

***Live, interactive, 3D-stereo,
full-HD, high-bandwidth
capture, transmission, and projection
of a neurosurgical operation***

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Live retransmission carried out
in Liège, Belgium,
on 18 March 2010

Getting ready just outside operating room



Planning of set-up in operating room



Full set-up with three 3D-stereo rigs



Close-up of 3D-stereo rig on crane



During installation in operating room



Planning the 3D-stereo capture



ImagéSanté Hospital side

Outside broadcast (OB) van,
six floors below operating room



Inside OB van

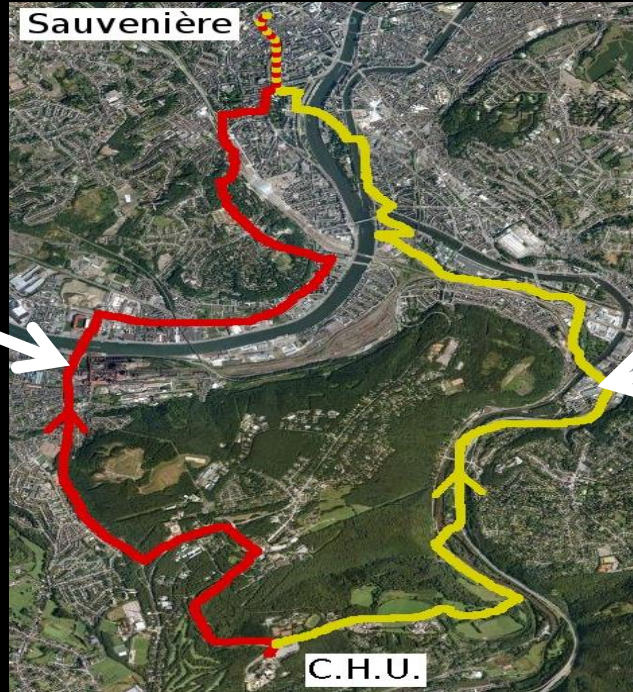


3D-stereo capture during surgery



Fully-dedicated optical fibers (16 km)

- Primary fiber



- Secondary and third fiber : one spare and one for sound

Transmission rate sustained
for about three hours:

500.000.000 bits per second
(500 Mbits/s)

intoPIX technology

- Real-time JPEG 2000 de-/compression
- Why JPEG 2000 ?
 - Low latency
 - High quality
 - Robustness to transmission errors
- Up to 4 channels in parallel
- HD stereo 3D + audio streaming
 - 30 frames/s (Here)
 - 60 frames/s
- Streaming 2x250Mb/s



Dedicated equipments in projection booth (1 of 2)



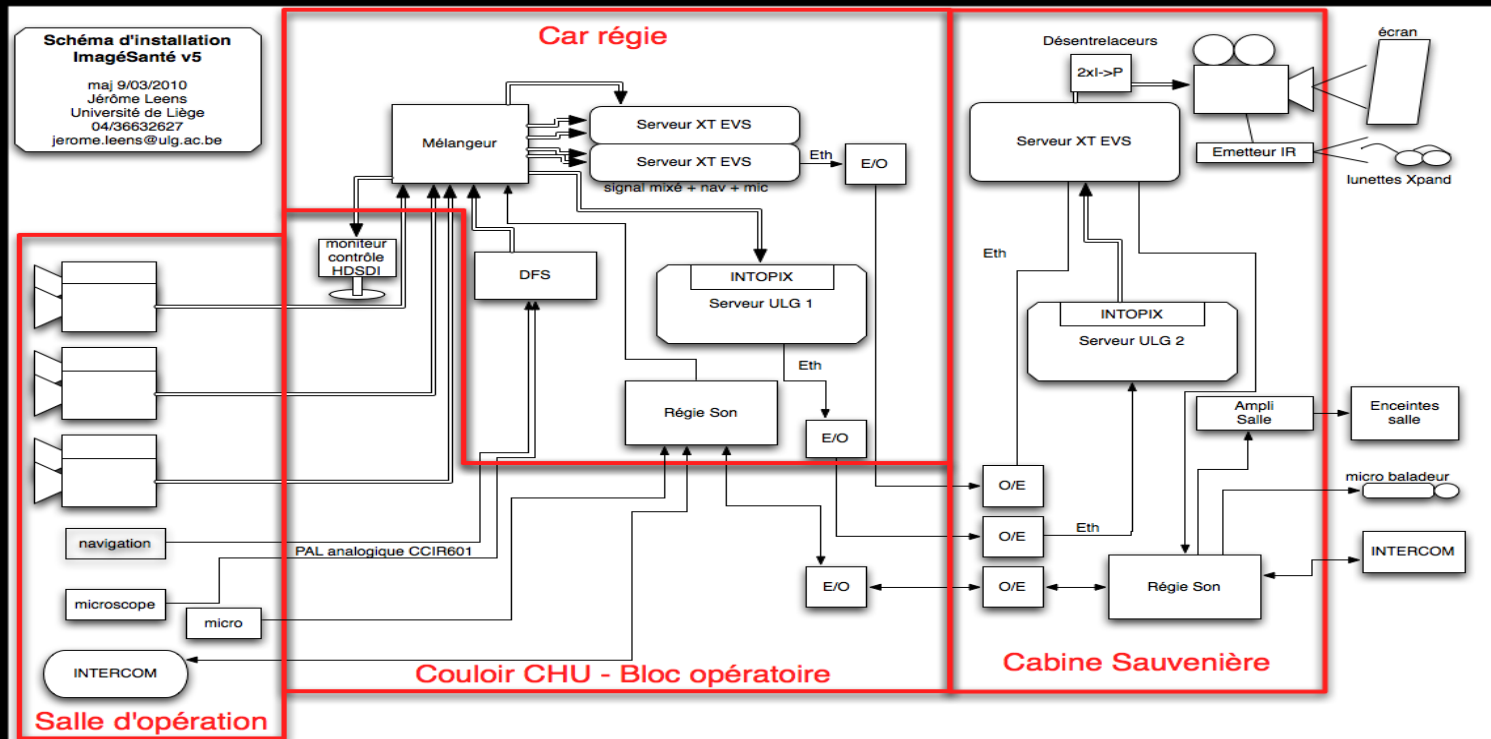
Dedicated equipments in projection booth (2 of 2)



3D-stereo projector and image on screen



Architecture of live 3D retransmission system



Two among the 300 mesmerized spectators



15 - 20 MARS 2010

9^e Festival International du Film de Santé - Liège



ImagéSanté

CHU
de Liège

Thank you to all the partners involved in this 3D event

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de Liège

Institut Montefiore
INTELSIG - SEGI

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PICTURES

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