WHAT DOES THE FUTURE OF YOUR CONSTRUCTION SECTOR LOOK LIKE?

SEAN DOWNEY
DIRECTOR – SPECIALIST CONTRACTING
SECRETARY – CIF CONSTRUCTION 4.0 SUBCOMMITTEE
WHAT’S DRIVING THE NEED FOR CHANGE

- Demand for improvements in project delivery
- Asset life cycle performance
- Affordability
- Socio-economic drivers (flexibility-liveability-wellbeing)
- Environmental resilience
- Sustainability – the carbon challenge
CIF – PRODUCTIVITY RESEARCH 2018

• Undertaken by Jeanette Mair

• Identifying and quantifying construction productivity

• Key project stages

• Survey and sectoral engagement

• Key findings – inhibitors; enablers
KPMG, FUTURE ANALYTICS, TU DUBLIN

- COMPLETED 2019 – PUBLISHED 2020
- FULL STAKEHOLDER ENGAGEMENT FOR 6 MONTHS
- PRELIMINARY FINDINGS
- 36 KEY RECOMMENDATIONS
- 7 SPECIFIC INNOVATION MEASURES WITH ALLOCATED ACTION LEADERS
DEPT. OF PUBLIC EXPENDITURE AND REFORM

• June 2020
• Detailed analysis of sector’s financial performance and metrics
• Re-assertion of 7 key innovation initiatives as drivers for change
# BUILDING INNOVATION REPORT
- 7 INNOVATION ACTIONS

<table>
<thead>
<tr>
<th>Action</th>
<th>Leader</th>
</tr>
</thead>
<tbody>
<tr>
<td>Further expand and develop the work of the Construction Research Forum and carry out an industry needs assessment.</td>
<td>CIF</td>
</tr>
<tr>
<td>Develop an action plan to promote funding opportunities arising from external funding sources such as the Horizon 2020 Programme and the Disruptive Technology and Innovation Fund.</td>
<td>ACEI/CIC</td>
</tr>
<tr>
<td>Establish a joint working group to guide the development of the off-site production sector.</td>
<td>CIF/CIC</td>
</tr>
<tr>
<td>Establish and fund a National Centre of Excellence for the construction sector.</td>
<td>Enterprise Ireland</td>
</tr>
<tr>
<td>Establish a digital network under the Construction Skillnet</td>
<td>CIF/CIC</td>
</tr>
<tr>
<td>Digitise the planning application process to reduce unsustainable, time and cost inefficient paper-based reporting.</td>
<td>LGMA, Local Authorities</td>
</tr>
<tr>
<td>Establish and fund Build Digital – a centre of excellence to promote BIM and digital adoption.</td>
<td>DPER</td>
</tr>
</tbody>
</table>
Construction Sector Group – Chair David Maloney

Construction Sector Innovation and Digital Adoption Group – Chair PJ Rudden

Innovation 7 Actions - Project Team – Chair PJ Rudden

1. Chris Chambers (CIF)
2. Sarah Ingle (ACEI)
3. Martin Searson (CIF)
4. Declan McGee (EI)
5. Cillian Kelly (CIF)
6. Eileen Dennan (LGMA)
7. Fionn Jenkinson (DPER)

* (Denotes mentor/reviewer)
<table>
<thead>
<tr>
<th>Action 1</th>
<th>Action 2</th>
<th>Action 3</th>
<th>Action 4</th>
<th>Action 5</th>
<th>Action 6</th>
<th>Action 7</th>
</tr>
</thead>
</table>
CONSTRUCTION TECHNOLOGY CENTRE BUILD PROCESS
(Linked to 7 CSG Actions on innovation and digital adoption)

1. **Agree High level Coordination of CSG actions**
2. **Construction Research Forum carries out industry needs assessment**
3. **Engage with Construction companies to identify collaboration research agenda**
4. **Establish a Detailed Description of Needs (DDN) for the industry**
5. **Guide the development of the off-site production sector**
6. **Go/No Go Decision on Technology Centre**
7. **Procure Host organization to locate the activities based on the DDN**
8. **Identify and Procure Centre Director**
9. **Agree and Fund 5 Year Plan**
10. **Establish a digital network under the Construction Skillnet**
11. **Digitise the planning application process**
12. **Establish and Fund Build Digital – CoE for BIM and digital adoption.**
13. **Guide the development of the off-site production sector**
14. **Go/No Go Decision on Technology Centre**
15. **Procure Host organization to locate the activities based on the DDN**
16. **Identify and Procure Centre Director**
17. **Agree and Fund 5 Year Plan**
18. **Establish a digital network under the Construction Skillnet**
19. **Digitise the planning application process**
20. **Establish and Fund Build Digital – CoE for BIM and digital adoption.**

**Figure 2**
SURVEY 2020 - THEMATICS

• Management processes – Lean, continuous improvement, QMS, BIM, blockchain
• Modular, Off-site, industrial production, pre-manufacturing, workflows
• People and resource management, behavioural
• Product advancement, technology and innovation
• Sustainable construction, carbon reduction
• Supply chain optimisation, end-to-end delivery
CIF
Modern Methods of Construction
October 2020

CIF
Construction Industry Research Needs Analysis
November 2020
Minister McGrath launches competitive challenge-based grant call to deliver Build Digital Project for the Construction Sector in 2021

The Minister for Public Expenditure and Reform, Michael McGrath TD, has today launched a competitive challenge-based grant call to deliver the Build Digital Project for the Construction Sector in 2021.

