

CONNECTING CITIES NETWORK

SCREENS AND FACADES FOR THE CONNECTING CITIES JOINT BROADCASTING EVENT 2013

A) OPEN SOURCE / DIY-ACTIVISM

Artists' works can be shown whether on pop-up and mobile screens or with video projector on walls, open spaces, windows etc. We also welcome self-made screens as well as media which experiment with the format "urban screens".

B) EXISTING URBAN MEDIA INFRASTRUCTURE OF THE NETWORK

Riga 2014

Electronic display 1 & Electronic display 2

Screen Information

Hyundai model H460SL - 46" (116.84 cm) 2500nits Outdoor, Transflective, Anti-vandal, Anti-graffiti, IP65.

√¹ Pictures

Burti veidoti telpiski no plastikēta, izgaismoti no iekšpuses tā, lai turnšā tiktu izgaismota ēkas siens.

Ārējās reklāmas piedāvājums kinoteātrim "SPLENDID PALACE"
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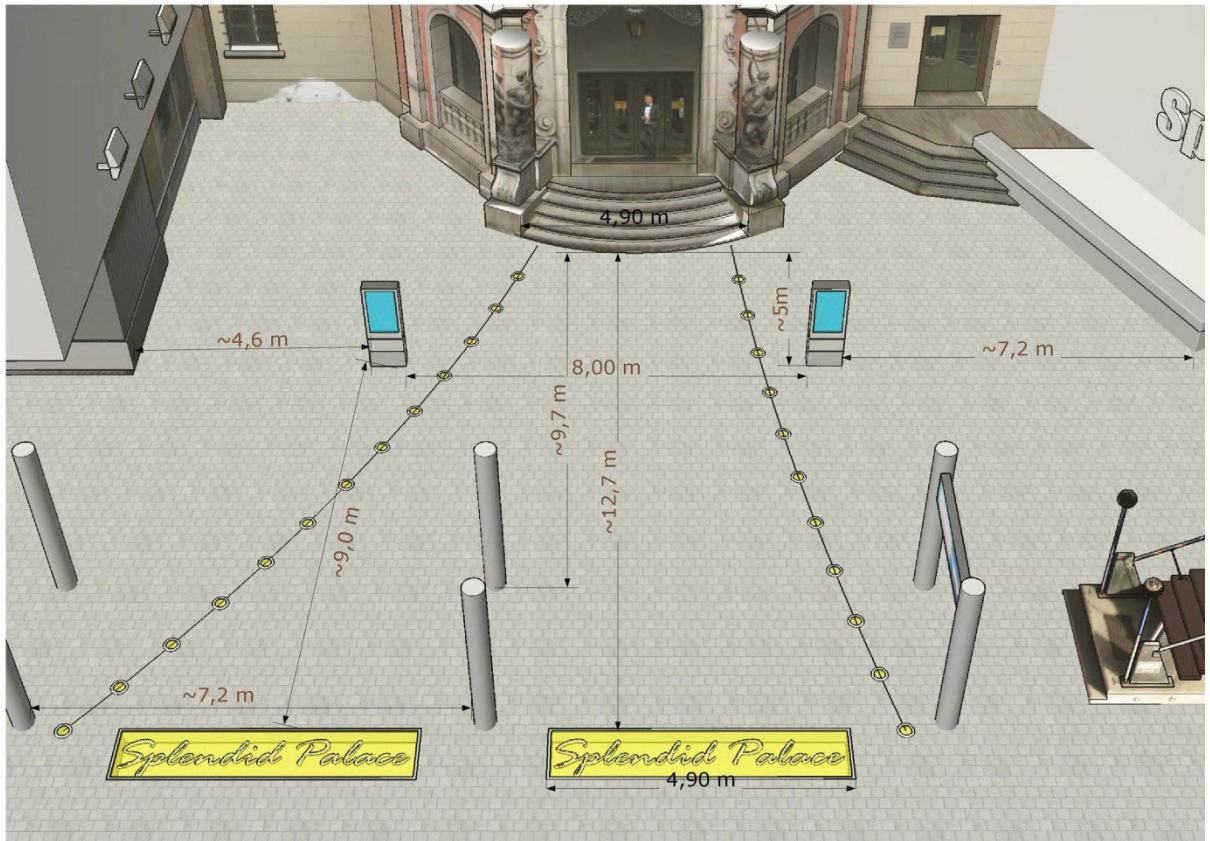
VĒS REKLĀMAS,
DIZAINA OBJEKTU
PROJEKČĒJĀNA
UN ĪSTENOŠANA

ADWORKS
VIZUĀLA REKLĀMA

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PORTRET – 1366 height x 768 width; JPG, TIFF, BMP, PNG, GIF

√¹ Location and description of the environment

At the entrance of the historic cinema "Splendid Palace". City center.

