



VIP manufacturing process

Integrating VIP in a window
façade system



INNOVIP

Innovative multi-functional Vacuum-Insulation-Panels (VIPs)
for use in the building sector

Consortium

Coordinator

Forschungsinstitut für Wärmeschutz e.V.
München (FIW München), Germany



Project partners

Bavarian Research Alliance GmbH,
Germany



Fraunhofer-Gesellschaft zur Förderung
der angewandten Forschung e.V.,
Germany



Hanita Coatings RCA Ltd., Israel



ITeCons - Instituto de Investigação
e Desenvolvimento Tecnológico em
Ciências da Construção, Portugal



Laboratoire national de métrologie et
d'essais, France



Mostostal Warszawa S.A., Poland



Nordisk Perlite ApS, Danmark



Oxford Brookes University,
United Kingdom



SOPREMA, France



Technología Navarra de Nanoproductos
S.L., Spain



L'Urederra, Fundación para el Desarrollo
Tecnológico y Social, Spain



va-Q-tec AG, Germany



Project profile

Project: INNOVIP (Innovative multi-functional Vacuum-
Insulation-Panels (VIPs) for use in the building sector)

Funding programme: The INNOVIP project receives funding
from the European Union's Horizon 2020 research and
innovation programme.

Project number: 723441

Project duration: October 2016 – September 2019

Total budget: EUR 5.9 million (EUR 4.9 million EU funding)

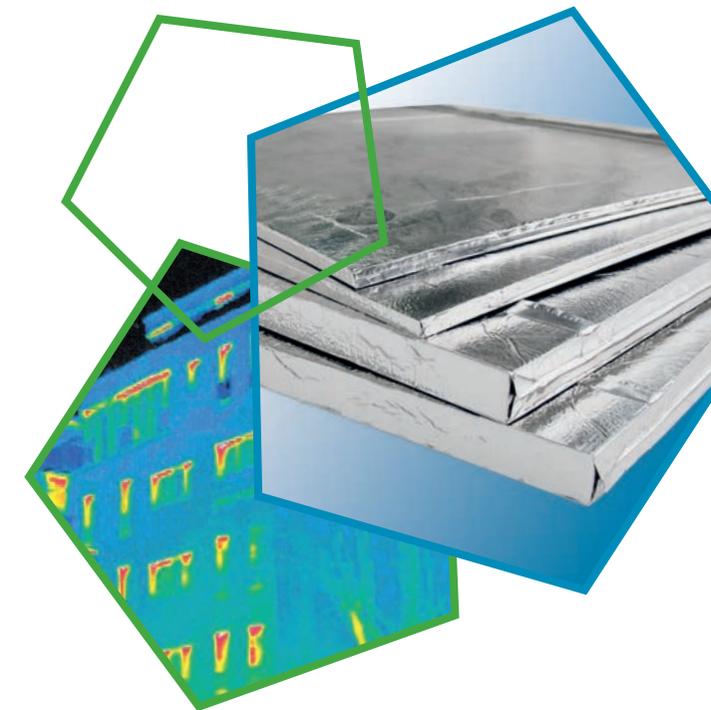
Coordination & technical information

Christoph Sprengard
Forschungsinstitut für Wärmeschutz e.V. München (FIW
München)
Lochhamer Schlag 4
82166 Graefelfing, Germany
Phone: +49 89 8580058
E-mail: sprengard@fiw-muenchen.de

General information

Dr. Daniel Kiessling
Bavarian Research Alliance GmbH (BayFOR)
Prinzregentenstrasse 52
80538 Munich, Germany
Phone: +49 911 50715-920
E-mail: kiessling@bayfor.org

www.innovip-h2020.eu



Credits: va-Q-tec AG, Hanita Coatings



This project has received funding from the European
Union's Horizon 2020 research and innovation
programme under grand agreement no. 723441



Perlite as the new filler for vacuum insulation panels



Use of VIP for heat insulation on exterior walls



Panel assembly

Efficient building insulation with vacuum insulation panels

Buildings account for a particularly large proportion of global CO₂ emissions (40%)¹. As a consequence, EU Commission regulations require an 80 to 95% reduction in the CO₂ footprint of private and office buildings in Europe by 2050 compared to 1990 levels². Effective insulation systems in buildings will play a key role in achieving these targets.

Vacuum insulation panels, or VIPs, are particularly promising in this regard. Evacuated materials can be extremely good insulators (far better than their non-evacuated equivalents) and panels based on them offer highly effective and space-saving solutions. Compared with conventional insulating materials however, VIPs tend to be relatively costly and difficult to use. They also can have shorter service lives than conventional insulation materials and there is scope to improve their sustainability.

The EU project INNOVIP will progress VIP technology by addressing these key issues. The project will use innovative technologies and develop new materials, as well as improve production processes. Using a new type of protective envelope and alternative fillers – for example ground perlite – the INNOVIP consortium is aiming to finally make this highly-efficient solution competitive.

¹ <http://www.wbscd.org>

² cf. "A Roadmap for moving to a competitive low carbon economy in 2050" dated March 8, 2011

Objectives of INNOVIP

The EU project INNOVIP aims to achieve a fundamental improvement in vacuum insulation panels (VIP) for building insulation. Particular attention will be given to efficiency, price and service life. The solutions developed within the project will be flexible and suitable to both new and existing buildings (either internally or externally). In the long term, it is anticipated that these solutions will contribute significantly to reducing buildings' CO₂ footprints.

The new VIPs are anticipated to offer the following features:

- Thermal performances improved by at least 25%
- Manufacturing costs reduced by 30%
- Service life increased to circa 50 years
- Simplified handling and assembly
- Numerous additional features including anti-mould coatings, increased fire resistance and improved air quality in buildings
- Improved sustainability as a consequence of lower energy consumption throughout product life cycles and use of recyclable materials

Benefits for society

Market breakthrough for vacuum insulation panels

Conventional vacuum insulation panels are still niche products in part due to their cost. However, the more economical and higher-efficiency panels developed in INNOVIP will facilitate improved mass-market applications.

Reduction in CO₂ footprint

The EU Commission is requiring dramatic improvements in the CO₂ footprints of buildings. Existing properties, in particular, are often constructed to poor standards of energy efficiency and require extensive upgrading. For example, some 40% of buildings in the European housing sector pre-1960 were constructed out-with of any energy regulations.³ INNOVIP products will be highly applicable to thermal refurbishments within this sector.

Creation of new jobs

The research findings from INNOVIP should allow the creation of new jobs, primarily in construction companies and the skilled craft sector. The demand for skilled workers to construct new plants, satisfy the growth in production volumes as well as conduct research and testing will continue to grow steadily leading to an expected 5,000 new jobs throughout Europe in the next five years.

³ Comparing European Residential Building Stocks: Performance, Renovation and Policy Opportunities, Meijer, Itard, Sunikka-Blank, Building Research and Information, 2009

