola, Honda, Mitsubishi, Pepsi, Visa. Some of those for international campains. On this roll, Claudio's participation extends to the entire process, starting on the budget planing, bringing his view on how to aproach the projects challenges concerning VFX, and finding solutions on how to adequate the films needs to it's budget and delivery schedule. Aligning that with his on set experience and artistics post production skills, Claudio brings efficiency and quality to his films

#### José Francisco Neto - DOT CINEMA



José Francisco Neto (Chiquinho) is a Founding Partner and Post-Production Supervisor at DOT CINEMA, a company he created in 2010 to work on the finalization of images for film and television productions. He is a member of SMPTE (Society of Motion Pictures and Television Engineers) and of ABC (Brazilian Cinematography Association) where he actively participates in lectures and workshops for the dissemination of cinematographic technology. With a professional career of 30 years, he researches and implements pioneering technologies and work systems in the Brazilian market such as digital color correction by area (1994), Live Streaming Media (1998), Stereo 3D and 4K (2010), and can accumulate knowledge and experience in the fields of image capture and

processing, post-production and exhibition. He participated in important and varied projects such as the professional update in non-linear edition of TV Globo SP and the creation of Recife Portomedia, an important pole of innovation in the world-renowned creative economy



#### Luis Ignacio Barrague - Post production supervisor - O2 Filmes

Graduated in Radio and TV at FAAP in 2001. During the following years he worked in several companies performing different functions as a freelancer, where he acquired an overview of the production process and post-production. In the year 2006 he dedicated himself to post-production of feature films with experience in the transition from workflow from negative to digital. Since 2014 he has worked in O2 films as Post Production Supervisor focused on the entry and exit of media, including departments of digital laboratory, backup, conform, VOD and mastering. Always concerned with the best workflow to optimize the work, reducing costs and meeting the specific needs of each project.



#### Luiz Gonzaga Assis De Luca - President of Cinépolis - Movie Theater Network

President of Cinepolis a network of movie theaters.One of the professionals who made the distributor Embrafilme the market leader for three consecutive years, in the late 1970s and early 1980s. In the following years, he turned to the exhibition sector, where held various positions at the Severiano Ribeiro Group until he became a superintendent, a position he held until August 2010. President of the Cinépolis network. One of the professionals who made the distributor Embrafilme the market leader for three consecutive years in the late 1970s and early 1980s. In the following years, he turned to the exhibition sector, performing various functions in the Group Severiano Ribeiro, until becoming superintendent director, a post he held until August 2010. He holds a degree in public administration from Fundação Getúlio Vargas de São Paulo and a doctorate in cinema from the School of Communications and Arts of the University of São Paulo. Launched the Digital Cinema books - A new cinema? (2004), The time of digital cinema (2009) and Digital cinema and 35mm - Techniques, equipment and installation of cinemas (2011), among others.

Cite this article:

Almas, A., Peralta, C. J. L., Francisco Neto, J., Barrague, L. I. and De Luca, L. G. A.; 2017. Ultra High Definition and Super Ultra High Definition in Audiovisual Productions. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.41. Web Link: http://dx.doi.org/10.18580/setep.2017.41

### 11h30 - 13h | Aug. 24, 2017 – Thursday | ROOM 16

# **INNOVATION AND DISRUPTIVE TECHNOLOGIES**

# **5G AND THE FUTURE OF MOBILITY**

# Chair: Paulo Ricardo Balduino - TV\Spectrum Planning Director - Brazilian Radio and TV Broadcasters Association - ABERT

What is 5G? ... 5G is the next generation of wireless networks that will provide higher speeds, more capacity and lower latency, will be able to carry billions of connected devices and things, will distribute intelligence! But what does all this mean for users: individuals, companies, governments, researchers, hospitals, public security, etc? What real benefits should be expected from 5G, and when will the different benefits be available in the market? This is the purpose of this panel: explain what is really 5G and IMT 2020 & Beyond, addressing mainly the technological, market \ economic aspects and the times of the projects.

- Speaker: Lisa Hobbs Commercial Portfolio Strategy Compression Solution Area Media - Ericsson
- Speaker: Francisco Giacomini Soares Senior Director of Regulatory Affairs
- Speaker: Emilio Loures Director Government and Public Policy Intel



# Moderador: Paulo Ricardo Balduino - TV \ Spectrum Planning Director - Brazilian Radio and TV Broadcasters Association - ABERT

Paulo Ricardo H. Balduino, born 1949, electronics engineer from the University of Brasília, married, with three children. Oversees the work of the Brazilian Association of Radio and Television Broadcasters – ABERT, focusing on the policy, planning and use of the electromagnetic spectrum. He worked at the Ministry of Communications as coordinator of international regulatory activities in different forums of the International Telecommunications Union – ITU and the Inter-American Telecommunication Commission – CITEL, having created, as far back as 1974 and 1975, the process for Brazil's participation in the work of the ITU and the CITEL, including Brazilian commissions of studies designated at the time as CBR.s and CBTT.s, nowadays restricted and renamed CBC.s. He has headed up Brazilian delegations at several meetings, assemblies and conferences of the ITU and the CITEL on a range of subjects, including planning for the use of the

spectrum for different services. When the 12-GHz Satellite Broadcasting Service was in the planning phase, he presided over a group of experts who came up with the planning algorithms and the procedures for updating the plan. He was a founding member of the "National Infrastructure Committee on Information of ANATEL (C.INI – ANATEL), where he was responsible for the Telemedicine Group, having carried out his activities to an advanced level of development. He has represented ANATEL on several forums and working environments on this issue. He was Director and Co-founding Partner of the company, Spectrum Latino America, a joint venture with European company, Spectrum Strategy Consultants

#### Lisa Hobbs - Commercial Portfolio Strategy - Compression Solution Area Media - Ericsson



Lisa Hobbs joined Ericsson in 1997 after spending nine years in the satellite communications and video compression divisions of Scientific-Atlanta (now Cisco.) As Vice President, Compression Commercial Portfolio Strategy for Ericsson, she shares global responsibility for defining the direction of the compression portfolio across all of the market segments in which Ericsson has a presence, with a focus on market direction and ROI.

#### Francisco Giacomini Soares - Senior Director of Regulatory Affairs





### **Emilio Loures - Director Government and Public Policy - Intel**

Emilio Loures is Director of Public Policy at Intel in Brazil. Previously led the Brazilian Corporate Affairs team, covering institutional programs in Education and related to the communities we work. In the company since 2001, the executive has worked on broadband and wireless broadband projects at Intel Capital and the Corporate Technology Group. Graduated in Economics from UNICAMP and with a degree in Business Administration from COPPEAD / UFRJ and Fundação Dom Cabral from Belo Horizonte, Emilio was a business planning and development manager at AG Telecom, managing director of Miner Technology Group and a consultant to Monitor / MGDK and Companhia Vale do Rio Doce.

Cite this article: Balduino, P. R., Hobbs, L., Soares, F. G. and Loures, E.; 2017. 5G and the Future of Mobility. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.42. Web Link: http://dx.doi.org/10.18580/setep.2017.42 11h30 - 13h | Aug. 24, 2017 - Thursday | ROOM 12

TECHNOLOGY FOR TV AND RADIO

# INVENTING THE FUTURE – RESEARCH & DEVELOPMENT – R&D

# Chair: CRISTIANO AKAMINE - Researcher and Professor - UNIVERSIDADE MACKENZIE/ SET

Let's travel back in time and see what will happen in the future? Futuristic technologies begin with research developed in the laboratories of universities and research centers. This panel presents the prominent studies conducted by various research institutions.

• THE TREND OF BROADCASTING TECHNOLOGY -AN INTRODUCTION OF NHK STRL OPEN HOUSE 2017 Speaker: Kenichi MURAYAMA Senior Research Engineer Advanced Transmission Systems Research Division Science & Technology Research Laboratories NHK

NHK STRL's annual event "Open House 2017" was held this May and attracted more than 20,000 visitors. This year, it exhibited 30 topics including AI and IoT as well as 8K technologies. Some technologies targeting for the 2020 Tokyo Olympic and Paralympic Games were also demonstrated. This presentation will explain some highlights demonstrated at Open House 2017 and overview the trend of broadcasting technology.

# NAB PILOT Speaker: Skip Pizzi - Vice President, Technology Education and Outreach (NAB)

The NAB's PILOT initiative is a coalition of innovators, educators and advocates dedicated to advancing broadcast technologies and cultivating new media opportunities via research, development, incubation, investment and education. A successor to the earlier "NAB Labs," PILOT was formed in early 2016, and it brings together the broadcaster members of NAB with a new class of other stakeholder members sharing broadcasters' passion and dedication to innovation. These PILOT members collaborate with broadcasters across the value chain to drive new opportunities in the industry.

# RESEARCH AND DEVELOPMENT OF THE LABORATORY OF VISUAL COMMUNICATIONS OF UNICAMP

### Speaker: Diego Arturo Pajuelo Castro - researcher - UNICAMP

In 1994, Prof. Yuzo Iano founded the LCV (Visual Communication Laboratory). Since then, the Iaboratory aims to provide academic research with solid results and solving very specific industrial technical problems. The LCV is a laboratory dedicated to developing state-of-the-art advances in technology through innovation and technological research for the benefit of humanity and the world's technical society. Nowadays, in the area of TV and Radio technologies the following research has being developed: Performance of broadcasting services, Data compression, Video encoding, Digital image processing, Facial recognition, Artificial intelligence and Energy efficiency.

