Andrew Frost

Operating Theatre Integration
New Efficiencies

Topics

- How does integration improve Patient safety and efficiency?
- Who are the Vendors ?
- Technology & Room Design implications
- Practical example

Does this look familiar ?

- Storing patient data on memory sticks/local media centres?
- Sellotaping printed pictures to hand written Patient reports
- Walking across the Theatre to view a PACS image
- Birds Nest of Cables!
- Being Shouted at – when it does not work!

A short history lesson!

In Theatre or Endoscopy:

- Nothing was connected (except by the odd patch cable)
- Evolved out of a need to interconnect various instrument/device sources to single external displays
- Built upon a foundation of AV management and control
- Remote adjustment/control of devices
- **Driven by the Surgical and Endoscopic Camera business and Hybrid / Cath lab solutions**

The Camera drove the Solution!

(and who currently has the best camera?)

Why Change ?

Drive towards minimally invasive surgery

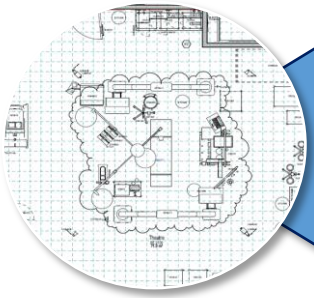
Increasing use of 3rd Party devices (i.e. Da Vinci robot, Surgical Mapping)

Improving Information Governance & GDPR Requirements

Increasing need for visualisation from a variety of sources

Centralised control from Camera Head

Demand for Open Architecture Platform



HBN 26 (Facilities for Surgical Procedures)

- Recognises increase in Laparoscopic and robotic procedures (55 m^2 size)
- Recommends medical services installed to support it in the future
- Minimally Invasive Theatres should be designed to support conventional procedures as well
- Unified approach to IT systems

Driven by Safety, Ergonomics, GDPR, Data management & Reporting

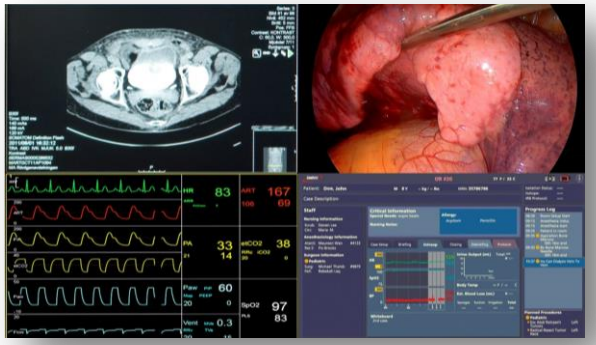
Will Theatre Integration become the "Standard" for all theatres ?

- Increase in surgical camera use outside of the traditional area
- New technologies driving increase in data/images being captured (i.e. surgical mapping systems, Robotics etc)
- Training
- Procedure "Dash Cams"
- GDPR
- Requirement for specific reporting systems (i.e. GI and Bronch endoscopy)
- PACS, EPR solutions and VNA solutions are maturing improving data management opportunity
- Operational analytics and reporting
- MDT rooms

