An aerial view of three construction workers at a site. They are gathered around a wooden table, looking at large blueprints. One worker on the left wears a yellow hard hat and a high-visibility vest. The worker in the middle wears a blue hard hat and a high-visibility vest. The worker on the right wears a white hard hat and a high-visibility vest. On the table are various items: a smartphone, a tablet, a pen, a coffee cup, a pink folder, and a rolled-up document. The background shows a concrete ground with some construction materials.

Construction capacity and challenges

Annette Hughes

Director | EY Economic Advisory

16 September 2022

What do we mean by construction capacity?

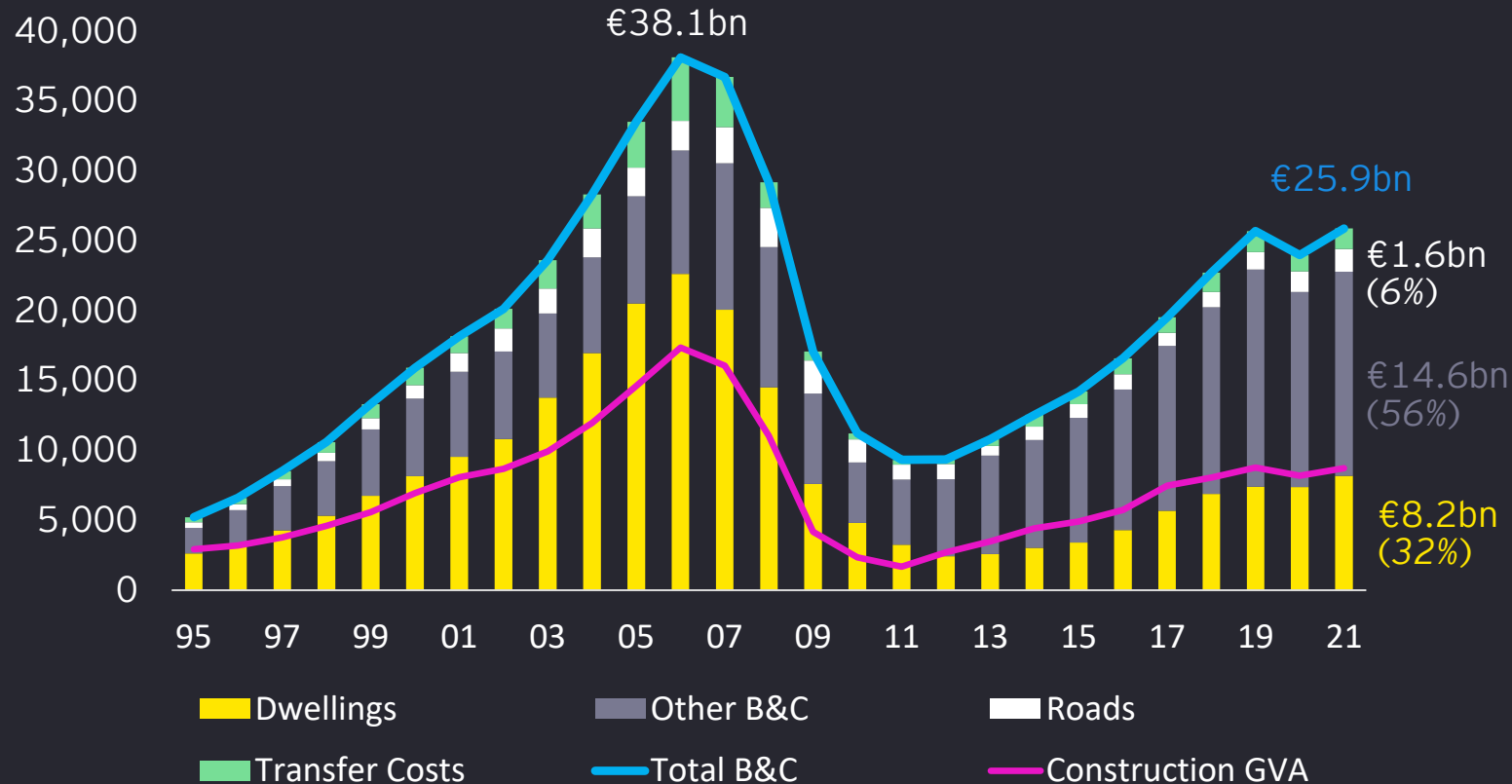
- The combinations of inputs used in production - land, labour, plant and machinery
- The maximum output attainable within the limits considered acceptable at a given time
- Influenced by the economic cycle
- The adoption of technology and digital innovations are becoming an important game changer for the industry



Gross Fixed Capital Formation (GFCF) in Building and Construction is the official measure in the National Accounts

Building and Construction GFCF

(Current prices, €m)