# RESEARCH AND DEVELOPMENT OF THE MACKENZIE DIGITAL TV LAB

## Speaker: Julio Omi – Visiting Professor at the Digital TV Laboratory -Mackenzie Presbyterian University

The Digital TV Research Laboratory (LPTVD) of the School of Electrical Engineering of Mackenzie Presbyterian University conducts research and development dedicated to the broadcasting sector. LPTVD contributed to the development of several Brazilian Digital TV System Intellectual Properties and currently is carrying out academic research that may contribute to the definition of the next Brazilian digital TV system. This presentation mainly introduces the ISDB-T LDM, ATSC 3.0 modulator, laboratory/field tests, and technologies transferred to the productive sector.



### **CRISTIANO AKAMINE - Researcher and Professor - UNIVERSIDADE MACKENZIE/ SET**

He holds a degree in Electrical Engineering from Mackenzie Presbyterian University (1999), a master's degree and a Ph.D. in Electrical Engineering from the State University of Campinas (2004/2011). He is a researcher at Mackenzie's Digital TV Research Laboratory since 1998. He took an internship at NHK Laboratories for Research in Science and Technology (STRL) and was Visiting Specialist Professor at Unicamp's Faculty of Technology. Currently, he is a professor in Electrical Engineering and the Post-Graduate Program in Electrical and Computer Engineering (PPGEEC) of Mackenzie Presbyterian University and Coordinator of Mackenzie's Digital TV Research Laboratory. He has a scientific grant of Productivity and Technological Development and Innovative Extension - Level 2 from National Counsel of Technological and Scientific Development (CNPq). He is also a member of the Board of the Brazilian Digital Terrestrial Television (SBTVD) Forum. He has several patents and several articles published and has experience in the area of Electrical Engineering, with emphasis on digital TV, digital communication, channel coding, embedded systems, reconfigurable logic and software defined radio



### Kenichi MURAYAMA Senior Research Engineer Advanced Transmission Systems Research Division Science & Technology Research Laboratories NHK

Kenichi Murayama joined NHK (Japan Broadcasting Corporation) in 2002. From 2002 to 2008, he has worked at the NHK Engineering Administration Department / Transmission & Audience Reception Engineering Center. From 2008 to 2013, he has worked at the Advanced Transmission Systems Research Division in NHK Science and Technology Research Laboratories (STRL) and has been engaged in research and development related to next generation of digital terrestrial broadcasting.

#### Skip Pizzi - Vice President, Technology Education and Outreach (NAB)

Skip Pizzi is Vice President, Technology Education and Outreach, at the National Association of Broadcasters (NAB) in Washington, DC, USA. His career has spanned the broadcast and digital media industries, working in audio engineering at NPR, and in audio production, media standards and technical policy at Microsoft. He was also an editor at Broadcast Engineeringmagazine, and a columnist for several other international industry publications. He remains a technology journalist, editor, author and trainer today. His most recent book is A Broadcast Engineering Tutorial for Non-Engineers, 4th edition, published by Focal Press. He is currently Associate Editor on the NAB Engineering Handbook, 11th edition, which will be published later this year. Skip serves as Vice-Chair of the Advanced Television Standards Committee (ATSC) Technology Group 3 (TG3), which is developing the ATSC 3.0 standard. He is also a member of the Board of Directors of the Ultra HD Forum. Skip is a graduate of Georgetown University, where he studied Electrical Engineering, International Economics and Fine Arts..



#### Diego Arturo Pajuelo Castro - researcher - UNICAMP

Diego Arturo Pajuelo Castro is a doctoral student at the Department of Communications (DECOM) of the Faculty of Electrical Engineering and Computation (FEEC) of the State University of Campinas (Unicamp) and works as a researcher at the Visual Communications Laboratory (LCV). He worked for a number of years at one of Peru's leading Network Operations Centers (NOC), Telefonica, which provides digital television services to the Latin American Region. Currently, his research interests are in the area of new technologies for television and multimedia systems and as part of the master's dissertation he has presented a Video Encoding Proposal for High Dynamic Range (HDR) Television System



# Julio Omi – Visiting Professor at the Digital TV Laboratory - Mackenzie Presbyterian University

Graduated in electronic engineering from the Polytechnic School at USP, and has a Master's in Engineering from the University of Tokyo. He was Engineering Manager of the Radio Department at NEC do Brasil, and took part in the ITU-R, in the TG-8/1 and WP-8F Groups handling the IMT-2000 systems, and also at CITEL. He was a member of the Brazilian delegation to the Radio Communication Conferences in 1995, 1997 and 2000. Took part in work at the Digital TV Laboratory of Mackenzie University, on the SBTVD project. He is Visiting Professor at the Digital TV Laboratory of the Mackenzie Presbyterian University.

Akamine, C., Murayama, K., Pizzi, S., Castro, D. A. P. and Omi, J.; 2017. Inventing the Future – Research & Development – R&D. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.43. Web Link: http://dx.doi.org/10.18580/setep.2017.43

Cite this article:

### 11h30 - 13h | | Aug. 24, 2017 - Thursday | ROOM 11

CONTENT PRODUCTION

# THE AUDIO SCENARIO IN DRAMATURGY

### Chair: Rodrigo Meirelles - Sound Supervisor - TV Globo

When we think of content production for drama, our references are numerous, ranging from Brazilian television programs to series and films of the international film industry. Our viewer is no different. The references have changed, the platforms and types of audience sound experience as well as the expected standard of quality. However, many of the deadlines and features are kept in the broadcasting standard of recent decades. The panel aims to discuss, with Brazilian TV and Film professionals, the efforts to raise audio quality in this new context.

 CHALLENGES OF THE MIXING AND FINALIZATION FOR CINEMA AND TV
Speaker: Ricardo Cutz - Movie Mixer - 106 db
The current context of feature films and series.

# SOUND CAPTURE IN CINEMA AND TV

# Speaker: Geraldo Ribeiro - Técnico de Som Direto - Cinema (G3R) Direct Sound Technician

Developments and challenges in the pursuit of quality in a recording set.

• QUALITY, DEADLINES, PROCESSES AND TECHNIQUES Speaker: Paulo Ricardo Nunes - Produtor de Áudio - Globo

The "sound of cinema" and the exclusiveness of the context of television production



### Rodrigo Meirelles - Sound Supervisor - TV Globo

Rodrigo Meirelles is Executive Supervisor of Audio of Globo. He holds a degree in Electronic Engineering and Computing, Recording and Phonographic Production and has a Masters in Education and Media. For 16 years in the audio market, he began his career as an engineer in music production studios in Rio de Janeiro, in maintenance, installation and projects of audio recording studios, he was an instructor and founder of the ProClass training center, a pioneer in official certifications In Pro Tools and Avid in Brazil, and in TV Globo, was responsible for the area

of post-production from 2009 to 2014. Today he is responsible for the Entertainment Audio Production area (Estúdios Globo). He was a university professor for 8 years teaching courses in Phonographic Production, Audiovisual Production, Radio and TV and Graduation in Cinema.

### Ricardo Cutz - Movie Mixer - 106 db



Ricardo Cutz is a founding partner of 106 db. Among the recent titles edited and mixed by the 106 db we have: Aquarius, by Kleber Mendonça Filho, Até que a sorte nos separe 3, by Roberto Santutti and Marcelo Antunes, and Operações especiais, by Tomás Portela. In 3 years of activities, they brought to the air more than 300 episodes of renowned series such as Magnifica 70, Vai Que Cola, The Canalhas, Tempero de família, A segunda vêz, Super Bonita and Questão de família.

### Geraldo Ribeiro - Técnico de Som Direto - Cinema (G3R) Direct Sound Technician



Paulo Ricardo Nunes - Produtor de Áudio - Globo

Cite this article: Meirelles, R., Cutz, R., Ribeiro, G., e Nunes, P. R.; 2017. The Audio Scenario in Dramaturgy. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.44. Web Link: http://dx.doi.org/10.18580/setep.2017.44 14h - 15h30 | Aug. 24, 2017 – *Thursday* | ROOM 13

INNOVATION AND DISRUPTIVE TECHNOLOGIES

# INNOVATIONS AND NEWS OF CONSUMER ELECTRONIC PRODUCTS

Chair: José Francisco Alvarenga - Assessor - ELETROS / Segmento de Áudio e Vídeo

### Co-chair: Alberto Deodato Seda Paduan - Consultant / SET

- Presentation ELETROS and its associated companies -Evolution of the TV market since 2010
- Comparative of the semester sales volumes of SMART TVs and 4K TVs
- Accumulated sales of thin-screen TVs
- General information: analog signal shutdown, CRT TV estimate, extended band for FM radio.
- U.S. TELEVISION AND SMALL DEVICE SALES AND TRENDS Speaker: Mike Bergman - Senior Director, Technology and Standards | Consumer Technology Association

The Consumer Technology Association surveys its members for sales, sales trends and forecasts for the future. CTA also surveys U.S. consumers. This presentation will be a short overview of U.S. television and small device ownership, plus trends for features like screens size, UHD and HDR capability.