√¹ Digital facade size:

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Mode Name		H466ST	
Display Panel	Screen Size	116,84 cm 46"	
	Panel Type	S-PVA	
	Transflective	Yes	
	Active Display Area (mm)	1018.35 x 572.54	
	Number of Pixels	1366 x 768 (WUXGA)	
	Aspect Ratio	16 : 9	
	Display Colors	16.7 Mil	
	Brightness (cd/m ²)/(typ)	2400 - 3000	
	Contrast Ratio	2900 : 1	
	Response Time (ms, GTG)	8	
	Viewing Angle (H°/V°)	178°/178°	
	Life Time	30,000h	
	Backlight type	CCFL	
Connectivity & Control	Input	VGA (15pin D-Sub)	1
		HDMI	1
	Power Requirement	Operating Voltage	100 – 240VAC
		Consumption (typ) (W)	450 (Operating heating: Max. 1,2 KW)
	Auto Cooling System	Yes	
Auto Heating System	Yes		
Features	Anti-Vandal Glass	Yes	
	Auto Brightness Sensor	Yes	
	Anti-Grafiti Coating	option	
	Touch Screen	No (option: model H460STI)	
Mechanical	Dimension	Set (W x H x L mm)	700 x 1950 x 245
	Weight (kg)	Set (Weight kg)	125
	Surface	treatment	Powder coated, Powder salty option
Environmental conditions	Temperature operational (°C)		- 40/50 (min/max)
	Temperature storage (°C)		-20/60 (min/max)
	Humidity (non-condensing) (%)		10 – 80
Approvals	EMI/EMC Safety		FCC, CE cTUVus, TUV, CB
	Ingress Protection		IP55 – IP65

Technical details are subject of changes without further notice. Errors expected.

√¹ Digital facade resolution:

1366 x 768 Details in attached material

√¹ Nodes/Pixels:

1366 x 768 (WUXGA)

√¹ Type of video inputs:

MPEG-1, MPEG-2, MPEG-4, WMV, Quicktime, AVI, Real, DVB.

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Video combined with picture:

4:3 – video: 576 height x 768 width; **picture:** 792 height x 768 width

16:9 – video: 433 height x 768 width; **picture:** 935 height x 768 width

√¹ **Technical Possibilities/ Equipment (interaction with the media facade, internal camera, audio etc.):**

Sound – in planning stage.

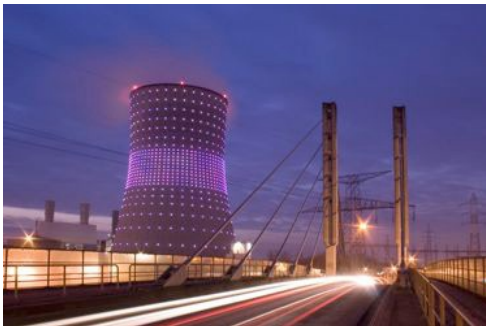
√¹ **Operational System/ PC:**

Brussels

Electrabel Power Plant Station

Screen Information

√¹ **Pictures**



√¹ **Location and description of the environment**

The power plant station is located in the south of Brussels (Flemish Brabant). Industrial area

Building: Power station with a surface of 18.000m² covered with LED.

√¹ **Digital facade size:** Surface of 18.000m² covered by 57 horizontal light lines.

√¹ **Digital facade resolution:** Not Communicated

√¹ **Nodes/Pixels:** Number of nodes: 8,032 individually controllable RGB LED's = 8,032 pixels

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√¹ **Type of video inputs:** not communicated

√¹ **Technical Possibilities/ Equipment (interaction with the media facade, internal camera, audio etc.):**
webcam

√¹ **Operational System/ PC**

For control, the company is using 2 Element Labs Versa Drive D2 processors and an Apple Computer Mac mini with Element Labs' Versatility software for playback.

