S2E Slovenia Event | Ljubljana April 7, 2016

- **EIT>**
- **Climate-KIC >**
- **Urban transitions >**
- **BTA Project >**
- **Examples <**

Zeno Winkels
Zeno.winkels@climate-kic.org
www-climate-kic.org
www.bta-climate-kic.org
++46 708582935

eit Climate-KIC

European Institute of Innovation and Technology

- The EIT is the first EU initiative bringing together the three sides of the “knowledge triangle”: business (large companies and SMEs), higher education institutions and research centres.
- The EIT aims to increase the co-operation and integration between higher education, business and research to facilitate the transition from:

student to entrepreneur

idea to product

lab to customer

eit | European Institute of Innovation & Technology

EIT – an integral part of

HORIZON 2020

The EIT contributes to H2020 by addressing societal challenges via the integration of the knowledge triangle

H2020 has a budget of approx. € 80 billion for 2014 to 2020, out of which the EIT has been allocated € 2.7 billion

The EIT will further nurture synergies and complementarities across H2020 and its different initiatives

European Institute of Innovation & Technology

EIT across Europe: KICs' Co-location Centres

Climate-KIC

- Co-location Centre
- Regional Centre (RIC)

EIT Health

- Co-location Centre

EIT Digital

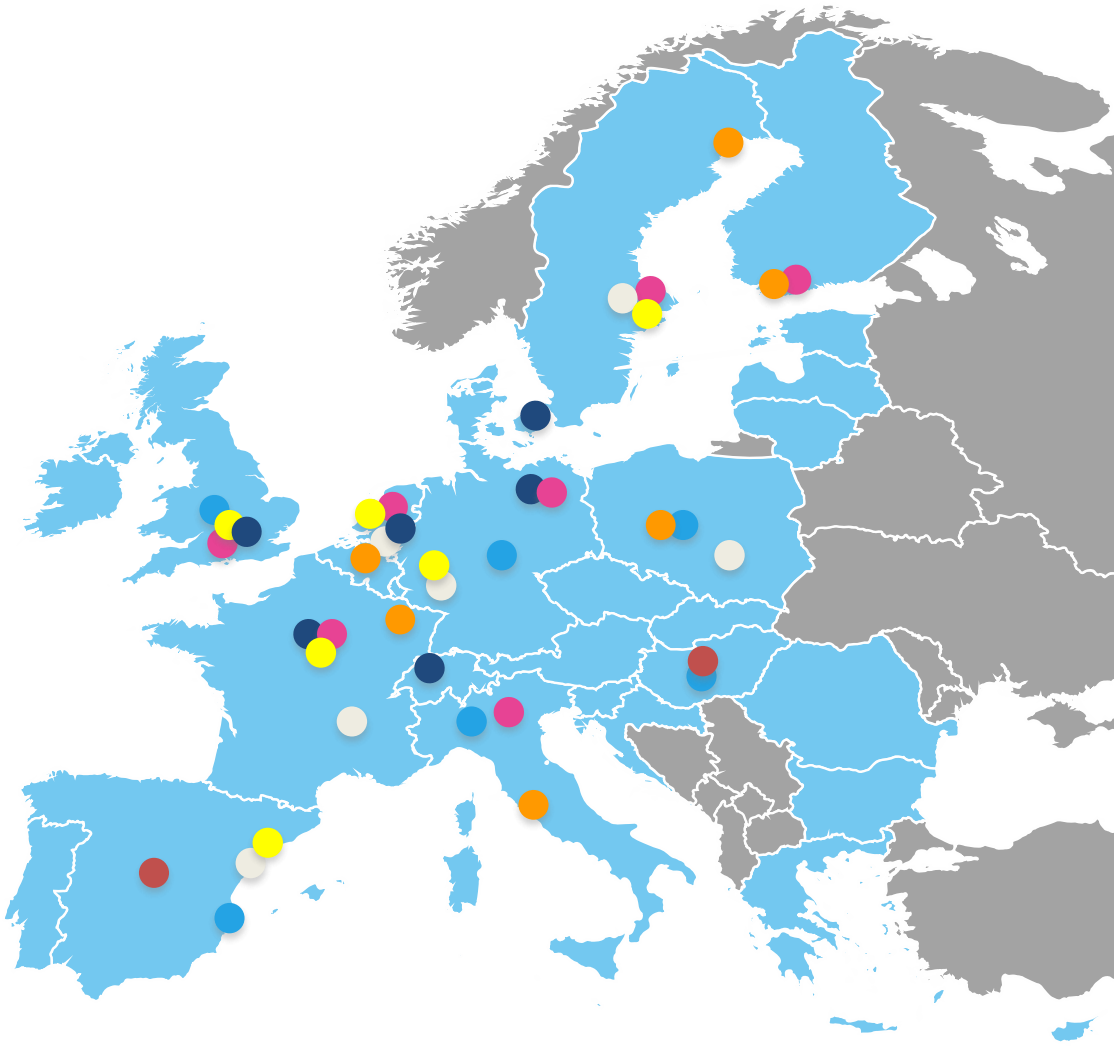
- Co-location Centre
- Associate Partner