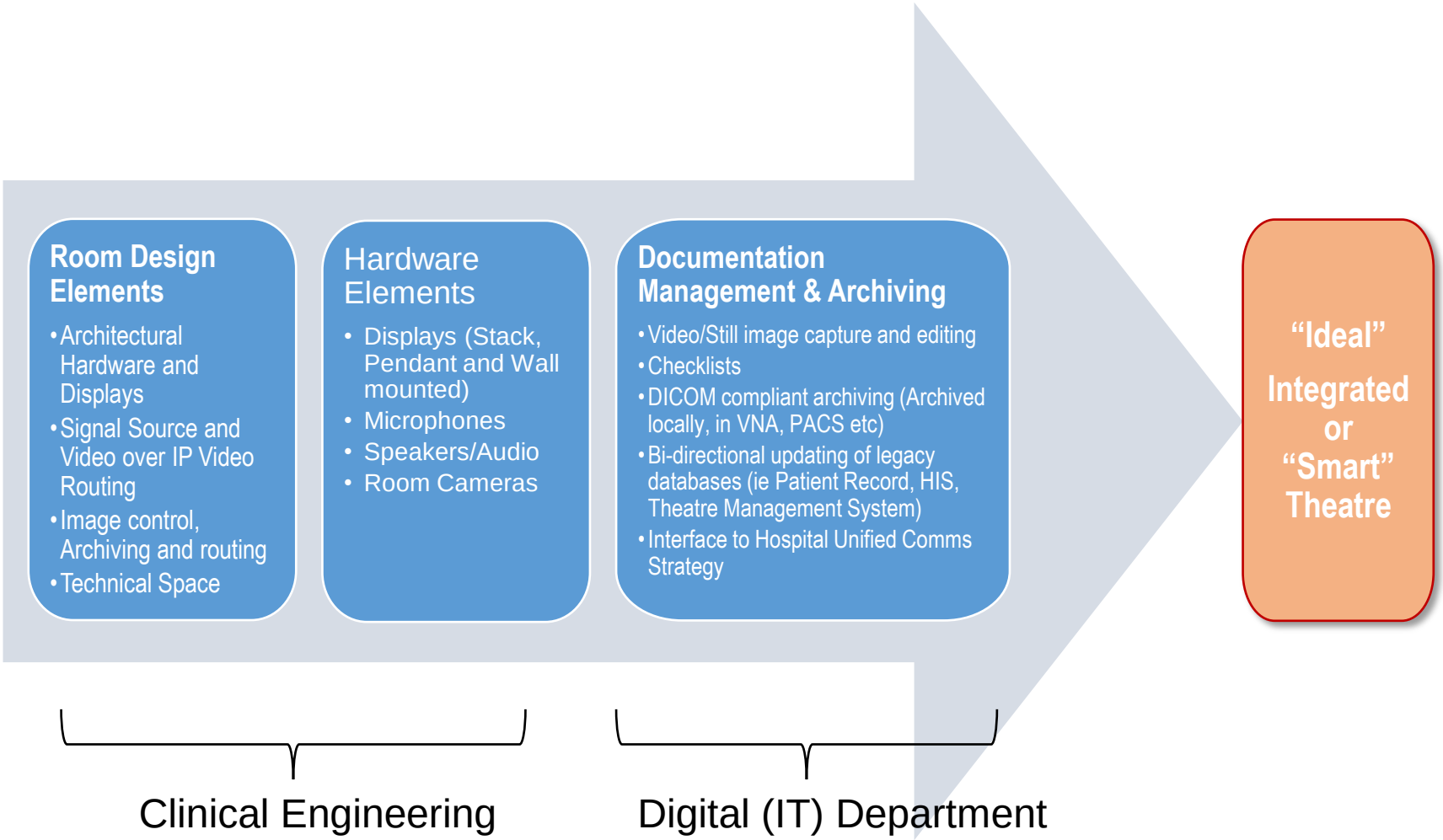
Integration migrating from specialist theatres and endoscopy might become the standard for every theatre.

What are the building blocks for an Integrated Theatre?

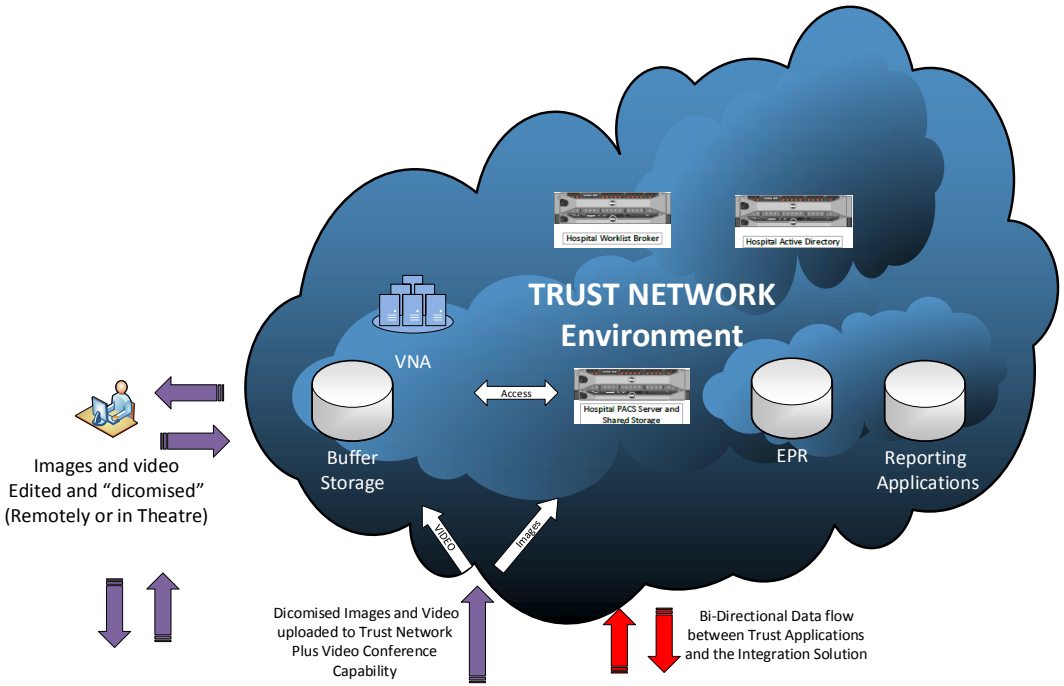
- AV Management & Control (Uncompressed Video over IP)
- IT Connectivity & local/archive storage
- Instrument Control (Optional)
- Full Bi-Directional IT Integration

