



SCHNICK
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Case Study

Video Installation
A Pixel Forest



Project

Exhibition: Video and light installation with individually controllable LED elements

Installed Technology

LED boards RGB (custom-made), System Power Supply 4E, Pixel-Gate, PixelPatch

Exhibition Duration

26.02.2016 – 08.05.2016

Idea, concept, production, edit

Pipilotti Rist

Lighting design, conceptualization, development

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Partner

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Exhibit Venue

Kunsthaus Zurich
Heimplatz 1
8001 Zurich
Switzerland

Photography

FBM Studio, Zurich
Lena Huber
Schnick-Schnack-Systems GmbH

About the exhibition

Pipilotti Rist
Pixelwald
2016
Installation: hanging LED-lights, system power supplies,
electric controller, media player
Dimensions variable
Duration: 35'00''

The Project:

A screen exploding in the room.

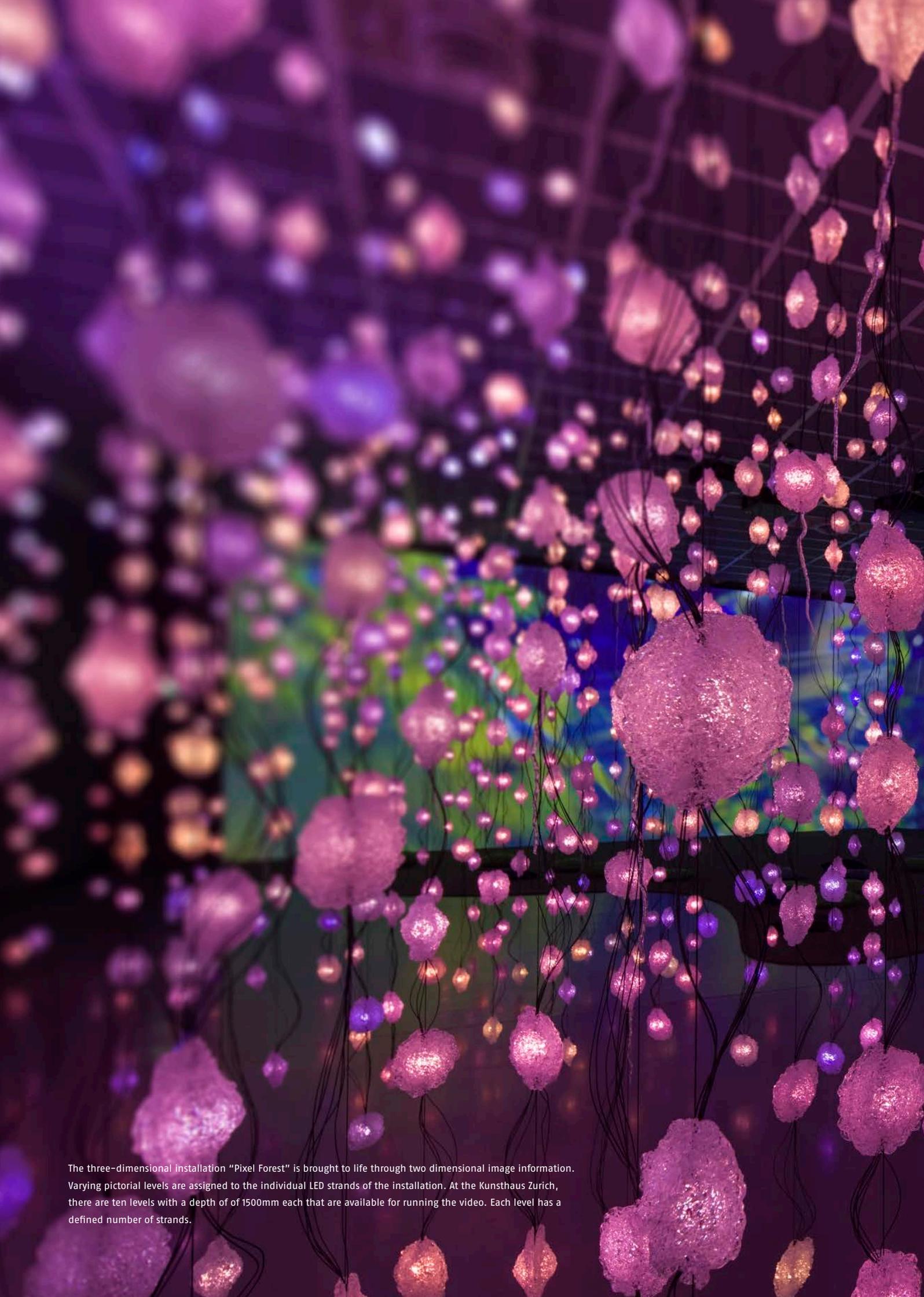
If you wanted to create a list of video artists who launched the genre and were the first to develop their art, Pipilotti Rist would without a doubt be at the top. The pioneering works of the Zurich native have been influencing video art since the 1980s.

