



# Immersia

Technical description





# Screens and projectors

	<b>Front Screen</b>	<b>Side Screens (x2)</b>	<b>Floor Screen</b>
<i>Size</i>	960cm (L) 310cm (H)	288cm (l) 310cm (H)	960cm (L) 288cm (l)
<i>Pixel Size</i>	6240px (L) 2016px (H)	1920px (l) 1200px (H)	3502px (L) 1050px (l)
<i>Projectors</i>	8 x Galaxy NW-12	1 x Galaxy NW-12	3 x Galaxy 7
<i>Projector Size</i>	295,4cm (L) 184,6cm (H)	288cm (l) 310cm (H)	384cm (L) 288cm (l)
<i>Projector Pixel Size</i>	1920px (L) 1200px(H)	1920px (l) 1200px (H)	1400px (L) 1050px (l)
<i>Vertical Overlap</i>	59,2cm		
<i>Vertical Overlap (in pixels)</i>	384px		
<i>Horizontal Overlap</i>	73,87cm		96cm
<i>Horizontal Overlap (in pixels)</i>	480px		349px

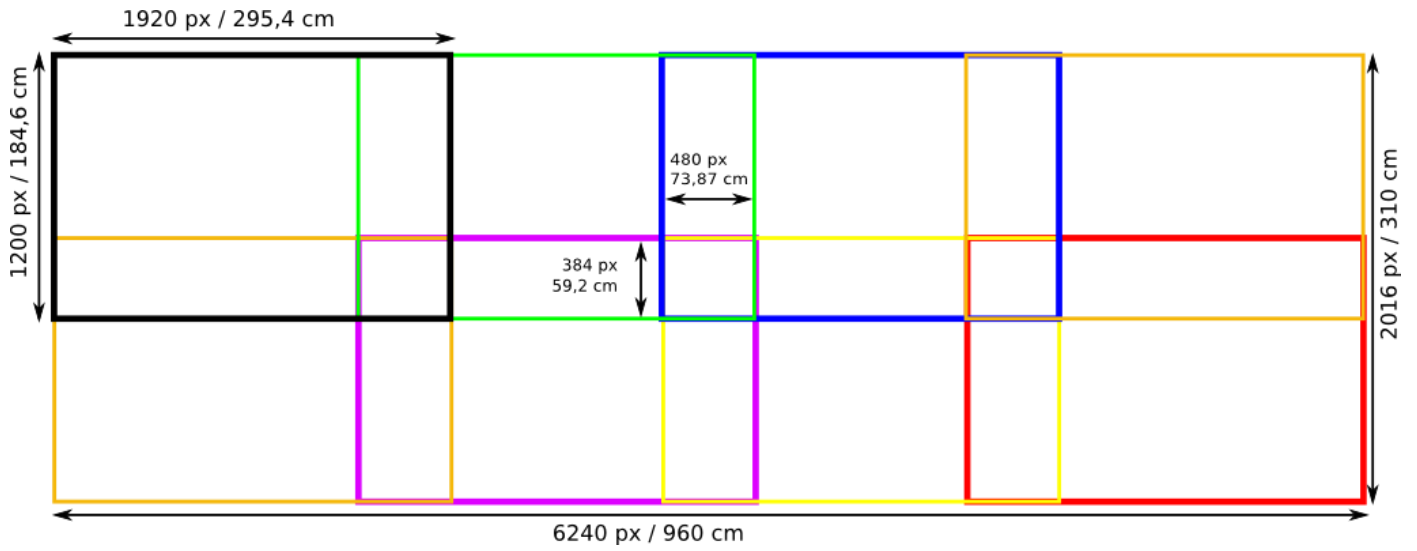


Figure 3 - Front screen size with projectors overlap

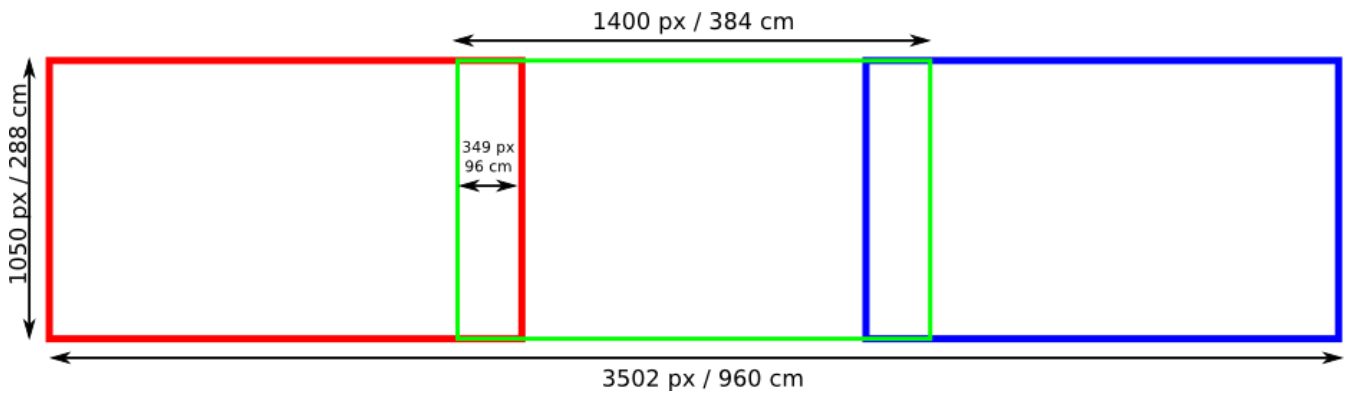


Figure 2 - Floor screen size with projectors overlap

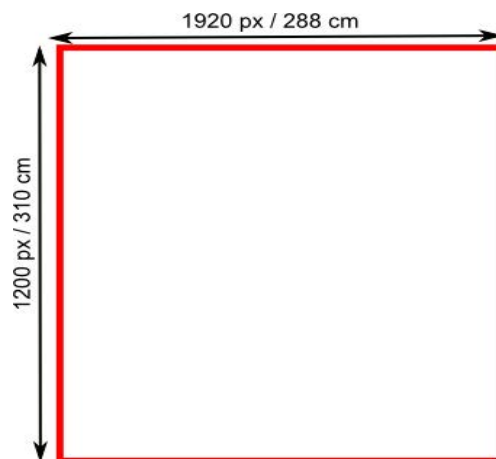
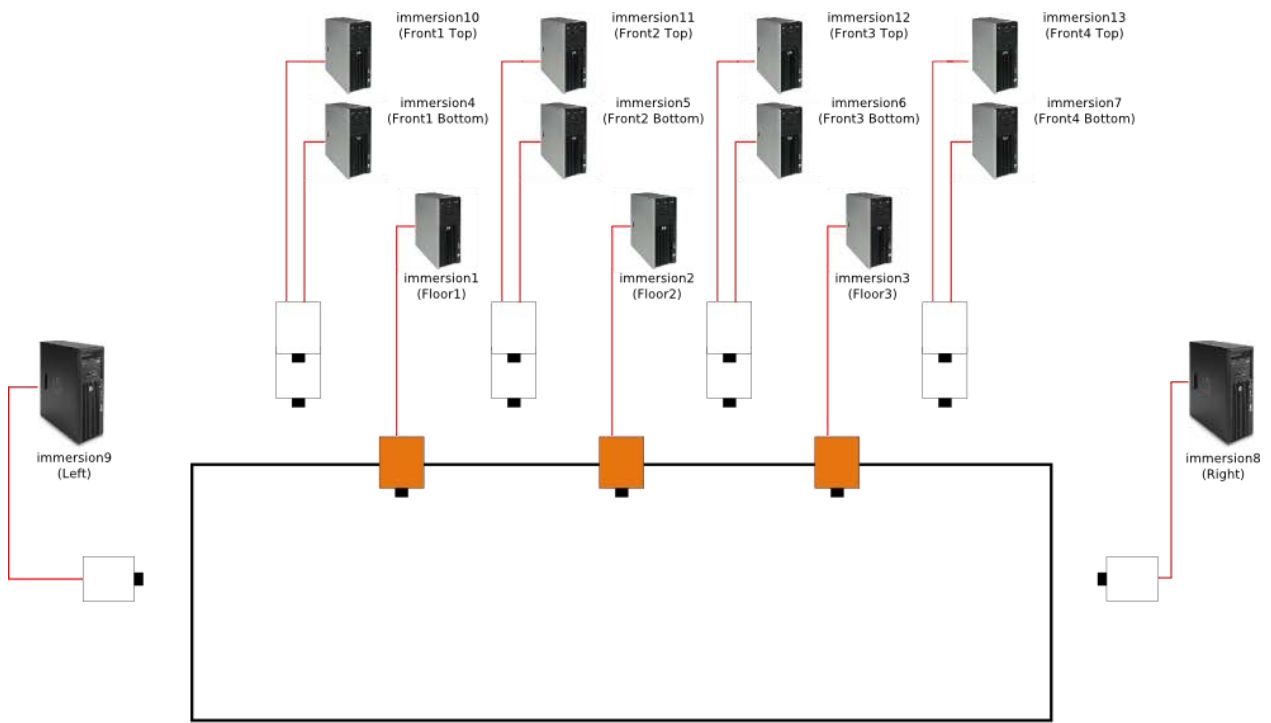