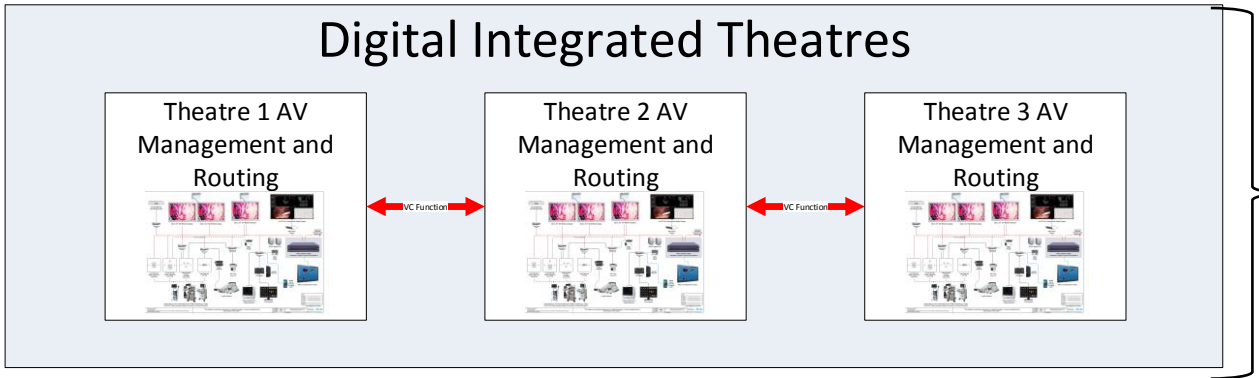


What and who does it impact?

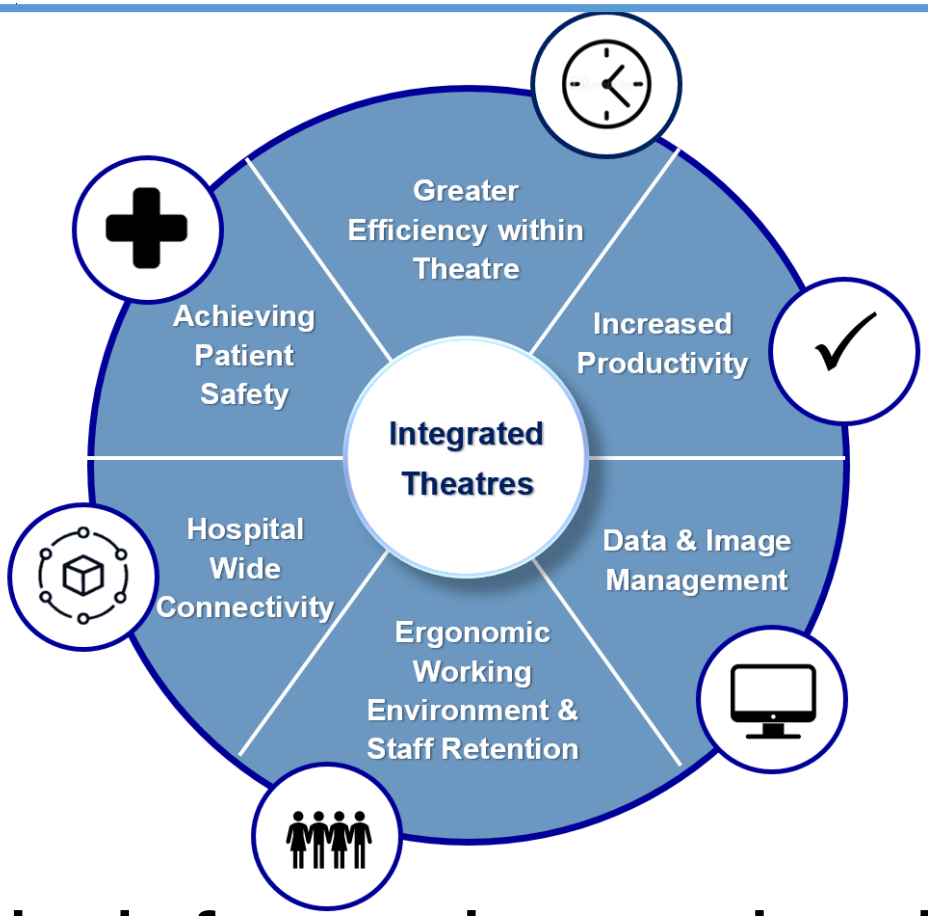


Integration Solution





Improving patient safety, work place ergonomics & efficiency



Right information at the right place at the right time!

