



WE  LIVE

Live Production in the Cloud – reality or myth?”

Dutch Guild Event

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Chair, SMPTE MIC Advisory Board

INDUSTRY DISRUPTION

# MEDIA & ENTERTAINMENT IS AT THE CENTER OF THE DIGITAL DISRUPTION



# THE INTERNET HAS DEMOCRATIZED VIDEO



# WHERE DO WE GO FROM HERE?

How will we **Produce** video ?



Truck



On Premise



Cloud



Remote



Mobile

How is it **Delivered** ?



VR/AR

How is it **Connected** ?

2110

NDI

SDI

HDMI



What **Formats** should we use ?

HD

HDR

4K  
ULTRA HD

8K  
ULTRA HD

1:1

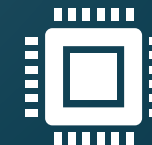
What kind of **Show** drives Audiences ?



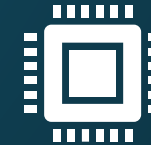
What **Technologies** should we use ?



CPU



GPU



ASIC

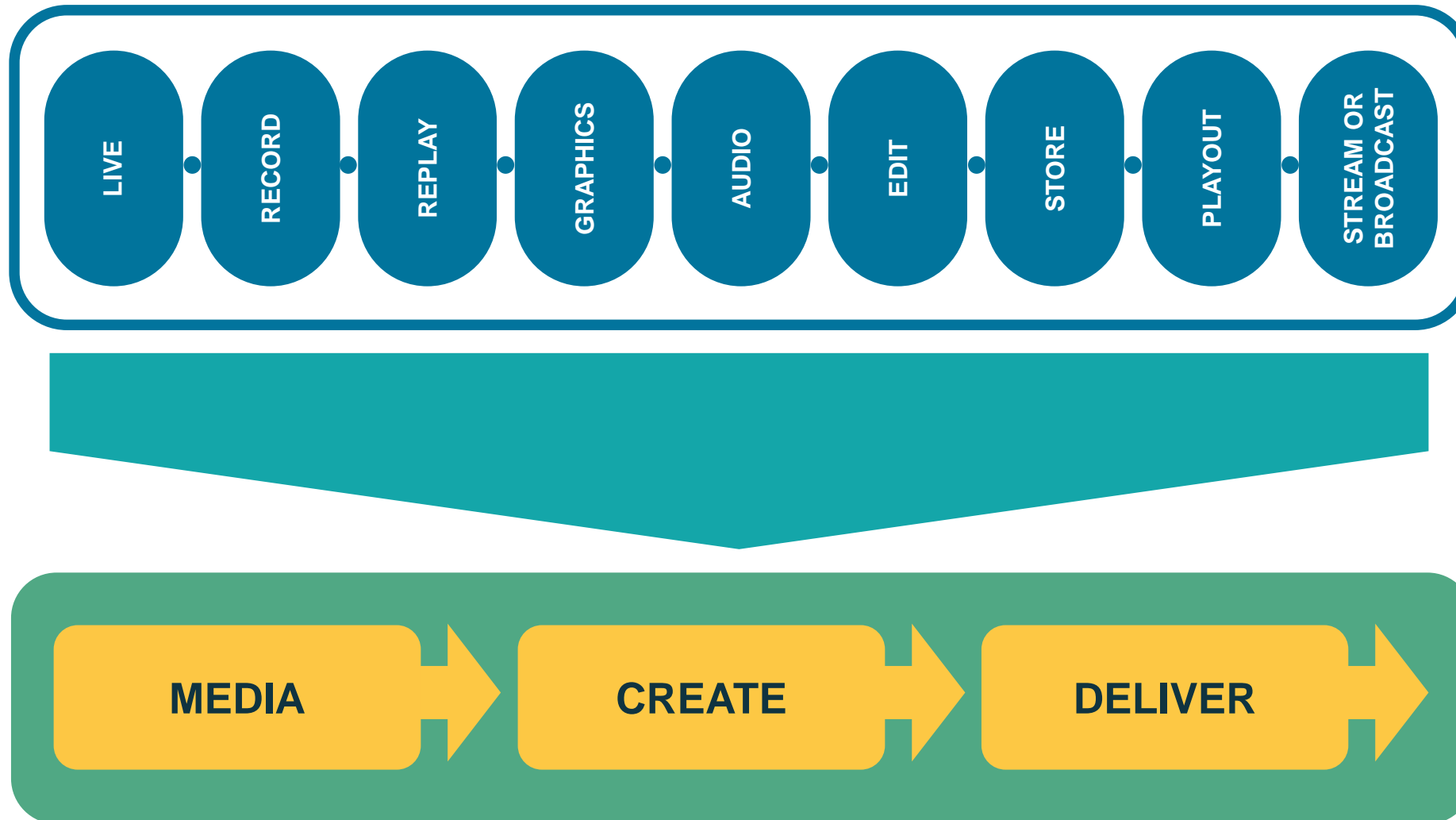


10Gbe



Wireless

# DIGITIZATION COMPRESSES THE TRADITIONAL MEDIA WORKFLOW



## MEDIA BUSINESS CHALLENGES

- Produce more content with less budget
- Greater Agility and operational flexibility
- Increased Competition
- Changing economic model

