

17-21 JUNE 2019

EU SUSTAINABLE ENERGY WEEK

SHAPING EUROPE'S ENERGY FUTURE

**NEW EPBD: THE VALUE OF
ACTUAL PERFORMANCE AND
DIGITALISATION**



#EUSEW19

**EUSEW19 session "lucky" 13: Wednesday 19 June, 9h00 – 10h30
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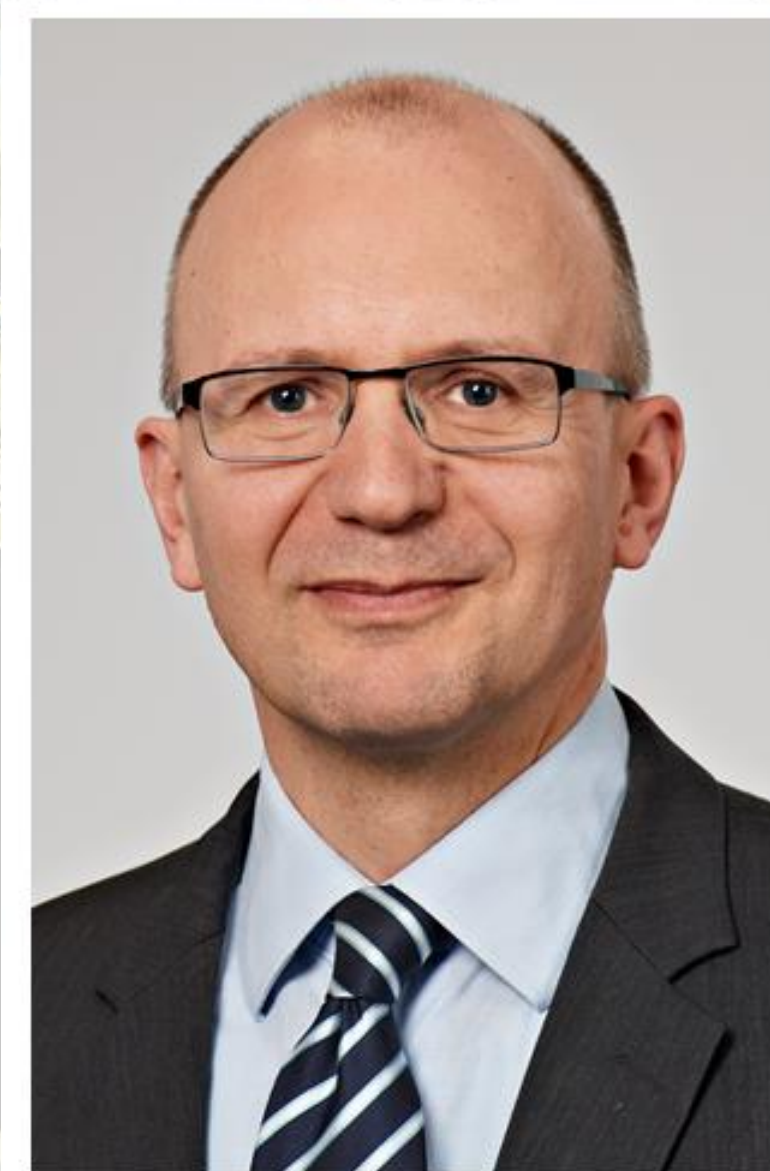
Introducing the chairpersons!



Frank HOVORKA
President-elect,
REHVA



Michael VILLA
Senior Policy Adviser,
smartEn



Peter HUG
Managing
Director, eu.bac

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09:00

Welcome and opening

Frank Hovorka, President-elect, REHVA

Presentations

Chaired by Frank Hovorka, President-elect, REHVA

09:05

Putting the EPBD pieces together: EPB standards, SRI & de-risking investments

Sylvain Robert, Policy Officer, DG ENER

09:15

Beyond building certification: verified performance, indoor climate and the evolution towards building renovation passport

Johann Zirngibl, R&D Projects Director, CSTB / ALDREN & CEN-CE projects

09:25

Smart buildings and performance monitoring, the role of BACS

Bertrand Deprez, Vice President EU Government Affairs, Schneider Electric

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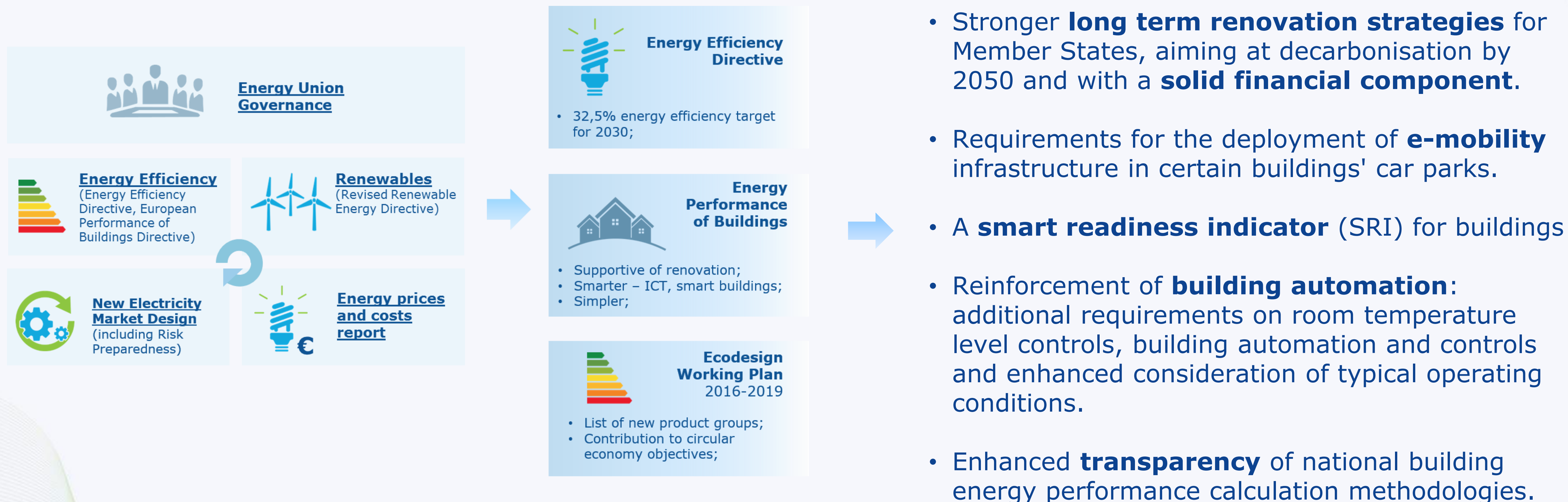
Sylvain ROBERT
Policy Officer, DG ENER

