MTU Ollscoil Teicneolaíochta na Mumha Munster Technological University

University of Limerick Ollscoil Luimnigh

Rialtas na hÉireann Government of Ireland

HCI Human Capital Initiative

Future Jobs Ireland Preparing Now for Tomorrow's Economy

RETHINKING ENGINEERING EDUCATION IN IRELAND

REEdI

REEdI:

Setting the agenda for Engineering Education in Ireland

Dr. Fiona Boyle

18th March 2021

www.reedi.ie

Follow us on @REEdiDept

"We are currently preparing students for jobs and technologies that don't yet exist..... in order to solve problems that we don't even know are problems yet"

Richard Riley (former US Secretary of Education)

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International Context

MIT	• CDIO- **C**onceive- **D**esign- **I**mplement- **O**perate (http://www.cdio.org)
UCL	• IEP: **I**ntegrated **E**ngineering **P**rogramme
CSU	• Work Based Placement, eLearning, performance planning

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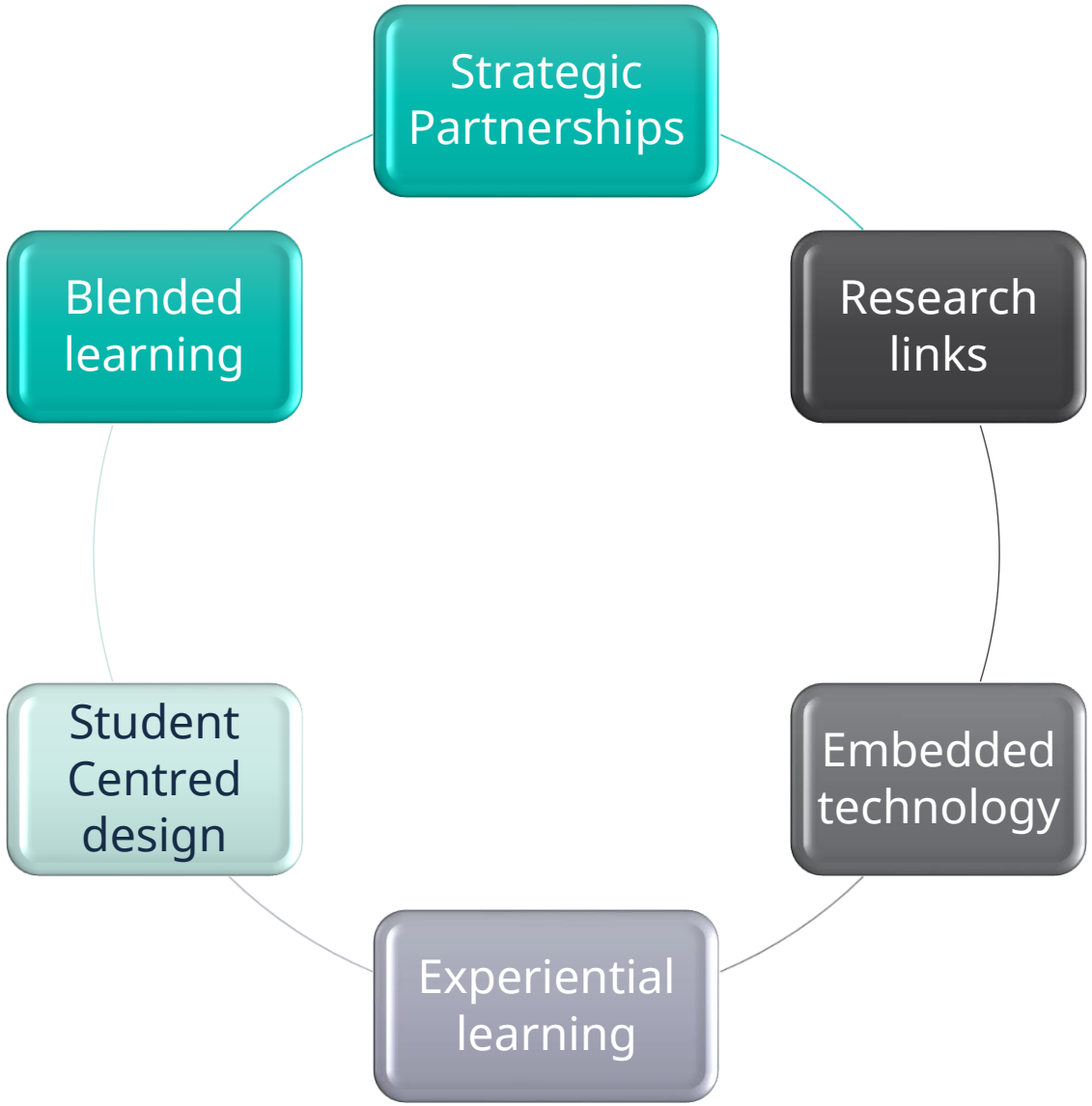
Pedagogical Aspects of world class Engineering Curricula