EIT Raw Materials

- Co-location Centre

KIC InnoEnergy

- Co-location Centre



eit | European Institute of Innovation & Technology

EIT's first 3 KICs – designated in December 2009

Climate-KIC

EIT Digital

KIC InnoEnergy

EIT's 2 new KICs – designated in December 2014

EIT Raw Materials

EIT Health

European Institute of Innovation & Technology

EIT priorities 2014 – 2020

1 Fostering

growth and impact of first 3 KICS

Climate-KIC

EIT Digital

KIC InnoEnergy

2 Creating

5 new KICs

2014 EIT Health

2014 EIT Raw Materials

2016 EIT Food

2016 EIT Manufacturing

2018 EIT Urban Mobility

3 Sharing and Disseminating

EIT good practices

incl. EIT Regional Innovation Scheme (EIT RIS)

European Institute of Innovation & Technology

Climate-KIC started in 2010…

- Climate-KIC is one of the first three Knowledge & Innovation Communities (KICs)
- Created in 2010 by the European Institute of Innovation and Technology (EIT)
- The EIT is an EU body whose mission is to create sustainable growth
- Climate-KIC supports this mission by addressing climate change mitigation and adaptation
- Climate-KIC brings innovation to market quickly by working with partners from across Europe – something they couldn't do on their own

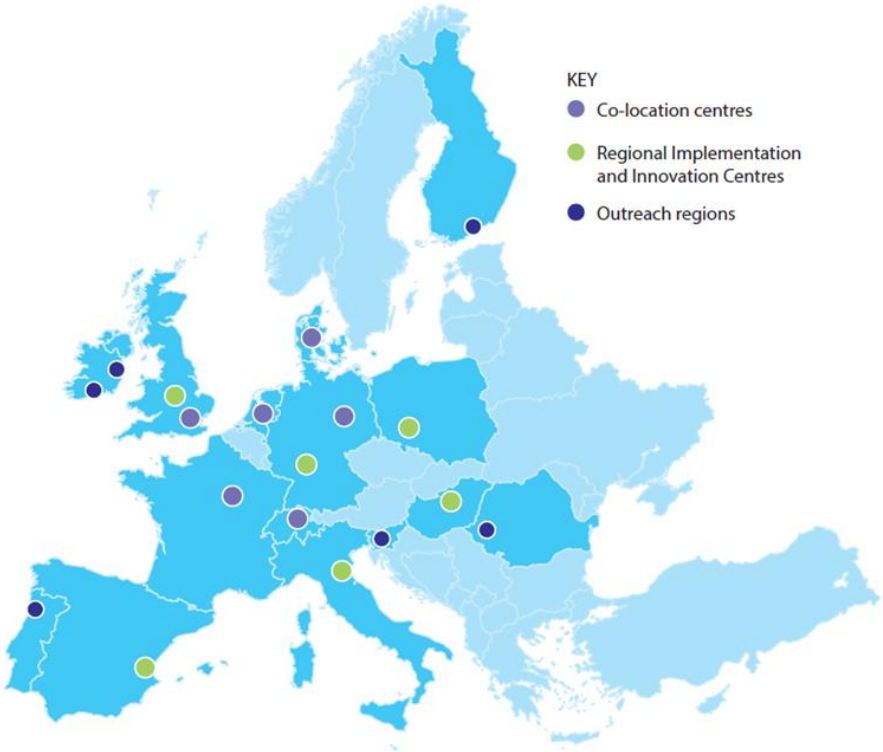
eit Climate-KIC

Little more Climate-KIC ….

