

Preparation of a Marketing test bed to look into the Technology Acceptance of Hi-Tech Products with the example of Phase Change Materials (PCM) in structural engineering

Bachelor Thesis

Lisa Holzer

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PHASE CHANGE MATERIALS (PCM)

Definition

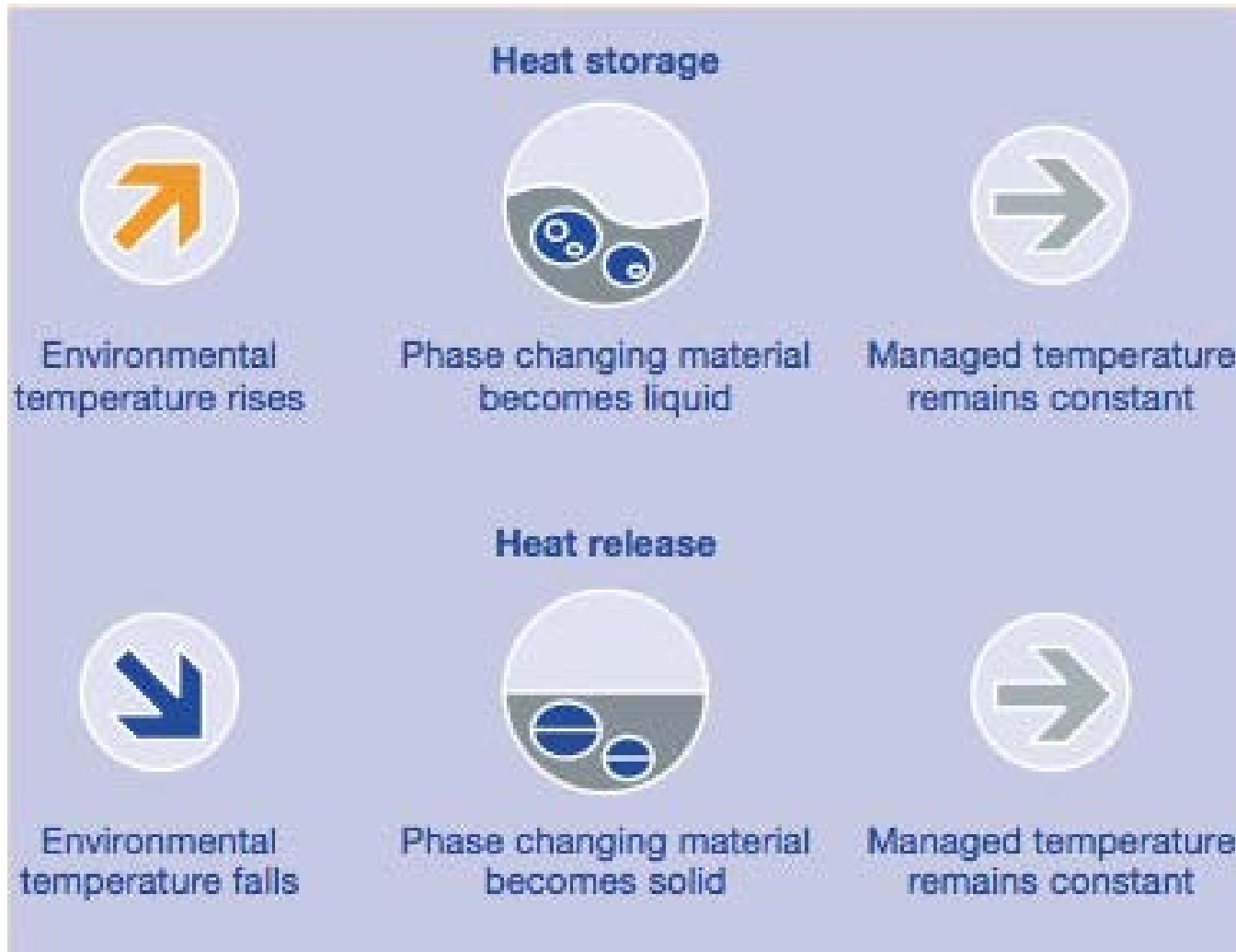
- Substances with a high heat of fusion
- By exploiting their endothermic and exothermic reactions using the latent heat of fusion they are capable of storing and releasing large amounts of energy
- The thermal energy transfer occurs when materials change state, or phase; from liquid to solid, or solid to liquid

Technology

- PCM store large quantities of heat by means of a phase change – for instance from solid to liquid
- Example:

“Free” energy from the sun coming through the window melts the wax, which then solidifies once the temperature drops; returning heat to the space when it is most needed;

In the cooling phase, PCM absorb energy in the form of solar gain from the air, thereby reducing the cooling load.



