ATSC 3.0:
Introduction, Benefits, Considerations

CARIBBEAN TELECOMMUNICATIONS UNION

25 FEBRUARY 2022

MADELEINE NOLAND, ATSC PRESIDENT

MNOLAND@ATSC.ORG

POWERED BY
ATSC 3.0

Agenda

Introduction to ATSC 3.0

Commercial Deployment Update
- ◦ Countries
- ◦ Devices

Benefits
- ◦ Public Service
- ◦ Commercial

Considerations for Caribbean Nations

POWERED BY
ATSC 3.0

ATSC 3.0 Summary – Broadcasting in the Internet Age

- Physical Layer – flexible, configurable, world's most efficient one-to-many DTT system

- Transport – IP-based protocol via MMPT and ROUTE/DASH

- Video - UHD, HDR, WCG, HFR, scalable video coding via HEVC H.265

- Audio – immersive audio, personalization via Dolby AC-4, MPEG-H Audio

- Apps – web-based interactivity via HTML5, CSS, JavaScript and Websocket APIs

- Accessibility – new capabilities for visually and hearing-impaired audience

- Advanced Emergency Messaging – new rich media capabilities and receiver "wake-up"

- Evolvability – clever signaling design enables new features to be added over time

POWERED BY
ATSC 3.0

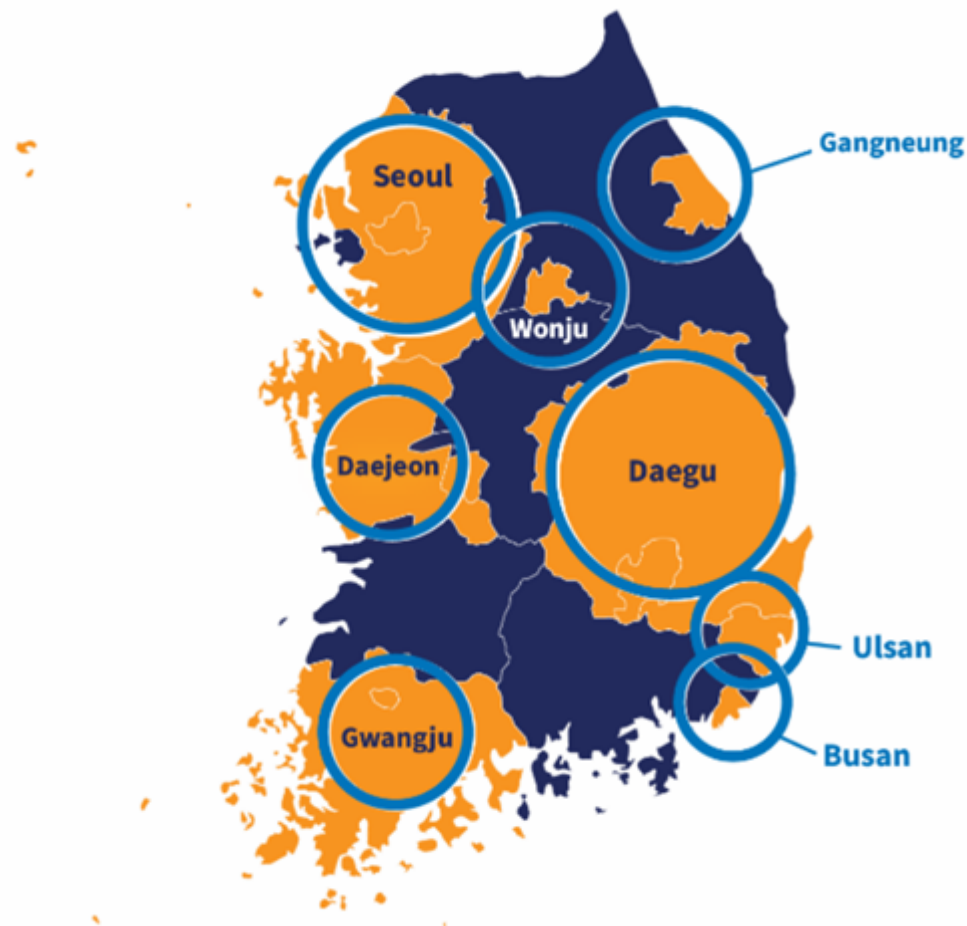# Highest Data Capacity, Best for Mobile Reception
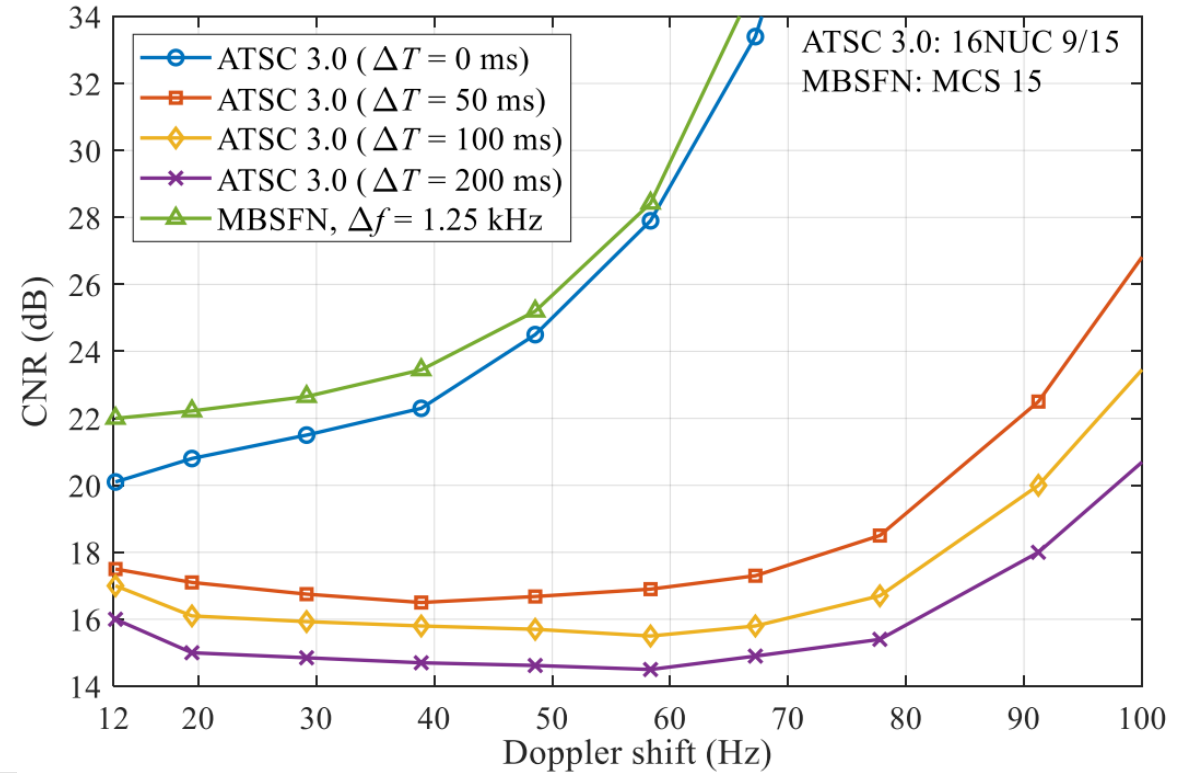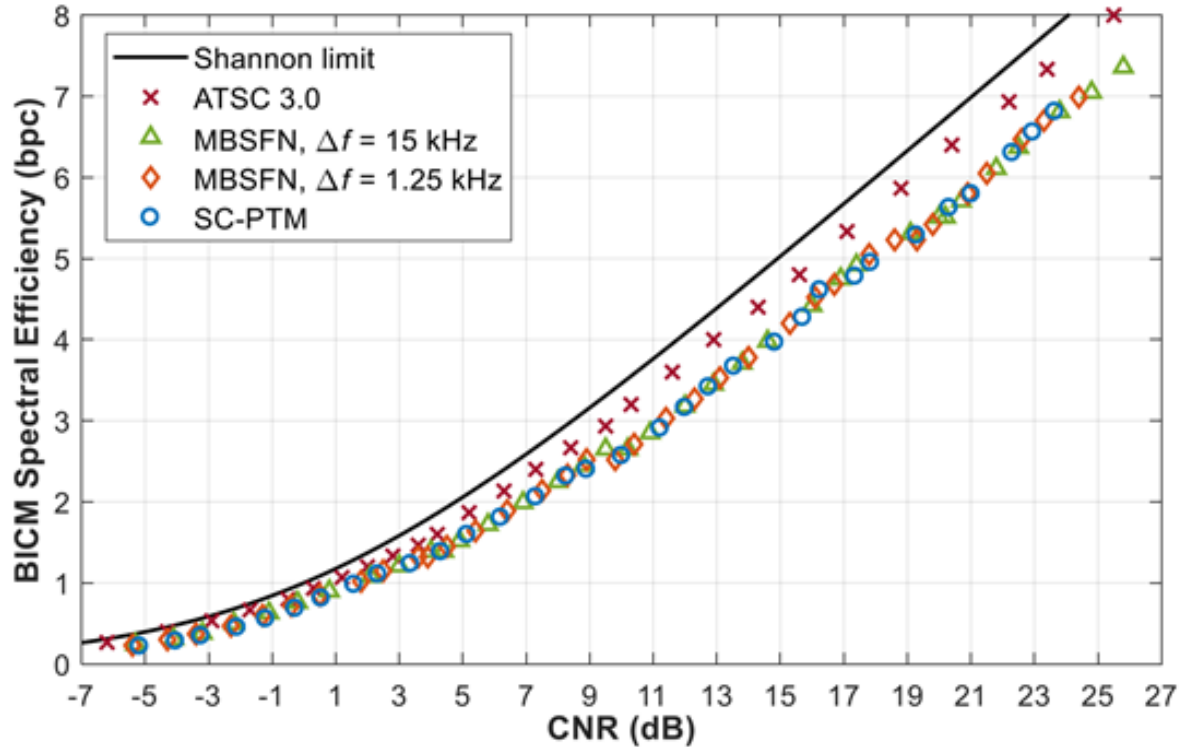
Comparison of ATSC 3.0 to 5G LTE Broadcast by efficiency/capacity (left) and for mobility (right)

