

The ATSC 3.0 Roadmap

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NEXTGENTV

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nextgentv **SUMMIT**

Produced by SMPTE and SBE with support from the NAB and ATSC



and the support of our host, WETA Television



JANUARY 16, 2020



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The Telestream logo, featuring a blue arc above the word "telestream" in a lowercase sans-serif font.

telestream

The Panasonic logo, featuring the word "Panasonic" in a bold, dark blue sans-serif font.

Panasonic



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JANUARY 16, 2020



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Morning Program

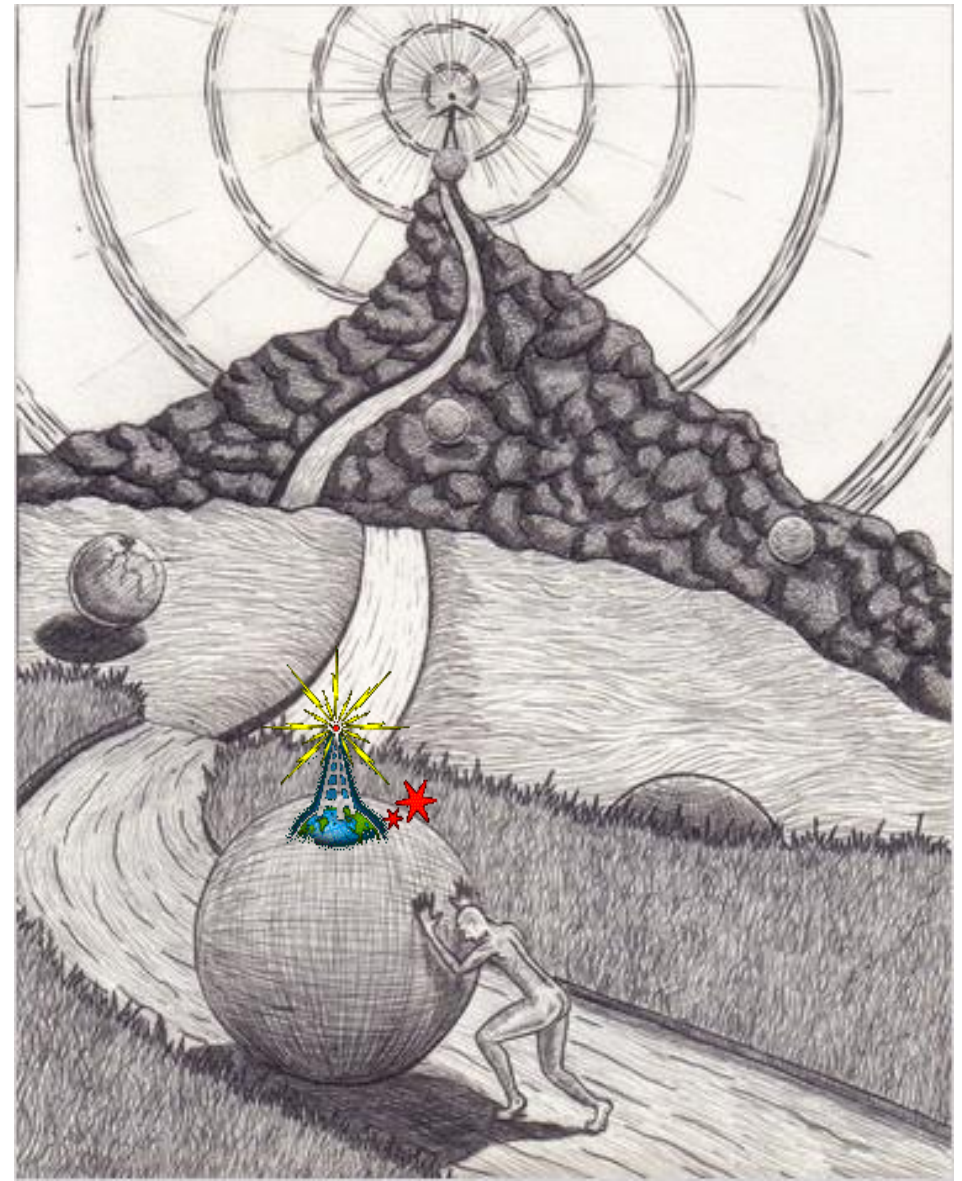


Afternoon Program

8:00 AM - 9:00 AM	Registration and continental breakfast
8:55 AM - 9:00 AM	Welcome from SMPTE, SBE and AES Fred Willard, SBE Washington Kishore Persaud, SBE Baltimore
9:00 AM - 9:05 AM	Introduction Peter Wharton, SMPTE Membership VP Chris Lane, Chief Engineer, WETA
9:05 AM - 9:35 AM	NextGen TV: Transforming the Consumer Experience Lynn Claudy, SVP Technology, NAB and Chairman, ATSC Board of Directors Madeleine Noland, President, ATSC
9:35 AM - 10:00 AM	Creating New Opportunities with NextGen TV Joonyoung Park, VP and Fellow, DigiCAP
10:00 AM - 10:35 AM	Improved Television Reception for Consumers <i>Implementing NextGen TV Distribution Systems</i> John Lynch, ERI Jeff Andrew, Osborn Engineering
10:35 AM - 11:15 AM	Benefits of a Converged Broadcast and IP Platform Lynn Claudy, SVP Technology, NAB and Chairman, ATSC Board of Directors Content Reception Enhancements Richard Lhermitte, VP Solutions and Market Dev, ENENSYS TeamCast
11:15 AM - 11:30 AM	Morning Break