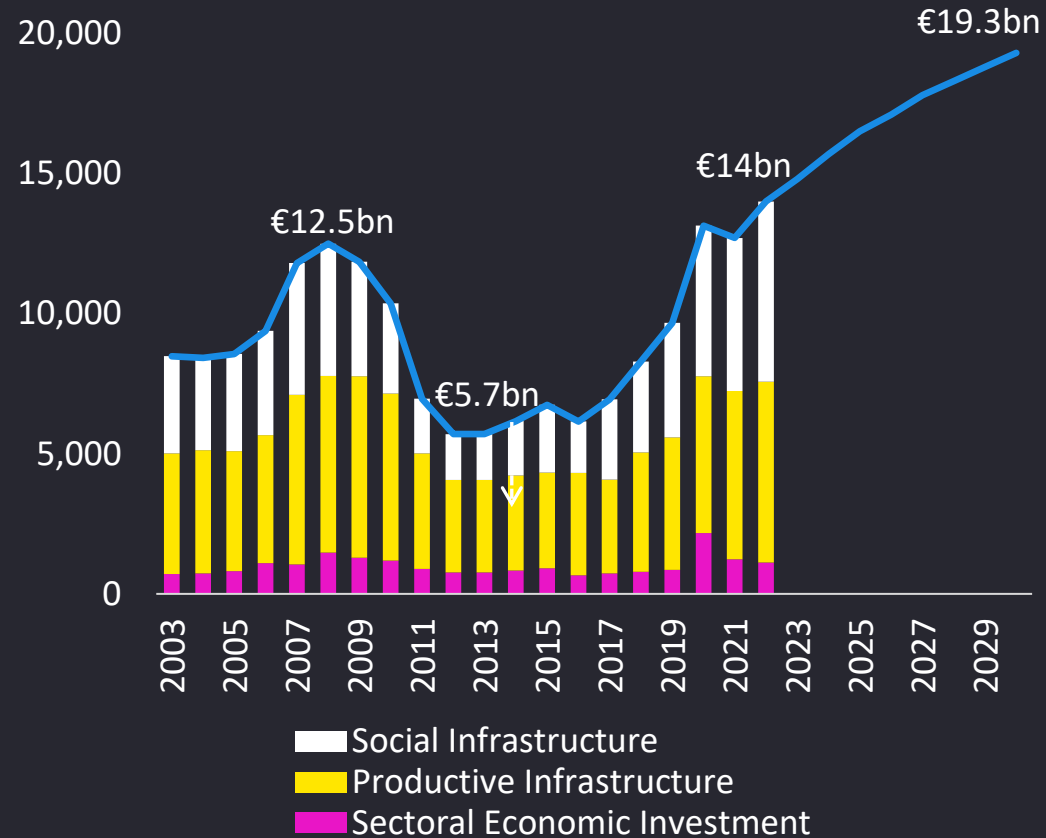


- Investment in B&C accounts for 6.1% of GDP and 11.1% of GNI*
- New residential construction represents €5.1bn or c20% of the B&C investment (private and public)
- c.63% represents other B&C investment (private and public)
- Construction GVA at €8.7bn represents 2.0% of GDP and 3.7% of GNI*