Putting the EPBD pieces together: EPB standards, SRI & de-risking investments

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Clean Energy for all Europeans Package & the EPBD



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Annex I of the EPBD

Common general framework for the calculation of energy performance of buildings

- Improving transparency and consistency of the existing regional/national calculation methodologies
 - Keeping freedom and flexibility of Member States to adapt their national or regional calculation methodologies to local and climatic conditions
 - Putting more emphasis on health, indoor air quality and comfort levels and on the optimal performance of the building envelope
 - Considering Primary Energy Factors (PEFs) and the treatment of on-site/off-site renewables
- ➔
- New obligation for Member States to describe their national calculation methodology following the national annexes of the overarching standards developed under mandate M/480
 - Improve transparency and comparability
 - Not an obligation on MS to comply with the EPB standards
 - MS have flexibility to adapt the calculation methodologies to local and climatic conditions

Smart Readiness Indicator

An optional common Union scheme for rating the smart readiness of buildings

- Raise awareness about the benefits of smart technologies in buildings
- Support and orient investments in smart technologies
- “(...) Three key functionalities relating to the building and its technical building systems:
 - (a) the ability to maintain energy performance and operation of the building through the adaptation of energy consumption (...);
 - (b) the ability to adapt its operation mode in response to the needs of the occupant (...), maintaining healthy indoor climate conditions (...); and
 - the flexibility of a building's overall electricity demand (...)
- Establishment thanks to a delegated act for definition and calculation methodology and an implementing act for implementation modalities
- The indicator is developed by the Commission, with the support of technical studies:
 - 1st technical study: March 2017 – August 2018
 - 2nd technical study: started in December 2018
- Adoption by mid-2020
- Extensive consultation of Member States and stakeholders



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Energy efficiency financing

Tackling the investment gap

Smart Finance for Smart Building Initiative
aims at unlocking investments and private
financing through:



Aggregation of projects



De-risking



Effective use of public funding



- Flexible **financing platforms** at national level, mixing different strands of public financing (i.e. ESIF, EFSI).
- Facilitate the use of **Energy Performance Contracting** for the public sector
- European Local Energy Assistance (ELENA) - **Technical assistance** to develop large-scale projects
- De-risking Energy Platform (DEEP) - **database** aiming at de-risking energy efficiency investments
- EFFIG Underwriting toolkit - **guide** which aims to assist financial institutions to scale up their deployment of capital into energy efficiency.

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Johann ZIRNGIBL
R&D Projects Director, CSTB
ALDREN & CEN-CE projects

**Beyond building certification:
verified performance, indoor
climate and the evolution towards
building renovation passport**

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Why « beyond » energy certification?

The situation

- only about **1-2% of the building stock** is renovated each year,
- around **85 % of building refurbishments do not** incorporate significant **energy efficiency improvements** (energy is not the trigger of renovation)

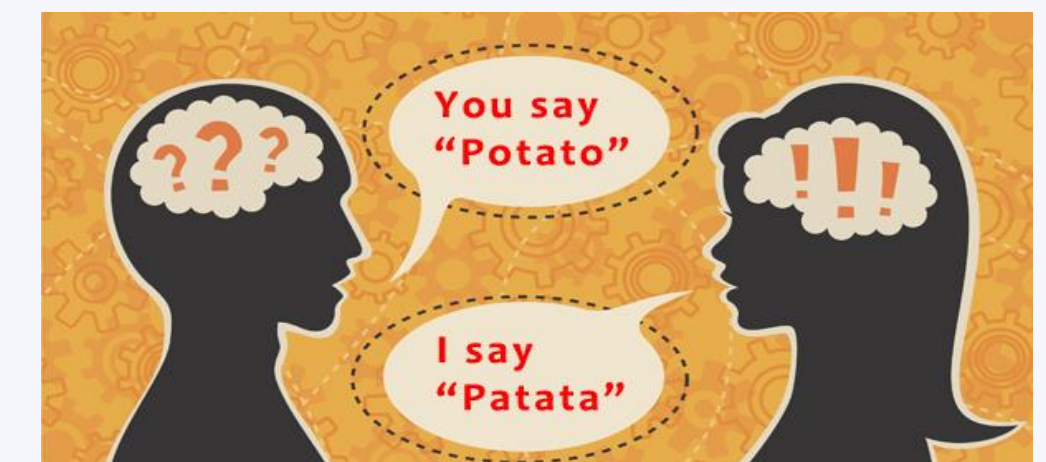
The problem

- one of the **major barriers** to improve building renovation numbers is the **absence of a holistic strategy**, the **lack of a strong relationship** and **communication between the different stakeholders** (building professionals, building owners, finance).



