FINCONS GROUP

SPECIAL GUEST

SINCLAIR BROADCAST GROUP

Experiences on ATSC3 Broadcast App Implementations

Oliver Botti – SVP Sales & Innovation Executive Director at Fincons

Sinclair update on ATSC3 strategy

Mike Kralec – SVP CTO at Sinclair

NextGen TV: the TV Re-volution

We are assisting to a global move towards a new form of Television: **interactive, participative, personalized, addressable.**

ATSC3 takes the baton from HbbTV European experience and literally runs with it

Fincons Group actively contributed to spread both HbbTV in Europe and ATSC 3.0 in the US

This presentation is an update on the ongoing NextGen TV move through the latest real examples. Helping to identify market trends, challenges, opportunities, and lessons learned.

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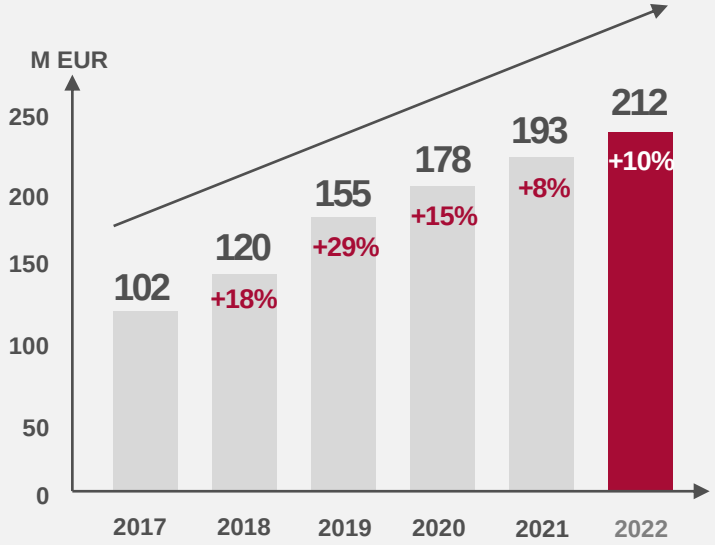
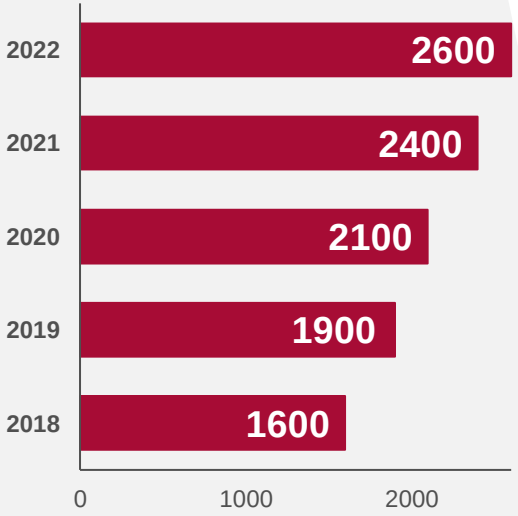
Fincons Group Highlights

A significant growth

From 39 years on the market, Fincons Group is a **reliable partner** to design, implement and maintain the Information Technology to enable business competitive advantage



Headcount

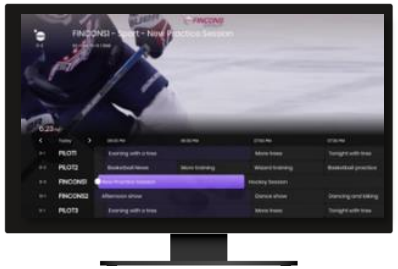


Locations

What we do

- Consulting and System Integration
- System Building and Operation
- Product Development

NextGen TV in the US: Fincons' boost



First complete Broadcaster App leveraging the new ATSC 3.0 A/344 standard with Channel Info, Channels List, EPG, VOD

"Hybrid binge-watching" application promoting Live-To-VOD and VOD-to-Live functionality for Broadcaster's channels with fragmented audience

Cooking show application for CBS (*Saturday Morning* segment, *The Dish*): from sponsorship to TV e-commerce (video)

Redesign and Open Sourcing of Sinclair ATSC Broadcast App UI/UX, including Call To Action, Emergency Alerting, Weather, Favourites, Categories, Channels...

