



Digitalise your operating room and give every role the interface it needs

Present in Belgian operating theatres since 2008



Board

Management & procurement



Theatre

Theatre managers



Care

Clinical teams



IT

IT & CIO



Biomed

Biomedical engineering

A platform developed by Passman Benelux

The operating room concentrates challenges that technology alone cannot solve.

Heterogeneous equipment, disparate connectors, EU-MDR standards, staff turnover, lack of visibility over the asset base : teams face growing complexity that calls for a comprehensive, structured response.

Heterogeneous equipment & connectors

VGA, DVI, HDMI, SDI, SD/HD/4K resolutions : each room is a different ecosystem, difficult to harmonise and maintain.

Increasing EU-MDR requirements

European standards for connected medical devices are tightening. Compliance is becoming a strategic priority for every facility.

Staff turnover & skills development

Staff changes quickly. Skill requirements increase. Non-intuitive interfaces extend training time and generate errors.

Poor visibility over equipment assets

Actual use of medical equipment remains largely invisible. Without data, it is impossible to optimise resources, maintenance and room occupancy.



A single room brings together equipment from several manufacturers, each with its own screen, connector and resolution. That is the real starting point of every project, and it is never the same from one hospital to the next.



Erasmé Hospital

a room equipped with a mobile C-arm

One single platform for the whole theatre activity.

HIVE centralises video feeds, audio, patient data and the equipment of the operating theatre. Every member of the team, from surgeons and biomedical engineers to nurses and IT staff, has a dedicated interface, accessible from any workstation on the hospital's intranet.

C
CONSOLE
In the operating room

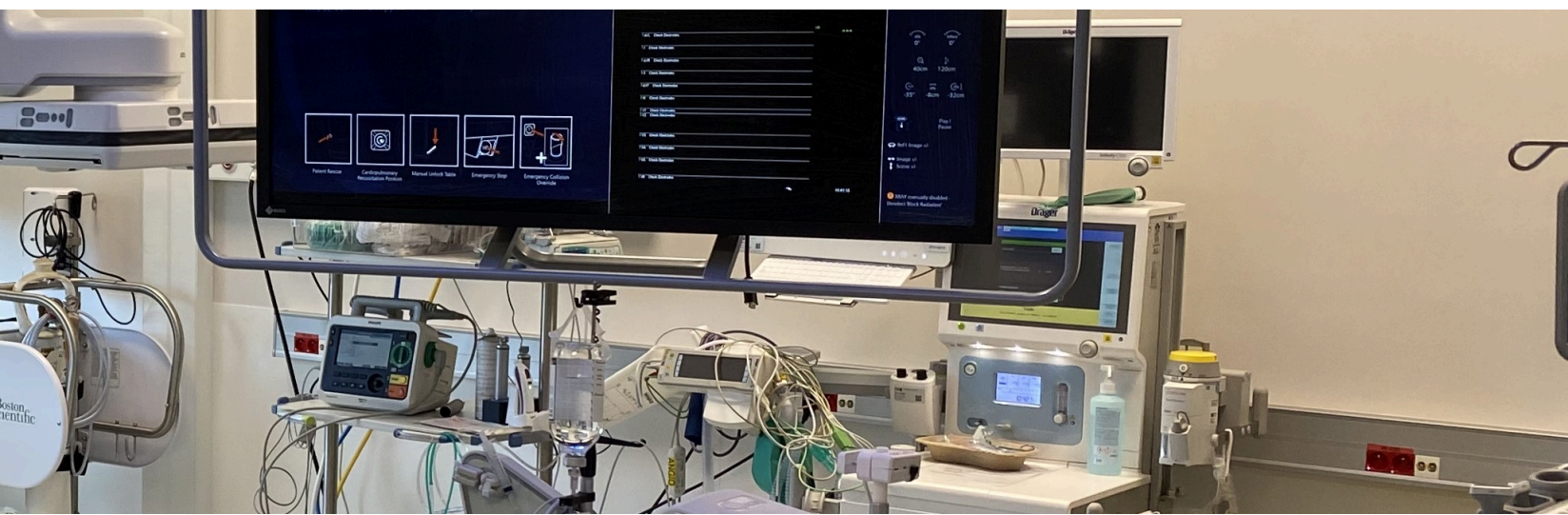
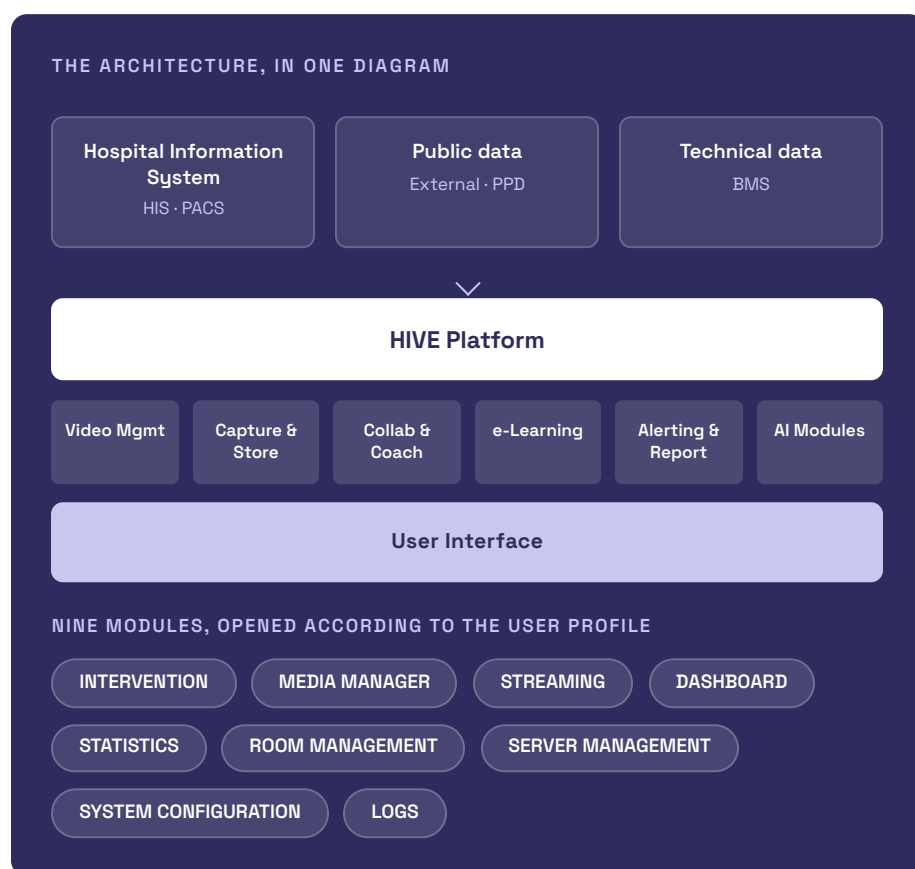
P
PORTAL
From any intranet workstation