# • DISPLAY TECHNOLOGY FOR TV SETS Speaker: Igor Krauniski - Product Manager / TV - LG Electronics in Brazil



### José Francisco Alvarenga - Assessor - ELETROS / Segmento de Áudio e Vídeo

Business administrator, he retired in 2010 from Philips do Brasil Ltda., where he was the Manager of both Trade Finance and Overseas Relations, responsible for representing the company at government level and in international negotiations with the countries of the Mercosur, the Andean Community and other ALADI countries. He is currently an advisor to ELETROS – the National Association of Electrical and Electronic Products Manufacturers, for the audio and video segment. He sits on the fiscal council of the FSBTVD and PSS - Seguridade Social..



#### Alberto Deodato Seda Paduan - Consultant / SET

I studied Technician in Electronics in Santa Rita do Sapucaí, Operational Engineering, Business Administration and Post graduate in Economic Engineering in São Paulo. I have always worked as a radio and TV professional in the area of technical systems projects and, for the last 45 years, as an employee of TV Cultura de São Paulo. Currently I work in my company, providing consulting services, designing projects and monitoring facilities and assemblies in the same area of Radio and TV. I have been accompanying and writing information on the researches related to the television system in UHDTV since 2005. I participate in SET since 1992 where I wrote several articles for the magazine and where I acted as technical reviewer.



# Mike Bergman - Senior Director, Technology and Standards | Consumer Technology Association

Mike has been in the electronics industry for more than 30 years, starting as a chip designer and progressing to embedded systems, wireless communications and wireless digital multimedia. Prior to CTA, he held senior positions at JVC-Kenwood, Sirius Satellite Radio, and several other well-known tech companies in the computer and communications industries. He has two patents in semiconductor design, and has contributed to a number of standards including ATSC, DVB, NRSC and USB.



#### Igor Krauniski - Product Manager / TV - LG Electronics in Brazil

Graduated in Advertising and Propaganda from FAAP, with specialization in Business and Projects Management by FIA, he has 13 years of experience in the electronics segment and acts as product manager of the category TV at LG Electronics do Brasil, where he has dedicated special attention to the development of OLED technology in the Brazilian market in recent years.

Cite this article: Paduan, A. S., Alvarenga, J. F., Bergman, M. and Krauniski, I.; 2017. Innovations and News of Consumer Electronic Products. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.45. Web Link: http://dx.doi.org/10.18580/setep.2017.45

### 14h - 15h30 | Aug. 24, 2017 - Thursday | ROOM 16

ACADEMIC

# THE COMMUNICATION OUTLOOK FOR THE FUTURE OF BROADCASTING AND NEW MEDIA

## Chair: Prof. Doutor Fernando Carlos Moura - Editor-in-chief of SET Magazine

In this session, Brazilian Communication scholars will have the opportunity to analyze the changes in the audiovisual production chain, with an emphasis on content distribution and how the behavior of the audience is changing in the face of new consumption demands, both in audiovisual and radio. Will be analyzed the new platforms of audiovisual distribution by streaming, whether VoD or OTT, and the new tools of content delivery. This is a unique opportunity to exchange experiences with those who provide the support and tools for producing and distributing content.

# • THE POSSIBILITIES OF MULTIPLATFORM RADIO CONTENT

# Speaker: Prof. Me. Alvaro Bufarah - Coordinator of the Post-Graduate Course in Executive Production and TV Management at FAAP.

The purpose of the exhibition is to present the various aspects of the impact of new technologies on Brazilian radio stations, analyzing the various forms of access to radio content on digital platforms, as well as differences among consumers.

# TV UNESP AS SPACE OF CREATION AND LABORATORY FOR INNOVATIONS IN TELEVISION TECHNOLOGY Speaker: Prof. Dr. Francisco Machado Filho - Professor of Journalism / UNESP Bauru

With five years on the air Unesp TV has been consolidating itself as a space for testing formats of programs and technological innovations that are impacting Brazilian broadcasting and imposing important challenges for private or educational broadcasters. In this session we will present the ways the radio station has come to face this moment of technological convergence and reaffirm the SET /TV Unesp partnership for the coming years.

## CHANGE IN AUDIOVISUAL CONSUMPTION

## Speaker: Prof. Me. Renato Tavares Junior - professor - Anhembi Morumbi / Cásper Líbero

Discussion on the study of the strategies of self-promotion and placement of contents and formats produced by TV stations in a multi-platform environment and digital convergence.

# TELEVISION PROGRAMMING DELIVERY (OTT) AND LINEAR TV Speaker: Prof Dr. Willians Cerrozi Balan - Professor of the Unesp Radio and TV Course

Digital platforms have changed the behavior of the viewer in relation to the ways of watching TV. How will (linear) TV broadcasters react to keep the audience?



### Prof. Doutor Fernando Carlos Moura - Editor-in-chief of SET Magazine

Dr. Fernando Carlos Moura is a Professor and Researcher at CIC.Digital Pólo FCSH/NOVA, New University of Lisbon (UNL) and, since 2013, senior editor of the SET magazine.



# Prof. Me. Alvaro Bufarah - Coordinator of the Post-Graduate Course in Executive Production and TV Management at FAAP.

Journalist specializing in international politics and business administration. Master's degree in communication and markets, reading for a doctorate in Fine Arts. Professor on radio, TV and journalism courses and coordinator of the graduate course in Executive Production and TV Management at FAAP. A professional with over 25 years of experience in the communication and broadcasting market, having worked for broadcasters like CBN and Rádio Globo (Globo Radio System), Sulamérica Transito (a traffic monitoring station of the Bandeirantes Group), Rádio Capital (AM/SP) and EBC (Radiobrás). He has also worked as a correspondent for Portuguese language services at Voice of America, DW, and SwissInfo.



### Francisco Machado Filho - Professor of Journalism / UNESP Bauru

15 years' experience in producing and directing TV programs. Holds a Doctorate in Digital TV from UMESP-SP. Specialist in Communication Advisory Management. University professor on social communication courses.



### Prof. Me. Renato Tavares Junior - professor - Anhembi Morumbi / Cásper Líbero

Coordinator and professor of the course of Radio, TV and Internet of the University Anhembi Morumbi. Professor of Journalism, Advertising and Radio, TV and Internet courses at Cásper Líbero College. Idealizer and professor of the Postgraduate course in Strategies of TV Programming of the University Anhembi Morumbi. Bachelor in Radio and Television and Master in Communication Sciences from ECA-USP. PhD in Audiovisual Communication from Anhembi Morumbi University.

#### Prof Dr. Willians Cerrozi Balan - Professor of the Unesp Radio and TV Course



Graduated in Music from USC, a Master's in Visual Poetics from Unesp, and a Doctorate in Digital TV from the Methodist University of São Paulo. Professor on the Radio and TV course at Unesp in the subjects of Radio and TV Management, Photography Direction, TV Program Direction and Organization of Production among others. He worked at TV Globo in the Production, Engineering and Journalism areas, and at TBR Produções in advertisement production, videos and Distance Learning. He has experience in live transmissions via satellite and the internet. Internationally, he was involved in transmitting the FIFA World Cup, the Olympic and the Pan American Games, among others.

Cite this article: Moura, F., Bufarah, A., Machado Filho, F., Tavares Junior, R. and Balan, W. C.; 2017. The Communication Outlook for the Future of Broadcasting and New Media. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.46. Web Link: http://dx.doi.org/10.18580/setep.2017.46 14h - 15h30 | Aug. 24, 2017 - Thursday | ROOM 12

TECHNOLOGY FOR TV AND RADIO

# YOUR STATION PERFORMANCE: INFRASTRUCTURE SHARING & ENERGY EFFICIENCY & COVERAGE

# Chair: Valderez De Almeida Donzelli- Director – ADTHEC Engenharia e Sistemas / SET

How to optimize investments, reduce costs with existing infrastructures, often shared and achieve good station performance. The infrastructure conditions of installation for the shelter of the equipment its power, air conditioning, transmission lines and connections, radiating system and tower, influence the coverage of your station? Does the passive intermodulation caused by the installation (rust on the tower, connectors, disconnected antennas, etc.) interfere with the coverage? Energy efficiency in the performance of X equipment shelter sharing. What are the challenges for the internalization of digital TV, using shared infrastructure? Can City Hall Infrastructures be appropriate to receive the Digital TV system? What are the biggest challenges? When the analog TV is turned off, will the new Digital TV station be ready to serve the desired coverage area? The experience of broadcasters and service providers and equipment.

# • FEASIBILITY OF DESIGNING A PIM RATED BROADCAST SYSTEM Speaker: José Roberto Elias - Commercial Manager - Dielectric e IFTelecom

Passive Intermodulation (PIM) aspects will be discussed. What it is, causes, countermeasures and case studies. Its effects on antennas, towers, cables and accessories, as well as measurements will be approached in detail.

# • OPEX AND SHARING: THE OPTIMIZATION OF INVESTMENTS AS AN ALTERNATIVE TO INCREASE THE COVERAGE OF DIGITAL TV Speaker: Sérgio Luís Nogueira Martines - Executive Director - SM Facilities

He will present the experience of SM Facilities in installing repeaters, where the focus is on optimization and cost reduction, with actual cases of the options being considered or proposed using a range of structure and sharing models. The talk will also deal with the different business models that can be used for expanding Digital TV coverage. Lastly, the discussion will cover the advantages of CAPEX and OPEX within the current scenario.

