



# Removing boundaries between Smart TV and HbbTV

- Making universal TV applications easy •

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# About Mautilus, s.r.o.

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- 5 years of experience with Smart TV and HbbTV apps development
- 50+ TV applications delivered worldwide
- Located in Brno, offices in Vienna and Dubai
- Clients: Telefonica, icflix, CME(VOYO), HBO.GO, MTG, SIEMENS, ServusTV, ShowMax,...



# Smart TV/HbbTV ▶ Challenges

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- Smart TV:
  - Fragmentation
  - Application lifetime
  - Rapid application development
- HbbTV:
  - Fragmentation
  - Server side
  - Monetization

# Smart TV ▶ Fragmentation

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- Many TV vendors
- Different approach to platform-based features
  - Player/DRM/4K
  - Keyboard
  - Storage
  - Multitasking features
  - Resolution (HD/Full HD)
  - Platform bugs/issues
  - Performance
- It is worse then 3 years ago

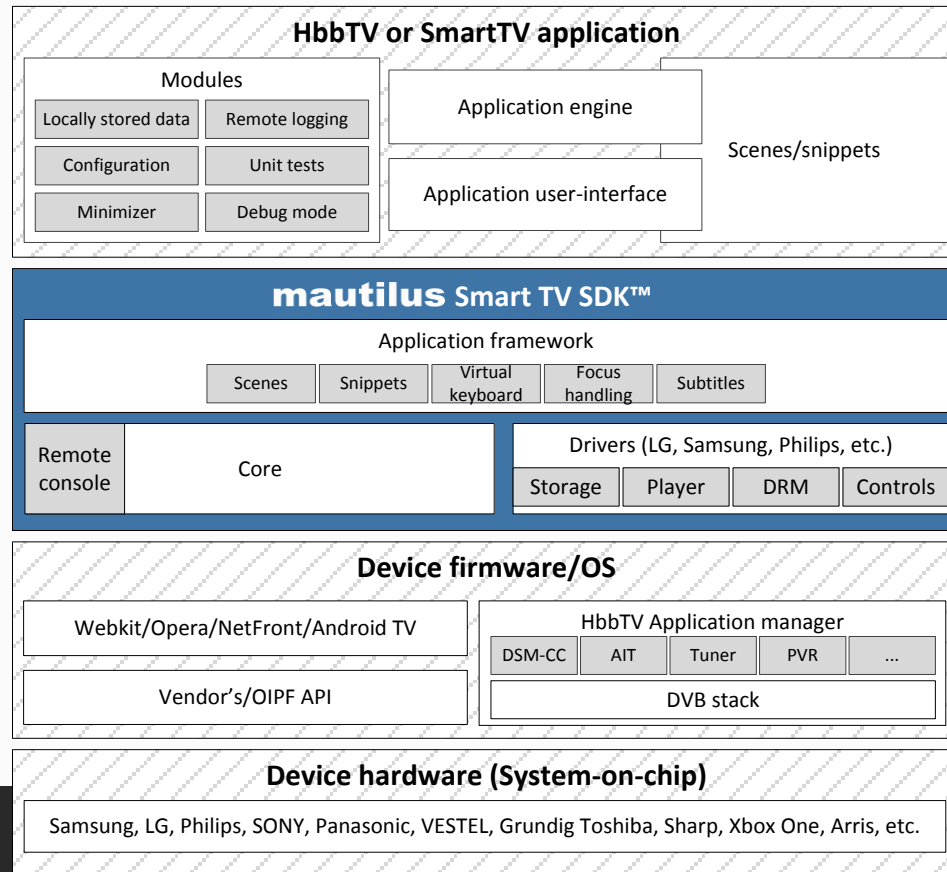
# Smart TV ▶ Lifetime

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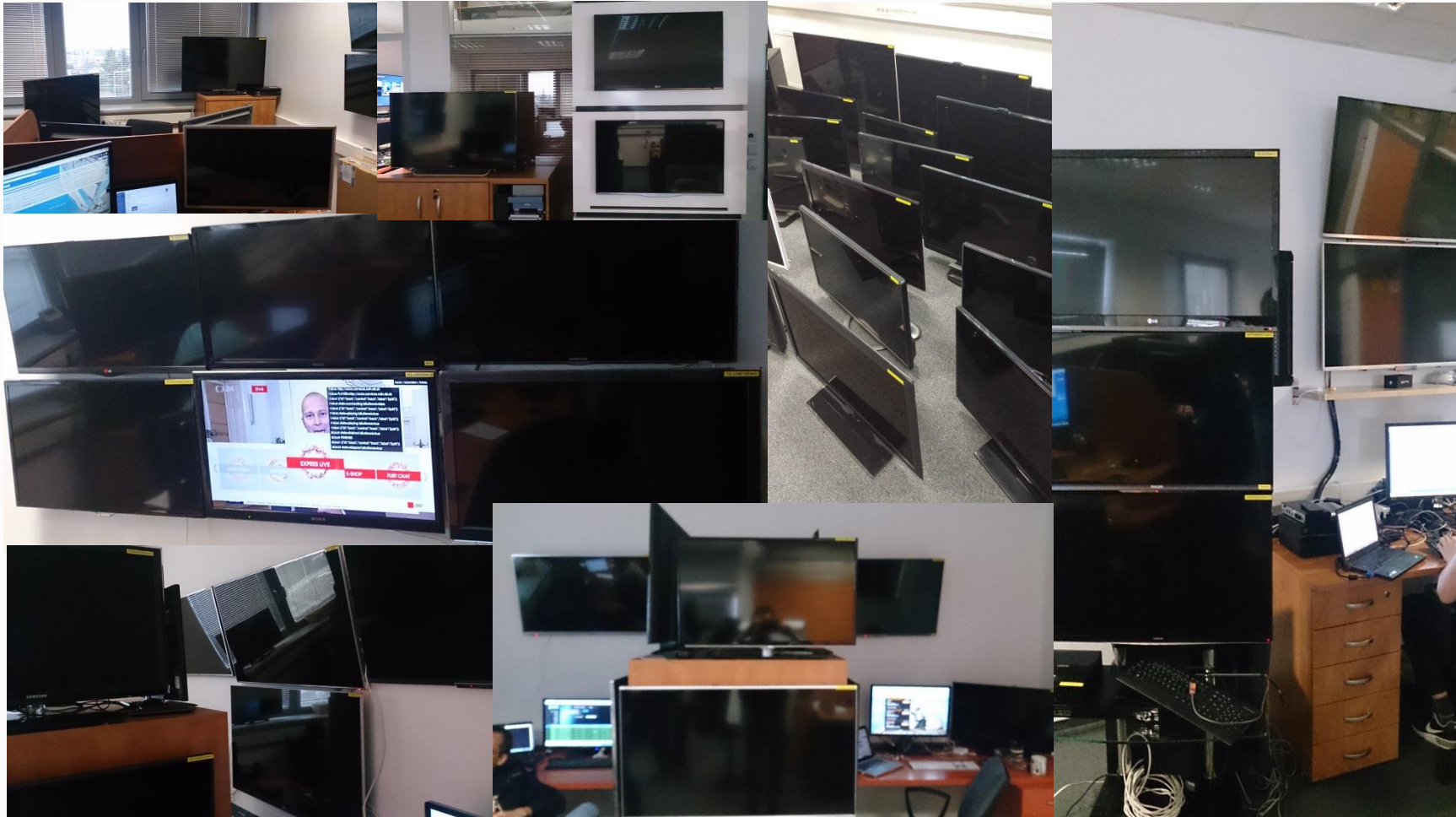
- Long maintenance
- TV life time 6+ years, e.g. 700.000 TVs sold yearly in Czech Republic
- We have to support TVs from 2012/2011
- Essential requirement: Having unified code/solutions across applications

# Smart TV ▶ Answer is: Mautilus SmartTV SDK™

- 5 years of experience
- New BSD license, GitHub, free support



# Smart TV ▶ Testing



# HbbTV → Fragmentation

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- Low-end DVB set-top boxes deployed
- Performance issues
- Need for analytics – 90% of viewers are using 5-10% of TV models
- MPEG-DASH support missing on HbbTV 1.1.1
- Fragmented delivering path (DVB-T/S/C, IPTV)
- Solution?
  - More devices for testing, more testing
  - Installation of local DVB-T circuits to simulate real conditions



