

SIC Full IP Studio

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Sony Professional

SONY



Key Trends

What Media Industry is looking for



Increase
Productivity




Reduce
Costs

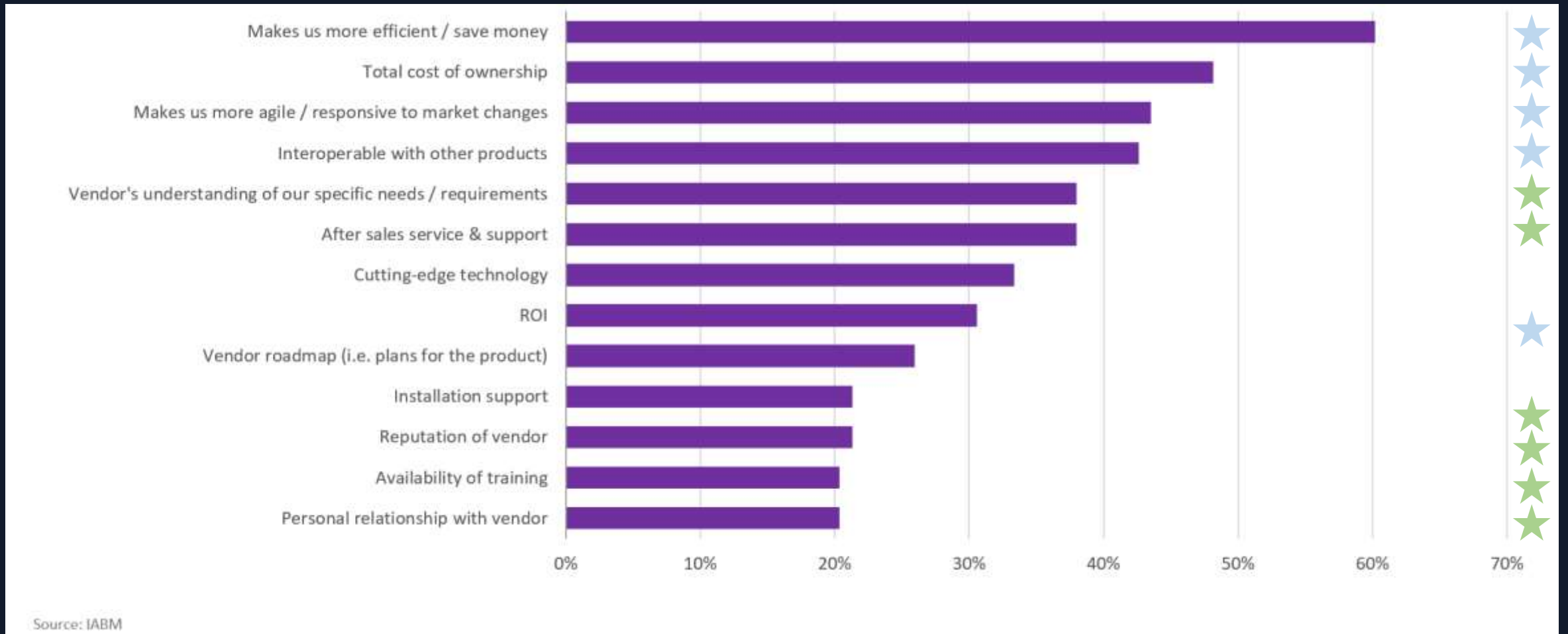


Grow Your
Audience

What Media Industry is looking for

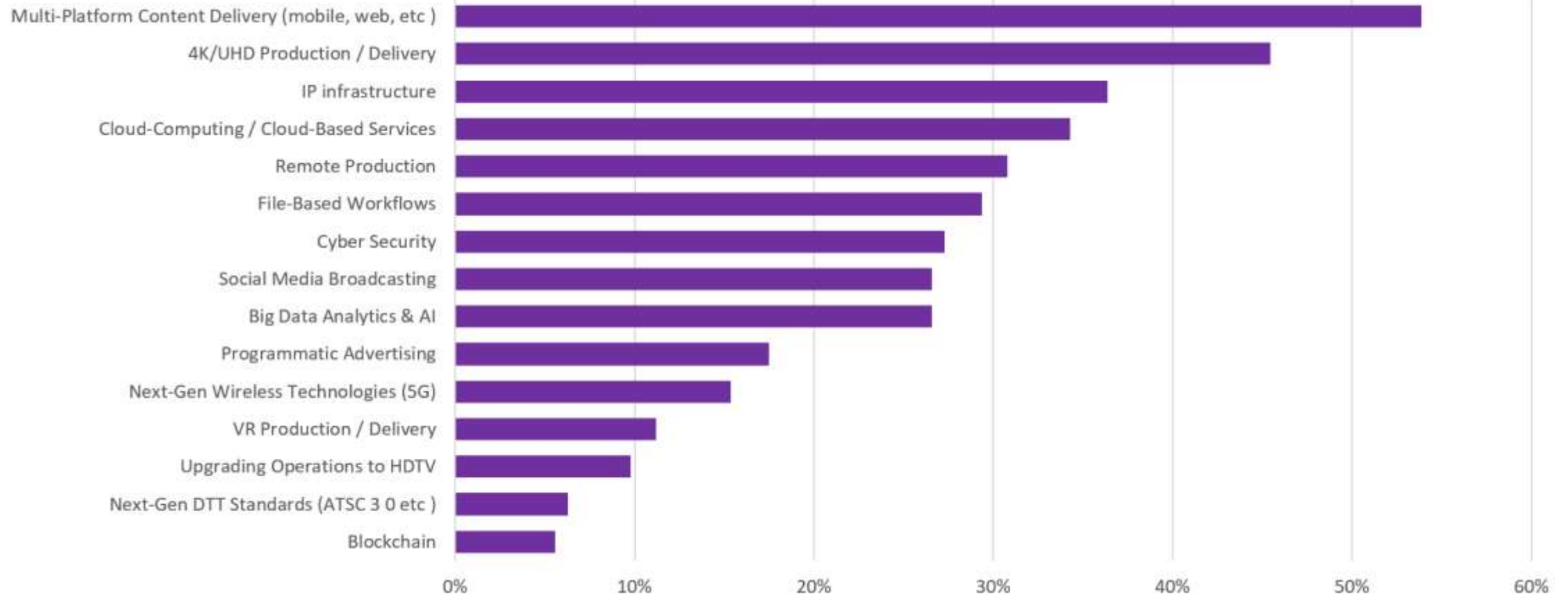
Purchase Drivers – courtesy of 

“Efficiency”
“Relationship”