Importance

- Increases energy efficiency by reducing the amount of energy needed to heat and cool spaces
- Matches the supply and demand of heating/cooling in terms of timing and amount
- Improves quality of the space in residential and commercial applications
- Ensures security of general and stand alone (off-grid) supply

Applications for PCM in structural construction

PCM integrated in the building structure (walls, ceiling)

PCM in other building components (façade element)

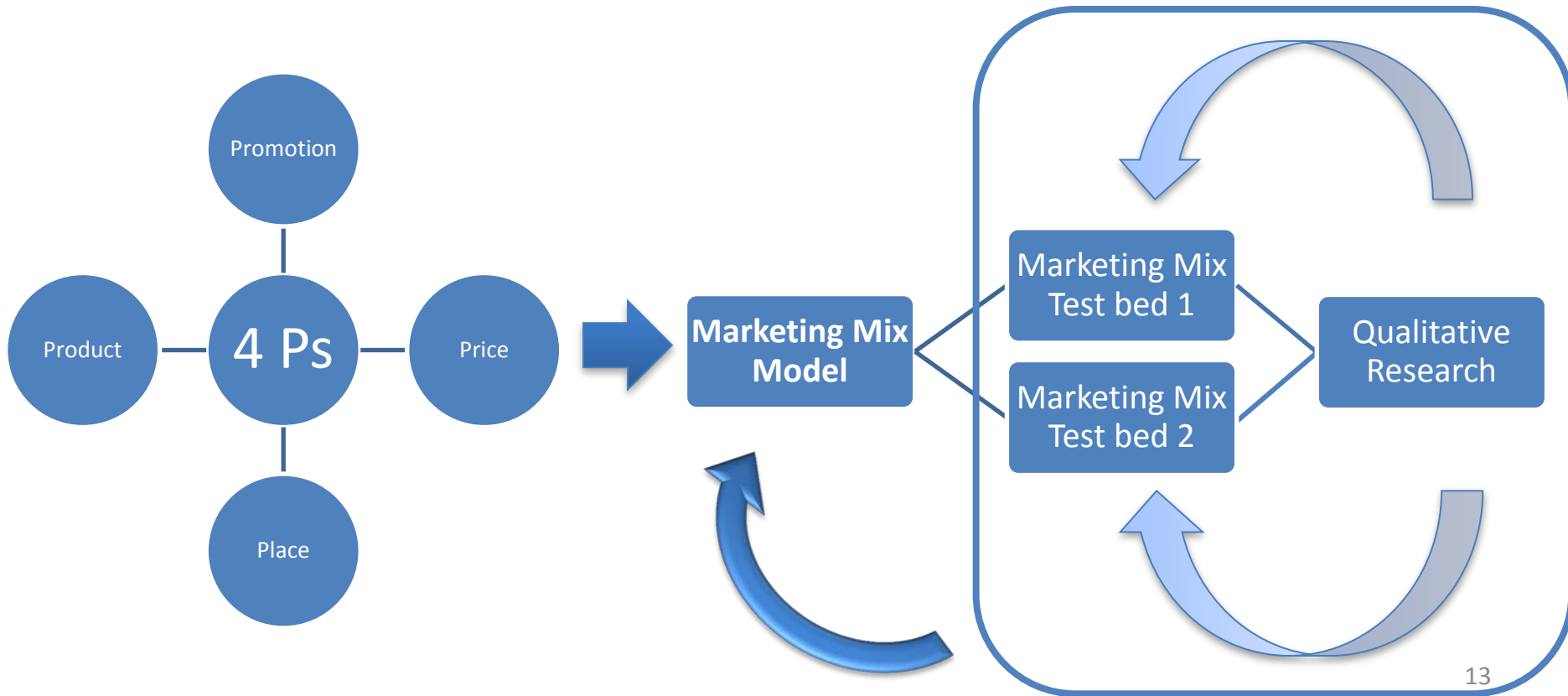
PCM in separate heat and cold storage devices