# The Media factory of the future?

**MANAGE**

**MEDIA**

**CREATE**

**DELIVER**



PUBLIC

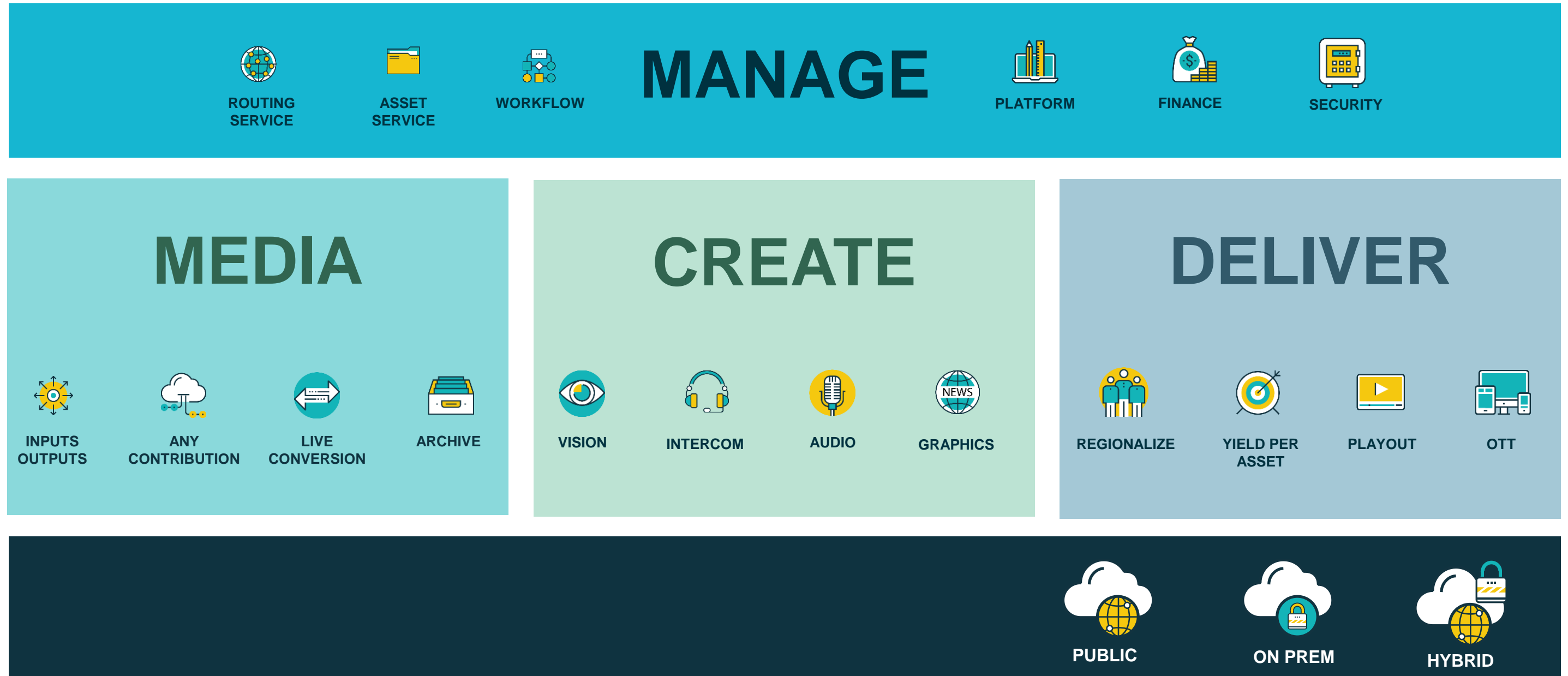


ON PREM



HYBRID

# The Media factory of the future?



# It is there today



It is there today



Unified User Experience



ROUTING  
SERVICE



ASSET  
SERVICE



WORKFLOW

MANAGE



PLATFORM



FINANCE



SECURITY

MEDIA



INPUTS  
OUTPUTS



