



Project Newsletter - January 2022 - N°3

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ENVISION NEWSLETTER

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Dear reader,

The Envision project is moving towards its completion.

During the previous months and years, the project had suffered from delays in completing testing and installations of the proposed technologies, also due to the spread of the COVID-19 pandemic. Therefore, the latest updates are related to the successful conclusion of the installations within the Northern demo sites, both in Netherlands and Austria, and the validation at the Savona Campus in Italy, of the Southern demo.

Considering the Northern sites, two different technologies have been applied: photovoltaic windows, and heat-harvesting façade in combination with a heat pump.

In Helmond (Netherlands), three houses of social housing corporation Compaen have been equipped with solar panels, heat-harvesting elements on façade and a heat pump. In Eindhoven, the same modifications have been installed for two demo locations by housing corporation Trudo. At the third Trudo demonstration site, solar panels have been placed on the roof, and a new prefab “energy shed” has recently (week 50) been placed in the back yard of the house. This energy-shed is built with heat-harvesting roof- and façade elements and also equipped with a heat pump.

At all Dutch demo sites, the photovoltaic panels on the roof generate electricity that is used to feed the heat pump, which, in turn, absorbs heat from the innovative façade on the house and the shed, respectively. The harvested energy is then used to heat tap water and radiators in the building. In order to guarantee a high performance, the structures have first been well insulated and made airtight. Subsequently, they have been equipped with a suitable balance ventilation system to avoid heat losses.

The goal of the Dutch demo is to demonstrate that the combination of solar panels, heat pump and click-on heat-harvesting façade elements can result in energy neutral or energy-positive houses, while not compromising or even enhancing the buildings' aesthetic appearance. In the Netherlands, this development supports the national goal to move away from (fossil) methane as a heating source for the built environment.

Currently, four of the six demo sites in Eindhoven and Helmond have been successfully finalized, while the remaining two sites are undergoing the last installations, adaptations and modifications. A measuring and tracking system for temperatures, air quality and energy use has been installed, so that the performance can be continuously monitored in the coming months and also after project completion.

Happy reading,

Dr. Ir. Bart Erich

Coordinator of the ENVISION-project

ENVISION LATEST UPDATES



***Heat Harvesting panel installed
in the site of Eindhoven***



***Installation of a prefabricated module
with heat harvesting walls, roof and
equipped with a heat pump***



***Heat harvesting panel
installed on a façade in
Helmond***

Interview to Harold van de Ven – NBA ARCHITECTEN

How did you come to know about the opportunity to join ENVISION Project's Consortium?

Some project-partners quit the consortium because of different reasons, but our company NBArchitecten is well known because of their sustainability achievements.

For example, in 2018 we delivered 'De Willem en de Zwijger', two zero energy social housing apartment buildings with Building Integrated PV (BIPV) in the façades. The project won the Most Sustainable Building 2018 Award in the Netherlands.

Last year we accomplished a study (and delivery) of a Circular, Biobased, Energy-zero and Biodivers social housing concept. All built in a factory. 34 houses are being built right now.

I had personal contacts with Dr. Erich and I had the opportunity to talk about the Envision project well before there was the possibility to join the consortium. Then, due to some changes, there was the possibility to join it as partner, so we took the opportunity as it was an interesting topic for our work.

Why did you decide to join ENVISION project's consortium?

To support TNO coordination for the installation of the ENVISION technologies in the Northern Demo sites, first. At the same time, the Heat Recovery Façade represents for us a great and new opportunity. If we want to exist in the future, it's important to keep on developing ourselves. Innovation is the reason why NBArchitecten exists.

Is the first time you are working for a H2020 research project? If no, was your previous experience useful for the development of ENVISION? How?

In the period of 2016-2020 we worked at the PVopMaat Interreg project. It was related to electric BIPV (Building Integrated PhotoVoltaic). The insight we got from this project was very useful for deepening the solar generated energy technologies and, by consequence, for working on the Envision project. Moreover, the project raised our awareness about the necessity of conserving the energy that we produce by storages. With Envision we might have a solution for that. The first results are very promising.



What do you like the most about the fact of being part of an international partnership?

Open up your mind is good for everyone. The contact with smart international scientists and other consortium partners makes us better. It also brings a lot of knowledge and energy. What you maybe don't know, is that our partnership makes us more trustful for our common clients and partners.

Concerning ENVISION, what's your main role in the project?

NBArchitecten is constituted by architects, we tell people that "We Make It Possible".

The Envision project is at the one hand very scientific and technical. At the other hand we have to deal with the municipality and the welfare committee. That's not the only challenge. We had to find contractors who wanted to join the project. Not everybody can carry out new developments. It's about people, their skills and willingness. At the end it's about the residents. They had to be convinced of the project. They rent their houses; they have to live in it. Convincing skills were necessary.

Interview to Anthonie Stuiver - AKZONOBEL



How did you come to know about the opportunity to join ENVISION Project's Consortium?