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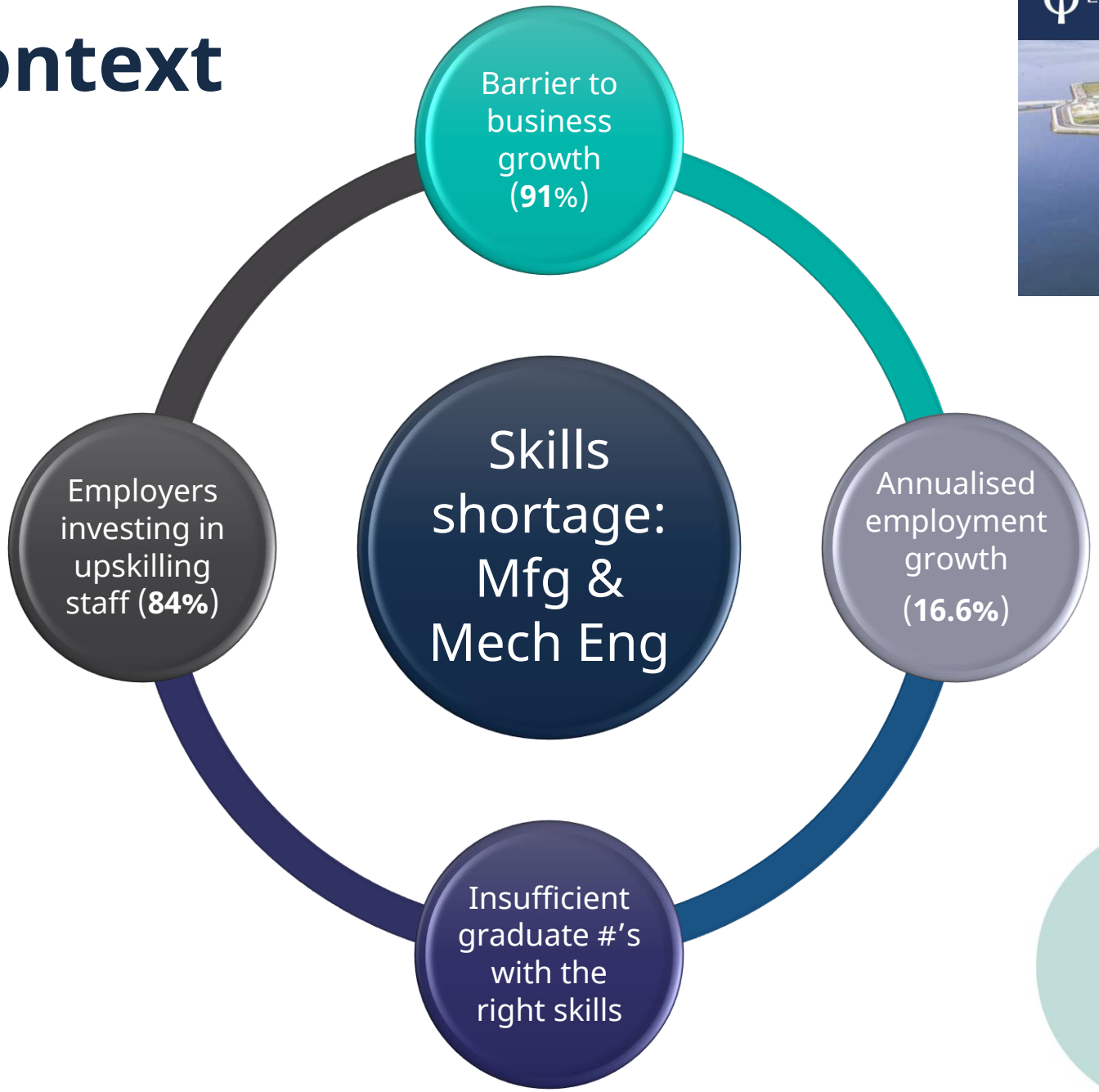
Graham, R. (2018). The global state-of-the-art in engineering education. Massachusetts Institute of Technology (MIT) Report, Massachusetts, USA

The Irish context



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Evidence of Manufacturing Industry in the South West of Ireland

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REEdI: Backed by Policy

- *MTU Mission, Vision & Key Characteristics*
- *Kerry Local Economic & Community Plan 2016-2022 (LECP)*
- *South West Regional Enterprise Plan*
- *Project Ireland in the South West*
- *Rural regeneration plan*
- *Regional action plan for jobs*
- *Project Ireland 2040*
- *Irelands Industry 4.0 Strategy 2022-2025*
- *Future Jobs 2019*
- *National Skills Strategy 2025*
- *National Development Plan 2018-2021*

