

DVB

**Digital Video
Broadcasting**

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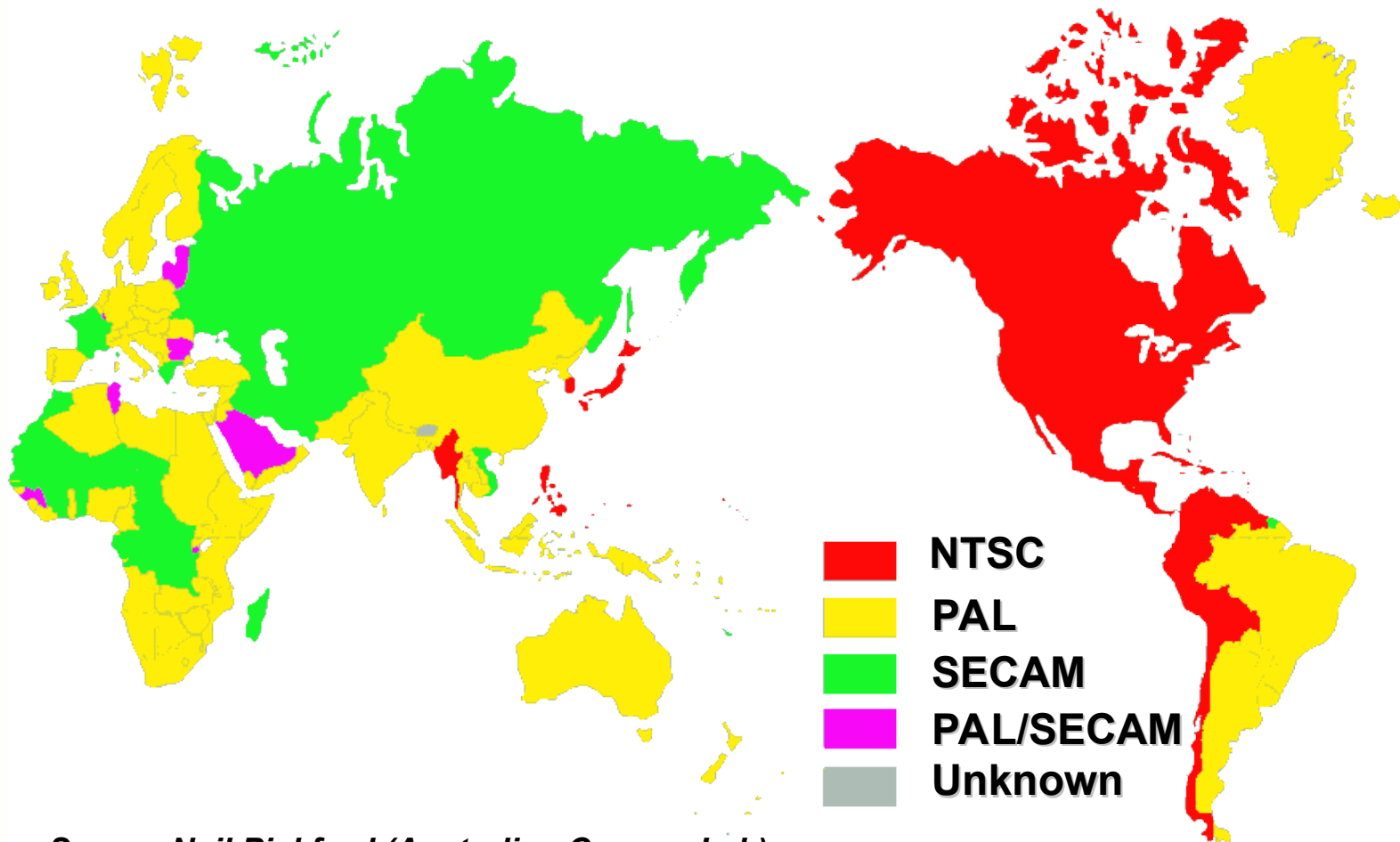
DVB

