Funded under:

H2020-EU.2.1.3. - INDUSTRIAL LEADERSHIP - Leadership in enabling and industrial technologies - Advanced materials
H2020-EU.2.1.5.2. - Technologies enabling energy-efficient systems and energy-efficient buildings with a low environmental impact

EENSULATE
Project ID: 723868

Development of innovative lightweight and highly insulating energy efficient components and associated enabling materials for cost-effective retrofitting and new construction of curtain wall facades

From 2016-08-01 to 2020-01-31, ongoing project | EENSULATE Website

Objective

We will validate an affordable (28% reduction of total costs) and lightweight (35% weight reduction) solution for envelope insulation to bring existing curtain wall buildings to “nearly zero energy” standards while complying with the structural limits of the original building structure and national building codes.

Two key commercial insulating products:

- Highly insulating mono-component and environmentally friendly spray foam, EENSULATE foam, for the cost-effective automated manufacturing and insulation of the opaque components of curtain walls as well as for the significant reduction of thermal bridges during installation (SELENA and EVONIK in cooperation with ULSTER);
- Lightweight and thin double pane vacuum glass, EENSULATE glass, for the insulation of the transparent component of curtain walls, manufactured through an innovative low temperature process using polymeric flexible adhesives and distributed getter technology, thus allowing to use both annealed and tempered glass as well as low emissivity coatings (AGC, SAES and TVITEC in cooperation with ULSTER and UNIVPM). A multi-functional thermo-tunable coating will allow for dynamic solar gain control as well as anti-fogging and self-cleaning properties (AGC in cooperation with UCL).

They will enable insulating solutions that Focchi, DAPP and Unstudio will promote with two different levels of performance:

- EENSULATE Basic curtain wall modules where the thermal and acoustic insulation will be provided by the novel EENSULATE glass and EENSULATE foam in the spandrel combined with state of the art low-e coated glass;
- EENSULATE Premium modules integrating the thermo-chromic coated glass with additional self-cleaning and anti-fogging functionalities.

BGTEC will exploit the limited thickness and high insulating properties of the EENSULATE glass to introduce in their range innovative solutions for the fenestration challenges in historical buildings, compatible with the original window frames and sash designs.

Related information
Periodic Reporting for period 1 - EENSULATE (Development of innovative lightweight and highly insulating energy efficient components and associated enabling materials for cost-effective retrofitting and new construction of curtain wall facades)

Coordinator

RINA CONSULTING SPA
VIA SAN NAZARO 19
16145 GENOVA
Italy
EU contribution: EUR 552 125

Activity type: Other
Contact the organisation

Participants

AGC GLASS EUROPE SA
AVENUE JEAN MONNET 4
1348 LOUVAIN-LA-NEUVE
Belgium
EU contribution: EUR 213 500

Activity type: Other
Contact the organisation

SAES GETTERS S.P.A.
VIALE ITALIA 77
20020 LAINATE (MI)
Italy
EU contribution: EUR 585 331.25

Activity type: Other
Contact the organisation

SELENA LABS SPOLKA Z OGRANICZONA ODPOWIEDZIALNOSCIA
UL. POLNA 14-18
55 011 SIECHNICE
Poland
EU contribution: EUR 631 400

Activity type: Other
Contact the organisation
UNIVERSITY COLLEGE LONDON
GOWER STREET
WC1E 6BT LONDON
United Kingdom
See on map
**Activity type:** Higher or Secondary Education Establishments
Contact the organisation

EVONIK NUTRITION & CARE GMBH
RELLINGHAUSER STRASSE 1 11
45128 ESSEN
Germany
See on map
**Activity type:** Other
Contact the organisation

UNIVERSITY OF ULSTER
CROMORE ROAD
BT52 1SA COLERAINE
United Kingdom
See on map
**Activity type:** Higher or Secondary Education Establishments
Contact the organisation

TVITEC SYSTEM GLASS, SL
CALLE VITORIA 38
28693 QUIJorna MADRID
Spain
See on map
**Activity type:** Other
Contact the organisation

FOCCHI SPA
VIA CORNACCHIARA 805
47824 POGGIO TORRIANA
Italy
See on map
**Activity type:** Other
Contact the organisation
Van Berkel & Bos U.N. Studio B.V.
STADHOUDERSKADE 113
1073 AX AMSTERDAM
Netherlands
See on map

**Activity type:** Other
Contact the organisation

EU contribution: EUR 127 461,25

FENIX TNT SRO
DUSIKOVA 906/33
638 00 BRNO
Czechia
See on map

**Activity type:** Other
Contact the organisation

EU contribution: EUR 168 350

BERGAMO TECNOLOGIE SPZOO
ULICA SIENKIEWICZA 5
95050 KONSTANTYNOW LODZKI
Poland
See on map

**Activity type:** Other
Contact the organisation

EU contribution: EUR 289 187,50

UNIVERSITA POLITECNICA DELLE MARCHE
PIAZZA ROMA 22
60121 ANCONA
Italy
See on map

**Activity type:** Higher or Secondary Education Establishments
Contact the organisation

EU contribution: EUR 423 750

GMINA MIEJSKA DZIERZONIOW
RYNEK 1
58200 DZIERZONIOW
Poland
See on map

**Activity type:** Higher or Secondary Education Establishments
Contact the organisation

EU contribution: EUR 163 750

Last updated on 2017-08-17
Retrieved on 2019-07-03