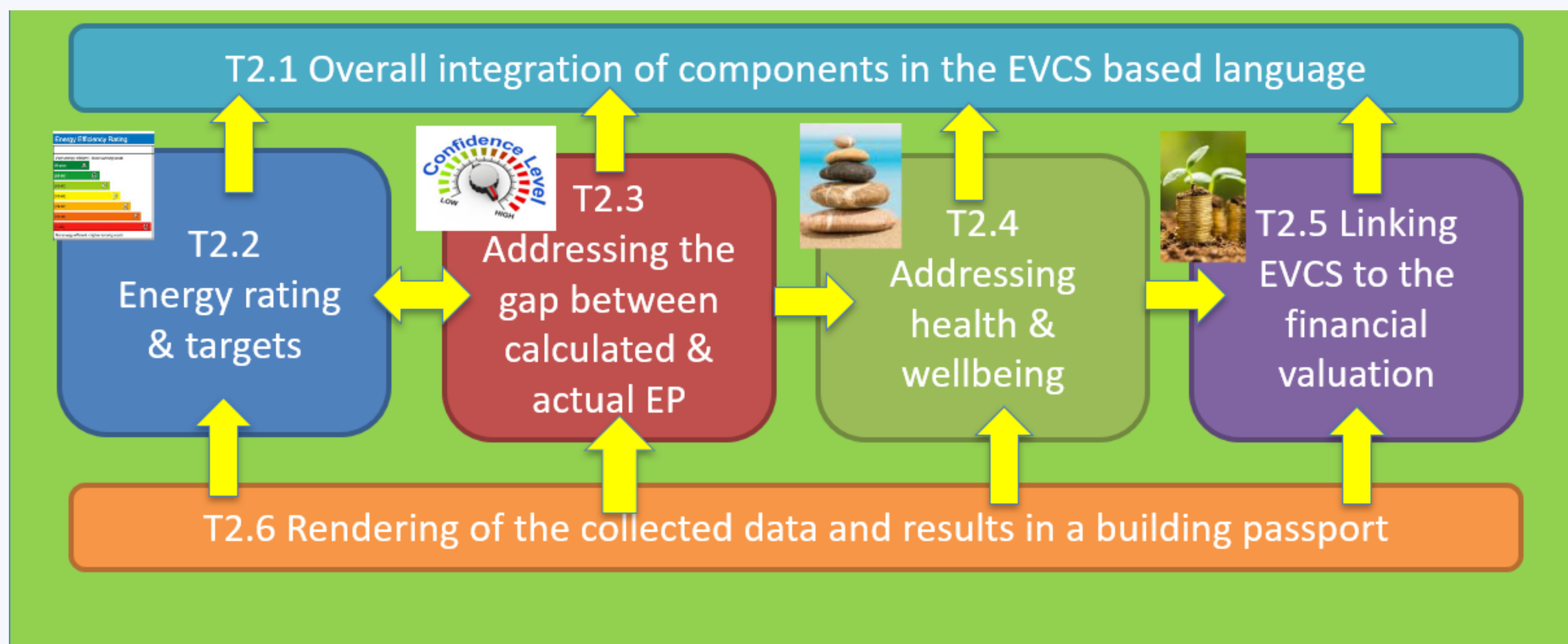
The solution

- **ALDREN common language** describing the holistic approach in renovation and allow communication(how a thermal bridge can talk to a banker)?



The ALDREN common language

6 topics for consolidation and adaptation of an EVCS (European Voluntary Certification Scheme)

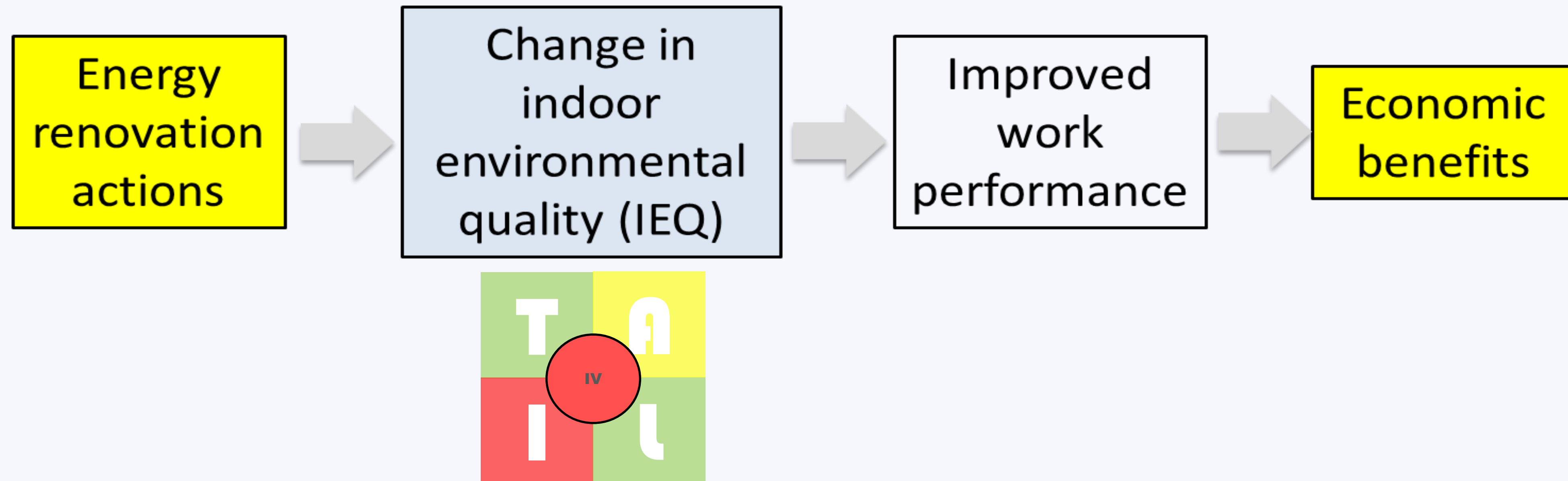


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ALDREN common language: Linking energy renovation actions to economic benefits

ALDREN health + well-being indicator TAIL



TAIL describing **T**hermal, **A**coustic, **I**ndoor air quality and **L**ighting (visual) environment

