

LIVING LAB STRIJP-S

Improving the quality of life for residents and visitors is a central factor in Strijp-S. Innovative products and services, which contribute positively to this, are developed together by partners and the community. There is a commitment to a more sociable, comfortable and sustainable way of living in the city. The district of Strijp-S acts as a living lab in this process; a dynamic environment in which products and services can be developed, refined, demonstrated and replicated.





At the entrance of Strijp-S the dynamic system tells the motorist where parking space is available.

SMART MOBILITY @ STRIP-S

One goal of the Smart Mobility program on Strijp-S was to present better and more actual parking management information to visitors. Also reserved (licence plate) parking and guided route and parking information. By offering these new technology and related services, we improved the wayfinding in the area, our visitor have a more efficient trip, and therefore less unnecessary CO₂ emission.

Implementation

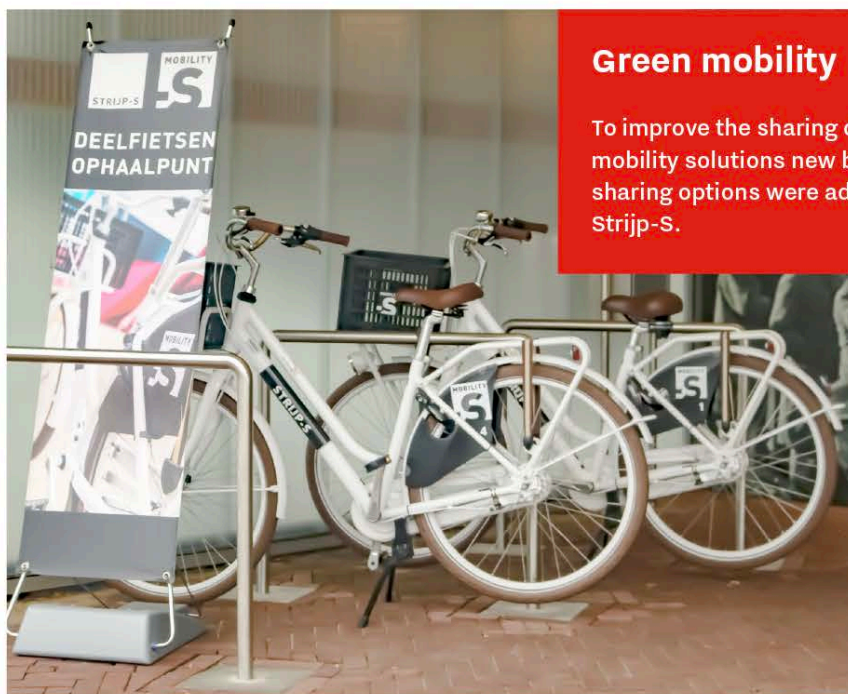
To improve the wayfinding to and at Strijp-S the installed base of parking hardware was upgraded. With this upgraded system a new information and park reservation and management software platform was developed. Also the integration with licence plate recognition and personal guidance via Led displays was implemented. For pedestrians and cyclists additional route location information is provided via so called Wayfinders, of which each unit consists out of 8 interactive and programmable LED displays. Also online (via website and app) people can find there Points of interests and personal navigation via the smart mobility map.

Lessons learned

It is quite difficult to let people change their normal, daily parking routine therefor communication about all new services, and related privacy policies are very important. Local communities needed to be informed via different media channels about the new services but also visitors needed to be informed about the licence plate recognition camera's.

The public square on Strijp-S.





Green mobility

To improve the sharing of green mobility solutions new bikes with sharing options were added at Strijp-S.

Fast Charger

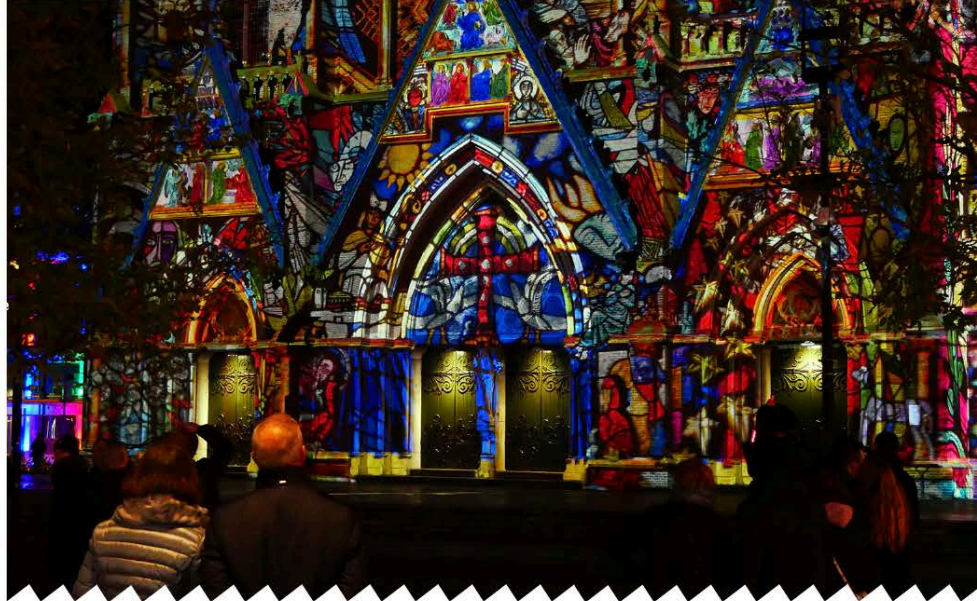
To facilitate the increasing demand of charging points for electrical vehicles a complete network of Smart (fast) charging stations was realised.