Who are the Vendors?

Vendor Neutral solution

- Medical grade displays
- Video over IP across a fibre infrastructure
- Utilises Industry standard infrastructure hardware so proven reliability
- Utilises legacy video sources
- Utilises legacy Hospital databases and applications
- A Turn Key solution
- Seamless integration with legacy device suppliers

Vendor Independent Providers

- Maquet/Getinge
- Brainlab
- Howorth
- Bender
- Caresyntax
- Steris
- Merivaara
- Jones AV
- Sony

Vendor Specific

- Require Instrument Control
- Require a specific “Brand” of Documentation Control
- Delivers a total camera to screen “Turn Key” solution

Device Manufacturers ie Camera/Stack vendors

- Storz
- Olympus
- Stryker
- Arthrex
- Wolf

Market now moving towards “Vendor Neutral” Solutions

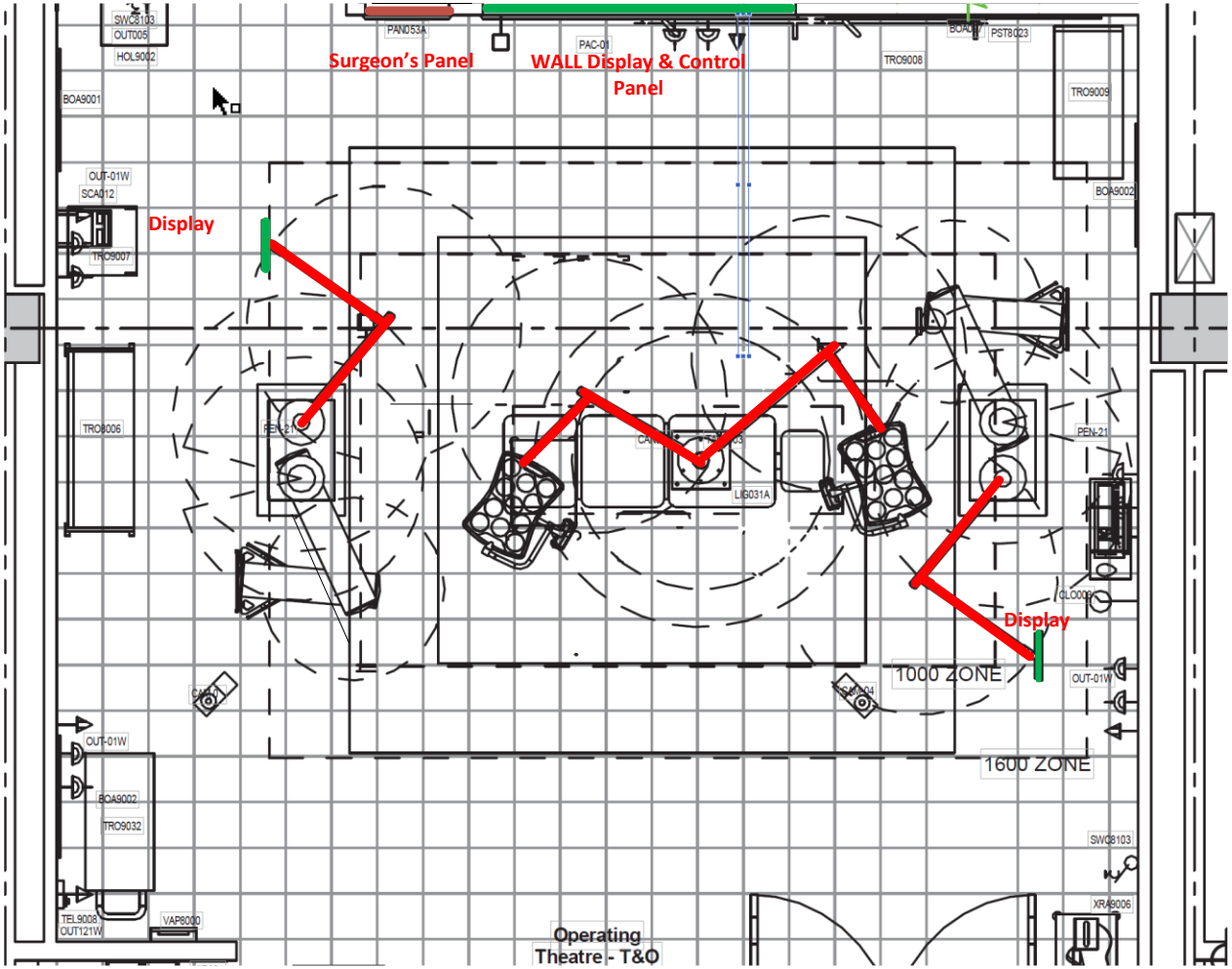
Who are the Vendors ?