11:30 AM - 11:50 AM	Consumer Applications for Combined 5G & NextGen TV Networks Josh Arensberg, M&E Business Development, Verizon Media
11:50 AM - 12:15 PM	Case Study: Hybrid Services at "Chicago 3.0" Jean Macher, Harmonic
12:15 PM - 01:20 PM	Buffet Lunch ▶

01:25 PM - 01:45 PM	Protecting the NextGen TV Consumer <i>Advanced EAS and AWARN Capabilities</i> John McCoskey, SpectraRep
01:45 PM - 02:15 PM	Monetizing the NextGen TV Consumer <i>Addressable Advertising and Analytics</i> Rick Ducey & Mark Fratrik, BIA
02:20 PM - 03:20 PM	Personalizing the Consumer Experience <i>Interactive and Personalized Features</i> Mark Corl, Triveni Digital Greg Jarvis, Fincons So Vang, NAB Pete Van Peenan, Pearl TV
03:25 PM - 03:40 PM	Afternoon Break
03:40 PM - 04:10 PM	The Consumer Out-of-Home Experience <i>Mobile & Automotive Applications and FeMBMS (5G Broadcast)</i> Thomas Janner, Product Management & R&D Director, Rhode & Schwarz
4:10 PM - 4:35 PM	The ATSC 3.0 Roadmap Lynn Claudy, SVP Technology, NAB and Chairman, ATSC Board of Directors Madeleine Noland, President, ATSC
4:35 PM - 5:00 PM	The Consumer Technology Roadmap Brian Markwalter, SVP Research and Standards The Consumer Technology Association
5:00 PM - 6:00 PM	Station Group and Industry Deployment Plans <i>Advanced Capability Implementation Strategies</i> Skip Pizzi, VP Technology Education & Outreach, NAB (Moderator) Michael Bouchard, VP Technology Strategy, ONE Media / Sinclair Stacey Decker, CTO, Public Media Group Sasha Javid, COO, The Spectrum Co
6:00 PM - 8:00 PM	Cocktail Reception Busboys and Poets 4251 S. Campbell Ave., Shirlington <i>Heavy Hors d'oeuvres and open bar</i> ▶

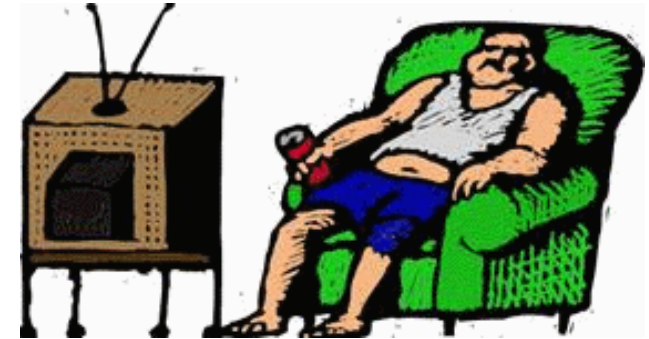
What About Following the ATSC 1.0 Roadmap?



