

Ireland's National Research Centre for **Construction Technology and Innovation**

Dr Daniel McCrum
Construct Innovate Challenge Theme Leader
and Member of Centre Executive
Management Committee

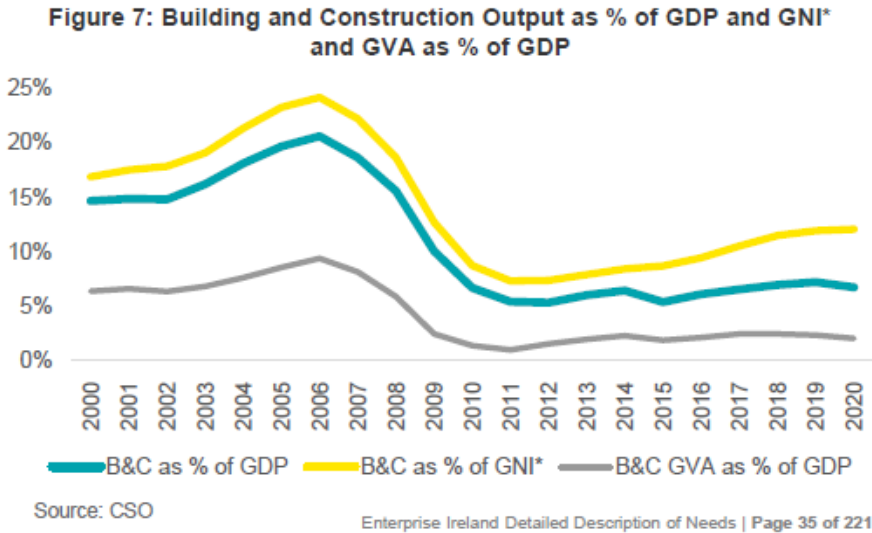


Challenges for the sector

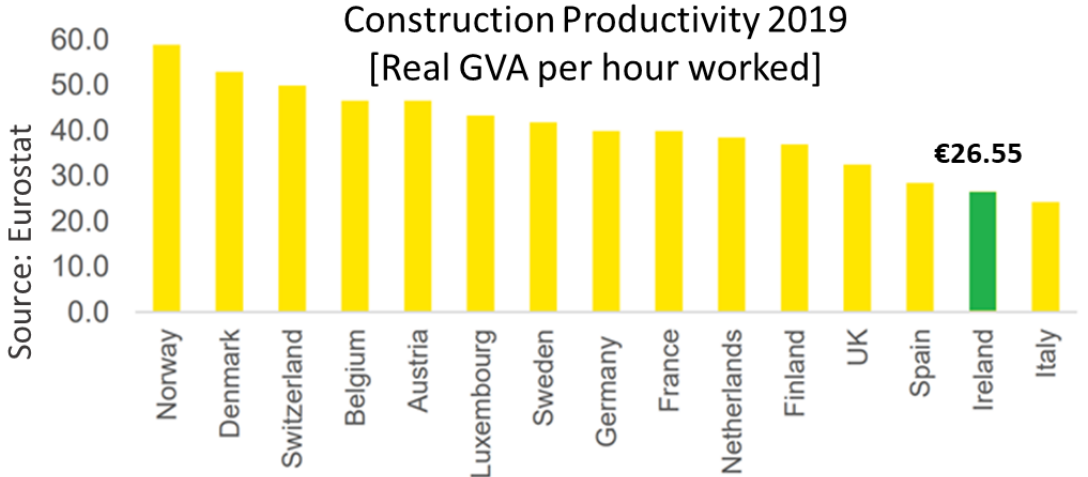
Cyclical nature

Fragmented sector

Low productivity



