

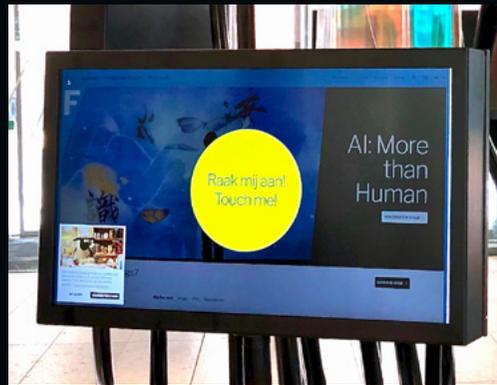
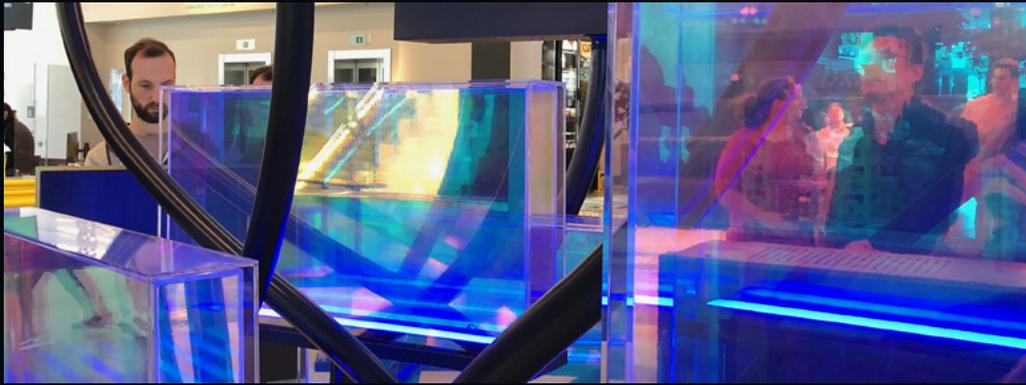


WalkWithMe

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muss-  
chen-  
ga

Media installation  
Forum Groningen





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Media installation  
Forum Groningen

Project description  
January 2020



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# Short Description

*WalkWithMe* is a media and signage installation designed to inform and inspire visitors of the newly opened Forum Groningen. Through multiple displays, the object brings news and information about the exhibitions, movies and events currently on show in the cultural 'living room' of the city.

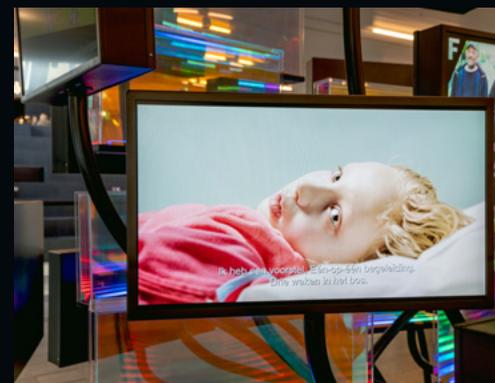
But the object with 11 bright displays and 2 touch screens is more than an information carrier. Due to the organic form, the steel construction appears to be alive and enters into a dialogue with the visitor. Does it look at you? Is it passing through the building? Do you see a group of trees? Is it a sea monster from ancient stories?

The use of materials and the shape complement the other objects in the area, such as the bamboo staircase and the large round yellow counter. At the same time it is a response to the clean lines of the building.

A series of ingenious light boxes make up the heart of the installation. These boxes have a dichroic (or iridescent) surface, making the color and the appearance of the object different from every perspective and at every moment. This paradigm shift strenghtens the way in which Forum Groningen wants to connect with its visitors: by exploration!

Custom made software gives the object a different temper by continuously changing its color and rhythm. And it even responds to the presence of the visitor.

Due to this interplay of material and technique the light objects are sometimes transparent, mirroring or luminous. Or all at once, making viewing the installation an interactive and surprising experience.





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The Story

# Introduction

The media installation, named *WalkWithMe*, is the result of a complex quest to present a large amount of displays in a surprising way in a busy public space.

After conversations with Forum director Dirk Nijdam and project manager Gerda Vrugteman in november 2018, my journey started with an extensive series of concepts aimed to explore the space of the entrance area, to investigate different kinds of materials and to examine the interaction of the public with the installation.

How to process a large number of screens in a compact installation that is not only functional but at the same time is able surprise, inspire or communicate with the visitor in a different way through its design?

Many of my designs have a modular structure: a shape made up of many uniform parts. It's because of the large number of screens that had to be put into the object that I also started the journey that way. Gradually, however, I discovered that the entrance area of the new Forum needed a different solution. The new building is sleek in its design and hard use of materials. In addition, a more organic form can liven up the space and make it more friendly and accessible.

The most important aspect for me was that the installation should not be just a passive source of information, but that something happens to the visitor. The dynamics of the building should be reflected in it: the enormous range of functions, events and activities should encourage the viewer to discover the Forum.



## Made in Groningen

The media installation is part of a series of *Focal Points*: projects that have been devised for various parts and locations of the Forum, designed by artists and designers from Groningen. This under the name of *Made in Groningen*. Where the building itself was developed by architects and designers from the western part of the Netherlands, the purpose of the Focal Points is to involve artists/designers who have a connection with Groningen in the design and appearance of the building and to show the diversity of talent in Groningen. Other projects are a virtual bookcase by Chantalla Pleiter, Happy Ship and Gidi van Liempd in Wonderworld (the Children's Library), and a chandelier by Albert Geertjes in the passage to the Rabozaal.



## Wish List

For an installation that will be actively used by people, thinking about the space and the experience that the visitor has is the starting point of thinking about the concept. The Forum is an impressive building that houses many different functions: cinema spaces, a museum, exhibition areas, the public library spread over different floors, a restaurant, café, smartlab, tourist information, and the rooftop with an amazing view over the city. Visitors come to see things, to learn, to marvel, to play, to relax. The experience of those activities, together with the emphasis on 'the new' in the wondrous new building, had to be reflected in the installation.

The complexity of the media object was reflected in a long list of requirements and wishes. For example, the object had to have a contemporary look & feel, could be an eye-catcher and contribute to the 'tech' atmosphere in the Forum. It had to be spatial with an orientation to all entrances. The construction as a whole had to be somewhat transparent. It had to consist largely of screens and couldn't be used as furniture. These and a number of other conditions formed the basis for conceptualisation.



# Starting Points

In addition to these requirements, I formulated other questions for the design of the object. Such as: what does the space need? What relationship should it have with that space? How do you draw the visitor's attention to the object? And what experience does the visitor have? Does it tell its own story?

Some keywords that I formulated for the installation were:

- dynamics (in rhythm, shape and material)
- wondrous
- light
- transparency (vistas)
- floating
- personal (it must 'address' the viewer and do something to them)
- reflection (of the material, but also of the visitor to themselves)
- perspectives (a different view from every angle)
- playful (so also interesting for children)
- optimistic
- disruptive (does it have to be in line with the other objects or can it play with the visitors mind?)