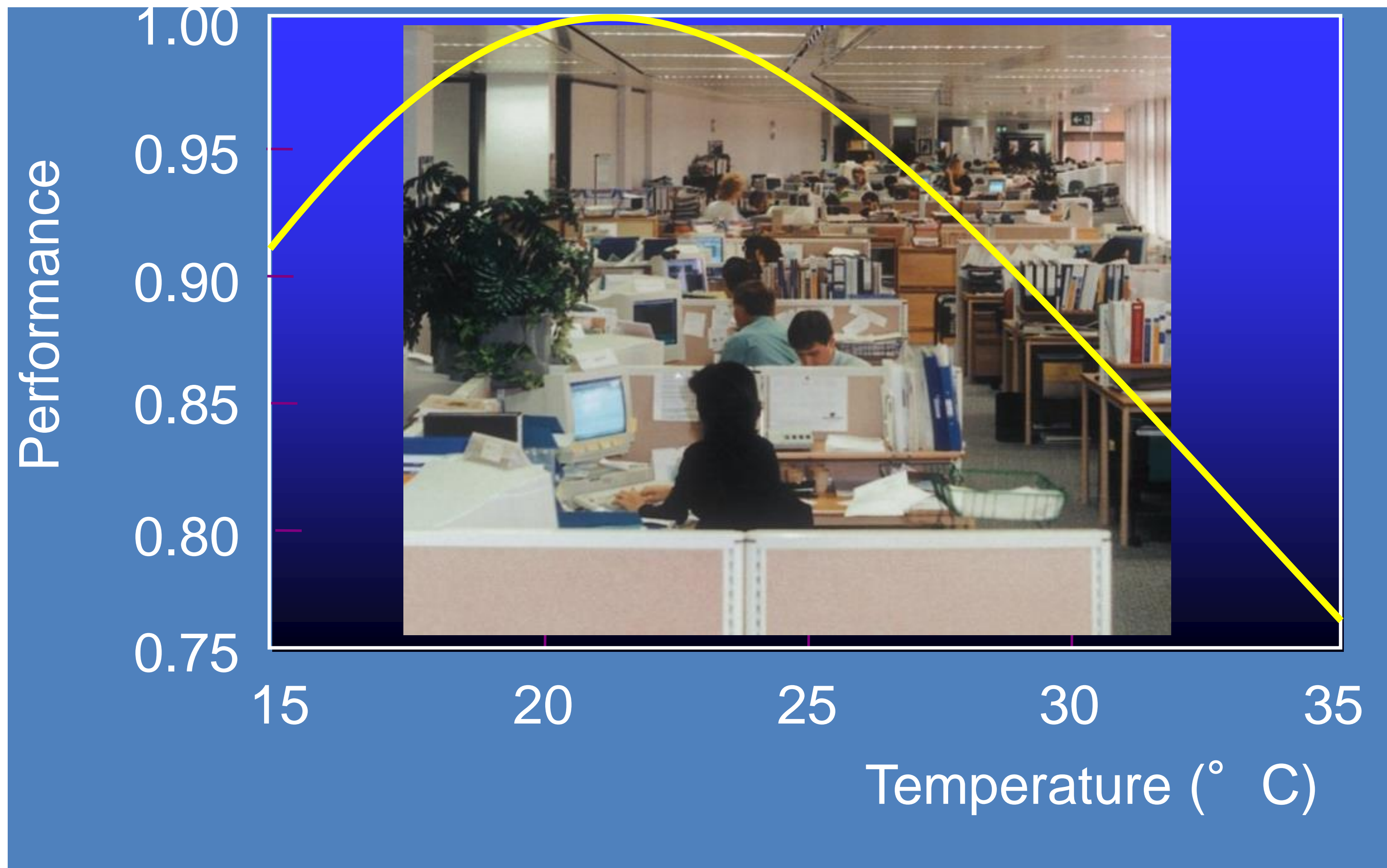
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New challenges and requirements in revised EPBD

Example: Health & wellbeing

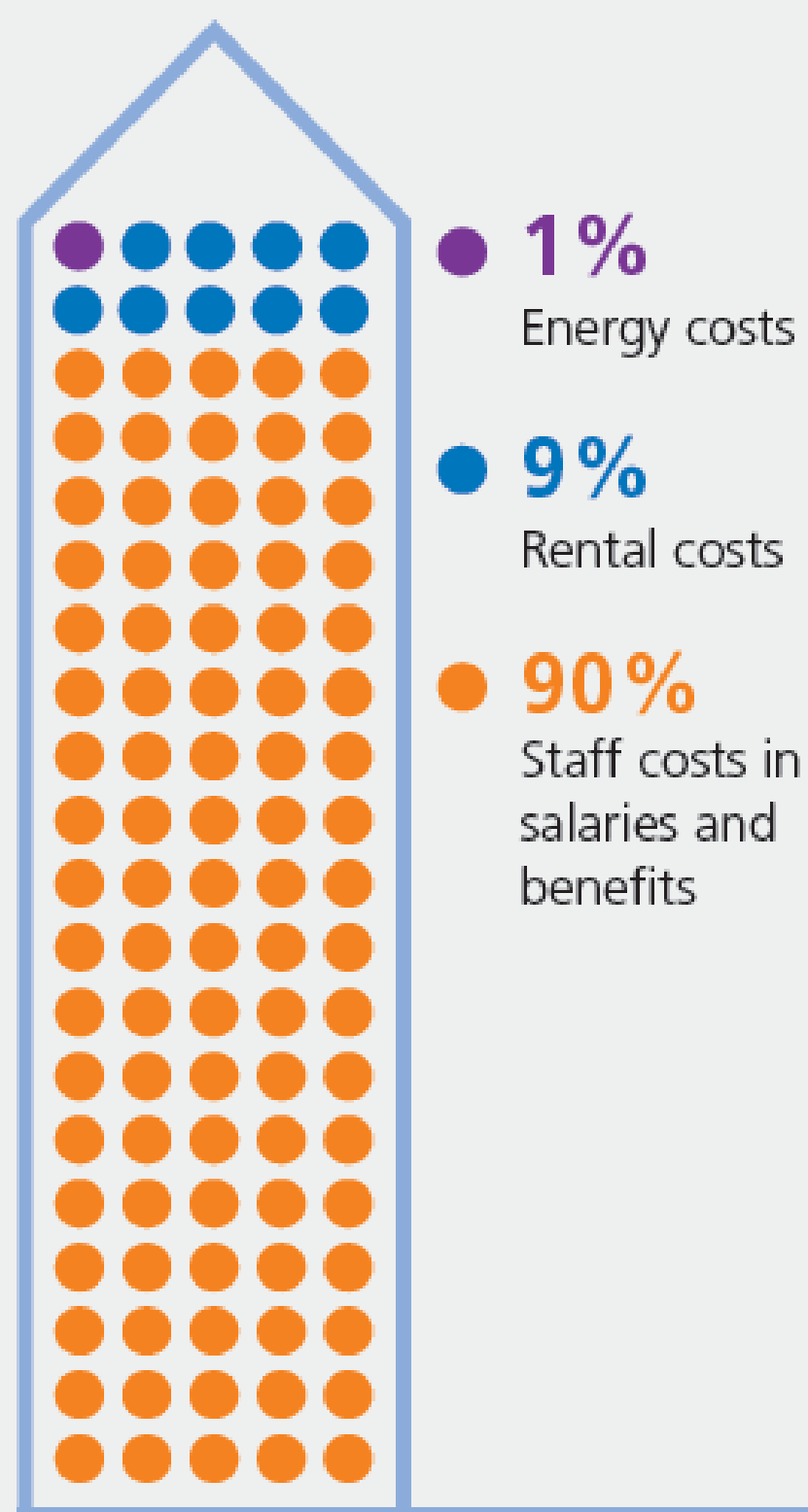
TEMPERATURE AND PERFORMANCE OF OFFICE WORK