Digital Versatile Broadcasting

Plan of the Presentation

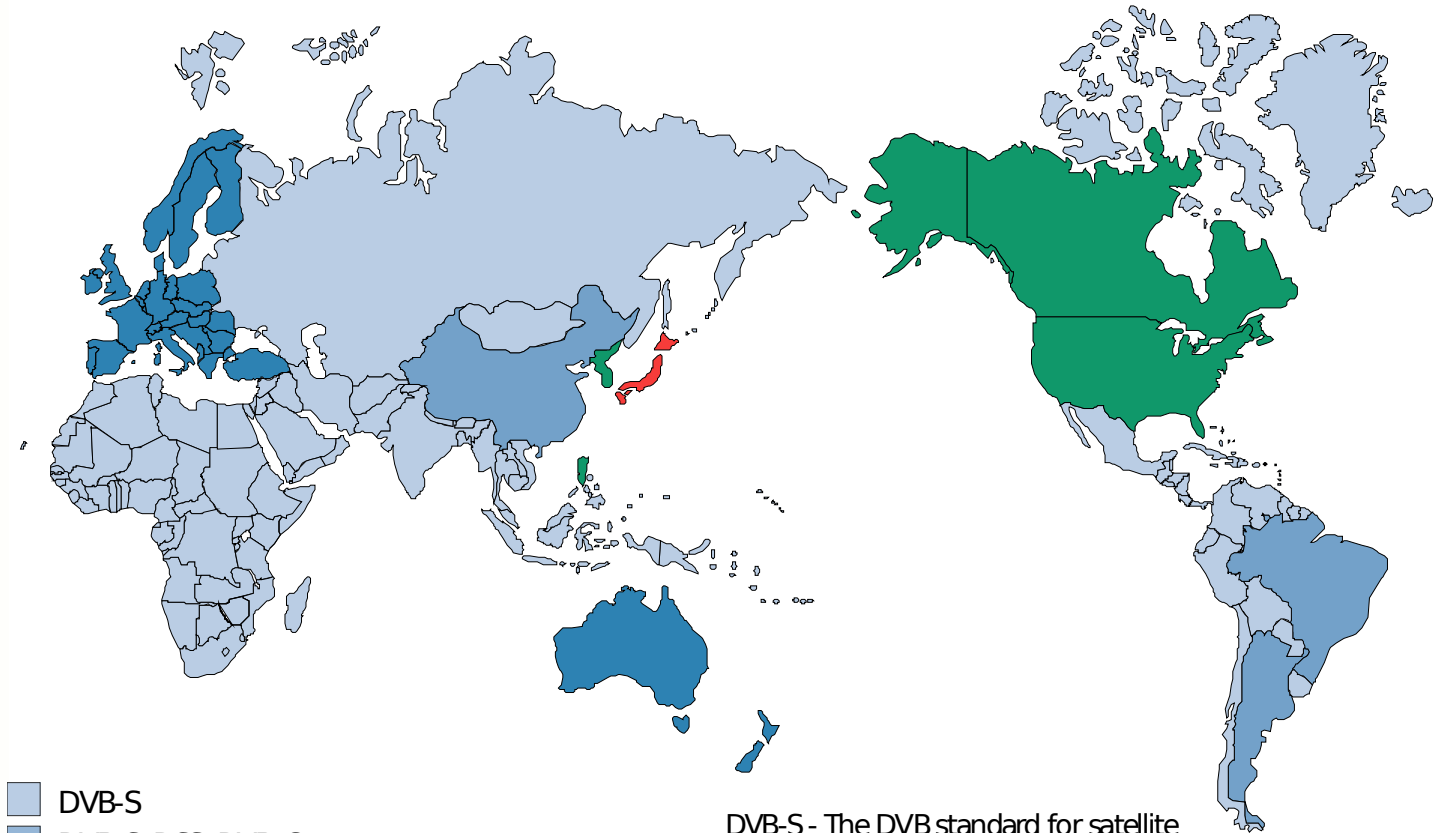
- A “very short” history lesson
- Future “TV” systems
- The DVB’s approach
- DVB’s set of standards
- DVB’s view of future

World-wide TV Standards ?



