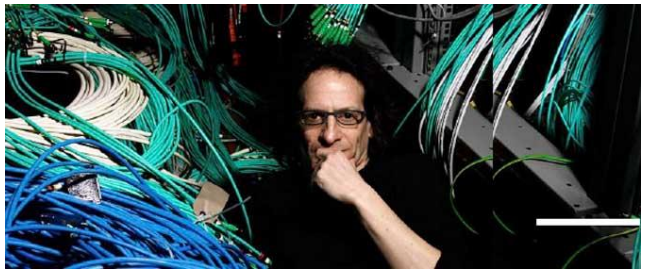
Prediction is very difficult, especially about the future

- Niels Bohr
  Danish physicist

Prediction from the Creator of YouView



“by 20xx broadcast will be dead and we'll all curate our own TV experience using on-demand archives as our resource”

Anthony Rose (2007)

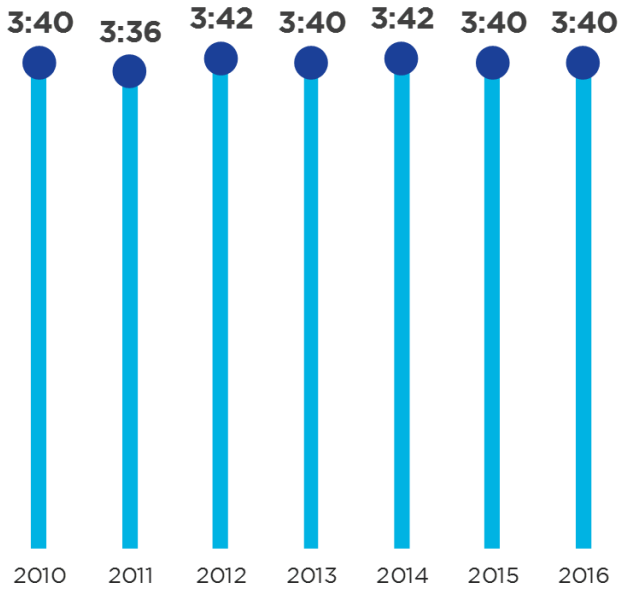
DVB-I: Broadcast in an OTT World

Dr Peter Siebert
DVB Project Office

Daily TV Viewing Time per Individual, 46 EBU Markets

Traditional TV viewing remains stable overall

DAILY TV VIEWING TIME PER INDIVIDUAL: 2010-2016
AVERAGE BASED ON 46 EBU MARKETS (H:MM)

