

# HD+ Operator Application

## What's new?

Arne Redl, Senior Engineer HD+  
München, February 2024



# The Operator Application

## A Quick Recap from HD+

# HD+, a pioneer for HD and UHD television

## Visionary solutions for innovative television

### HD-TV

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

### UHD-TV

HD+ makes UHD-quality content available to users and retailers.

- ▶ HD+ and Astra launch "UHD1 by Astra/HD+".
- ▶ RTL UHD presents UHD events such as football or daily soaps.
- ▶ ProSiebenSat.1 UHD offers sports and shows as well as international blockbusters in UHD.

### HD+ integrated in TVs

HD+ is directly integrated into Panasonic and Samsung TVs and many more. It 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
- ▶ Time shift

### HD+ ToGo

Since 2021, HD+ subscribers have been able to watch TV on the go with the additional HD+ ToGo function.

- ▶ Stream anytime, anywhere
- ▶ Via smartphone or tablet

### HD+ IP

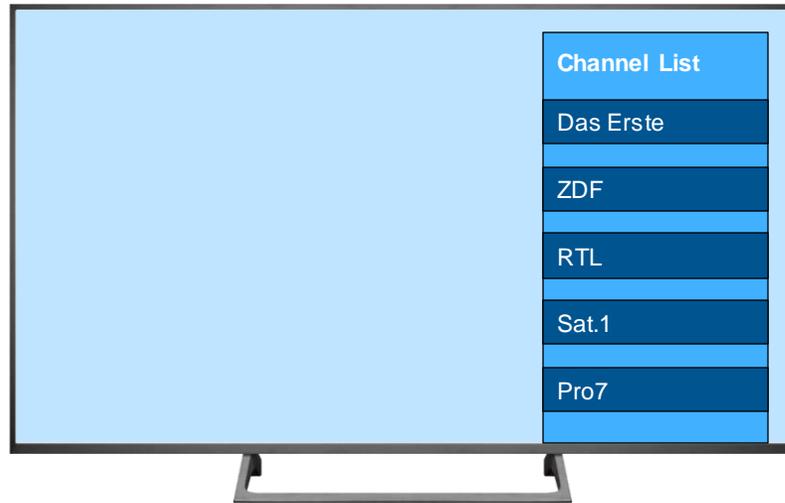
Since 2021, HD+ IP enables television in HD quality via the internet

- ▶ Independent of a television connection
- ▶ Available on Panasonic TVs (model year 2021) via automatic software update



# Technology in a nutshell

## Operator Application – Replacement of UI Elements



Replacement of certain elements of TV UI

For HD+:

- ▶ EPG
- ▶ Channel list
- ▶ Now/next banner



Differences to regular HbbTV applications:

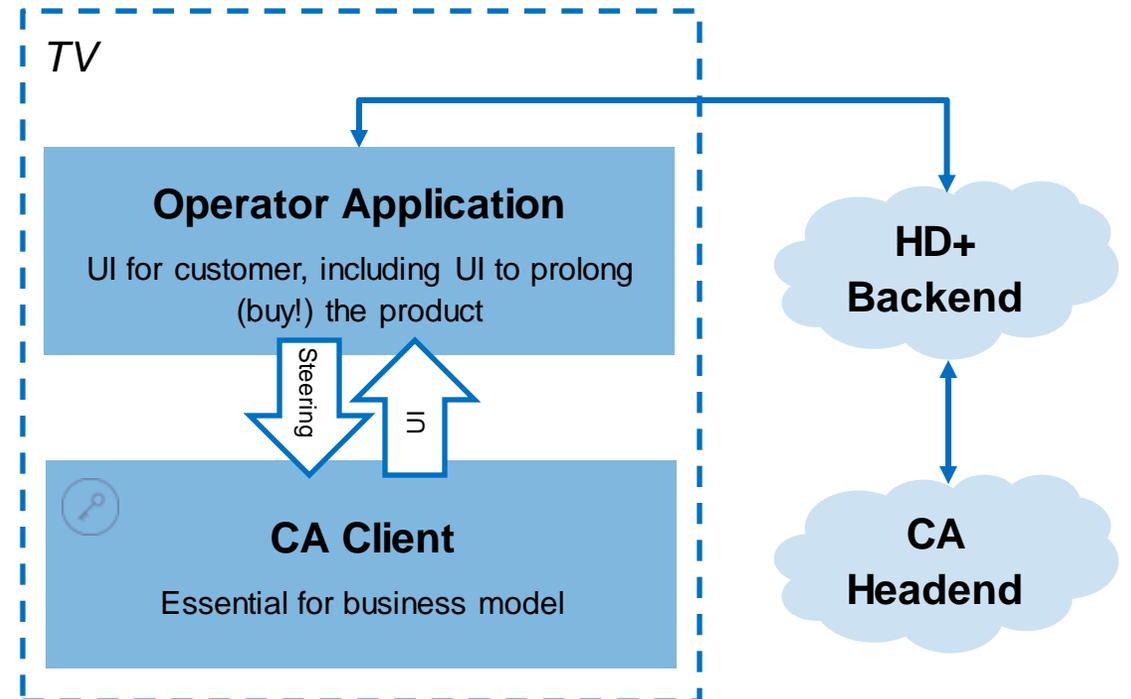
- ▶ Persistently installed and running
- ▶ UI replacement
- ▶ Live cycle management

# Integrated Conditional Access System

## Reasons

### Integrating a CA system

- ▶ CA system essential to maintain the business model
- ▶ “STB in a TV approach”: no additional hardware: same must apply for the CA system
- ▶ Same functionality as a Smart Card based Set-Top-Box or a CI+ Module, but Internet access is required
- ▶ The CA system ensures:
  - Decryption of channels
  - Usage rules can be enforced (as requested by content owners)
- ▶ **The integrated CA system needs an Op App to work and vice versa**