ANY  
CONTRIBUTION



LIVE  
CONVERSION



ARCHIVE

CREATE



VISION



INTERCOM



AUDIO



GRAPHICS

DELIVER



REGIONALIZE



YIELD PER  
ASSET



PLAYOUT



OTT



PUBLIC



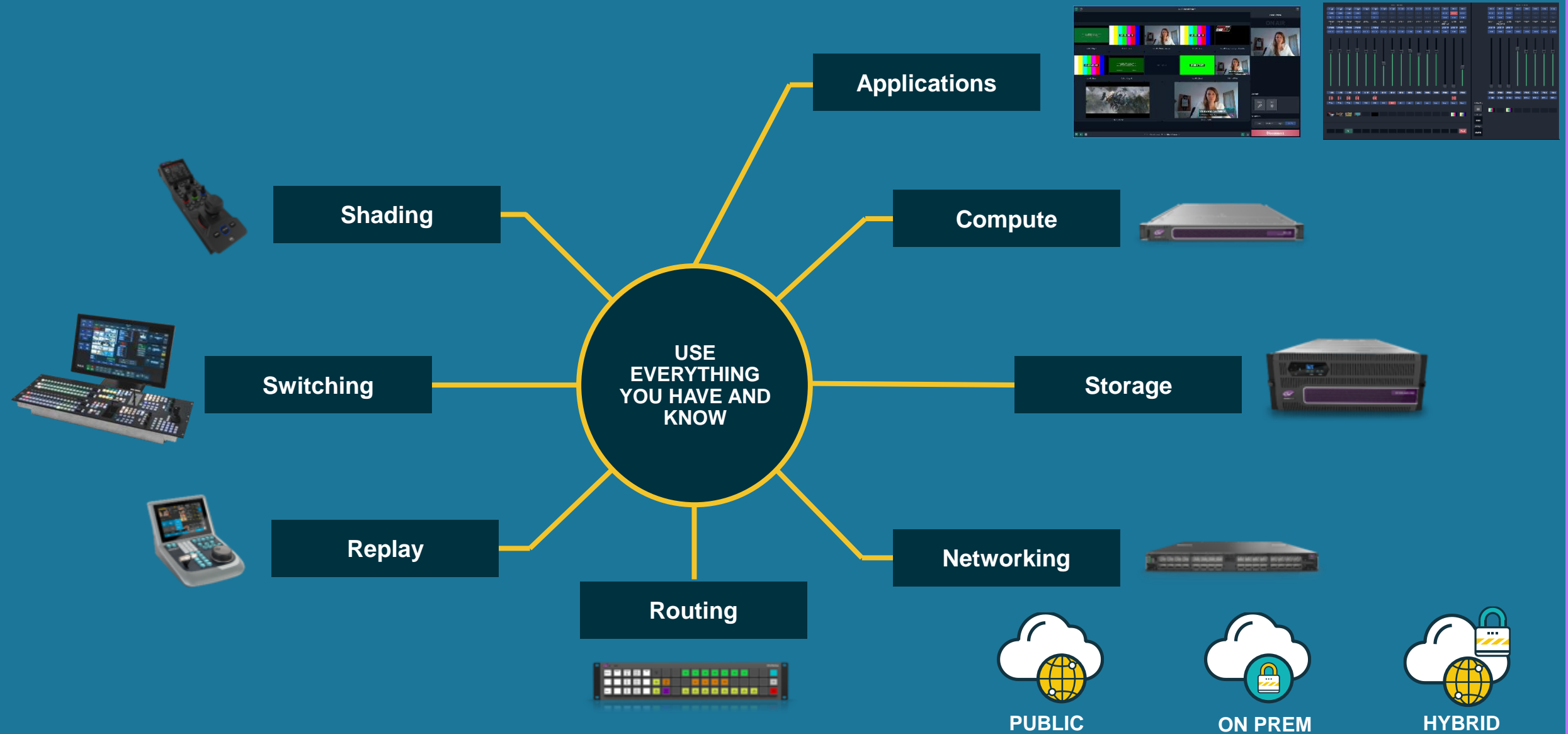
ON PREM



HYBRID

# It is there today

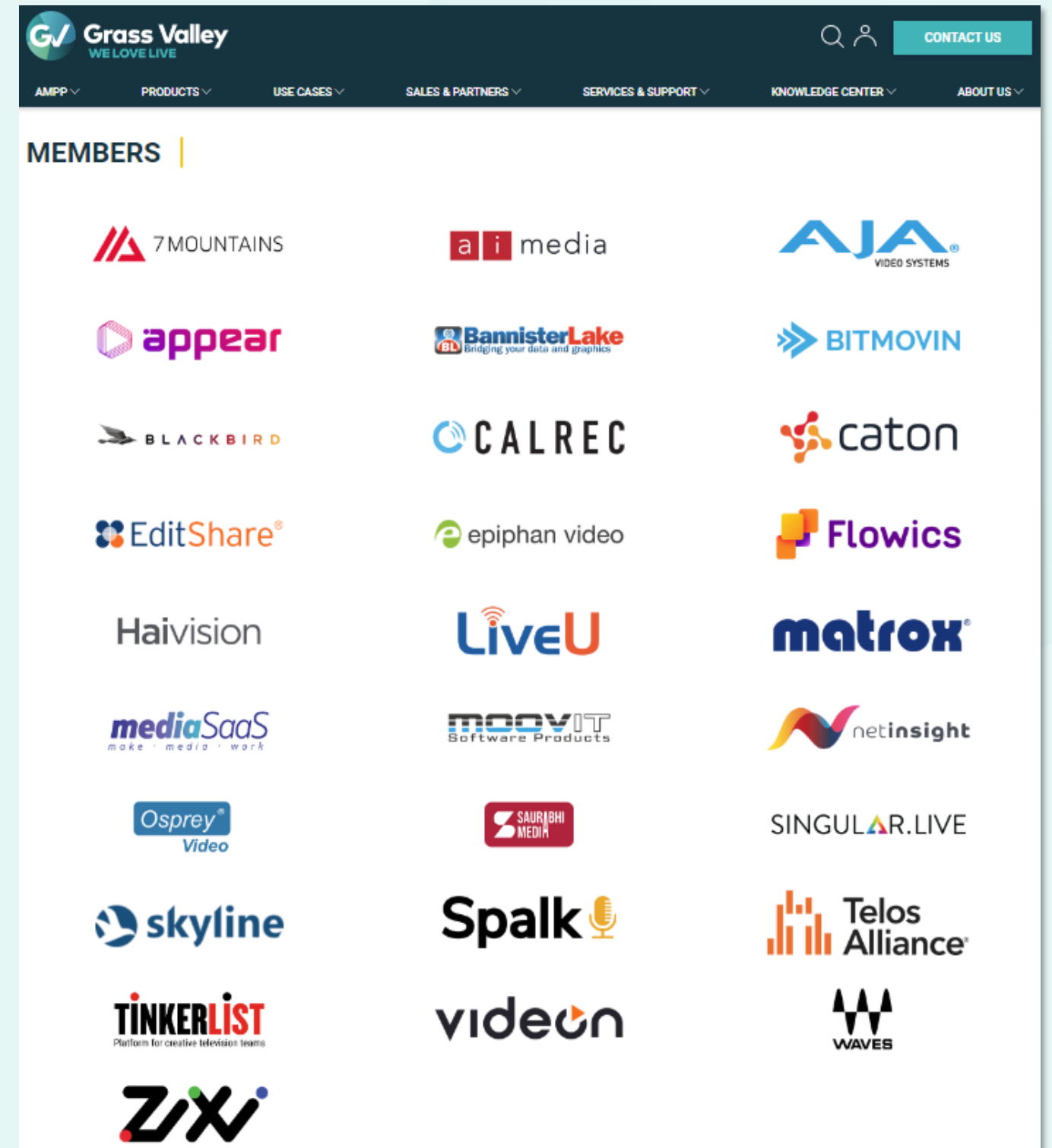
Unified User Experience