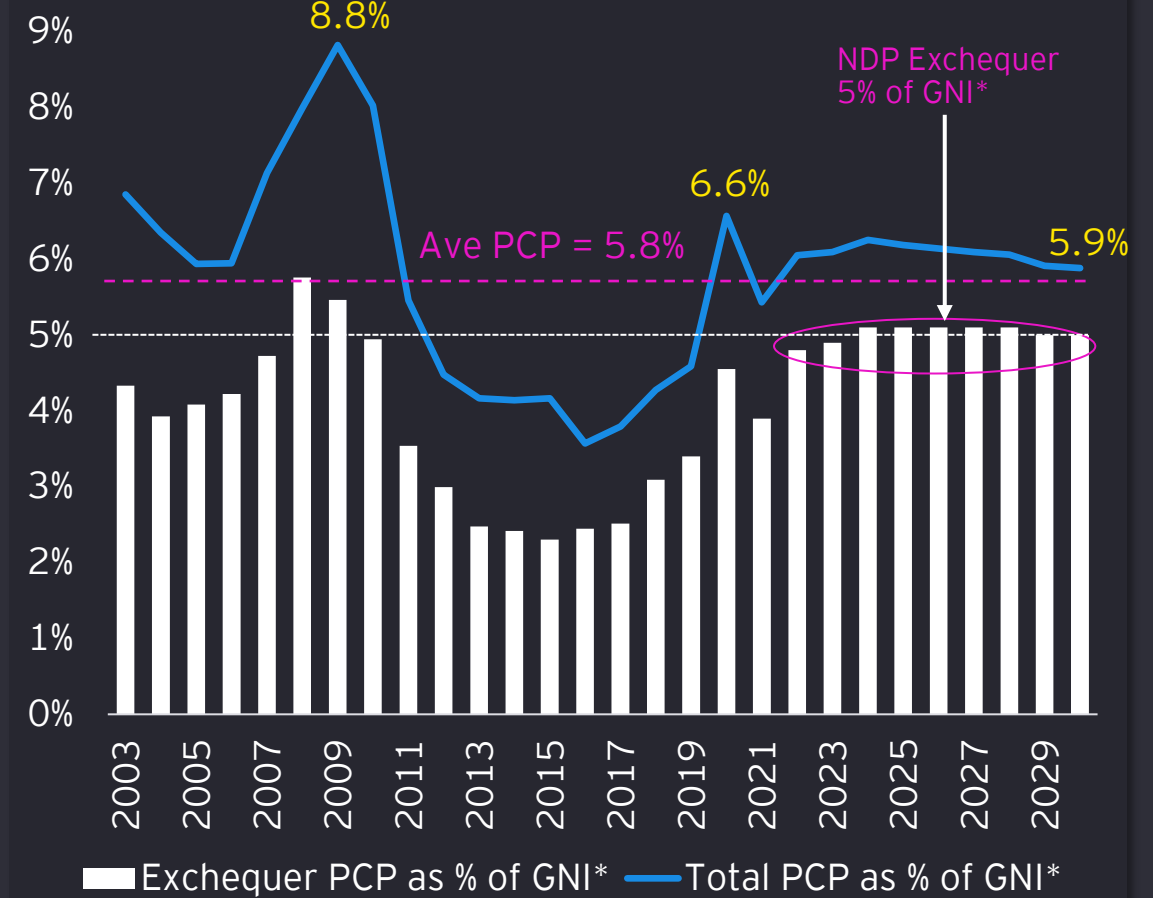
Source: CSO

Government investment in Building and Construction

Total Public Capital Expenditure, €m



Exchequer and PCP as a % of GNI*



Source: Revised Estimates of Public Service 2003-2020, National Development Plan 2021-2030
2021 and 2022 split estimated from 2022 PCP.

Source: Revised Estimates of Public Service 2003-2020, National Development Plan 2021-2030.
2021 and 2022 split estimated from 2022 PCP. Actual to 2021.
GNI* for 2022-2030 estimated from NDP Exchequer as % of GNI*.

A recap on what construction actually captures?

The general construction of buildings of all kinds (new, renovation, pre-fabricated structures on site and construction of a temporary nature) by the public and private sector

Definition of construction

(NACE Rev. 2 - Section F (41-43))

- **F41:** Construction of residential and non-residential buildings
- **F42:** Civil Engineering
- **F43:** Specialised construction activities / trades

Non-residential construction

- 12m square metres of floor area granted planning permission for **new non-residential buildings** in last five years
- c.131,000 sqm of **new office completions** in Dublin in 2021 with a forecast for 202,000 sqm in 2022 (CBRE)
- **Industrial and logistics** plus FDI investments in **new manufacturing**
- **Intel** - total investment c.€12bn on completing its "Fab 34" by end 2023
- **Data centres** - €7bn of investment (data centres with approved planning permission) in 5 years to 2025
- **Retail, hotels** and **sports** facilities
- Investment in **education** and **health**

Private sector contribution



c.50%

Estimated contribution of private sector construction in terms of total investment in total building and construction