ATSC custom broadcast app based on Sinclair's open source project, including: Call-To-Action, Weather, Settings, ADV Banners integration, geo-localization, GA

NextGen TV Apps on OTA channels for Univision and Unimàs, integrating the A3FA Framework Alliance library (video)

News Literacy Project App, to help citizens recognize and dismiss false news and avoid misinformation (video)

Remote Schooling for Educational Equity, with the Howard University Middle School, leveraging ATSC3 datacasting (video)

Sports Gamification: contest, gamification, betting, social dimension, value for ADV (video)

Televisa Univision ATSC3 Broadcast App

Hyperlocal news as NextGenTV roadmap start

This is one of the first **ATSC 3.0 Broadcast App** in live production, providing viewers with additional personalization, as well as local and hyper-local content that really speaks to their interests, continuing to build loyalty and retention among viewers, maximizing user engagement and advertising opportunities.

Developed by Fincons for **Televisa Univision**.

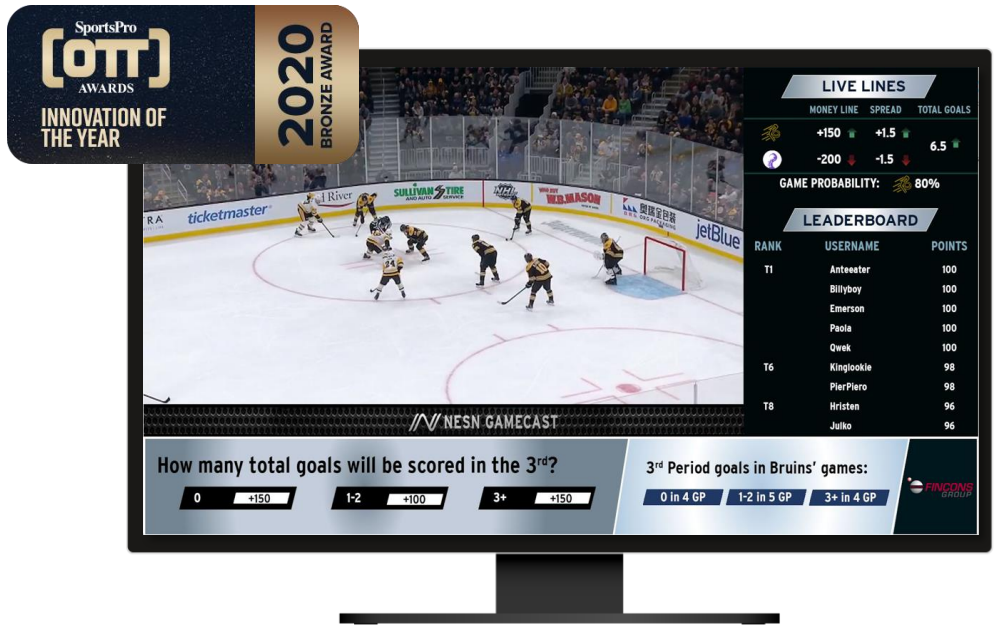
Based on the RUN3 TV Framework.

Live sport betting/gamification App

In collaboration with Verance

Sport Gamification

- **Pre/mid//post Game Questions**, raised through back office and triggered in sync with video
- **Users leaderboard** and gamifications ranking in addition to real-time statistics



Betting and External Information display

- **Big screen app** in synch with a live event, **Sport Stats** and a **Betting** service provider; able to receive and to render on screen bet live notifications.
- **L-BAR frame** provides users' data, enriched graphics, sport stats, betting info and match results.
- **Watermarking** is used for the identification of the match phase (pre-mid-post game) and can be extended to any notification during a real live match including betting quotes and game results.
- **Mobile app is** integrated with the TV app, used for bets input, and kept in synch.

Sinclair ATSC3 Broadcast App

Open Sourcing to favor ATSC3 adoption

Fincons contributed to the **redesign** of the Sinclair broadcast app, introducing **a new interactive User Experience** to prepare the “second-wave” of adoption at larger scale.
The Sinclair ATSC3 App has been open sourced for the benefit of US broadcasters and Fincons has partnered with Sinclair for its distribution.

Main Features: Call-To-Action, Emergency Alerting, Weather, Favourites, Categories, Channels.