Provider	4k Camera	Product Name	AV Routing technology	Data Medium	Displays
Olympus	Yes	VMC-3	Barco Nexxis	Fibre	Sony or Barco
Olympus 2019	Yes	EasySuite	Image Stream	Fibre	Sony or Barco
Storz	Yes	OR Fusion - Full or elementary	Barco Nexxis	Fibre	Barco
Arthrex	Yes	Synergy	Barco Nexxis	Fibre	Barco
Maquet (Getinge)		Tegris	Proprietary	Copper	Barco
Maquet (Getinge) 2019		Tegris VOIP	Barco Nexxis	Fibre	Barco
Brainlabs		Buzz	Barco Nexxis	Fibre	Barco
Caresyntax		S-Cape	Proprietary	Fibre	FSN or Sony
ALVO		Integra	Barco Nexiss	Fibre	Barco
Sony		E-Saturnus/Nucleus	Proprietary	Copper/Compressed Video over IP (Fibre version due out 2019)	Sony
Eschmann/Steris		Harmony IQ	Proprietary	Fibre	Proprietary
Mirivaara		Open OR	Barco Nexxis	Fibre	Barco
Stryker		i-Suite	Non VOIP Solution	Copper	Proprietary
Howorth		Sony	E-Saturnus	Copper/fibre hybrid	Sony
Wolf	Yes	Care Nova	VOIP Solution	Fibre	Barco
Jones AV		ORCS	Barco Nexxis	Fibre	Barco
Bender		OpenOR	Barco Nexxis	Fibre	Barco
Brandon		Entoli	DVI	Copper	FSN
Eizo		Caliop	?	?	?

50% of Market Solutions are Nexxis Based some of which are Vendor Neutral

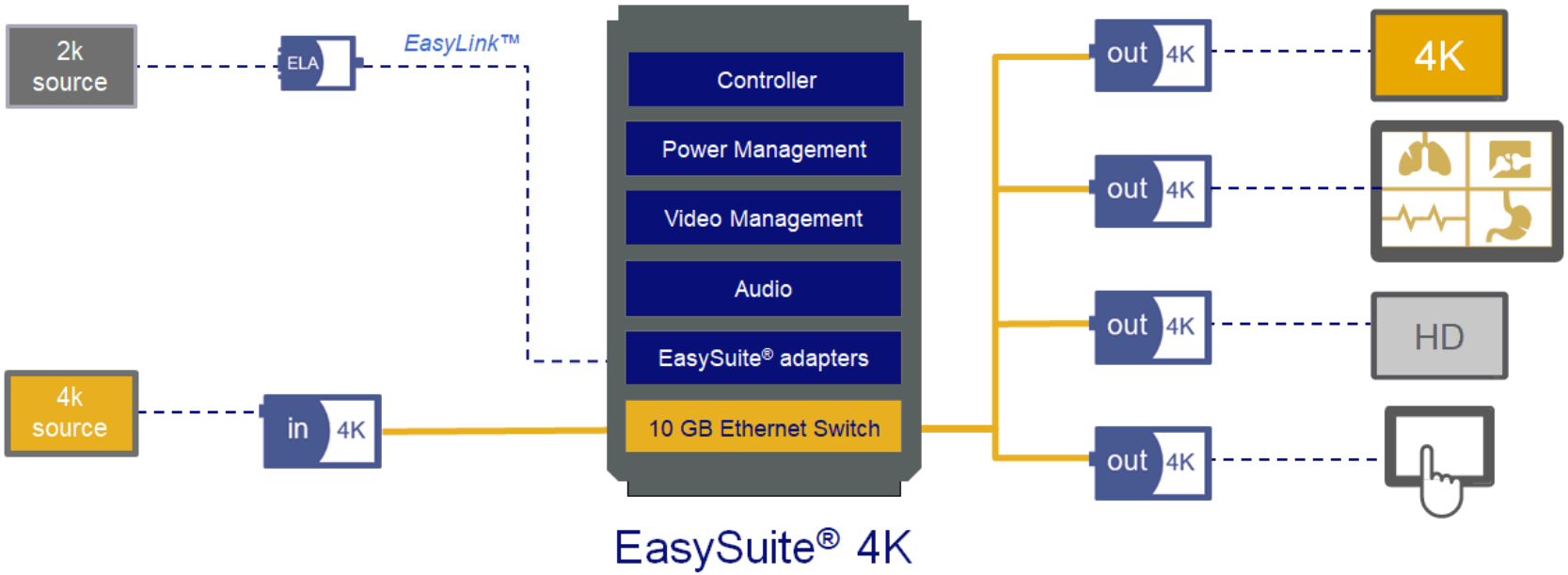
Example Theatre Design

(Midland Met)