- Climate-KIC is the EU's largest public private partnership addressing climate change

- **Mission:** we bring together, inspire and empower a dynamic community to build a zero carbon economy

- **Vision**: to enable Europe to lead the global transformation towards sustainability



eit Climate-KIC

Delivering € 277 million in impact

eit Climate-KIC

How we deliver impact

Climate action

Thematic areas

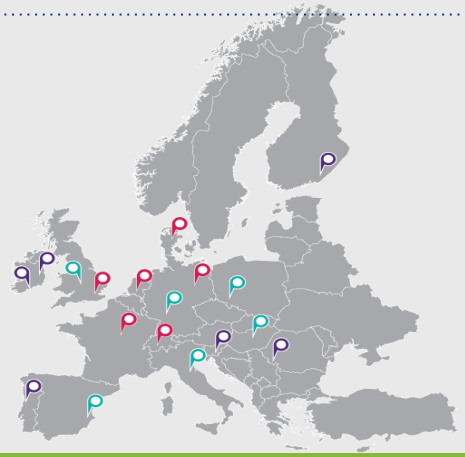
Decision Metrics & Finance

Sustainable production systems

Urban transitions

Sustainable land use

Geographies



Education

Climate-KIC Innovation Framework

1	2	3	4	5
Defining priorities	Ideator	Accelerator	Demonstrator	Scaler

Building Technologies Accelerator (BTA)