What Media Industry is looking for

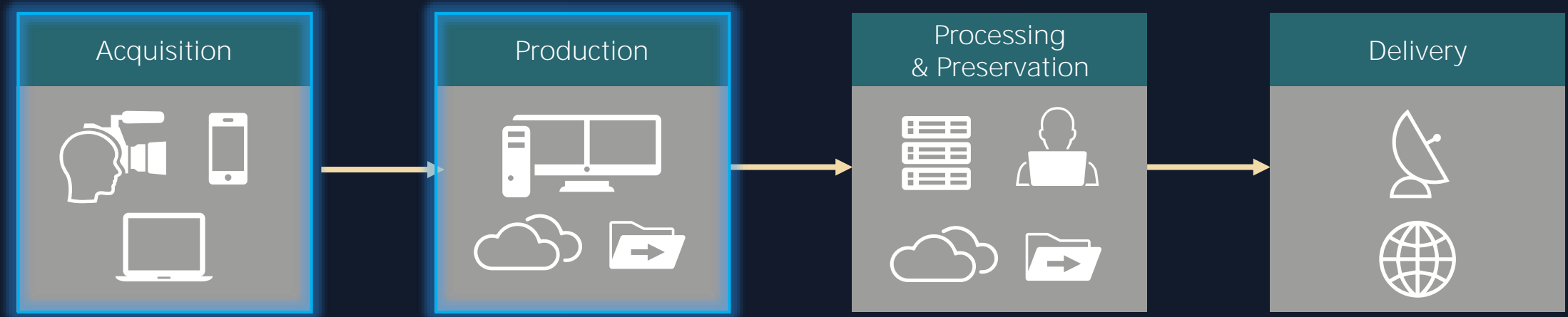
Technology Trends – courtesy of 



Source: IABM

IP Technology in Live Production

- IP Technology already well adopted in Contribution & Distribution
- Acquisition & Production moving to IP but different operational & technical needs:
 - Mix of multiple sources of Video & Audio essences
 - Real Time operations is required
 - New Industry Standards & practices



The Power of Partnering

Building Eco-Systems based on Open Standards

Sony is key member of the Joint Taskforce on Networked Media funded by EBU, SMPTE & VSF.

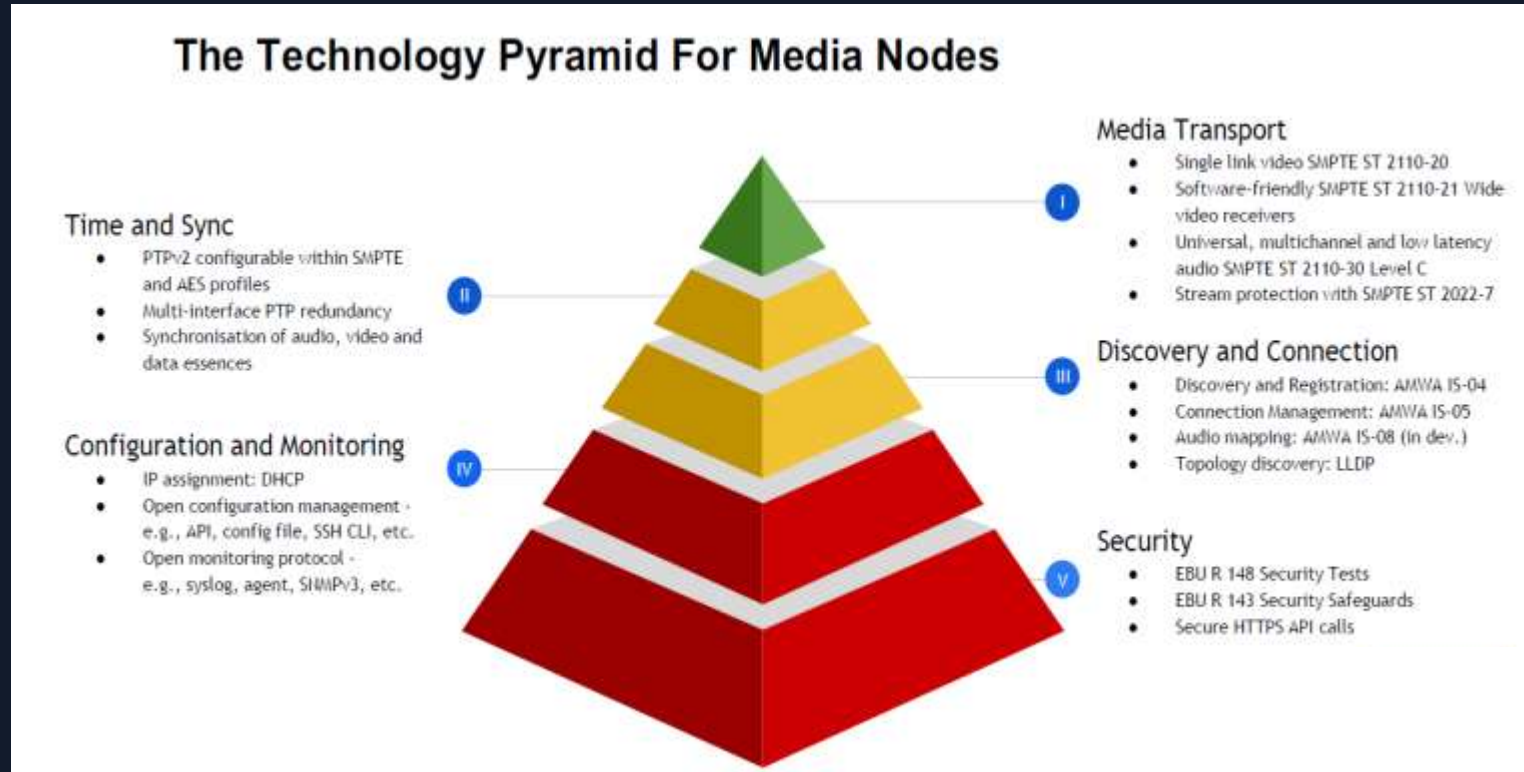
As active member of SMPTE, Sony has led the standardization of SMPTE ST2059 together with Cisco and more recently work on SMPTE ST2110.

Sony is principle board member of AMWA and lead AMWA NMOS specifications together with all members, sharing Open Source code of its IS-04/05 implementations.



The Power of Partnering

Building Eco-**Systems** based on Open Standards



EBU TECH 3371 states on Single link video; SMPTE ST 2110-20

For simplicity of operation and troubleshooting, and optimal network density, **video Media Nodes should use single link streams**. For instance, a single 59.94 Hz UHD stream (like a camera) requires a 25 GbE port, and a high-density device (multi-viewer or vision mixer for example) should take the benefit of bi-directional 100 GbE.

The Power of Partnering

Building Eco-Systems

Media Processing engines



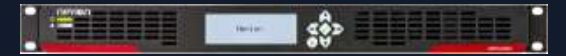
Imagine EPIC.MV



LAWO V_matrix



Axon Neuron



Nevion Virtuoso

Analysis Tools



Tektronix PRISM

Network & Evaluation Tools



IP Live Evaluation Lab.