Source Neil Pickford (Australian Comms Lab)

World Digital TV Adoption



- DVB-S
- DVB-S, DSS, DVB-C
- DVB-S, DVB-C
- DVB-S, DVB-C and DVB-T
- DVB-S, DSS, ISDB
- DVB-S, DSS, DVB-C, CableLabs, ATSC

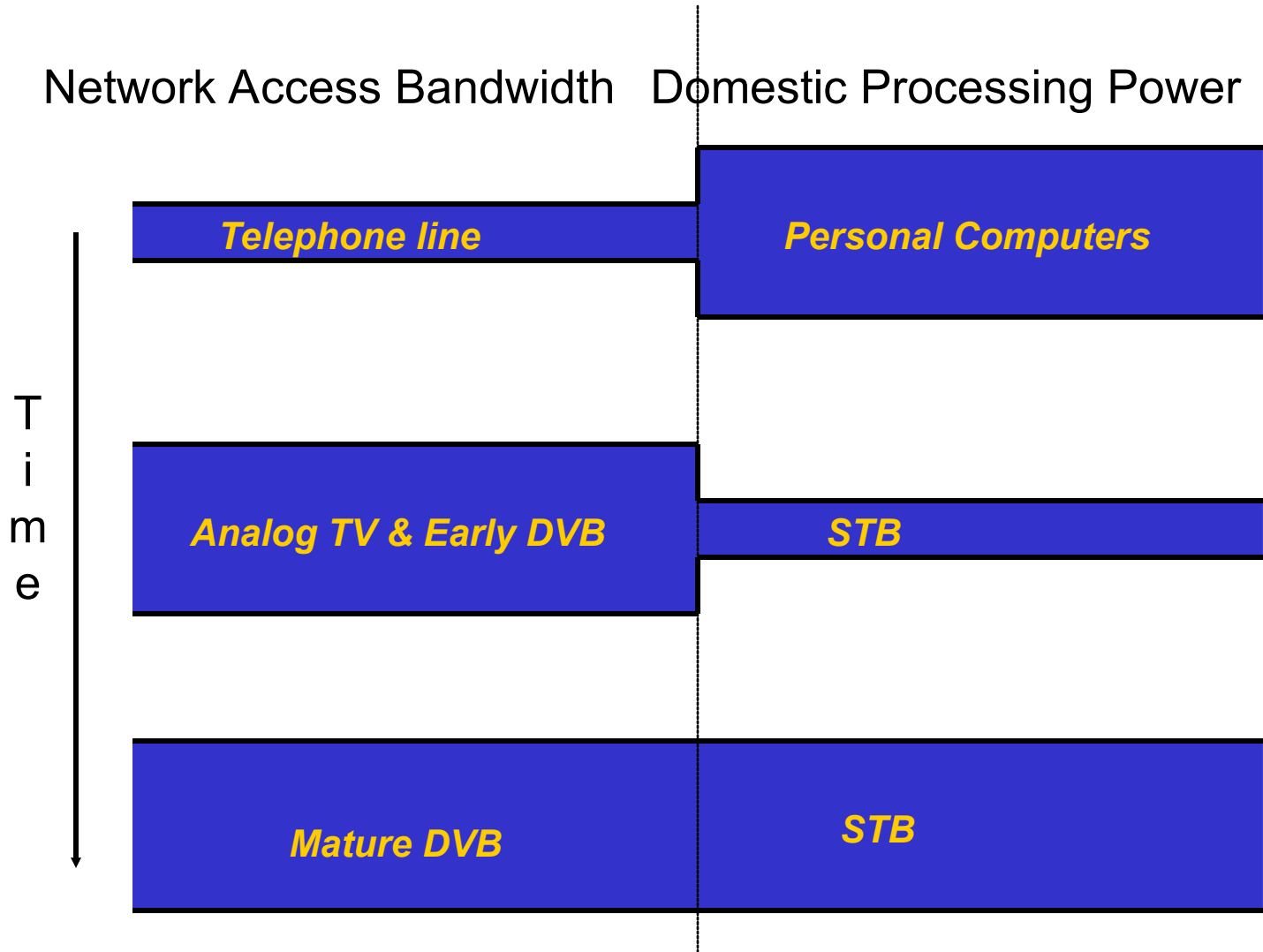
Source Martin Jacklin (DVB)

