

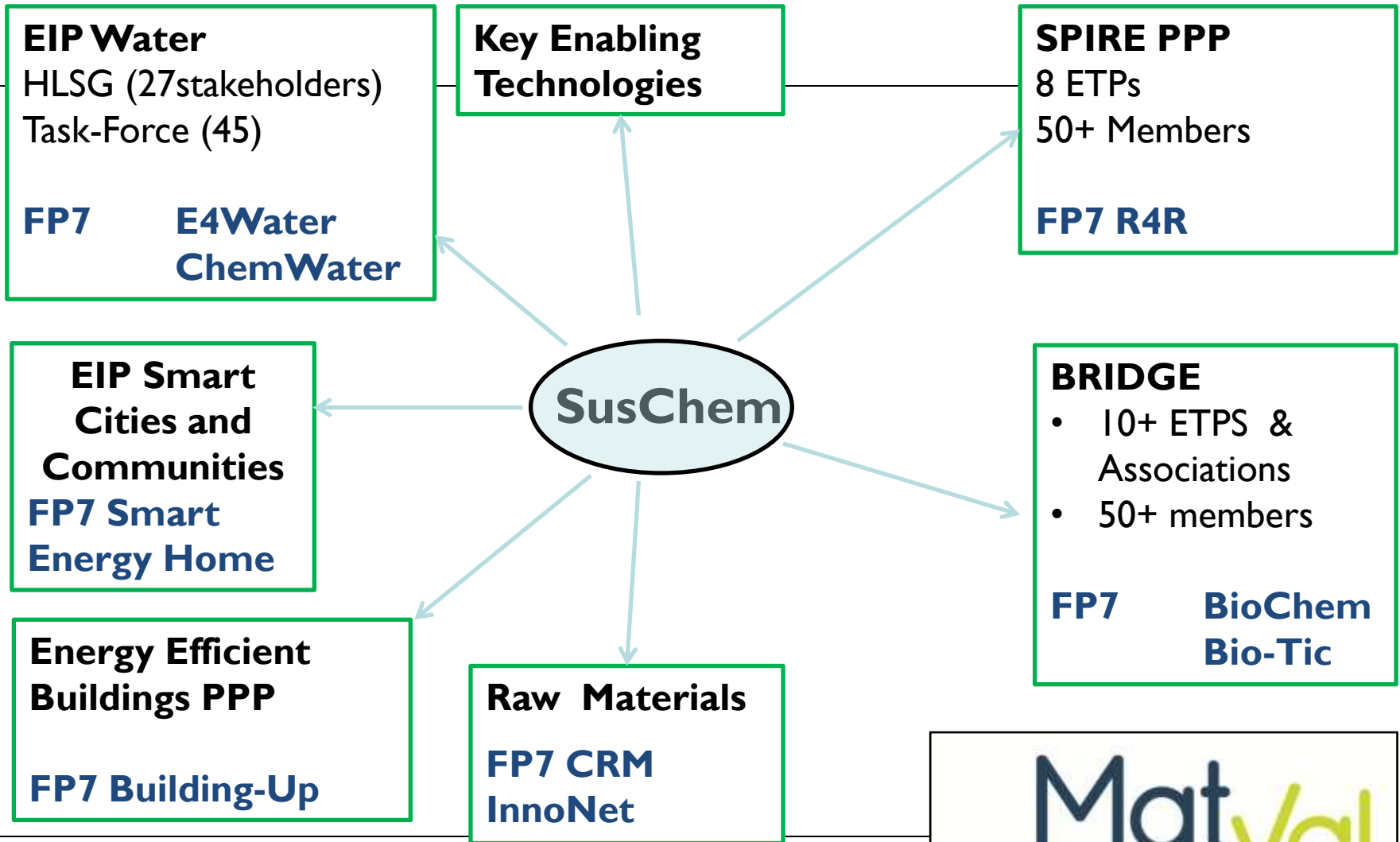
 creating solutions together



## Innovative Materials from Chemical Industry for DHC

Jacques KOMORNICKI  
SusChem Innovation Manager

# SusChem Activities



**Materials are part of most of the above**

# SusChem materials priorities

Four key areas where more should be done on Materials Technologies in  
a value chain approach

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Advanced structural  
composites  
for lower cost volume  
production

## Cross-cutting

- Printed electronics
- Self-healing materials

Materials  
technologies  
supporting circular  
economy

- Thermal energy  
conversion and **storage**  
including solar cooling
- Stationery batteries

# Smart Cities and Energy Efficient Buildings

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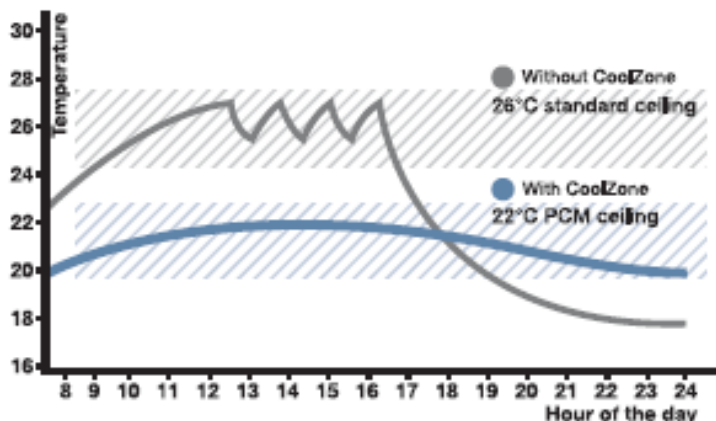
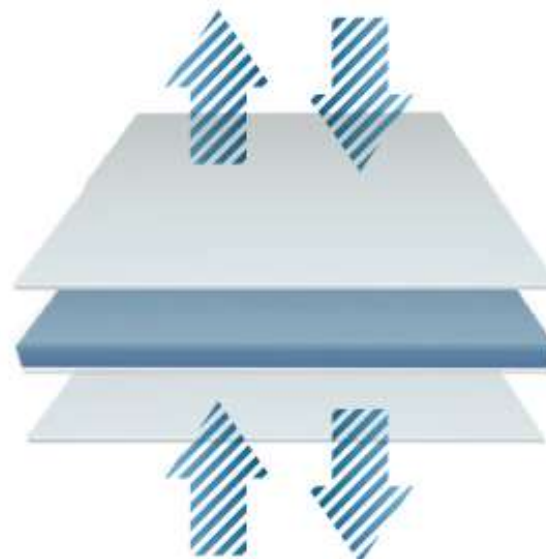


- The Chemical Industry offers Smart Solutions for the Smart Cities and Communities EIP particularly for Energy Efficient Buildings
  - Advanced **Insulation** Solutions
  - Smart Windows
  - Reflective Coatings (inside, outside)
  - **Phase Change Materials**

# PCM?

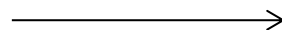
PCM, or Phase-Change Material, is a substance with a high heat of fusion which, melting and solidifying at a certain temperature, is capable of storing and releasing large amounts of energy. Heat is absorbed or released when the material changes from solid to liquid and vice versa; thus, PCMs are classified as latent heat storage (LHS) units.

Source: Wikipedia



**PCM can be encapsulated in different parts of the building envelope:**

- Plaster boards
- Concrete
- Films



## PCM could be used for Bulk Thermal Energy Storage in Buildings ?