Figure 1 - Side screen Size

# Rendering Clusters

	Cluster "Immersion"		Cluster "Nemo"	
<i>Number of computers</i>	13		4	
<i>O.S.</i>	Windows 7 64 bits enterprise		Windows 7 64 bits professional	
<i>Disposition</i>	1 computer per projector		1 computer per screen	
<i>GPU</i>	13x Nvidia Quadro 5000		1 x Dual Nvidia Quadroplex (=> 4 Quadro FX 5800) [Front] 1 x Single Nvidia Quadroplex (=> 2 Quadro FX 5800) [Floor] 2 x Nvidia Quadro 5000 [Sides]	
<i>GPU Feature support</i>	Shader 5.0 OpenGL 4.4 DirectX 11		Shader 4.0 OpenGL 3.1 DirectX 10	
<i>Rendering Max. Framerate</i>	60Hz		114Hz	
<i>IP/hostnames</i>	Immersion1	131.254.154.6	Nemo2	131.254.154.3
	Immersion2	131.254.154.7	Nemo3	131.254.154.4
	Immersion3	131.254.154.8	Nemo4	131.254.154.14
	Immersion4	131.254.154.9	Nemo5	131.254.154.15
	Immersion5	131.254.154.11		
	Immersion6	131.254.154.12		
	Immersion7	131.254.154.13		
	Immersion8	131.254.154.16		
	Immersion9	131.254.154.17		
	Immersion10	131.254.154.20		
	Immersion11	131.254.154.23		
	Immersion12	131.254.154.21		
	Immersion13	131.254.154.22		

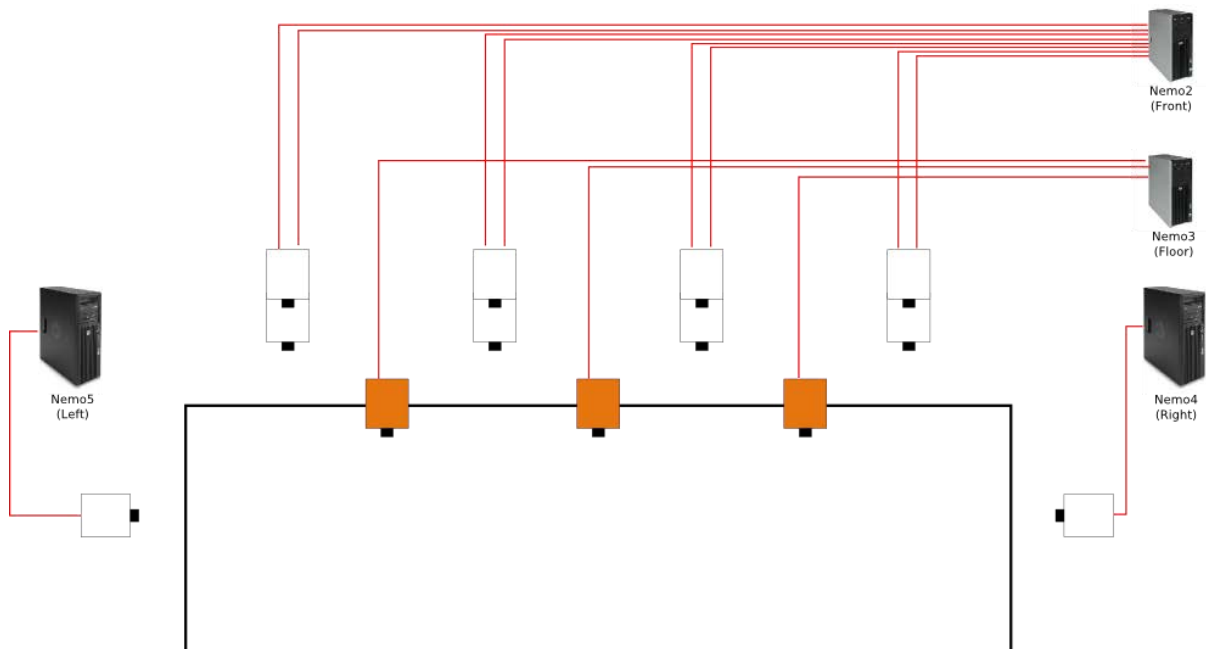


Barco Galaxy 7 (Floor)