Source: Seppanen et al. (2005)

Well-being: An additional motivation for energy renovation

Example: Cost structure in an office building



Even modest gains in work performance (staff costs)
can deliver
significant financial benefits



Energy renovation improving productivity is cost-effective



There is a need for:

- a **European Health + well-being** indicator
- a **link** between **health+ well-being** indicator and the **financial benefits**

Contribution of the ALDREN project to the transposition of revised Directive - May 2018

	T2.1 Overall integration	T2.2 EVCS	T2.3 Measured energy	T2.4 Health Wellbeing	T2.5 Financial evaluation	T2.6 Building passport	T3.2 Training
Art 1 Amendments Directive 2010/31/EU							
'(2) Article 2a Long-term renov. Strategy							
(g) evidence of expected energy savings and related to health, and air quality.							
3. mobilisation of investments							
(b) the reduction of the perceived risk							
(4') Article 7 existing buildings							
high-efficiency alternative systems and shall address healthy indoor climate'.							
(6) Article 10							
'6. link their financial measures to the targeted or achieved energy savings							

ALDREN outcomes are related to 17 paragraphs of revised EPBD amendments

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Conclusions

➤ Revised EPBD transposition **offers the possibility for common implementation**, considering technical progress and new challenges

but

- To increase the renovation rate and consider significant energy efficiency improvements a **holistic approach “beyond” building (energy) certification** including verified performance, indoor climate, building renovation passport and building asset valuation is needed

and

- Only a **common European transposition** will allow:
 - to be able to work on the “other side of the border”,
 - to have a “level playing field” (fair competition) for products,
 - to get common databases, common information.

➤ EU Commission **initiated EU projects** (e.g. ALDREN, CEN-CE to **help Member States** to transpose the new requirements of revised EPBD and to **favor common transposition**.

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Thank you for your attention!

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Bertrand DEPREZ
Vice President EU
Government Affairs,
Schneider Electric

Smart buildings and performance monitoring, the role of BACS

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How does it start



Efficient



People centric

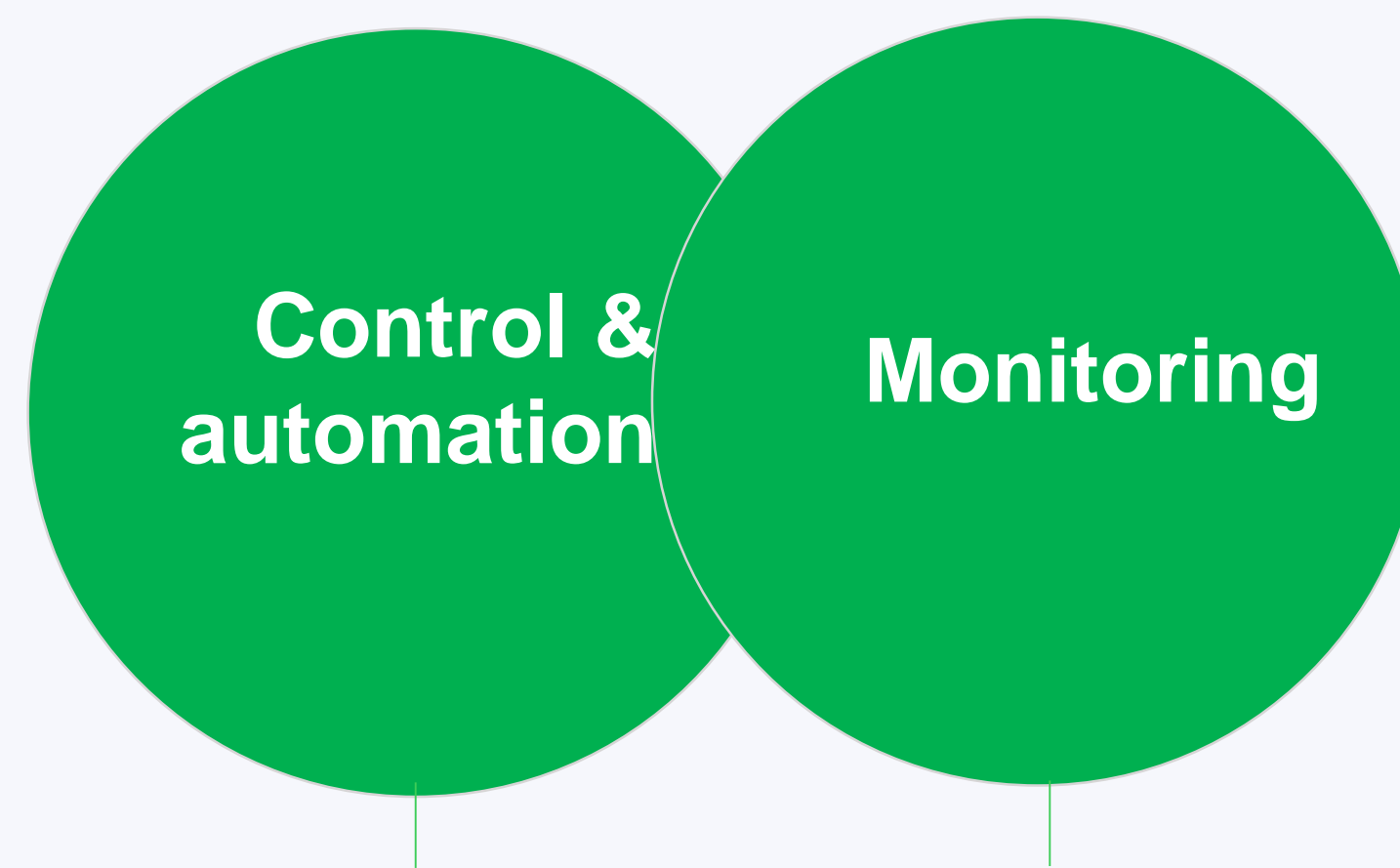


Safe and reliable

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Building automation and controls offer tremendous benefits for improved buildings smartness and performance



Step up building automation and controls roll-out
For significant benefits

Energy efficiency
Up to

~65%

Average (30 %)

Indirect jobs created by
a ++ policy framework

+3.7M

By 2030

Reliability and Safety

50%

Fewer incidents

Sustainability
Aiming at

0

Carbon emissions

Connecting the dots

EcoStruxure™ Architecture



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The Edge (Deloitte) Amsterdam

The world's most sustainable office building

Customer Challenges

- Maximize energy efficiency and sustainability
- Ensure the comfort, health and productivity of occupants

Solutions

- EcoStruxure Building Operation*
- EcoStruxure Power Monitoring Expert**
- Automation servers, electrical distribution and field devices
- Installed by an EcoXpert

Customer Benefits

- Leverage single IP backbone for all building ecosystems
- Improve occupant control room comfort via smartphone
- Access building data via simple dashboards

The Results: Life is On with...
Awarded highest score ever by Building Research
Establishment (BRE) **98.36%**

"Sustainability is about more than a great BREEAM rating. It is also about a building's overall comfort and efficiency for its occupants."