92.8% of companies employ <6 people
 99.6% of companies employ <50 people



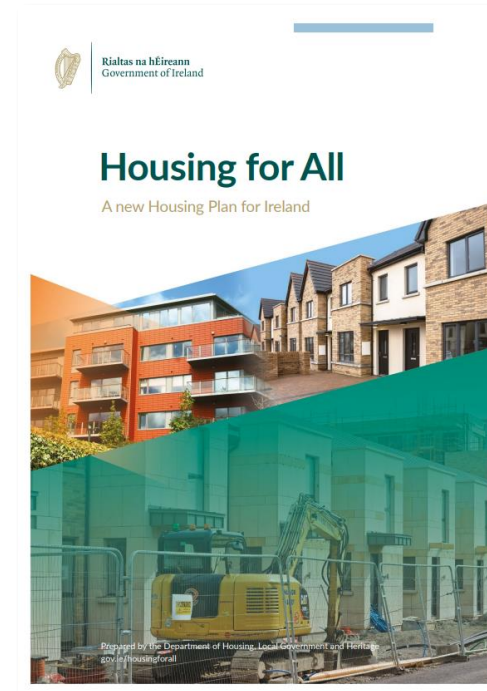
Background



€165 billion
2021 - 2030



Low carbon materials
& technologies in
construction and
renovation



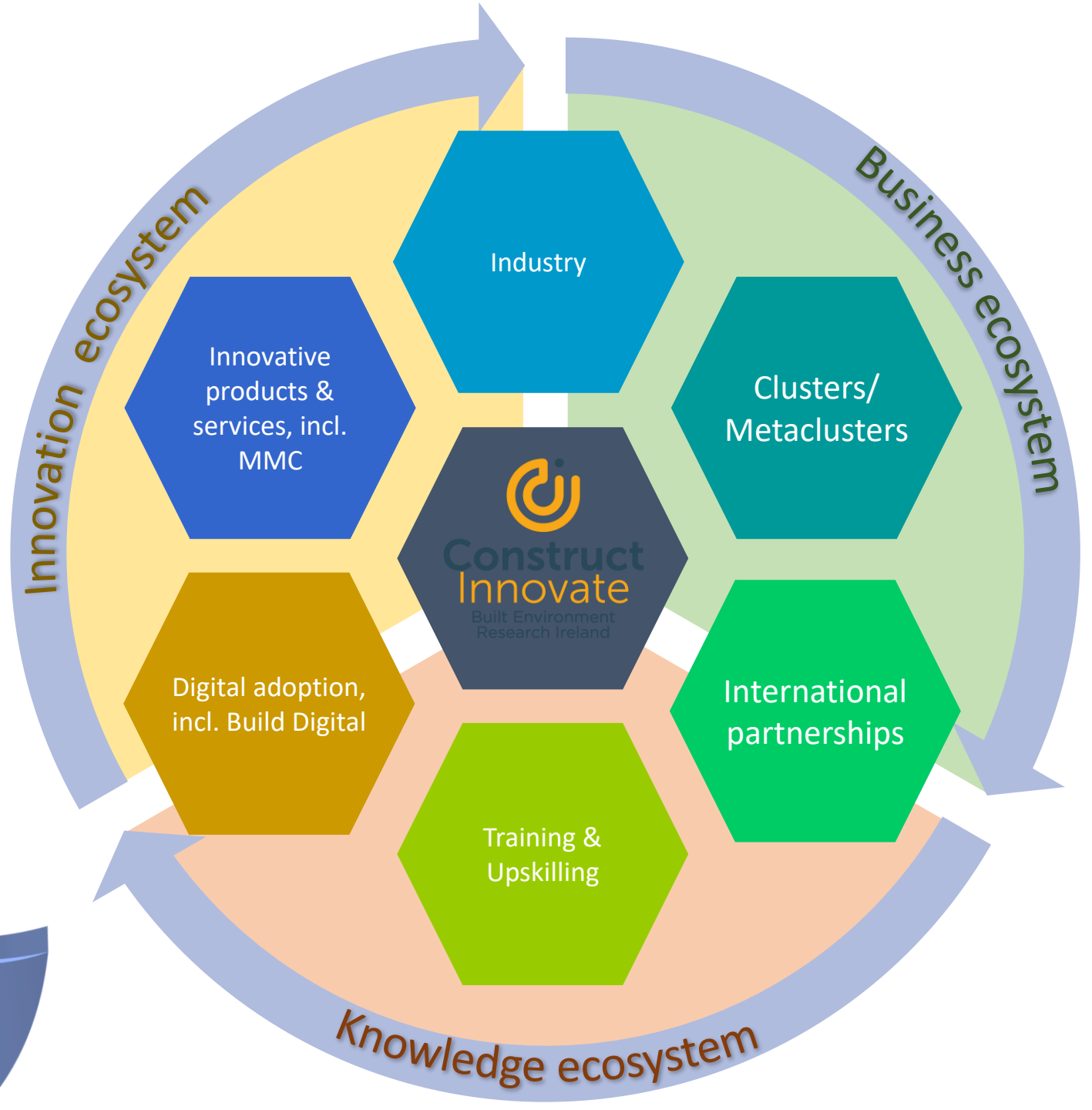
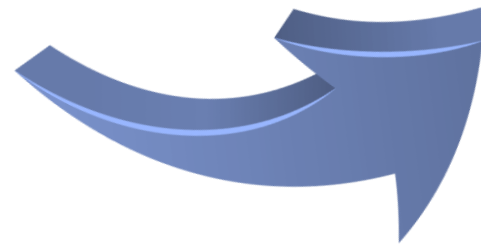
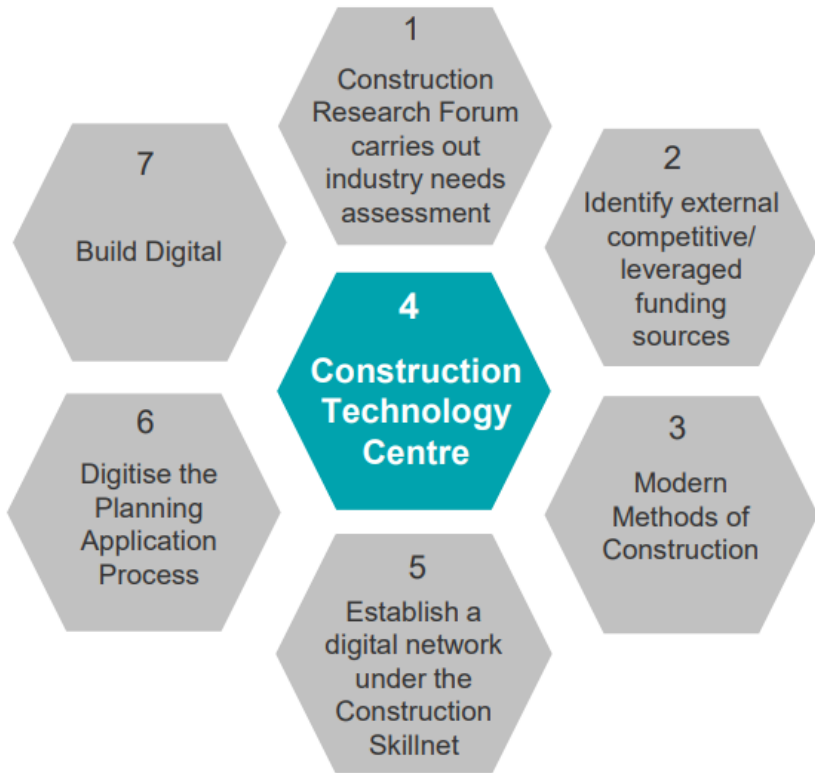
33,000 new homes
each year 2021 - 2030