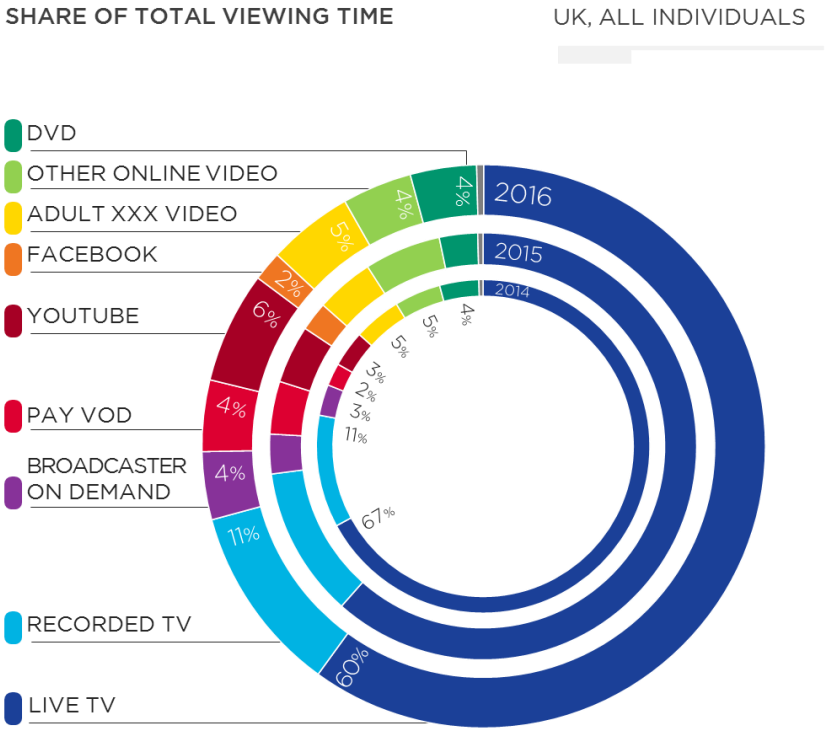


Source: EBU based on Eurodata TV Worldwide & relevant partners / EBU Members' data

EBU
OPERATING EUROVISION AND EURORADIO

Share of Total Viewing Time, UK All Individuals

Online viewing is progressively eating into TV viewing time

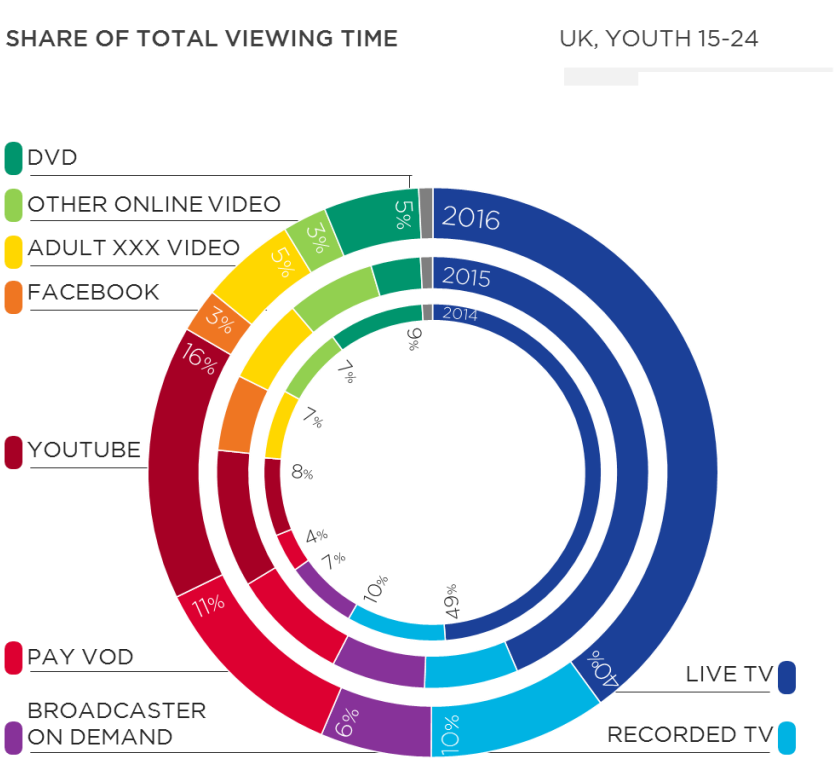


Source: Thinkbox based on BARB / comScore / broadcaster stream data / OFCOM Digital Day / IPA Touchpoints / Rentrak