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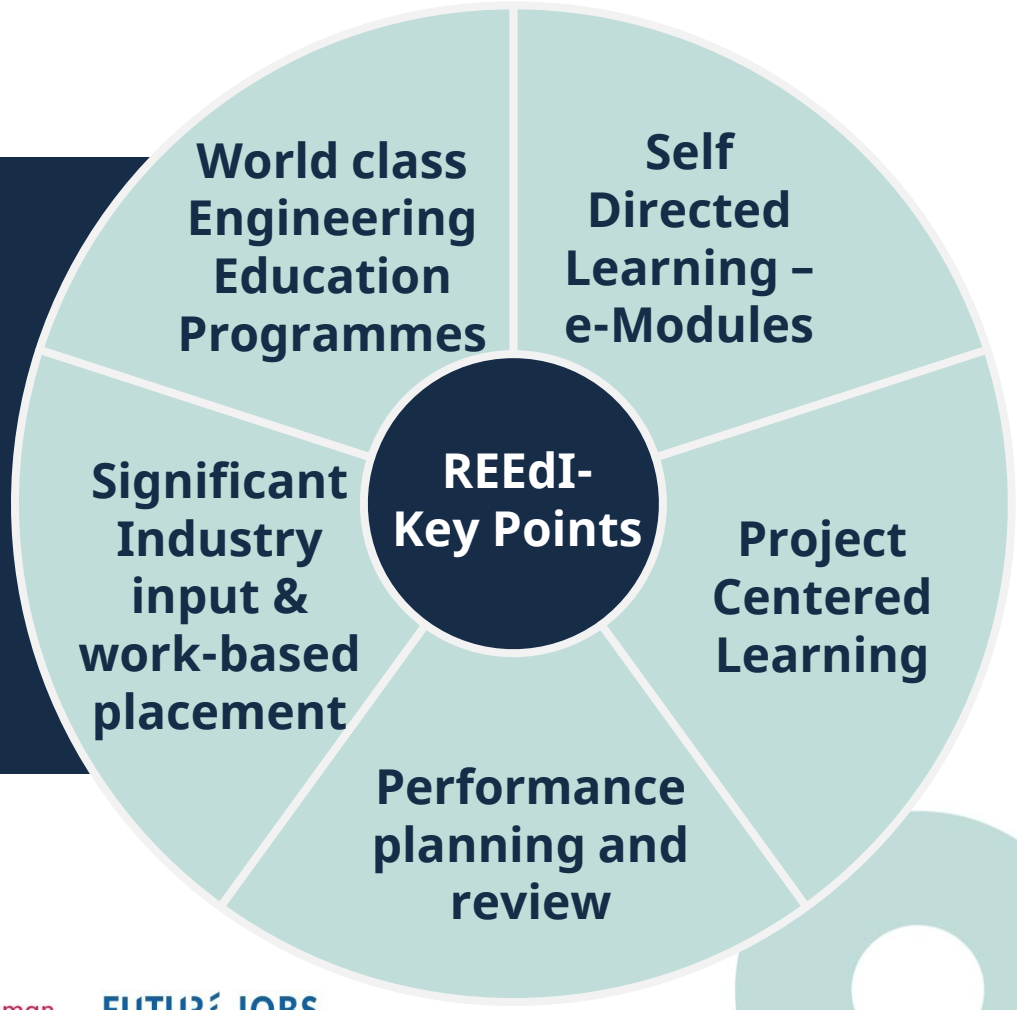
HCI: Agility and Innovation in Education

1. Skills needs for enterprise
2. Future proof graduates - emerging technologies
3. Transversal Skills
4. Reform and innovate- build on best practice nationally / internationally



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REEdI Partners

Academia

MTU
Ollscoil Teicneolaíochta na Mumhan
Munster Technological University

UNIVERSITY OF LIMERICK
OLLSCOIL LUIMNIGH

Harper Adams University