Barco NW12

DVI

Figure 4 - Connection of the Immersion cluster



Barco Galaxy 7 (Floor)

Barco NW12

DVI

Figure 5 - Connection of the Nemo cluster

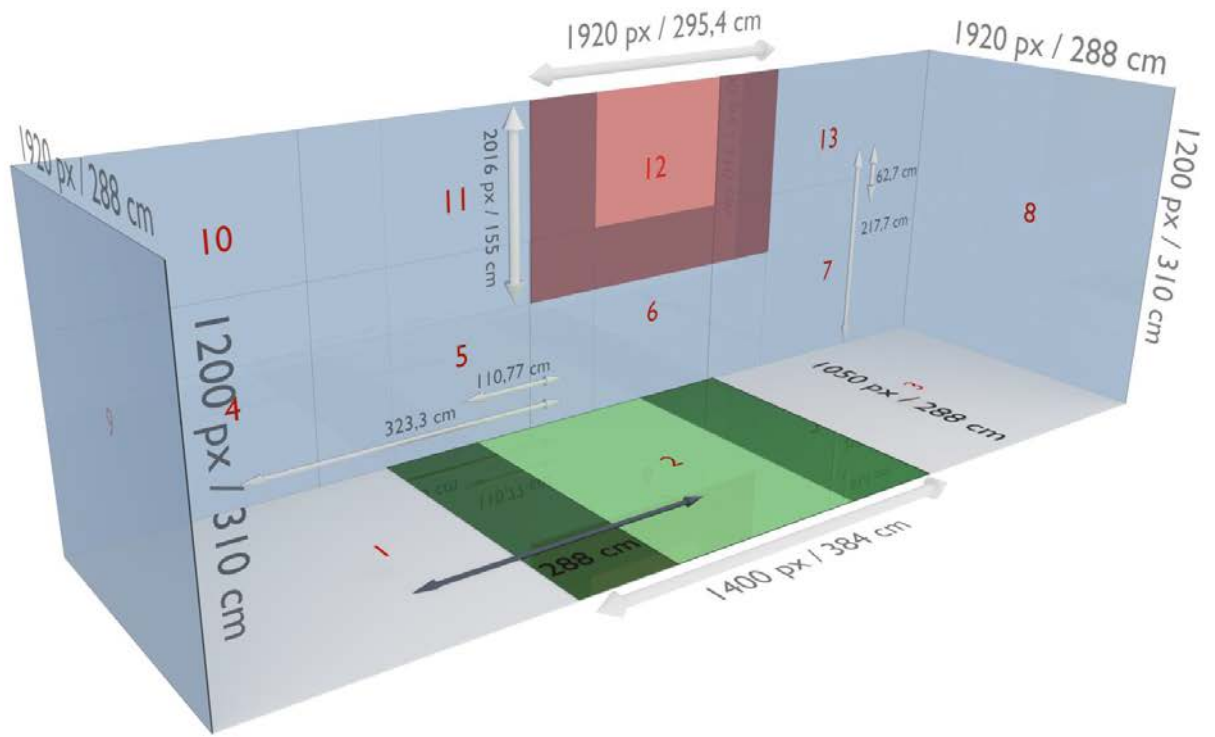


Figure 6 - Viewports dimensions and positions for the Immersion cluster

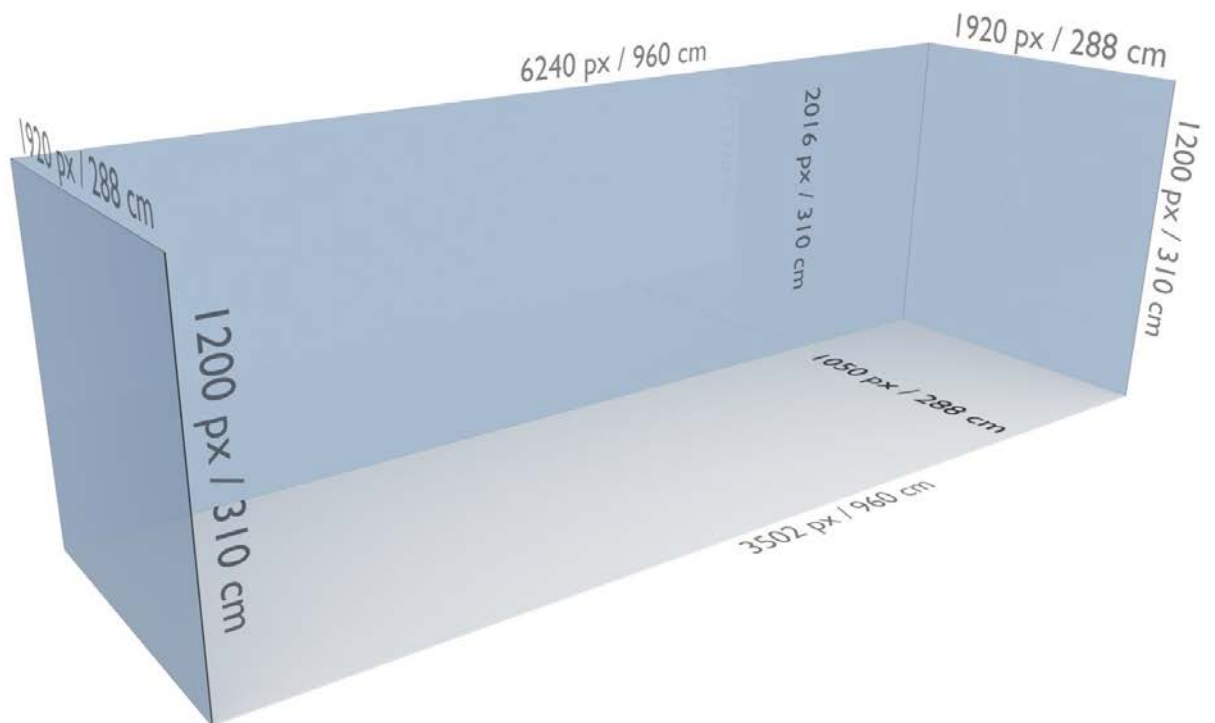


Figure 7 - Viewports dimensions for the Nemo cluster

## Sound

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<i>Loudspeakers</i>	10 x Genelec 8040
<i>Subwoofers</i>	2 x Genelec
<i>Audio card</i>	MOTU 896HD (10 outputs)
<i>Sound Matrix</i>	Yamaha DME 64N
<i>Headphones</i>	2 x Beyerdynamic headzone pro (5.1)
