Operator App

Where Broadcasters and Operators meet in Paradise
About us
SES

Coverage and services

**SES Coverage**
- SES reaches over 355 million DTH, cable and IPTV homes worldwide.*

**TV Channels**
- More than 8,100 TV channels can be received via SES satellites.

**HD Channels**
- Over 2,700 channels available in HD quality and 50 in UHD quality.

*Source: Satellite Monitor 2018
TV reception in Germany

Satellite is number one

- **Satellite**: 46% (17.5 million)
- **Cable**: 42% (16.2 million)
- **IPTV**: 7% (2.8 million)
- **DVBT-2**: 5% (1.9 million)

*Source: Satellite Monitor 2018*
Astronaut und Satellit
Satellit und Fernsehen
Fernsehen und HD+
Es gibt Dinge, die gehören einfach zusammen.
**HD+ value chain**

Win-win situation for better television

- **TV broadcasters**
  - Revenue share
  - Signal protection
  - CA platform for additional applications
  - Encryption rights
  - Revenue (technical service fee)

- **Manufacturers**
  - Added value for set-top boxes
  - Marketing support
  - Set-top-box specifications
  - TV integration
  - A wide range of HD+ devices

- **Viewers**
  - Exclusive HD offerings
  - Exclusive UHD channels

- **Retail partners**
  - Regular revenue
  - Hardware-related revenue
  - Sales support
  - Floor traffic
  - POS coverage
  - Broad technical coverage

- **Retail partners**
## HD+ as a pioneer for HD and UHD television

### Visionary solutions for innovative television

<table>
<thead>
<tr>
<th><strong>HD-TV</strong></th>
<th><strong>UHD-TV</strong></th>
<th><strong>PAY-TV</strong></th>
</tr>
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</table>
| Since 2009, HD+ has been the first technical platform to offer encrypted transmission and reception of free-to-air channels in HD quality via satellite. | HD+ makes UHD-quality content available to users and retailers.  
- HD+ and Astra launch "UHD1 by Astra/HD+".  
- Travelxp 4K, the first UHD-HDR channel, comes to Germany.  
- RTL UHD presents UHD events such as all Formula 1 races and football. | With the Eurosport-Paket, viewers can exclusively experience all Bundesliga matches on Friday, Monday and Sunday noon as well as other sports highlights live in HD quality since 08/2017. |

- HD+ passes on part of the revenue to the broadcasters.  
- Distribution partners receive a profit margin.

<table>
<thead>
<tr>
<th>2009</th>
<th>2015</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>HD+</td>
<td>UHD1</td>
<td>Travelxp 4K</td>
<td>RTL UHD</td>
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</table>
Why launching a HbbTV Operator App?

satellite today

strengths (ASTRA 19.2°Ost)

- broad content offering SD / HD as well as UHD, Free-TV and pay-TV
- free-of-charge TV as main USP
- reaching more than 17.8m DTH homes
- cost efficient „broadcast“ modell => lowest transmission coast per household
- no vertical gatekeeping regarding content /devices for reception

…. but

- it’s not so easy to find TV content on TV sets:
  - no consistent, cross-device channel list
  - searching for content in catch-up TV and on-demand-services not intuitive
- Little innovation, because TV content via satellite is not available on-demand
The challenge:

modernizing DTH to stay competitive
Our HD+ Operator App

approach

- Infrastructure
  SES/ASTRA shifting focus on hybrid solutions (DTH and IP)

- Consumer products
  Positioning of the HD+ Opp app as a cross-manufacturer TV app offering the best TV experience via satellite and Internet

- Positioning
  Cooperation with all TV manufacturers is intended. No "exclusive" control of access to the TV set and to the end customer
  => No vertical positioning in the value chain
SES & HbbTV - let’s go back in time...
# SES Consumer Electronics

HbbTV – A Success Story

<table>
<thead>
<tr>
<th>Date</th>
<th>Events</th>
</tr>
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<tbody>
<tr>
<td>08/2007</td>
<td>SES contacted IRT to discuss a new hybrid approach for CE devices.</td>
</tr>
<tr>
<td></td>
<td>Focused: MHP DVB-HTML (project title JOY)</td>
</tr>
<tr>
<td>11/2007</td>
<td>HUMAX visited HQ Humax to discuss the new hybrid approach.</td>
</tr>
<tr>
<td></td>
<td>Outcome: HTML based approach (project title JOY)</td>
</tr>
<tr>
<td>02/2008</td>
<td>SES contacted IRT to discuss starting work on a standard for hybrid CE devices based on CE-HTML (project title JOY)</td>
</tr>
<tr>
<td>05/2008</td>
<td>SES convinced TechnoTrend and service provider ant to implement a STB prototype for IFA 2008 (project title JOY)</td>
</tr>
<tr>
<td>09/2008</td>
<td>SES contacted IRT to discuss a standardized STB with CE-HTML and Red Button / HD Teletext</td>
</tr>
<tr>
<td></td>
<td>First discussions with Philips concerning a synchronized approach for standardization</td>
</tr>
<tr>
<td></td>
<td>Red Button / HD Teletext applications provided by ARD/ZDF shown on ARD and ZDF IFA 2008 booth and SES booth on IBC 2008</td>
</tr>
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SES Consumer Electronics
HbbTV – A Success Story

03/2009
TF1 and France Television showed interest in the activities and joined soon after

06/2009
The name for the initiative changed to HbbTV

09/2009
Humax showed first prototype on IFA 2009 and IBC 2009

06/2010
ETSI specification of HbbTV released

APRIL 2010: Steering Group Members of HbbTV:
ANT, EBU, France TV, IRT, OpenTV, Philips, Samsung, SES, Sony, TF1

and several supporters from broadcasters and industry
SES involvement in HbbTV
Supporters of HbbTV from Industry

…and many more!
**HD+ as a pioneer for …**

Visionary solutions for innovative television - the next step

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**HD+ TV integration**

HD+ is directly integrated into Panasonic and Samsung TVs and includes the HD+ Komfort-Funktion (HD+ comfort function). It features:
▶ Instant restart of programs  
▶ Direct access to 7-day-catch-up TV  
▶ An innovative, interactive TV guide
**HD+ value chain**

Win-win situation for better television - with HbbTV Operator App

- **TV broadcasters**
  - Encryption rights
  - Additional rights/licenses
  - Revenue (technical service fee)
  - Revenue share
  - Signal protection
  - CA platform for additional applications
  - Investments in additional features

- **Manufacturers**
  - Added value for set-top boxes
  - Marketing support
  - Set-top-box specifications
  - TV integration
  - Added value for TV sets
  - User Interface
  - A wide range of HD+ devices

- **Viewers**
  - Exclusive HD offerings
  - Exclusive UHD channels
  - Convenient TV experience without additional devices

- **Retail partners**
  - Regular revenue
  - Hardware-related revenue
  - Sales support
  - Floor traffic
  - Additional revenue potential
  - POS coverage
  - Broad technical coverage
Never miss UHD again

Event switch to UHD version at UHD parallel broadcast

- If a programme is broadcasted in parallel in UHD quality, a popup message is displayed that programme is available in UHD quality.

- TV viewer can switch to UHD version by simply pressing OK button.
Status Quo Manufacturers
Start with Panasonic and Samsung

- The two largest manufacturers in the German market are already on board.
- Other manufacturers will jump on the bandwagon.
HD+ Operator App
Excellent test results
HD+ integrated in **SAMSUNG** and **Panasonic** TVs

**HD+ Komfort-Funktion: Training video**
Thank you!