# • OPTIMIZATION OF THE TRANSMISSION SYSTEM THROUGH ANALYSIS OF INSTALLATION, INFRASTRUCTURE AND DIGITAL SIGNAL COVERAGE

### Speaker: Ramiro Frugoli Franco - Project and Development Engineer - Ideal Indústria e Comércio de Antenas LTDA

Important considerations to be analyzed to minimize destructive interference of the quality of the digital signal transmitted. Antenna installation site, what is the best option? As the support structure (tower and bracket) and the shape of the antenna installation can impair the quality of the transmitted signal; Sharing possibilities (tower x antenna) is it worth?

# RELOCATION OF CHANNELS, EXECUTION PROCESS ,SUCCESS STORIES

### Speaker: Andre Vinicius de Andrade Araujo - Project Manager - Seja Digital

Exposition of the processes involved in the execution of channel remanagement and reporting of field experiences.

# • SFN & GAP FILLER: CONCEPTS, PRACTICAL APPLICATIONS AND THE IMPORTANCE OF CARE WITH PLANNING AND INFRASTRUCTURE

# Speaker: Glenn Zolotar - Systems Engineering Manager - Hitachi Kokusai Linear

Over the past few years we have seen the use of SFN increase considerably in Brazil, but there are still many questions about the topic. This lecture simply and directly addresses the basic requirements of this type of network, and also shows that as important as understanding what SFN is, are the necessary care with network planning and the necessary infrastructure so that the good results of the implementations are obtained.



Valderez De Almeida Donzelli- Director – ADTHEC Engenharia e Sistemas / SET Holds a degree from the industrial school of engineering (FEI) in electronic engineering, power engineering and production. She obtained a Master's in electrical engineering, defending the dissertation "Polarização Elíptica: Influência no desempenho de cobertura da TV Digital" (free translation, Elliptical Polarization: Its influence on the coverage performance of Digital TV", and is reading for her doctorate with the survey "TV Digital: Disponibilidade de Sinal" (free translation, Digital TV: Signal Coverage), both from the Mackenzie University. She also holds a specialization in IT from FESP, ICT management from the FGV and Advanced Digital TV Systems, from INATEL. Technical Director of ADTHEC (www.adthec.com.br), a company offering consultancy, planning, design, research and analysis of risks and solutions for public and private sector radio, television and telecommunications stations, with the emphasis on the design and installation of digital and FM transmission systems. She actively participates in a range of Brazilian and international working groups under the coordination of Anatel, the Ministry of Communications, Universities, Associations and Research Centers. She began her professional activities in bio-engineering at the Heart Institute of the Clinics Hospital, lectured at the FAAP and worked for over years in several departments of the Padre Anchieta Foundation (Cultura TV and Radio, in São Paulo). In charge of the technical projects division, she coordinated the design and planning of the TV and radio network, testing and implementing new technologies, while managing the relations with prefectures, broadcasters, the Ministry of Communications and Anatel. She has headed up studies, tests and measurements involving the systems for implementing digital TV in Brazil, as well as the group that reviewed the regulations for sound and picture broadcasting services. She is currently deputy director for education and member of the editorial committee of SET, where she has also held the position of relationship and editorial director.



#### José Roberto Elias - Commercial Manager - Dielectric e IFTelecom

With a degree in Electronic Engineering from UNICAMP in 83, and an MBA from the FGV in 2005, he has vast experience in Brazilian and multinational companies in the fields of Telecommunications and Broadcast. He currently holds the position of Sales Manager at IF Telecom, and is also a Professor at the Fluminense Federal University on the MBA course in Irradiant Systems and Digital Encoding

#### Sérgio Luís Nogueira Martines - Executive Director - SM Facilities

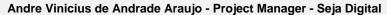


Executive Director of SM Facilities, a company specializing in broadcasting engineering services. Holds a Civil Engineering degree from UFPR and has an Electronics Technician qualification from CEFET-PR, a specialization course in Works Management from CEFET-PR and an MBA in Project Management from the FGV. He has been in the field of television for 26 years, especially in transmission and reception systems, setting up TV generators and repeaters, and project management for major live events. He is a consultant in project management, with experience in the fields of IT, Energy, Finance and the Environment, among others.



# Ramiro Frugoli Franco - Project and Development Engineer - Ideal Indústria e Comércio de Antenas LTDA

Graduated from Pontifical Catholic University - PUC MINAS and MBA in executive management of business by PUC-Minas, since 2006, he has participated in dedicated studies focused on the Brazilian Digital broadcasting system, together with a team of Technicians and Engineers, who developed the first radiating circular / elliptical polarization system in Latin America. He currently works as an engineer for the development of special and customized radiant systems for applications to the digital terrestrial transmission system.





Telecommunications Engineer graduated from UNESA in 2006, with an MBA in Project Management by FGV in 2014, working in Television Engineering since 1996 in the areas of Operation, Maintenance and Transmission Systems Projects for pay-TV and open TV companies. Currently holds the position of Deployment Manager in the channel relocation of Seja Digital.



### Glenn Zolotar - Systems Engineering Manager - Hitachi Kokusai Linear

Technician in Electronics by the Technical School of Electronics "Francisco Moreira da Costa". Graduated from the University of North Texas with an MBA in Strategic Management. Responsible for technical training in digital TV transmission of Hitachi Kokusai Linear.

Cite this article:

Donzelli, V., Elias, J. R., Martines, S. L. N., Franco, R. F., Araujo, A. V. de A. and Zolotar, G.; 2017. Your Station Performance: Infrastructure Sharing & Energy Efficiency & Coverage. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/ setep.2017.47. Web Link: http://dx.doi.org/10.18580/setep.2017.47

## 14h - 15h30 | | Aug. 24, 2017 - Thursday | ROOM 11

# TECHNOLOGY FOR TV AND RADIO

# **AUDIO 3D AND IMMERSIVE**

### Chair: Nelson Faria Junior - Managing Partner of Media Intelligence Group

Immersive audio, already a reality in theaters, presents itself to broadcasting as a way to make possible a significant evolution in the sound experience. Technologies like Dolby Atmos Home and MPEG-H 3D Audio present themselves as solutions for multiple platforms and are already being adopted by the world. In terms of tools, Avid has released in the last few months an important update on the Pro Tools platform, with native integration for mixing in Dolby Atmos. In this context, the panel aims to go beyond the theory, discussing the experiences already made with the format and presenting the immersive audio as something feasible both in the sense of content production, as well as at the tip, in the experience of the viewer. Aware of the limitations imposed by 5.1, which made the format unfeasible for the vast majority of Brazilians, audio professionals will present in the panel, besides the feasibility and technological execution, the creative opportunities that immersion gives to all involved in the creation of audiovisual content.

• IMMERSIVE AUDIO EXPERIMENTS WITH BRAZILIAN CONTENT. Speaker: Rodrigo Meirelles - Globo TV's Sound Executive Supervisor. Head of the Audio Producer's team

What content producers and viewers gain from immersive audio - From the experiences with Globo content, we find the opportunity for a sound evolution that has not reached a significant number of viewers since the launch of the TV stereo.

# • DOLBY ATMOS FOR THE HOME

# Speaker: Rafael de Castro - Regional Director, Latin America Dolby Laboratories

Technology that takes the audio experience of movie theaters to homes to create a powerful audio, which moves around the viewer.

IMMERSIVE AUDIO PRODUCTION WORKFLOW
Speaker: Eduardo Andrade - Avid Pro Audio Solution Specialist Brazil Brazil

The alliance between Avid and Dolby to deliver more integrated workflow between the technologies of these companies to work on Atmos. Let's look at the concept of Atmos, and the different models to

work in this format. A closer look at RMU and how to integrate it to have a fluid workflow. We will know the tools of Avid and Pro Tools ecosystem to create content for Atmos and how to structure a session for this format.

# • MPEG-H AN EXCELLENT SOLUTION AS AN INTERACTIVITY TOOL, OPENING NEW CREATIVE POSSIBILITIES Speaker: Dr. Alfonso Carrera - Director of Marketing and Business

### **Development, Fraunhofer IIS**

For VR to be a success, the user must feel that he is an active part of the entertainment experience rather than just a passive viewer. Of course, perfect images are part of the equation for a compelling VR experience. But another central ingredient is an authentic sound that is done by surround, and even more, for three-dimensional audio (3D). It is the goal of audio and media technologies to create a truly realistic audio presence in virtual reality. The audio solutions developed by the division's engineers and researchers provide support at every point in the production chain. Be it at the beginning, where an intelligent microphone processing algorithm helps you capture 3D sound or, in the end, when consumers enjoy their virtual world with Fraunhofer Cingo that enables surround and 3D sound reproduction on headphones.



### Nelson Faria Junior - Managing Partner of Media Intelligence Group

An electronics engineer with an MBA in Finance and Marketing, he worked for 37 years at TV Globo in the Engineering Operations Department. He was also Advisor on Innovation and Technology at TV Globo. He is currently Deputy International Director of the Brazilian Society of Television Engineering, and Technology and Innovation Consultant at Consultoria Inovtec and Chief Executive Officer of Petchannel Comunicação SA.