# One Platform – open for everyone

GV AMPP enables a clear migration path for all companies and enable them and their customers a way to hybrid solutions.

**28** GV Media Alliance members  
**32** Currently onboarding



# LIVE APPLICATIONS



## USE CASE: Live Production in the cloud or hybrid?

### Challenge

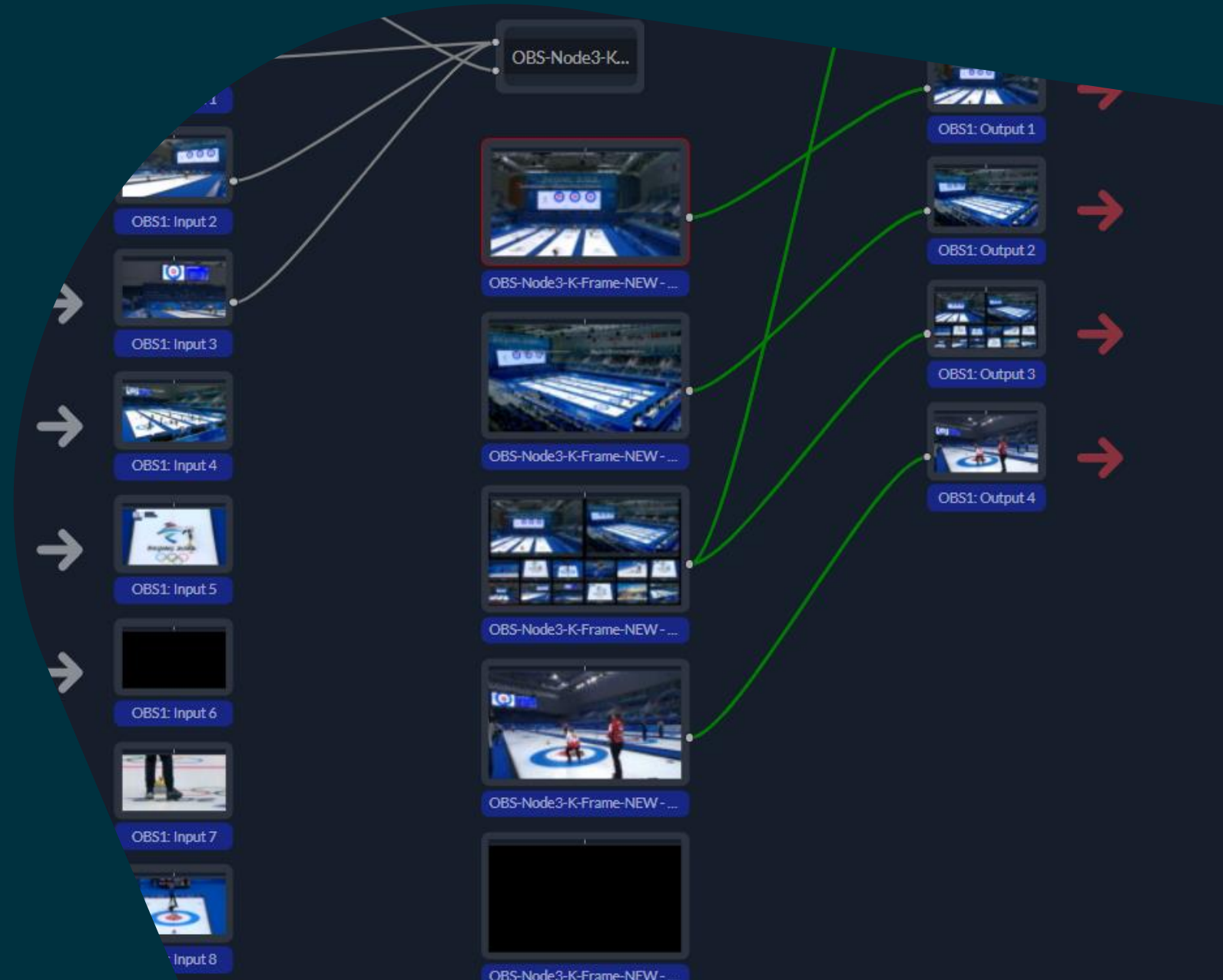
- Producing high-quality content from anywhere (10 bit 4:2:2)
- Cost-efficient