Enterprise Ireland
Strategy 2022-
2024

Vision

A Detailed Description of Needs for the Irish Construction/Built Environment Sector



Brand new centre

Technology Centres
@EI_TechCentres

Tánaiste [@LeoVaradkar](#) announces €5m funding for Construction Technology Centre to accelerate research and innovation for the sector. Centre to be hosted @nuigalway with consortium partners [@toddublin](#) [@ucddublin](#) [@UCC](#) [@IrishGBC](#)
tinyurl.com/5b452229



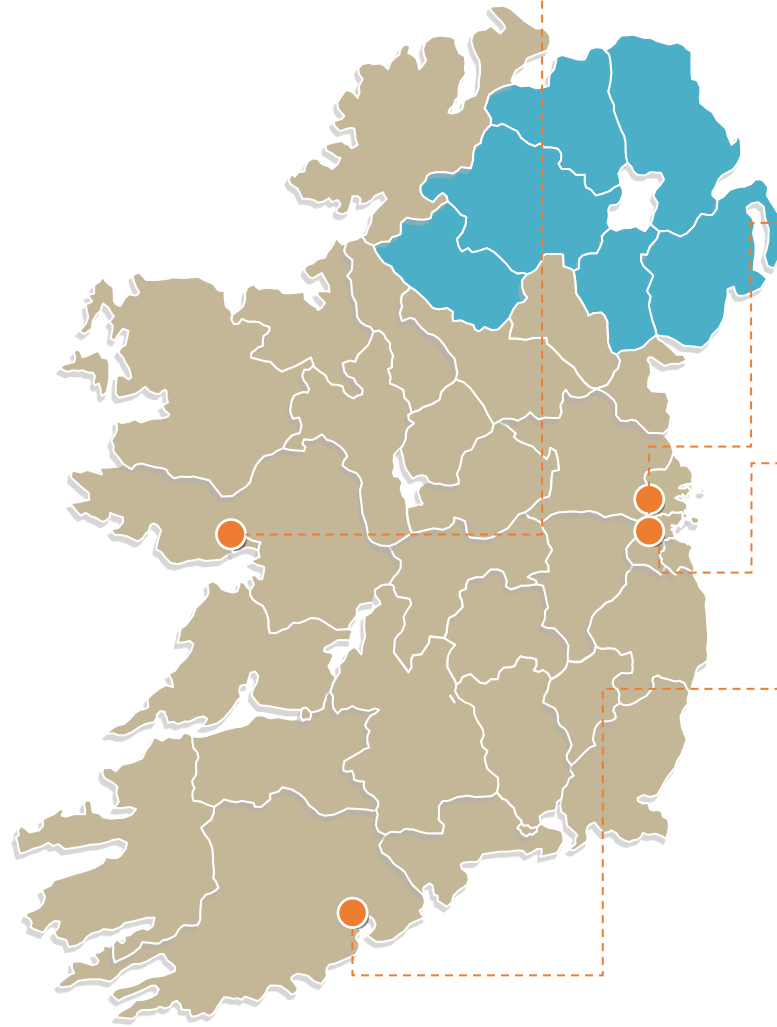
11:23 AM · Jul 21, 2022 · Twitter Web App