Example System (Olympus)

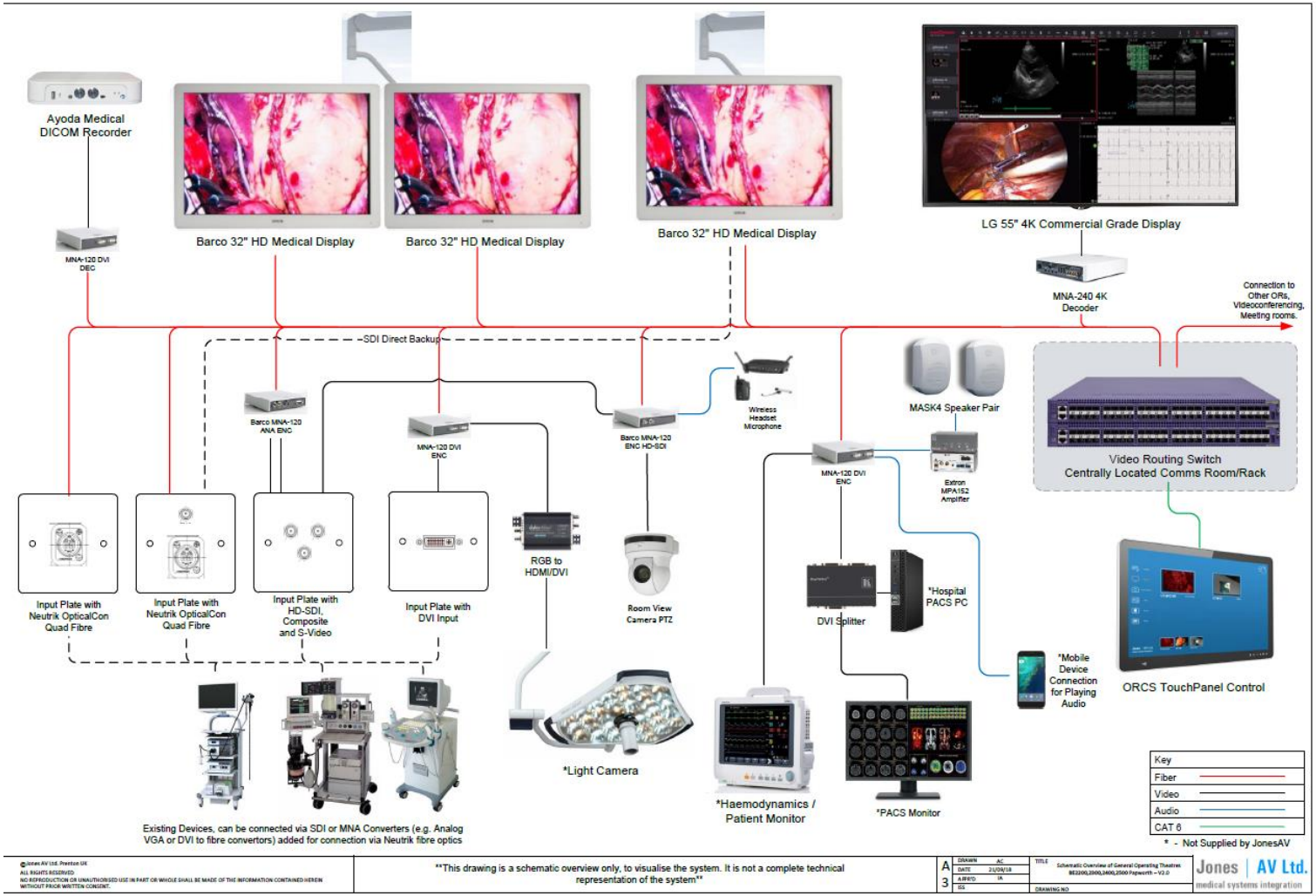
Functional look at the EasySuite® 4K architecture



4k inputs and all outputs
- *Display Port 1.2 at the edge*
- *Fiber at the core*

2k inputs
- *EasyPort™ and EasyLink™*

Example Installation
(New Papworth Hospital - JonesAV)