### Solution

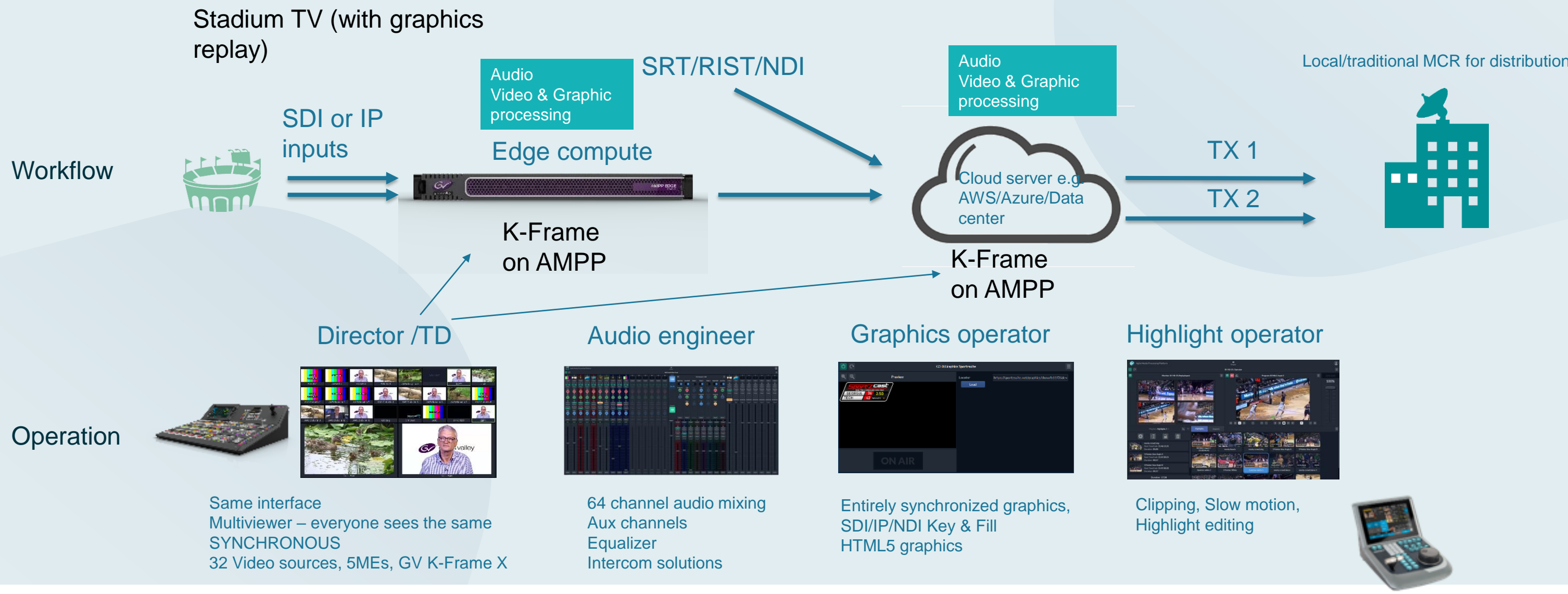
- Unlimited scalability
- Low latency and low bandwidth for operation
- Pay for capacity only when you need it

### BENEFITS

- Low latency, as low and high-resolution are processed independently



# AMPP Live for Distributed Live production





# EA Sports Live Production

8-12 VIRTUAL CAMERAS (OBSERVER STATIONS)