√¹ **Interfaces:** Element Labs' Versatility software

√¹ **Operating System:** Mac Osx

√¹ **Internet Access, Bluetooth,...:** not communicated

√¹ **Multimedia-Formats (jpg, mpeg, tif...):** not communicated

√¹ **Special Features:** not communicated

Mobile Screenings: The Canal Area / iMAL's building

Screen Information

√¹ **Pictures**



iMAL's facade

The Canal Area

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√¹ Location and description of the environment

Northern part of Brussels center, between the trendy Dansaert street and the multicultural district of Molenbeek. An emerging neighbourhood where iMAL and other new media organisations are located.

Urban projection screens:

- The wall between the canal and the street level
- iMAL's facade
-

√¹ Size and description of facades

- The surface between the canal street level is about 3m high and 200m long. It's a grey concrete wall.
- iMAL is located in an old industrial building with a red brick facade. It has also a courtyard where monumental projections have been already made.

See Façade Life by Antoine Scmitt (FR): <http://vimeo.com/2770850>

Operational System/ PC

- √¹ Interfaces: free of choice
- √¹ Operating System: : free of choice
- √¹ Internet Access, Bluetooth,...: none
- √¹ Multimedia-Formats (jpg, mpeg, tif....): : free of choice
- √¹ Special Features: none
- √¹ Technology: Projection with video beamer from iMAL HQ or mobile beamer.

Other mobile projects: RAM (Christian Jacquemin), Grafitti Research Lab & Eyebeam,...

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ZAGREB

Screen name: MSU Media Facade

Screen Information

√¹ Pictures



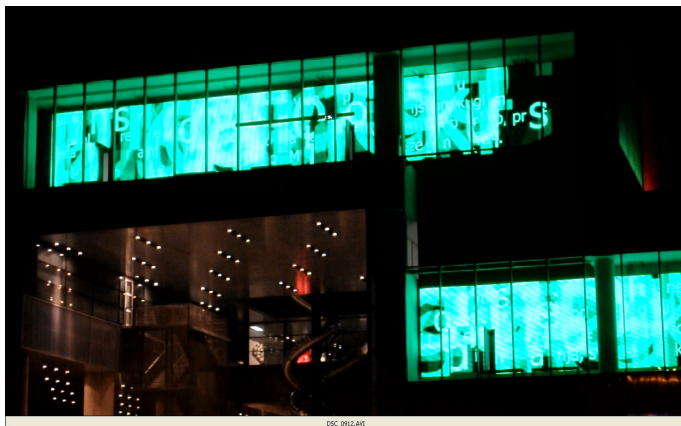
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√¹ Location and description of the environment

Museum of Contemporary Art, Zagreb
Avenija Dubrovnik 17

The Museum is settled next to the most frequent cross-roads in Zagreb (New Zagreb) 4 km south from the City center. This is the residential part of the city built in 60-70's mix with business and shopping buildings form last two decades. Screens are Museum property and architecturally part of the building. There are few commercial LED screens in surrounding.

√¹ Digital facade size:

North screen (left) : 38 m x 4 m
Central screen: 28 m x 4 m

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South screen (wright): 28 m x 4 m

√¹ **Digital facade resolution:**

1. North screen: 1120 x 160 pixels (Horizontal x Vertical)
2. Central screen resolution: 1120 x 160 pixels (Horizontal x Vertical)
3. North screen resolution: 1504 x 160 pixels (Horizontal x Vertical)

√¹ **Nodes/Pixels:** distance between pixels 25mm

√¹ **Type of video inputs:**

The system works with different formats: text documents (txt, doc), graphic materials (bmp, jpg, gif, pcx) and video (mpeg, mpg, mpv, mpa, avi, vcd, swf, rm, ra, rmj, asf).

√¹ **Technical Possibilities/ Equipment (interaction with the media facade, internal camera, audio etc.):**