# Theme: Perspectives

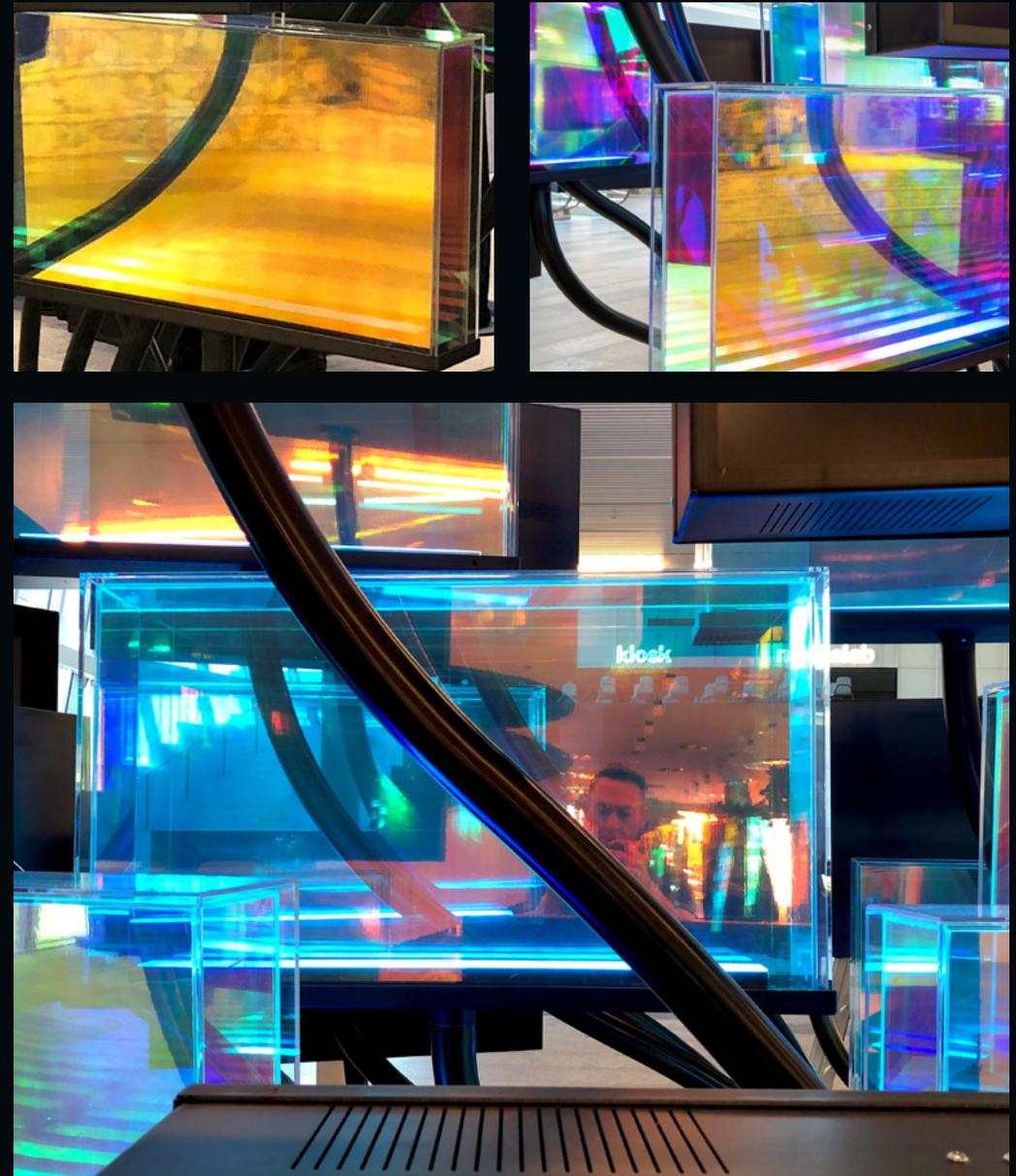
Dynamics can arise in various ways: through the shape or effect of an object, through the use of materials, or through the movement of the spectator. To me, this paradigm shift is one of the most interesting underlying properties of a design. By showing that a view is not one-dimensional or irrevocable, it can help the viewer to discover multiple layers in an object. It contributes to the relativity of one's own position and at the same time activate a quest.

A media installation that connects a window to the world with that of the activities in the Forum via screens can in fact do the same: it shows the visitors own position in relation to the world around them.

One can move the object itself - as I often do in set design - but this movement can also be done by the spectator. With transparent dichroic material I found the material that achieves this. I have incorporated this into the light boxes that form the heart of the installation.

Dichroic foil – also known as iridescent – changes color when the viewer changes location. It can be compared with natural phenomena when, for example, beetles, butterflies and birds show a fascinating color change on their shield or in their wings. It can also be seen in the refraction of light from a floating spot of oil on water. What appears blue from one side can change to green or orange when passing. A twofold change: in location and appearance. A robust installation can thus become interactive on the spot.

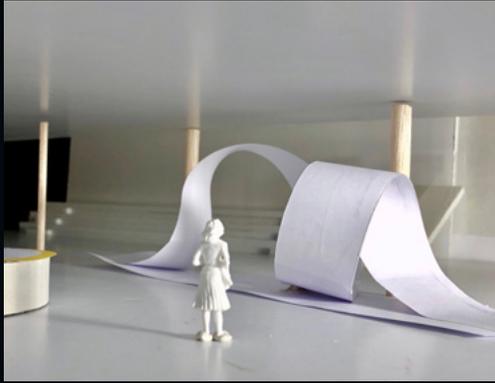
The Forum wants to generate interest in new developments – for example changes in technology – by means of programming. The physical shift in perspective helps to see things with different eyes.





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Design



# The Quest for Design

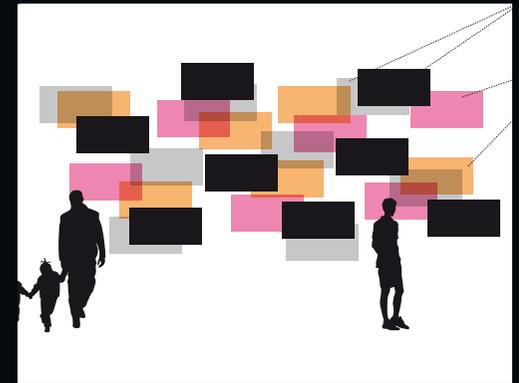
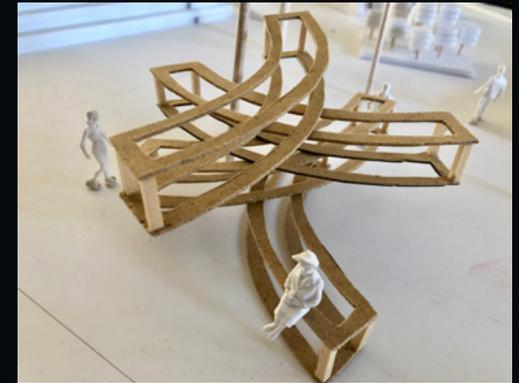
The search for a suitable supporting form for such a large number of screens was quite complex. Although the initial location was foreseen in the area between the counter, escalators and visitors centre, neither the exact location nor the size was fixed. That is why I explored a multitude of ways to place objects with different shapes in the area.

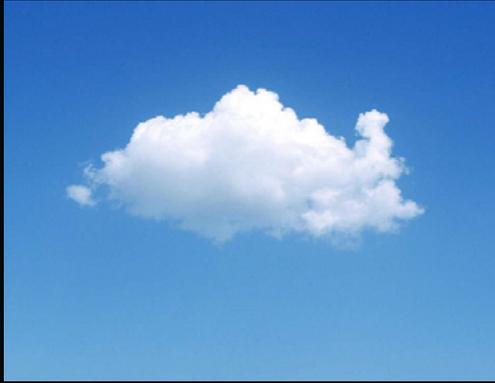
A number of concepts:

- transparent curved or 'curved' panels
- a wavy and twisting ribbon of screens
- open framework with cube shapes (stacked pixels)
- floes rising from the ground
- a matrix of cubes ('pixel field')
- stacked arches

In the end I chose to design a compact installation that literally carries a movement. This creates a dynamic in shape (steel frame, light boxes) and content (changing content) on site. The starting point was that I wanted a large number of surfaces (the screens) to 'slide / move', in order to convey dynamics and activity to the visitor. I placed these surfaces on bended steel pipes. These curved shapes refer to legs, blades of grass, trees, etcetera. This resulted in a 'walking forest' of objects, in an organic shape that contrasts with the large surfaces and straight lines of the building and at the same time connects with the rounded counter and bamboo stairs.

Watch a compilation of many sketches and models made during the process on [www.pjot.nl/walkwithme](http://www.pjot.nl/walkwithme).