EBU
OPERATING EUROVISION AND EURORADIO

Share of Total Viewing Time, UK Youth 15-24

Among youth, viewing behaviors are rapidly changing

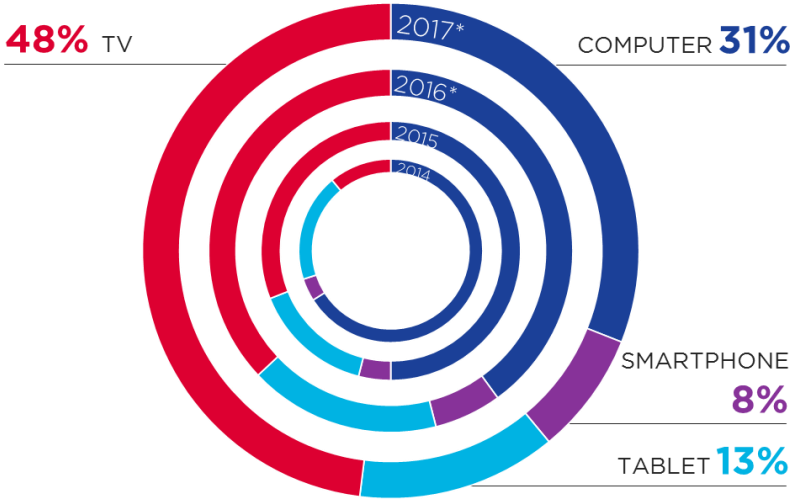


Source: Thinkbox based on BARB / comScore / broadcaster stream data / OFCOM Digital Day / IPA Touchpoints / Rentrak

Minutes of Streaming Delivered by Screen

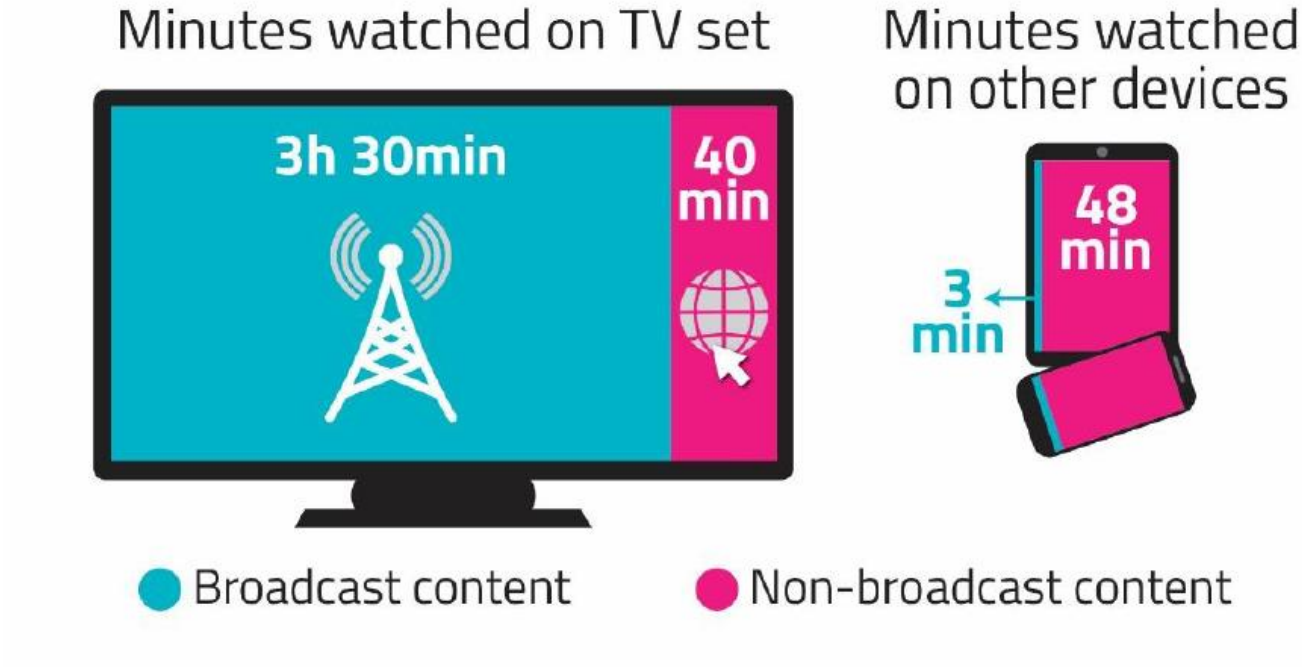
The TV set is becoming the main screen for streaming

