

5G Broadcast / Multicast

When Broadcast natively meets Broadband

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Rohde & Schwarz

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Make ideas real



Agenda

- ▶ R&S Vision
- ▶ 5G Broadcast
- ▶ Use Cases
- ▶ The Big Picture
- ▶ Global Footprint



Industry Challenges Meet Emerging Business Cases

Content Provider

- Reduce distribution costs
- Reaching wider audiences
- More reliable and flexible distribution system
- Look for alternative/enhancement to legacy cellular model



BNO

- Change in customer behavior
- Linear TV is losing popularity
- Smartphone/Tablets are gaining importance
- Looking for new B2B opportunities



MNO

- Increase of Mobile video consumption incl. Live
- Exploring new services apart from Telco
- Consumers desire premium content anytime-anywhere
- Missing QoS/QoE



Efficient Media Delivery – Anywhere, Anytime, to everybody

- Usage of Broadcast/Multicast approach together with Unicast → eMBB
- Deployment of overlay network with One-to-Many concept
- Deployment of SDL mixed mode and/or dedicated mode in existing Cellular sites
- Enable Multicast as a Service (MaaS) to explore more business models

5G Broadcast – Main Features for multiple use cases

SIM-less reception with simplified architecture

Receive-Only Mode (ROM) & Free-to-Air (FTA)

Different spectrum options (e.g. UHF, SDL)

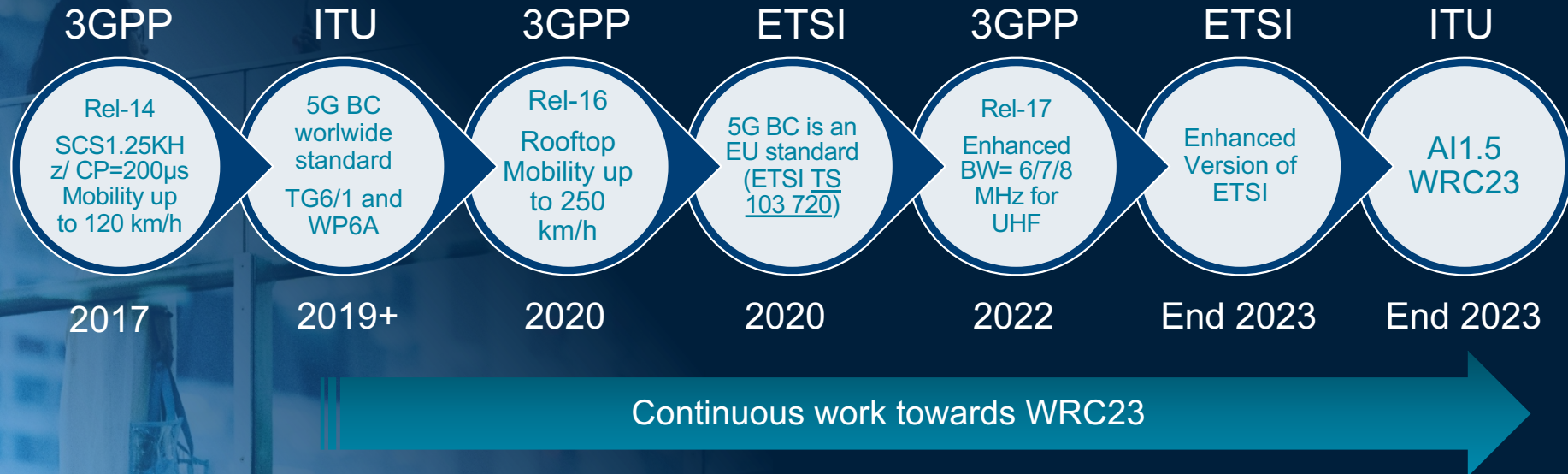
Various deployment possibilities (e.g. MNOs, BNOs)

Existing Infra (HPHT to LPLT) and service layer (DVB-I)