Coen van Oostrom,
Founder and CEO of OVG Real Estate
(owner/developer of The Edge)

[Watch video](#)

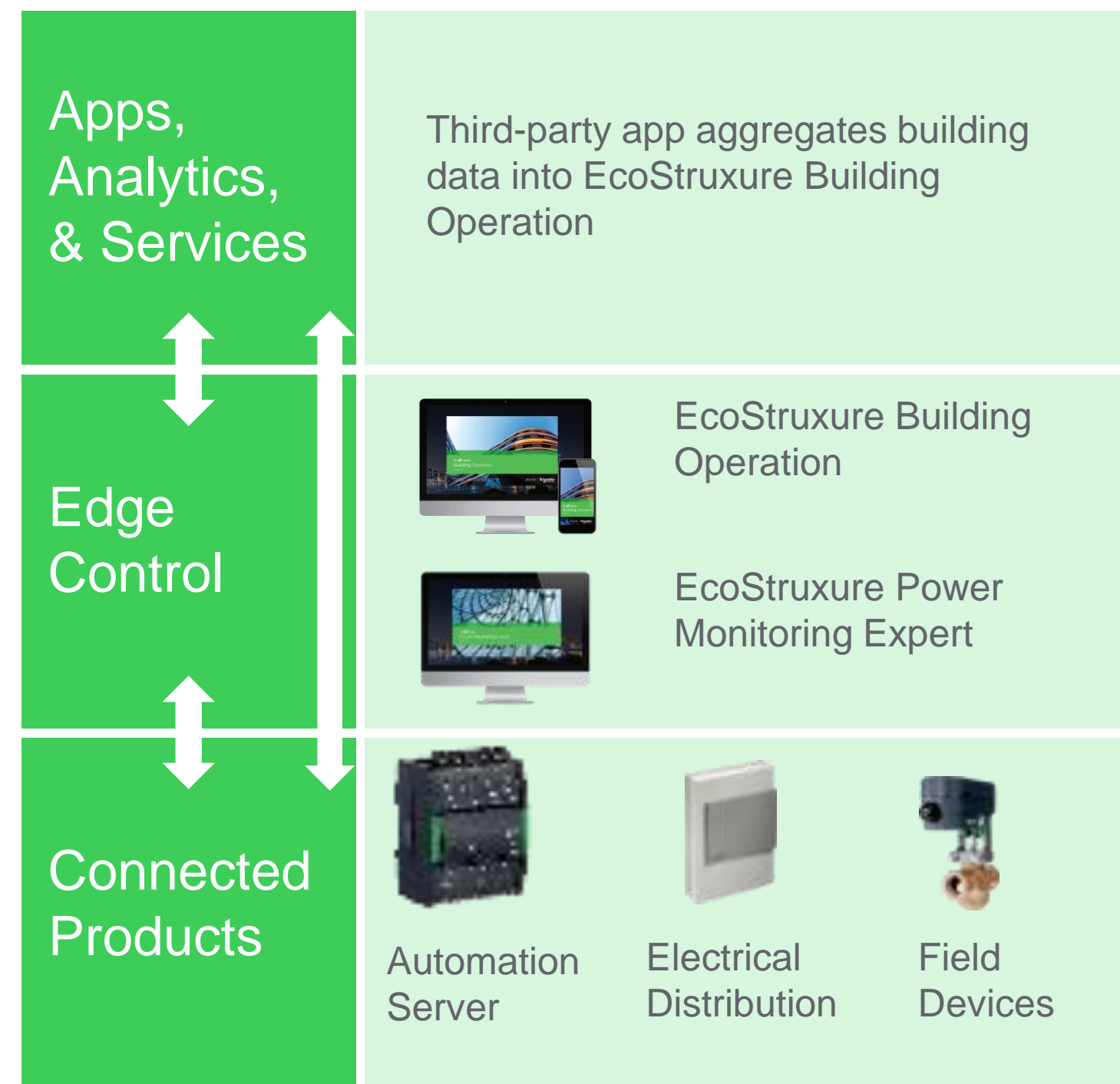
*Formerly known as StruxureWare Building Operation Software

**Formerly known as Power Monitoring Expert

40,000 m² multi-tenant office building in
Amsterdam consumes
<0.3 kWh/m²/yr



EcoStruxure™ For Building
Innovation At Every Level



Life Is On

Schneider
Electric

Cost of disruption

- Financial trading: €6,000,000 per hour
- Data center: €750,000 per event
- Telecommunications: €1,8M per hour
- Steel works: €350,000 per event
- Glassindustry: €250,000 per event

However, investment for energy renovation is still very low (deep energy renovation less than 0,1% of total renovation work in non residential buildings)