Network Switches



Network Evaluation Tools

The Power of Partnering

Building Eco-Systems



The Power of Partnering

Training at DMPCE Pinewood UK

3 days training

Mix of Theory & Practice

Over 100 delegates trained

Special offer to our Partners



Reference Project Case Studies

The Power of Partnering

Industry Collaboration

Working with Partners

Leverage Experience

Relationship & Openness

Be on Time, On Budget



Case Study

SIC Portugal

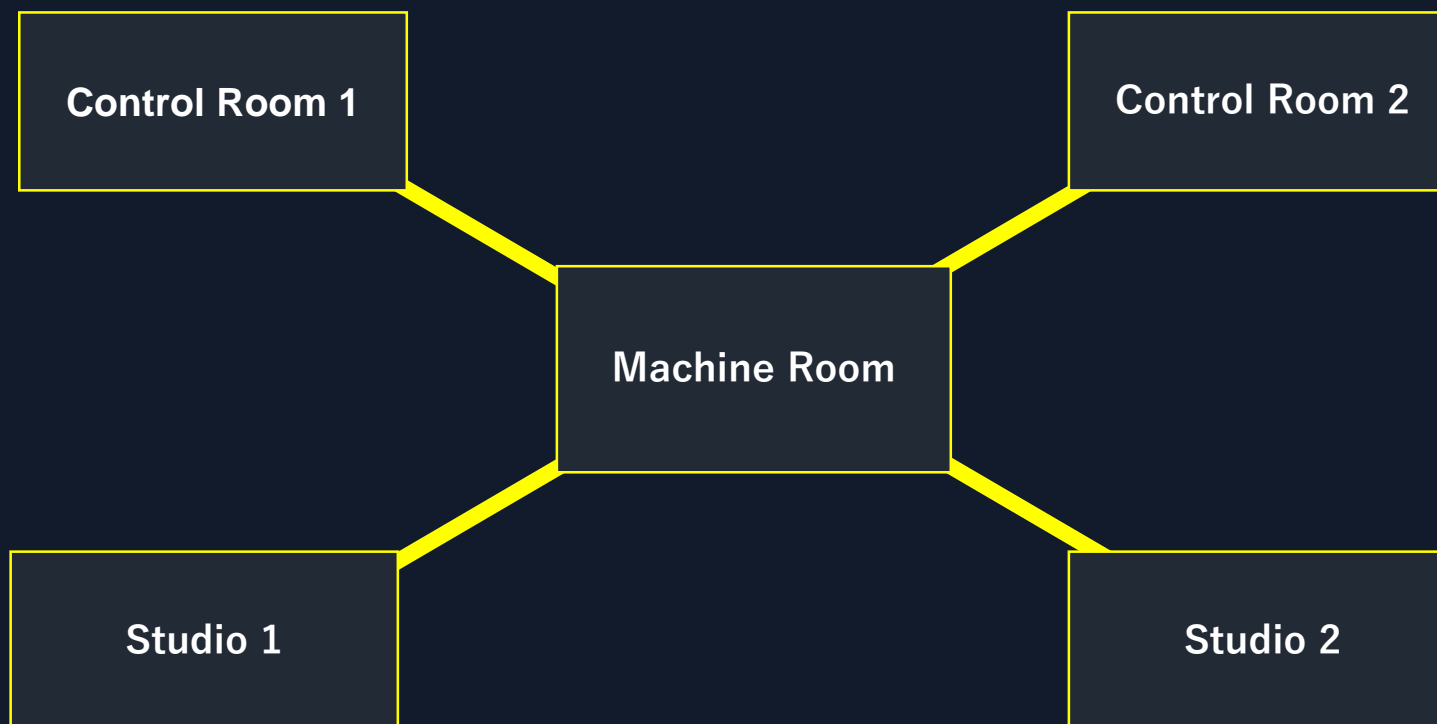


1st ST2110 Sony prime SI project & On-air since Jan 26th, 2019



Case Study

SIC Portugal



Case Study

SIC Portugal



- **End to end ST2110 compliant live production system**
- **Interoperability among multiple vendors**
- **Future proof (migrate for 3G/HDR and UHD/HDR production)**

Overarching SI services - Sony provides design, commission, training, acceptance and on-site support

Camera

Sony HDC-1700 +
HDCU-3100

AV Core

- System Controller
Lawo VSM
- IP switch
Cisco N9336C-FX2, N93180YC-FX
- Vision Mixer
Sony XVS-7000
- IPMV/Glue and gateway
Lawo V_matrix (C100)
- Video server
Avid HDVG server
- Graphics
Harmonic Mediacyber Spectrum X

PTP GM

Tektronix SPG8000A

WFM

Tektronix PRISM

Monitor

Sony BVM-E171/LMD-
A170/PVM-A250

Audio Console

Carlec SUMMA

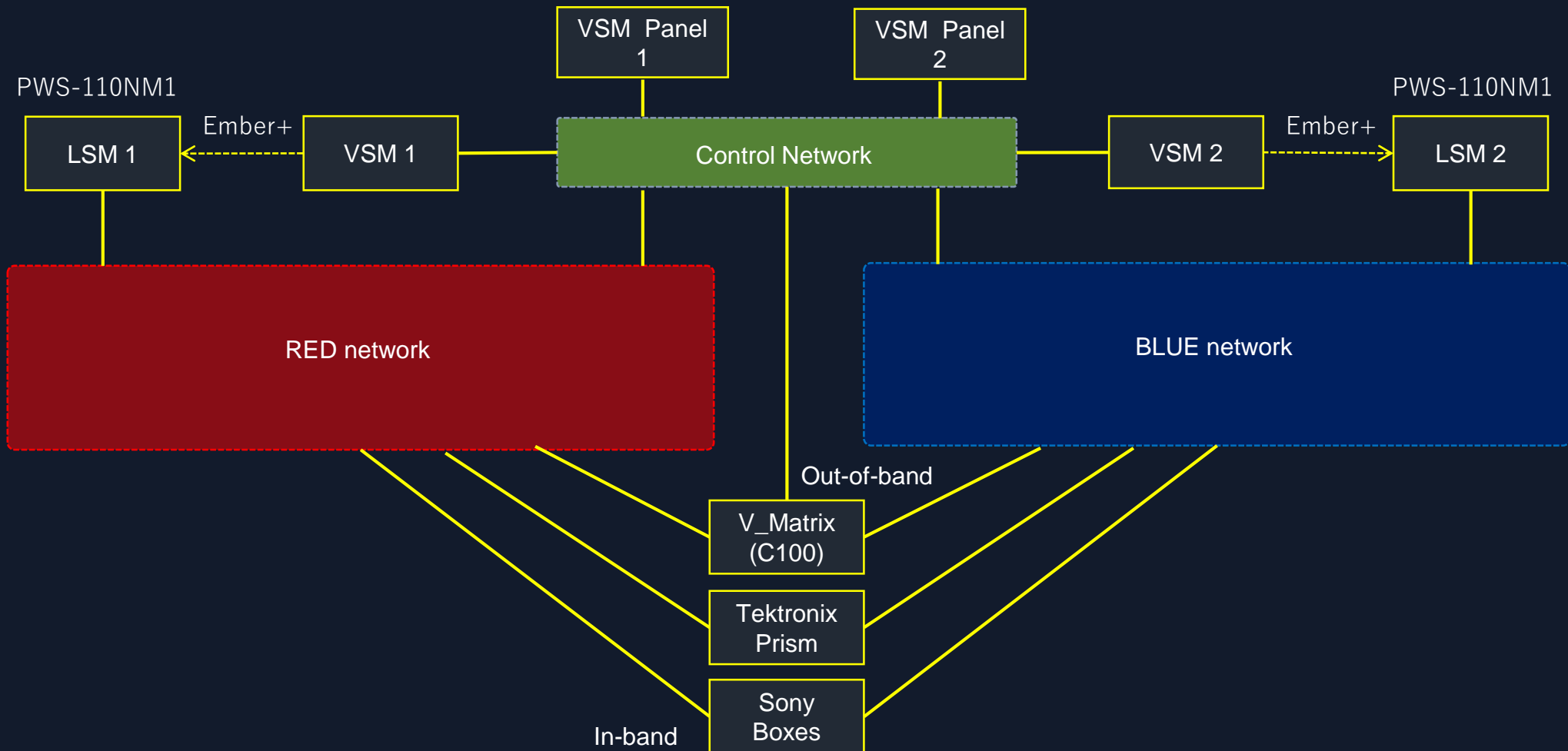
Intercom

RTS ADAM

And more...