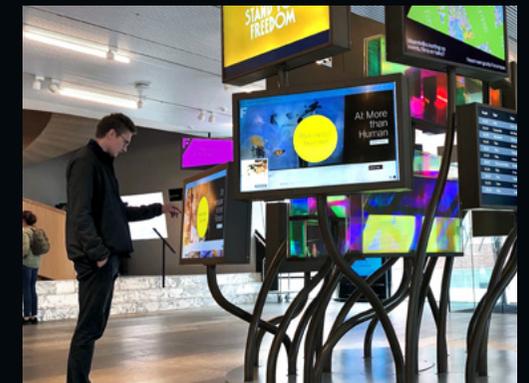




Due to the organic shape of the steel tubes, the display frame boxes act as heads, or a face that looks at the viewer, or perhaps talks to you. This brings the installation to life and gives it an identity. The group of screens is also reminiscent of a flock of birds, a group of fish or, for example, a cloud.

In the first variants, the screens turned outwards in a circle of 360°. In the final design, the 'legs' of the object are in an almost straight line from the south to the north entrance, or vice versa. This makes the installation appear to be in motion as a whole. It walks through the building, as it were.

Three of the 22 tubes have been turned 180°. This contrast enhances the walking movement. The two lowest placed elements are clearly different from the others as an invitation to the visitor to get close: these contain the touchscreens.





## The 'Legs'

The steel tubes show an overhang which makes the shape appear to be walking. I found the inspiration for this in nature and other areas: waving culms, the way trees grow, legs of giraffes and praying mantis. But also in the animals in Dalí's artworks or in dance movements.

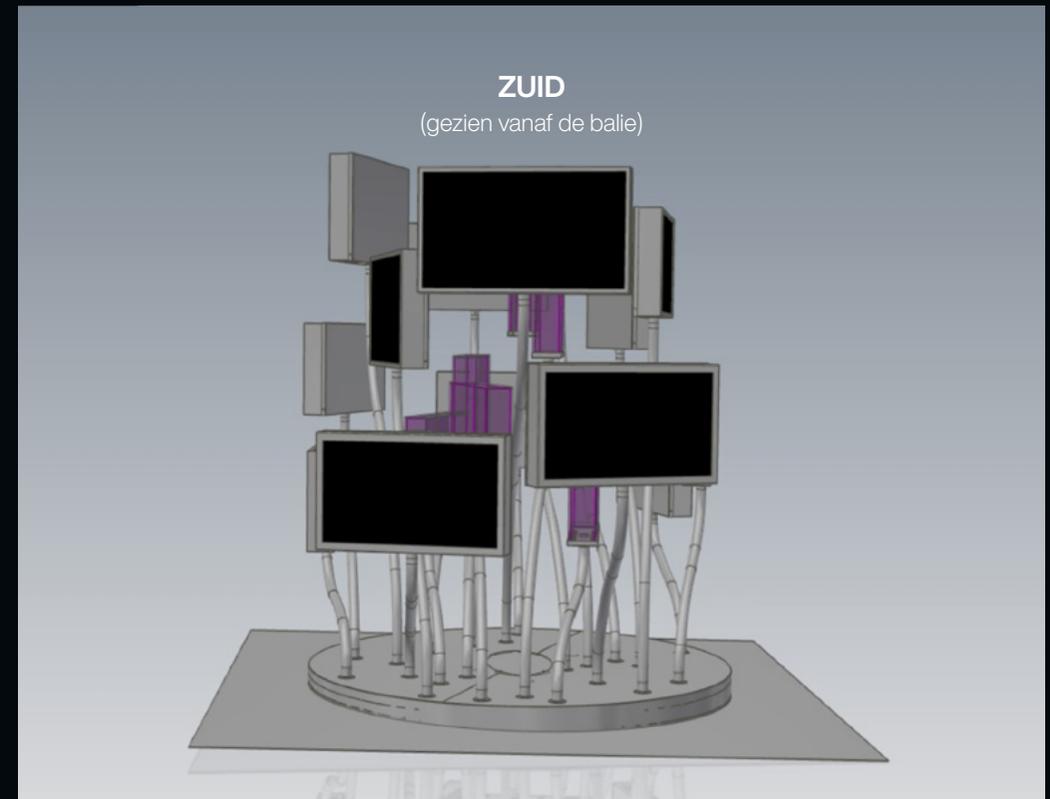
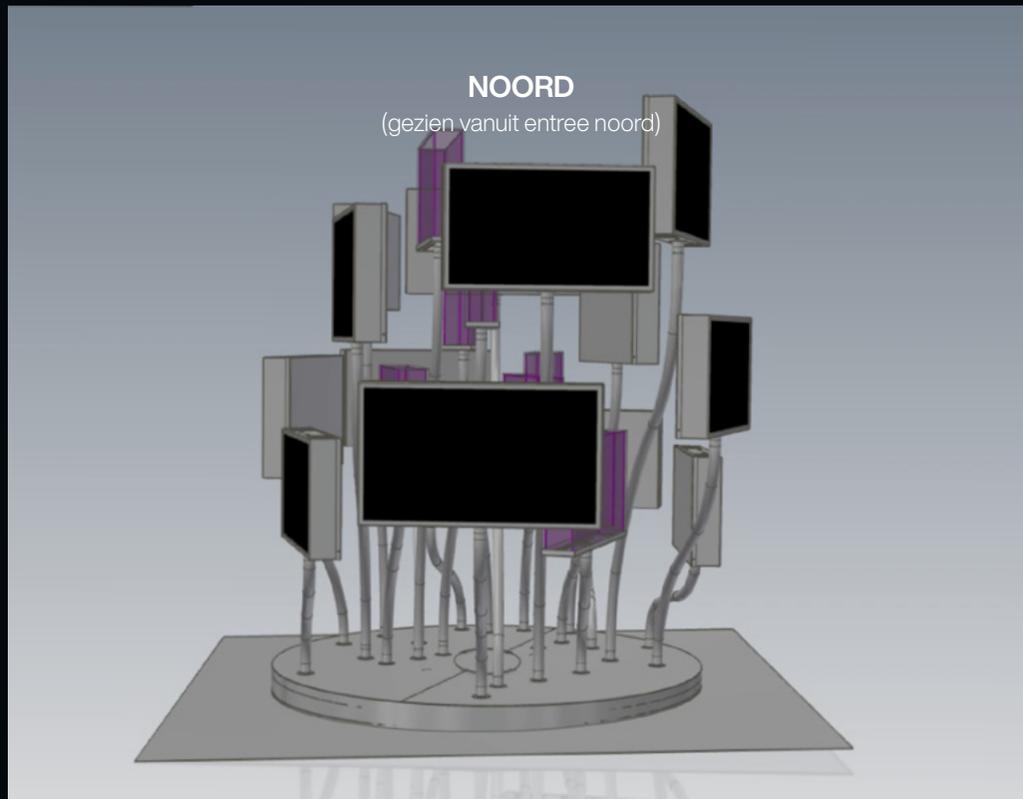
The 'legs' are steel tubes that stand on a hollow bottom plate with a bottom surface of 2.50 x 2.50 metres. The data and electrical lines run through these tubes. Equipment is incorporated in the frames or in the supporting plate. The floor has a fall of 1%, which is designed in the bottom of the floor plate.