DVB-S - The DVB standard for satellite
 DVB-C - The DVB standard for cable
 DVB-T - the DVB standard for terrestrial
 DSS - Hughes proprietary system for Satellite ("MPEG-1.5")
 CableLabs - The US standard for cable
 ATSC - The US standard for terrestrial
 ISDB - The Japanese standard for terrestrial

What does Digital TV mean

- Previous television systems have linked services and transmission technology
- Digital TV provides opportunities we are only starting to think about. How we design the future systems will be key
- Flexibility and interoperability are the key issues
- The world is moving to digital TV

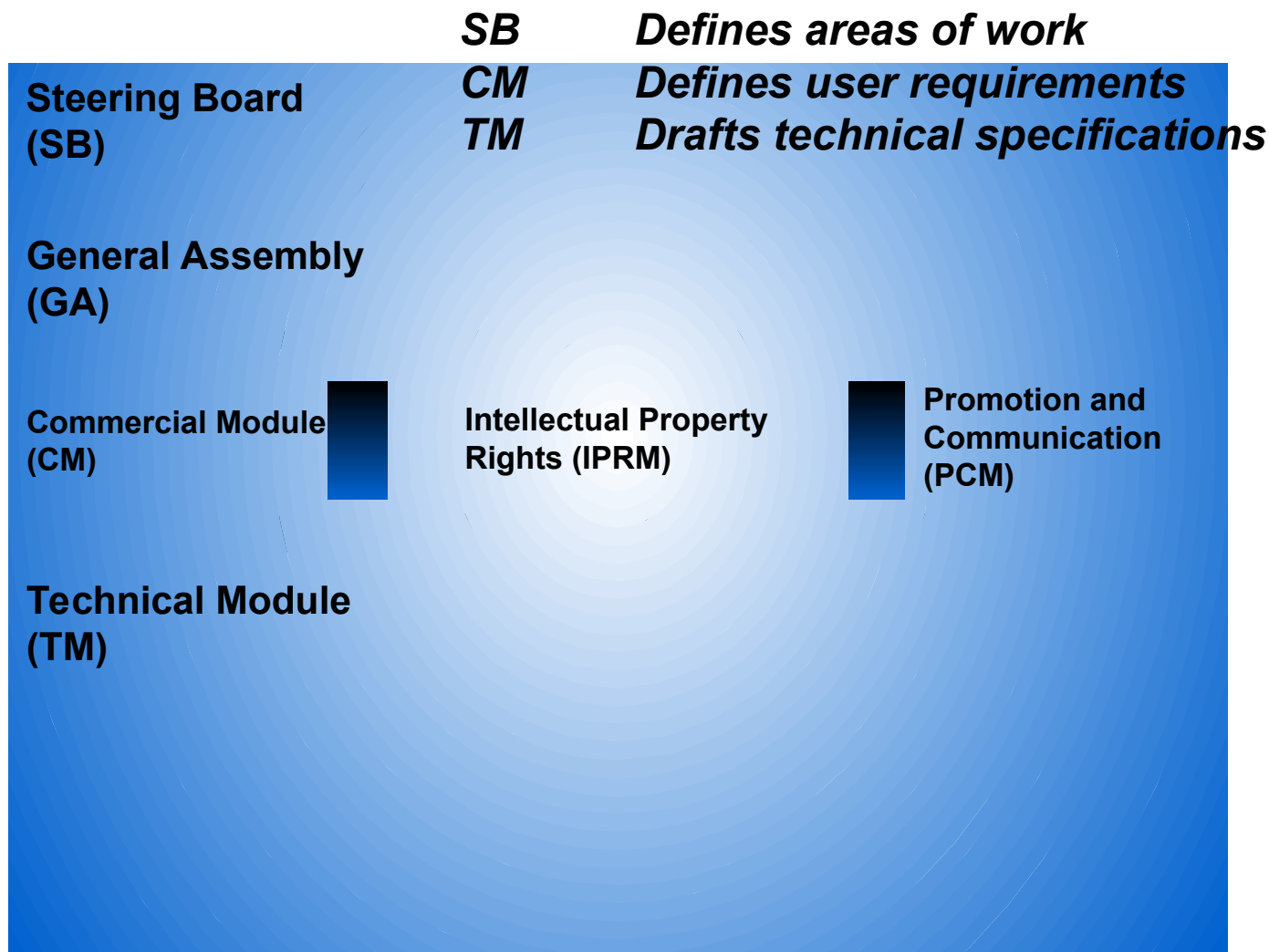
Convergence of TV Systems



What is the DVB Project ?

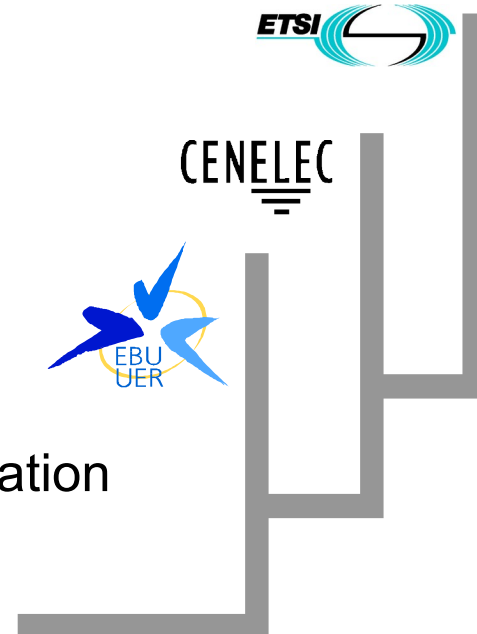
- A market-led initiative to establish the framework for digital broadcasting
- DVB was formed in September 1993
- DVB now has more than 240 members from more than 35 countries:
 - Broadcasters
 - Manufacturers
 - Network operators
 - Regulatory bodies
- We believe DVB has changed the way the world views standardisation