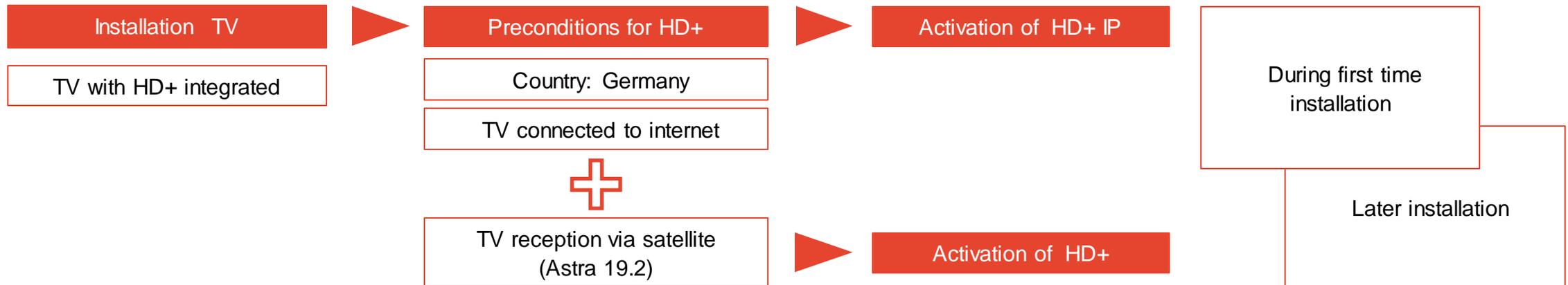


# HD+ integrated in TVs – Installation

## Preconditions

### New TV experience with HD+

TV needs to be connected to the internet and satellite (ASTRA)



# TV First Time Installation

## Installation of HD+ after channel search in “two clicks”



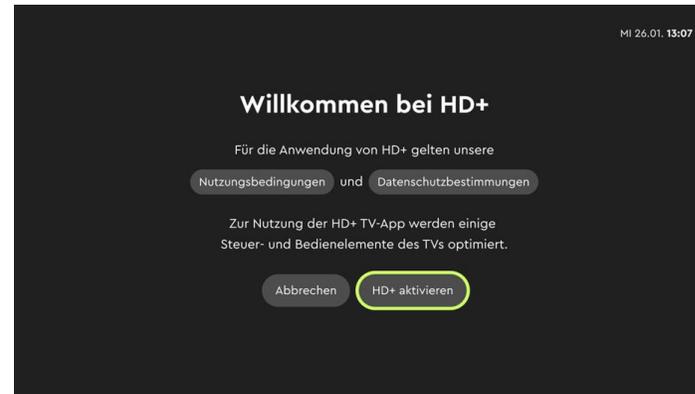
1

First hint for HD+ during signal selection



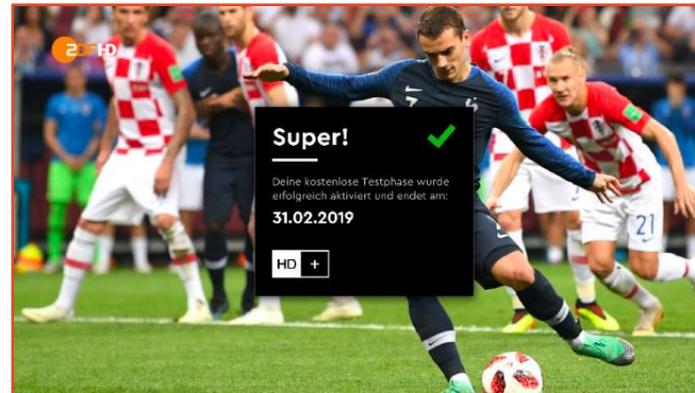
2

Option for installation after channel search



3

Activation of HD+ after first time installation



4

Starting of the six-month free period

# Later Installation of HD+

## Via Home-Bar or App Store



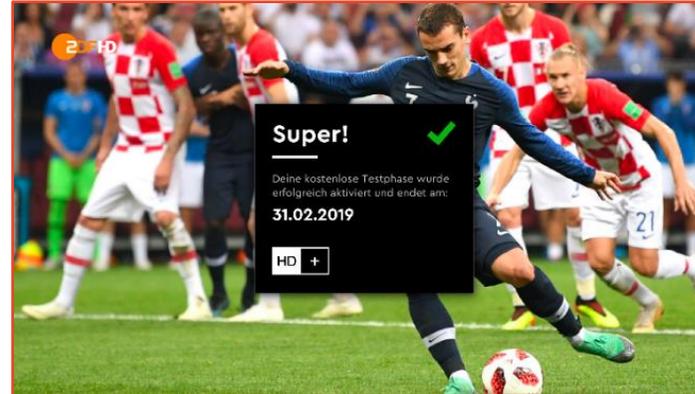
1  
Via Home Bar or App Store



2  
Installation after overview about advantages



3  
Activation



4  
Starting of the six-month free period

# Operator Application

## Added Value

The Operator Application replaces the following native UI elements:

### Electronic Programme Guide

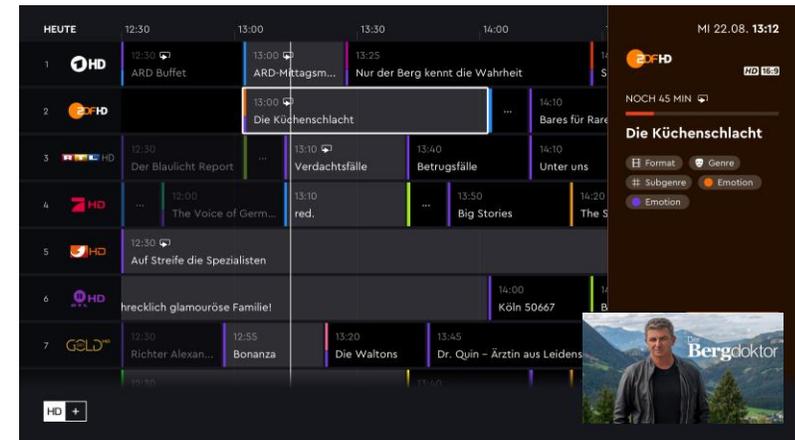
- ▶ Provides rich information for lots of channels
- ▶ Access to restart and catch-up

### Now/Next banner

- ▶ Detailed information for the running programme
- ▶ Access to restart (start over)

### Channel list

- ▶ Filtering options
- ▶ HD+ own channel list manager for favourite channels



# Operator Application

## Added Value

The Operator Application adds the following UI elements:

### Home Bar

- ▶ Reminder for prolongation
- ▶ Quick programme information
- ▶ Information about subscription status
- ▶ Guidance & help for service activation and prolongation
- ▶ App settings etc.



# HD+ Operator Application

## The New UI

# New HD+ TV App

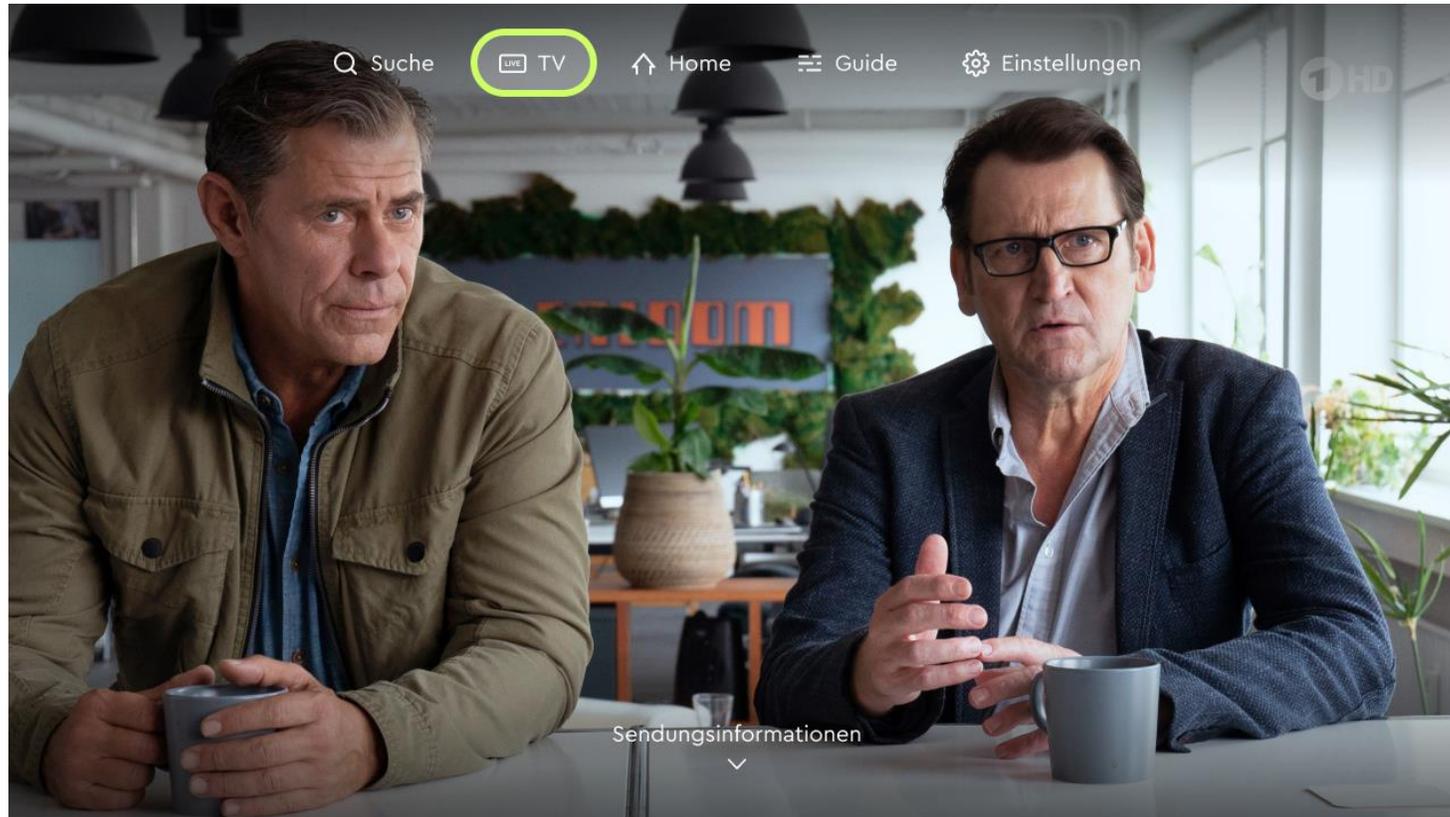
## New UI/UX, “same” technology

- ▶ Update to new version on complete legacy base
- ▶ Started on 20th November
- ▶ Roll-out to remaining TVs until mid of 2024
- ▶ All based on the “same” specification as of 2018

<b>SAMSUNG</b>	 <b>LG</b>	<b>Hisense</b>	<b>Panasonic</b>
<b>PHILIPS</b>	<b>SONY</b>	<b>TELEFUNKEN™</b>	<b>TOSHIBA</b>
<b>JVC</b>	<b>LOEWE.</b>	<b>HITACHI</b>	<b>NORDMENDE</b>
<b>homeX</b>	<b>TECHWOOD</b>		<i>hanseatic</i>
<b>KENDO</b>	<i>LUXOR</i>	und weitere	