Case Study

SIC Portugal

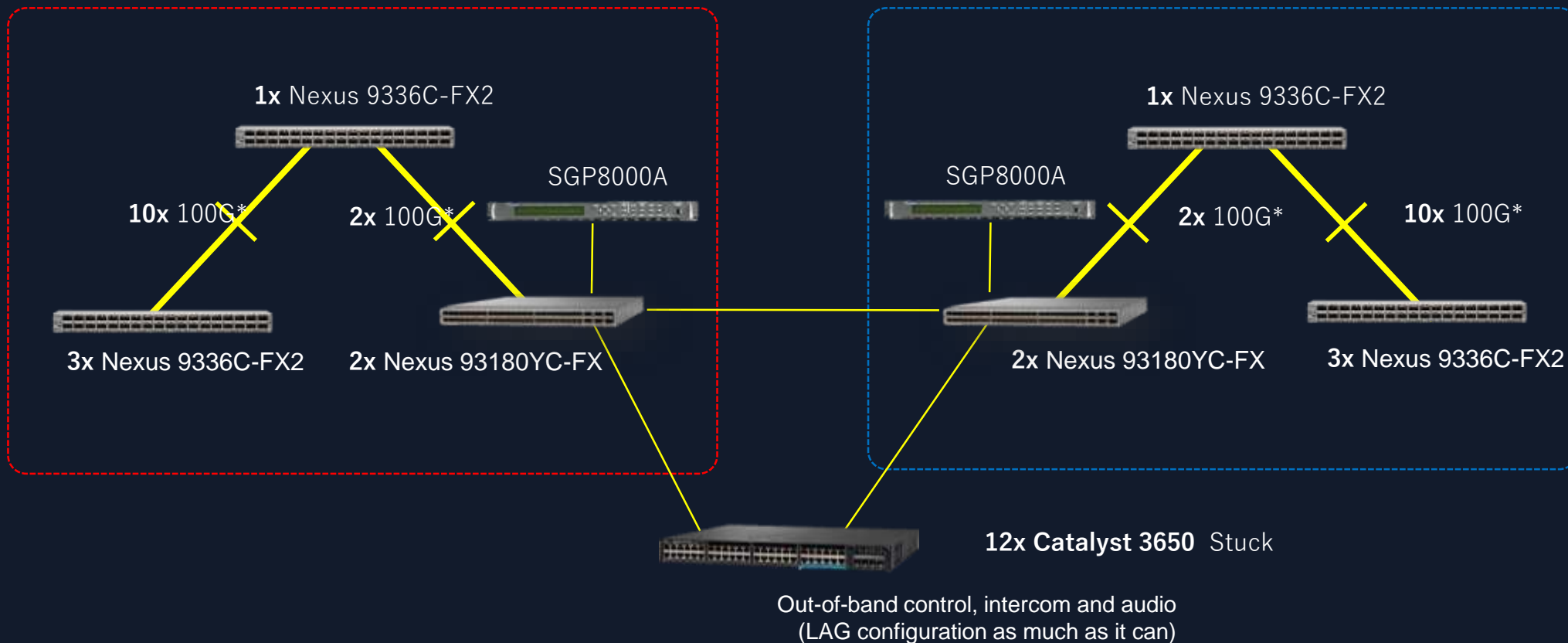


Case Study

SIC Portugal



Fully redundant network for in-band control, transport and PTP

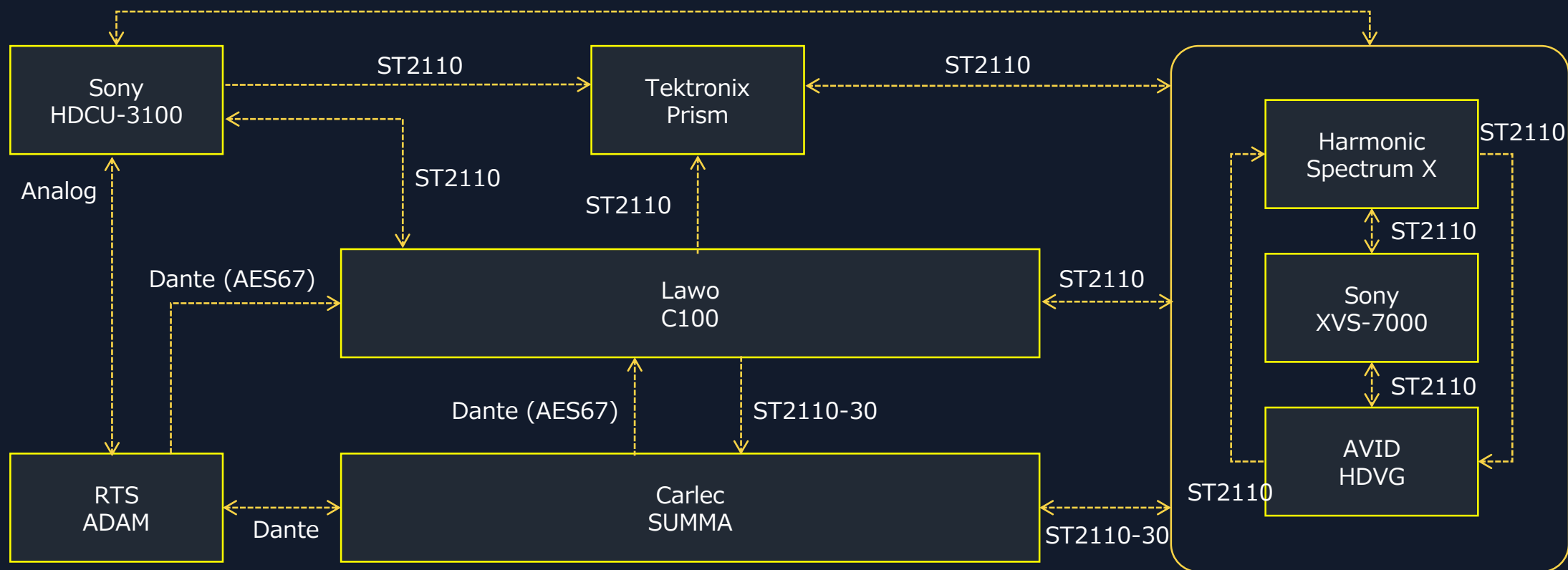


Case Study

SIC Portugal



Overview of A/V device configurations & connections



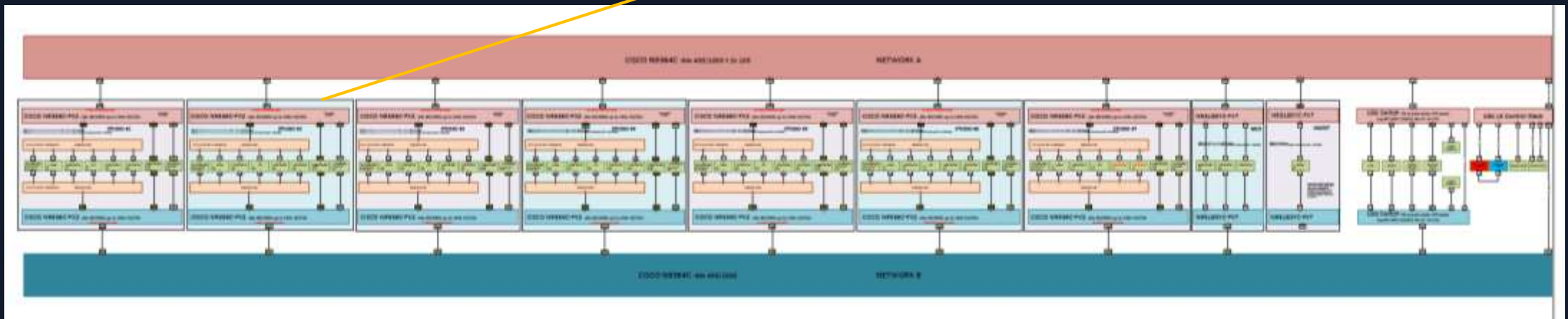
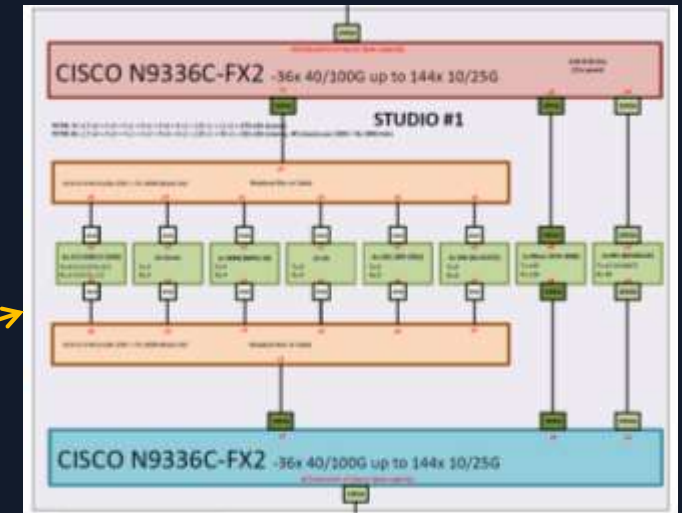
Case Study

ATV Turkey



ATV New Building Project

- 7x Studios, ST2110 based system, 4K Ready