D
DISPLAY
On the supervision screens

Touchscreen interface for audiovisual management in the room : video routing, capture, audio, worklist, streaming.

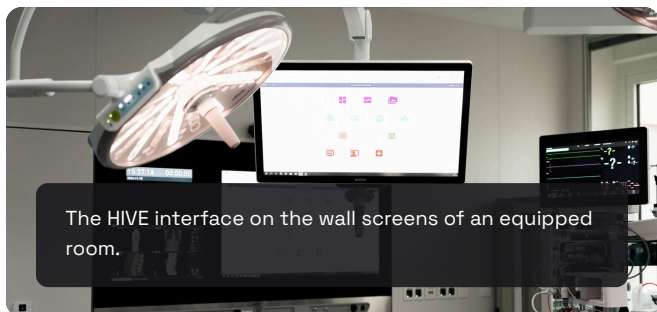
Web entry point. Gives access to the modules according to the profile of the authenticated user.

Dashboards tailored per room or across rooms : room entrance screens, centralised supervision screen.



Everything is driven from the room, without leaving the sterile field.

The CONSOLE is the touchscreen interface available in every room. Ergonomic and intuitive, it brings together all audiovisual controls without the team having to leave its position.



The HIVE interface on the wall screens of an equipped room.



1 Patient selection

Search and select from the worklist (DICOM/HL7) or create manually in an emergency.

3 Photo & video capture

Triggering the capture, immediate preview, video trimming and selection of favourites.

5 Sharing & collaboration

Activation of streaming or video conferencing towards other rooms or external participants.

2 Video source management

Routing of sources to the screens, capture, streaming or video conferencing in a few taps.

4 Audio control

Selection of the audio source and volume adjustment directly from the CONSOLE.

6 End of procedure

Sending images and videos to the PACS or a NAS. Room cleaning and closing of the record.

Also from the CONSOLE

- > Control of an external PTZ camera : orientation and zoom.
- > Reporting the room status : cleaning in progress, access denied, X-rays, laser, video conference active.
- > Activity notifications visible to the other participants.

Designed for the room

- > Touchscreen interface optimised for use with gloves or in sterile conditions.
- > Only the functions of the active profile are shown : no visual overload.
- > Automatic logout after inactivity, to protect the confidentiality of patient data.



Grand Hôpital de Charleroi
one room of the operating suite

Every profile finds its own tools from any workstation.

From any computer on the intranet, each user reaches only the modules that concern them. Access rights are synchronised with the hospital's directory.