- National centre of excellence for research and innovation in construction and built environment technology
- 21st July 2022 – Announcement by the Tánaiste and Minister for Enterprise, Trade and Employment, Leo Varadkar TD
- **9th December 2022 – Official launch at University of Galway**

Construct Innovate

Vision to make Ireland a global research & innovation leader for sustainable construction and built environment technology



University of Galway



OLLSCOIL NA GAILLIMHÉ
UNIVERSITY OF GALWAY

Trinity College Dublin



Trinity | Coláiste na
College | Tríonóide
The University of Dublin

University College Dublin



University College Dublin
Ireland's Global University

University College Cork



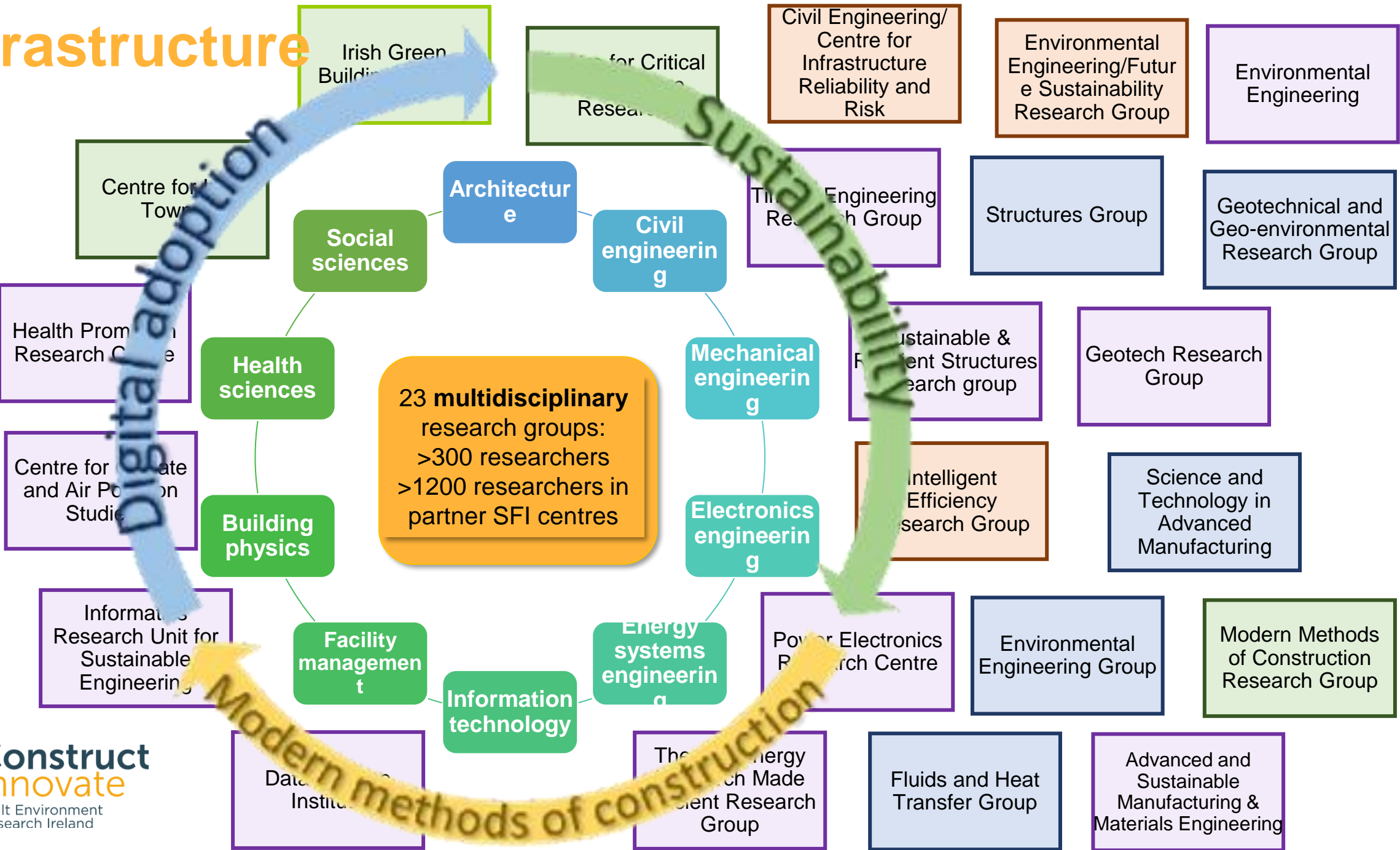
UCC
Coláiste na hOllscoile Corcaigh, Éire
University College Cork, Ireland