# The New TV App

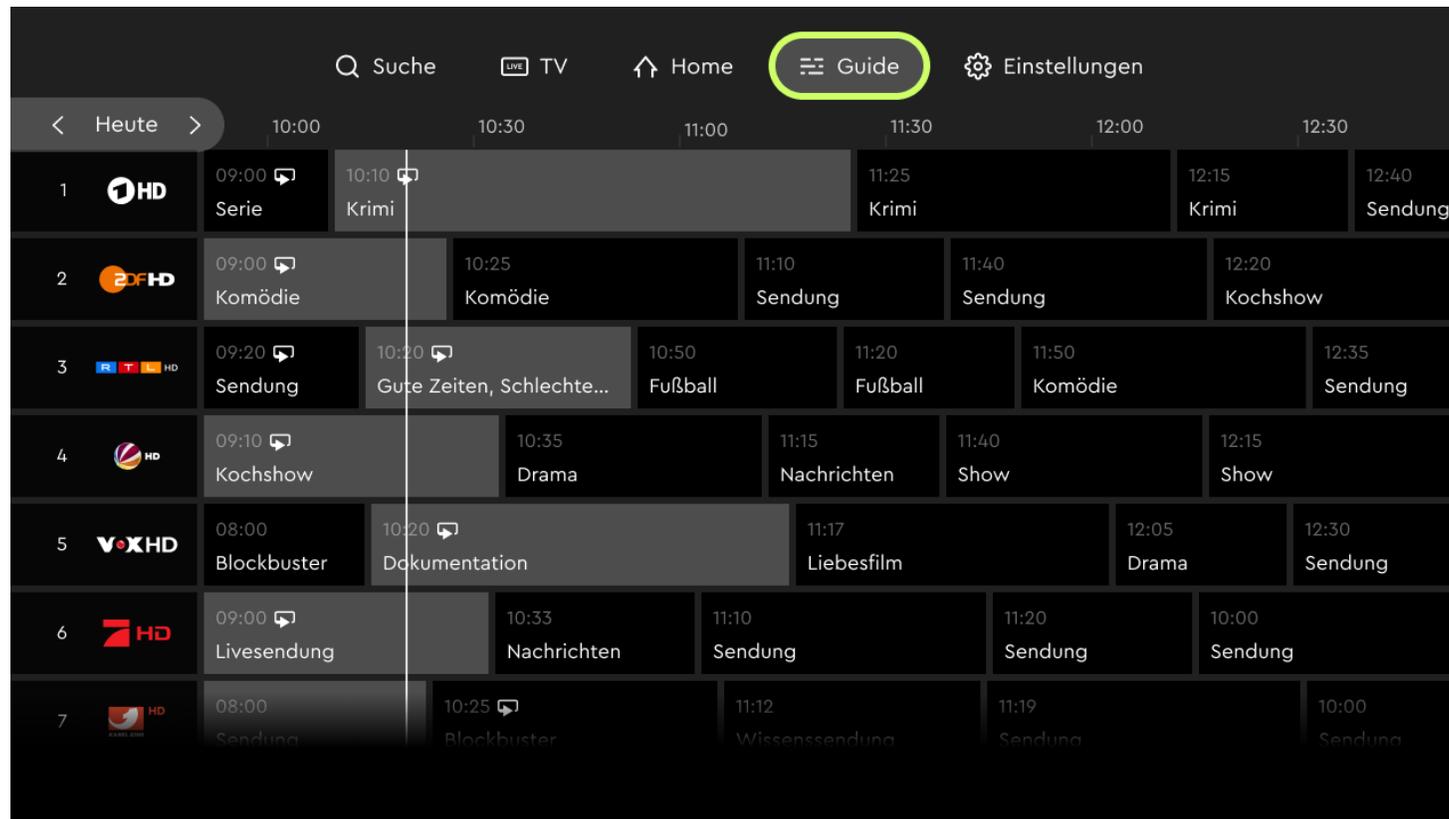
## New Navigation Concept: Top Bar instead of home bar