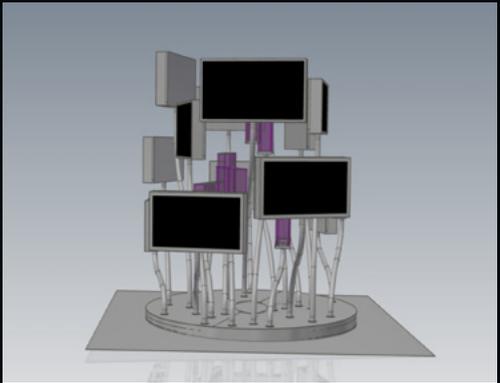
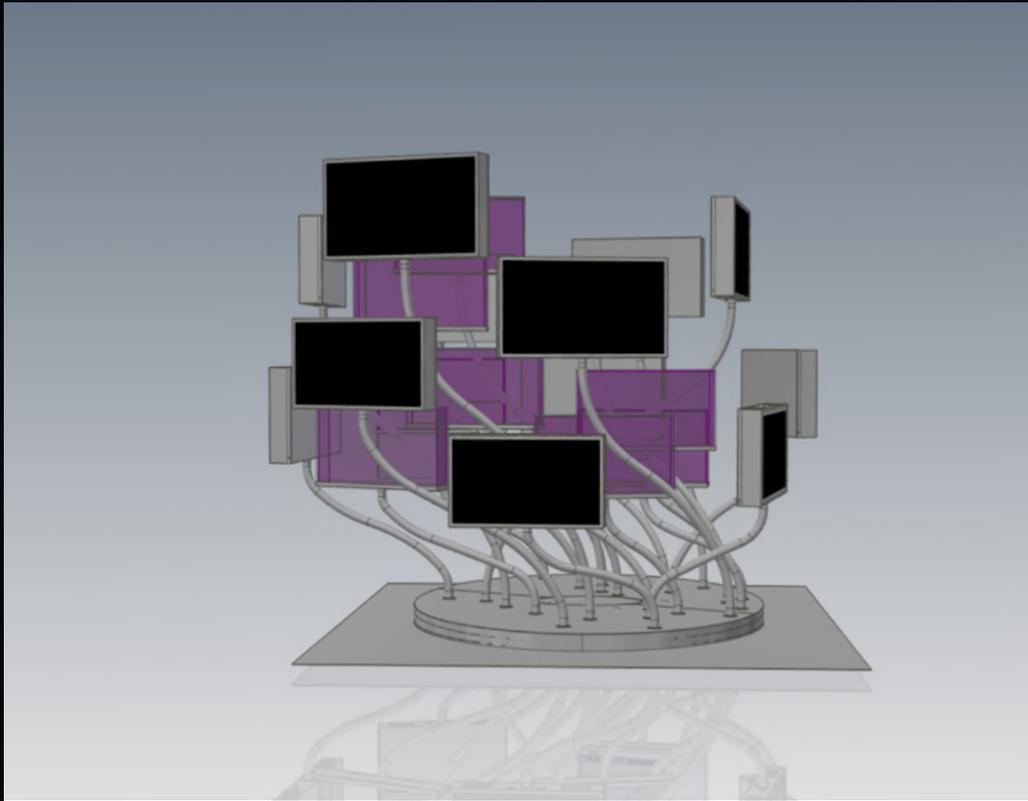


# The Steel Object

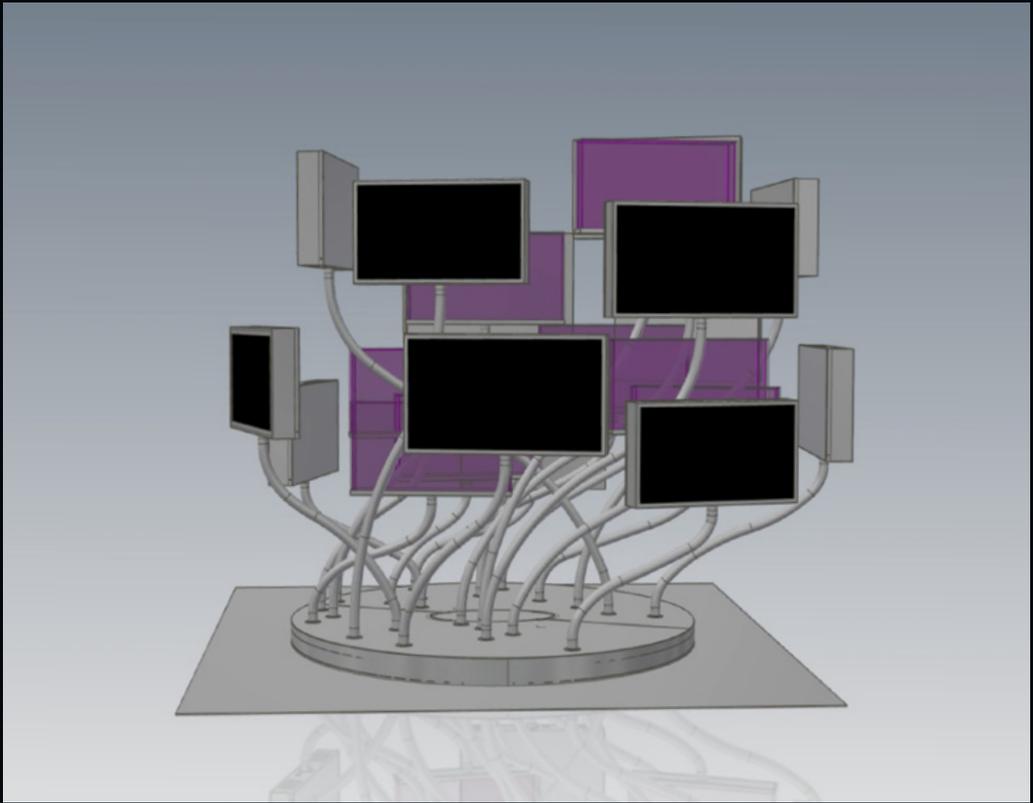
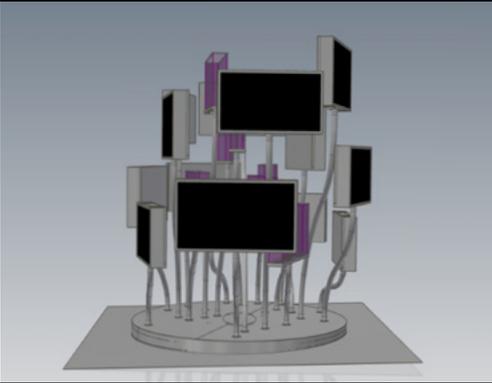
The steel frame was constructed at Mannen van Staal in Leeuwarden. The shape of the object and the bending of the tubes could be properly evaluated by means of a 3D model.

Watch a movie of the 3D rendering on [www.pjot.nl/walkwithme](http://www.pjot.nl/walkwithme).





Clockwise views:  
West, seen from the cafe  
South, seen from the desk  
East, seen from the stands  
North, seen from entrance north





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Light

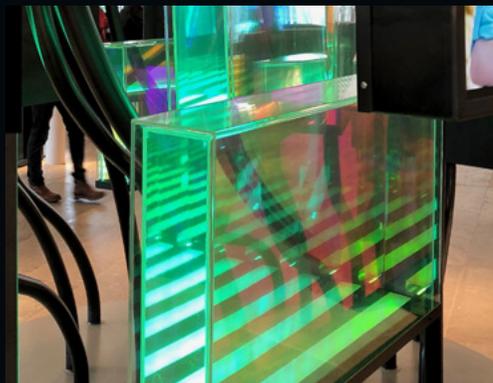


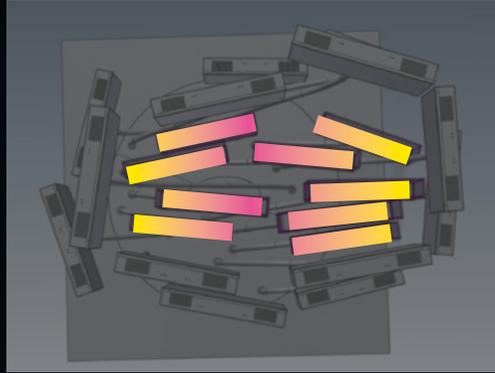
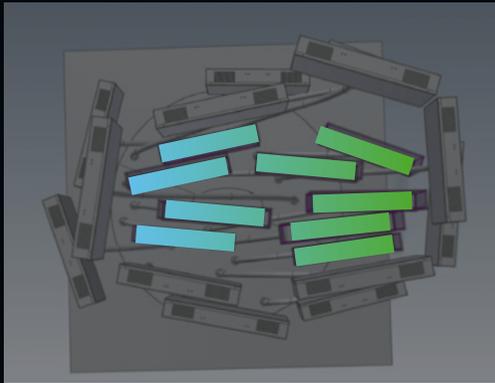
## Heart of Light

The installation is a constantly changing experience. Because of the shape of the object and the changing content, but also because of the changing light and the material the light boxes are made of. In the boxes constructed of iridescent material – made by Pyrasied in Leeuwarden –, there is an RGBW LED light source that is linked to an Arduino controller. The 9 boxes, and therefore 9 Arduino's, are controlled by a Raspberri Pi in the base of the installation, generating multiple light instances.