Irish Green Building Council

- >300 organisations nationwide
- Cross-disciplinary network
- Construction & built environment
- Entire value chain



Infrastructure



Digital adoption

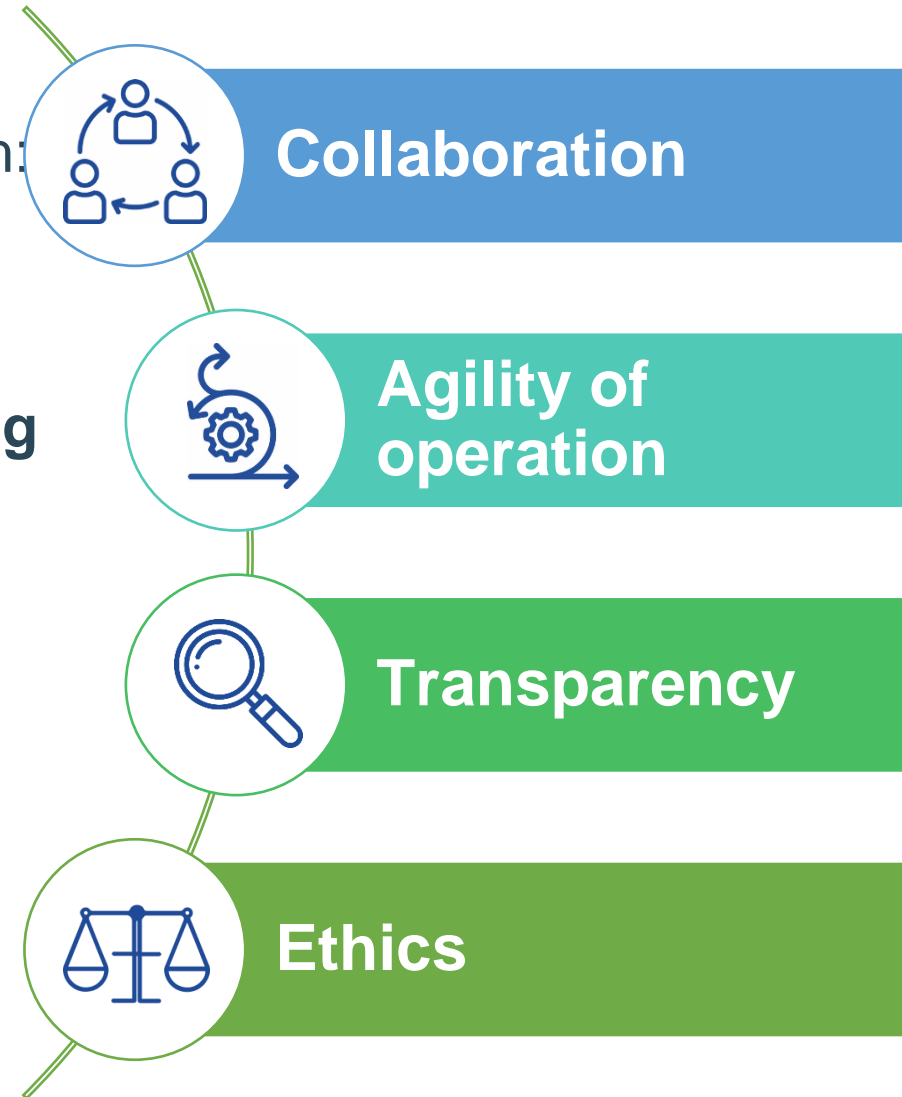
Sustainability

Modern methods of construction

Mission

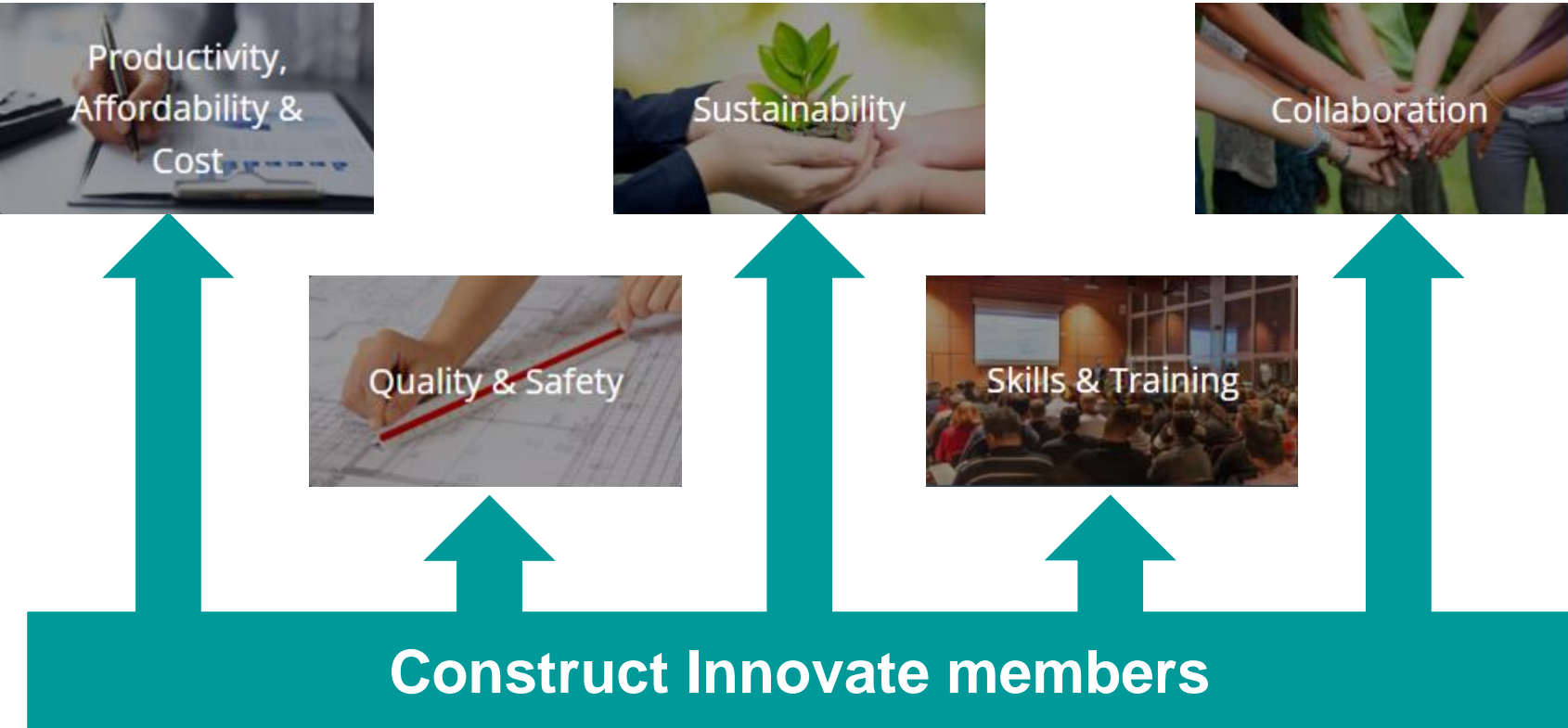
Construct Innovate as a **platform for collaboration**, which:

- Enables **disruptive and collaborative** processes.
- Provides **world-class research** expertise.