- Sony supports the local ISI (Teratek) as a consultant for
 - Network design based on Cisco Nexus series
 - Specialist integration services, incl. diagnosis
 - Service & support of the overall System

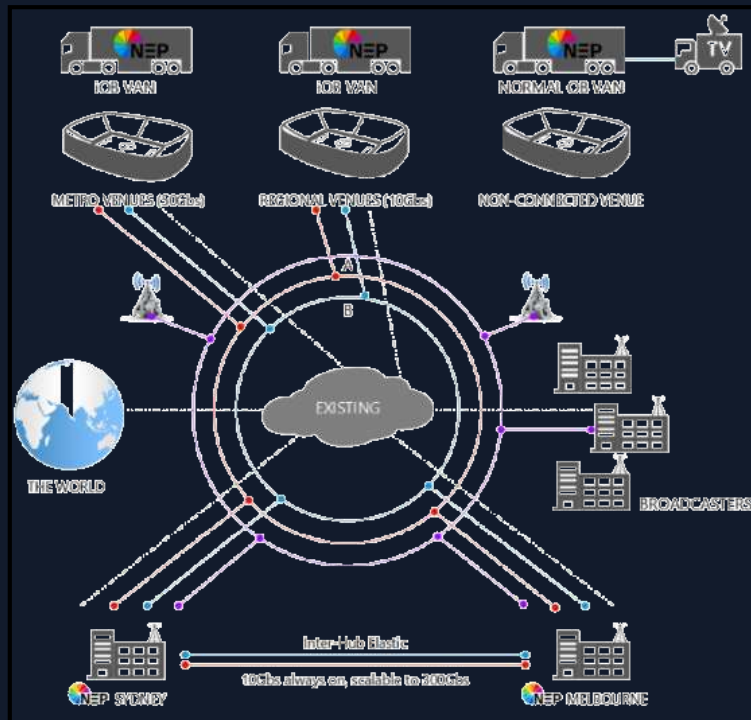


Case Study

NEP Australia



- 100G Network among Melbourne, Sydney and Stadiums
- IP Based System: Enable IP transfer to the station
- XVS-8000/6000, HDC-4300/P43 and HDCU-3100