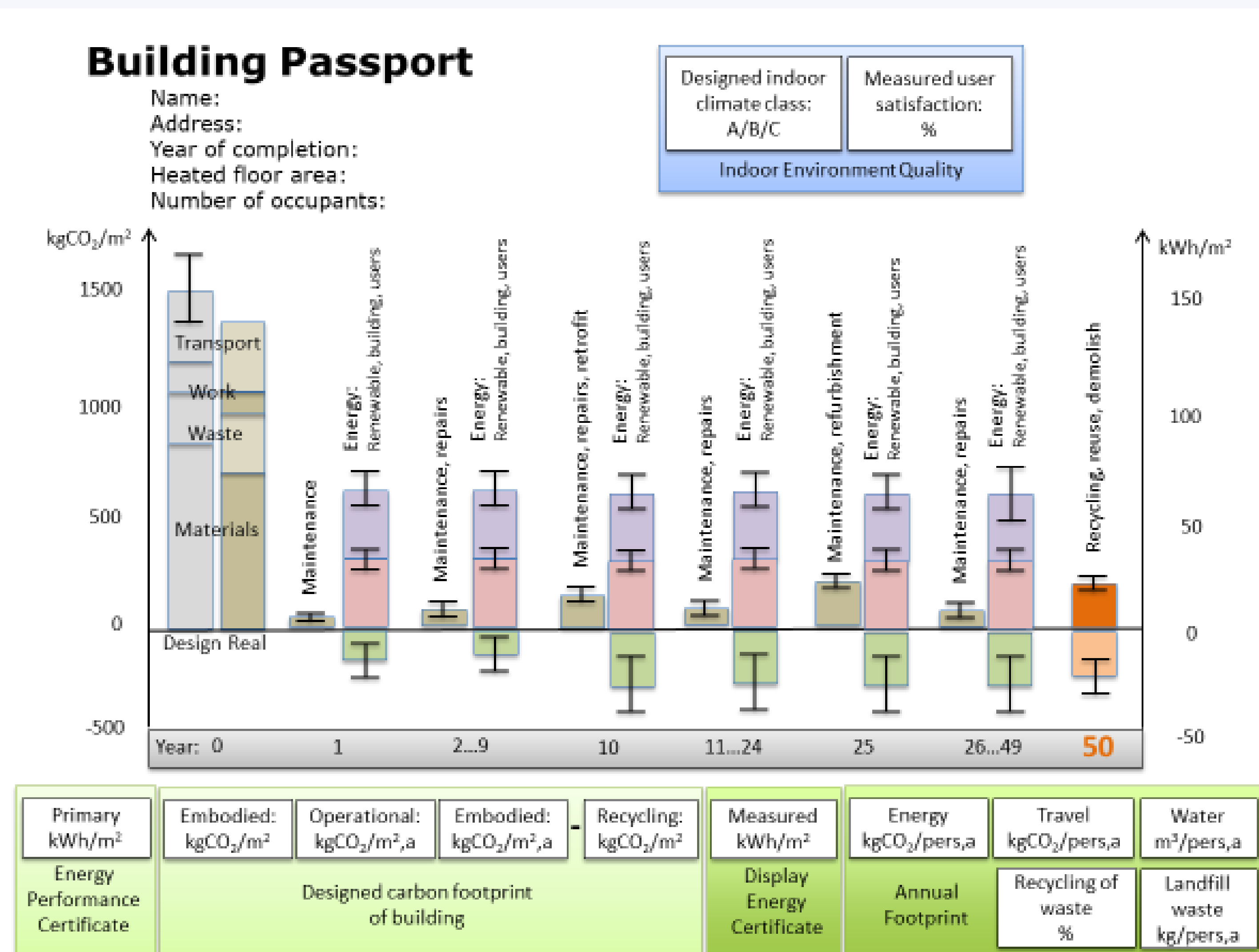


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Towards a dynamic EPC?





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Panel with short speeches

Chaired by **Michael Villa**, Senior Policy Adviser, smartEn

The EPB standards: a holistic approach driving innovation

Dick van Dijk, EPB Expert, EPB Center

A valuable SRI to drive investments in smart and active buildings

Bonnie Brook, Senior Manager Industry Affairs - Building Automation, Siemens

What the finance sector needs for de-risking investments

Caroline Milne, Communications Director, Joule Assets Europe

De-risking investments in buildings requires an evidence-based approach

Stefan Plessner, Managing Partner, Synavision / QUEST project

09:35

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Dick VAN DIJK
EPB Expert,
EPB Center