ATSC 3.0 US Update

November 10th, 2022

Mike Kralec, SVP/Chief Technology Officer

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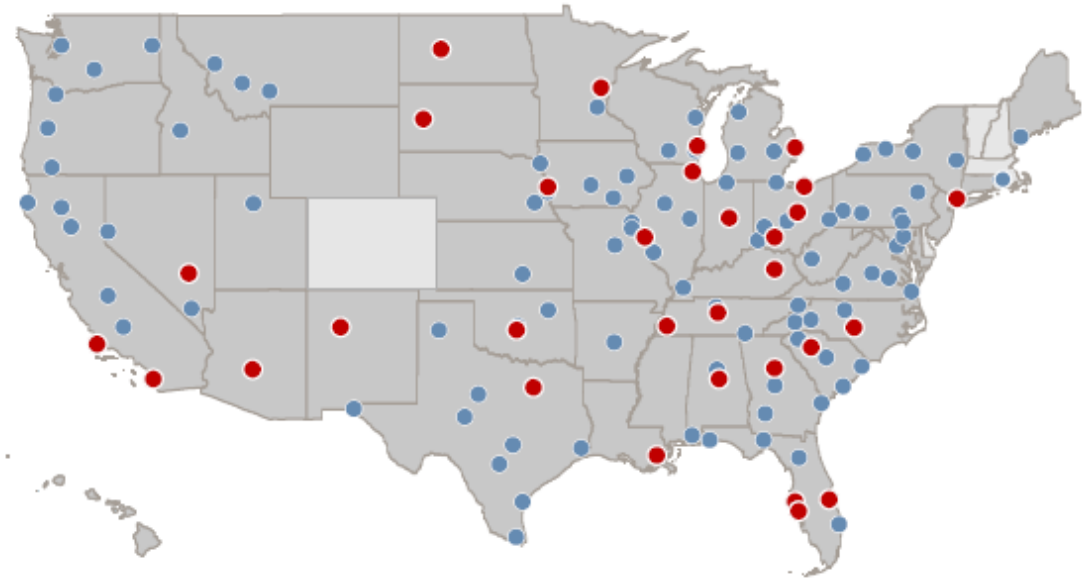
Sinclair Broadcast Group | Now a Television Broadcaster and IP Network Operator

Sinclair Broadcast Group is the second-largest television station operator in the United States and a pioneer in the global development and deployment of ATSC 3.0 technology



News

FOX
abc
CBS
THE NATIONAL DESK
NBC

Non-News Channels

CW
MyNetworkTV
STIRR

Emerging Networks

COMET
TBD
CHARGE!

