

TEKES – THE FINNISH FUNDING AGENCY FOR TECHNOLOGY AND INNOVATION

## Living lab environments in the Netherlands Benchmarking visit to Amsterdam and Eindhoven 29.-31.10.2014

### TRAVELOGUE



## PROGRAMME

**Wednesday 29th of October, 2014 (Amsterdam)**

### Amsterdam Arena

The Amsterdam Arena is the home of the football club Ajax. The stadium is also used by the Dutch National Team for international matches. On a regular basis, the events calendar includes concerts and dance festivals.

Sustainability and profitability can go together hand in hand. That is why our motto is: 'Amsterdam Arena. Naturally sustainable.' By 2015 we strive to be a carbon-neutral stadium. Also in the field of corporate social responsibility the Arena is a state-of-the-art stadium. Consequently we are seen as an icon of durability for sports, entertainment, and businesses alike.

The Amsterdam Arena strives:

- to be a platform for sustainable innovations
- to reduce our own environmental impact, and that of our events
- to be a good neighbour and a positive boost for the economy
- to increase our sustainable impact together with others

### **Platform Sustainable Arena**

The project team of the 'Platform Duurzame Arena' (PDA) coordinates the various sustainability initiatives. All staff working for the Amsterdam Arena can put forward their ideas concerning the sustainability policy through the PDA. Many suggestions are also coming in through informal channels.

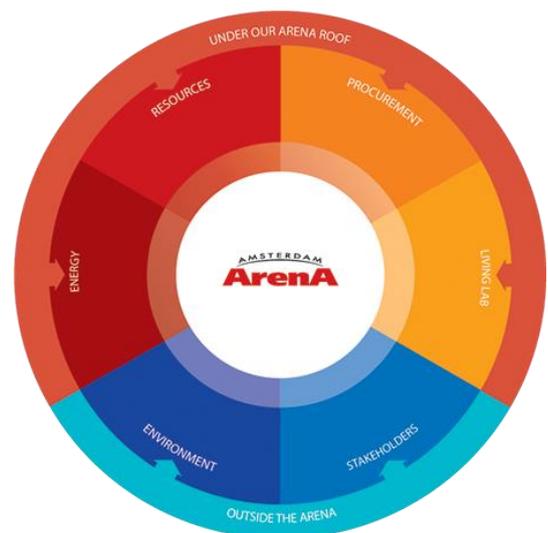
The first solar panels were installed on the Amsterdam Arena roof in March 2014. Currently, the roof consists of 4200 solar panels, with a total surface area of approximately 7,000 m<sup>2</sup> on the non-translucent, non-moving parts of the stadium roof. This surface area is roughly the size of a football pitch.

The Arena's solar-powered rooftop will generate an annual total of approximately 930,000 kWh of electricity. This equals 10% of the stadium's annual electricity consumption and is the equivalent of powering about 270 Dutch homes for one year. The installation of the photovoltaic array lands the Arena right up there among the top of European 'solar stadiums'. The installation of the rooftop solar system cost approximately 1.6 million euros.

The Amsterdam Arena runs the sustainability programme in conjunction with a total of close to forty Green Deal partners who are willing to invest time, expertise, services and funds into the greenification of the Arena. They will help the Amsterdam Arena to reduce CO<sub>2</sub> emissions through smart transport, waste reduction, energy efficiency, clean energy and innovative sustainable solutions.

<http://www.amsterdamarena.nl/Organization/Sustainability.htm>

Amsterdam Arena Sustainability Programme:  
<http://www.abrarenas.com.br/site/downloads/sustentabilidade.pdf>





## Architour by bus

- 3D Print Canal House, Badhuiskade 11, 1031 CL Amsterdam
- Buiksloterham area

## **3D Print Canal House**

The 3D Print Canal House is an exhibition, research- and building site for 3D Printing Architecture. A unique project where an international team of partners collaborates in 'research & doing' linking science, design, construction and community, by 3D printing a canal house at an expo-site in the very heart of Amsterdam.

In April 2013 a letter of intention was signed with the aim of building the world's first 3D printed Canal House. The Canal House is an initiative of DUS architects and will be printed with the Kamermaker, a major mobile 3D printer that was developed by the architects. The Kamermaker can print entire interiors with dimensions of 2 x 2 x 3,5 meters. The design of the house consists of several rooms, each of which is printed on the construction site before they are assembled into one Canal House.

3D printing a canal house, the symbol of Amsterdam, shows the world how to combine traditional local values with new innovative ideas. The 3D Print Canal House is built from January 2014 in Amsterdam Noord. Each new 3D print that comes out of the printer is exhibited and tested on the construction site. The Kamermaker aims to print with a material that is sustainable, of biological origin, melts at a relatively low temperature, and of course is sturdy and stable. And they are now researching the possibilities of printing with recycled materials.

The 3D Print Canal House is a 3 year research and development project. The knowledge that is gained by building the Canal House will be shared with the community through the website and expo center. Hopefully the final building will become a hub for innovation and new production techniques and materials for the building industry.

