



# A world of possibilities in a concrete world

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# Acknowledgement of Traditional Owners

I acknowledge the Traditional Owners of the land on which we are meeting, the Wurundjeri Woi Wurrung People of the Eastern Kulin Nation.

I pay my respects to their Elders, past and present, and the Elders of other Aboriginal communities who may be here today.

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## Concrete – what's the issue?

- Concrete is an excellent building material
- But used in huge quantities and consumes many different resources
- Cement has high embodied carbon due to clinker production – ~8% of world wide emissions
- Presents a significant opportunity to adopt circular outcomes and reduce emissions



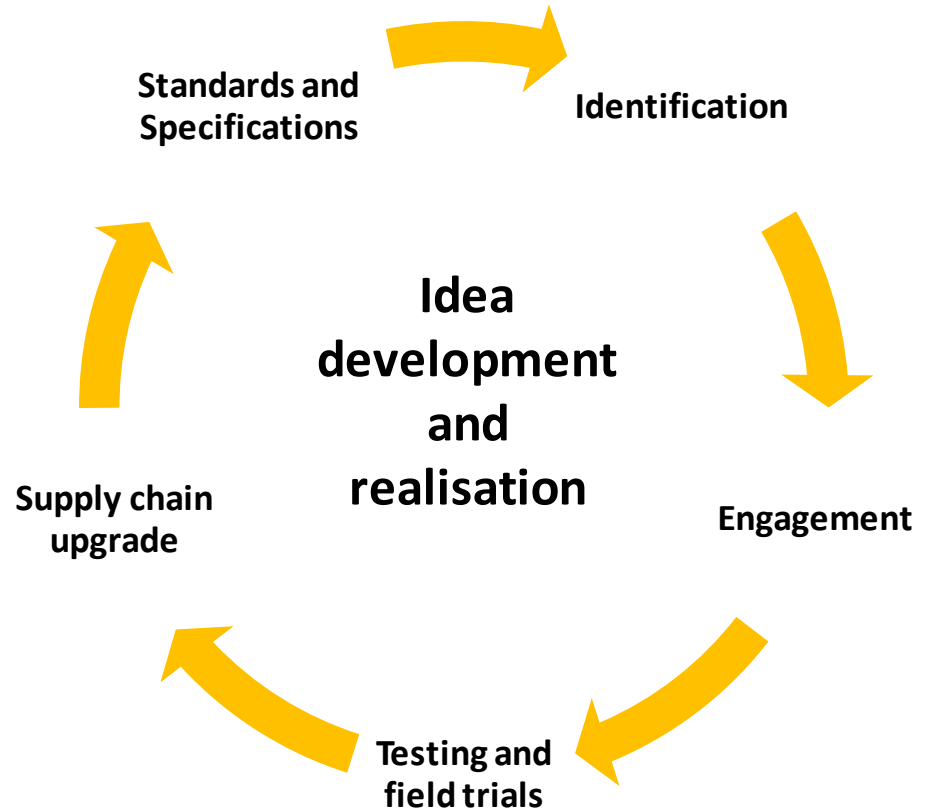


## Collaboration – key to progress

- Low carbon concrete working group
- MTIA project offices, returned asset owners, universities, suppliers, contractors
- Leverage the Big Build for trials, including:
  - Virgin aggregate and sand replacement
  - Steel replacement
  - High SCM mixes
  - Geopolymers
  - Calcined clays
  - Combinations of the above



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## Recent innovations

- **Metro Tunnel State Library Station**
  - 25% recycled glass sand in structural grade concrete slabs
- **Mt Derrimut Rd LX Station Roof**
  - 40 MPa 50% SCM & Polyrok @10kg/m<sup>3</sup>
  - DTP approved for structural applications
- **Melbourne Airport Rail early works**
  - 50 MPa 70% SCM
  - 50 MPa 50% SCM + 20% recycled concrete aggregate
- **Epping Road**
  - 50 MPa precast box culverts 50% SCM
- **Calcined clay investigations**



# What's next?

- Panel discussion