8 CONTRIBUTION LINKS FOR TALENT

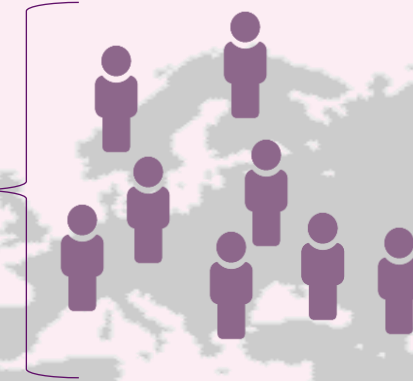
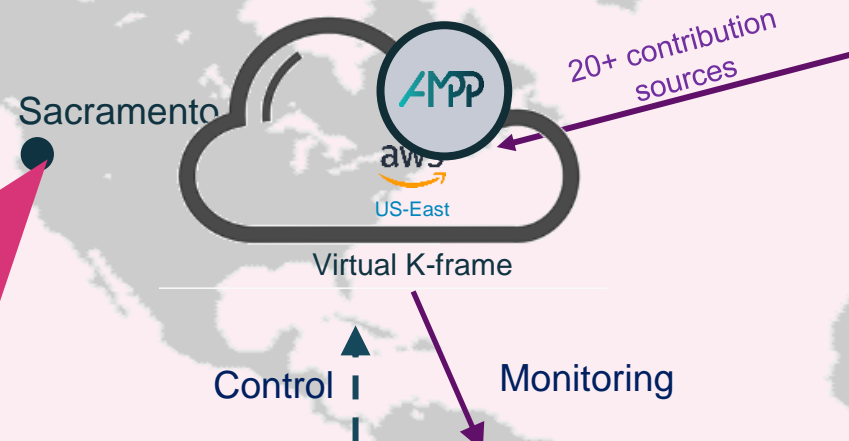
LIVE SWITCHING, GRAPHICS, AUDIO, CLIP PLAYBACK

CONTRIBUTION FROM EMEA, US, APAC

100% Cloud Based Processing



# World's Production First: K-frame on AMPP



The Director only had a 10Mb internet connection in his garage and produced a show for 16h.



**FIFA 21 GLOBAL SERIES**



**DEC 12-13, 2020**  
**QUALIFIER 1**  
Europe

# Efficient highlights production

## CHALLENGE

- Edit highlights “on the fly” while ingested from everywhere

## SOLUTION

- Everyone can produce from anywhere
- Full access to any stream from anywhere

## BENEFITS

- Operators can work from everywhere, also from the home on software or with the panel
- All formats are supported for ingest: SDI, 2110, NDI, SRT, RIST, RTMP, TS....
- Any file formats for import and export



# USE CASE: POP-UP MASTER CONTROL

## CHALLENGE

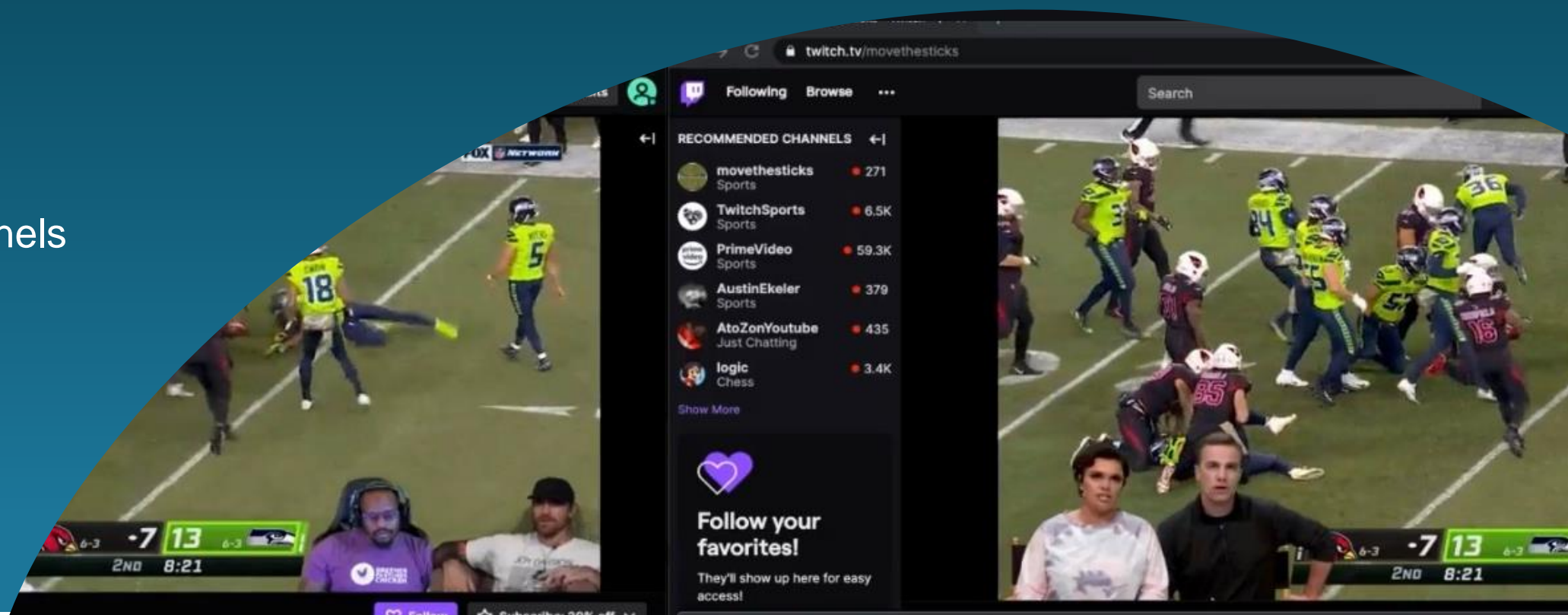
- Repurposing live content:
  - New Platforms (ex: Twitch, OTT)
  - Regionalization/ Localization
  - Rebranding / Commentary

## SOLUTION

- Popup Master Control

## BENEFITS

- ONE user interface for many channels
- No infrastructure required



# Master Control

## Regionalization of content



Operation

Graphics/ Branding

The screenshot shows the AMPP Graphics software interface. It features a 'Preview' window on the left displaying a sports broadcast graphic with 'ON AIR' text. The 'Layout' window on the right shows a URL: 'https://perfmobility.net/track/110106-0'. There are 'Load' and 'Save' buttons.