MARKETING TEST BED

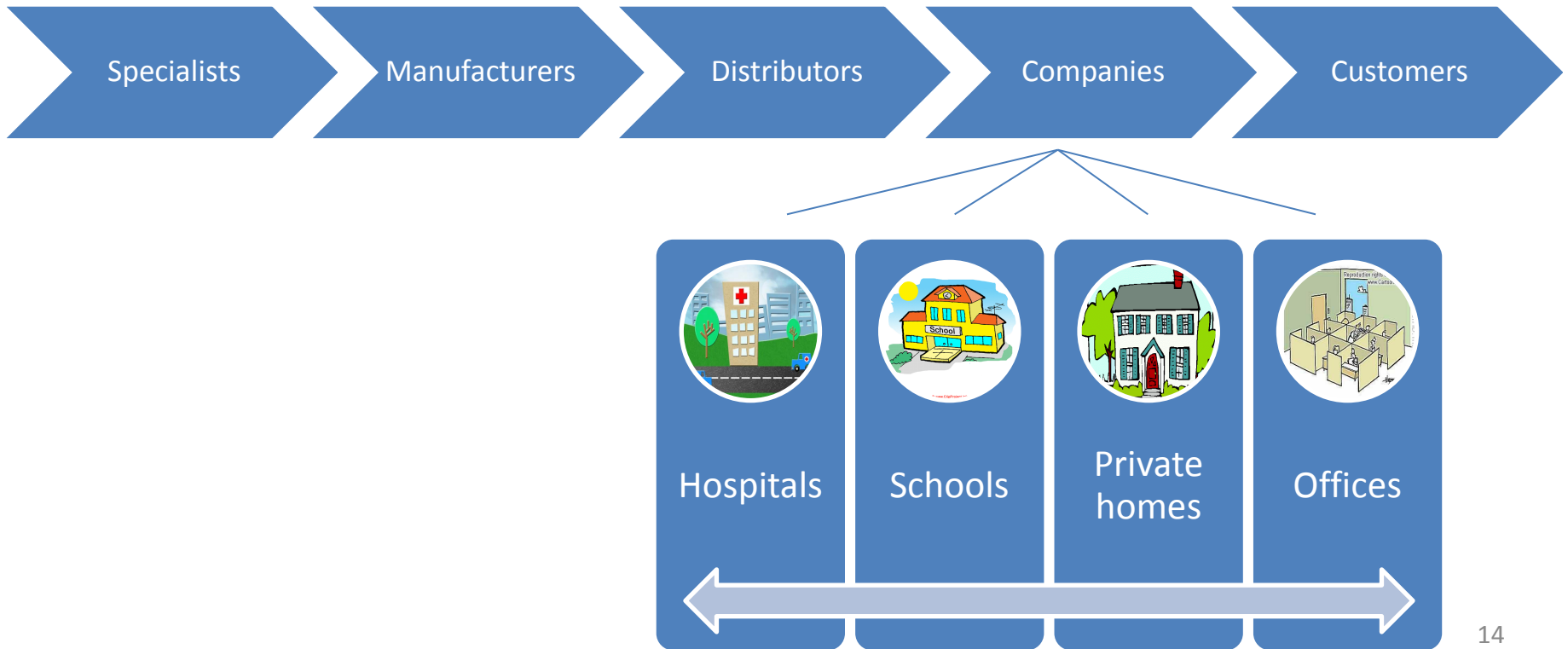
Definition

- methodical support for market entry of innovative high-tech products or services
- supports the critical phase of “market entry” in innovation marketing, based on qualitative market research procedures
- uses community-based innovation and open innovation approaches, and applies technology acceptance/resistance models (perceived usefulness (PU) and perceived ease of use (PEoU))

Model



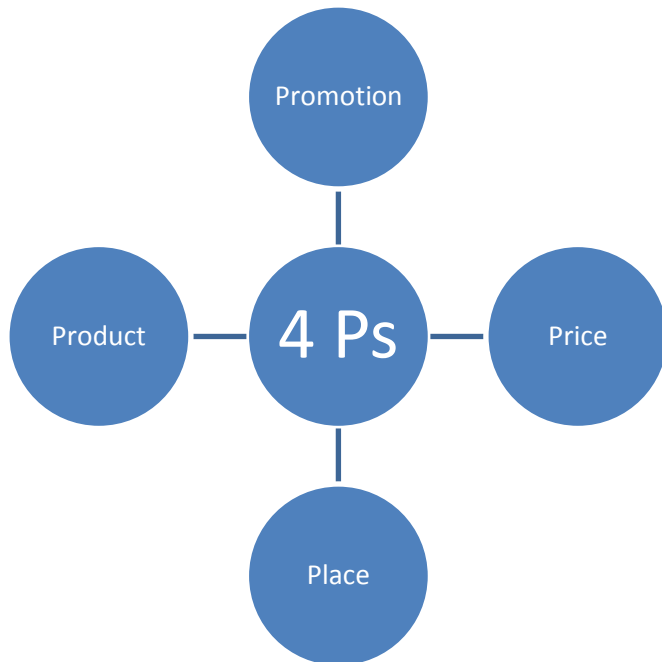
Target groups



Conclusions

- **Preparation of a Marketing test bed through qualitative market research:**
 - Focus group
 - Problem-centered interviews

Example: Construction Companies



- **Questions should define the Marketing Mix:**

- Promotion
- Price
- Place
- Product

Questions

Promotion:

- How should the product be promoted?
 - What methods?
 - Which arguments?
 - Which distribution channels?

Questions continued

Price:

- How much will it / can it cost?
 - Ceiling-price/lowest-price limit?
 - For which application?
 - Capital budgeting?
 - Influences?
 - Bulk discounts?

Questions cont'd

Place:

- How important is product availability?
 - Method of procurement?
 - Difference AUT – DE – other countries?

Questions cont'd

Product:

- How should the product look?
 - Pros/Cons?
 - Reasons?
 - How to overcome Cons?
 - Range of applications?

Thank You!

Questions?

Contact:

Lisa Holzer

E-Mail: holzer@hitechcentrum.eu

www.hitechcentrum.eu