The dichroic surface of the boxes is reflective, transparent and colorful at the same time. The changing colors of the light create an exciting double interaction. Walking around the installation, the color of the surface changes from, for example, blue to orange or yellow. It sometimes becomes transparent, and the color and intensity inside changes as well.

The light boxes have the same shape and format as the screen frames. This voluminous resemblance pulls the different parts the installation consists of together.



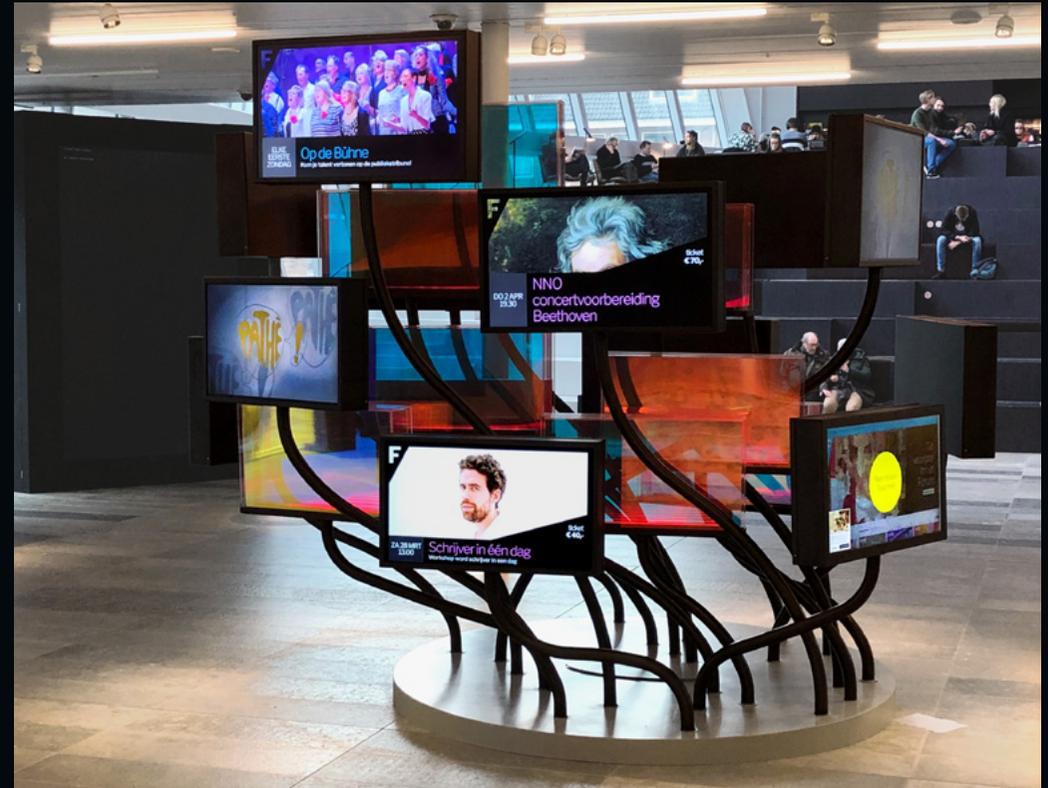


## Lightwaves

The lighting design software is custom made for the installation. It changes preset every hour, when random selection is made from a large number of pre-programmed positions. These presets can be linked to a combination of color, speed and brightness which generates an endless amount of effects. The light boxes can be controlled as a whole or separately. For example, they can show a beating heart in different colors. But also a 'wave' that shows a change of color travelling from one side of the group of light boxes to the other.

The light show is customizable for an event in a selected color or sequence.

Interaction with the object also makes the installation itself interactive. A sensor has been placed under one of the screens. When a visitor approaches, the sensor detects this and changes the light in the heart of the installation. The change is programmed in such a way that it appears as if the present color 'drifts' away from the visitor.