Increasing innovation in the Irish Construction Sector is more necessary than ever over the coming years in order to deliver on the ambitions set out in the Government’s Project Ireland 2040 investment strategy.
# INVITATION TO TENDER

This activity facilitates actions identified by the Government’s Construction Sector Group to achieve and maintain a sustainable and innovative construction sector positioned to successfully deliver on the commitments in Project Ireland 2040.

## Award of a Contract for
Technical facilitation and production of a Detailed Description of Needs (DDN) in the construction/built environment industry sector in Ireland in relation to:
- Technology and Innovation
- Digital Adoption and
- Modern Methods of Construction
  while being attentive to environmental, sustainability and circular economy imperatives.

<table>
<thead>
<tr>
<th>Procedure</th>
<th>OPEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>eTenders RFT ID</td>
<td>181354</td>
</tr>
<tr>
<td>EI Ref</td>
<td>2020/22</td>
</tr>
<tr>
<td>Issue Date</td>
<td>Friday, 4th December 2020</td>
</tr>
<tr>
<td>Closing Date for Queries</td>
<td>Tuesday, 15th December 2020 @ 12 noon (Irish Time)</td>
</tr>
<tr>
<td>Submission of Queries</td>
<td>Via the messaging portal on eTenders on <a href="http://www.etenders.gov.ie">www.etenders.gov.ie</a></td>
</tr>
<tr>
<td>Closing Date / Time For receipt of Tenders</td>
<td>Wednesday, 6th January 2021 @ 12 noon (Irish Time)</td>
</tr>
</tbody>
</table>

Please note that information relating to this Tender Document, including clarifications and changes, will be published on the Irish Government Procurement Opportunities Portal (www.etenders.gov.ie). Registration is free of charge and there is no charge for documents. Please note that The Contracting Authority cannot accept responsibility for information relayed (or not relayed) via third parties.
Project Development Phase
Designing the project infrastructure

**Year -2 to Year 0 (Sept 2020 to Sept 2022)**

- **Project Manager**
- **Industrial Technical committee**
- **Business Plan Development**
- **Ditto across the 3 project units**

**Project Development Board**

- **Project**
  - Executive Chairperson
  - Development Board members
  - (CSG nominees)

- **Development of Technology Centre**
  - (ACTION 4)

- **MMC**
  - (ACTION 3)

- **Build Digital Project**
  - (ACTION 7)

**Year -2 to Year 0 (proof of concept phase)**

Courtesy of: MMC WG
Project Delivery Phase
Delivering proof of concept

Year 1 to Year 5
(Sept 2022 to Sept 2027)

- Project Delivery Board
  - Industrial Delivery Board
  - CEO
  - Executives / Company Secretariat

- Technology Centre
  - Business Plan Development
  - Ditto across the 3 project units

- Build Digital Project

Activity 1
Activity 2
Activity 3

Courtesy of: MMC WG
Benchmarking – What does our vision look like?

Construction Scotland Innovation Centre

35,000 sq. ft
Designed to support construction related businesses to collaborate and innovate.

https://www.cs-ic.org/innovationcentre/innovation-factory/

Courtesy of: MMC WG
Benchmarking Construction Scotland Innovation Centre

OFFERS A RANGE OF PRODUCT DEVELOPMENT, MANUFACTURING, ROBOTICS AND VISUALISATION EQUIPMENT.

TECHNICAL AND SUPERVISORY SUPPORT

GUIDANCE AND ADVICE REGARDING PROJECTS AND EQUIPMENT USE.

Courtesy of: MMC WG
Current Technology Centre Portfolio (Centres funded based on performance and impact)

- **Dairy Processing**
  - Phase 2: €14.0m Funded
  - Projected ROI: 13.7 X

- **Pharmaceutical Manufacturing**
  - Phase 2: €5.0m Funded
  - Projected ROI: 17.2 X

- **Food for Health**
  - Phase 3: €7.2m Funded
  - Projected ROI: 6 X

- **Meat**
  - Phase 1: €10.0m Funded
  - Projected ROI: 20 X

- **Microelectronics**
  - Phase 3: €12.0m Funded
  - Projected ROI: 16.9 X

- **Data Analytics & AI**
  - Phase 2: €12.0m Funded
  - Projected ROI: 5.9 X

- **Manufacturing**
  - Phase 2: €23.5m Funded
  - Projected ROI: 16.9 X

- **E-Learning**
  - Phase 2: €14.0m Funded
  - Projected ROI: 13.7 X

**Projected ROI**
- Dairy Process*: 3.7 X
- Pharmaceutical Manufacturing: 17.2 X
- Food for Health: 6.0 X
- Meat: 20.0 X
- Microelectronics: 16.9 X
- Data Analytics & AI: 5.9 X
- Manufacturing: 16.9 X
- E-Learning: 13.7 X

*Projected ROI for Dairy Processing.
SO WHAT DOES THE FUTURE OF YOUR CONSTRUCTION SECTOR LOOK LIKE?
SO WHAT DOES THE FUTURE OF YOUR CONSTRUCTION SECTOR LOOK LIKE?

Disruptive technology transfer is here

All it needs now is belief and scale
A recent OECD study estimated that the average Irish worker faced a 46% probability of being automated by the 2030’s.
Thank you and good luck in your construction journey