# Rodrigo Meirelles - Globo TV's Sound Executive Supervisor. Head of the Audio Producer's team

Rodrigo Meirelles is Executive Supervisor of Audio of Globo. He holds a degree in Electronic Engineering and Computing, Recording and Phonographic Production and has a Masters in Education and Media. For 16 years in the audio market, he began his career as an engineer in music production studios in Rio de Janeiro, in maintenance, installation and projects of audio recording studios, he was an instructor and founder of the ProClass training center, a pioneer in official certifications In Pro Tools and Avid in Brazil, and in TV Globo, was responsible for the area of post-production from 2009 to 2014. Today he is responsible for the Entertainment Audio Production area (Estúdios Globo). He was a university professor for 8 years teaching courses in Phonographic Production, Audiovisual Production, Radio and TV and Graduation in Cinema

### Rafael de Castro - Regional Director, Latin America Dolby Laboratories





Eduardo Andrade - Avid Pro Audio Solution Specialist Brazil



### **Dr. Alfonso Carrera - Diretor de Marketing e Business Development, Fraunhofer IIS** Alfonso Carrera obtained his Ph.D. at the University of Erlangen-Nuremberg (Germany) and his executive MBA at Instituto de Empresa (Madrid). He works as director of business development for Fraunhofer IIS - Audio & Multimedia.

Cite this article: Faria, N., Meirelles, R., de Castro, R., Andrade, E. and Carrera, A.; 2017. Audio 3D and Immersive. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.48. Web Link: http://dx.doi.org/10.18580/setep.2017.48

### 16h - 17h30 | Aug. 24, 2017 - Thursday | ROOM 13

# **TECHNOLOGY AND BUSINESS**

# ULTRA HD – PRODUCTION AND CONSUMER MARKET IMPACTS

# Chair: Leonardo dos Anjos Chaves, Gerente de Projetos em Novas Tecnologias de

# Transmissão, TV Globo

The panel will address the aspects of UHD content offering and its impact on the business model of digital platforms and consumer market. Join and deepen the questions:

- How do distribution technologies enable delivery of UHD content across multiplatform networks?
- What is the standardization status of UHD (HDR / WCG / HFR / Immersive Audio) technologies?

- What are the UHD technologies that increases the engagement of media consumption?

# • WHO HAS UHD TV?

### Speaker: Giselle de Liz - PoS Tracking Manager - GfK

This presentation will bring the UHD screens penetration figures in the Brazilian market and projections of the domestic market.

# • THE CHALLENGES OF UHD DISTRIBUTION

## Speaker: Gustavo Marra - Vice President Solutions and Bus Dev - ATEME

This speech will present an overview of the standardization of existing UHD technologies (HDR, WCG, HFR, Immersive Audio ...) and examples of UHD profiles on different digital platforms or broadcasting (8K satellite case in Japan, 4k in ATSC 3.0 South Korea). It will also address impacts on HDR and HFR rates.

# • UHD - SUBJECTIVE IMPACTS ON THE VIEWER Speaker: Carlos Watanabe - Director for Emerging Markets at Dolby Laboratories

This presentation will bring some studies of subjective impacts on the viewer / consumer of UHD technologies. Level of engagement, enhancements and points of attention for those who are exploring the production and distribution of these technologies both in the domestic environment (broadcasting) as cinema.

# • UHD – IMPACTS ON THE BUSINESS MODEL

## Speaker: André Felipe - Content Manager at Digital Platforms - Globosat

In this presentation we will analyze the impacts that the UHD content offer brings to the business models in the OTT environment and in other digital platforms. Goblosat's experience in UHD productions and future predictions (action in the 2018 World Cup).



### Leonardo dos Anjos Chaves, Gerente de Projetos em Novas Tecnologias de Transmissão, TV Globo

Currently, I am the Transmission Technologies Manager at TV Globo and coordinator of Technical Module in Forum SBTVD. I had the BSc in Electronic and Computing Engineering at Federal University of Rio de Janeiro (UFRJ), and MSc. of Electrical Engineering at the same university. I've got the MBA Management in Catholic University in Rio de Janeiro (PUC-Rio).



#### Giselle de Liz - PoS Tracking Manager - GfK

For more than 2 years she has been working at GfK as a PoS Tracking (monitoring of durable goods sales in the retail) in brown segment, which includes Televisions, Portable Audio and Automotive Sound. Graduated in Business Administration, Post-Graduate in Market Intelligence by FIA and currently pursuing an MBA in Marketing Management from ESPM. Experience of 08 years in the durable goods industry in areas of Market Intelligence, Competitive Intelligence, and Consumer Insights in companies such as Motorola (Telecom), Samsung (TI) and Groupe SEB (ElectronicsLaptops)



### Gustavo Marra - Vice President Solutions and Bus Dev - ATEME

Graduated in Telecommunication Engineering, Post-graduated on IP Video Networks and with a MBA on Project Management, Gustavo has been working for 15 years in the media industry, currently at the position of VP of Solutions and Business Development at ATEME, being responsible for all aspects of solution Evangelism, system architecture and design, and promoting video delivery solutions to service providers and broadcasters.



**Carlos Watanabe - Director for Emerging Markets at Dolby Laboratories** Carlos Watanabe is Director for Emerging Markets at Dolby Laboratories, the global leader in audiovisual entertainment technologies. For more than 50 years, Dolby has created audio, video and voice technologies that transform entertainment and communications on mobile devices, movies, the home and work.Carlos is an Electrical Engineer graduated from the State University of Campinas (UNICAMP), with an MBA from the Ross School of Business at the University of Michigan. He has more than 20 years of experience in technology, media and entertainment companies, and senior management consulting.



### André Felipe - Content Manager at Digital Platforms - Globosat

André has been with Globosat for 22 years, and has worked in various areas of the company. In his current role, André and his team lead the acquisition, programming and distribution of the company's VOD and TV Everywhere content. André is 45 years old, is a computer engineer and has an MBA from lbmec.

Cite this article:

Chaves, L., de Liz, G., Marra, G., Watanabe, C. and Felipe, A.; 2017. Ultra HD – Production and Consumer Market impacts. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.49. Web Link: http://dx.doi.org/10.18580/setep.2017.49

16h - 17h30 | Aug. 24, 2017 - Thursday | ROOM 16

### CONTENT PRODUCTION

# NEW TECHNOLOGIES: SENSOR AND LENS UHD-8K FULL FRAME 24X36MM WITH AGNOSTIC ASPECT RATIO

### Chair: Celso Araujo, Diretor de Cinema SET, Diretor LINK Multisserviços Eletroeletrônicos

A slow and silent trend has been observed with the launch since 2014 of Lenses for the size of the image area with Aspect Ratio FULL FRAME (36x24mm), although there is still no camera with such specification, just a few of photography. A wide variety of Full Frame film lenses are available today as ZEISS, FUJINON, SCHNEIDER, SIGMA, LEICA, CANON, SONY, IB / E, SAMYANG, TOKINA and others. The optical industry for the first time anticipated that of cameras. The FULL FRAME format offers greater and better cosmetic and depth-of-field benefits, as well as a magnification of about 1.5 times compared to traditional S35mm film capture. This larger sensor size is actually more advantageous since pixels with larger dimensions admit a higher amount in the light capture and thus resulting in greater sensitivity. The Panel will introduce the new technologies of these newly launched Lenses and discuss the trends of sensors and film cameras, including the industry's latest announcement regarding Full Frame Cinema Camera.

### MARKET TRENDS

### Speaker: Mario Jannini - Technical Director - ARRI Brasil

To keep the image quality, it means, to keep or improve the High Dynamic Range (HDR), texture, skin tones, low noise, the sensor must increase its size compared to the Super 35, and it can be Full Frame or even bigger, as the new ARRI PL-X Mount from ALEXA 65.

- 8K OPTICAL DEVELOPMENT, MAIN CHALLENGES AND APPROACH TO A NEW LEVEL OF REQUIREMENTS Speaker: Gordon Tubbs - Vice President at FUJIFILM North America Corporation, Optical Device Division
- ACQUISITION TECHNOLOGIES: SENSORS FOR BEYOND DEFINITION APPLICATIONS

# Speaker: ERICK SOARES Marketing | Professional Solutions Brazil | Sony Brasil Ltda.

An overview for sensors technology evolution and development including possible applications, covering different technologies such as 1/3" up to Super 35mm. Due to increasing demand for Beyond Definition applications, including 4K, 8K, HFR and HDR, new technologies are being developed for some specific new applications or in order to improve performance, where some examples will be covered, including Full Frame sensors and its benefits.

### • LENS TECHNOLOGY IN A FULL FRAME PLUS WORLD Speaker: ERIC J JOHNSTON - ZGC / COOKE OPTICS

### • THE BENEFITS AND CHALLENGES IN PRODUCTIONS WITH NEW TECHNOLOGIES AND STANDARDS - 4K, 8K, HDR, HFR, FULL-FRAME

# Speaker: Cristiano Barbieri - Head of Sales - ITCG - Imaging Technologies & Communications - CANON Group of Brasil

We will present the evolution and embedded technologies in Lenses and Cameras to meet the new demands for higher resolutions (4K & 8K), and the technical / operational benefits of new technologies that goes beyond resolution to produce even more compelling contents, from the aquisition to monitoring, such as High Dinamic Range, Color Volume e High Frame Rate.