NRK WEB TV
MINUTES DELIVERED BY SCREEN



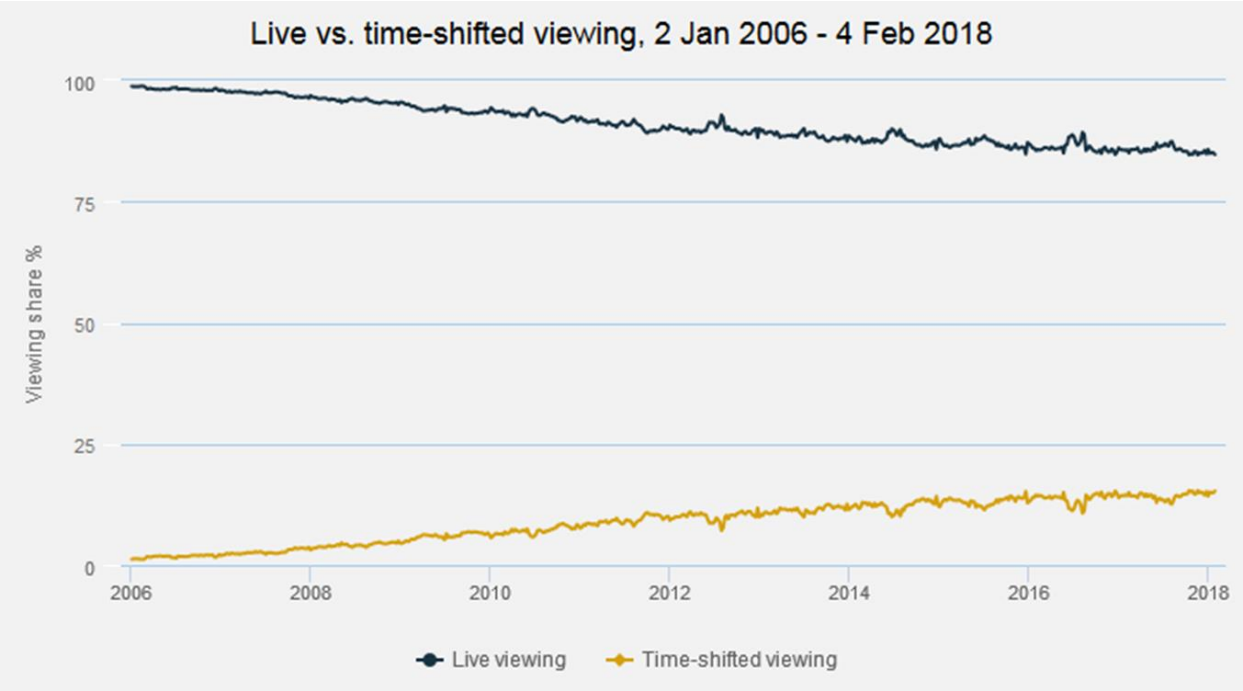
* 2016 based on January – June, 2017 based on January - August
Source: NRK / Kantar TNS Scores, 2016

Total TV and AV consumption across all devices



Source: Ofcom/BARB/BARB TV Player (census data)/TouchPoints 2017/ComScore – see detailed methodology section of how the sources are used to construct a total estimated view of video watched

Live vs. "You View" Viewing in UK (OFCOM)



Extrapolating the current trend the curves will intersect in 2036!

The Decline of Cinemas when TV Entered the Market

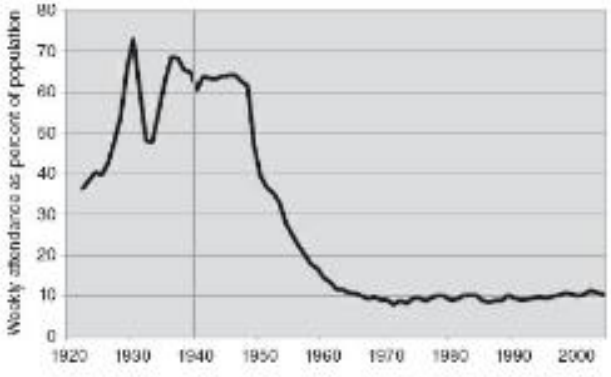


Figure 6–5. Weekly Motion Picture Attendance as a Percentange of Total US Population, 1922–2004