A Climate-KIC Flagship Programme

ETH House of Natural Resources
© Marco Carocari / ETH Zurich

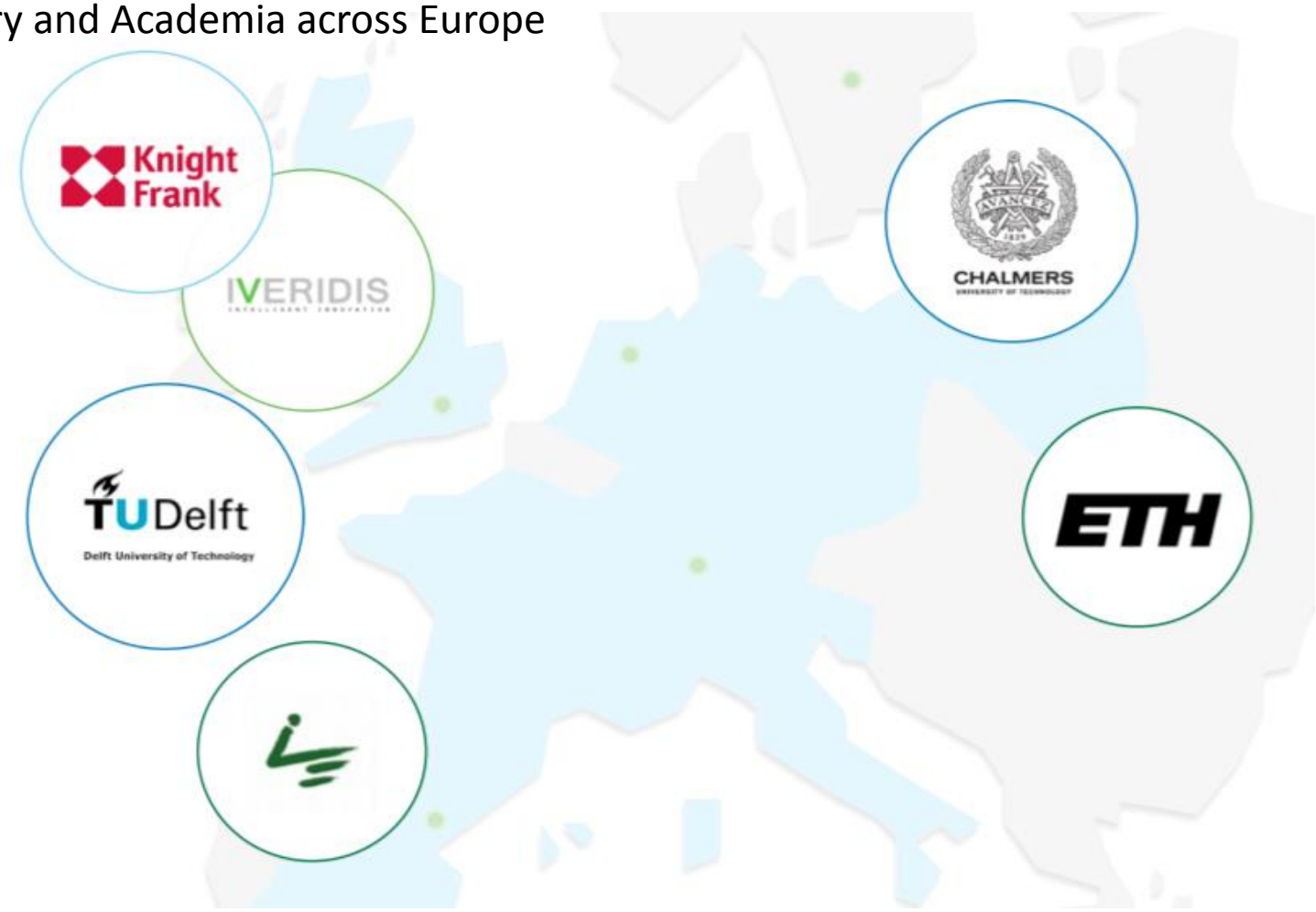
eit Climate-KIC

BTA Goals

eit Climate-KIC

BTA Core Partners

Industry and Academia across Europe



eit Climate-KIC

Market Acceleration of Low-Carbon Technologies

eit Climate-KIC

BTA Living Lab Network

Across major climatic zones

Testing and showcasing sustainable building technologies in a real life setting

eit Climate-KIC

HSB Living Lab

A modular Living Lab to create knowledge of a more sustainable lifestyle in the home.
An arena for research and demonstration.

Location: Gothenburg, Sweden

Website:
www.hsb.se/kampanjer/hsblivinglab/

Partners include

HSB Housing Corporation
Johanneberg Science Park
Chalmers University of Technology

Picture: © Tengbom Arkitektur

HSB Living Lab

Specifications

- 29 apartments, home to 30-40 students and researchers
- Flexible and portable modules
- Focus on design, behaviour, construction and materials
- Co-creation setting to test and develop sustainable home innovations
- >2000 sensors to measure energy and material flows and monitor human/technology-interaction and behavior impacts

Technical focus

- Technology-Behavior-Interactions
- Innovative wall elements and façades
- Home automation
- Next Generation Building Envelope Systems (NGBES)
- Home Energy Management systems (HEM)

Picture: © Tengbom Arkitektur

eit Climate-KIC

Concept House Village

A village of Living Labs in Rotterdam. Concept House Village offers a real life setting to test and showcase sustainable housing technologies in relation to behaviour.

Location: Rotterdam Heijplaat, the Netherlands

Website: www.concepthousevillage.nl

Partners include

Rotterdam University of Applied Sciences
Delft University of Technology (TU Delft).

Each Concept House has its own consortium of partners and sponsors.

Picture: © CHIBB Atelier

eit Climate-KIC

Concept House Village

Specifications

Concept House Village has plans for twelve houses:

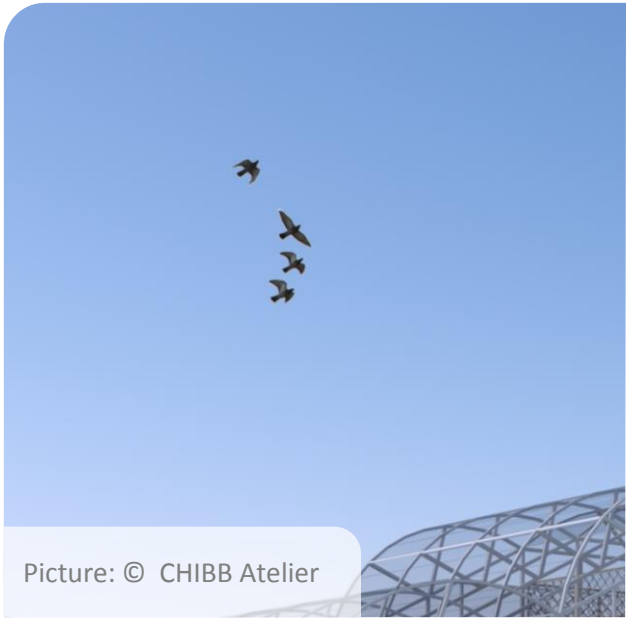
- Retrofitting and new buildings
- Residential and office
- Sustainable ecologically, techologically, socially, economically

Services

- Business coaching
- Matchmaking events with demand side buyers
- For new Labs, Concept House Village offers large building lots in Rotterdam, for rent under favorable conditions.