Surgeon

MEDIA MANAGER ·
INTERVENTION ·
STREAMING

- > View their captures, photos and videos, sorted by procedure.
- > Annotate and edit images to write the post-operative report.
- > Request a second opinion by sharing targeted access.
- > Export to the hospital's PACS or to a NAS.



Nurse

INTERVENTION ·
DASHBOARD · STREAMING

- > Consult the schedule and the status of ongoing procedures.
- > View the real-time dashboard of room activity.
- > Access the streaming feeds to follow a procedure remotely.



Biomedical

ROOM MANAGEMENT ·
SUPERVISION

- > Check the status of the equipment in each room.
- > Act remotely, without going into the room.
- > Follow server alarms and technical parameters.

Real-time collaboration

Between rooms

Live communication between several operating rooms simultaneously

Tele-expertise

Connection with external participants : second opinion, training

Video conferencing

Two-way audio and video session with remote participants

Pathology

Collaboration with the department without moving the specimen

Streaming

Real-time viewing of the feeds from any authorised intranet workstation



One single budget line per room, and a platform that does not go stale.

HIVE replaces the accumulation of point solutions with a single hub, on an annual subscription that gives complete budget visibility, updates and support included.

1

platform for every theatre use

5

business profiles covered out of the box

7/7

Platinum support included, 8am to 8pm

One platform, no silos

An end to disparate interfaces between equipment vendors, a single authentication, centralised supervision of every room.

A lasting, controlled investment

Open, manufacturer-agnostic architecture : existing equipment is integrated and the platform evolves with no infrastructure replacement.

Optimisation of theatre activity

DASHBOARD gives a real-time view of every room, STATISTICS the usage data to steer performance and justify investments.

The subscription model

Pricing	A single annual price per room, all modules included
Updates	Updates, upgrades and patches included, deployed remotely
Platinum support	7 days a week, 8am to 8pm
Support channels	Telephone, email, Jira, remote access
Monitoring	Centralised monitoring of the HIVE server by Passman
Access	The subscription gives access to all the interfaces

What this changes for the budget

A single budget line per room covers the platform, the support and the evolutions. No hidden cost for major updates or licence renewals.



Groupe Chirec

equipped room, video towers and wall screens



An open architecture, that integrates with the existing estate.

HIVE aggregates, manages and distributes the data, audio and video feeds from the theatre equipment and the Hospital Information System, over standardised protocols.

Technical architecture

Architecture	Client-server, web access over the intranet
Central server	HIVE-MASTER : database, configuration, REST API
Protocols	HTTP/HTTPS (SSL), HL7, DICOM, LDAP, REST API
HIS integration	Active Directory, DICOM/HL7 worklist, PACS, NAS
Video compatibility	Analogue SD, HD, 4K, 3D
User access	Active Directory authentication or local management
Deployment	Native IP, automatic device detection

Security, traceability and compliance

Access control	Rights synchronised with the directory ; automatic logout after inactivity
Patient data	Access to examinations controlled per profile ; the administrator can restrict per user
Traceability	Full log : date, time, user, action, for every event
Encryption	Encrypted passwords ; SSL-compliant transmissions
Remote maintenance	Remote access explicitly authorised by the hospital
GDPR	Architecture allowing the data to be located on the hospital's own infrastructure

What the deployment asks of the hospital

Virtual machine	8 vCPU, 16 GB of memory, 100 GB for the system partition
Operating system	Ubuntu 22.04.4 LTS
Archiving	A dedicated NAS, capacity calculated from the volume and the retention period chosen
Inbound traffic	443 (HTTPS) and 3001 (HTTPS / WebSockets)
Domain name	Two aliases, portal-hive and api-hive, and a valid SSL certificate covering them



Entrust your project to an expert



Discover HIVE online

A project ? A question ?

info@passman.eu

+32 (0)2 333 58 40

www.hive.med

An expert answers within 48 working hours



An audit of what is there

inventory of equipment,
connectors, resolutions
and IT constraints



A tailored design

architecture, equipment,
interfaces and deployment
conditions



A coordinated integration

consistent with your
operational constraints



Training and follow-up

lasting adoption and
continuous evolution of the
solution



Platinum support 7/7

telephone, email, Jira,
remote access, 8am to 8pm

HIVE demonstration room · Avenue Reine Astrid 92, 1310 La Hulpe. One hour on site, no commitment.

They trust us

Fifteen Belgian hospitals have already equipped their rooms, why not you ?



And also Groupe Chirec · Erasme Hospital · Jules Bordet Institute · Grand Hôpital de Charleroi · Clinique Saint-Luc Bouge · CHU Charleroi-Chimay · CH Mouscron · Clinique Notre-Dame de Grâce Gosselies · CHR Sambre & Meuse · AZ Sint-Lucas Brugge



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