# • ZEISS LENS SOLUTIONS FOR 8K AND BEYOND - READY FOR THE FUTURE

### Speaker: Snehal Patel - ZEISS Cine Sales Manager for the Americas

ZEISS has been providing the cinema communities around the world with cinema lenses for over 80 years. R&D is very important for our company culture and ZEISS is always developing forwardthinking technologies to aid customers in their creative process. In fact, ZEISS already has Full Frame lens solution in the form of Cine Primes and Cine Zooms. During this workshop, Snehal Patel, Cine Sales Manager for the Americas, will discuss how the Compact Prime and Cinema Zoom lenses from ZEISS are used every day with large sensor cameras like the RED Weapon VV, Panavision DXL, ARRI Alexa 65 and other cameras.



#### Celso Araujo, Diretor de Cinema SET, Diretor LINK Multisserviços Eletroeletrônicos

He joined TV Globo in 1973, where he worked for 40 years at the Central Globo de Engenharia, in Rio de Janeiro. He spent more than 12 years in maintenance, during which he had the opportunity for development in various sectors of the television maintenance, such as cameras, lenses, video, audio, switchers, routers, and even the management of systems and crews for production operations in sporting events, shows, World Cup and Olympics. Since 2013 acting as Entrepreneur, Business Consultant in the area of TV Technology and providing Seminars and Workshops with SET at its regional events, to the IAV (Audiovisual and Video Institute of São Paulo).



#### Mario Jannini - Technical Director - ARRI Brasil

Graduated in electrical engineering, he has been working in the video and digital cinema market for more than 22 years, mainly in the area of image capture. After 4 and a half years at ARRI Inc. (USA), took the recent ARRI affiliate in Brazil as technical director of services and supports in sales and maintenance of lighting, cameras, lenses and accessories from ARRI cameras.



## Gordon Tubbs - Vice President at FUJIFILM North America Corporation, Optical Device Division

Mr. Tubbs is the Vice President for Broadcast and Cinema Lens Products within the Optical Devices Division of Fujifilm North America Corporation, based in Valhalla, New York USA. Fujifilm North America Corporation is responsible for the Sales and Support of all Fujinon branded lenses and accessories in North, Central and South America. He joined Fujinon / Fujifilm in 2010 as Director of Sales, previously he had spent the majority of his thirty six year career with the broadcast division of Canon USA Inc. as well as with Ikegami and Angenieux in the United States. With the recent introduction of Fujinon's Ultra HD 2/3" 4K lenses as well a complete line of 4K Digital Cinematography lenses, these new optical, mechanical and digital products have opened up a third major technological era for him after having already worked in Standard Definition and High Definition television throughout his career. In addition, he has been involved in the preparation for and onsite support of many major television events requiring the latest optical technologies such as the Olympics, Super Bowl, World Series, US Open Tennis and other major broadcasts.



#### Erick Soares - Marketing | Professional Solutions Brazil | Sony Brasil Ltda.

Sales Support Specialist, acting for more than 15 years for Sony as specialist and evangelist for new technologies, workflows and products for the Broadcast market. Graduated by F.E.I. (Industrial Engineering University Center – S.B.C /SP) and Post-Graduated by F.I.A. Business School (USP), supported new products development and provided market feedback, coordinated strategic projects implementation, acting as interface between local Brazilian customers and engineering team from Japan, as well as attended key local and international events.



#### Eric J Johnston - ZGC / COOKE OPTICS

With 20 years' experience representing the biggest names in professional cinema equipment, Eric will now be concentrating on sales for the Americas region. He joins ZGC after seven years with the Vitec Group, originally as Product Specialist for the OConnor accessories brand and subsequently as Strategic Account Manager for Digital Cinema and Rental Houses across seven Vitec Videocom brands He is a sales professional who is intensely customer focused and brings with him a passion for the motion picture industry and its art. Eric animated his 1st short film at the age of eight and is an Associate Member of the American Society of Cinematographers.



## Cristiano Barbieri - Head of Sales - ITCG - Imaging Technologies & Communications - Grupo CANON do Brasil

Cristiano is graduated in Engineering of Telecomunications by FEI (Faculdade de Engenharia Industrial), with MBA in Project Management by FGV. With more than 15 years of experience in the Broadcast & Media market he worked at Harris Broadcast and Grass Valley as Sales Manager, and currently is Head of Sales at Canon do Brasil developing business in the Broadcast, Cinema and Professional Video segments.



#### Snehal Patel - ZEISS Cine Sales Manager for the Americas

Cite this article:

Araújo, C., Jannini, M., Tubbs, G., Soares, E., Johnston, E. J., Barbieri, C. and Patel, S.; 2017. New technologies: Sensor and Lens UHD-8K Full Frame 24x36mm with Agnostic Aspect Ratio. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.50. Web Link: http://dx.doi.org/10.18580/setep.2017.50

### 16h - 17h30 | Aug. 24, 2017 - Thursday | ROOM 12

ACADEMIC

## SCIENTIFIC ACADEMIC PANEL – AFTERNOON EDITION

### Chair: Luana Carolina Bravo - Educational committee - SET

This panel will present in this afternoon edition another set of scientific papers that have been submitted to the Call for Papers promoted annually by SET. The selected works will be published in the SET International Journal of Broadcast Engineering (SET IJBE) an international scientific journal whose objective is the diffusion of knowledge on communications engineering, especially of the broadcast areas and new media. The SET IJBE search current research that comprise the state of the art of these technologies.

### NOVEL UWB ANTENNA FOR BROADCASTING TELEVISION SYSTEM

### Speaker: Euclides Lourenço Chuma - MSc candidate - UNICAMP

This speech presents a ultra-wideband (UWB) discone antenna with a omnidirectional radiation pattern for use in broadcasting television system. Because it is an ultra-wideband antenna and has a omnidirectional radiation pattern making possible the use of a single antenna for receiving of TV signals from several transmitting stations in several geographic locations. The UWB antenna proposed in this work cover the frequency range from 320 MHz to 1.65 GHz with a gain of 1.7 dB and work in indoor and outdoor environments.

### DIGITAL TV SIGNAL RECEPTION AND AMPLIFICATION SYSTEM Speaker: Kassia Toccolini - Master's student at Universidade Federal de Santa Catarina

In this presentation we will present the development of an amplification system and two antennas for the reception of digital TV signals. The proposed antennas were based on the half-wave ( $\lambda$ /2) dipole topology with meander line geometry (MLA) and magnetic loop antenna. Simulations were performed using software based on the finite element method. The reception of the antenna and the efficiency of the amplification system were evaluated through measurements.

### CROWDFUNDING JOURNALISM

# Speaker: Lucas Vieira de Araújo - Researcher - Universidade Metodista de São Paulo

The proposal is to discuss innovation in journalism from the analysis of crowdfunding. This proposal is justified because it is a recent practice under construction and due to the lack of analysis based on theories that extrapolate studies in communication. An exploratory research was carried out from bibliographic research. Among the results achieved, it was found that crowdfunding is a promising innovation for the production of content.

## COMPUTATIONAL SIMULATION PERFORMANCE BASED IN HYBRID MODEL FOR BROADCASTING SYSTEMS Speaker: Reinaldo Padilha França - Master's student - Engenharia Elétrica -FEEC / UNICAMP

With the objective of improving the transmission of information in broadcasting systems, in simulation environment, was implemented a model based on discrete events applied at a low level of abstraction in a telecommunication system. The proposal brings a different approach of usual technical, in which the signal transmission on the channel is realized in the discrete domain with the implementation of discrete entities in the process of bit generation.

### REASONS FOR SFN FAILURE IN BROADCAST

### Speaker: Paulo Eduardo dos Reis Cardoso - PhD candidate / Regulation Specialist - Unicamp / Anate

To deliver the content of a TV network, ensuring efficient spectrum usage, filling not covered and shadow areas, and with energy savings are the advantages of Single Frequency Networks. Thus, in this study we sought to measure information, frequency, and time synchronism to evaluate the status of SFN implementation in Brazilian broadcasting. We took as base of analysis the Digital TV stations of the Campinas/SP area. Through this presentation, we demonstrate that one of the great advantages of ISDB-Tb, the formation of a single frequency network, still cannot be implemented in Brazil.

### DUAL-POLARIZED INDOOR ANTENNA FOR DIGITAL TV RECEPTION

### Speaker: Guilherme Boscolo dos Santos, MSc candidate, Universidade Presbiteriana Mackenzie

We will introduce the design and simulations of a dual-polarized antenna for digital television signal reception. The objectives of the project were low cost, simple construction and computational implementation for indoor applications and with good performance in terms return loss within the desired frequency band. Through the simulations, it was verified that the proposed antenna radiates

two linear polarizations, horizontal and vertical, from the two feeding ports with a high degree of isolation. The structure developed in this work presents an omnidirectional irradiation pattern, gains over 4 dB in both polarizations, 390 MHz of bandwidth and 72.5% of fractional bandwidth.