<http://3dprintcanalhouse.com/>



Video: <http://www.bbc.com/news/technology-27221199>



## **Buiksloterham**

Buiksloterham is a former industrial area covering 100 hectare, where the municipality plans to develop 2700 dwellings until 2030. An additional 2000 dwellings will be built by private house-builders - and several can already be seen.



Located just a short distance from Amsterdam Central Station, this large, empty area is ripe with redevelopment opportunities. The project involves the redevelopment of 100 hectares, featuring a range of different new uses and possibilities. The driving ambition of the project is to ensure that the area becomes as sustainable as possible. The participation of current and future Buiksloterham residents as well as visitors to the area is a fundamental aspect of the project.

The area is ideal for trialling pilot schemes using new techniques and systems, while it also provides the perfect opportunity to test new processes from the outset. By approaching the project with the considerations of water, energy, waste and food in mind, Buiksloterham will be able to function as a Living Lab, facilitating trials of smart urban solutions.

By the end of 2014, a plan for the redevelopment of Buiksloterham needs to be finalised and the ambitions need to be clearly defined. The initial ambitions for each element of the project will be subject to constant fine-tuning. After all, the redevelopment of the area will be a step-by-step process lasting several years.



<http://amsterdamsmartcity.com/projects/detail/id/81/slug/buiksloterham>

Case Study Amsterdam Buiksloterham: <http://context.verdus.nl/upload/forum/s.dembksi@uva.nl/CONTEXT-Report-2.pdf>



## Smart Start Ups at Rockstart.com

Rockstart is the startup acceleration company that builds formats to support the growth of startups -new, innovative growth companies- in the first 1000 days. The company provides the most promising startups from around the world with access to capital, resources and networks, offering our participants a support infrastructure critical for success.

**Rockstart Answers** has become an international format that plays a central role in local startup ecosystems. Rockstart Answers offers fast-paced events that help early-stage startups with hands-on advice. The many-to-one feedback format and the vibrant mixture of appealing startups and helpful experts captures the essence of our events.

<http://rockstart.com/>



we love startups

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TUE 04 NOV 2014 13:00 - 18:00

**INNOVATE LIKE A STARTUP**



THU 06 NOV 2014 08:00 - 09:00

**STARTUP YOGA**



FRI 07 NOV 2014 10:00 - 17:00

**STARTUP CAFE #5**




**ROCKSTART ANSWERS STATS**

162 STARTUPS PITCHED

33 EVENTS

595 EXPERTS

15 CITIES  
5 COUNTRIES

716 CROISSANTS CONSUMED :)



**ROCKSTART ACCELERATOR BY THE NUMBERS**

**ROCKSTART ACCELERATOR STATS**

39 STARTUPS

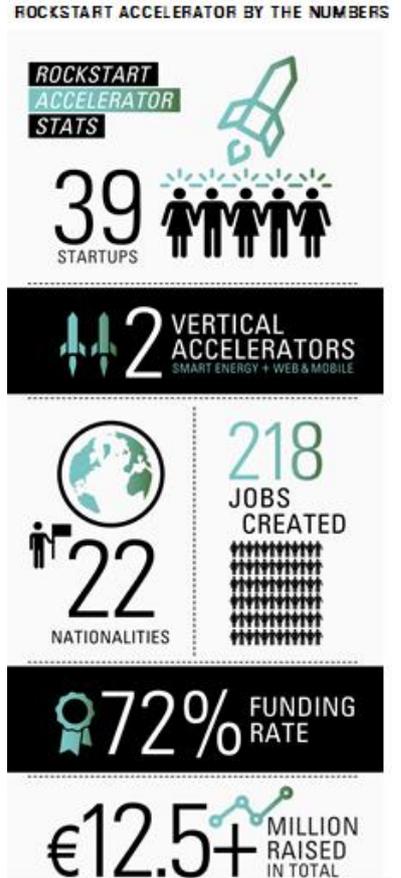
2 VERTICAL ACCELERATORS  
SMART ENERGY + WEB & MOBILE

218 JOBS CREATED

22 NATIONALITIES

72% FUNDING RATE

€12.5+ MILLION RAISED IN TOTAL



Thursday 30th of October, 2014 (Eindhoven)

## City of Eindhoven and economic development in the area

The agreement between the council and the market participant will initially be valid for a period of five years, with an option to extend it to 2030. The market participant will indicate in the agreement in which, and how many, of the above mentioned areas they intend to work. In addition, the market participant will work from a testing ground approach (living labs), collaborating with other businesses, knowledge institutions, government and residents on the realisation of what



is known as a smart lighting grid. Any existing or still to be developed products and services connected to it can be marketed by the market participant. The starting point here is continuous and open innovation.