Source: TSDSI 5000 v1.0.0 Technical White Paper Broadcast Offload

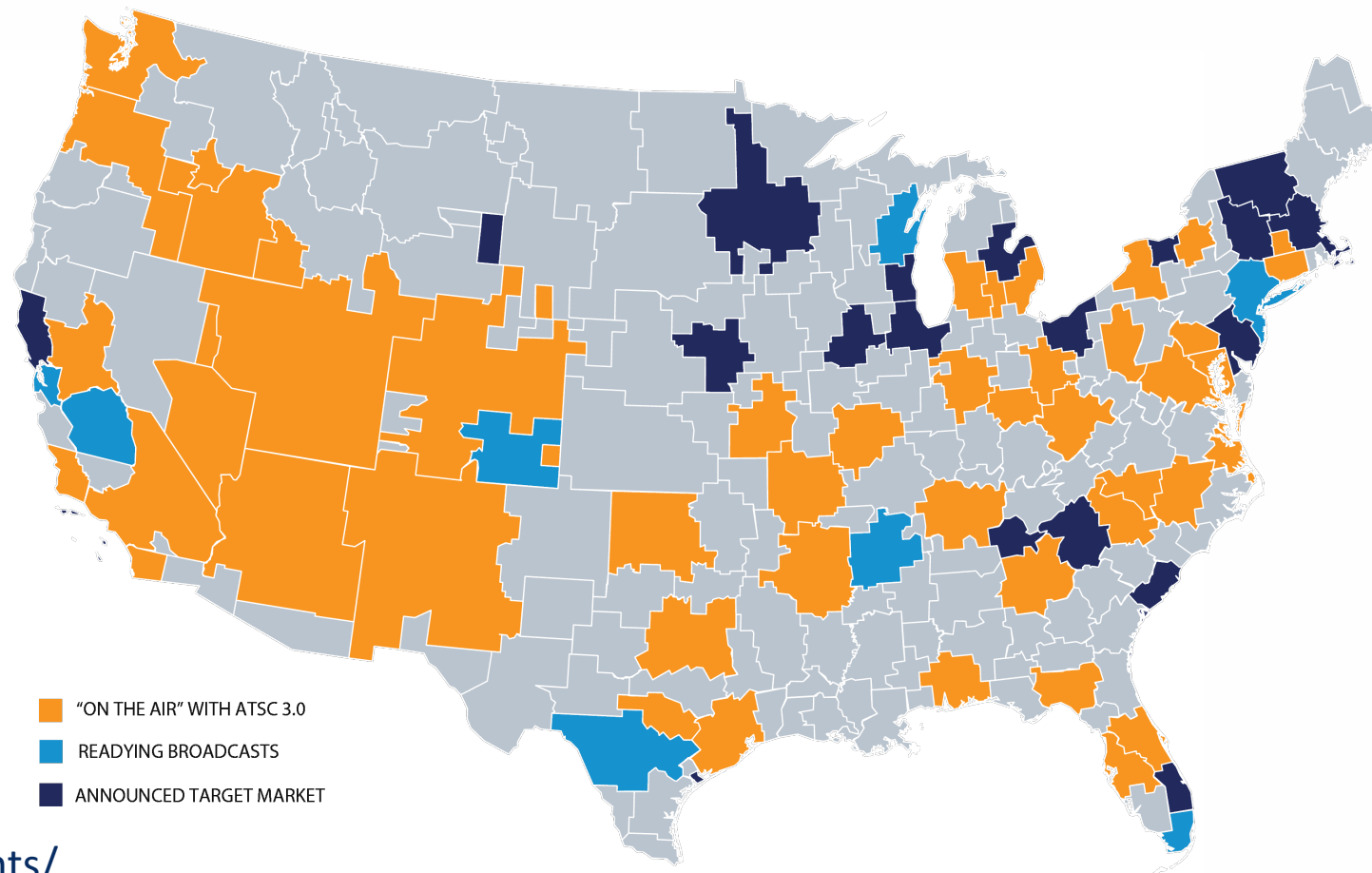POWERED BY
ATSC 3.0

DEPLOYMENTS

Broadcasters have announced that they are working together to bring ATSC 3.0 first to 62 markets across the country, which collectively would mean next-generation TV reception by more than 75% of all viewers. Those 62 "First Markets" are indicated on this map. Each "first market" (in dark blue) will transition to readying broadcasts (in light blue) and then on-the-air with ATSC 3.0 (in orange.)