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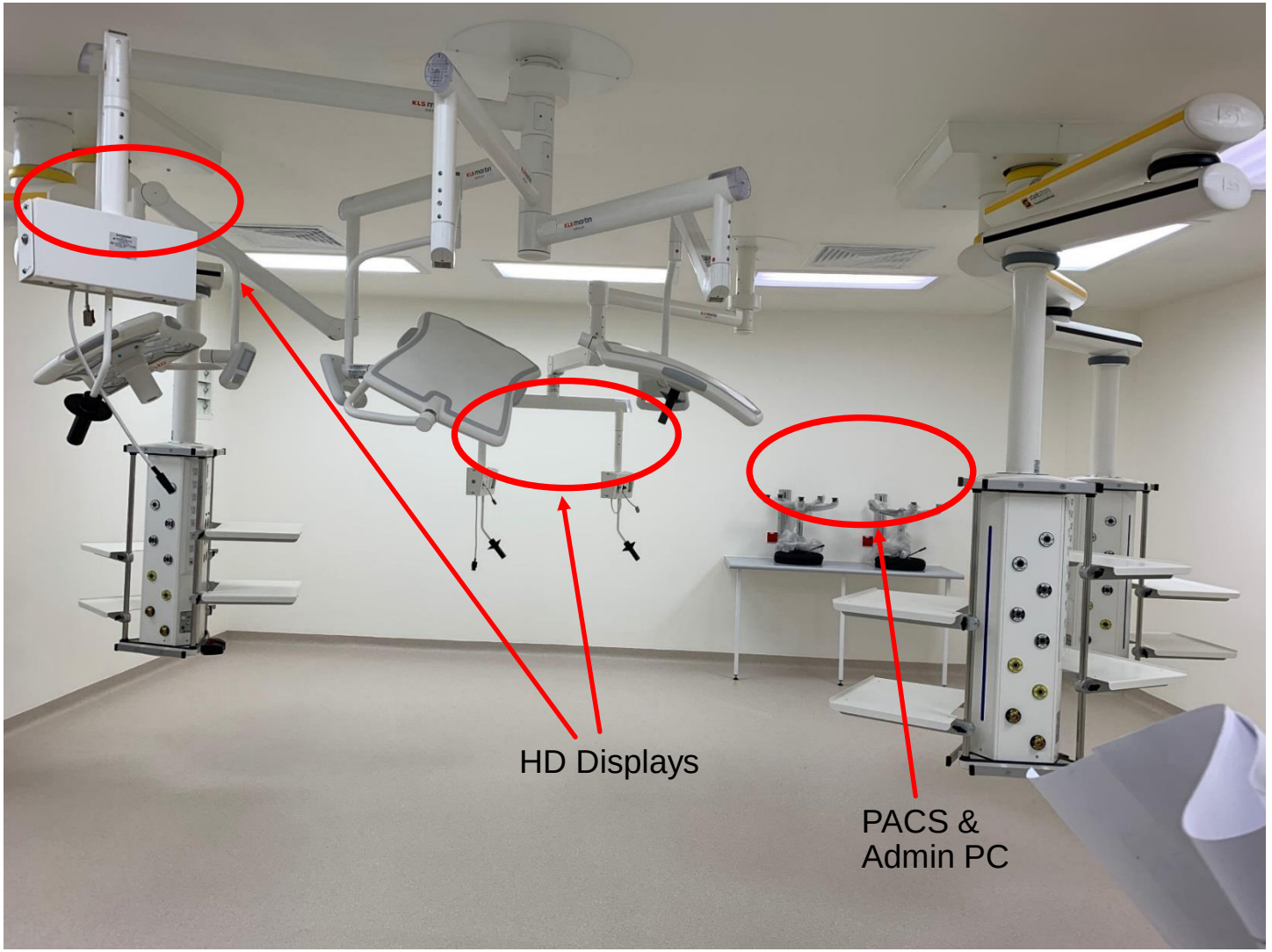