An exhibition at the Zurich Kunsthaus that ran from February to May 2016 was devoted to her work from 1986 to the present. It was called "Your saliva is my diving suit in the ocean of pain" and was named after a line in a song that she had interpreted together with fellow artist Anders Guggisberg.

As part of the exhibition, that was visited by more than 91-thousand people from around the world, a new installation by the artist celebrated its premier: Pixelwald / The Pixel Forest. It consisted of 3,000 LED luminaries hung from vine-like cables that radiated a touch of magic.

Each of the LED luminaries was put into a thermoplastic casing and were individually controlled via video signal. This is how the forest was brought to life and remained in constant movement. It appears like a three dimensional work of a pointillist. Or in the words of the artist, like a screen exploding in the room.

The vision of a walk-in Pixel Forest grew out at a sampling for a permanent exhibition in the attic of the Kunsthaus at the beginning of 2015: Here caught diffuser capsules for LEDs the artist's interest. For Schnick-Schnack-Systems as a project partner, she decided, because the company could show many years of experience in customized projects - as well as a high degree of flexibility and speed in product development and production.



The three-dimensional installation "Pixel Forest" is brought to life through two dimensional image information. Varying pictorial levels are assigned to the individual LED strands of the installation. At the Kunsthaus Zurich, there are ten levels with a depth of 1500mm each that are available for running the video. Each level has a defined number of strands.



The Project Requirements: Natural, luminous, moving – like the play of light in a forest.

Each LED liana hangs from the ceiling like the branches of a weeping willow. No two are alike – each one is unique. The LED technology that makes them glow and shine had to be extremely high-performance and flexible.

It was essential that the video content be played individually on every single flying spot of light. The flying spots should also correspond with the video content running on the walls of the room in order to create a continual visual flow and a natural, overall impression.

The highest flexibility as well as movability were therefore both absolutely necessary. This was because the visitor should be able to move freely throughout the Pixel Forest without coming up against fixed elements.

The technical requirements were therefore quickly established:

- LED-Dot RGB
- Not less than 5.4lm luminous flux at 100%
- Not less than 2.5cd luminous intensity
- Radiation angle from at least 360° (2×120 – 140°)
- Video controllability
- High colour fastness
- Long service life of all light elements
- Linking the individual LED elements with the help of thin, black cables with single conductors
- Variable pitch – distances of 300mm, 500mm and 800mm
- Control of all light elements via a central lighting control unit

The Solution: Just as unique as the work of art itself.

In June 2015, Schnick-Schnack-Systems was contracted to produce the LED solution for the Pixel Forest. Off-the-shelf rival products proved early on to be unable to fulfil the complex requirements.