Prior to Envision, we were developing a heat harvesting coating for solar thermal collectors for the Dutch market in collaboration with TNO and Emergo. We believed this technology could be part of a bigger initiative, where we would attempt to turn all the different elements of the building envelope into an energy generating system.

Why did you decide to join ENVISION project's consortium?

The objective of Envision was (and still is) close to our heart. But after having seen the impressive consortium, we were quickly sold and swiftly decided to join the consortium.



Is the first time you are working for a H2020 research project? If no, was your previous experience useful for the development of ENVISION? How?


For me personally, this was the first H2020 project. But AkzoNobel had participated in more H2020 projects. This really helped me to understand that we should not only have a solid administration but also have the organizational structure to fully comply with the administrative requirements of the EU.

What do you like the most about the fact of being part of an international partnership?

I like that people from different countries have a different view on the potential of Envision. Europe is a big place and the situation in Spain is completely different to Germany, so it is only natural that we all have a different perspective. But it has helped to strengthen the project. We can now tailor the technologies to a wide range of climates and architectural styles, more than I expected.

Concerning ENVISION, what's your main role in the project?

I was the work package leader for WP2 and coordinated the research activities for the different streams in the project. Additionally, I have been developing the heat harvesting technology for the colored coating of the heat harvesting façades. Here I especially made sure that these would be durable enough to survive a long working lifetime.



DEEP RENOVATION JOINT WEBINAR



19th May 2020

Buildings account for around 40% of energy consumption and 36% of CO₂ emissions in the European Union. Do you know that the annual rate of home and commercial building renovation is well under the 3% required to achieve European climate and energy goals?

We are glad to announce that our Project Coordinator will present ENVISION latest results in the framework of the “Deep renovation Join Webinar” hosted by the European Portal for Energy Efficiency in Buildings on 19th May. The aim of the “Deep renovation Joint Webinar” is to raise awareness on the most innovative building renovation and energy saving solutions and to present the technologies developed by three innovative projects co-funded by the European Commission in the framework of Horizon 2020 research and innovation programme: P2Endure, EENSULATE and, of course, ENVISION.

SUSTAINABLE PLACES 2021



30th September 2021

ENVISION took part at ‘Sustainable Places 2021’ on 30th September in Rome.

The project was presented in a workshop dedicated to “RHC solutions for buildings and industry”. This workshop is part of the session “Towards NZEB deep renovation with RHC technologies: barriers or challenges”. Together with other H2020 projects, ENVISION had the possibility to present its main efforts and outcomes related to the heating and cooling solutions for buildings. This event represents the chance to create synergies among other sister projects in the field of building renovation and smartification in the European Horizon 2020 framework.

www.sustainableplaces.eu/renewable-heating-and-cooling-solutions-for-buildings-and-industry

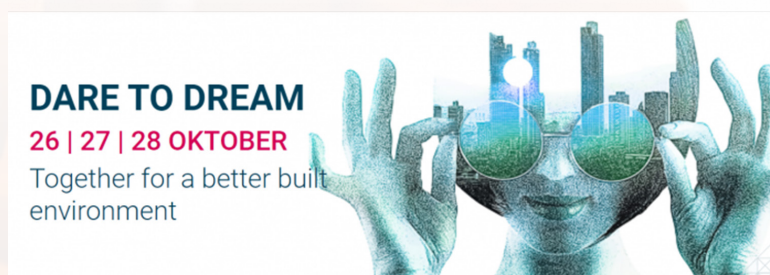
DETAIL KONGRESS IN STUTTGARD



21st October 2021

Christian Eibl from Pilkington Deutschland AG took part to the German "DETAIL Kongress – Entwerfen, Umhüllen, Konstruieren" on the topic of architecture and façades on 21st October in Stuttgart. There he – amongst others – talked about the ENVISION technologies developed by and with the Pilkington group.

PROVADA 2021



27th October 2021

Provada is the biggest real estate exhibition in Netherlands where stakeholders met innovations offered in the field. Envision project had the chance to present its innovation energy harvesting façade technology.

The new spin-off Calosol BV is based on technology developed by the ENVISION project, TNO, Emergo and AkzoNobel. On 27th October, TNO and Emergo presented Calosol and its energy-harvesting façade panel technology at the largest Real Estate Fair of the Netherlands: PROVADA in Amsterdam!

www.rai.nl/en/calendar/provada/

ECTP CONFERENCE 2021



2nd – 3rd December 2021

We are glad to announce that the ENVISION project took part to the ECTP Conference in Madrid from the 2nd to the 3rd December 2021. This conference will feature the EU Construction Industry at the heart of the Built Environment green and digital transitions.



ENVISION participated through the exhibition of a new roll-up collecting the most recent updates on the demo site installations of the project technologies. Conference attendees are invited to visualize and deepen the technologies adopted on the different sites in Northern and Southern Europe by observing the pictures taken from the demo sites and to visit the project website via QR code scan.

www.ectp.org/index.php?id=900



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