# Many Thanks

Steel construction

Mannen van Staal

Light boxes

Pyrasied

Lighting software

DJ Pixelsync

Display engineering

DB Audio

Pc's en BrightSign players

Brossers & Clossen

Forum Groningen

Gerda Vrugteman

Dirk Nijdam

Koen van Krimpen

Architect Forum Groningen

NL Architects

Client

Municipality of Groningen, Forum Groningen

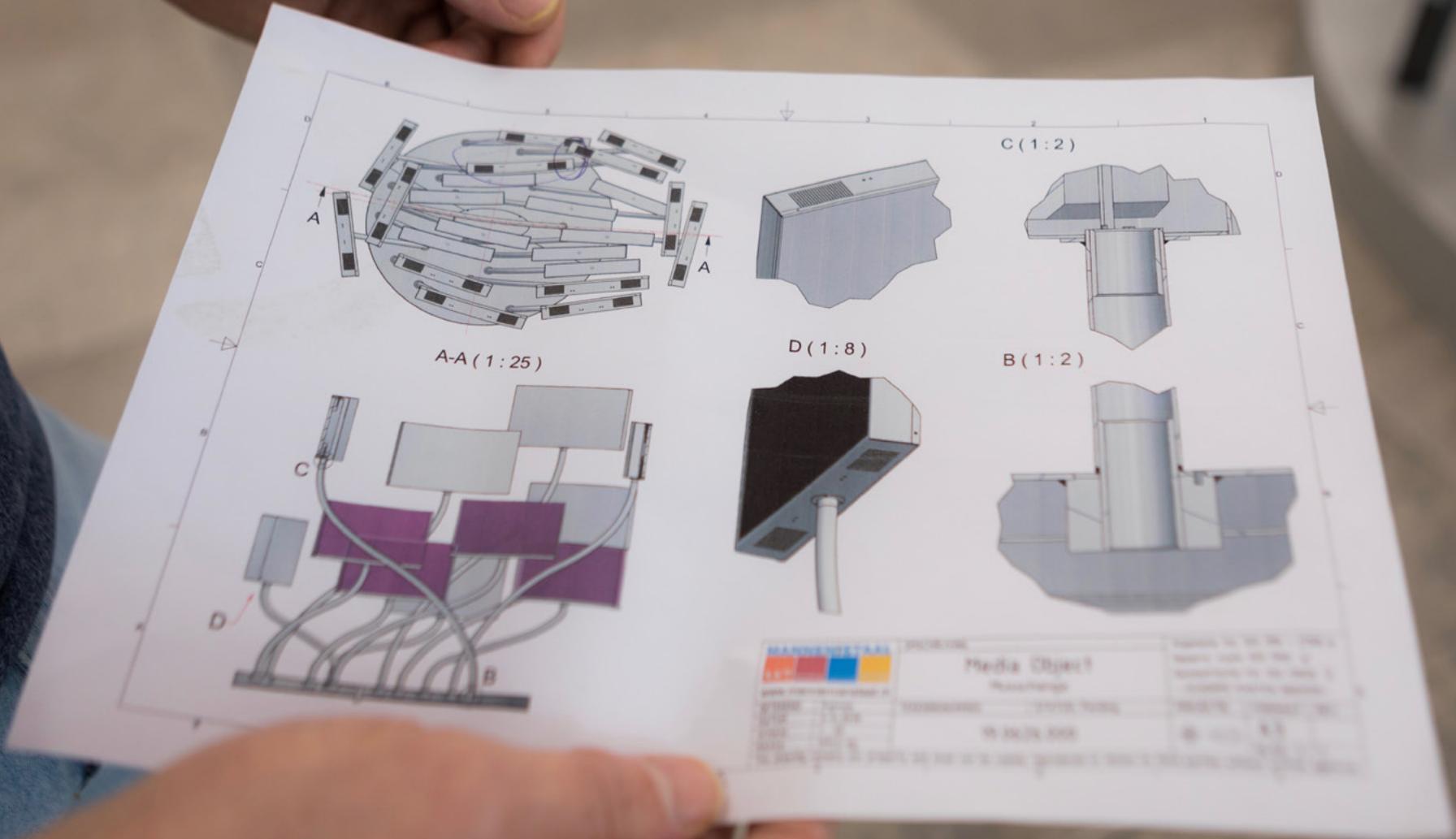
Photography

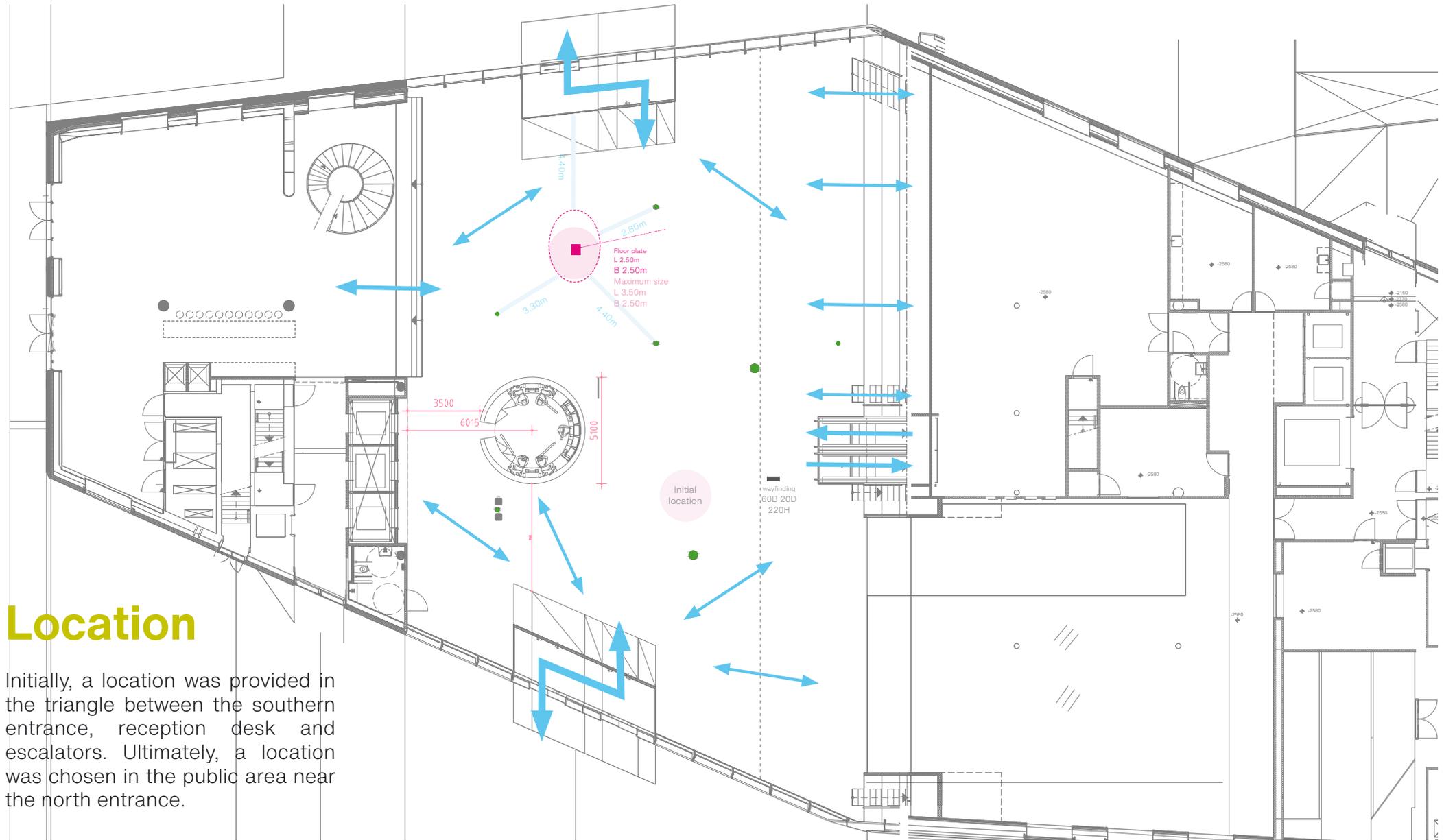
Peter de Kan

Marieke Kijk in de Vegte

Peter Musschenga



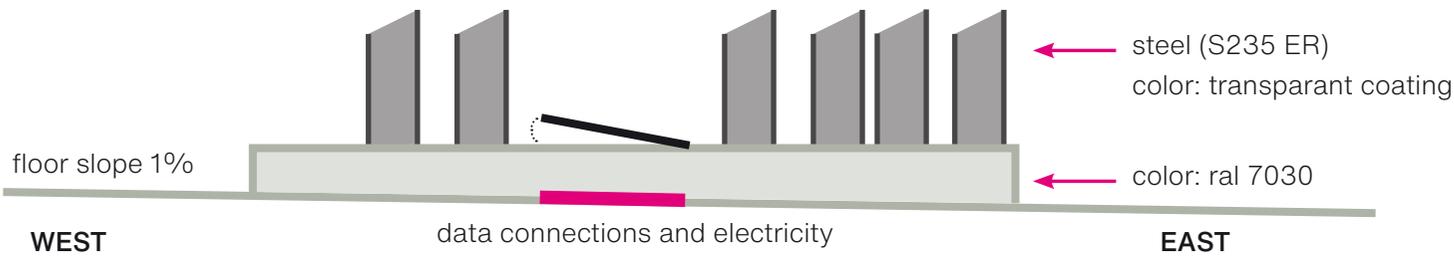




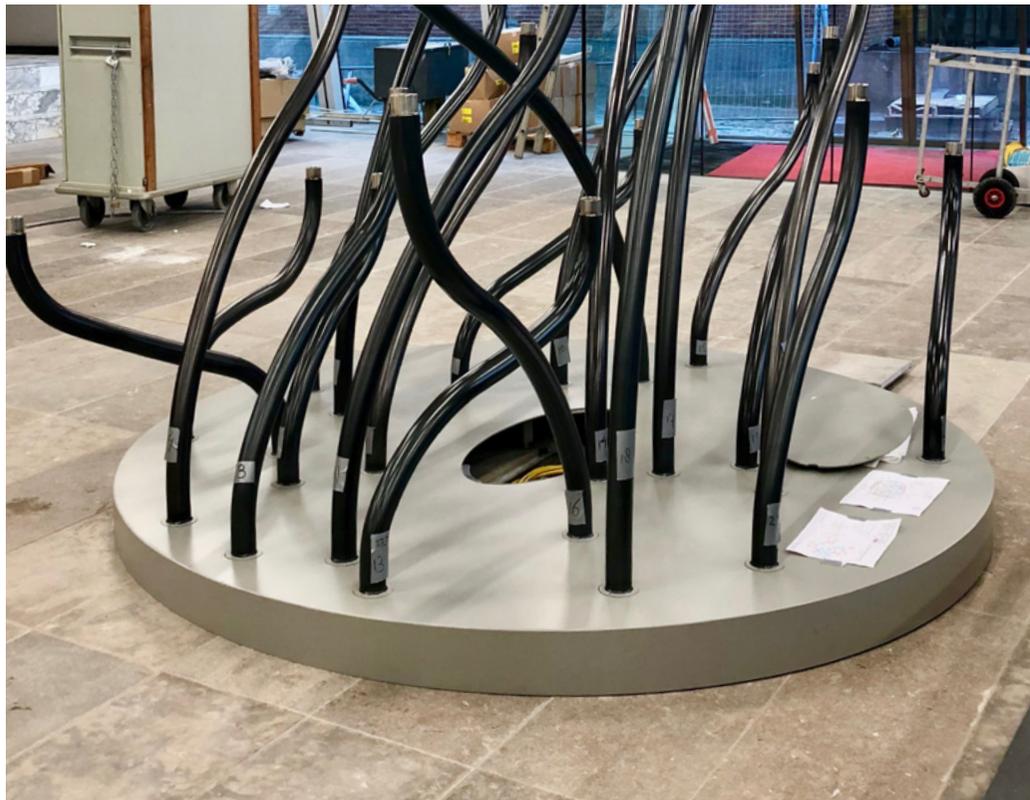
## Location

Initially, a location was provided in the triangle between the southern entrance, reception desk and escalators. Ultimately, a location was chosen in the public area near the north entrance.