Technologies

Tested technologies include the TU Delft Prototype 1 house and CHIBB – a fully sustainable and self sustaining house with a glass envelope.



Picture: © CHIBB Atelier

eit Climate-KIC

The Green Village

Accelerate radical innovation of systems for a sustainable future

Location: TU Delft, the Netherlands
Website: www.thegreenvillage.org

Partners include
TU Delft – City of Delft – Shell – Eneco – TNO – Cisco

Picture: © The Green Village

eit Climate-KIC

The Green Village

Technologies

- Green buildings, circular buildings, energy efficiency, electric transport, smart heat grids
- Clean energy, water and air production
- Waste as resource
- The international award winning Prêt-à-Loger house

Services

- Science park: strong connection industry and university
- Sustainable, entrepreneurial community
- Radical innovation
- Rule free zone (for several building and energy regluations)

Picture: © The Green Village

eit Climate-KIC

ETH House of Natural Resources

Development, testing, implementation, monitoring and showcasing of structural elements made of wood and façade systems.

Location: Zurich, Switzerland
Website: http://www.honr.ethz.ch

Partners include

ETH Zürich – Häring AG –
Federal Office for the Environment FOEN –
Swiss Commission for Technology and Innovation CTI

Picture: © Mario Carocari / ETH Zurich

eit Climate-KIC

ETH House of Natural Resources

Specifications

- A real life office building: ETH Zurich's research laboratory for sustainable construction using hardwood.

Technical focus

- Structural wooden elements, Façades
- Post-tensioned timber frames
- Hybrid composite slabs
- Wooden façade surface protection
- Adaptive solar façade

Picture: © Mario Carocari / ETH Zurich

eit Climate-KIC

CIES Living Lab

Prototype, test and develop sustainable building technologies for the Mediterranean climatic zone.

Location: Castellón, Spain
Website: www.cieslivinglab.com

Partners include

Castellon City Council –
Valencia Institute of Building (IVE)–
Technological Institute
of Ceramics (ITC)

Picture: © Instituto de Tecnologia E Ceramica

eit Climate-KIC

CIES Living Lab

Specifications

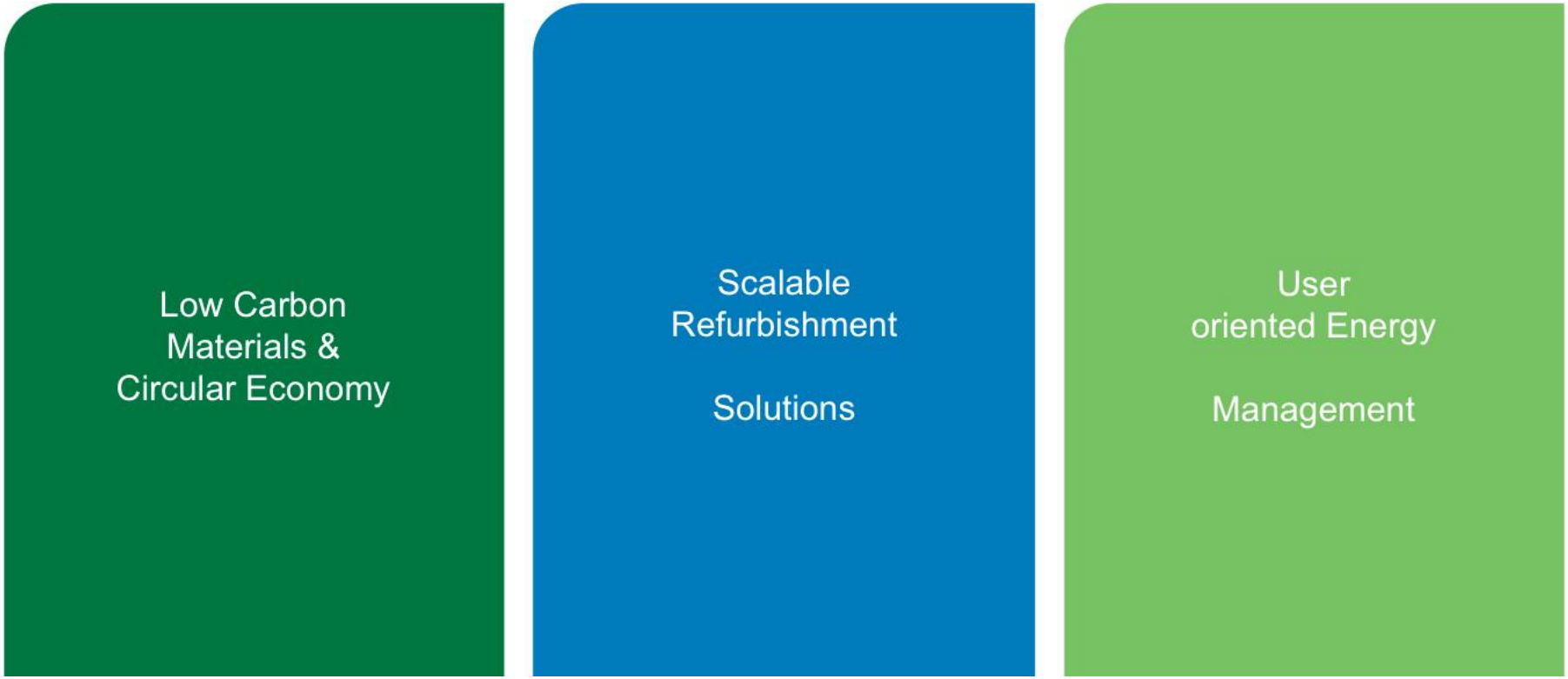
- Office building complex with a built area of 2700 m2
- 22 office rooms of 25 to 50 m2 each, and 6 sheds of 150 m2 each