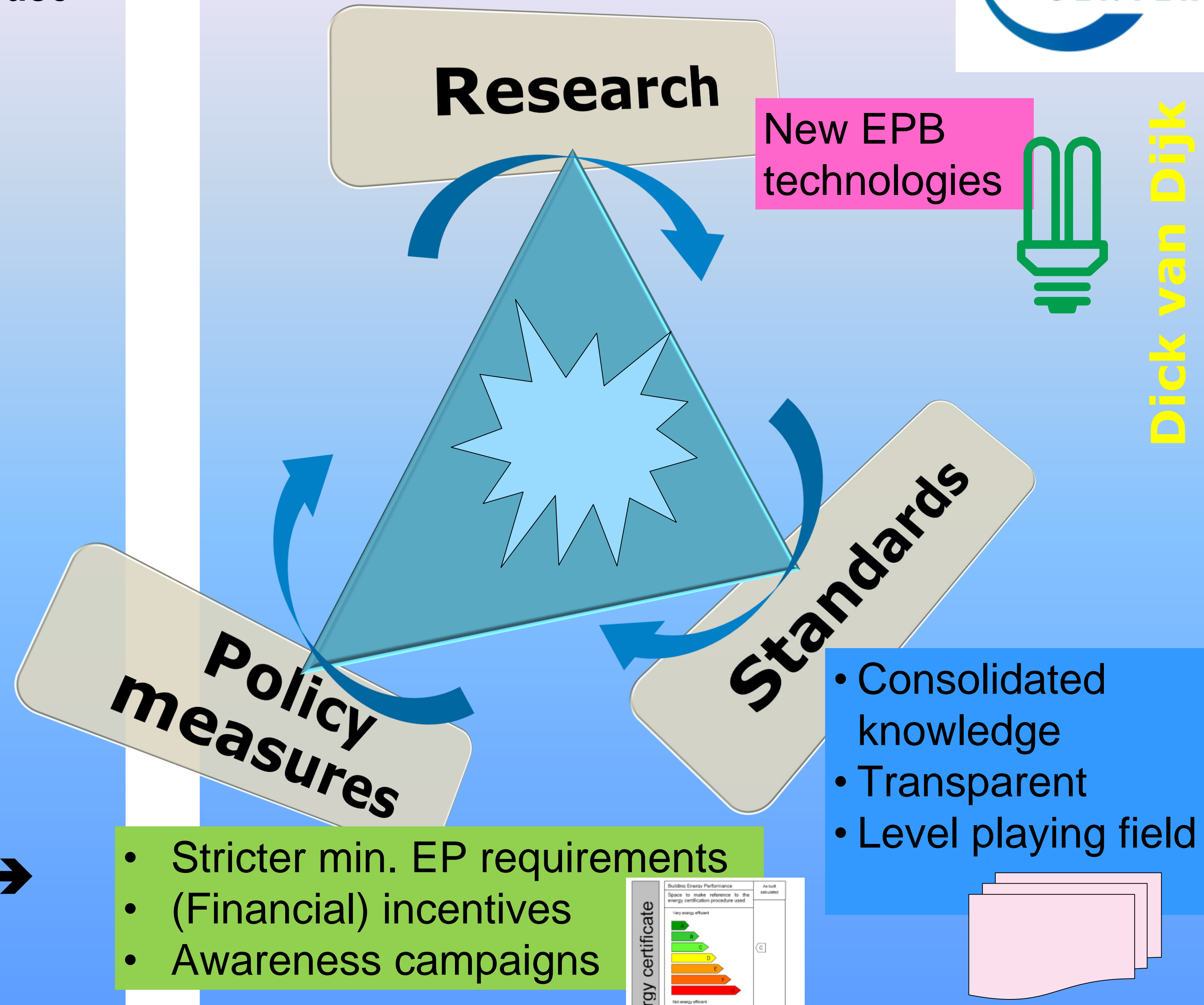
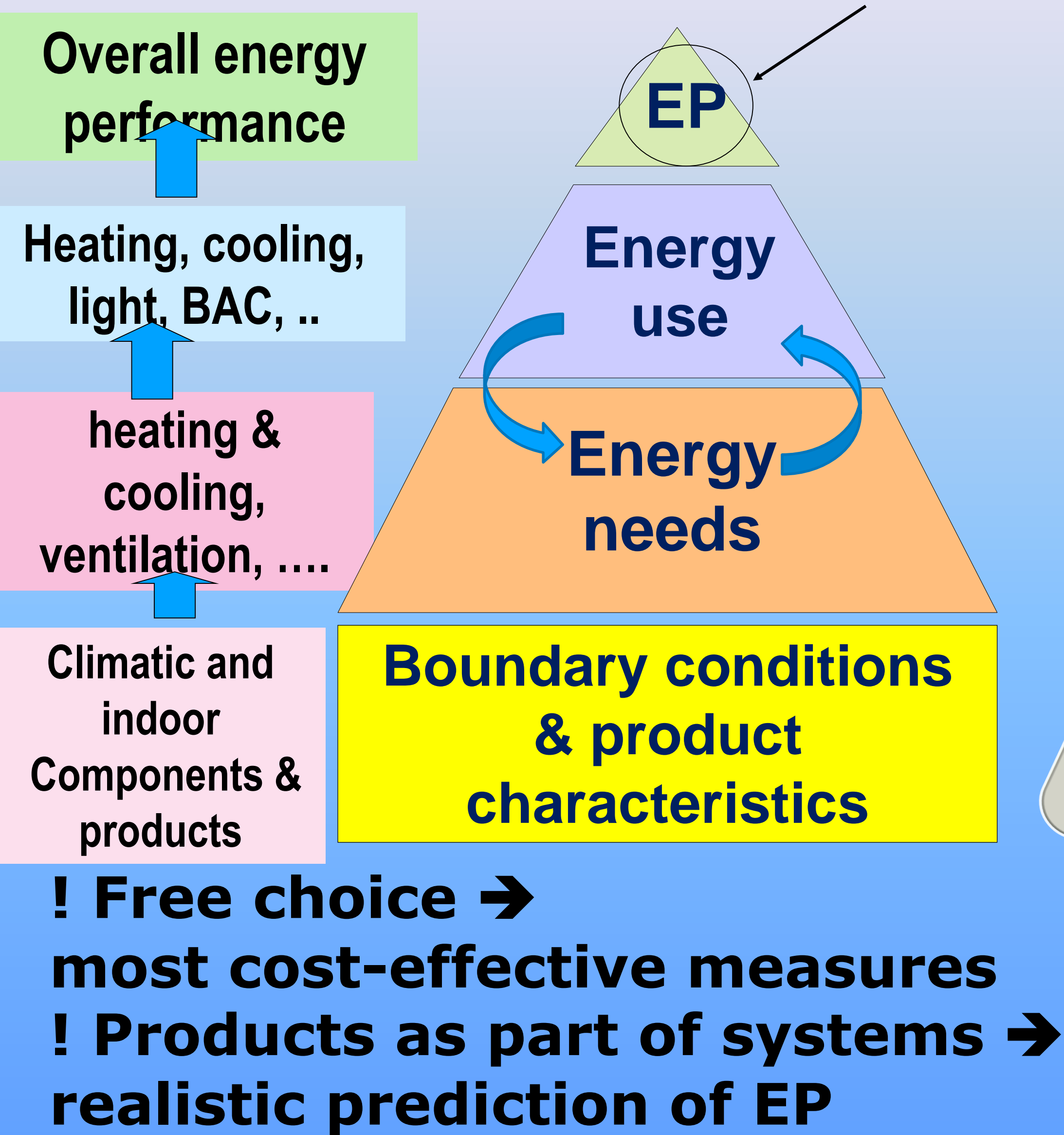
The EPB standards: a holistic approach driving innovation

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A holistic approach..... driving innovation!

From *product* standards to *overall* energy use





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Bonnie BROOK
Senior Manager Industry
Affairs – BA, Siemens



**A valuable SRI to drive investments
in smart and active buildings**

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Measure the technological readiness of your building



1



Readiness to
adapt in response
to the needs of the
occupant

2



Readiness to
facilitate main-
tenance and
efficient operation

3



Readiness to
adapt in response
to the situation of
the energy grid



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Caroline MILNE
Communications
Director, Joule
Assets Europe

What the finance sector needs for de-risking investments

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Large-scale aggregation for **LAUNCH Sustainable Energy Assets**



✓ **Scalability**

✓ **Accelerated deal closure**

✓ **Market growth**

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Stefan PLESSER
Managing Partner, Synavision
QUEST project

**De-risking investments in buildings
requires an evidence-based
approach**

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The QUEST Project

De-risking investments in buildings

- What is the biggest performance risk for a building?
- Quality Management can de-risk building projects.
- QUEST will create financial indicators for the value of Quality Management for building projects!

Join our project team: plessen@synavision.de

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10:00

Q&A and moderated panel discussion

Chaired by **Peter Hug**, Managing Director, eu.bac



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10:25 **Closing remarks**
Frank Hovorka, President-elect, REHVA





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