Sports

Bally SPORTS
MARQUEE SPORTS NETWORK
YES
TENNIS CHANNEL
STADIUM

ENVISIONING THE POSSIBILITIES

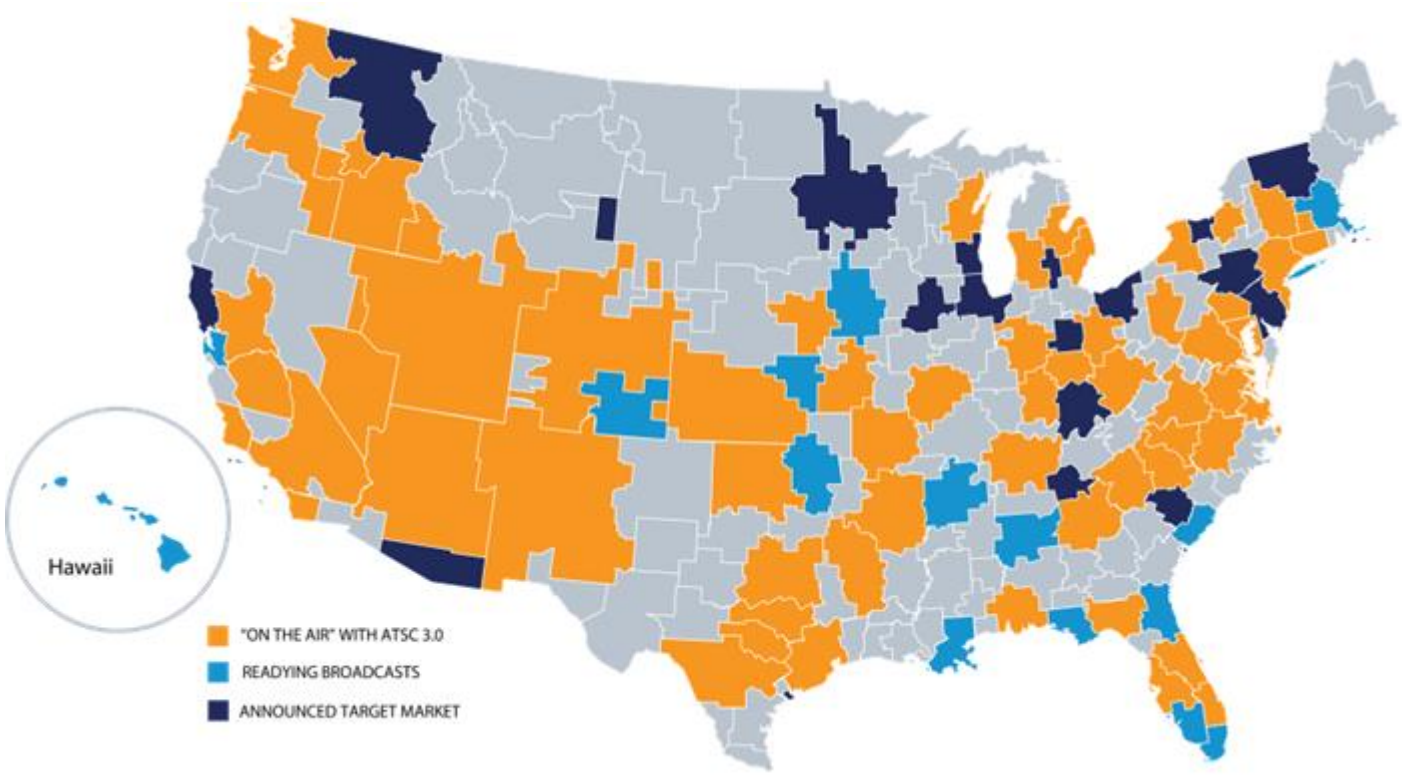
Deployment & Adoption of ATSC 3.0

Coverage is quickly developing…

- ATSC 3.0 broadcasts now cover **over 50% of US HH** and are projected to reach **80% by the end of 2022**
- Sinclair will have transitioned **41 markets** to NextGen by the end of 2022
- Availability of lower cost ATSC 3.0 receivers (dongles, gateways, set-top-boxes) is increasing

…and efficiency of the standard is increasing

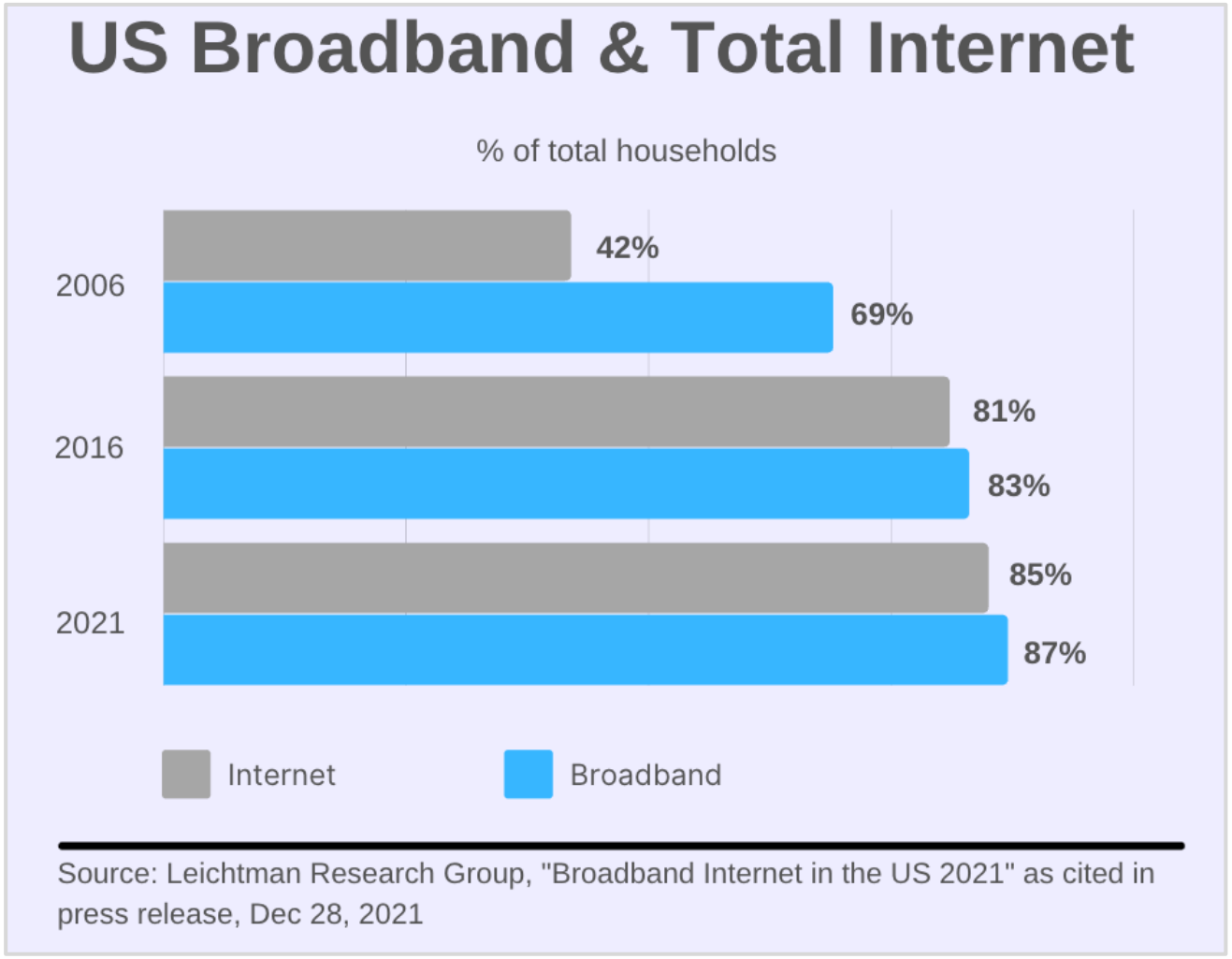
- ATSC 3.0 standard creates **significantly higher throughput** using the same spectrum resources
- Anticipated technology advancements in the next 3 years will **double ATSC 3.0 efficiency**