- Enables access to **state-of-the-art research and testing** facilities.
- Creates **pathways for access** to all size enterprises a one-stop-shop.
- Captures **indigenous and export oriented** market.
- Highlights **future skills** opportunities.
- Enables **open source data** and **information sharing**.



Working structure

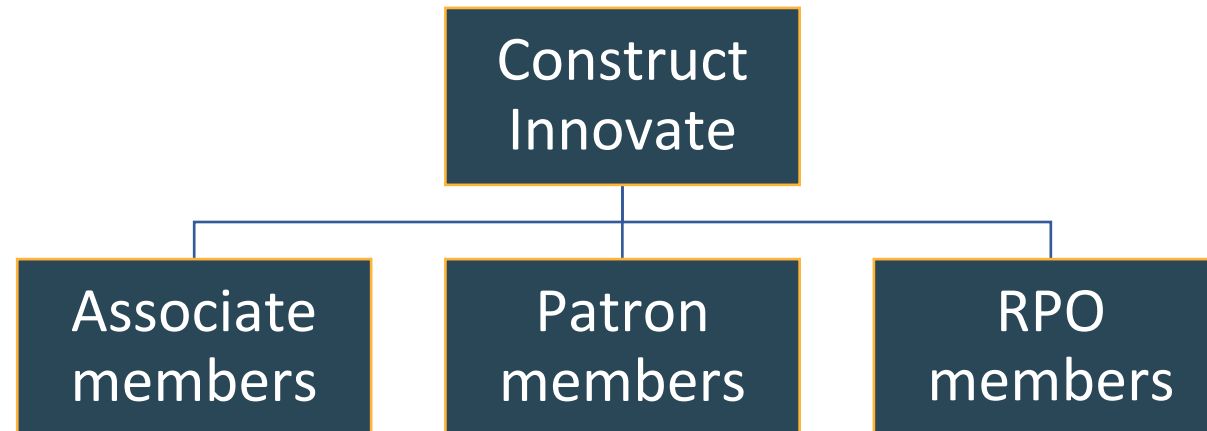
Thematic working groups will be a fundamental part of the Centre since its inception