NEP Australia, Fox Sports Deliver First Live-to-Air Uncompressed HD REMI

posted: 22/12/2017

LIVE PRODUCTION

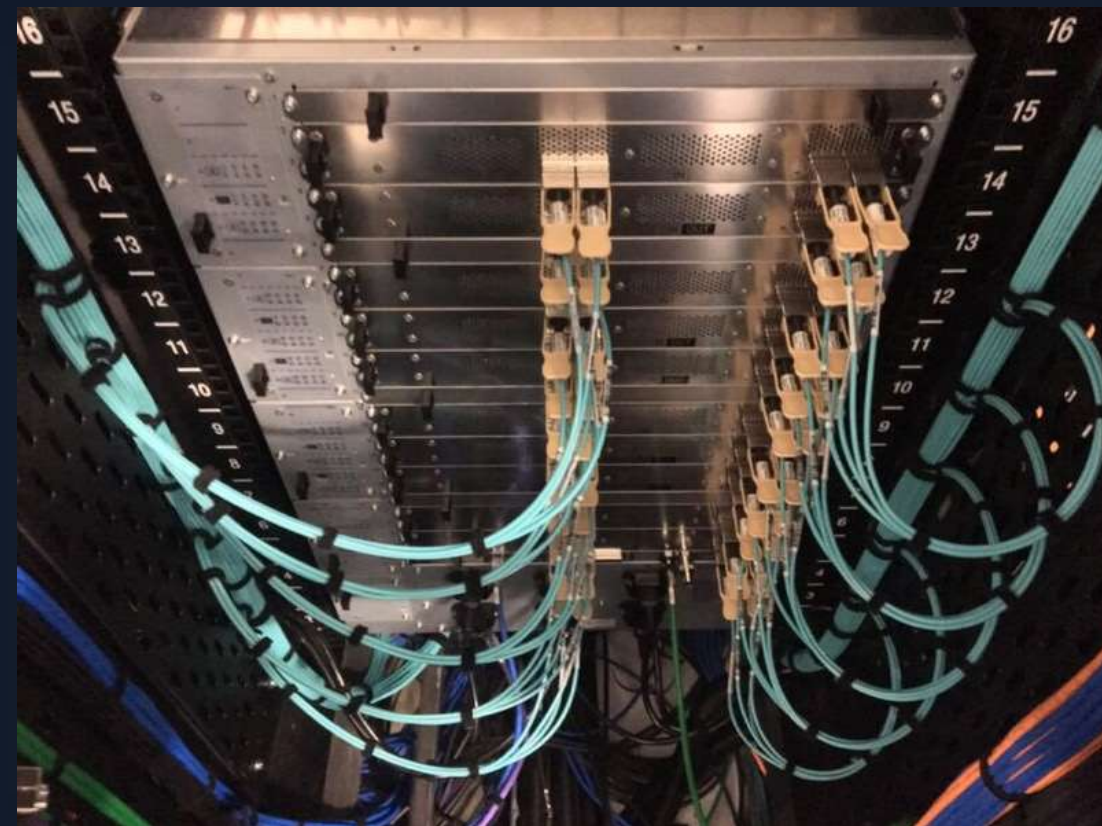
Logos for HYUNDAI A-LEAGUE, FOX SPORTS, and SMPTE ST-2110 are displayed. The NEP logo is also present at the bottom left of the block.

Case Study

NEP Australia



Sony CCU HDCU-3100

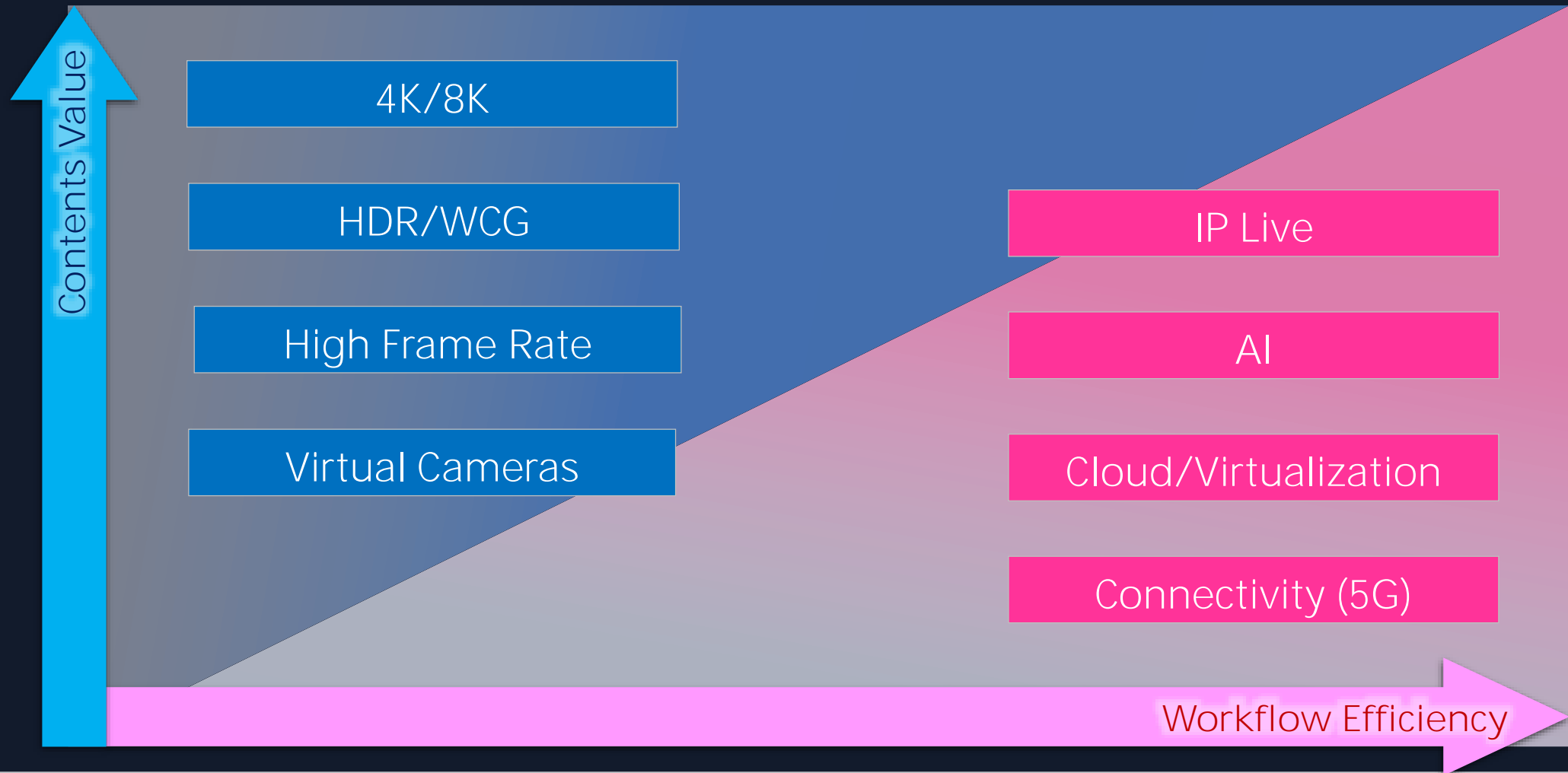


Sony Switcher XVS-8000

How the Media Industry benefits from the evolution

How Media Industry benefits from the evolution

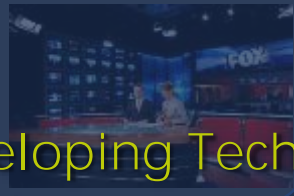
Content Value & Workflow Efficiency



Unify the Infrastructure

IP connects every island of the production & distribution chain

News Studio



BC Station



News Production



Program Production



Archive



Transmission



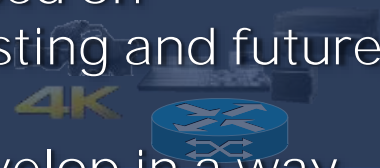
Sony works in developing Technologies & Solutions for unifying Live & Non Live Infrastructures that are

Covering / Enhancing the workflows and operational practices of a conventional Live production