Technical focus

- Innovative building structures
- Innovative façade systems
- Energy management systems
- Innovative work environment
- NIR Reflective Façade System
- Smart and Sustainable Offices (with Chalmers)
- Innovative wind turbine

Picture: © Instituto de Tecnologia E Ceramica

eit Climate-KIC



eit Climate-KIC

Smart Sustainable Offices

How it works

- Better understanding user demands leads to reduced office space
- Holistic approach: economic, environmental and social sustainability
- Optimized use of resources, increased energy efficiency, reduce greenhouse gas emissions and costs

Target market

Existing and new offices

Leading institution

Valencia Institute of Building (IVE) and Chalmers University of Technology

eit Climate-KIC

Home Energy Management

How it works

- High resolution in time (origin of peaks) and space (impact micro activities)
- Predicts tenants' energy consumption after self-learning phase
- Improves the use of smart metering devices
- Empowering property owners in negotiating with energy suppliers
- Practical application: improvement of refrigerated display cabinets incl. understanding user behavior impacts at supermarkets

Target market

Market players that have an interest in energy demand for sustainable supply and technology inclusion.

Leading institution

Chalmers University of Technology

eit Climate-KIC

Post-Tensioned Timber Frame

How it works

- Pre-stressed tendon connects glulam columns to glulam beams
- Fast assembly
- Easy building construction
- Pre-fabricated elements guarantee high quality
- No additional steel elements are required