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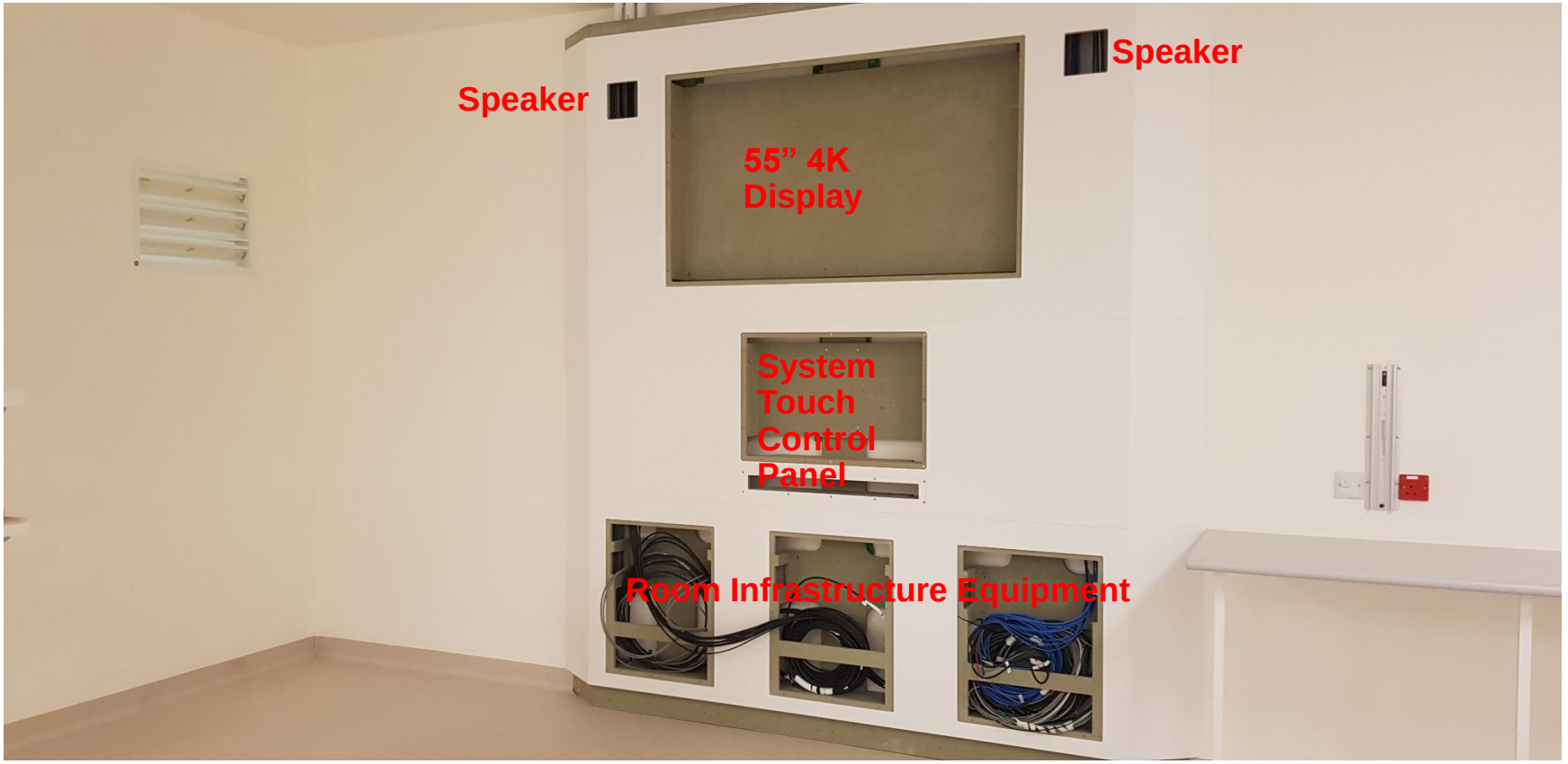

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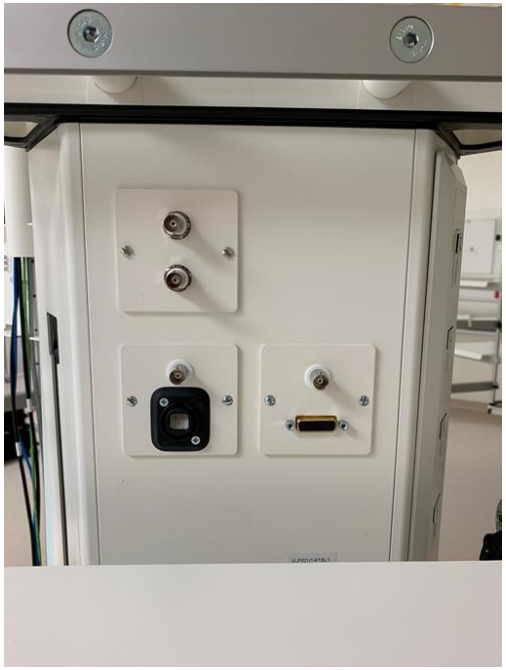

Example Installation

(New Papworth Hospital)


Thank You
Any questions?
STORZ
Monitor 2