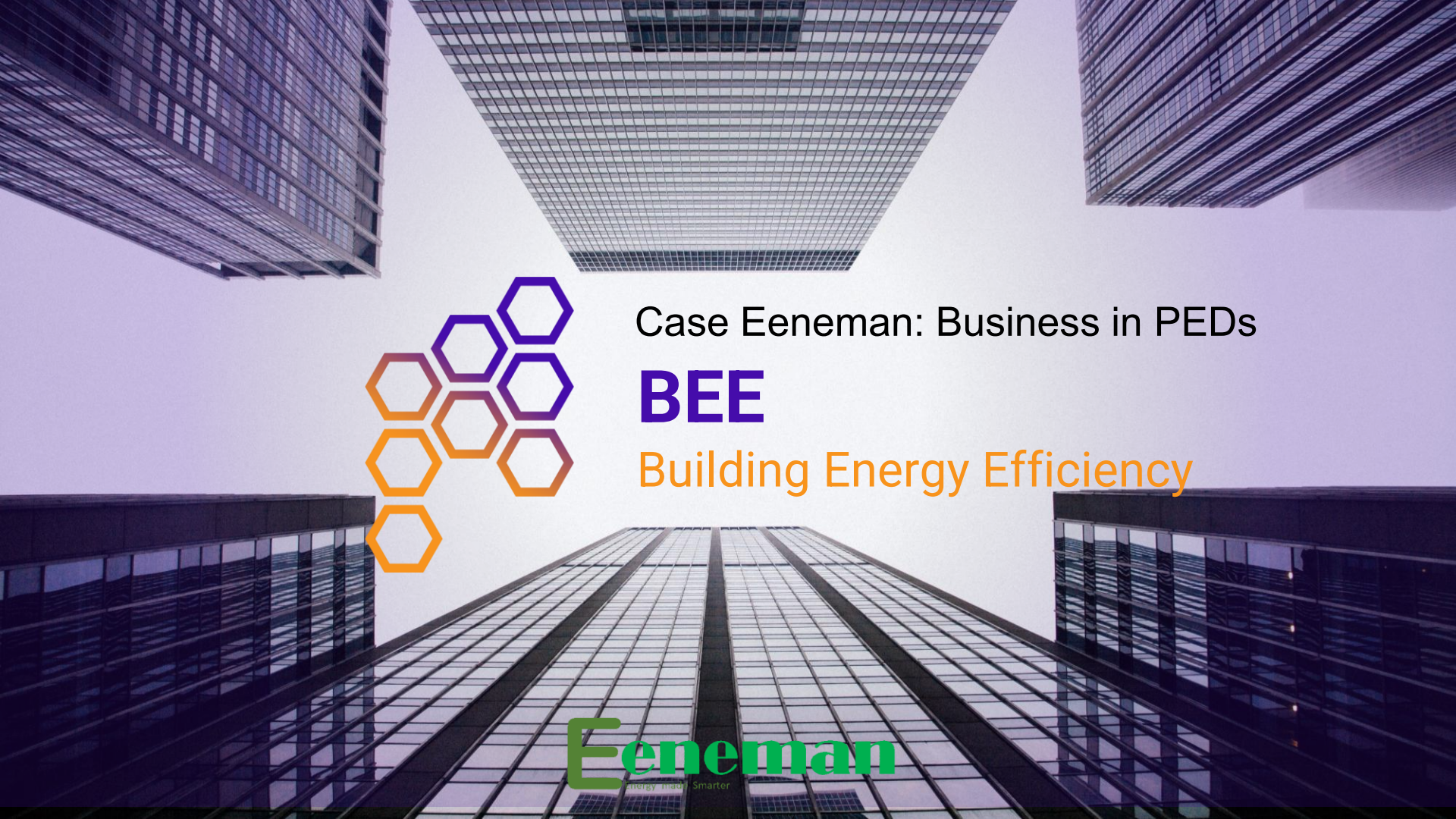


Case Eeneman: Business in PEDs

BEE

Building Energy Efficiency

Eeneman

Energy made Smarter

Challenge

BEE Solution

How to …
What should I …
But then …

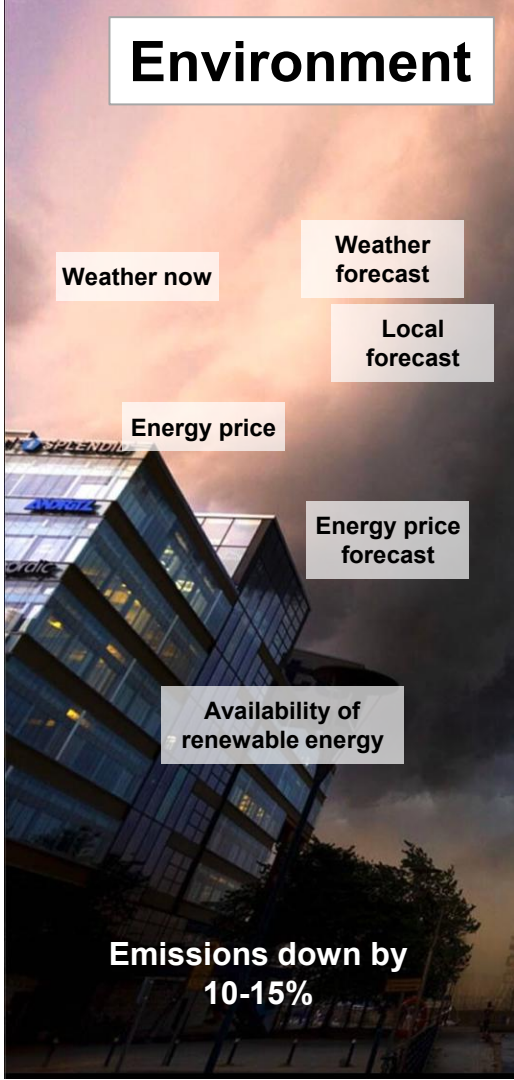
Energy efficiency

Emissions

Working conditions

Eeneman
Energy made Smarter

Making buildings smarter using AI/ML



controls

measures

Building Management System

adjusts

follows

Predictive & learning controls

Holistic controls

Internal flexibility

Demand-response service

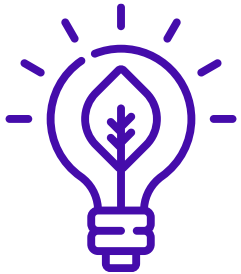
Energy optimization service using AI/ML

DATA

DATA

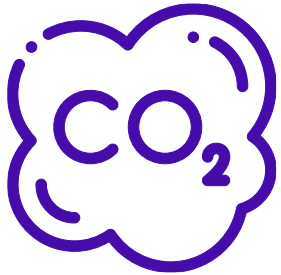
Customer Benefits

BEE Solution



⬇ 10-15 %

Energy Consumption Reduction



⬇10-15 %

Emissions Reduction

⬆ 100 %

User Comfort

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Real case of Solution Impact

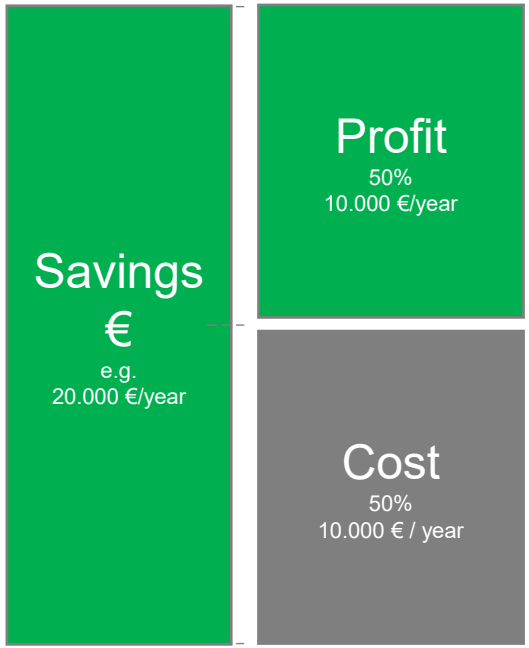
BEE Solution

Eeneman Energy Optimization v.2024 vs 2025						
Campus building in Espoo						
	District heat			Electricity		
Month	2024	2025		2024	2025	
1						
2						
3						
4	96,5	71,5		62494	80118	
5	26,7	37,7		64965	58702	
6	11	14,2		54289	47714	
7	4,3	12,7		65708	47640	
8	11,7	14,6		78511	55869	
9	26,9	19		78029	63334	
10	60,8	57,2		61144	58853	
11	101	89,8		68066	64721	
12	142	115		79431	60946	
	480,9	431,7		612637	537897	
Savings in MWh		49			75	
Savings in €		**3 444**			**9 940**	**13 384**
Objective savings :		**14 253**				

Eeneman
Energy made Smarter

Energy optimization business model

BEE Solution



In principle customer gets 50 % of the savings as profit due to lower cost level

- 3-year service contract containing deployment costs with exit points defined
- Yearly service fee is based on estimated energy savings
- Customer covers possible costs on BMS changes/updates
- Preconditions:
- Savings potential over 10 000€ / year
- Modern BMS with remote control options