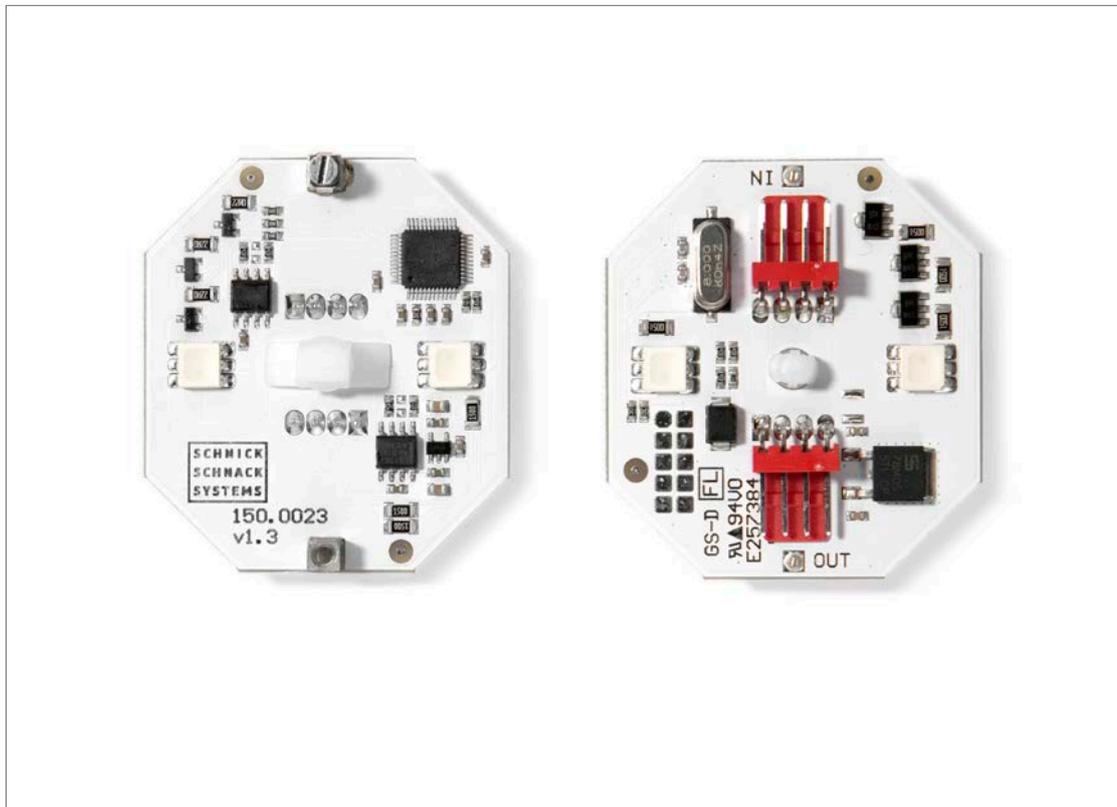
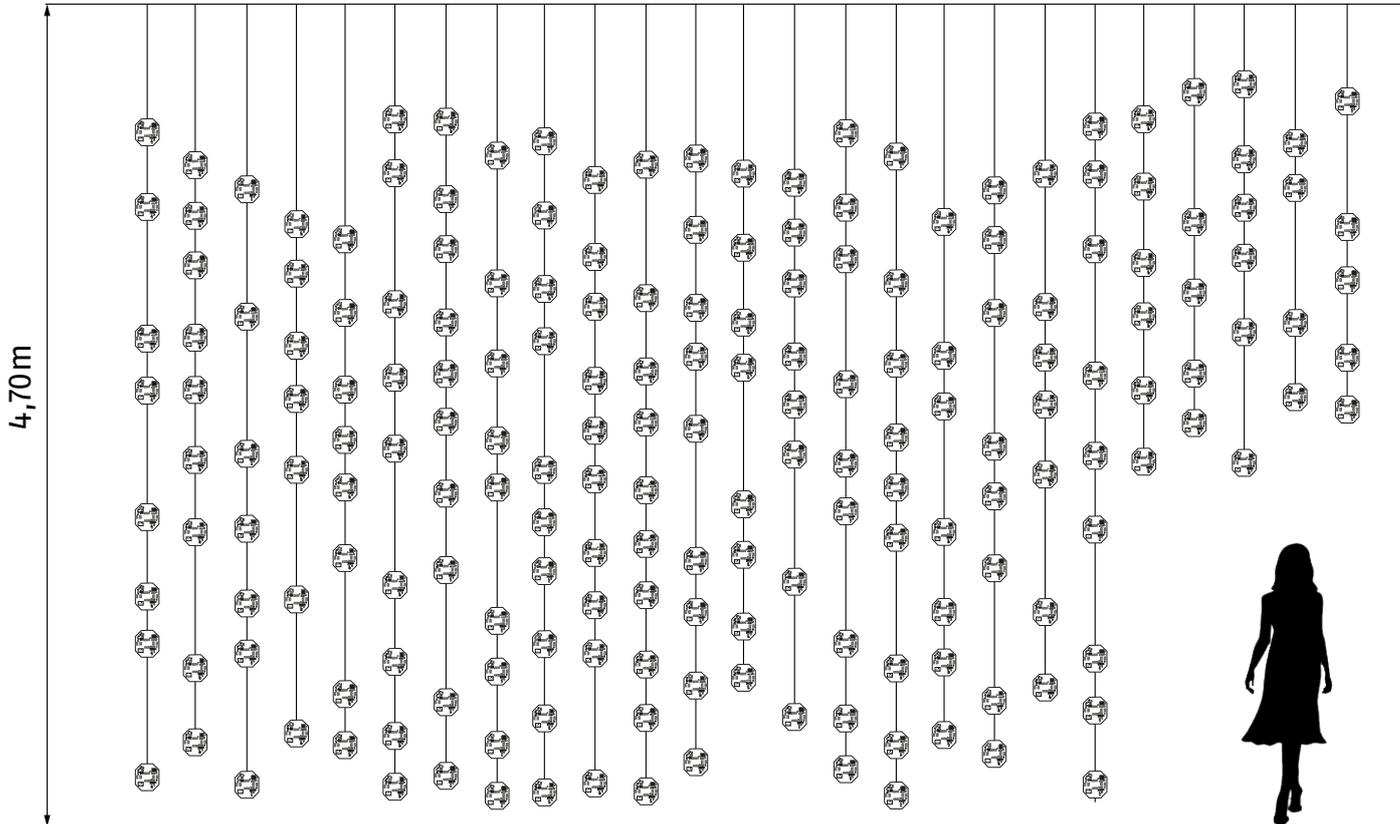
Schnick-Schnack-Systems was confronted with the challenge of developing boards with high performance 360° RGB LEDs that could be strung together in varying intervals. The key to success proved to be the unique building block system from Schnick-Schnack-Systems. That's because the power supplies and controls of all of the LED products are compatible. This also enables custom made products to be created quickly and precisely. Even in the case of the Pixel Forest's dots, the current product portfolio was sufficient for the controls and power supply. The rest was completed by Schnick Schnack Systems in-house development and production.