UNITED STATES DEPLOYMENTS

Currently covering ~50% of U.S. households
Anticipating 85% coverage by Dec 2022

■ "ON THE AIR" WITH ATSC 3.0

■ READYING BROADCASTS

■ ANNOUNCED TARGET MARKET

https://www.atsc.org/nextgen-tv/deployments/

Jamaica Launches ATSC 3.0 in 2022

Congratulations to Television Jamaica for 2022 commercial launch

POWERED BY ATSC 3.0

TV Shipments with NEXTGEN TV
U.S. Market – Units (000s)
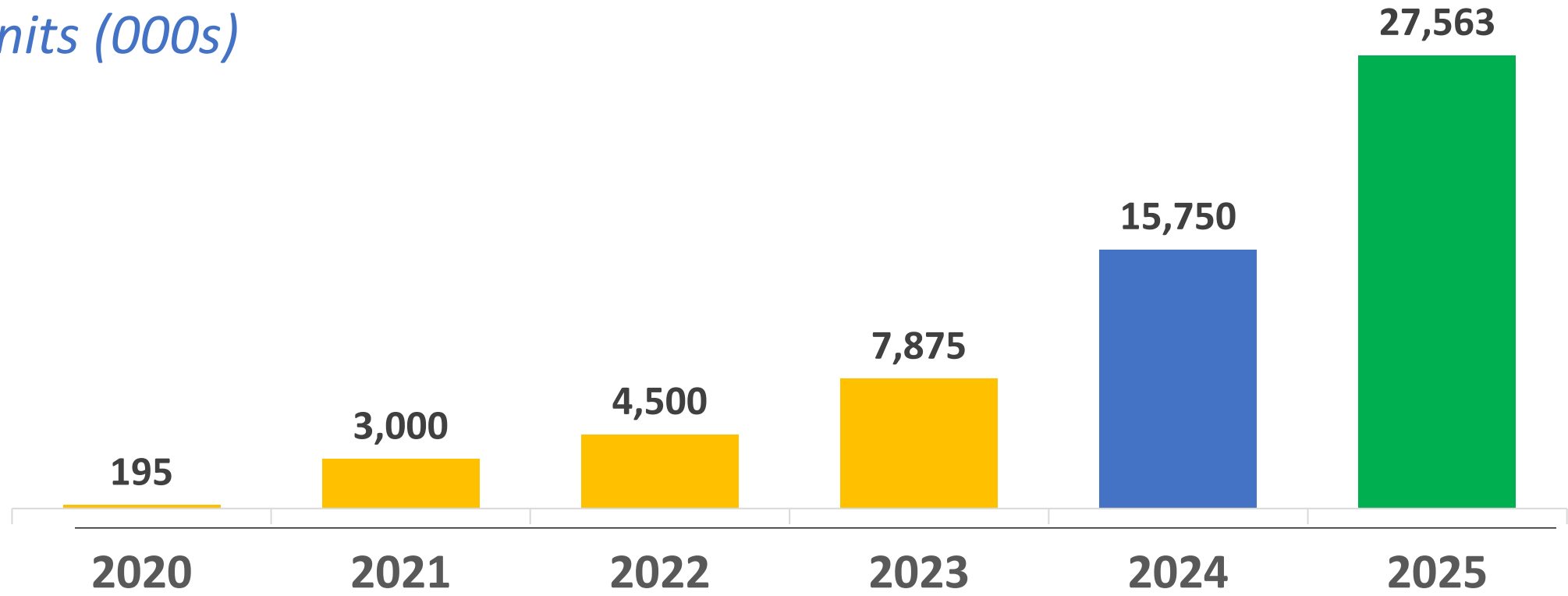
	2020	2021	2022	2023	2024	2025
Units	195	3,000	4,500	7,875	15,750	27,563
		Introduction			**Inflection Point**	**Maturation**
% Unit Growth (YoY)		1438	50	75	100	75
% of Total TV		6	11	20	41	74

Source: CTA, *U.S. Consumer Technology Five-Year Industry Forecast, 2020-2025,* January 2022

LOOK FOR NEXTGEN TV

Television manufacturers now offer a wide variety of TV sets with integrated NEXTGEN TV electronics. Look for the NEXTGEN TV models that are now available from LG Electronics, Samsung, and Sony. Click on each company logo below to get more information on NEXTGEN TV models. More manufacturers are expected to release NEXTGEN TV sets soon.