How the DVB Project works

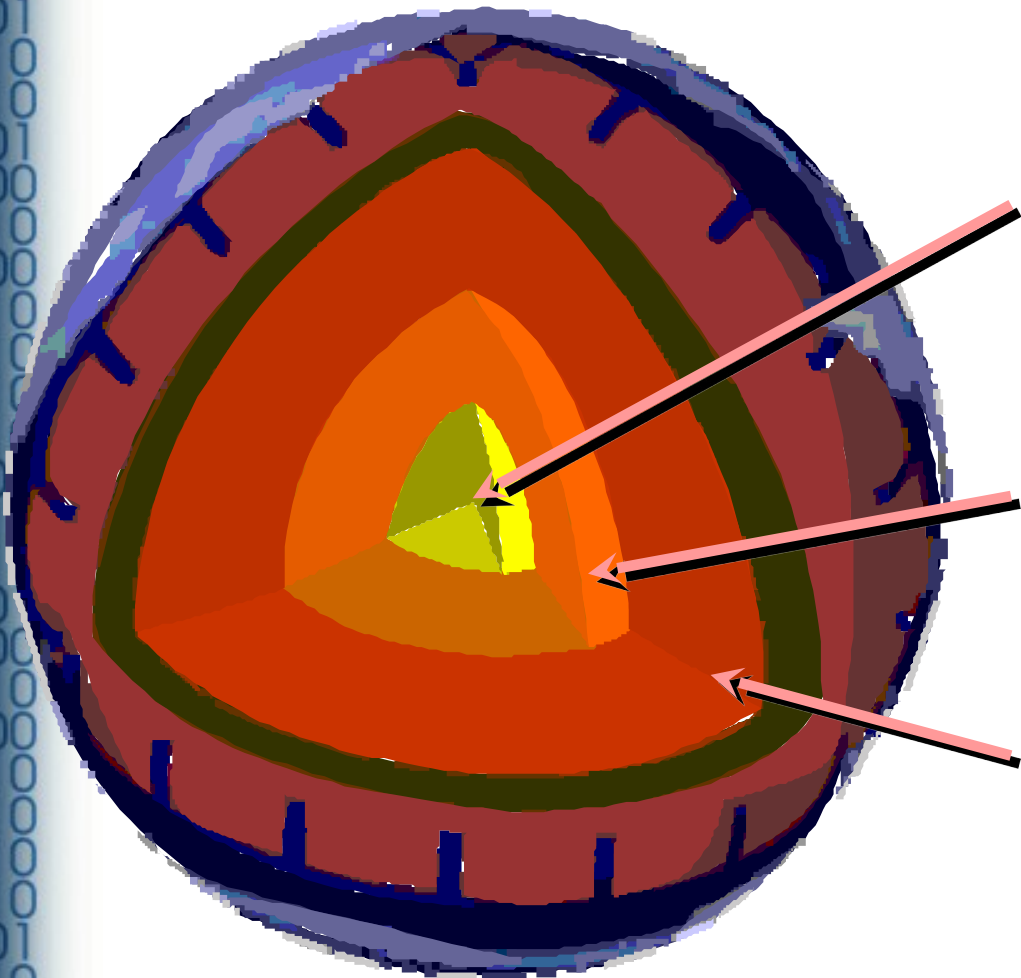


DVB Standardisation

- DVB Specifications submitted to EBU/ETSI/CENELEC Broadcast Committee
- Specifications submitted to full standardisation rigours: public enquiry, vote, etc.
 - Public Inquiry
 - Vote
 - Resolution
 - Problems flagged to DVB
- Three deliverables
 - TR (ETR) - Technical Report
 - TS - Technical Specification
 - EN (ETS) - European Norm



DVB Core Principles



Open

Interoperable

Market - led

DVB Standards: Transmission

DVB-S (EN 300 421)

DVB-C (EN 300 429)

DVB-T (EN 300 744)

DVB-CS (EN 300 473)

DVB-MS (ETS 300 748)

DVB-MC (ETS 300 749)

DVB-DSNG (EN 301 210 and EN 301 222)

DVB-MPEG (ETR 154)

DVB-M (ETR 290 and TR 101 291)



DVB Standards: Software and CA

Software: DVB-SI (EN 300 468)

DVB-TXT (ETS 300 472)

DVB-SUB (ETS 300 743)

DVB-DATA (ETS 301 192)

Interfacing: DVB-CI (EN 50221)

DVB-PI (EN 50083-9)

DVB-IRDI (EN 50201)

DVB-SDH (ETS 300 814)

DVB-PDH (ETS 300 813)

DVB-HAN (TS 101 224)



DVB Standards: RC and CA

Interactivity: DVB-NIP (ETS 300 802)

DVB-RCC (ETS 300 800)

DVB-RCP (ETS 300 801)

DVB-RCD (EN 301 193)

DVB-RCG (EN 301 195)

DVB-RCL (EN 301 199)

DVB-RCS (TR 101 201)