<http://www.eindhoven.nl/projects/intelligent-lighting/Living-labs-in-ten-areas.htm>

## Story on the Eindhoven Entrepreneurial Climate, High Tech Campus Eindhoven

High Tech Campus Eindhoven is the smartest km<sup>2</sup> in The Netherlands with more than 125 companies and institutes, and some 10,000 researchers, developers and entrepreneurs working on developing future technologies and products. The Campus helps accelerate innovation by offering easy access to high tech facilities and international networks. Campus companies (a.o. Philips, NXP, IBM, Intel) strategically decide what knowledge, skills and R&D facilities they share in order to achieve faster, better and more customer-oriented innovation in the application fields Health, Energy and Smart Environments. The companies at High Tech Campus Eindhoven are responsible for producing a wide range of innovations.



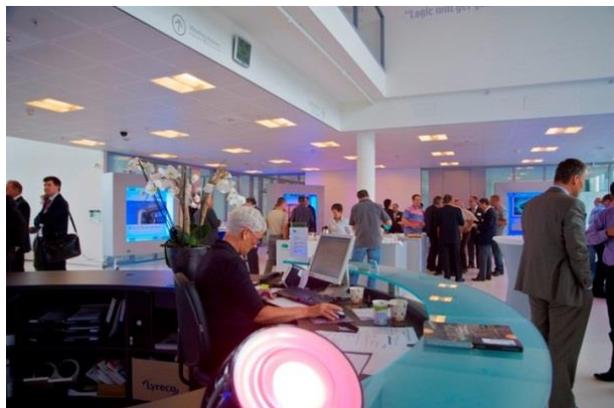
Fields of application with a solid presence are Health, Energy & Smart Environments.

**Health:** With its sub domains Personal Health & Wellbeing and Microsystems Medicine. This field specifically includes equipment and technology for care provision, the receipt of care and monitoring and analysing health.

**Energy:** With its sub domains Solar Generation and Solar Storage. This field specifically includes the development of effective systems with high efficiency and a long life span as well as storage of energy and the flexible (mobile) use of it.

**Smart Environments:** With its sub domains Personal Entertainment and Smart Environments. This field specifically includes the way in which technology is deployed in our day-to-day life; in other words systems that are portable, wireless, concealed, intelligent and/or autonomous.

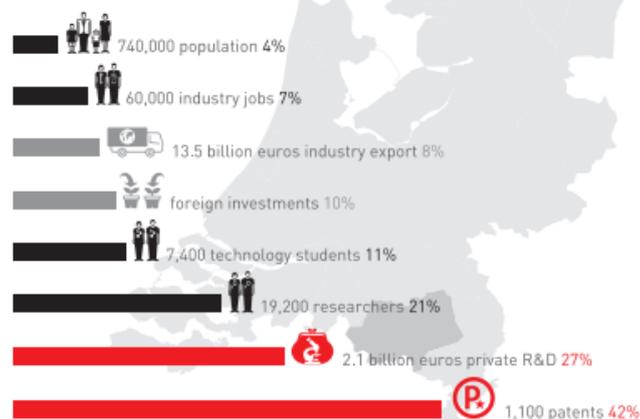
[www.hightechcampus.nl/](http://www.hightechcampus.nl/)



## Brainport Eindhoven and Living Labs

Brainport, with Eindhoven at its heart, has become Europe's beating high-tech region in recent years. Not just a place on the map but a state of mind. This is the Brainport philosophy, a unique form of collaboration that lays the foundation for open innovation: sharing knowledge to multiply knowledge. High-tech and design go hand in hand with top-quality manufacturing and entrepreneurship. Brainport is so much more than the sum of its parts and, as such, is an accelerator of growth. Collaboration and cooperation, a considerable dose of intelligence and the ability to constantly adapt help accelerate the economy and get the individual moving, attracting talented students, knowledge workers, entrepreneurs and investors from around the world.

### SHARE OF BRAINPORT EINDHOVEN REGION IN DUTCH INNOVATION



**Living labs in ten areas:** The city council of Eindhoven has designated ten areas in the city for the first phase of implementing the Roadmap. The areas are diverse in type, all have (within a few years) access to fibre optic connections and all need, in varying degrees, maintenance to the public lighting systems. They include two important traffic routes and eight residential areas: They include two important traffic routes and eight residential areas: Route John F. Kennedylaan - Eisenhowerlaan, Route Ring, Church Village Acht, Jagershoef, 't Hool, Vlokhoven, Schrijversbuurt, Gijzenrooi, Blixembosch-West and Woenselse Heide (West). Two of these neighbourhoods, 't Hool and Vlokhoven, are disadvantaged areas. They are the focus of extra attention to improve the living environment and remove as much of the deprivation as possible (both individual and collective).

<http://www.brainport.nl/en>

<http://www.eindhoven.nl/projects/intelligent-lighting/Living-labs-in-ten-areas.htm>

Pocketflyer Brainport Eindhoven Region: <http://www.brainport.nl/en/about-brainport/downloads/bpr-pocketflyer-eng>

**Friday 31st of October, 2014 (Eindhoven)**

**Lessons learned**