Thematic working groups
Pre-fabrication & Modular construction
Advanced building materials
3D printing & Additive manufacturing
Autonomous construction
Augmented reality & Visualisation
Big data & Predictive analytics
Wireless monitoring & Connected equipment
Cloud & Real-time collaboration
3D scanning & Photogrammetry
Building Information Modelling

Membership

- **Open to all** entities with an **interest in construction, built environment technology and innovation**, including commercial and industrial undertakings, non-commercial organisations, research performing organisations and research technology organisations.
- **All members can:**
 - Submit proposals on research topics
 - Be informed of all published centre results that are in the public domain
 - Participate in working groups



Digital platform

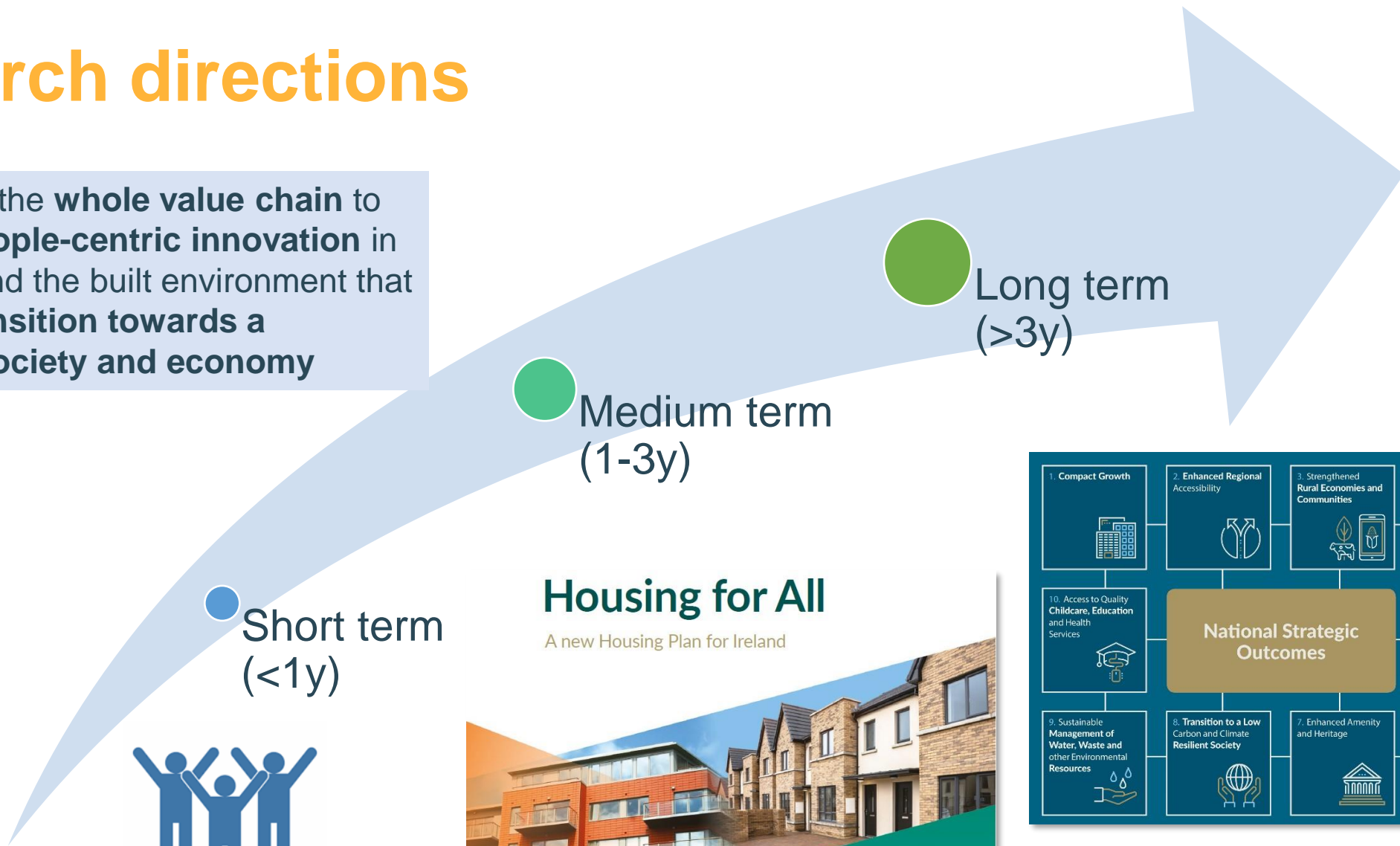


www.constructinnovate.ie

- Access to 23 research groups in partner institutions.
- Details of testing facilities in partner institutions.
- Details of >200 research projects relating to sustainable construction and built environment technology.