Charles Sturt University

Industry

LIEBHERR

Johnson & Johnson

KOSTAL

McHale

DAIRYMASTER

astellas
Leading Light for Life

TRICEL
GENERATIONS OF INNOVATION

ABBEY MACHINERY
since 1947

Research Centres

IMaR Research Centre
INTELLIGENT MECHATRONICS AND RFID

lero THE IRISH SOFTWARE RESEARCH CENTRE

Confirm
Smart Manufacturing

ACE AGRiTECH
CENTRE OF EXCELLENCE

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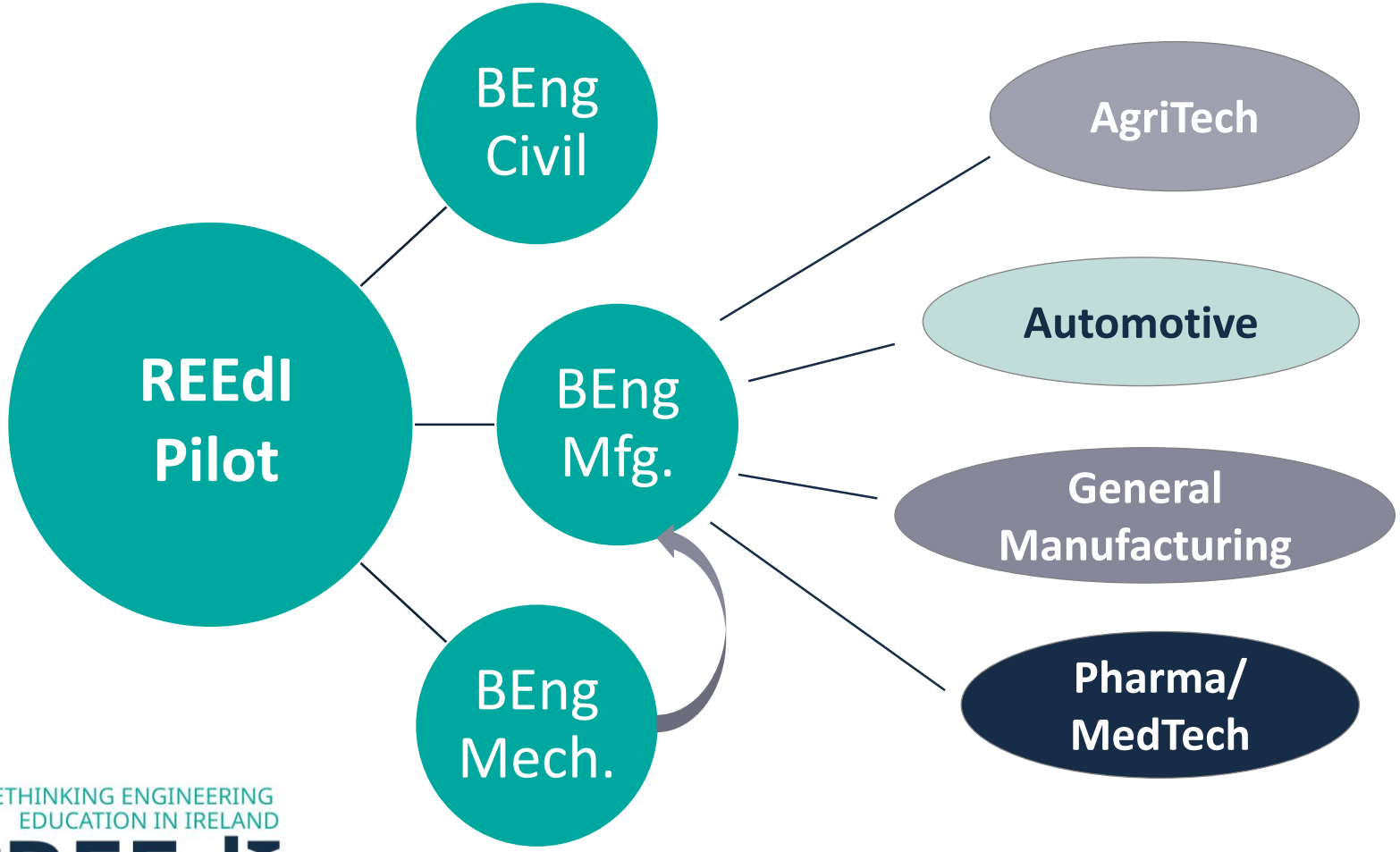
Pilot REEdI Programme: BEng/MEng in Manufacturing Engineering