# The New TV App

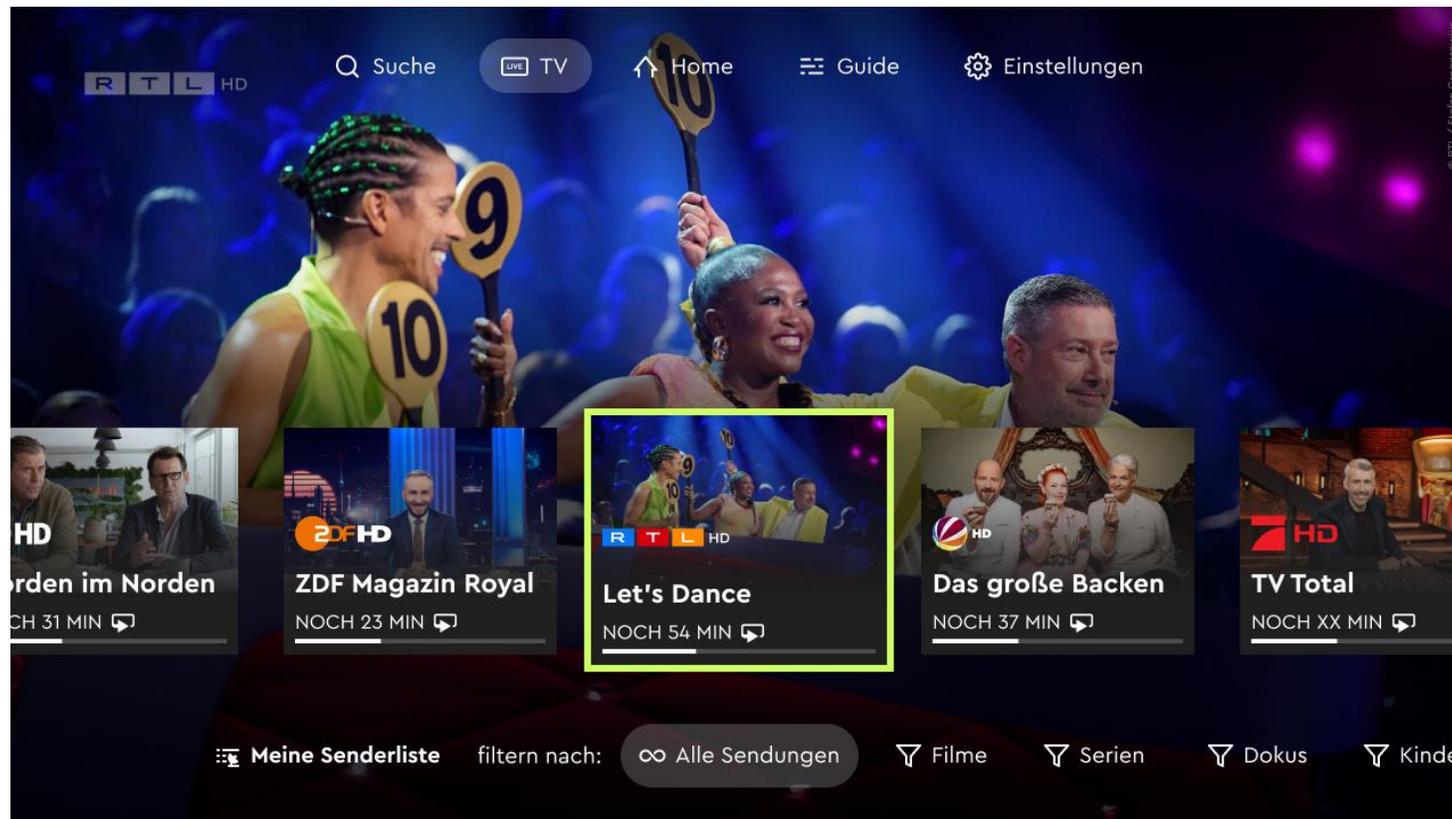
## The Redesigned TV Guide

Guide



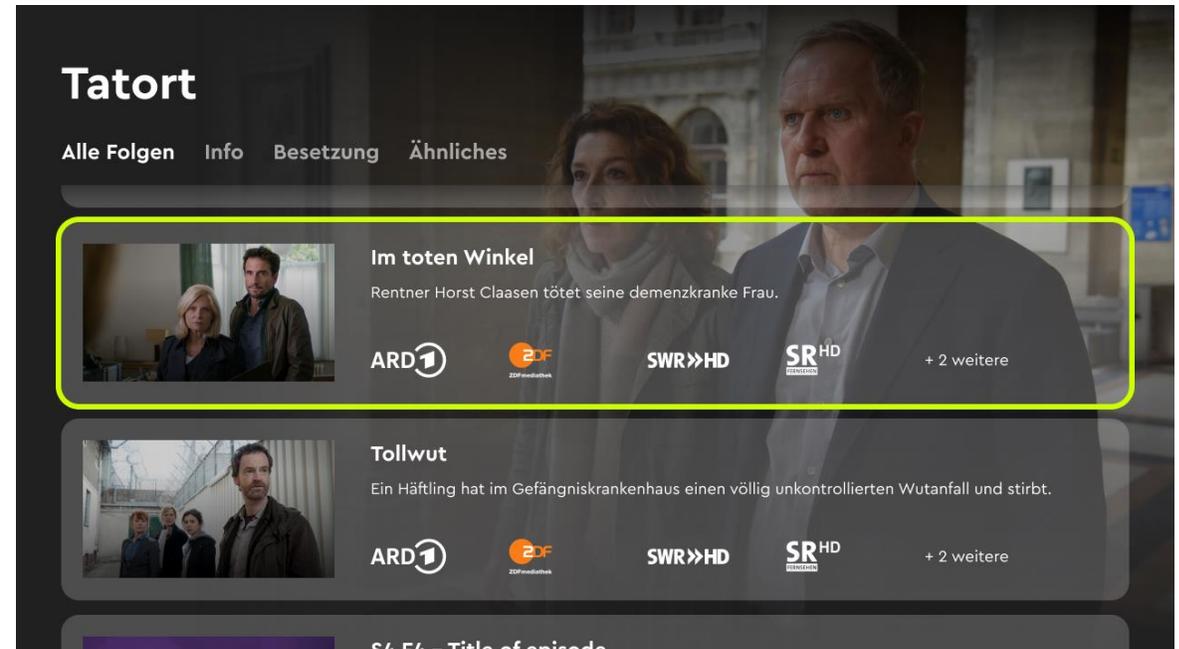
# The New TV App

## What's on TV: The New Channel List



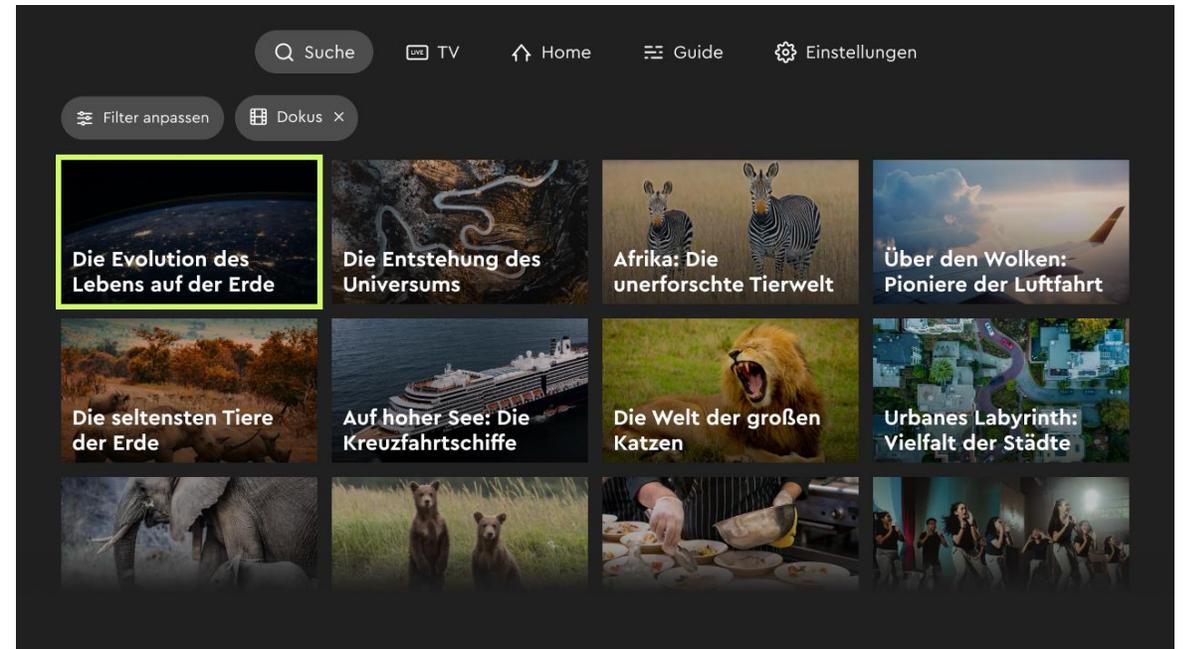
# The New TV App

## New Detail Pages



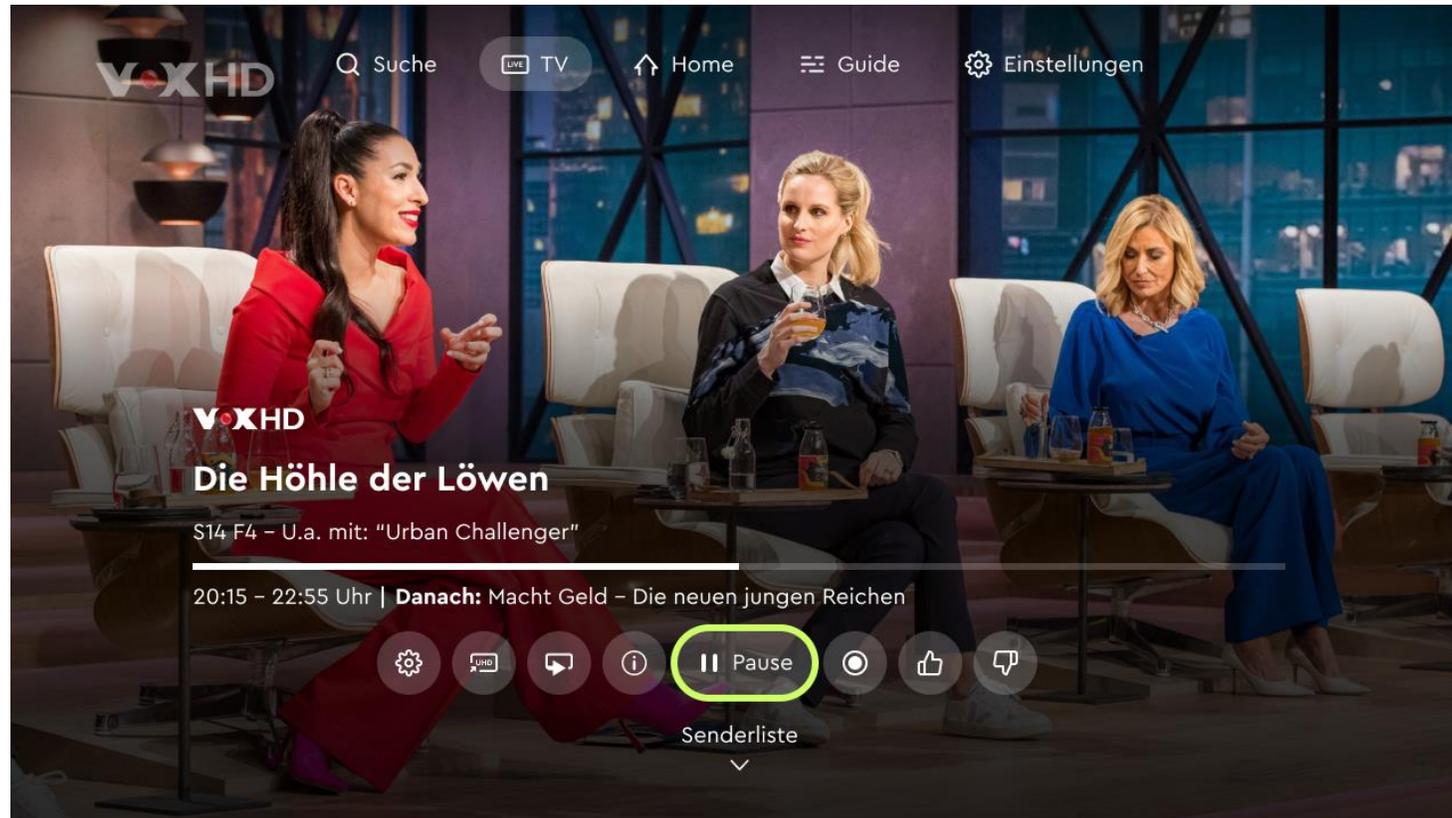
# The New TV App

## Search



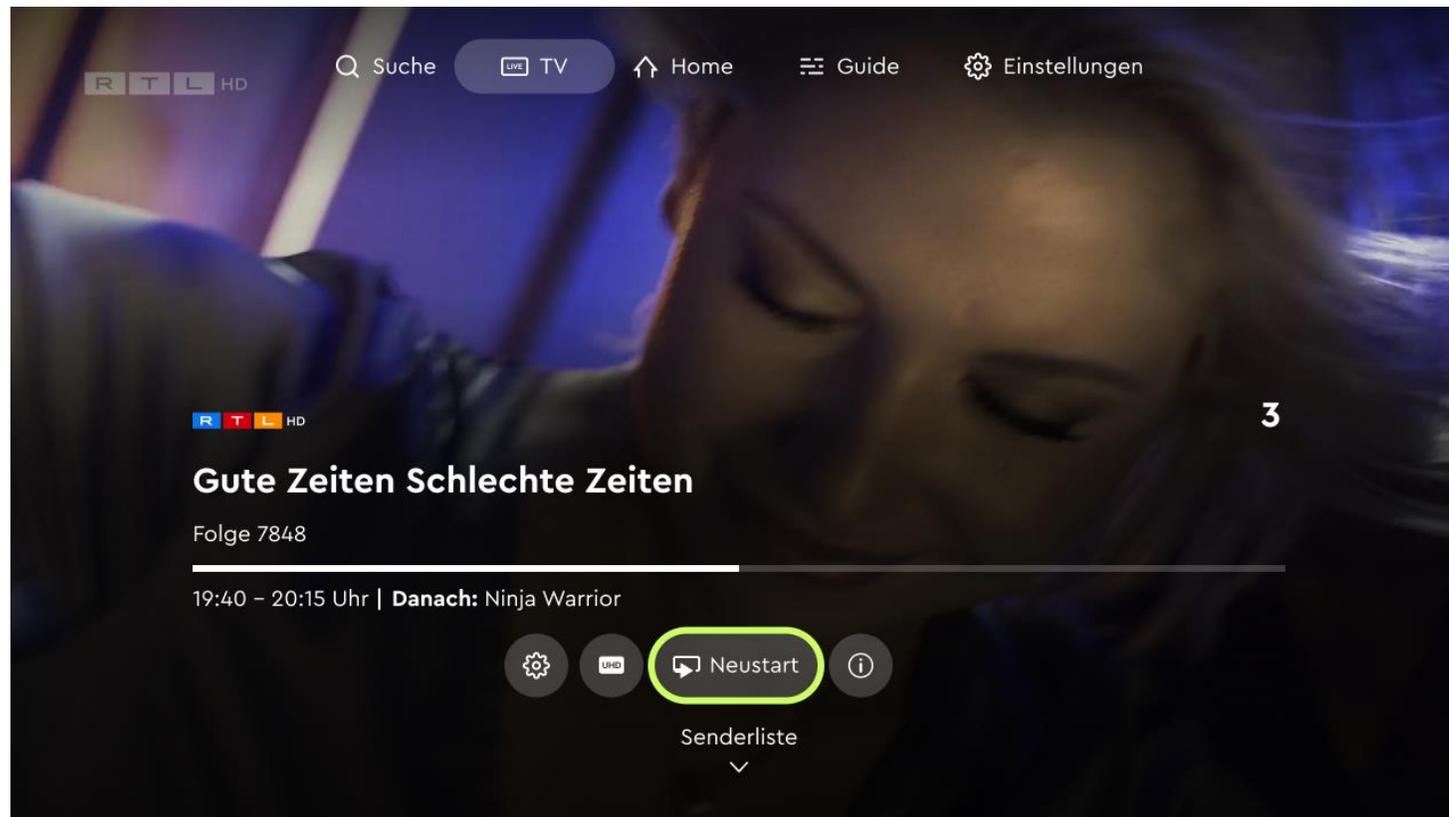
# The New TV App

## Pausing Live TV: Up to 120 Minutes



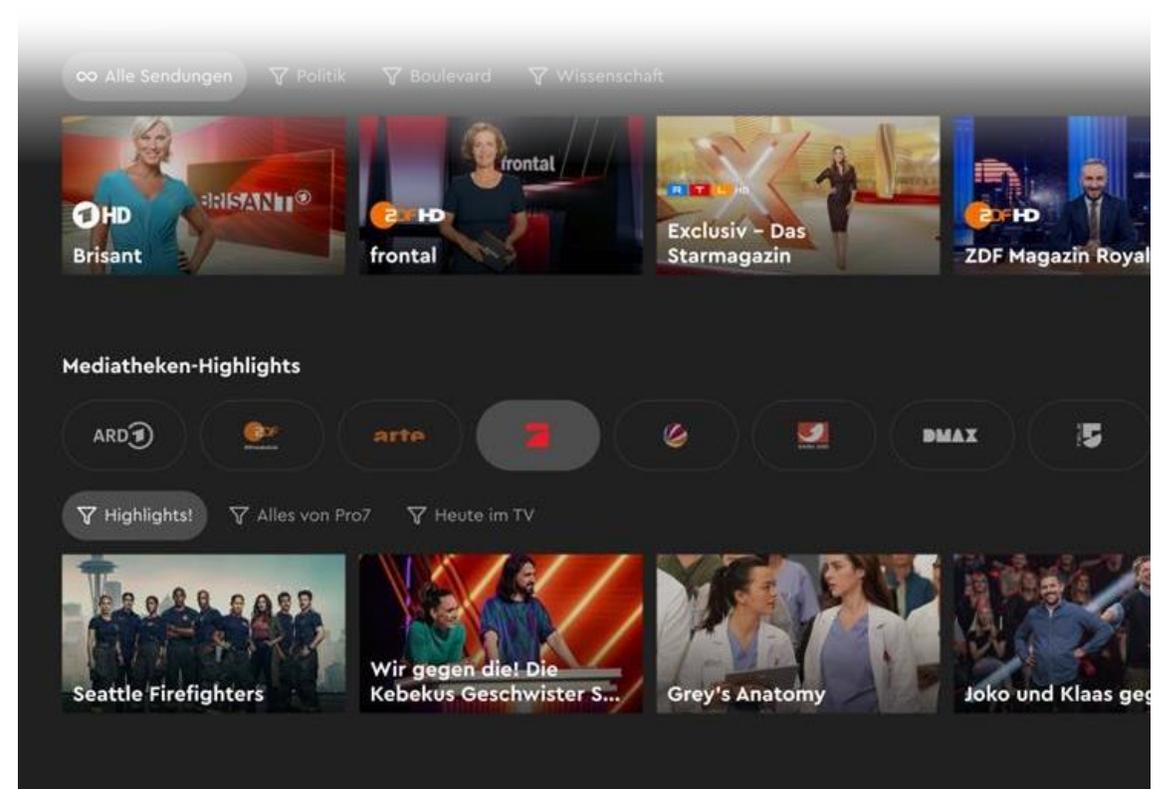