Models range from $599 to $100,000

70+ NextGen TV Models Available Already

Hisense joins Sony, Samsung and LG – CES 2022

Set-top Boxes: More Choices, More Volume

Costs range from $60-$300

POWERED BY
ATSC 3.0

Prototype SmartPhone – Dual cellular/ATSC3.0

MarkONE cell phone by ONEMedia and Saankhya Labs

Intended as a proof-of-concept reference device
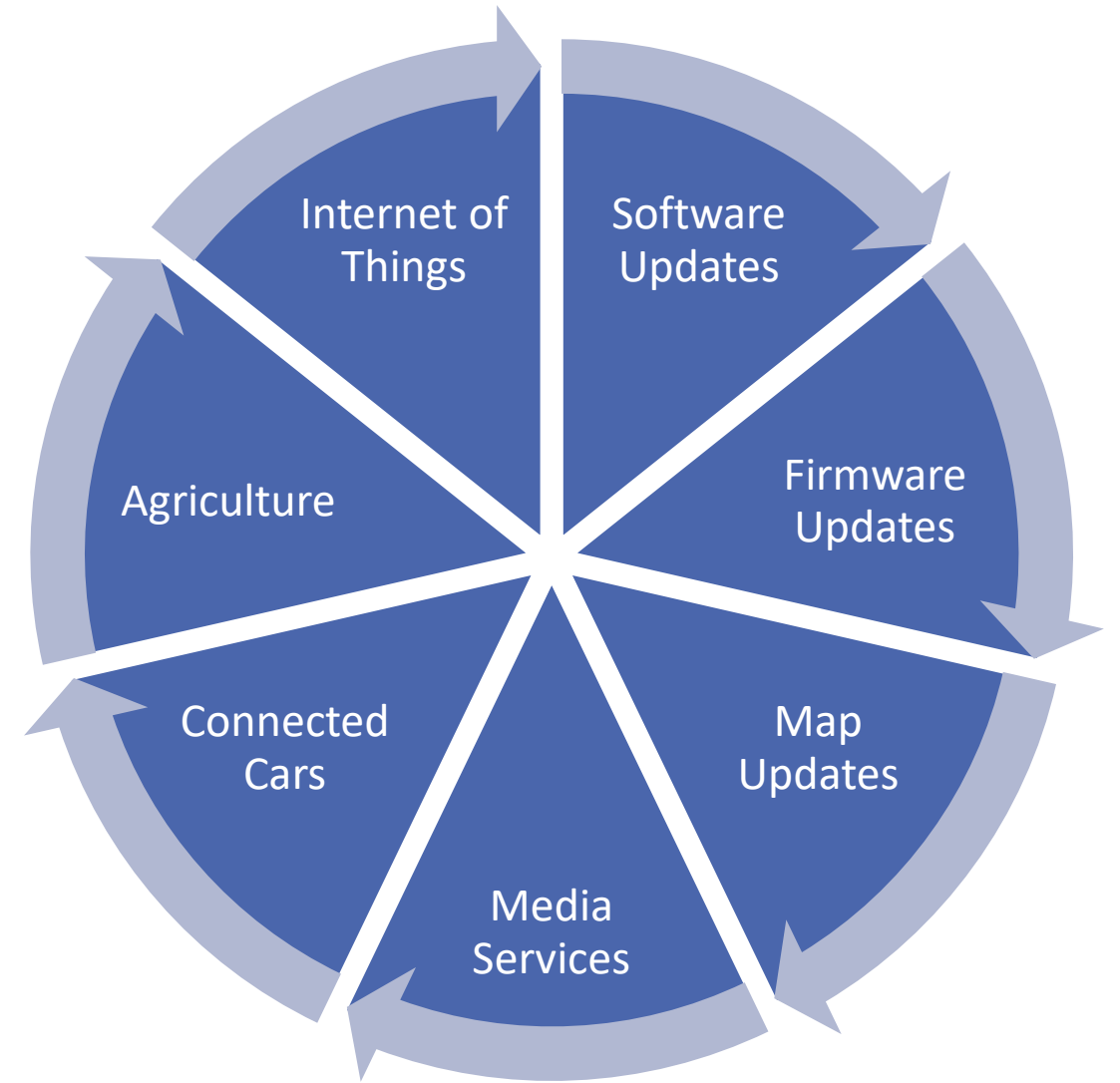
POWERED BY ATSC 3.0

Devices of the Future: IoT?

ATSC 3.0 is a large digital data delivery pipe

Broadcasters can offer data delivery services on a local, regional or national basis

Automotive is the most common use case in discussion for data services

Internet of Things

Software Updates

Firmware Updates

Map Updates

Media Services