ENVISIONING THE POSSIBILITIES


nextgentv

New Consumer Expectations



- Nearly 90%, of Americans have broadband at home
- Over 82% have at least one Internet-connected TV device
- Nearly 40% of adults in U.S. TV households watch TV daily via a connected device
- NextGen TV connectivity really governed by ATSC 3.0 set penetration
- Consistent 2x/6months growth in set penetration

ENVISIONING THE POSSIBILITIES

Digital and Broadcast Converge

The technologies to enable the IP content delivery are different, but the operations and capabilities align!

*Verance audio watermark loads the BA even if the consumer is watching via cable (MVPD)

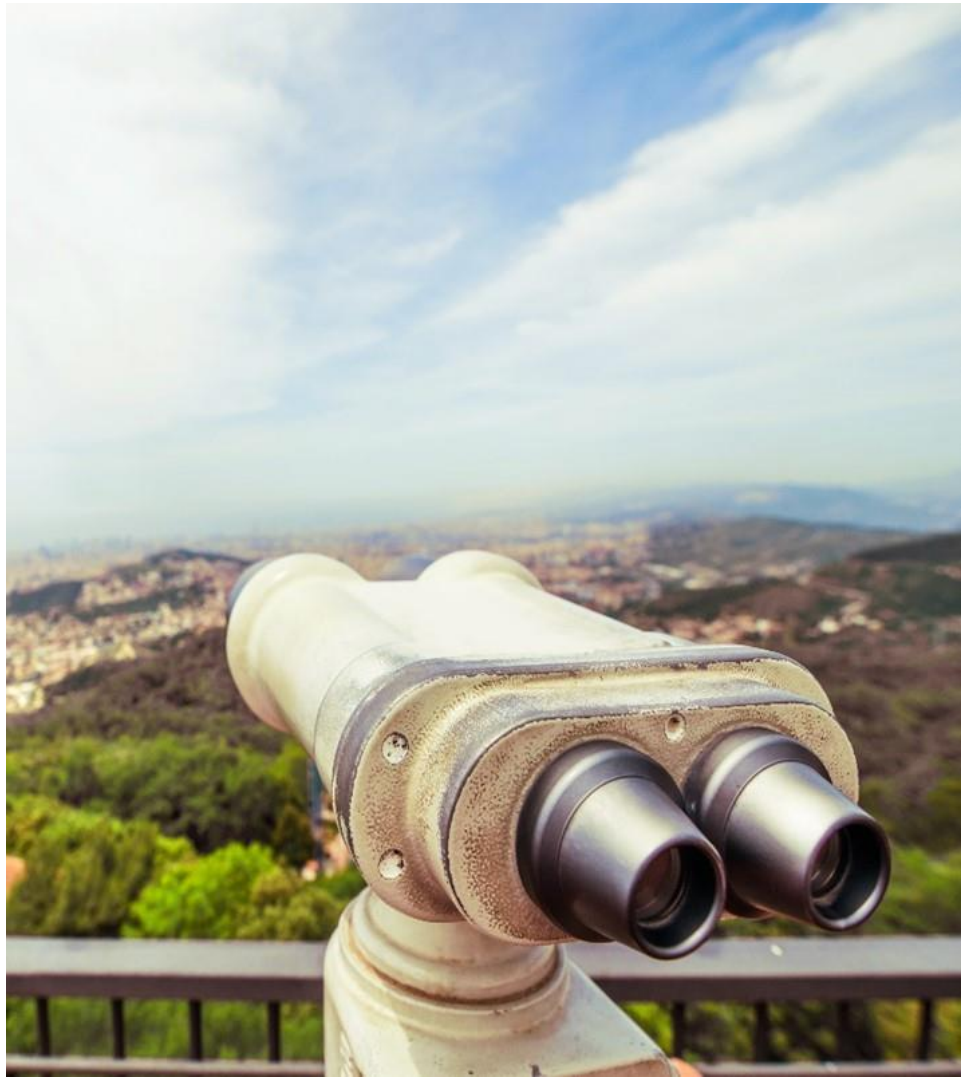
- HTML5-based
- DASH streaming video
- Limitless extension potential
  - Authentication – QR or mobile app
  - Broadcast news flashes
  - Detailed program data
  - Related, recommended, content
  - OTT content streams
  - Premium features
- Other data sources including advanced emergency alerts