In July 2015, Schnick-Schnack-Systems was already able to present the first prototype. Others followed until the board was finalized in August after the third presentation.

In order to convey the artist's wishes exactly, Schnick-Schnack-Systems maintained a very close and constant cooperation with Pipilotti Rist and the lighting designer Kaori Kuwabara and worked on the detailed specifications for the LEDs together.

Time for a test run: In September, Schnick-Schnack-Systems delivered 300 Dots with three cable lengths. In October, the first sample installation was ready. The high performance patch software PixelPatch was chosen for the programming. It offers extensive possibilities for running video content on LED installations efficiently and quickly.

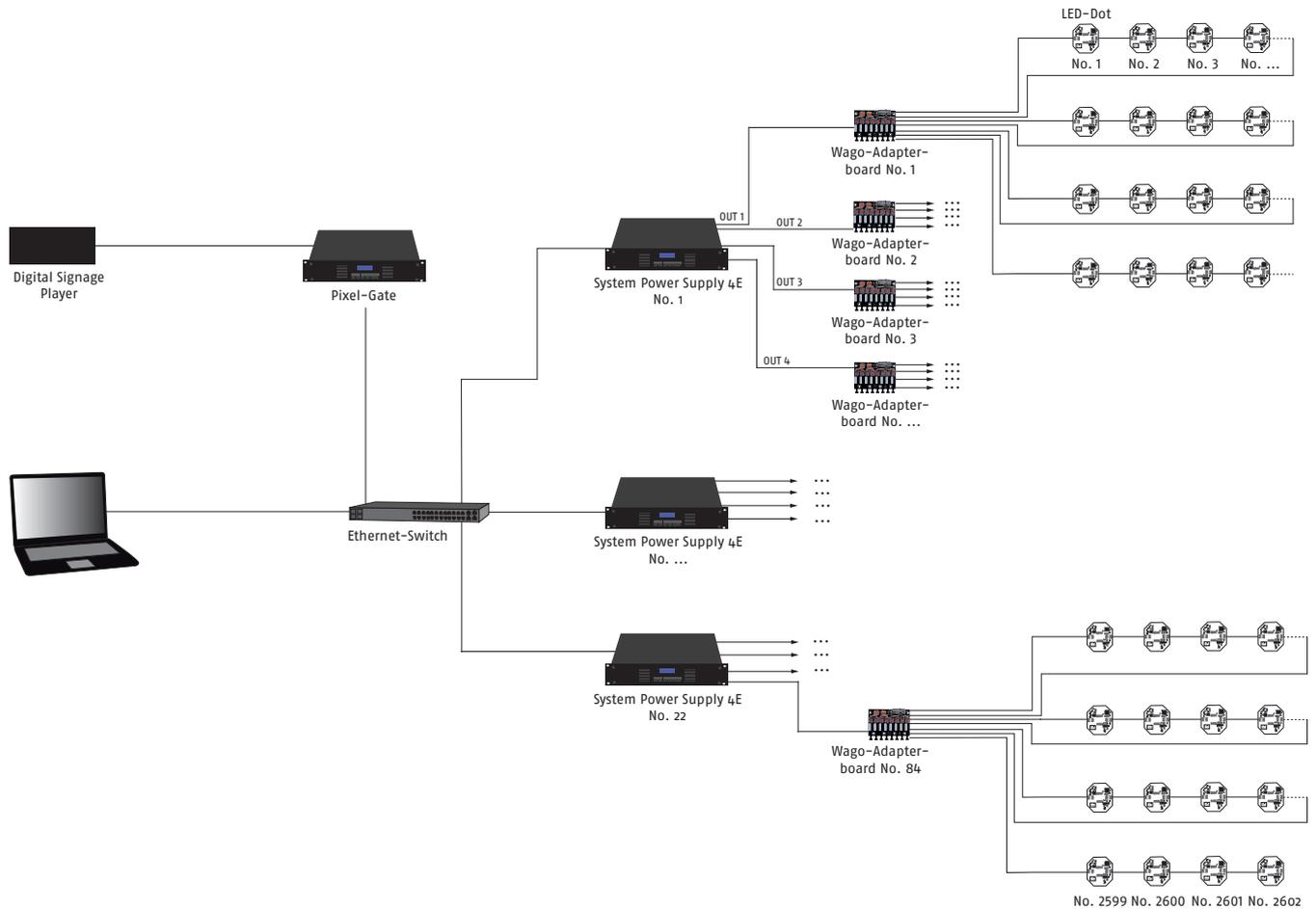
In tests with different videos, the design was convincing and the production could begin. In February 2016, 332 LED chains with more than 3000 dots were installed at the Zurich Kunsthhaus. More than 2,300 board cables of different lengths (300mm, 500mm, 800mm) were put to use. The dots were controlled via a Pixel-Gate and the electricity was supplied by 22 System Power Supply 4Es and 84 Wago adapter boards.



Above In order to keep the production and installation plan easily understandable, 25 different types of chains have been defined – 20 long and five short. A staggered array in the room created the illusion of a chaotic arrangement.

Left The finalized LED dot board

The Cabling*: Complexity made simple.



*simplified depiction

Why Schnick Schnack Systems?

As installation times become increasingly shorter the complexity of systems simultaneously increases as do the requirements of customers.

We are a supplier who delivers high-quality reliable systems – under tight deadline constraints that are not only quick to install but also simple to operate and service.

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