### Speaker: Kassia Toccolini - Marter's student at Universidade Federal de Santa Catarina

It will be presented a technique of TS generation (Transport Stream) by software, intended for transmission with Digital TV signal generator according to the ISDB-Tb standard. In addition, it will be discussed how this TS was used for transmission and performed an analysis of the performance of BER (Bit Error Rate) in the reception for different communication channels, varying transmission parameters of the ISDB-Tb standard. The analysis was done through the Eb / No ratio by BER from the results obtained for each configuration.



#### Luana Carolina Bravo - Educational committee - SET

Electrician engineer with emphasis in electronics from the Faculty of Engineering São Paulo. Post graduate in Digital TV by Mackenzie University. She has been in the television business for over 10 years.Participant in the SET board since 2012, member of the Technical Reception Group (GT-Rx) of GIRED, member of the Market Module of the Brazilian Digital TV Forum and representative of ABERT in the Project UHD- Brazil.



#### Euclides Lourenço Chuma - MSc candidate - UNICAMP

Euclides Lourenço Chuma earned a degree in Mathematics from UNICAMP and graduate degree in Network and Telecommunications Systems in the INATEL. Currently is MSc Candidate in Electrical Engineering at UNICAMP, SP-Brazil. He works as a software engineer in the private sector, and his research interested in Antennas, Wireless Power Transfer, Software Defined Radio and Cognitive Radio.



#### Kassia Toccolini - Master's student at Universidade Federal de Santa Catarina

She received the titles of Electronic Engineer (2016) by the Federal University of Santa Catarina (UFSC). She is currently in master's degree in Electrical Engineering in electromagnetism area also at UFSC. She is part of Electromagnetism and Electromagnetic Compatibility Laboratory (MagLab) and Electromagnetic Compatibility and Engineering Group (GEMCO) at UFSC. Her areas of interest are electromagnetic fields, telecommunication and digital signals processing.



#### Lucas Vieira de Araújo - Researcher - Universidade Metodista de São Paulo

Journalist, holds a PhD in Communication at the Methodist University of São Paulo. He has worked as a reporter, editor and Journalism Manager at Rede Globo, Rede Record and RBS Group in Paraná and São Paulo. He was a professor at the University of Northern Paraná (Unopar) and is currently a postgraduate professor at the Faculdade Assis Gurgacz (FAG).



#### Reinaldo Padilha França - Master's student - Engenharia Elétrica - FEEC / UNICAMP

Graduated in Computer Engineering, currently he is a MSc degree candidate by Faculty of Electrical and Computer Engineering at State University of Campinas, and a researcher at the Laboratory of Visual Communications (LCV). The main topics of interest are Simulation, Operating Systems, Software Engineering, Wireless and Network, Internet of Things, Broadcasting and Telecommunications Systems



Paulo Eduardo dos Reis Cardoso - PhD candidate / Regulation Specialist - Unicamp / Anatel

Holds a degree in Electrical Engineering from the FEEC-UNICAMP (2002) and a MSc degree in Electrical Engineering (Electronics) by DEMICFEEC-UNICAMP (2005). He is currently a PhD candidate in the LCVDECOM-FEEC-UNICAMP, searching Digital TV. Licensed from the post of Specialist in Regulating in the Anatel, where it operates in coordination of grants and resources to the provision, working with the licensing and amendment of technical characteristics of broadcasting stations. Previously, he served in the surveillance in broadcasters. He was responsible for the Technical Regulation to Broadcasting in Modulated Frequency and analysis of processes of technical feasibility for inclusion or amendment of the Basic Plan of Distribution Channels of Broadcasting in Modulated Frequency. He participated as an observer in the Federal Government in testing of Digital Radio Broadcasting, both in tests of American Standard - HD Radio, in 2008 and 2012, as in tests of the European standard - DRM, in 2010. He has worked as a telecommunications researcher of the Fundação Centro de Pesquisas e Desenvolvimento - CPqD..



#### Guilherme Boscolo dos Santos, MSc candidate, Universidade Presbiteriana Mackenzie

Guilherme Boscolo dos Santos received his B.Sc. degree in Electrical Engineering with emphasis in electronics, telecommunications and automation from Mackenzie Presbyterian University. He is currently attending towards his Master's degree in Electrical Engineering and Computation at Mackenzie Presbyterian University, São Paulo, SP, Brazil. He works as a project engineer in the broadcasting sector and is interested in research in the areas of Antenna, Electromagnetism, Software Defined Radio and Cognitive Radio.



#### Kassia Toccolini - Marter's student at Universidade Federal de Santa Catarina

She received the titles of Electronic Engineer (2016) by the Federal University of Santa Catarina (UFSC). She is currently in master's degree in Electrical Engineering in electromagnetism area also at UFSC. She is part of Electromagnetism and Electromagnetic Compatibility Laboratory (MagLab) and Electromagnetic Compatibility and Engineering Group (GEMCO) at UFSC. Her areas of interest are electromagnetic fields, telecommunication and digital signals processing.

Cite this article:

Bravo, L. C., Chuma, E. L., Toccolini, K., de Araújo, L. V., França, R. P., Cardoso, P. E. dos R. e dos Santos, G. B.; 2017. Scientific Academic Panel – Afternoon Edition. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.51. Web Link: http://dx.doi.org/10.18580/setep.2017.51

### 16h - 17h30 | Aug. 24, 2017 - Thursday | ROOM 11

CONTENT PRODUCTION

## **IT'S SHOW TIME!**

### Chair: Carlos B. Ronconi - Assessor Técnico - Grupo Globo

How to bring the vibrancy and excitement of live shows to the TV. Let's hear from the panelists what technologies, processes, care to stream a live music show and transport the viewer to that environment. Immersive audio, ambient capture, 5.1 surround are techniques used by our guests to take the show to the home of the viewer.

### • ROCK IN RIO

### Speaker: Gabriel Thomazini - Coordenador de Áudio da Globosat

This presentation will cover the technical and operational challenges of one of the biggest musical events in the world, Rock in Rio. From capturing, transporting audio signals over IP and Immersive mixing, passing through the different peculiar needs of events of this size, up to delivery of the final product at the subscribers' home.

- Speaker: Manoel Gonçalves Tavares. Audio Producer Recording Engineer -TV Globo
- Speaker: Beto Neves Sound Engineer Mosh Studios



#### Carlos B. Ronconi - Assessor Técnico - Grupo Globo

Technical Advisor at Globo Studios where he works in the audio area.He participated in the deployment of various audio technologies for live and sound post production, from the first audio workstation to the Mobile Audio Unit. Coordinates the audio of events and broadcasts of Entertainment such as Carnival, Roberto Carlos Special, Child Hope, Rock In Rio, Brazilian Day, etc. Graduated in Cinema from Gama Filho University and studied Electrical Engineering at the Fundação Valeparaibana de Ensino, São José dos Campos, SP. Graduated in Music (Classical Piano) by the Santa Cecilia Conservatory, also of SJC. He also worked at the Instituto de Atividades Espaciais, Transamérica Studios and Som Livre.



#### Gabriel Thomazini - Globosat Audio Coordinator

Working for over 30 years with professional audio, he was a recording technician and music content mixer, P.A and Sound Designer technician. For more than 15 years in the broadcast area, he has participated in projects for the audio infrastructure of major events such as Olympics Games, World Cups and International Shows. Participated in the development of mobile units, television studios and IP infrastructure projects for professional audio and automation systems. Member of AES since 1998, holds lectures and workshops promoting new techniques and technologies for audio production He is currently the Audio Coordinator for Globosat, considered the largest cable TV programmer in Latin America.





Radialist -- Audio Producer - Recording Engineer.34 years of experience - Tv Globo / Globo Studios;Process Management - Team Management - Planning and Projects.Expertise in sound / recording / mixing programs, recorded and / or transmitted "live";Tv Globo Award - Best Live Audio - PGM Esp. Roberto Carlos in Jerusalem - 2011.- Tv Globo Award - Best Entertainment Audio - PGM The Voice Brasil - 2012.- Tv Globo Award - Best Entertainment Audio - PGM Som Brasil - 2013.



#### **Beto Neves - Sound Engineer - Mosh Studios**

Former multi-instrumentalist, with 21 years of experience in recording and mixing the most important Brazilian and Latin pop-music artists, Beto Neves brings his knowledge of the analog sound and percussive world to his work. Beto has recorded and mixed artists such as: Carlinhos Brown, Sergio Mendes, Shakira, Alejandro Sanz, Ivete Sangalo, Gilberto Gil, Claudia Leitte, Dave Matthews Band, Cesar Camargo Mariano, The Black Eyed Peas, Nelly Furtado, Seu Jorge, and Diego Torres to name a few. Additionally, he has produced recorded and mixed independent artists from many different parts of the world. Since the end of 2014, he is based at Mosh Studios, the largest studio complex in South America, located in São Paulo, Brazil.

Cite this article: Ronconi, C., Thomazini, G., Tavares, M. G. and Neves, Beto; 2017. IT'S SHOW TIME!. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.52. Web Link: http://dx.doi.org/10.18580/setep.2017.52

### 9h - 11h | Aug. 24, 2017 - Thursday | ROOM 16

### TECHNOLOGY FOR TV AND RADIO

## THEORY AND EXPERIENCES OF DIGITAL TV COVERAGE

# Chair: José Frederico Rehme - Diretor da SET, Diretor da TVCI, professor da Universidade Positivo

The success of a DTV site project is proportional to the reception facilty and signal stability at the viewer's home. By the technical issue, it depends on de signal intensity and the C/N ratio at the arrival's point. We will discuss the tools and the methods taken to achieve a good project: trustworthy, robust, accessible prices, simple. It will be explored the topics: prediction, analysis, measurement, density versus intensity, SFN and Gap Filler.