Machine learning
Optimization solution

Dataflow
From and to BMS

Eeneman
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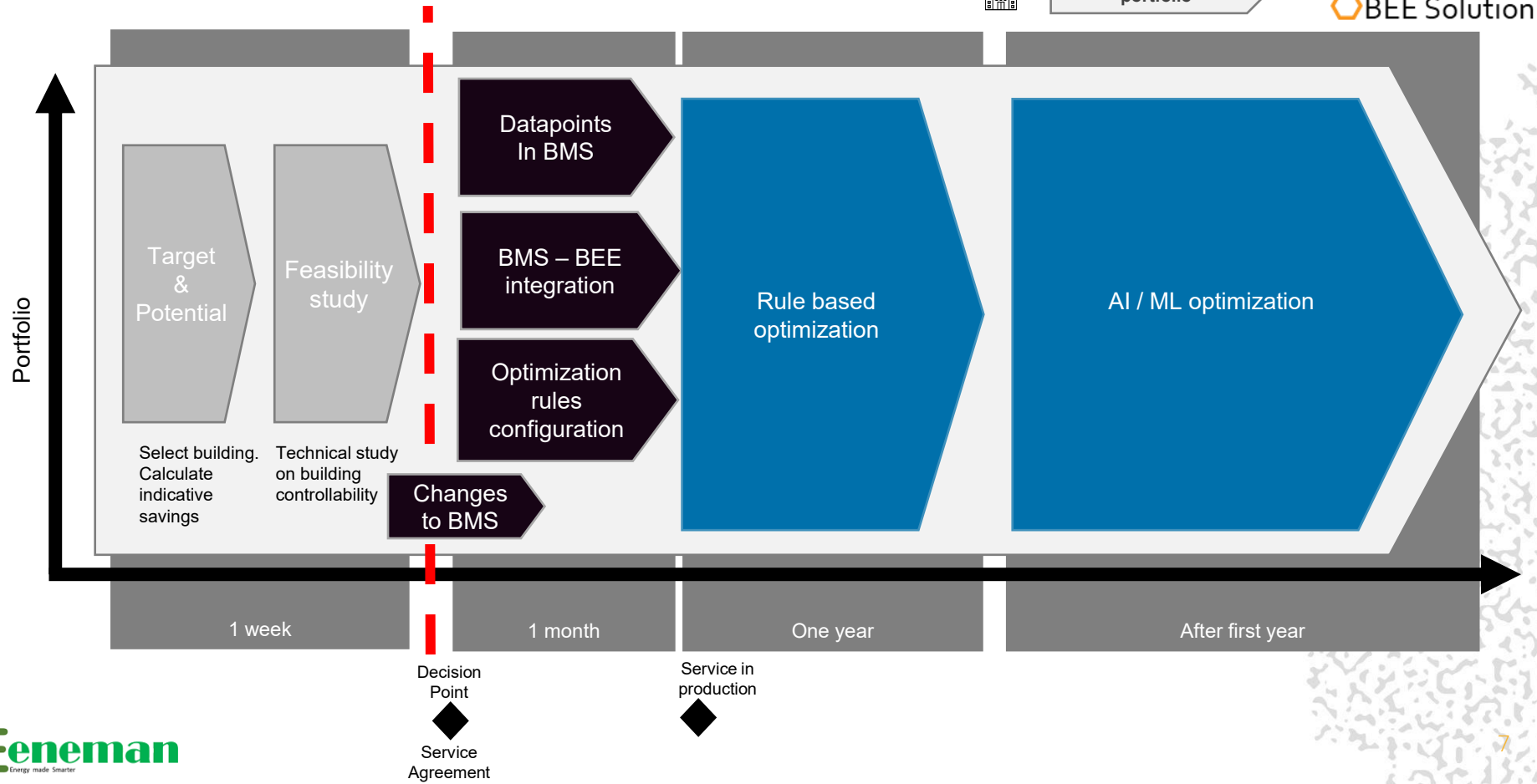
Deployment process



Controls in practice

- **Ventilation**
  - Duct pressure controls
  - Need based approach
  - Pre-heat / -cooling controls
  - Scheduling
- **Heating**
  - Predictive controls based on weather forecast
  - Machine learning controls
  - Controlling on space level
  - Scheduling
- **Cooling**
  - Temperature ranges

- **Empty spaces**
- **High price hours**
- **Peak hours**
- **People counting / Presence**
- **Renewable energy availability**
- **Demand-response, FCR-N**
- **Other indoor air quality, e.g. radon**

PEDs

BEE Solution

Net-Positive Balance

Energy Efficiency First

Flexibility & Storage

Spatial Scope

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Traction

BEE Solution

Customers

TURKU ÅBO

Helsinki

TAMPERE

HEMSÖ

Metropolia

platform of trust

Stavanger kommune

BRUNSWICK NEXT NEVER RESTS

SBB

VAISALA

CASTELLUM

EVLI

GENESTA

Nordiqus EDUCATIONAL PROPERTIES

EU activities

AI4CITIES

4A4PEDs

MD2MV

Accelerators

Helsinki NewCo Helsinki

URBAN TECH HELSINKI

Eeneman Energy made Smarter

BEE Key takeaways

- Energy savings, 10-15%
- Low risk, no initial starting fee or investment
- Minimal workload required from customer
- Working conditions within agreed boundaries

Thank you

BEE Solution

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