√¹ **Operational System/ PC:**

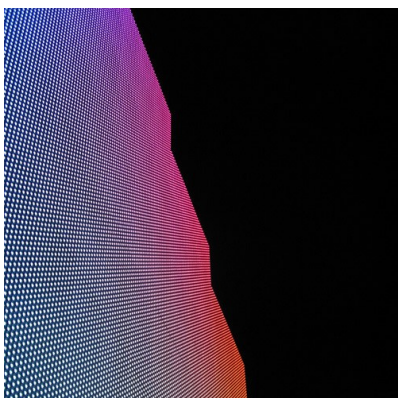
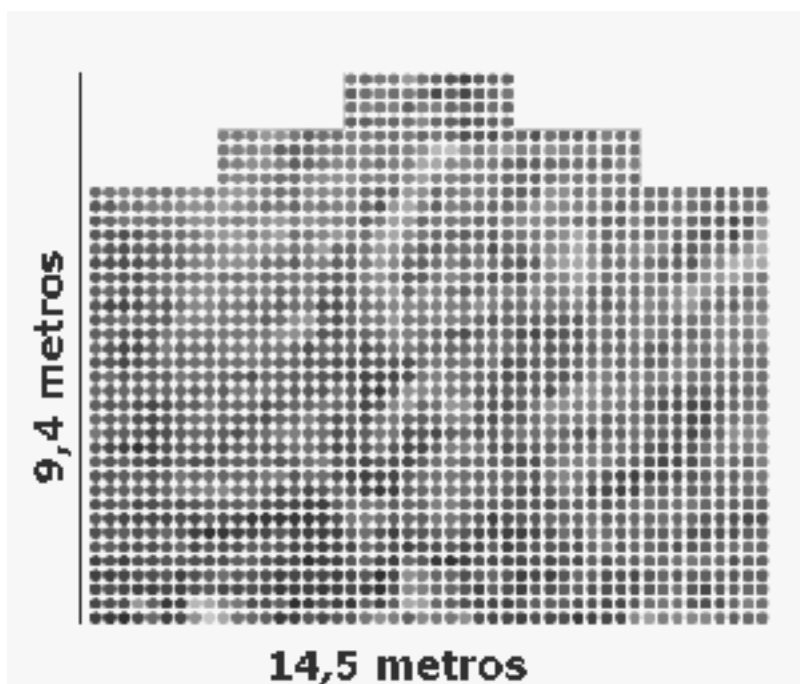
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MADRID

Medialab-Prado Facade

Screen Information

√¹ Picture



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√¹ **Location and description of the environment**

Medialab Prado is close to the Paseo del Prado street, the Prado National Museum and the Reina Sofia National Contemporary Art Museum, which constitute the institutional cultural axis of Madrid. Its neighborhood is a residential area, now embedded into a gentrification process produced by the increase of museums, art galleries and fancy shops.

The screen is located on the facade of the industrial building, facing the Plaza de las Letras.

√¹ **Panels**

There are a total of 94 panels, arranged in the following way:

A top edge consisting of 14 type B panels, measuring 0.9m x 1.2m (3'x4')

Each type B panel has 4 stripes of 48 nodes each.

An inferior rectangle consisting of 80 type A panels, measuring 0.9m x 1.87m (3'x6').

Each type A panel has 6 stripes of 50 nodes each.

√¹ **Digital facade size**

Width: 14.5m (48')

Height: 9.4m (30')

√¹ **Digital facade resolution**

Digital facade resolution

In despite of the physical size of the façade (15x10 meters), it's resolution could be considered low, just 192x157 nodes. To correctly visualize content on it, it is necessary to adapt it to the size in nodes and take into account the shape of the façade.

Vertical resolution: 192 lines

Horizontal resolution: 125 lines

Resolution: 192x125

√¹ **Nodes/ Pixels**

Number of nodes (inferior rectangle): 24.000

Number of total nodes: 26.680

Each node is composed of 7 LED's; 2 red, 3 green, 2 blue.

The iCOLOR FLEX SLX system can display up to 64.000 million (36bit) of RGB additive colors, of constantly variable intensity.

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√¹ **Type of video inputs**

VGA or DVI 1024x768

√¹ **Technical Possibilities/ Equipment (interaction with the media facade, internal camera, audio etc.)**

Interaction: On top of the screen there has been a CCTV colour camera system installed. This could be used by projects based in movement recognition and computer vision.

Doesn't have internal camera, neither audio.

√¹ **Operational System/ PC**

Interfaces: Phillips Video System Manager, connected to a PC

+ info: <http://www.colorkinetics.com/ls/controllers/vsmpro/>

Type of video inputs :VGA or DVI 1024x768

Operating System: PC, MAC, LINUX

Internet Access: YES, PC connected to VSM has Internet connection.

Multimedia-Formats (jpg, mpeg, tif....): All of them, but we highly recommended AVI for video and PNG for images and they would be played with an specific application for the façade.