ENVISIONING THE POSSIBILITIES

Wireless IP: Data Delivery as a Service (DDaaS)

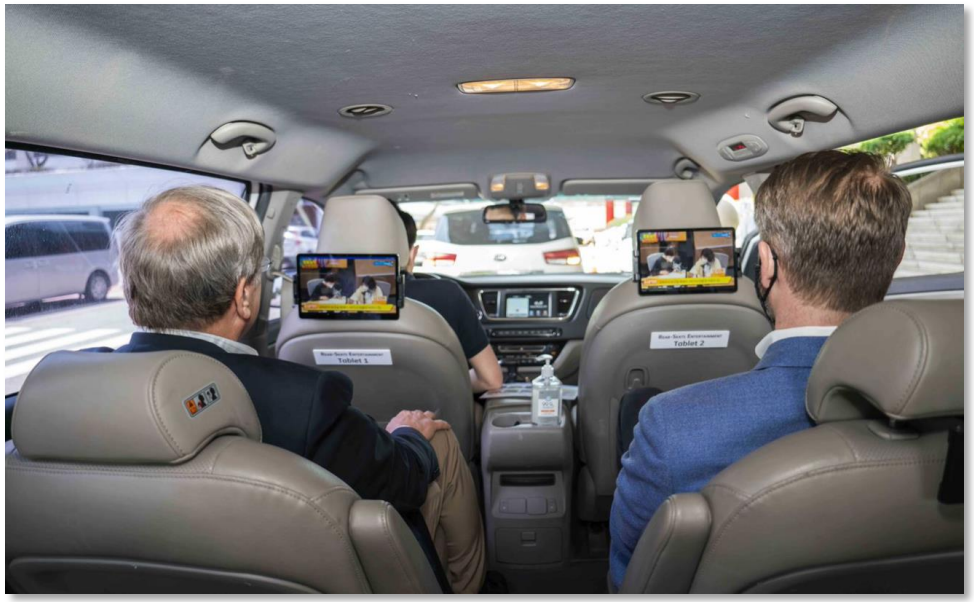
Use of broadcast IP spectrum internet and 5G technology to reach our consumers on multiple platforms