Connected Cars

Agriculture

POWERED BY ATSC 3.0

Brazil TV 3.0 Project

Brazil has launched a project to implement a new next-gen television system called "TV 3.0"

Brazil SBTVD Forum will select system elements for TV 3.0 from among the proposed systems

ATSC 3.0, Advanced ISDB-T2, DTMB-2 and enTV (feMBMS) are among the proposed technologies

Phase 2 testing will begin this summer

SBTVD Forum selections are expected by the end of this year

SBTVD Forum selection will be recommended to the Brazilian regulatory authorities for final approval

POWERED BY
ATSC 3.0

India: Direct-to-Mobile (DTM) – Broadcast for a Billion
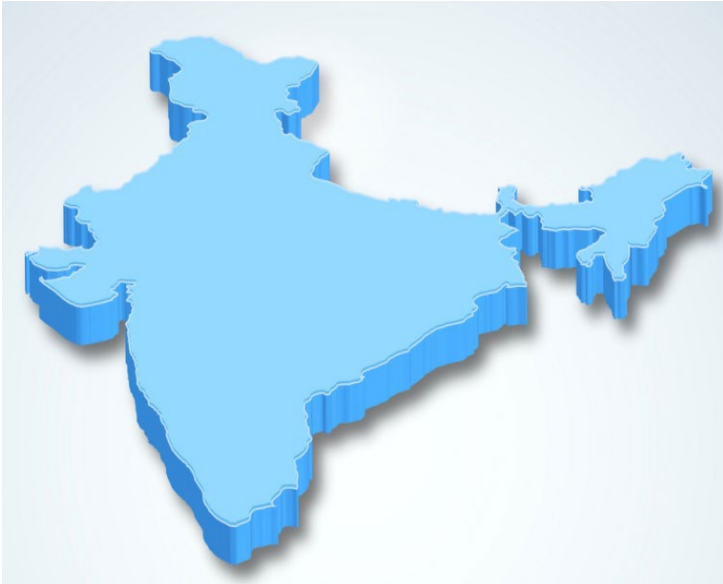
ATSC 3.0 under active consideration by the Public Broadcaster Prasar Bharati