### • THEORY AND PRACTICE OF DIGITAL TV COVERAGE Speaker: Marcello Martins - Diretor Executivo na iTVX do Brasil Com. e Serviços de Telecom Ltda

Evolution of the types of prediction tools; Block/functional diagrams, SFN and MFN coverage areas; Use and applications in DTV transmission and reception; 'Flying by instruments' ...with current frequency figures...

### GENERAL ASPECTS OF A DIGITAL TV PROJECT Speaker: Anderson de Oliveira - RPC Telecom Projects - Globo affiliate -Paraná

Critical decision-making is necessary for the development of a Digital TV deployment project. The first is the choice of propagation model. The modeling is inserted as an element able to describe mathematically the behavior of the electromagnetic wave, as well as its losses. From this it is possible to establish coverage criteria, but are required analysis parameters of the same, to be chosen by the designer. Another aspect to be discussed is the importance of crossing the coverage data with field measurements. Finally, we will deal with the SFN network and gap-filler as a coverage optimization solution, with case studies.

# EVOLUTION OF PREDICTIONS FOR REGULATORY ASPECTS AND CONFRONTATION WITH FIELD MEASUREMENTS

### Speaker: Paulo Eduardo dos Reis Cardoso Doutorando / Especialista em Regulação Universidade Estadual de Campinas / Agência Nacional de Telecomunicações

Analysis of the predictions of coverage of broadcasting stations used for approval by Anatel. The Mosaico System. What should be observed (Field Intensity, SNR, MER, etc.) in the field evaluation of Digital TV stations. How to evaluate a SFN for Digital TV.

### • RESOURCE OPTIMIZATION FOR TV COVERAGE: THE COST-EFFECTIVENESS AS A CRITERION FOR SETTING PARAMETERS Speaker: Luiz Ricardo Tonin - Coordinator of Broadcast Projects at SM Facilities

The choice of parameters to predict coverage are significant elements for the definition of TV network investments, since they define irradiance height, transmitter power and antenna models, with direct impacts on the feasibility of infrastructure deployment and operating costs. We will demonstrate real cases of projects considering these criteria and the results obtained and that can be replicated for the optimization of investments in this step of increasing the coverage of Digital TV.

 Speaker: Valderez De Almeida Donzelli - Director – ADTHEC Engenharia e Sistemas / SET.

# ADVANCED ISDB-T SFN NETWORK PLANNING - CHALLENGES AND OPPORTUNITIES

### Speaker: Milos PAVLOVIC - Sales Director Broadcast LS telcom AG, Germany

To be highly effective when conducting broadcast planning requires up-to date knowledge of latest trends and technologies. Detailed knowledge about the huge variety of planning functionalities is as important as information about the technologies themselves. This presentation will introduce to planners and broadcast engineers necessary requirements they need for the complex tasks of modern broadcast planning, such as ISDB-T SFN planning.



# José Frederico Rehme - Diretor da SET, Diretor da TVCI, professor da Universidade Positivo

José Frederico Rehme is SET Teaching Director, Coordinator and Professor of the Electrical Engineering and the Energy Engineering courses at Positivo University and Engineering Director at TVCi.



#### Marcello Martins - Diretor Executivo na iTVX do Brasil Com. e Serviços de Telecom Ltda

Holds a degree in Electronics Engineering, with Specialization in Telecommunications (1989) and Business Administration, graduate qualification with an MBA from USP/FIA and an extension qualification from Manchester Business School/England (2001). Specialization in satellite-based reception systems since 1982 and RF projects for terrestrial TV generators and repeaters. Began his career in the technical area at Tupi Radio e TV network in São Paulo/1978. In the 1980s, he decided to move into business, where for more than 28 years he has worked in Industry, Commerce and Engineering Services for new electronic products for HD digital reception. Currently executive Director at iTVX do Brasil Com. e Serviços de Telecom Ltda, a technical engineering projects company in the broadcasting and telecommunications field since 2008. Associate member of SET/Sociedade de Engenharia de TV, since 1986; associate member of the GESC, FEA/USP, social support since 2001, associate member of the Digital TV Forum, SBTVD (2010 to 2012).

#### Anderson de Oliveira - RPC Telecom Projects - Globo affiliate - Paraná



Telecommunication Engineer by FURB Regional University Foundation of Blumenau Conclusion - 2006, Graduate in Management of People in Organizations by UNIPLAC - University of Planalto Catarinense - Conclusion 2009, Post Graduation in Computer Networks and Convergent Services in the Positivo University . Prediction of Completion in 2017. He has been working for 11 years in the Projects sector, with 7 years in the Telecom Projects sector of RPC - Affiliate Globo in Paraná.



#### Paulo Eduardo dos Reis Cardoso Doutorando / Especialista em Regulação Universidade Estadual de Campinas / Agência Nacional de Telecomunicações

Holds a degree in Electrical Engineering from the FEEC-UNICAMP (2002) and a MSc degree in Electrical Engineering (Electronics) by DEMICFEEC-UNICAMP (2005). He is currently a PhD candidate in the LCVDECOM-FEEC-UNICAMP, searching Digital TV. Licensed from the post of Specialist in Regulating in the Anatel, where it operates in coordination of grants and resources to the provision, working with the licensing and amendment of technical characteristics of broadcasting stations. Previously, he served in the surveillance in broadcasters. He was responsible for the Technical Regulation to Broadcasting in Modulated Frequency and analysis of processes of technical feasibility for inclusion or amendment of the Basic Plan of Distribution Channels of Broadcasting in Modulated Frequency. He participated as an observer in the Federal Government in testing of Digital Radio Broadcasting, both in tests of American Standard - HD Radio, in 2008 and 2012, as in tests of the European standard - DRM, in 2010. He has worked as a telecommunications researcher of the Fundação Centro de Pesquisas e Desenvolvimento - CPqD.

#### Luiz Ricardo Tonin - Coordinator of Broadcast Projects at SM Facilities



Luiz Ricardo Tonin is an electrical engineer graduated from Universidade Positivo and has 8 years of experience in the field of telecommunications engineering, with expertise in broadcasting, having worked in telephone and radio companies. He is currently Coordinator of Broadcast Projects at SM Facilities, an engineering company that provides technical, implementation and construction services to the broadcasting and telecommunications area. He is a specialist in prediction software and in transmission technician projects, he actively participates in the development of new solutions for the analog switch-off and the migration of the 700MHz band..

#### Valderez De Almeida Donzelli- Director – ADTHEC Engenharia e Sistemas / SET



Holds a degree from the industrial school of engineering (FEI) in electronic engineering, power engineering and production. She obtained a Master's in electrical engineering, defending the dissertation "Polarização Elíptica: Influência no desempenho de cobertura da TV Digital" (free translation, Elliptical Polarization: Its influence on the coverage performance of Digital TV", and is reading for her doctorate with the survey "TV Digital: Disponibilidade de Sinal" (free translation, Digital TV: Signal Coverage), both from the Mackenzie University. She also holds a specialization in IT from FESP, ICT management from the FGV and Advanced Digital TV Systems, from INATEL. Technical Director of ADTHEC (www.adthec.com.br), a company offering consultancy, planning, design, research and analysis of risks and solutions for public and private sector radio, television and telecommunications stations, with the emphasis on the design and installation of digital and FM transmission systems. She actively participates in a range of Brazilian and international working groups under the coordination of Anatel, the Ministry of Communications, Universities, Associations and Research Centers. She began her professional activities in bio-engineering at the Heart Institute of the Clinics Hospital, lectured at the FAAP and worked for over years in several departments of the Padre Anchieta Foundation (Cultura TV and Radio, in São Paulo). In charge of the technical projects division, she coordinated the design and planning of the TV and radio network, testing and implementing new technologies, while managing the relations with prefectures, broadcasters, the Ministry of Communications and Anatel. She has headed up studies, tests and measurements involving the systems for implementing digital TV in Brazil, as well as the group that reviewed the regulations for sound and picture broadcasting services. She is currently deputy director for education and member of the editorial committee of SET, where she has also held the position of relationship and editorial director.



#### Milos PAVLOVIC - Sales Director Broadcast LS telcom AG, Germany

Milos Pavlovic has a diploma in Electrical Engineering/Telecommunications. He received his DIpl. Ing and MSc degrees from University of Belgrade, Faculty for Electrical Engineering. Milos has been in the Sales & Marketing department of LS telcom AG since 2012, with more than 10 years of experience working in the broadcast industry. After joining LS telcom, he has taken over the responsibility for its broadcast customers globally.

Cite this article:

Rehme, J. F., Martins, M., de Oliveira, A., Cardoso, P. E. dos R., Tonin, L.R., Donzelli, V. de A., Pavlovic, M.; 2017. Theory and Experiences of Digital TV Coverage. ISSN Print: 2447-0481. ISSN Online: 2447-049X. v.3. doi: 10.18580/setep.2017.53. Web Link: http://dx.doi.org/10.18580/setep.2017.53