Based on existing and future open standards & Architectures

Develop in a way to maximize the benefits of IP-based technologies

Satellite Studio



Unify the Infrastructure

Multiple Use Cases

Shared Production



Expandable and Flexible IP Routing System

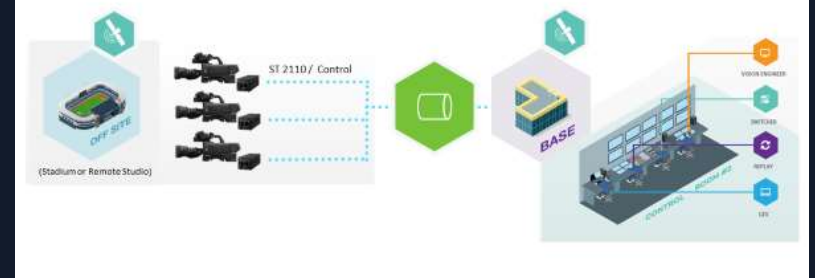
Connecting Multiple OB Trucks



Expandable OB Van Solution by IP-nize tie-line

Remote Production

Remote Production with New HDCE-TX30



Standard based & efficient remote production

Unify the Infrastructure

Remote Integration (REMI)

Remote Production

- Minimizing on-site equipment & staff
- Reducing Production Costs
- Increasing productivity

+

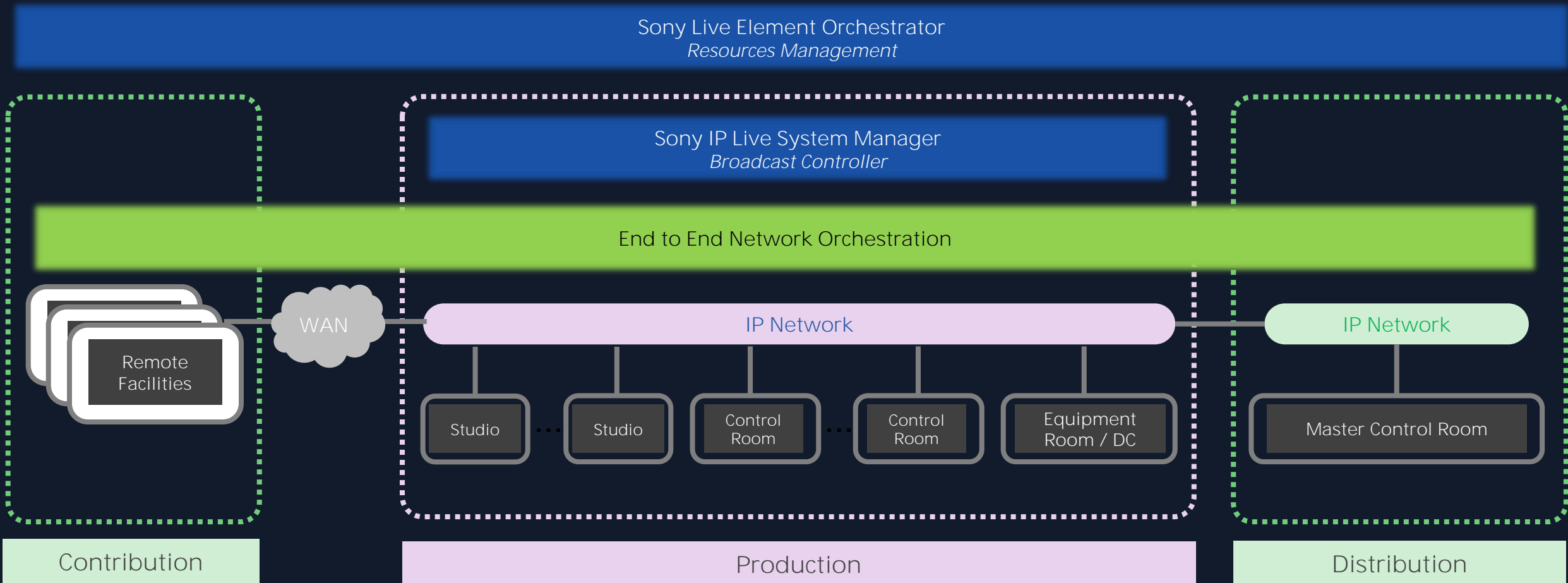
Shared Production

- Maximize facilities utilization .
- Flexibility in studio/control room combination
- Dynamic resource assignment

→ To leverage benefits of REMI, orchestration is the key

Unify the Infrastructure

End-to-end networked orchestration is the key



Network Orchestration

Sony's Strategic Partnership with Nevion



Experts in network orchestration solution:

Solid network expertise and selected by innovators

Network Consulting capabilities in Media

Technology Leadership

Experts in SDN and video/audio over IP, and has been acting as the "glue" between Broadcast/Media and IT industries

VideoIPath

Management & Orchestration



SDN Controller

- Multi-spine topology
- Flow path monitoring

Virtuoso

Software-defined media node



Gateway

- SDI-ST2110, SDI-ST2022-6 and ASI-IP TS
- Codec(JPEG2000, TICO UHD, H.264, JPEG XS...)
- MUX/DeMUX Audio

SONY

Live Element Orchestrator (LEO)

Efficient Resources Management

LEO is a solution that manages the entire Live Production operations

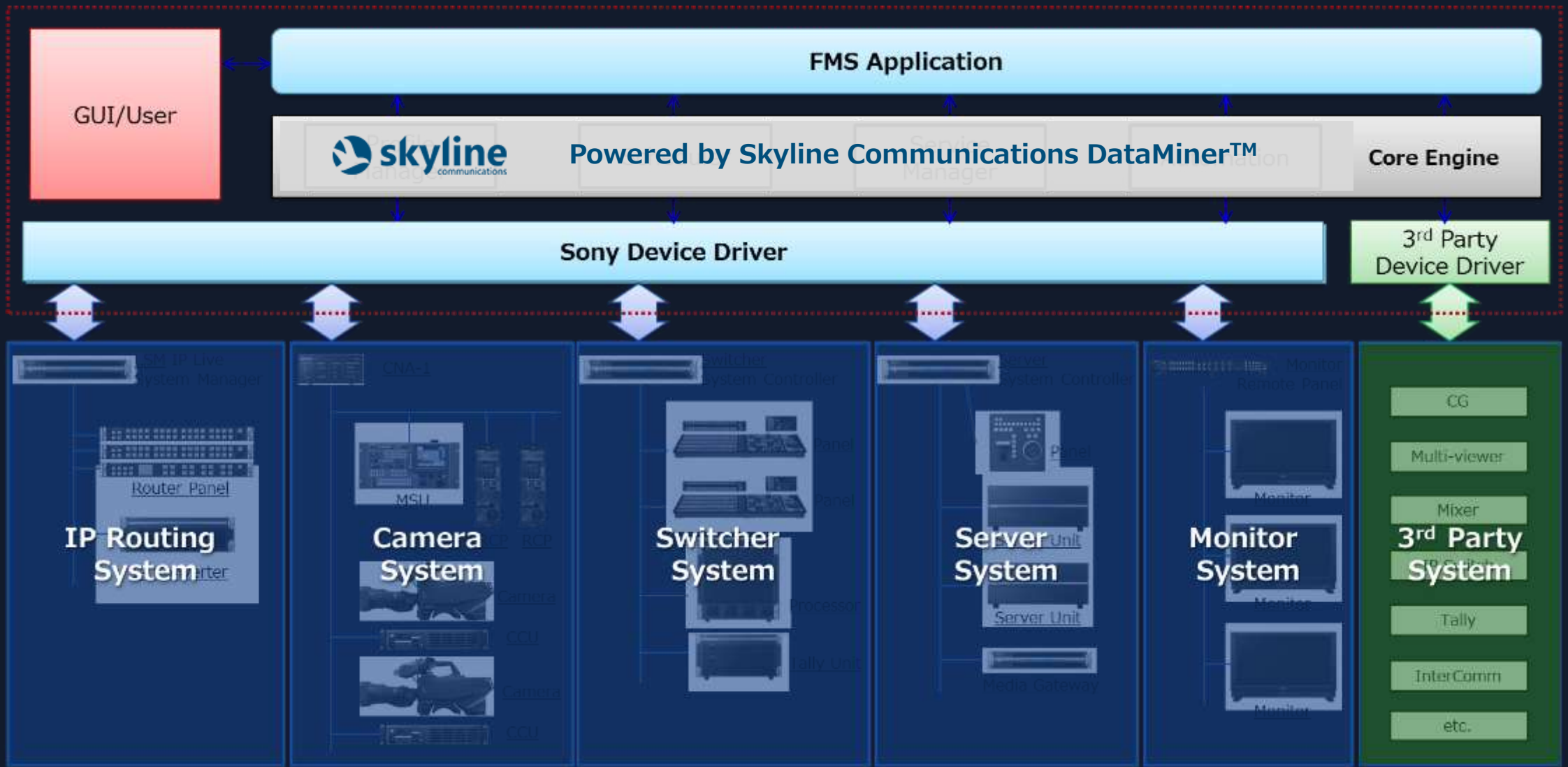
- It's complementary to a Broadcast Controller
- It's complementary to a Network (SDN) Controller