The DTV Transition was Both Government-Led and Market-Led in early 2000's

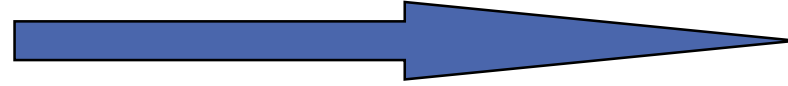


For manufacturers and consumers, it was driven by the marketplace

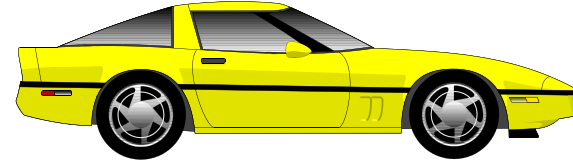


For broadcasters, it was mandated by the government

DTV: Fast Transition for Broadcasters

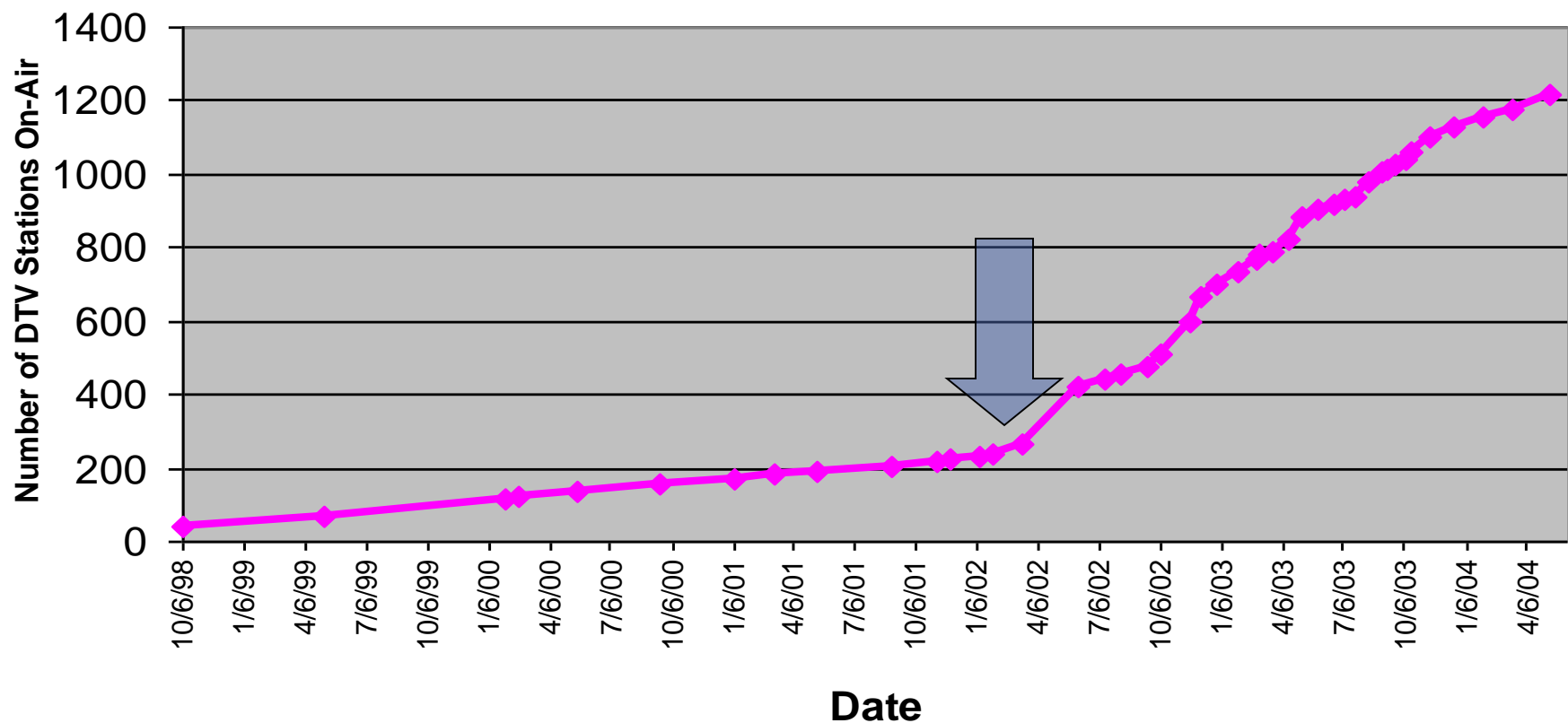


Digital



- **Top 4 networks in top 10 markets by 5/99**
- **Top 4 networks in markets 11-30 by 11/99**
- **All other commercial stations by 5/02**
- **Non-commercial stations by 5/03**

Growth of DTV Stations in the U.S.