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The REEdI Framework

Building on the **CSU** model-
The REEdI approach enables a student engineer to identify **what they need to know** [REEdI Learning Map (Pillar3) & Performance Planning (Pillar2)]; **how they are going to learn it**; and how they will **demonstrate competency** [Pillar1 Project Centric].

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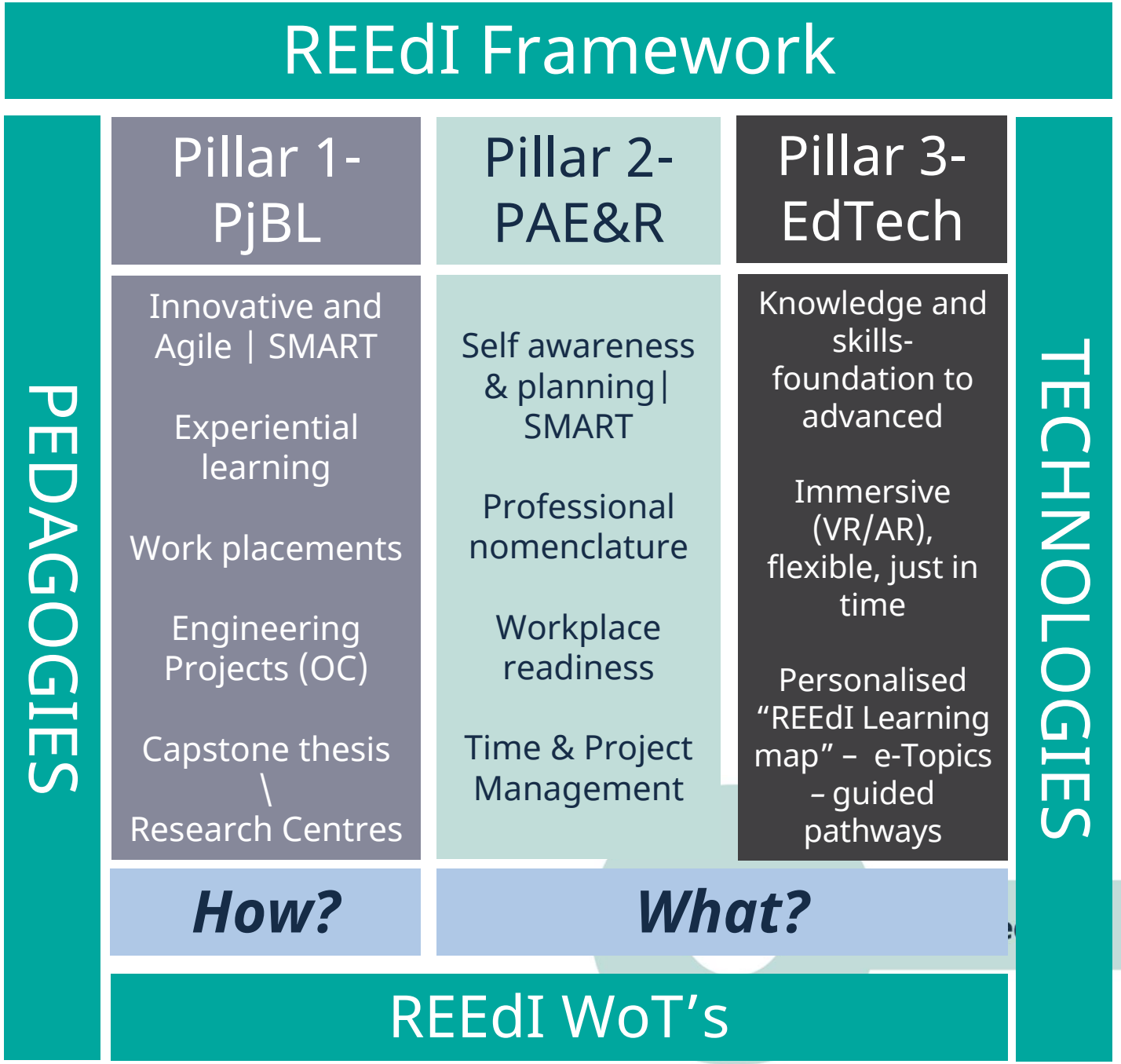
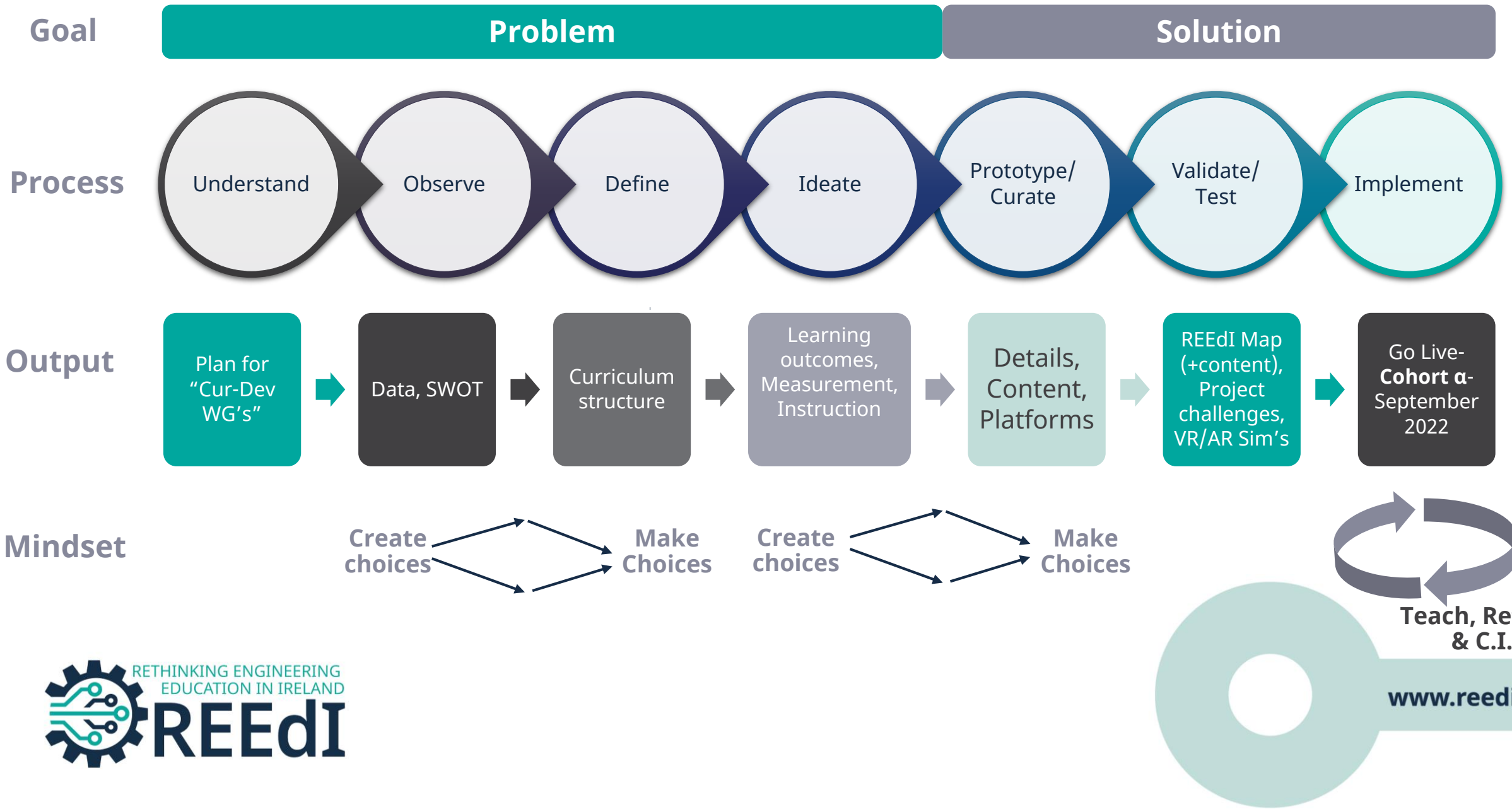


