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**EIC INNOVATION PROCUREMENT PROGRAMME**

# MagPower-3H™ Magnetisable Concrete

## case study

MAGMENT

with the support of HOLCIM

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# PILOT: Magment GmbH & Holcim Germany and Schneider Electric

## MagPower-3H™ Magnetisable Concrete | Energy Infrastructure, Industrial Decarbonisation, and Electrical Power Equipment

### PROTOTYPE CORE

**MANUFACTURED & TESTED**

Fully manufactured and lab-tested magnetisable concrete transformer core

### OEM REVIEW

**QUALIFIED BY SCHNEIDER**

Validated in executive technical review with Schneider Electric Global

### 0 OIL RISKS

**DRY-TYPE TRANSFORMER**

Eliminates toxic oil coolant leaks in industrial power transformers

### RECYCLED WASTE

**CIRCULAR MATERIALS USED**

Utilizes recycled magnetic industrial waste inside concrete mix

### PILOT PROFILE

**EIC Awardee:** Magment GmbH

**Solution:** MagPower-3H™ Magnetisable Concrete

**Partner:** Holcim Germany and Schneider Electric

**Testing Ground:** Industrial manufacturing laboratory and prototype testing rig evaluated with Schneider Electric technical executives

**Sector & Challenge Focus:** Energy Infrastructure, Industrial Decarbonisation, and Electrical Power Equipment

### The Challenge

Heavy industrial power transmission relies on bulky electrical transformers cooled by liquid oil. Oil-cooled transformers carry environmental contamination risks if oil leaks occur, suffer from high thermal energy losses, and require expensive ongoing maintenance. However, building dry (oil-free) transformers requires expensive magnetic core materials.

### The Solution

MagPower-3H™ is a patented magnetisable concrete technology. By mixing recycled magnetic industrial waste particles into high-strength concrete, Magment builds dry, compact electrical transformer cores. This delivers high magnetic performance at lower material costs while eliminating toxic cooling oil.

### Objectives

The pilot aimed to manufacture a prototype magnetisable concrete transformer core and test its magnetic permeability and energy efficiency in a laboratory. The industrial partners wanted to qualify the technology for dry-type electrical equipment.

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### Constrains

Ensuring magnetic particles were distributed evenly throughout the concrete mix during casting required precise industrial formulation control.

### Performance

The team manufactured and laboratory-tested the prototype core, demonstrating stable magnetic performance. The prototype passed executive technical review with Schneider Electric, proving the feasibility of dry, oil-free power transformers.

### Partner Operational Improvements

Decarbonized electrical building materials, oil-free transformer safety, and circular industrial waste recycling.

**SUCESSFULL PILOT VALIDATION**

Magment and its industrial partners are advancing long-term equipment certification and licensing agreements for commercial manufacturing.

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