EY analysis

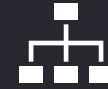
Challenges for Construction



Cyclical nature of the industry



Productivity



Industry demography and scale



Cost inflation



Labour supply



Low levels of R&D



Green agenda and sustainability



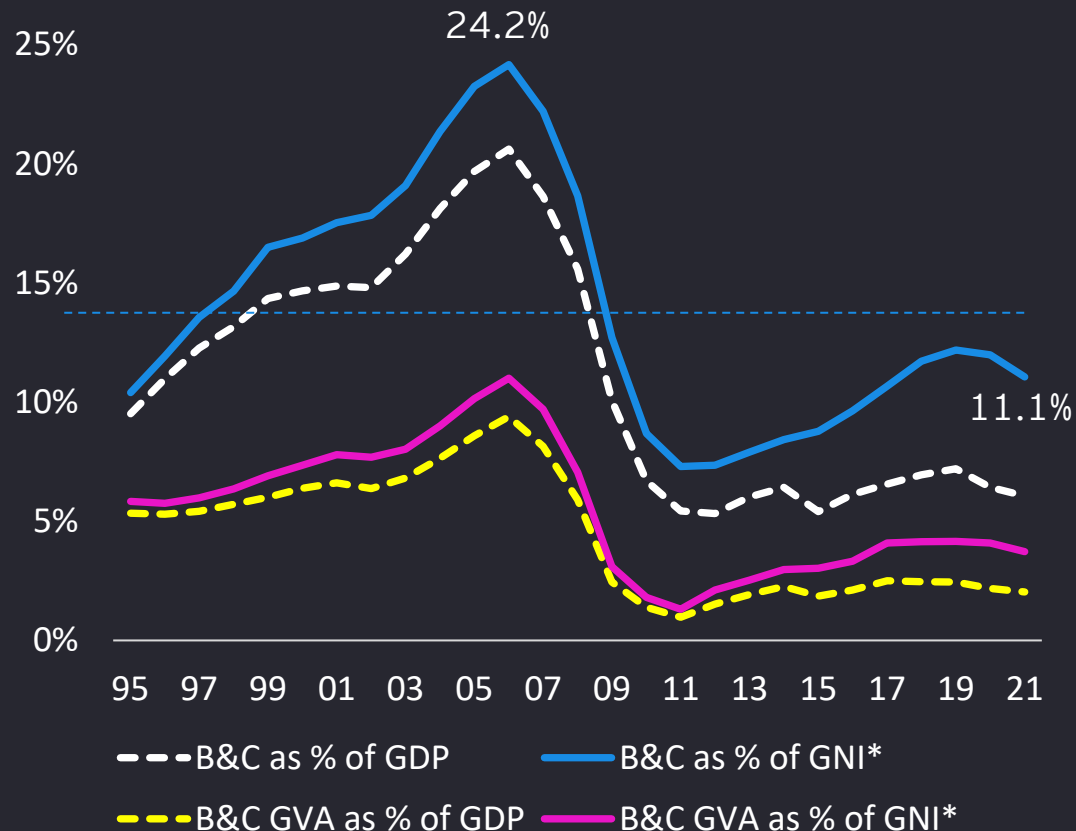
Client expectations



Off-site construction and digitalisation of projects

Challenge #1: Building and Construction investment cycle

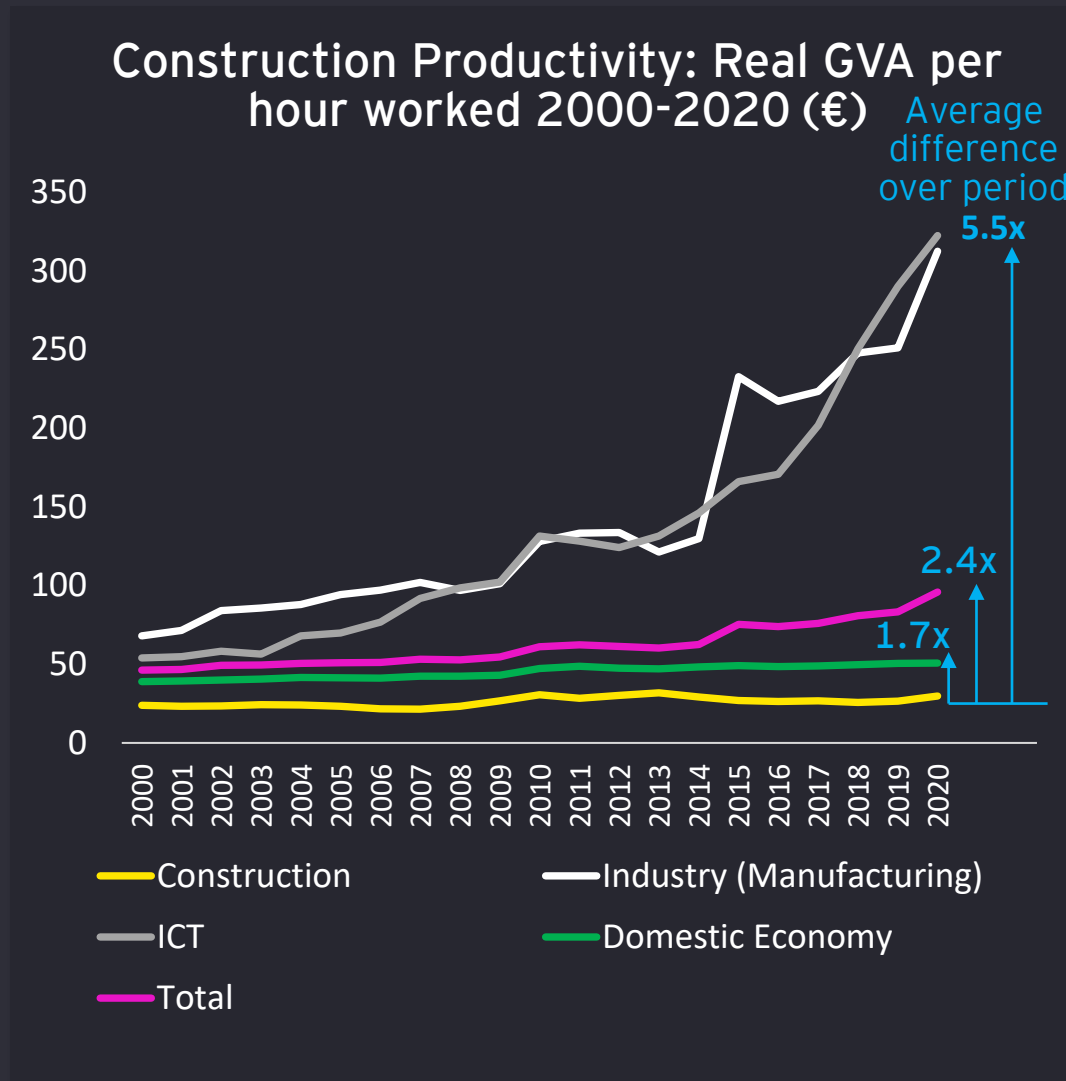
Building and Construction Investment as % of GDP and GNI*