REEdI- Design Thinking



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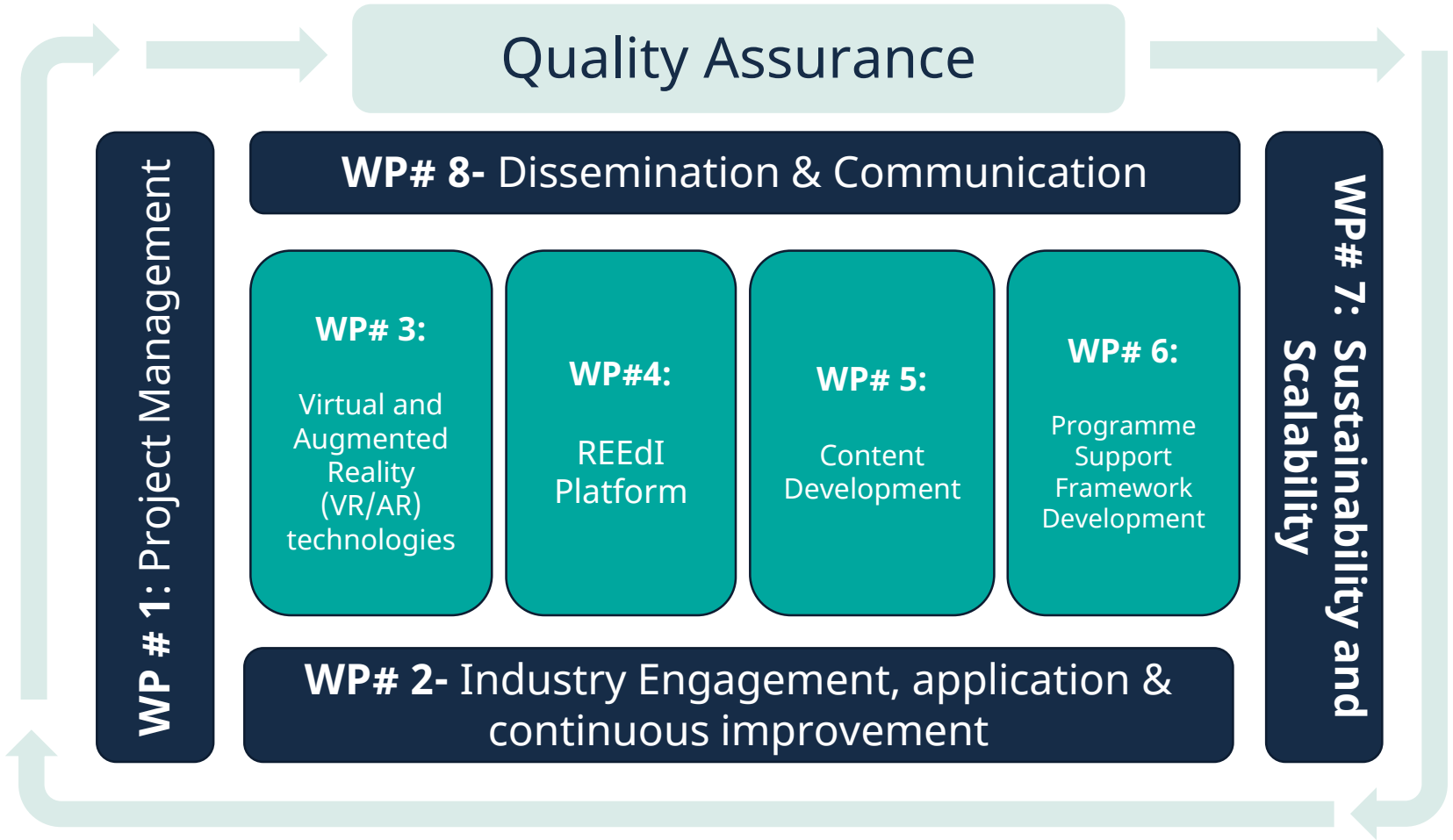
REEdI- Work Packages