Target market

Construction companies, architectural and engineering firms

Leading institution

ETH Zurich

Picture: © ETH Zurich

eit Climate-KIC

2nd Skin Façade System

How it works

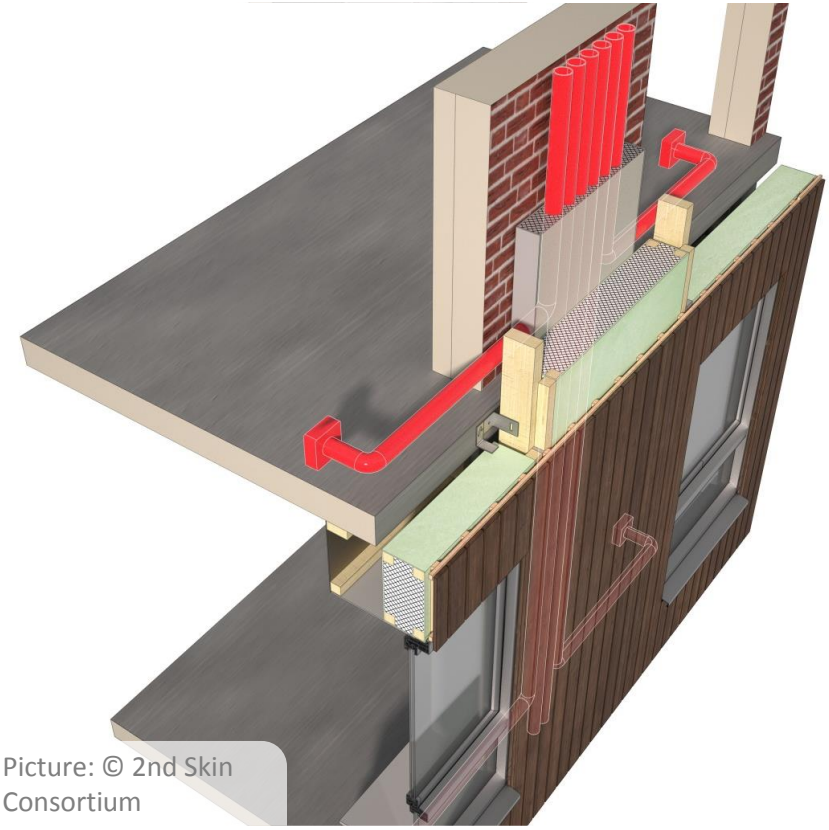
- A pre-fabricated, lightweight building envelope for renovation
- Fast and easy installation
- Integration of heating, cooling, ventilation and energy-generating
- Minimal disturbance: during maintenance and installation occupants can stay in their home
- Suitable for large-scale implementation

Target market

Pos WWII multi storey apartment buildings

Leading institution

TU Delft



Picture: © 2nd Skin Consortium

eit Climate-KIC

Adaptive Solar Façade

How it works

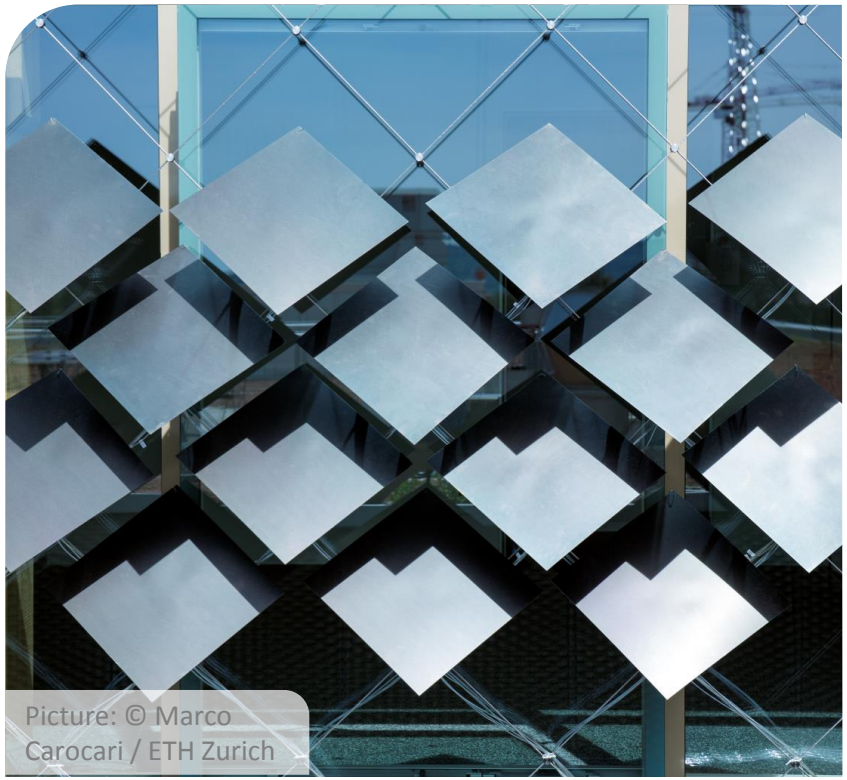
- Solar façade consists of thin-film PV modules and a lightweight structural frame.
- Solar panels track the sun using a lightweight pneumatic actuator
- Structural frame is easy to install on building surfaces (windows, roofs)
- Suitable for mass production

Target market

Homeowners, industrial buildings, commercial building owners (incl. banks, insurance, hotels)

Leading institution

ETH Zurich



Picture: © Marco Carocari / ETH Zurich

eit Climate-KIC

BTA Technology Pool

A virtual marketplace that brings together the **demand and supply sides** of low-carbon building technologies

✓ Do you offer a sustainable building technology?