Source: The Rise and Fall of American Growth, Robert J. Gordon

Conclusions on OTT and Broadcast

- Broadcast TV will stay with us …

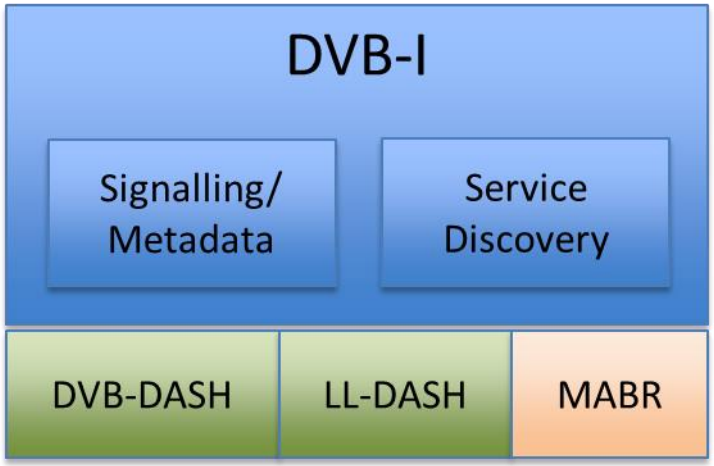
  … but user pattern and behaviour will change
- The transition to OTT is a evolutionary and not revolutionary
- Broadcaster will have to adapt but are in a good position:
  - Trusted brand
  - In many countries leading on-demand provider
  - Big screen still the first choice
- OTT and VOD service provider have to adapt as well:
  - Provide the same QoE as traditional broadcast TV
  - Address the big screen in the living room
  - Easy navigation for OTT services

New Initiative: DVB-I (Internet)

- DVB-I will bring the convenience and QoE of broadcast TV also to OTT delivery

- Foundation of a new system is built on
  - DVB DASH including Low Latency (LL)
  - Adaptive Media Streaming over IP Multicast

- DVB-I will provide capabilities for discovery, integration and distribution for OTT services similar to deployed functionalities of DVB services distributed over T/S/C/IPTV.



Why is DVB-I needed?

- OTT services are deployed as apps
- Apps allowed innovative services to develop outside the traditional processes of the media industry, but…
- Users:
  - Content is segregated into independent apps
  - Not all apps are on all platforms
- Broadcasters:
  - Apps need to be provided and maintained for multiple platforms
  - How to get your app noticed?
- Manufacturers:
  - Many apps to support and certify
  - Hard to provide a consistent user experience
  - Multiple solutions to same problem

Why is DVB-I needed?

- DVB-I does for IP services what DVB-T/C/S do for broadcast
- Services are signalled and distributed in a standardised manner, so a specific app is not required
- A receiver can present an integrated list of services and content, including DVB-I and broadcast services
- Users don't have to know or care whether a service arrives via broadcast or IP
- Broadcasters can deploy a service once to a wide range of devices
- Manufacturers can make a single consistent user experience for DVB-I (and broadcast) services

What will DVB-I be?

- DVB already has DVB-T (terrestrial), DVB-C (cable) and DVB-S (satellite)
- DVB-I will be a new addition, where the I stands for Internet
- DVB-I will deliver services over the Internet to devices with broadband access
  - …meaning “over the top”
  - …but also over managed networks, with operator support
- The user experience of DVB-I can be similar to DVB-T, C and S
- All devices with Internet access are in scope, not just TVs and STBs

Conclusion

- DVB-I will help Broadcasters, OTT and VoD operators by
  - Providing one plattform for OTT delivery
  - Reducing the number of clients (apps) to be supported
  - Improving visibility of services
  - Quality of Experience similar to "classical " broadcast