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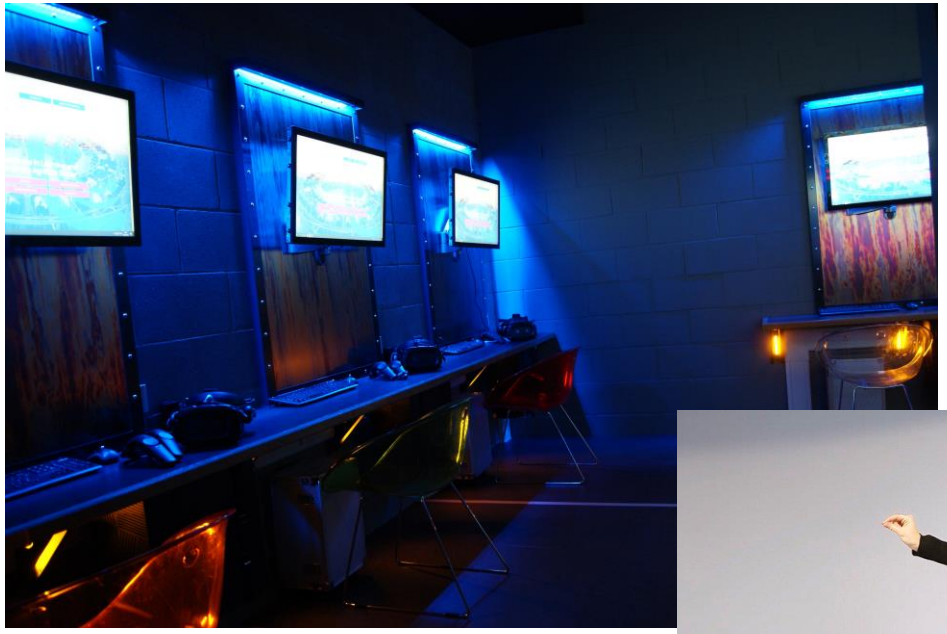
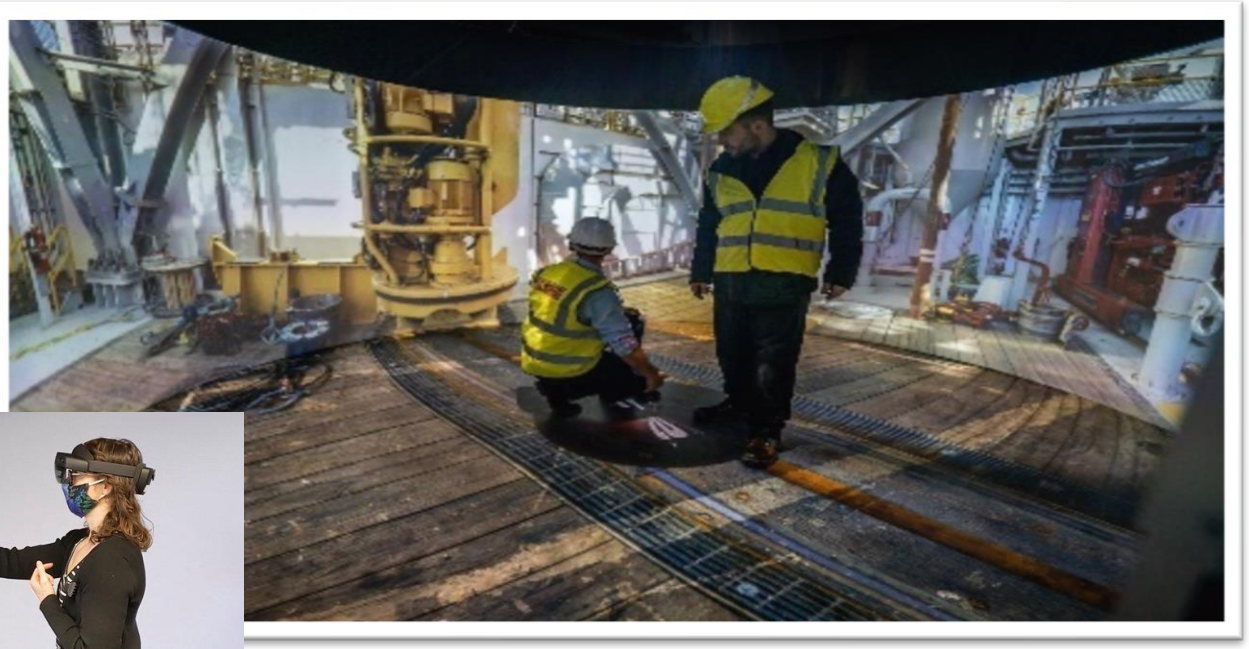
REEdI- Virtual & Augmented Reality technologies





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The REEdI Learning Map

Professor Euan Lindsay- Adjunct Professor of Engineering CSU NSW AUS- *Regional University*
https://www.youtube.com/watch?v=QOfSj7XcKAI