Register (for free) and get found by a huge network of buyers!

✓ Are you looking for energy-saving building solutions?

The BTA Technology Pool enables you to:

- Access a global network of low-carbon technologies
- Decrease capital costs and risks
- Identify the best technology for your building projects
- Increasing sourcing process efficiency
- Run innovation calls and competitions

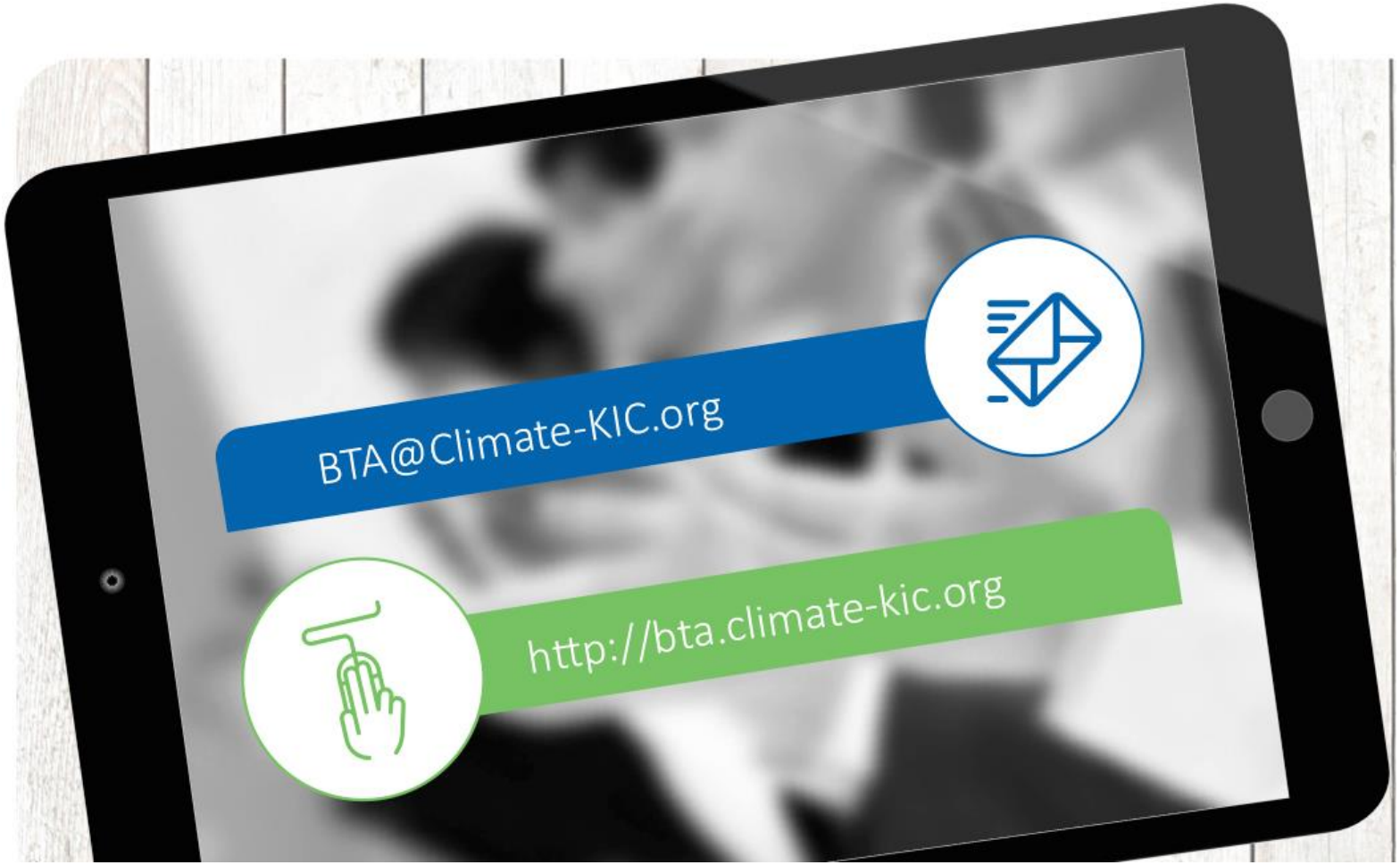
More information:

BTA.Climate-KIC.org

Under 'Services'

eit Climate-KIC

Get involved!



eit Climate-KIC