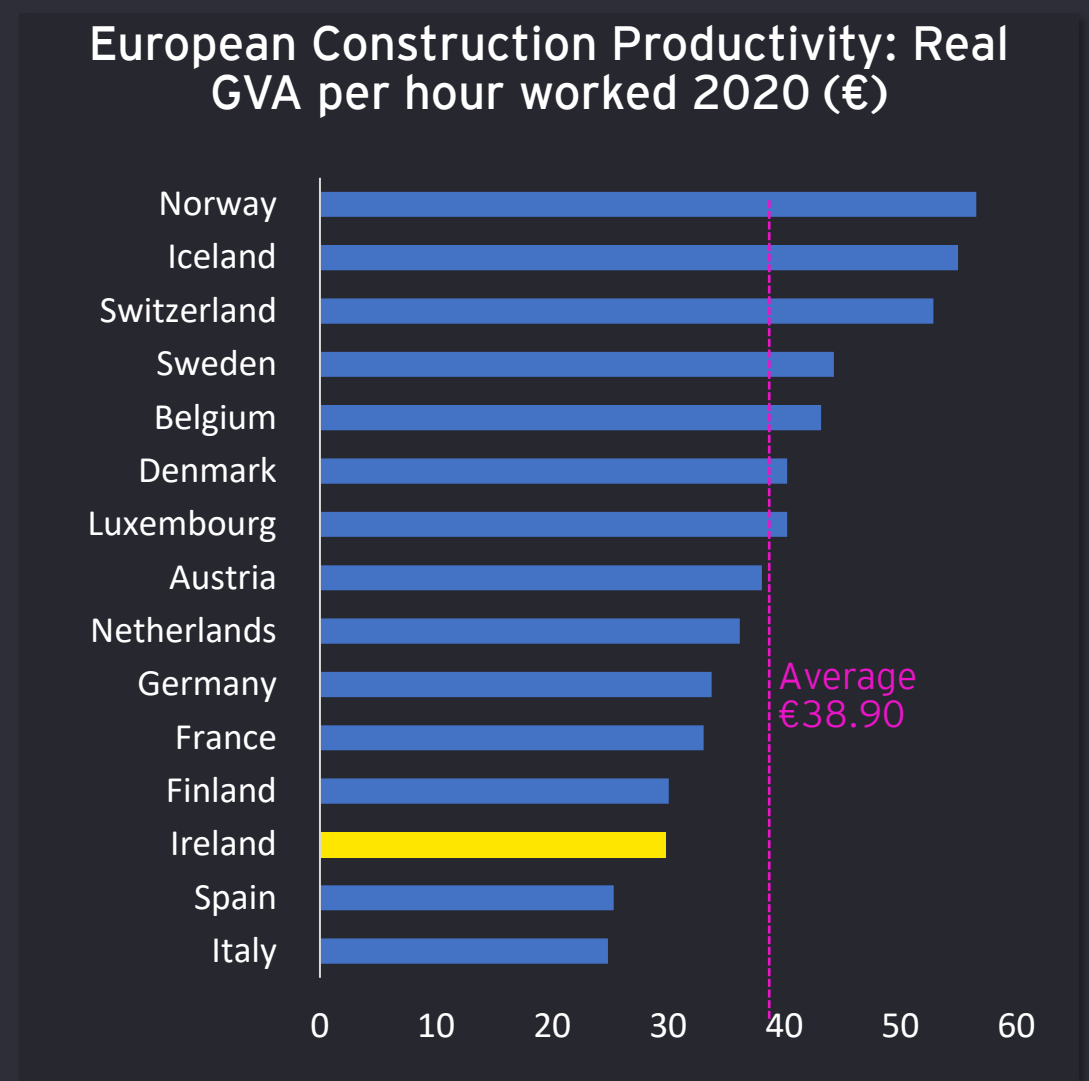
- B and C investment has fluctuated over more than two decades
- How to ensure the sector makes an 'appropriate' and 'stable' contribution to the economy and what should that be?
- Industry could potentially increase to 15% of GNI* by 2024 and even more beyond given current investment plans
- Counter-cyclical public investment policy may be difficult given large scale investment planned

Source: CSO

Challenge #2: Productivity



Source: CSO.



Source: CSO and Eurostat.

Enhancing productivity by adoption of more modern methods of construction (MMC) can yield substantial benefits

- ✓ MMC have the potential to achieve a 20%-60% reduction in construction programme time and a 20%-40% reduction in construction costs and greater programme certainty
- ✓ MMC have significant environmental benefits
- ✓ The increased prevalence of MMC is conditional on a steady demand pipeline of projects to ensure its financial viability
- ✓ The majority of the industry believe that MMC will be of 'great' and 'very great' importance over the next 10 years
- ✓ One of the key themes to have emerged from interviews by the MMC Working Group was a lack of understanding of what constitutes MMC