Potential scale is massive

>   Cellularized network of 30,000+ sites

>   1 billion+ smartphones, >200 million per year

>   470-585 MHz exclusively reserved for DTT/DTM

>   Pure broadcast as well as mobile operator broadcast offload

ATSC – TSDSI Agreement paves the way for transposition into Indian National Standard

ATSC has set up a Technology Demo in Delhi

Prasar Bharati has also received a Parliamentary grant for a live proof-of-concept demo, for which planning is under way

Additional Interest Across the Globe

Canada is expected to issue experimental licenses in the coming months
- Major grants issued to Humber College in Toronto to build ATSC 3.0 / 5G Convergence lab

Mexico is most interested in distance education use case

Honduras is emerging from political unrest and now expressing interest in moving to ATSC 3.0

ATSC 3.0 is being added to ITU-R documents so that all countries can explore and understand the system

POWERED BY
ATSC 3.0

Public Service Benefits

More Content – increased efficiency increases number of services dramatically

Reach More People – Single Frequency Network (SFN) can address challenging terrain

Better TV – better pictures, clearer sound

Enhanced Experiences – Interactivity broadens audience experiences

TV for Everyone – Closed Captions and Audio in multiple languages, sign language, Voice Boost

Bridge the Digital Divide – IP delivery enables Distance Education

Save Lives and Property – advanced emergency messaging system can geo-target messages, carry images, video, HTML pages (evacuation routes, shelter location maps, more), highly resilient broadcast infrastructure

Personalized Experiences – targeted content, multiple choices

Mobility – reach people on phones, in cars

POWERED BY ATSC 3.0

Broadcaster Benefits

More Inventory – additional services creates more advertising opportunities

Targeted Content– personalized/targeted advertising is a proven business model

New Verticals – Datacasting can open new business opportunities (digital signage, smart agriculture, automotive SW/FW updates)

New Tools for Content Creators– Deliver messages in new, impactful ways

Futureproof – ATSC 3.0 can evolve and adapt quickly

OTA/OTT Hybrid – Combine the flexibility of digital/streaming services with mass scale broadcast to create new experiences

Television can be a unifying force, bringing people together through common experiences.

State-of-the-art television technology is a powerful way to strengthen and enhance cultural ties.

POWERED BY
ATSC 3.0

Considerations

Is there an existing High Power High Tower infrastructure?

Is the television infrastructure fairly new or near its end-of-life?

Is direct-to-mobile an important use case?

Is broadcast to cars, signage, or other IoT an attractive use case?

Can new capabilities such as Distance Education and Advanced Emergency Messaging bring needed benefits to the people?

How will people acquire TVs or other receiver devices?

Is there spectrum available for simulcasting the existing system during a transition period?

Is there value in deploying a common system across nations?

What role does television play in the nation's culture and unity?Will modernizing the system enhance the culture?

ATSC Support Capabilities

ATSC members are interested in expanded use of ATSC 3.0 and wish to support nations deploying or exploring the technology

ATSC has multiple groups dedicated to organizing support for interested nations

ATSC Technical Groups are available to make nation-specific enhancements to ATSC 3.0

ATSC can connect regulatory bodies with the U.S. Federal Communications Commission (FCC) for guidance

ATSC can organize technical training for implementers

ATSC welcomes Jamaica to the group of nations using ATSC 3.0.
We are here to manage the technical development of ATSC 3.0 and to assist interested nations.

POWERED BY
ATSC 3.0

Q&A

mnoland@atsc.org

Thank you!