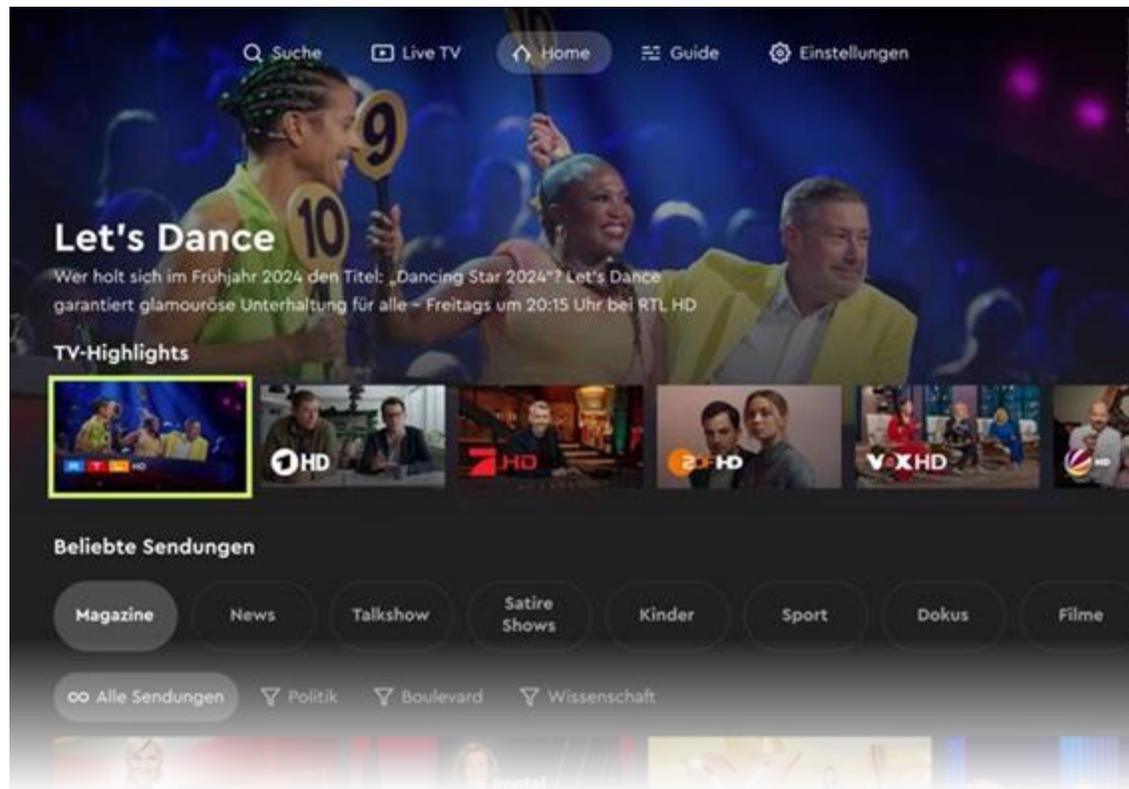
# The New TV App

## Restart



# The New TV App

## The New Home Screen: TV Tipps



# HD+ IP

# Operator Application

# HD+ IP

## What is HD+ IP?

**HD+ IP enables HD television via internet plus streaming more than 80 HD programmes, including all high-reach public and private channels.**

### **Advantages of usage**

- ▶ Comfortable usage without additional devices by direct integration in TV devices
- ▶ TV guide (EPG), TV tips and bookmarks for personal programming
- ▶ Over 80 channels in HD
- ▶ First month for free, monthly option for cancellation

**HD+ IP is an OpApp similar to the HD+ Op App Sat (DVB-S) and provides access to linear television as well as video-on-demand functions.**

# HD+ Operator Application Summary

# Specification

## Lessons Learned for HD+

### The New UI

- ▶ No changes in the “host legacy base” needed
- ▶ Rollout on all models since market launch in 2019
- ▶ Based on the OpApp Specification “1.0” (as a pretty stable version)

### HD+ IP

- ▶ Regular HbbTV applications not available: solved with new specification version

### Other

- ▶ Further improvements for HD+ with new specification version, mainly by including errata from learnings during implementation, e.g. parental control, new startup location parameters etc.