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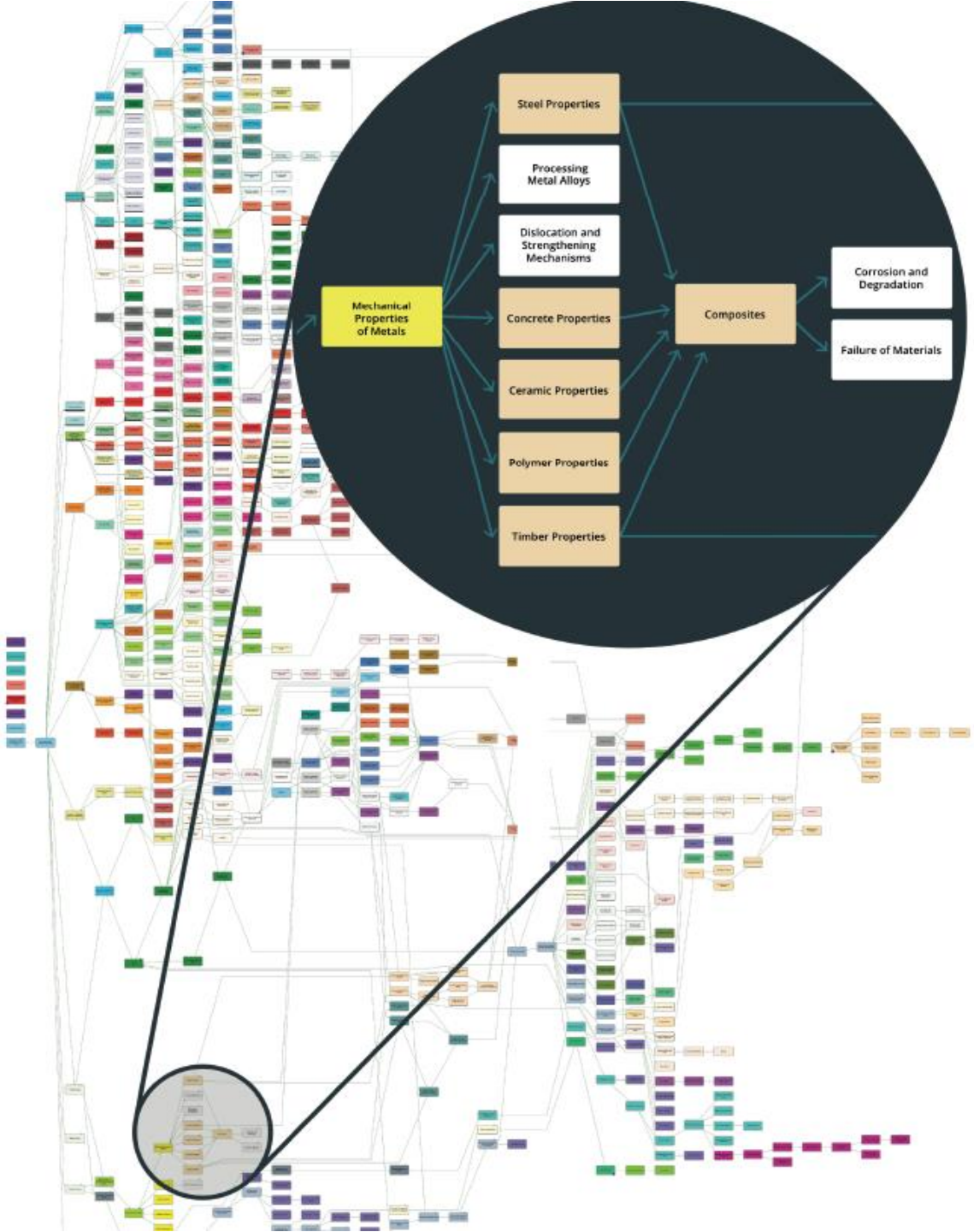
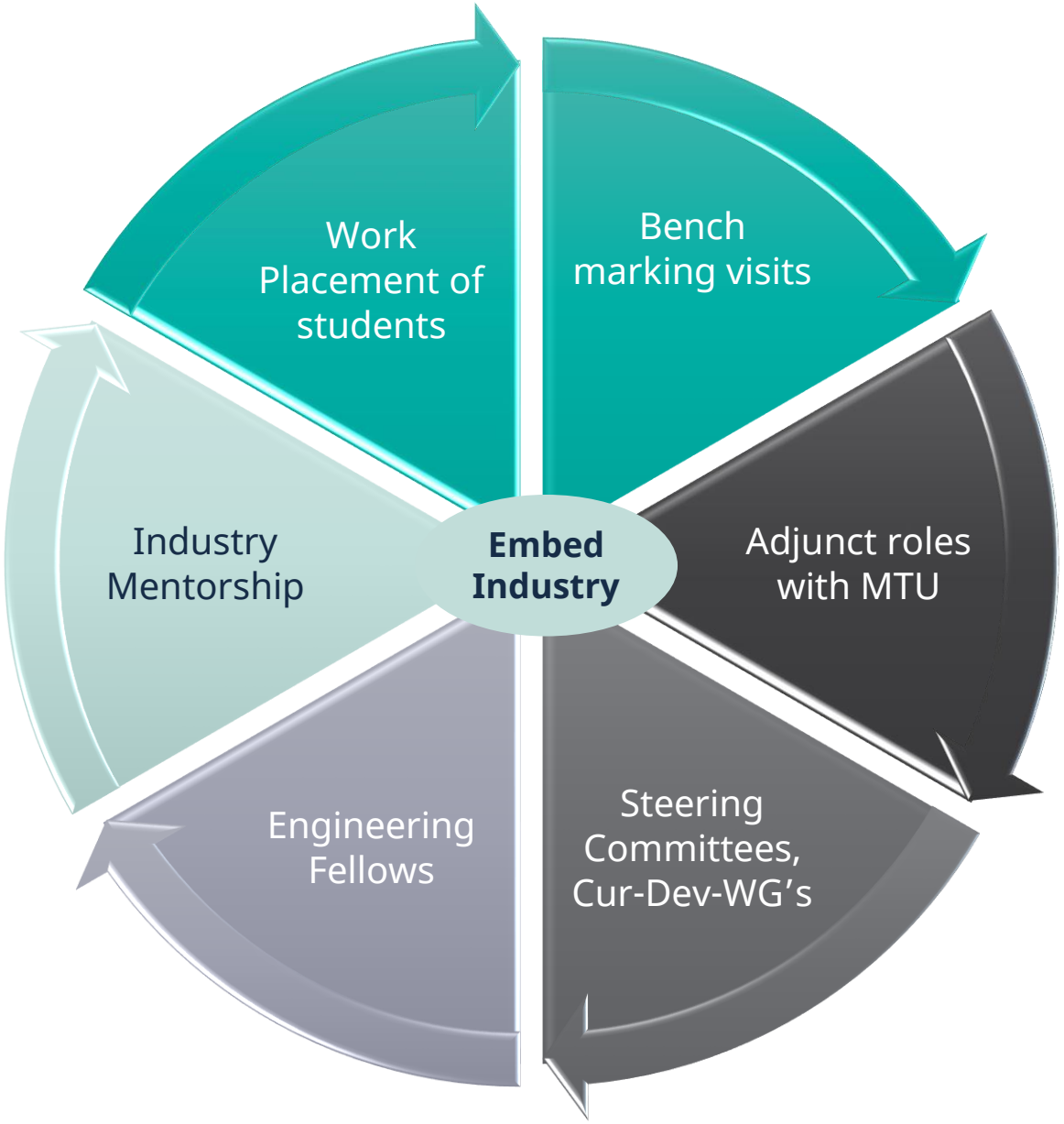


Industry Engagement: Co-designed, Co developed and Co-delivered



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“Michelangelo didn’t attend a semester of lectures; he learned in the studio with a master looking over his shoulder”

Professor Sanjay Sarma, Director of the Office of Digital Learning, M.I.T.

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THANK YOU!

For more information contact:

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