√¹ **Timetable**

The technical characteristics of the façade allow the optimal view during the evening.

+ info: http://medialab-prado.es/article/fachada_digital_informacion_tecnica

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LIVERPOOL

FACT Liverpool disco window

Screen Information

Pictures



√¹ Location and description of the environment

88 Wood Street Liverpool, Merseyside L1 4DQ, UK

In front of the facade is the Ropewalks square, located between Wood Street and Bold Street. Bold Street is an active commercial street. The facade is located in the Liverpool 1 area, in the city centre of Liverpool.

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√¹ **Digital facade size:**

tbd.

√¹ **Digital facade resolution:**

50 x 50 pixels

√¹ **Nodes/Pixels:**

RGB pixels LED bulb.

The LEDs are for night time and they are not very suitable for daylight.

√¹ **Type of video inputs:**

Video files (mov, avi), Realtime udp pixel send interface for Openframeworks

√¹ **Technical Possibilities/ Equipment (interaction with the media facade, internal camera, audio etc.):**

- Camera IP Axis
- Outdoors speaker
- Computer in ground floor for connecting any kind of sensors or gamepads

√¹ **Operational System/ PC:**

- Computer 1: facade manager

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- Computer 2: sensor/audio manager

Big Screen BBC

Screen Information

√¹ Picture



√¹ Location and description of the environment

located in Clayton Square, close to Liverpool Lime Street railway station.

√¹ Type of video inputs

Video should be delivered as 16:9 Anamorphic PAL video (720 x 576).

A typical full-screen background image would normally be delivered at 1024 x 576 (16:9).

√¹ Technical Possibilities/ Equipment (interaction with the media facade, internal camera, audio etc.)

The screen is connected to the BBC's global broadcast network, and exploits Internet technology to deliver a 24 hour a day schedule, with relays of major broadcast events, news, sport, music, documentaries and much more.

There are also interactive facilities enabling the audience to text their comments, send photo-images to the screen or play al fresco video games.

Audio: It includes audio playout. This is carefully monitored and set at levels that increase and decrease throughout the day, according to additional environmental noise and footfall. Most non-event playout is set to a level we term Ambient. Audio zoning is in operation so that excessive noise does not spill out in the vicinity of the screen, but is instead specifically targeted at the

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viewing area. Please pay careful attention to audio levels - if these are too high it may result in distortion during transmission.

Operational System/ PC

√¹ Multimedia-Formats

All video and animated material will be converted into mpeg format. We prefer to do this ourselves and ask that you submit using DV-Cam, Mini-DV or DVD.

Video Optimisation

Width & height: 720 x 576

Audio settings: 48kHz, stereo, 224 kbps

Projections on the facade of the FACT building

√¹ Picture



√¹ Location and description of the environment

The projection surface is at the back of FACT's building, viewable from a public, unfurnished square. Projection is from the health services building opposite, where projector equipment can be contained. The square is overlooked by FACT's café and bookshop, though the projection surface only viewable from outside the building.

√¹ Digital facade size:

Width 13m

Height 11m

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√¹ Digital facade resolution:

Vertical resolution

Horizontal resolution

Resolution;

Projection can happen with any projector, though FACT most often uses the Christie Roadster S+20K with **20,000 ANSI lumens** and **SXGA+ 1400 x 1050 resolution**

√¹ Type of video inputs

VGA/DVI

√¹ Technical Possibilities/ Equipment (interaction with the media facade, internal camera, audio etc.)

This space is somewhat flexible for audio and interaction systems, as the surface is close to FACT's building facilities.

Operational System/ PC

Any computer can be used and hooked up to the projector - TBD

St. Johns

Tbd.

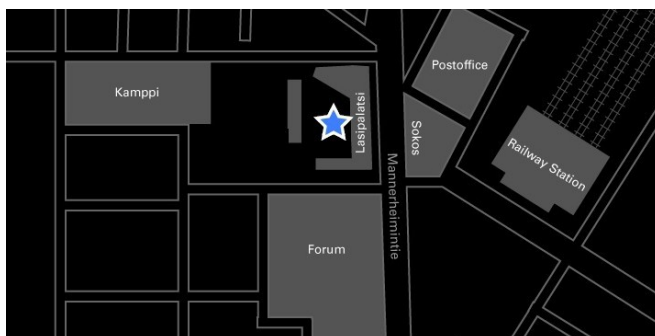
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HELSINKI

Lasipalatsi square

Lasipalatsi square is located in Kamppi, the very centre of Helsinki. The square is enclosed by two buildings: the Lasipalatsi Media centre and the old bus station. Lasipalatsi houses two exhibition spaces, Bio Rex, the largest cinema in Helsinki and the City library's citizen IT space – as well as shops, bars, cafes and restaurants. In the old bus station, the city urban planning has its exhibition and seminar space. The Lasipalatsi square with its terraces is especially lively during the Night of the Arts on Friday August 27, 2010.