RAL 7030



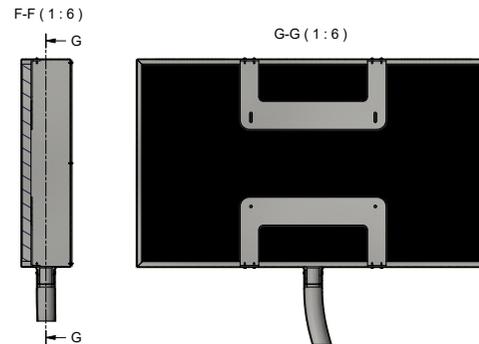
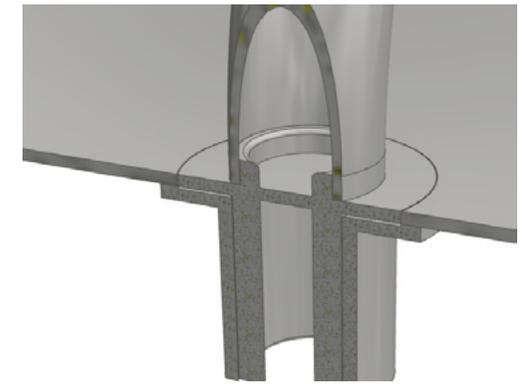
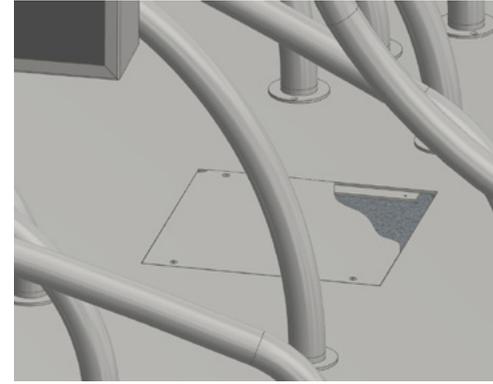
## Floor Slope and Coloring

The floor of the entrance area is not flat. Initial reports spoke of a 3% slope, but further measurement showed a 1% slope. This run-off is incorporated in the floor plate of the installation so that the base for the steel pipes is level.

The color of the base plate is adapted to the color of the marble floor (approximately RAL 7030) making the pipes appear free standing.



# Display Frame and Assembly Details



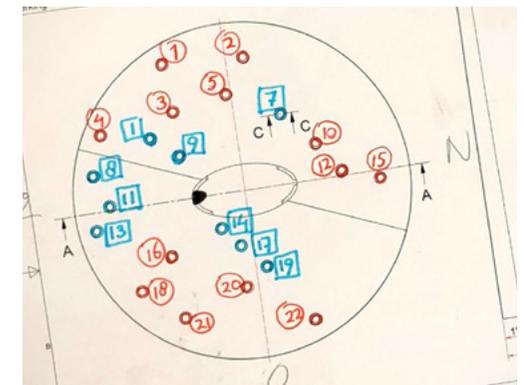
The screen frame is 20 cm wide so it is able to harbor further equipment like a player.

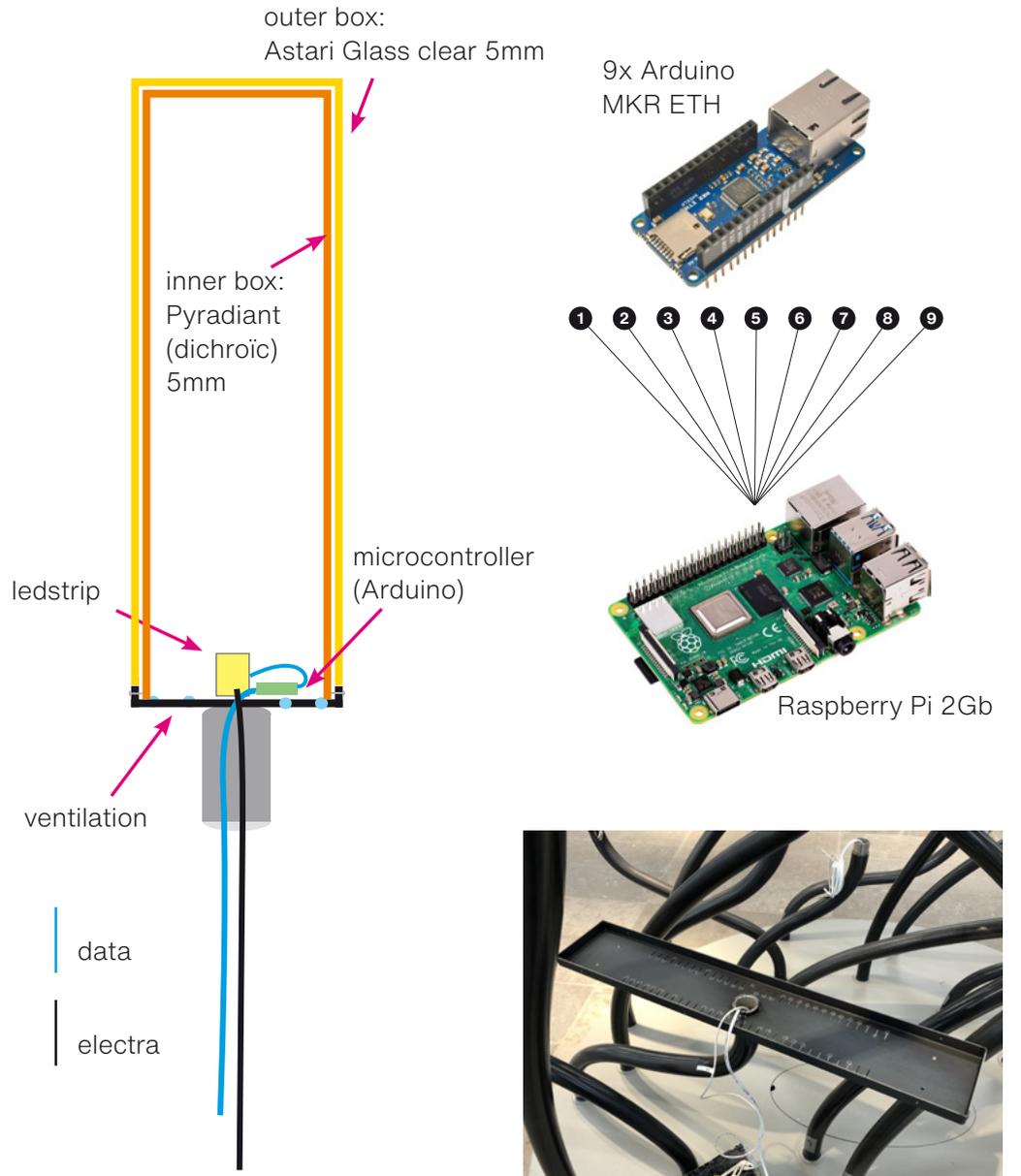
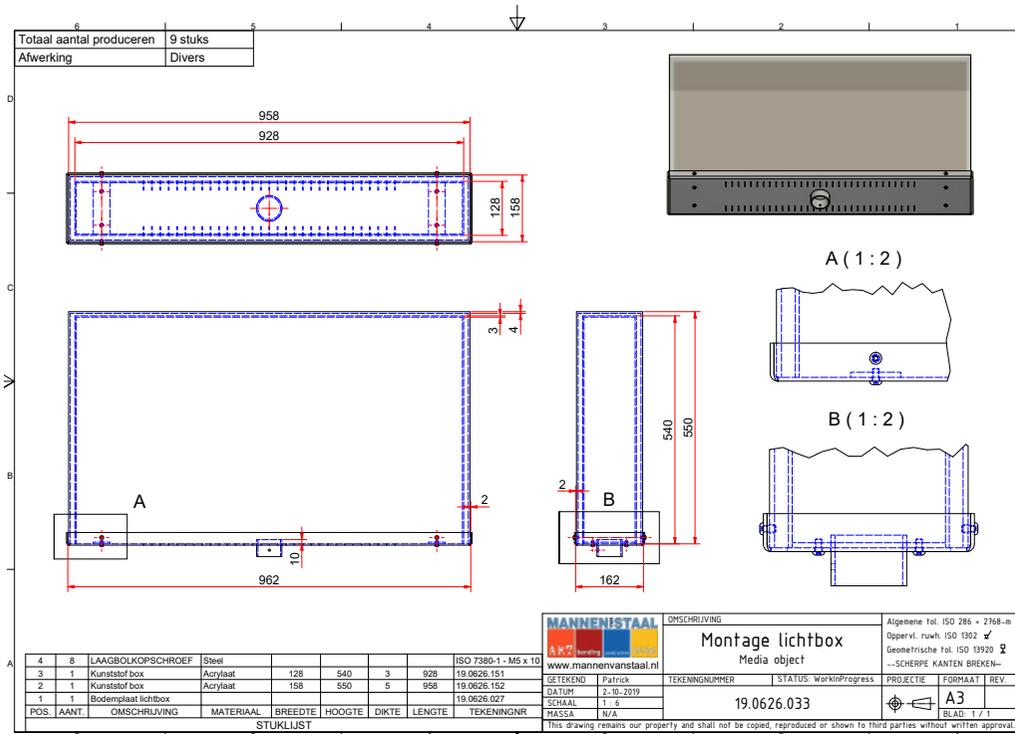
A hatch has been planned in the middle of the base plate through which the data and electricity connections are accessible. The final shape is oval.