62%

of firms believe MMC will be of very/great importance in next 10 years

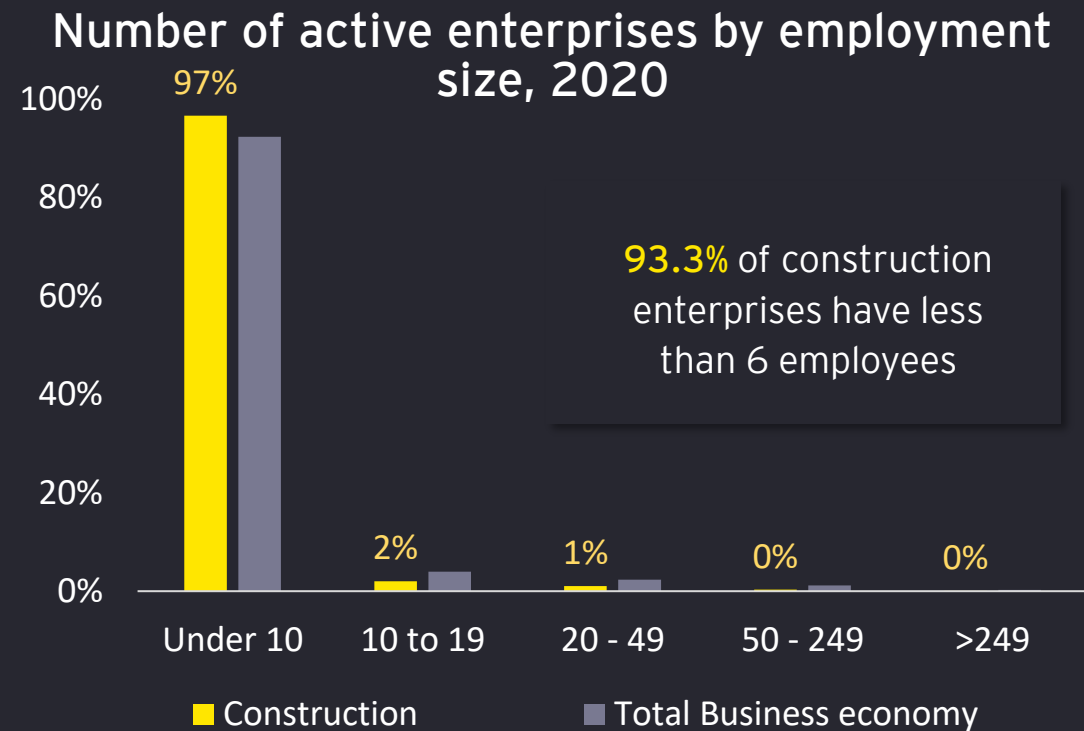
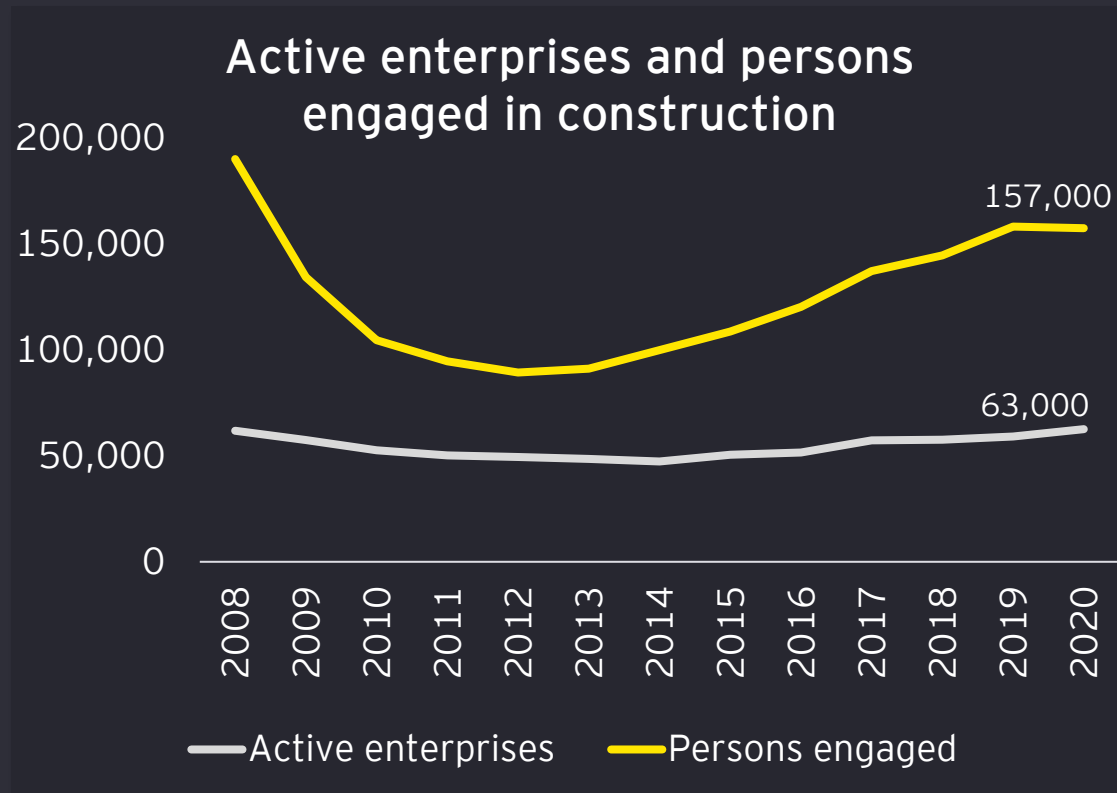
86%

of large firms believe MMC will be of very/great importance in next 10 years

71%

of main contractors believe MMC will be of very/great importance in next 10 years

Challenge #3: Construction is a fragmented sector



- In total, there were almost **63,000** active enterprises operating in the construction sector in 2020 employing **157,000** persons
- This represents **5,192** fewer enterprises and **23,000** fewer persons engaged compared with 2009
- Direct employment Q2,2022 was **167,300** (6.5% of employed workforce)
- **48.9%** of persons engaged in construction work in firms with under 6 employees

Top 50 CIF contractors - represent one-third of investment in the B&C sector

	2018	2019	2020	2021
Top 50 total turnover (€m)	8,390	10,000	11,370	12,890
% change YoY	+25.0%	+20.5%	+13.7%	+13.4%
- T/O in Ireland	5,900	6,700	7,120	8,540
% change YoY	+15.5%	+13.6%	+6.3%	+19.9%
- T/O overseas	2,500	3,300	4,250	4,360
% change YoY		+32.0%	+28.8%	+2.6%
Entry figure for Top 50 (€m)	31	35	35	47.3
Total B&C investment (€m current prices)	22,722	25,691	23,975	25,881
% change YoY (nominal terms)	16.4%	13.1%	-6.7%	7.9%
% change YoY (real terms)	10.5%	5.6%	-10.0%	-2.3%
Direct employment Q4 (000s)	143.7	147.1	135.0	158.3
% change YoY	7.8%	2.4%	-8.2%	17.3%
Top 50 CIF firms Irish T/O as % of total B&C investment	26.0%	26.1%	29.7%	33.0%