Research directions

Bring together the **whole value chain** to **accelerate people-centric innovation** in construction and the built environment that **drives the transition towards a sustainable society and economy**



'Quick wins'

Housing for All

A new Housing Plan for Ireland



Research programme – short term

Additional €500k from Department of Enterprise, Trade & Employment assigned to **Accelerated Housing Applied Research, Dissemination and Demonstration Programme & Construct Innovate Core Programme Fund 2023**



‘Quick wins’

AHARDD 2023

Design for Manufacture and Assembly with Design for Reuse

Increasing the use of home grown C16 timber in housing

Behavioral attitudes to MMC

Testbed for envelope solutions testing

Practical guidance for planners and developers for carbon optimisation of constructions and developments

Sustainable Living Houses/apartments – Performance Data

Residential stock (energy) consumption model to inform climate policy

Construct Innovate 2023

Review System for Standards, Testing, Certification and Accreditation for the delivery of housing

Sustainable Cement and Concrete

National Digital Carbon Database for BIM

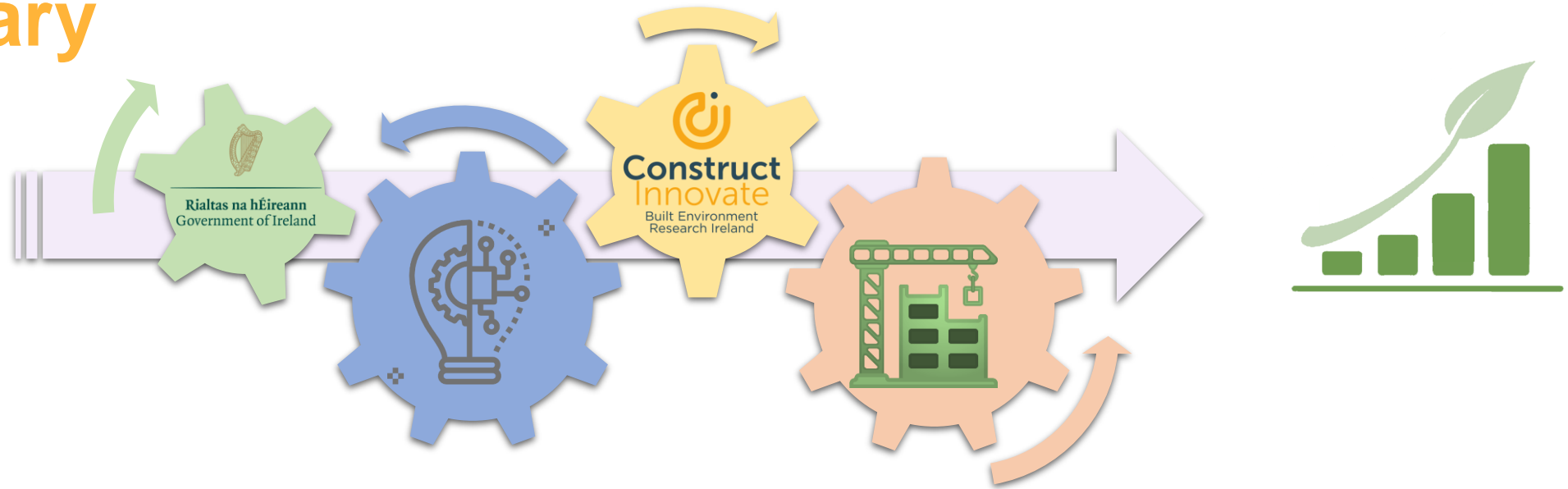
Research programme - Medium to Long-term

The Centre will focus on addressing the National Strategic Outcomes defined in the recently published [National Development Plan](#), ensuring 'infrastructure-led' and 'green' recovery in Ireland.

Modern Methods of Construction (MMC)	Digital Adoption	Sustainability	Construction Community Engagement
T1.1. Standardisation & Routes to Certification	T2.1. Standardisation & Procurement	T3.1. Retrofitting of Existing Structures	T4.1. Building a Community of Best Practice
T1.2. Next Generation Rapid Build Systems	T2.2. Construction Products for Digital Twinning	T3.2. Decarbonisation of the Construction Process	T4.2. A Just Transition of the Construction Sector
T1.3. Autonomous Construction	T2.3. Digital Project Teams – AR, VR, Communication	T3.3. Energy Performance of Buildings	



Summary



- Bring together the **whole value chain** to **accelerate people-centric innovation** in construction and the built environment that **drives the transition towards a sustainable society and economy**, relying on the active engagement of our partners and a European network of Innovation Clusters.

Membership of Construct Innovate is open to all construction/ built environment stakeholders with an interest in the development of construction technology expertise in Ireland.

- If you are interested in becoming a member of Construct Innovate: visit www.constructinnovate.ie or email info@constructinnovate.ie

slido

Join at
slido.com
#4136 232



Thank you

www.constructinnovate.ie

info@constructinnovate.ie