A socket is sunk into the base plate into which the tube falls. This construction ensures a very accurate connection, making the tube more stable. The tube is secured at the bottom with a canister. By loosening it, the whole of the leg and screen can rotate for maintenance if necessary.

Each frame and leg has its own number, corresponding with players and Arduinos.

Watch a movie of the arrival of the installation parts at the Forum building on [www.pjot.nl/walkwithme](http://www.pjot.nl/walkwithme).

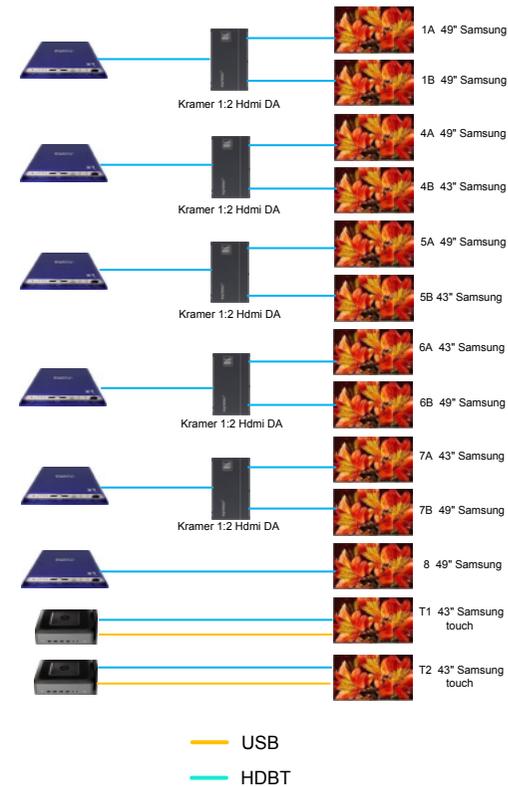
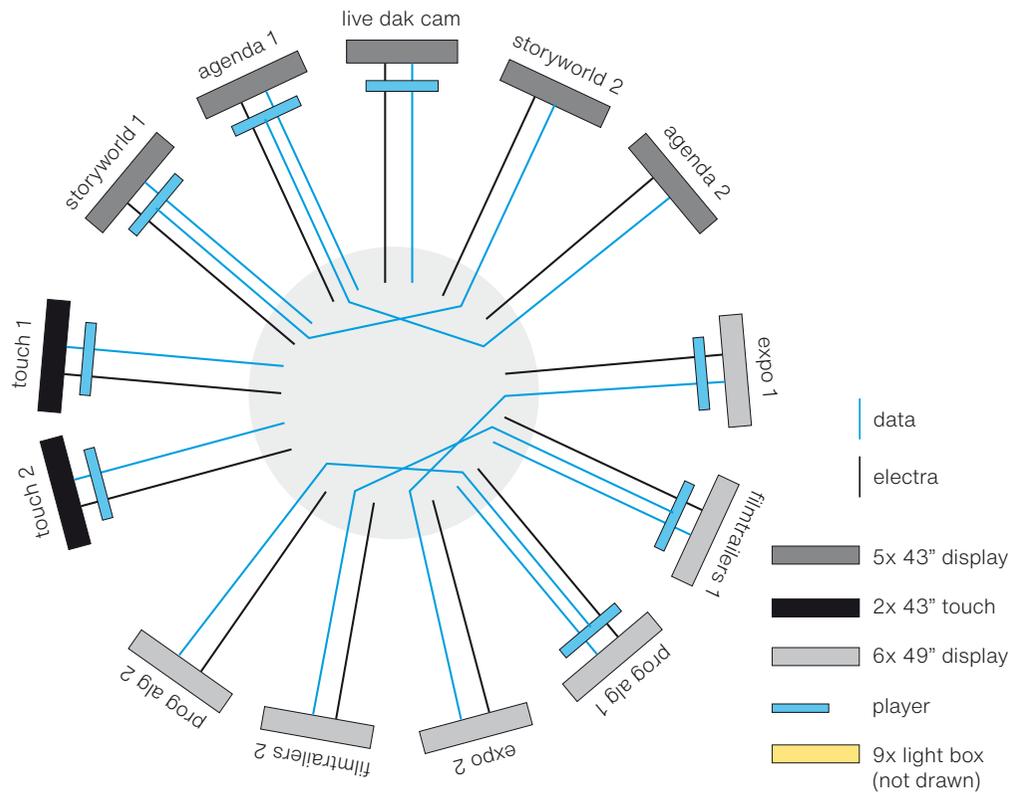




# Light Box Details

Above: technical drawing of the light box frames  
 Middle: cross section of lightbox  
 Upper far right: controllers of the led strips  
 Lower far right: base of light box frame with cables





- 5X SAMSUNG PH43F-P**  
 957.58 mm x 548.64 mm x 27.94 mm  
 bezel (top/side): 6.9 mm (bottom): 8.9 mm
- 6X SAMSUNG PH49F-P**  
 1092.20 mm x 622.30 mm x 27.94 mm  
 bezel (top/side): 6.9 mm (bottom): 8.9 mm
- 2X SAMSUNG PM43F-BC TOUCH (LINKS)**  
 959.70 mm x 550.00 mm x 29.90 mm  
 bezel (top/side/bottom): 25.0/17.9/25.0 mm

## Data and Electricity Layout

There are always 2 screens connected to each other that show the same image. In this way, agendas, changing information screens or exhibition promotions can be shown on both sides. The 2 touchscreens also show the same content. There is one stand alone screen that can show a live feed.

## Displays

Samsung screens with a brightness of 700 nits were chosen for the installation. The touchscreens are slightly thicker, have a larger bezel and have a brightness of 350 nits.





[www.pjot.nl](http://www.pjot.nl)

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