Media Facades Helsinki plans to make use of this enclosed but openly accessed space and the neighbouring venues. Besides the **CityWall screen** the aim is to use a **temporary bigger LED screen**, projections and other event components to create a saturated media environment for the time of the festival.



MultiTouch screen / Citywall

CityWall is a public screen running on MultiTouch, a multi-user touch display technology designed for interactive multimedia presentations.

The current installation is a rear projection (MultiTouch Box) to the window at the back of Lasipalatsi Media

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Centre, Kamppi in central Helsinki. It currently presents Helsinki-tagged images from Flickr for users to browse. For Media Facades Helsinki, we are looking into possibilities of installing the box to a front facade of the building or using the standalone Led cells (MultiTouch Cell). A possibility is also to install a MultiTouch box or shell in another Media Facades city to enable links between two cities.



- √¹ Dimensions: Width 240 cm Height 100 cm (current Citywall installation)
- √¹ Resolution: 2 xga 1024x768 (adjustable)
- √¹ Type of video inputs – avi, etc.
- √¹ Interaction with the screen is through touch = hand movements. The system can track an arbitrary number of hands/fingers simultaneously. The Citywall installation has stereo loudspeakers.
- √¹ Operating System: Windows xp, Mac osx, Linux (recommended for larger screens),
- √¹ Internet-based; Bluetooth enabled
- √¹ Different multimedia formats, Flash etc; also interactive 3D objects.
- √¹ C++ applications increase reactivity. The Cornerstone software development kit is open to access by Media Facades artists.
- √¹

<http://www.multitouch.fi>

<http://www.citywall.org>

Temporary LED screen

Media Facades Helsinki will make use of one or several temporary LED screens installed in the Lasipalatsi Square.

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Example of Screenmyynti, used during the Eurovision Song contest in Helsinki, May 2007.

Screen infos TBC

Helsinki City Tourist Office

The Helsinki city Tourist office is located in the old centre of Helsinki, on the corner of the Esplanadi boulevard, with the Senate and Market squares and the ferry terminals close by.

In Spring 2009, the office opened a new window display based on 6 projectors which are activated after dark. They are currently used for presenting tourist materials and other information on Helsinki. In addition to these, the office also operates screens inside the office and at the Helsinki-Vantaa airport.



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Rear (mirror) projection for 6 windows: 3 at (W 150 cm x L 184 cm) and 3 at (W 186 cm x L 184 cm), each with their own projector.

The projectors are operated by 6 computers (2 master & 4 slave machines) which run on PC.

<http://www.visithelsinki.fi/>

Gallery Alkovi

Gallery Alkovi is an artist-run window gallery which specializes in contemporary, urban and media art . The gallery is situated in the district of Kallio neighbourhood, known for its urban liveliness and young atmosphere as well as its social problems in this area with a working class history. Each Friday the bread queue to a charity office passed by the gallery windows.

Media Facades Helsinki cooperates with the Alkovi gallery in organizing workshops and screenings.



infos: tbc

<http://www.alkovi.com>

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LINZ

Ars Electronica Center

Screen Information

- Picture



THE NEW BUILDING

The groundbreaking ceremony for the new Ars Electronica Center took place on March 1, 2007. It launched an ambitious architectural undertaking that would go up in record time—building a multi-level structure immediately adjacent to the existing facility and then wrapping the entire ensemble in a glass shell, the AEC's spectacular 5,100-m² LED façade.