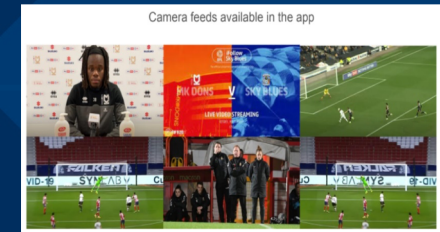
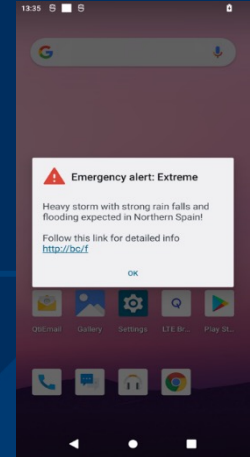
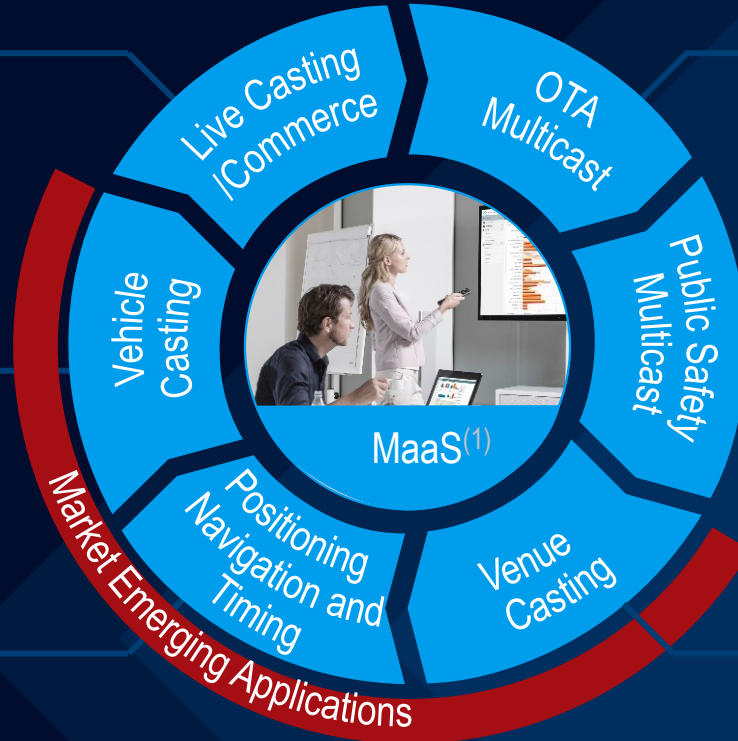
Highly flexible velocities (up to 250 KM/h Vs up to 300 μ S)

Supports SFN and MFN

5G Broadcast Technology - Global Specifications



Cross-industrial Verticals With New Business Incentives



(1) Multicast as a Service



5G Cellular Network

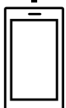
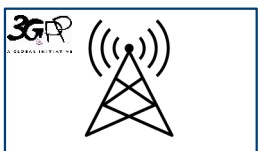
5G Broadcast Network

5G Cellular and 5G Broadcast Converged Network

Non-3GPP Broadcast Network

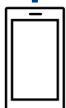
5G Cellular and Non-3GPP Broadcast Converged Network

Internet



5G Phone

Content*



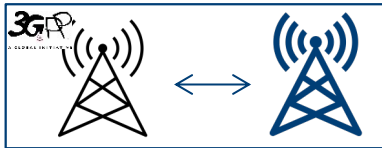
5G Phone

+ UHF band support

Internet



Content*



5G Phone

+ UHF band support

Linear TV Radio



Non-3GPP

Internet



Linear TV Radio



5G Phone

+ UHF band support

+  Non-3GPP receiver

Supports:

- Free-To-Air
- No SIM operation



5G BC – The BIG Picture

TUB SDR
~36k€/pc



2018

12 prototype QRDs
~13k€/pc



2022

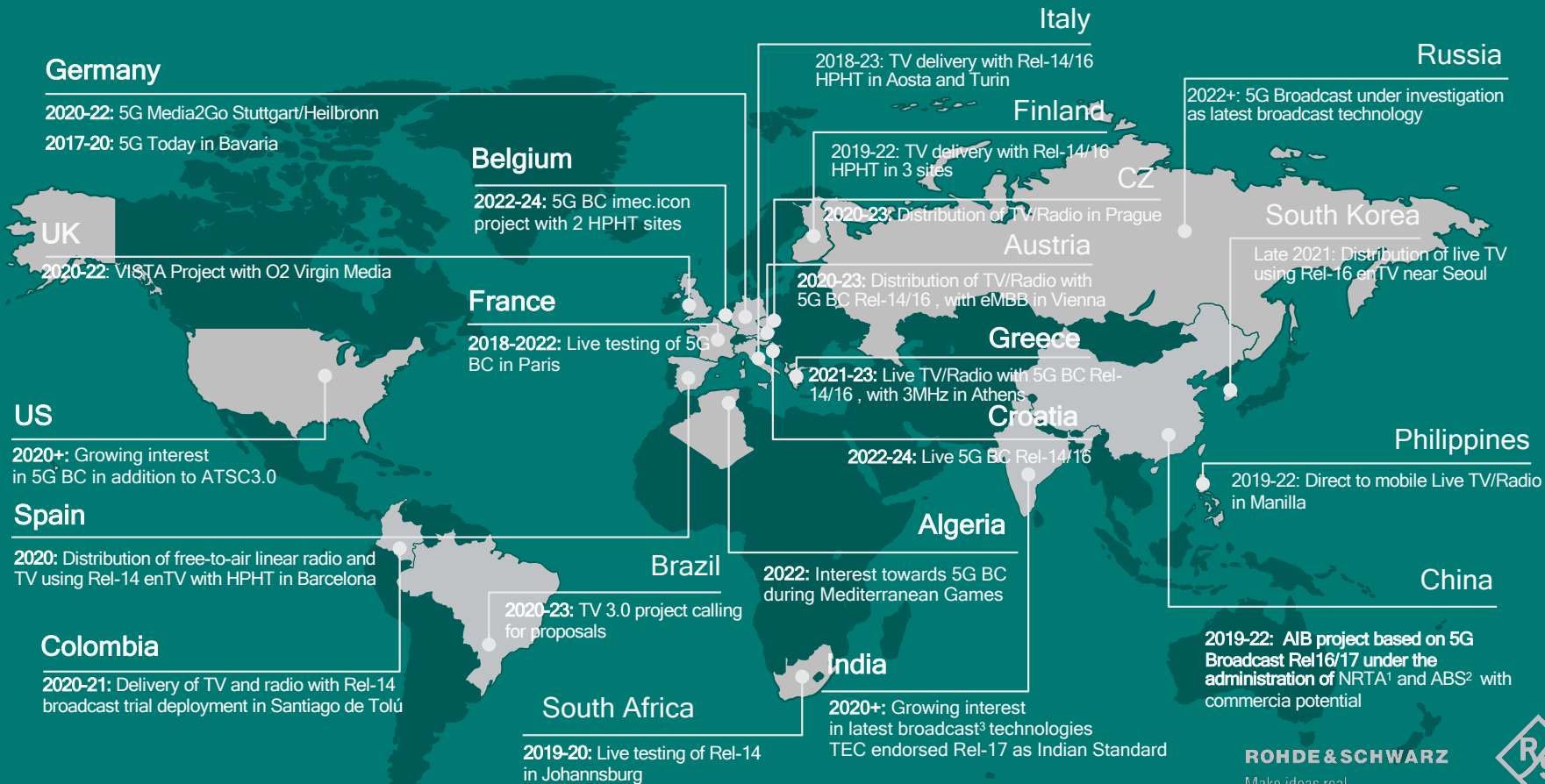
Off-the-Shelf
~600€/pc



2023

The route towards commercialization

Significant interests towards 5G broadcast deployment



Rohde & Schwarz

Experts of 5G technology

Experts of Broadcasting technology