WAYFINDERS

The interactive LED display of the Wayfinders offer pedestrians and cyclists route location information.





Glow 2017 - St. Catharinakerk Eindhoven.

LIGHTHOUSE CITY EINDHOVEN

How can innovative lighting contribute to the neighborhood and its residents? Eindhoven is the centre of the Brainport Region, today one of the three top economic engines of The Netherlands, delivering about 14% of the national GDP. The Dutch consortium consists of five partners: VolkerWessels, Woonbedrijf, Technische Universiteit Eindhoven, KPN and the Municipality of Eindhoven.

In Eindhoven, two districts will be transformed into sustainable living environments during the course of Triangulum. The former Philips industrial complex in the Strijp-S neighborhood will become a creative smart district. An innovative concept to clean up contaminated land will double as a means of producing energy. A district-wide ICT solution will allow residents to access different kinds of infrastructure, such as booking electric vehicles from a district car sharing scheme or using smart parking concepts. In this way, the IT-based tool will help residents to develop sustainable patterns of energy and mobility behavior. A different set of challenges is posed by the Eckart-Vaartbroek district, where energy-efficiency renovations will be carried out on the social housing stock that predominates in this area. In order to precisely calculate the energy savings, the project will use an IT-based instrument capable of modeling costs and yield in a 3D visualization of the district.

This project is part of the Smart Society Program of the municipality of Eindhoven. This program focuses on a future in which the city itself takes initiatives by making smart use of data, technology and design to improve the public spaces and quality of life in Eindhoven.

Do you have any questions or would you like more information? Please contact Delia Mitcan, telephone: 0031-627821560 or via e-mail d.mitcan@eindhoven.nl



STRIJP-S



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The Strijp-S area with the new developments on the right and the former Philips factories on the left.

SANERGY: SUSTAINABLE ENERGY SUPPLY BY SOIL SANITATION

For decades the Strijp-S area was home of the Philips factories. This caused contamination in the soil, which had to be cleaned up when developing the area. The municipality of Eindhoven and VolkerWessels, both owners of the buildings and grounds on Strijp-S worked together when they applied a system that purifies the soil and at the same time extracts energy from ground water.

The system contains waterpumps that circulate the soil water while the bacteria demolish the detrimental components in the soil. This takes about 30 years to complete, during that time the area can be developed. This system has another big benefit: it is 5 to 10 times less expensive than removing the soil and purifying it the conventional way.

Energy saving

At the same time the system extracts energy from ground water using waterpumps. This energy is used to heat and cool at the new developed and transformed buildings. This system reduces the use of fossils and reduces the carbon dioxide emission.

Eight winners at iCity tender at Strijp-S

VolkerWessels (iCity) together with the municipality of Eindhoven and TU/e were looking for the best ideas to stimulate the smart city ecosystem and to thus create new smart city services and products. Out of 63 applications, eight projects stood out, receiving financial support of overall 140.000 euro to develop the ideas.

We congratulate the winners with the following ideas:

- Abby Solutions is a sustainable smart mobility solution, offering bikes with integrated solar cells. It strives to improve urban mobility and bike sharing options in Eindhoven
- ViNotion is an intelligent video analysis system which provides insight into complex traffic scenarios by analyzing the behavior of all traffic participants. Ideally, dangerous traffic situations are recognized before the crash, without harming privacy issues by excluding license plate information.
- Bit sensor is an internet security start up offering protection against unwanted hacking attacks in real-time, so companies are aware that they are being hacked, before it is too late.
- 5D solutions offers green walls with innovative plant panels. By using a special strawberry plant with integrated water sensors to turn buildings into self-regulating smart grids.
- Cats Innovations develops infrastructure for visual disabled visitors of Strijp-S to navigate around the area.
- Atelier Veeger develops an interactive billboard for tenants and visitors of Strijp-S
- Octo presents real time data to find easily the ideal place of work
- Omines develops a smart city data platform where data can be collected, edited and analyzed.



Network switch at the Smart City Hub.

ICT OFFERS INDOOR AND OUTDOOR FACILITIES

Strijp-S enjoys the presence of a strong fibre-optic data infrastructure. This is called the Backbone. This Backbone consists of a passive and active infrastructure with software layer and is required to support a more innovative and intelligent public lighting system as well as a wide range of sensors, beacons and other systems such as public WiFi, digital guidance systems, camera's and parking systems. All connections on the Backbone are monitored in the Smart City Hub.

Users

The goal of this project was to provide connection for outdoor and indoor facilities to a wider group of users. For example: the services to connect to the fibre-optic Backbone in light poles-enablers provides communication for residents, emergency services and other users. Total connectivity was

ensured by centralizing all connections in the fully operational Smart City Hub. In order to fulfil the control of this goal, an active network of switches is installed for connecting and monitoring purposes including a Simple Network Monitoring Protocol (SNMP) software service for visualisation of the network connections and trigger events in case of overall network connection problems.

Living Lab

The result of this project is a "Smart Environment" that can respond to triggers like weather, public events, emergency services and is able to communicate with the inhabitants. As it is a Living Lab anyone can participate (Rule based) so Business Models can be made for Open Data and Closed Data systems.

The public lighting system responds to triggers like the weather.