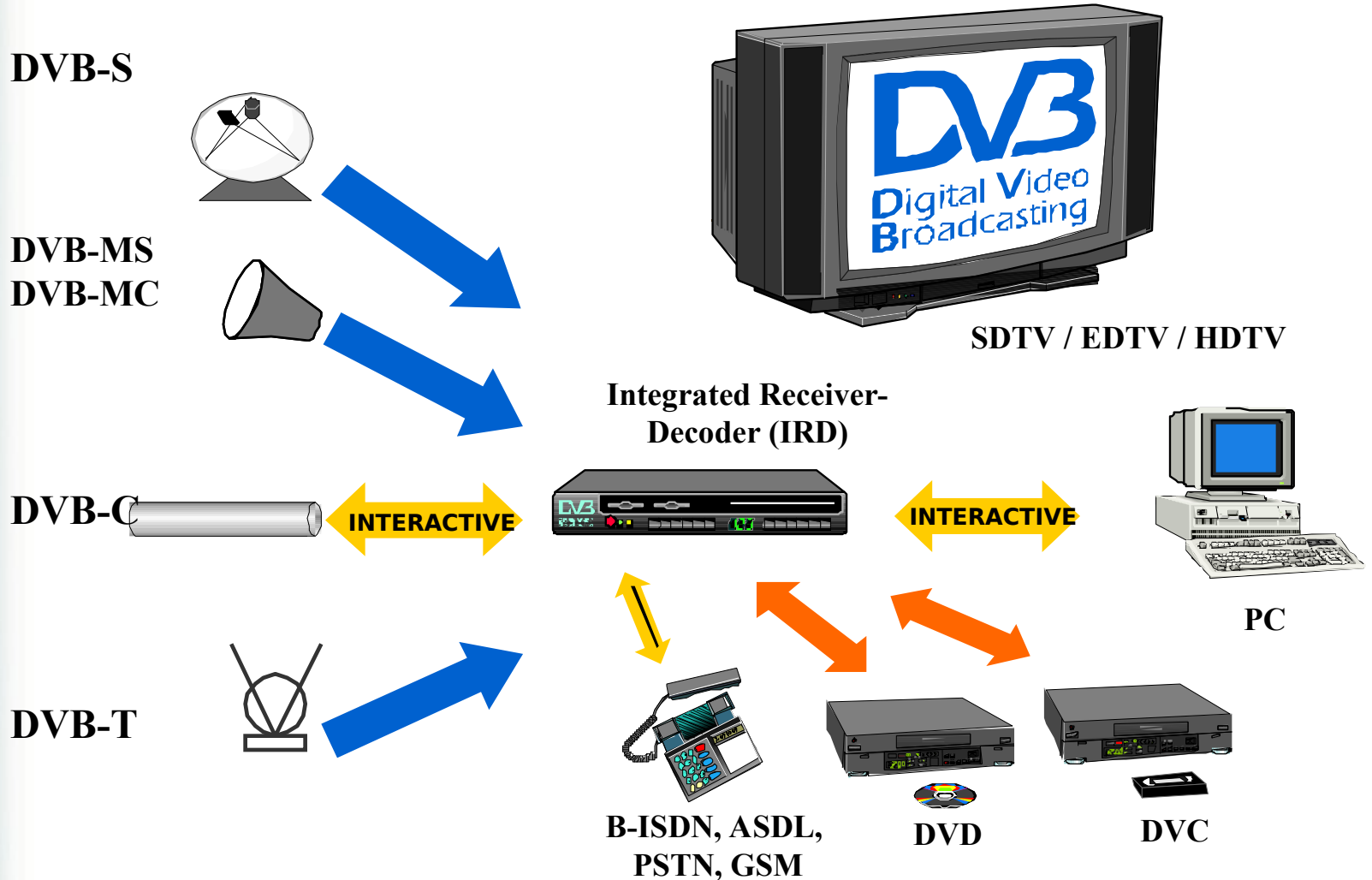
Conditional Access:

DVB-CA (ETR 289)

DVB-SIM (TS 101 197 and TS 103 197)

Common Scrambling (with D-SNG)

DVB in the Home



And so

- DVB standards cover the entire family of “downstream” broadcast delivery systems
- Commonality between DVB standards permits plug-in modules (e.g. DVB-T side-car added to DVB-S receiver) to extend functionality
- DVB has considered “total broadcasting”: transmission, conditional access, interactivity & interfacing enabling every imaginable service
- The reason is:
“That’s the way the broadcasting industry wants it”

Reflections

- This period promises to be the most exciting since the invention of television. It will present enormous technological and economic challenges
- TV and particularly digital TV is all about services new and exciting services
- Good luck with Digital Television
- We are here to help