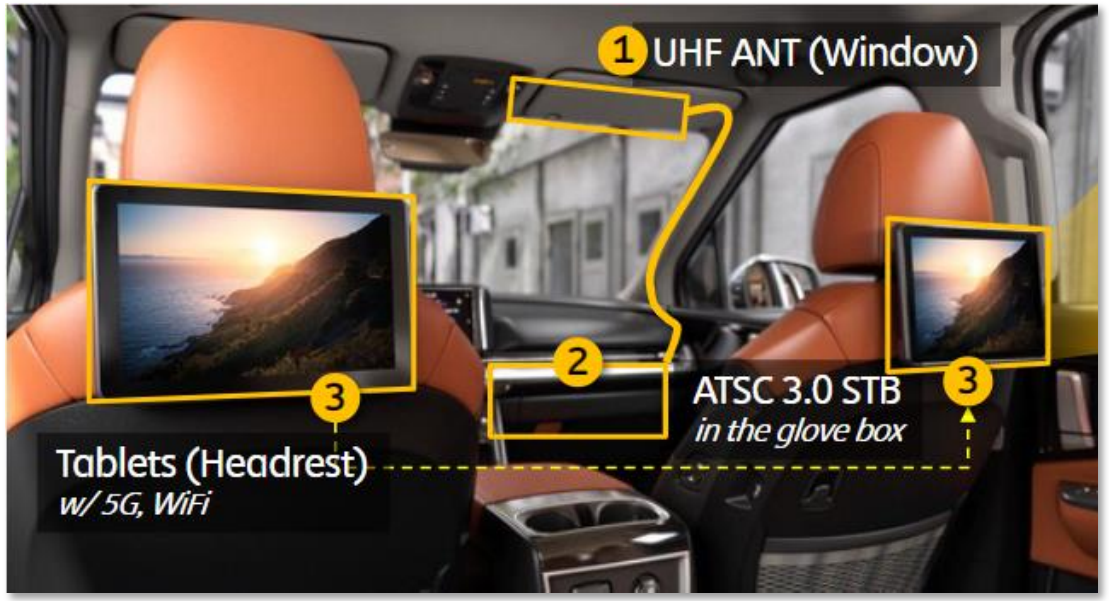
To maximize the value of our ATSC 3.0 spectrum, Sinclair will build and operate a scalable, cloud based NextGen wireless data distribution platform in the U.S. capable of delivering IP data to fixed and mobile devices.



ENVISIONING
THE POSSIBILITIES

- Seoul Pilot Program 2022
- Mobile Datacasting & Targeted Ad Insertion with KBS & Hyundai





Film-type UHF ANT

- Attached at the window of a passenger seat
- 4xANT attached
- Wires connected to ATSC 3.0 STB through A-pillar

ATSC3.0 STB

- ATSC RF receiving (4xANT)
- CAST.ERA M/W inside
- WiFi capable

S8 Tablet attached to Headrests (CAST.ERA App.)

- ATSC 3.0/OTA player through WiFi (HEVC, MPEG-H)
- 5G/OTT for Target Ads Insertion w/ GPS info

ENVISIONING THE POSSIBILITIES

Nexstar ATSC3 Broadcast App

Delivering custom ATSC Broadcasting App from Open-Sourced project

Fincons implemented for Nexstar a BA based on the Sinclair's open source project, customizing it as follows:

- **navigation nodes**;
- Rendering using **Nexstar's preferred APIs** and using the **ZIP code for geolocating** the device;
- Customization of the setting section and usage of **IP-based geolocation service**;
- Integration with **Nexstar's Google AD Manager;**
- Integration with **Google Analytics for ADV tracking**;
- Creation of a **WordPress CMS easy-to-use instance** for local markets skinning

Main Features: Call-To-Action, Weather, Settings, ADV Banners integration, geo-localization, GA

NextGen TV Strategic Roadmap

Audience is ready for a new experience.
Markets are willing to experiment new business models.

Broadcasters and operators should carefully define their strategic roadmap:

- Integrating NextGen TV services within a cross-channel proposition
- Combining TV with online channels and the proper mix of new services

In accordance with their overall brand positioning.

Thank you!

Oliver Botti
SVP Sales & Innovation Executive Director

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Mike Kralec, SVP/Chief Technology Officer

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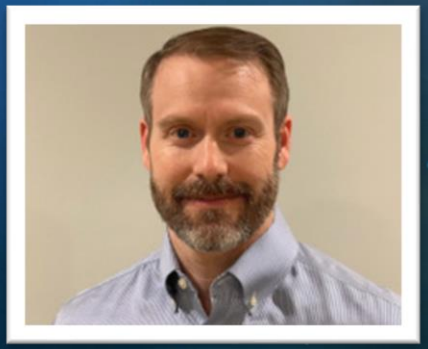

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