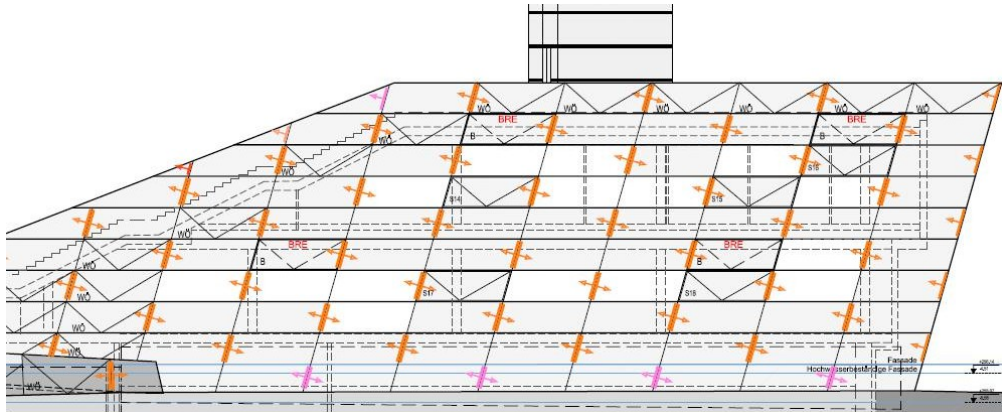
The design's main concept is the creation of a piece of architectural sculpture, a built structure that can be walked through and thus experienced. The [extant] Ars Electronica Center and the [new] expansion are linked up into a single entity and perceived as a unitary whole. The crystalline form constitutes, within its physical setting, a homogeneous ensemble and a landmark.

- 1085 Windows
- Colours: red, green, blue, white
- 9 x 4 LEDs per Window

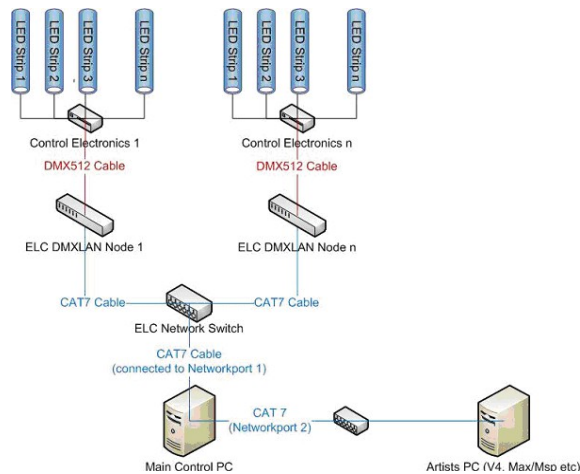
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- ~ 39.000 LEDs total
- Window size app. 3x1 meters
- Intensity level: 0 – 255 for every Color independently
- LAN Protocol: Artnet

LED PLacement



Technical Diagram:

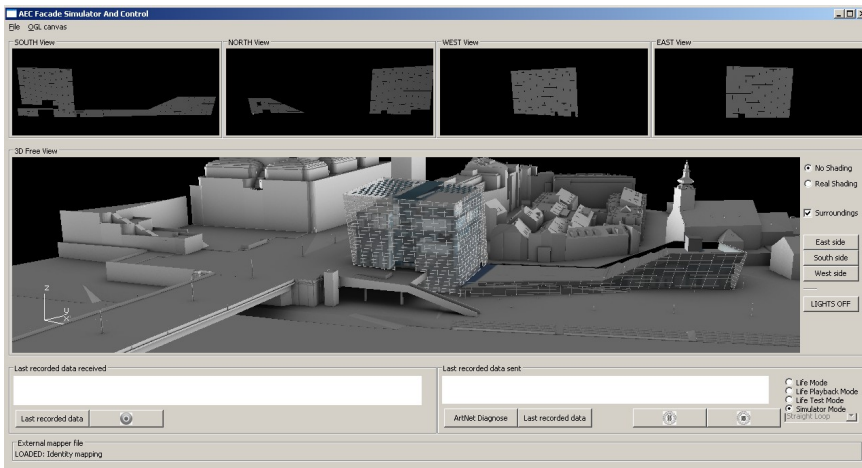


Façade Simulator

- RealTime Visualization
- Life/Simulator Mode
- Based on 3D Model of the Building

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- Simple Network Protocol for Applications
- Recording and Playback



Operational System/ PC

- Interfaces → UDP,
- Operating System → Any (for the Artists PC)
- Internet Access, Bluetooth,... → SMS,
- Multimedia-Formats (jpg, mpeg, tif....) → jpg, png, video (coming soon)
- Special Features → Audio