Fully synchronized graphics insertion with AMPP Graphics or SDI/IP or NDI Key and Fill with Input applications & alpha

Commentary

The screenshot shows the AMPP Webcapture software interface. It displays a multi-camera view of a sports event, with various video feeds and a central commentary window. The interface includes controls for video and audio.

Commentary from anywhere with AMPP Webcapture high quality monitoring and ultra-low delay live preview

Master Control

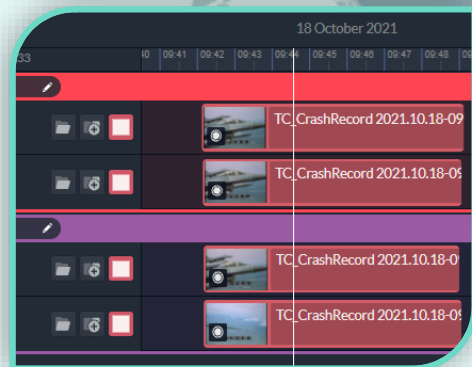
The screenshot shows the AMPP Master Control software interface. It is a complex dashboard with numerous controls, including sliders, buttons, and a grid of video feeds. It is used for managing multiple streams and creating regionalized content.

Master control to easily combine commentary, graphics and source streams and create easy regionalization for up to 16 streams with one interface