Lessons from the DTV Transition

There was an original plan that placed requirements on broadcasters

Starting the transition was relatively simple—broadcasters launched service on a phased-in schedule

“Build it and they will come” was not a viable strategy for completing the transition— “HD Ready” sets were plentiful; “HD capable” sets were not

The solution to the DTV transition required a more comprehensive systems approach by the FCC

2001-2002 was a critical course change

Regulatory “guidance” subsequently provided to all stakeholders: broadcasters, manufacturers, MVPDs, retailers, program producers, consumers

FCC DTV Tuner Decision

August 8, 2002

DTV set manufacturers required to include over-the-air DTV tuners in new TV sets according to a phase-in schedule:

- 36" and greater – 50% by Jul. 1, 2004; 100% by Jul. 1, 2005
- 25" to 35" – 50% by Jul 1, 2005; 100% by Jul 1, 2006
- 13" to 24" – 100% by Jul 1, 2007
- TV interface devices (VCRs, DVD players/recorders that receive broadcast signals) – 100% by Jul 1, 2007

REGULATION OF ATSC 3.0 IN THE UNITED STATES



Permissive Authority for Use of ATSC 3.0
Granted November 16, 2017
No additional spectrum allocated

PUBLIC NOTICE

Federal Communications Commission
445 12th St., S.W.
Washington, D.C. 20554

News Media Information 202 / 418-0500
Internet: <https://www.fcc.gov>
TTY: 1-888-835-5322

DA 19-453

Released: May 23, 2019

**MEDIA BUREAU ANNOUNCES THAT IT WILL BEGIN ACCEPTING NEXT
GENERATION TELEVISION (ATSC 3.0) LICENSE APPLICATIONS IN THE
COMMISSION'S LICENSING AND MANAGEMENT SYSTEM ON MAY 28, 2019**

GN Docket No. 16-42

1. By this Public Notice, the Media Bureau (Bureau) announces that it will accept applications for Next Generation Television (Next Gen TV or ATSC 3.0) licenses through the Commission's Licensing and Management System (LMS) beginning on **May 28, 2019**. On November 16, 2017, the Commission adopted rules authorizing television broadcasters to use the Next Gen TV transmission standard on a voluntary, market-driven basis;¹ however, before accepting applications for Next Gen TV licenses, the Bureau needed to revise the Form 2100 and modify LMS to accommodate the filing of such applications. This work has now been completed. The Bureau has revised FCC Form 2100, Schedule B (full service television stations), Schedule D (low power and television translator stations), and Schedule F (Class A television stations), so that broadcasters may now file applications for modification of licenses to authorize the transmission of Next Gen TV broadcast signals. All licensed full power, Class A, low power television (LPTV), and TV Translator stations, with the exception of licensed channel sharing stations,² may begin filing the Next Gen TV license applications in LMS beginning on May 28, 2019.

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NextGen TV Transition versus Digital TV Transition

**NEXTGEN is All
Voluntary**

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General Consumer Behavior Towards New Technology