CIF Top 50 Contractors 2021



€12.9bn

Total turnover in 2021
+13% YoY



€8.5bn

Construction activity in
Ireland in 2021
+20% YoY



€4.4bn

Construction
exports in 2021
+3% YoY



€3.5bn

Total overseas turnover
for Top 10 exporters in
2021. **48%** of their total
turnover

Fragmented scale of the home building sector in Ireland

The market is fragmented and growth in annual completions has been slower for the vast bulk of the market when compared with the two PLCs

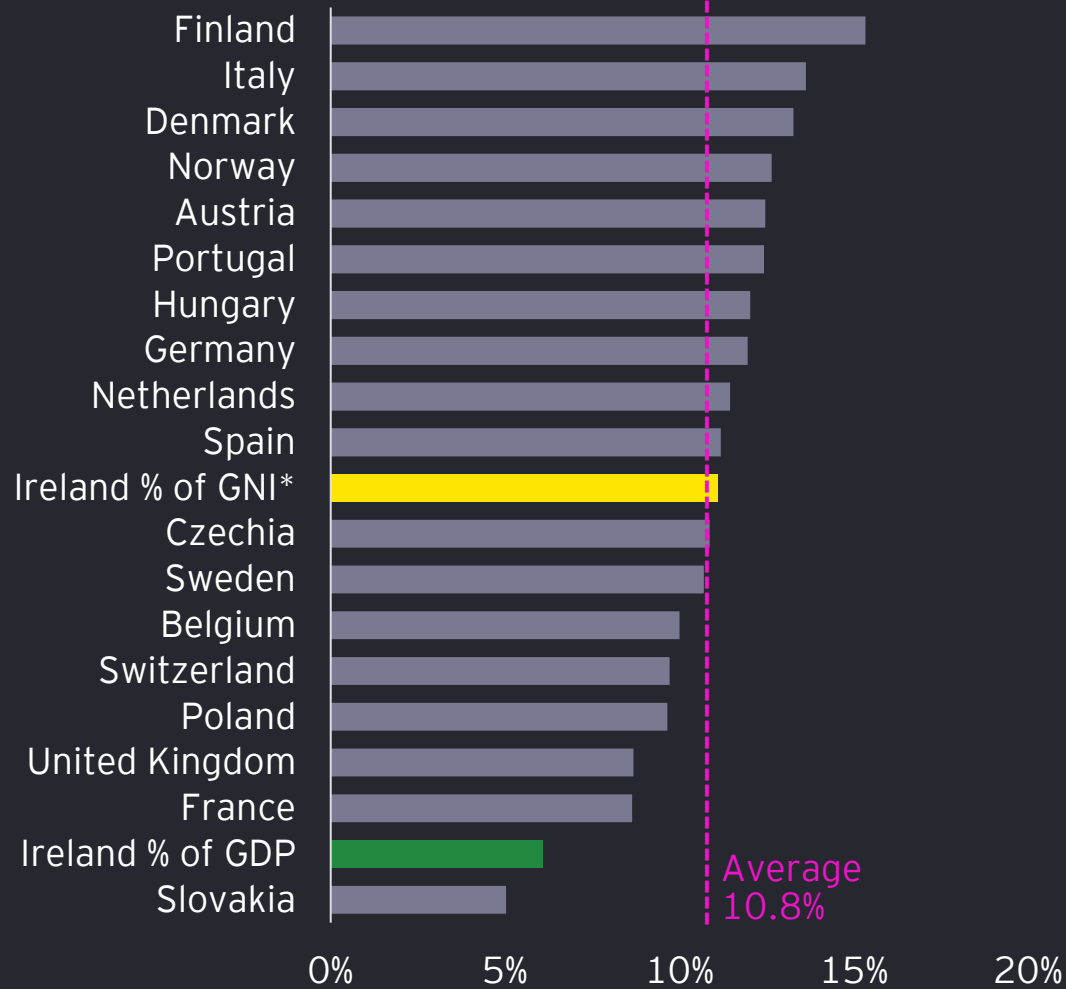
	2018	2019	2020	2021	2022F	2023F	2024F	Annual growth 2021-2024
Total completions	17,899	21,147	20,593	20,570	24,600	29,000	33,450	+17.6%
Single houses	4,674	5,108	4,981	4,737	4,900	4,900	4,900	+1.1%
Remainder of market	13,225	16,039	15,612	15,833	19,700	24,100	28,550	+21.7%
Total from 2 PLCs	1,079	1,924	1,443	2,270	3,300	4,233	5,167	+31.5%
Requirement from other builders	12,146	14,115	14,169	13,563	16,400	19,867	23,383	+19.9%