LEO is capable of configuring, monitoring & booking production devices (Sony & 3rd party) centrally, against Production Requirements, so down time is minimized

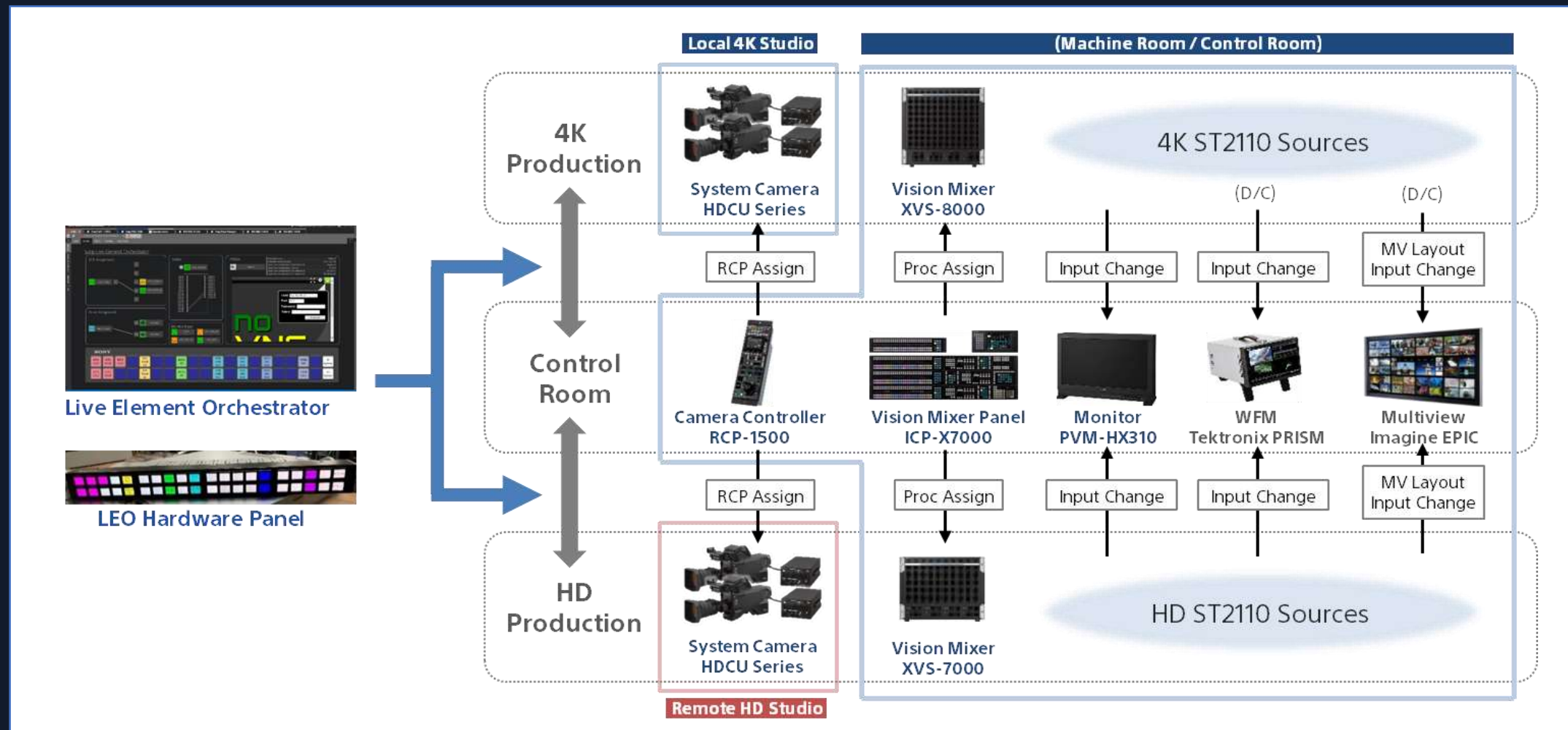
LEO is powered by Skyline DataMiner™ and as such inherit 3000 device drivers already developed



Live Element Orchestrator (LEO)



Live Element Orchestrator (LEO)



Remote Production with new HDCE-TX30

- Portable size (1/3 rackmount size)
- Configurable at remote side
- Full IP supports (ST2110/NMOS, audio, intercom & tally)
- Support Video Compression with future Version Up and License
- Full Redundancy (ST2022-7)

No CCU!!!

**HDC-2500/3100
/3500**



SMPTE
Fiber

HDCE-TX30
Camera Extension Unit



IP Switch



IP Switch



IP IF

- ST2110 Tx/Rx
- Audio MIC/PGM
- Intercom, Tally
- PTP



Audio Conversion, etc. (3rd Party)



RCP

Remote Side

Production Side

Future Technology Trends

Let's go on the journey together

AI^{8K}
5G

Connectivity

European M2M Connections are predicted to reach 500 million by 2020; 3.1 billion globally.

Frost & Sullivan

Cloud

Worldwide spending on public cloud services will grow at a 19.4% compound annual growth rate (CAGR) from nearly \$70B in 2015 to more than \$141B in 2019.

Statistics Public cloud infrastructure at a Service (IaaS) hardware and software spending from 2015 to 2026.

Big Data

About 328.8 Million hours of content were viewed globally in 2015 and this will likely grow to 506.9 million by 2020.

Frost & Sullivan

Convergence

IT spending for the Media Industry in Europe is likely to rise to \$73 Billion by 2020.

Frost & Sullivan