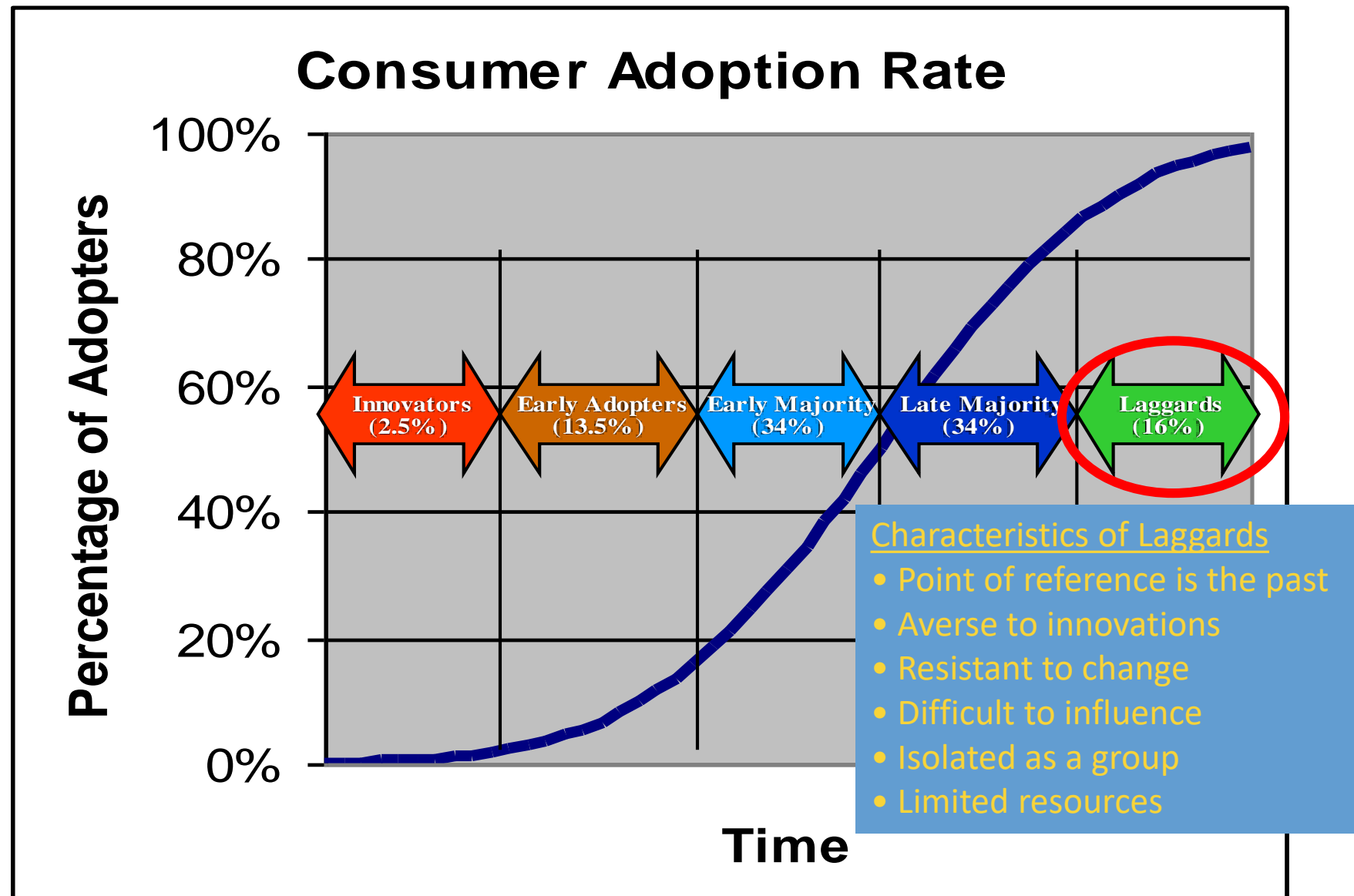
“Consumers abhor uncertainty and they run from it.”



“A product must be 10 times better to justify twice the price.”



Classical 'S' Curve for Adoption of New Consumer Technology



ATSC: Looking Down the Road

Low cost is very important, but:

If it doesn't work or isn't easy to use,
it's a waste of money at any price.

"The bitterness of poor quality remains long after
a low price is forgotten!"
- Leon M. Cautillo

ATSC: Looking Down the Road

Ease of use is very very important:

The “laggard” category of adopter will not tolerate complexity or unfamiliarity.

“You never get a second chance to make a first impression.”
- *Head and Shoulders Shampoo*

ATSC: Looking Down the Road

Reception performance must be superlative:

The reception environment for OTA television will continue to be challenging.

Consumers are unlikely to change their viewing habits or TV equipment configuration to accommodate new receiving equipment.

FROM THE SMPTE WASHINGTON DC SECTION

THANK YOU