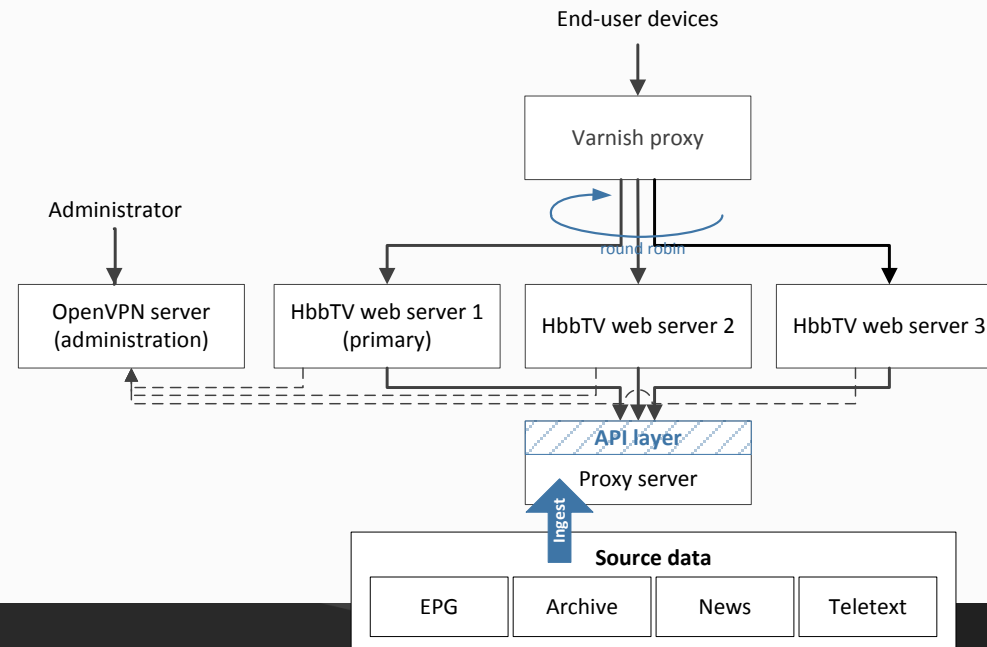
# HbbTV → Monetization

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- Broadcasters do not have "always good" experiences with OTT, their AVOD archives already available on web/mobile
- Many AVOD services, FTA DVB channels
- Missing DRM
- What we could do?
  - Monetize without direct payment (advertisements)
  - Offer unique services, which cannot be done on other platforms
  - Customize while-label solution

# HbbTV → White-label

- Make the investment low, but do not compromise the quality:
  - OPEX only, monthly payment: 179 EUR/channel
  - Fast delivery
  - Comes with the backend development support



# HbbTV ▶ White-label customizations

**WBC TV** PROGRAM ARCHIV ZPRÁVY 11.40 | 8. 12. 2014

12. Čtvrtek 6. 12. Včera **Dnes** Zítřa Pondělí 10. 12. Úterý

9:45 - 10:30 ARCHIV Komnata USA, 2009	9:45 - 10:30 ARCHIV Diagnóza vražda (10) USA, 1993	10:30 - 11:15 ARCHIV Místo činu: Mnichov (37) Německo, 2014	11:15 - 12:00 ARCHIV Krajina pro život Česká republika, 2014	11:15 - 12:00 ARCHIV Chicago USA / Německo, 2002
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Ukončit

**PRO COOL** (PROGRAM) ARCHIV ZPRÁVY 11.40 | 8. 12. 2014

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Ukončit

**MAU TV** MAUTV SPORT NEWS KIDS 10:12 | 23.7.2015

07. Tuesday 21.07. Yesterday Today Tomorrow Saturday 25.07. Sunday

10:05-15:10 ARCHIVE Marika Czech Republic, 2000	15:10-16:45 ARCHIVE Hero of one night Czech Republic, 1935	16:45-17:40 ARCHIVE Stories of famous Czech Republic, 2013	17:40-18:30 ARCHIVE Hercule Poirot Great Britain, 1991	18:30-18:55 ARCHIVE Boys in Action Czech Republic, 2015
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Exit Apps

Salzburg 19°C 11.40 | 8. 12. 2014

12. DONNERSTAG 6. 12. GESTERN **HEUTE** MORGEN MONTAG 10. 12. DIENSTAG

9:45 - 10:30 VIDEOS 3 in Concert Österreich 2006	9:45 - 10:30 VIDEOS Der menschliche Körper Dokumentation   Großbritannien...	10:30 - 11:15 VIDEOS Servus Reportage Reportage   Frankreich 2014	11:15 - 12:00 VIDEOS Faszination Inselwelt Dokumentation   Großbritannien...	11:15 - 12:00 VIDEOS Austropop-Leger Dokumentation   Österreich...
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Beenden



# Thank you for your attention

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