<i>Modules</i>	2 x Wireless modules for 3.5mm jack stereo headphones 2 x Wireless modules for microphone

## Tracking

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### ART Tracking:

- 16 ARTTRACK3 cameras
- 1 x flystick 2 (6 buttons + 1 joystick)
- 1 x flystick 3 (4 buttons + 1 joystick)
- Data accessible through
  - o DTrack (server : chowin port :5000)
  - o VRPN (DTrack@chowin)
- DTrack version : 2.9.3

Axes origins depending on software :

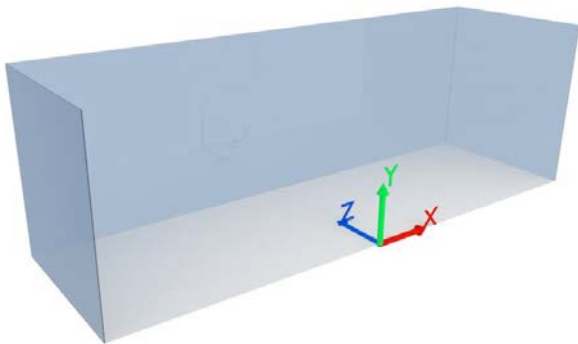


Figure 8 - Axes used by VRPN

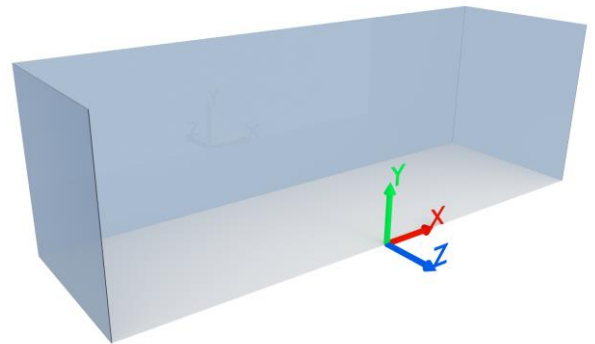


Figure 9 - Axes use by DTrack

## Control Computer

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Name : Chowin

System : Windows 7 professionnel