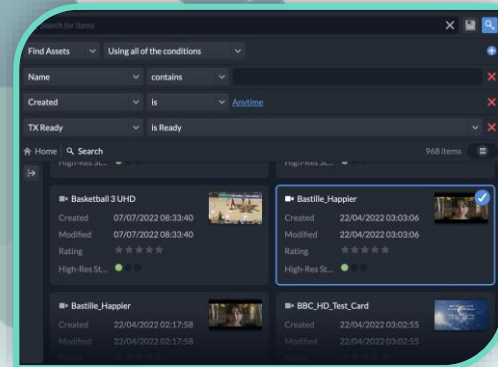
# ASSET MANAGEMENT APPLICATIONS



# CLOUD FIRST, TRULY COLLABORATIVE, LOCAL AND REMOTE WORKLOADS



RECORD



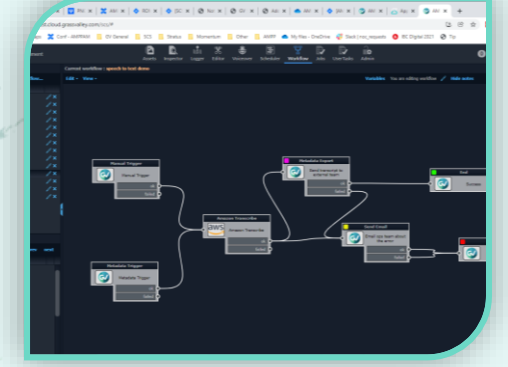
SEARCH



AI



EDIT



AUTOMATE

# USE CASE: Efficient News Production

## CHALLENGE

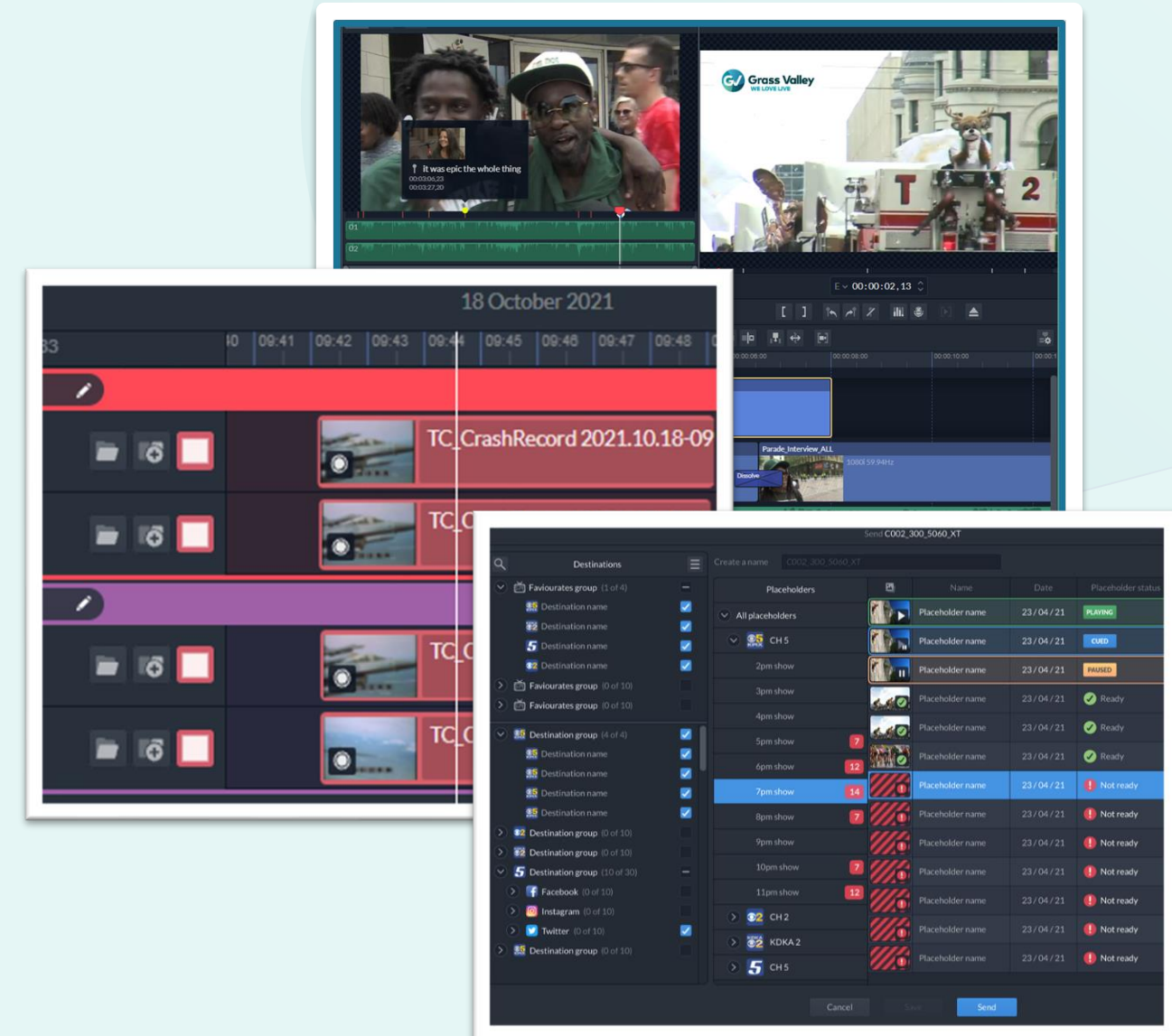
- Recording different formats from anywhere to anywhere
- Frame Magic – start to edit while recording

## SOLUTION

- Scheduler for crash and scheduled records from all connected news feeds
- Editorial Suite for editing of growing content and developing News Stories

## BENEFITS

- ONE interface for all local and remote teams to collaborate on breaking news content



# As used Discovery/Eurosport Tokyo 2020/2021 & Beijing 2022

## Global System

**266** Simultaneous users Nutzer

**349** simultaneous ingest channels

**16,000** Scheduled Recording Events

Up to **480** simultane File Imports

Up to **350** simultane File Exports

**100,000 hours / 2.12 PetaBytes** content in 3 weeks



# PLAYOUT APPLICATIONS



# USE CASE: Setting up a Playout channel in no time

## CHALLENGE

- Setting up thematic, mix, live and sports channels in minutes and

## SOLUTION

- All features of established features in one tool
- Free Playout – no costs for the main functionalities like Asset Playback, Dualen Lives, Voice over, ALC, Eventübergängen, AFD/ARC and embedded Untertiteln
- Zusätzliche Features like UHD/HDR, SCTE, Watermarking, Dolby with Audiomix, enhanced Subs/CC can optionally be added.

## BENEFITS

- Add functionality you need and when you need it
- Setup a channel in minutes – not days





# PLAYOUT ON AMPP

- More than **250x** event-based playout channels in HD and UHD + HDR
- **ST2110** ingest and contribution AES67 and **32** audio pairs
- Distributed across **two physical distributed data centers** and cloud processing
- **Remote operation only** for simple and complex channels
- Dynamic scaling and system deployment

# Q&A



# THANK YOU

Join the conversation

[Twitter](#) [Facebook](#) [YouTube](#) [LinkedIn](#)

[grassvalley.com](http://grassvalley.com)



Check out those videos and Data sheets to learn more about AMPP Asset Management:

<https://www.grassvalley.com/news-events/gv-spotlight/cloud-track/cloud-ampp-asset-management-overview/>

<https://www.grassvalley.com/news-events/gv-spotlight/cloud-track/cloud-ampp-asset-management-workflows-and-editing/>

Check out this video and Data Sheet to learn more about AMPP Payout: <https://www.grassvalley.com/news-events/gv-spotlight/cloud-track/cloud-ampp-payout/>

More to learn about AMPP Live here: <https://www.grassvalley.com/news-events/gv-spotlight/cloud-track/cloud-ampp-master-control/>

<https://www.grassvalley.com/news-events/gv-spotlight/cloud-track/cloud-ampp-live-producer/>

<https://www.grassvalley.com/news-events/gv-spotlight/cloud-track/cloud-ampp-audio-mixer/>

<https://www.grassvalley.com/news-events/gv-spotlight/cloud-track/cloud-ampp-flow-monitor/>