- Looking at the two PLCs:
 - They have increased their combined market share from 6% in 2018 to 11% in 2021
 - They increased their supply by 110%, while the rest of the market grew by 9% between 2018 and 2021
 - They are expected to account for 15% of the market by 2024 (using HfA targets)
- This implies that to meet the HfA annual target in 2024, the rest of the market will need to increase at an annual growth rate of c.16% between 2021 and 2024 or 20% excluding one-offs
- The focus needs to be on ensuring this growth by the vast bulk of builders delivering in the rest of the market is facilitated and supported

Source: CSO, Cairn and Glenveagh Annual Reports and presentations, 2022-2024 are Housing for All Targets

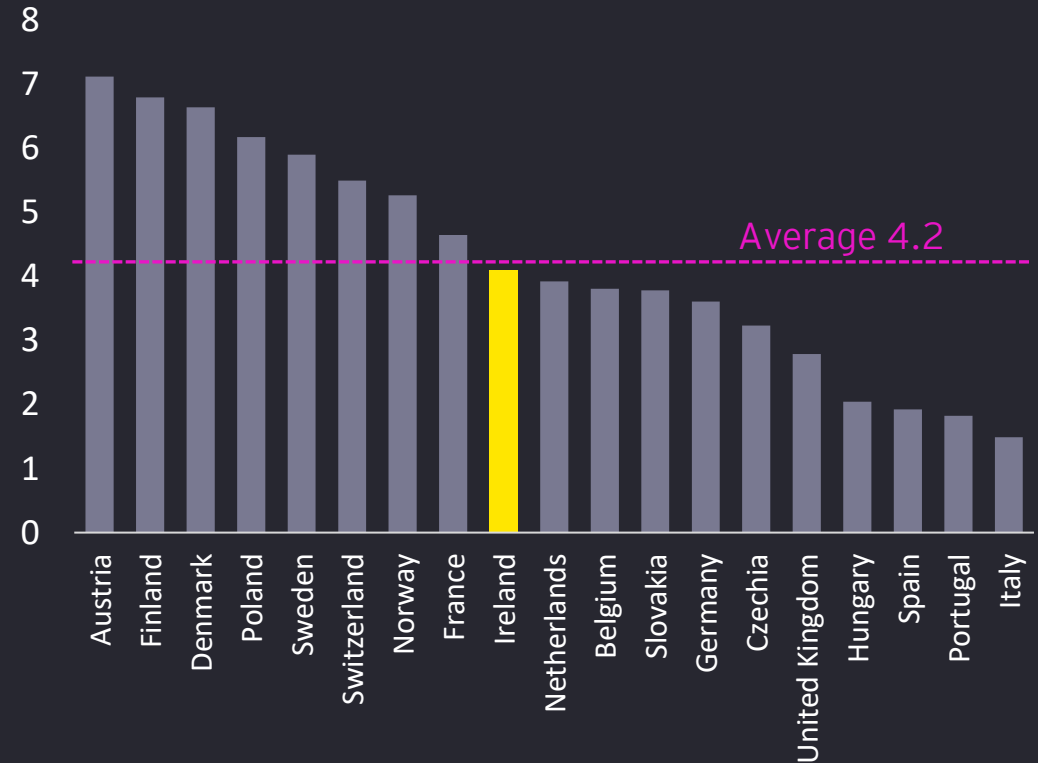
How does Ireland perform versus the rest of Europe?

Construction as % of GDP, 2021



Source: Euroconstruct, June 2022

House completions per 1,000 of population, 2021



Source: Euroconstruct, June 2022

Summary: Ensuring an industry which is fit for purpose for decades to come

- Capture robust and timely data right across the construction sector by project category, especially private sector activity
- Long term public investment plan gives certainty for industry, but prioritisation is key
- Ensure supports are in place to address cost concerns and viability issues
- The industry needs a cultural shift at grass roots level towards more modern methods of construction, innovation and digital technology
- The construction industry is in a position of considerable responsibility and influence - sustainability has to underpin the future of all construction activities



€165bn 2021-2030



>€20bn to 2025



C. €125bn in low carbon technologies and infrastructure 2021-2030 (excludes any operational savings)

EY | Building a better working world

EY exists to build a better working world, helping to create long-term value for clients, people and society and build trust in the capital markets.

Enabled by data and technology, diverse EY teams in over 150 countries provide trust through assurance and help clients grow, transform and operate.

Working across assurance, consulting, law, strategy, tax and transactions, EY teams ask better questions to find new answers for the complex issues facing our world today.

EY refers to the global organisation, and may refer to one or more, of the member firms of Ernst & Young Global Limited, each of which is a separate legal entity. Ernst & Young Global Limited, a UK company limited by guarantee, does not provide services to clients. Information about how EY collects and uses personal data and a description of the rights individuals have under data protection legislation are available via ey.com/privacy. EY member firms do not practice law where prohibited by local laws. For more information about our organisation, please visit ey.com.

© 2022 Ernst & Young. All Rights Reserved.

132091.pptx. 04/21. Images from Getty. ED none.

Produced by Creative (Ireland).

The Irish firm Ernst & Young is a member practice of Ernst & Young Global Limited. It is authorised by the Institute of Chartered Accountants in Ireland to carry on investment business in the Republic of Ireland.

Ernst & Young, Harcourt Centre, Harcourt Street, Dublin 2, Ireland.

Information in this publication is intended to provide only a general outline of the subjects covered. It should neither be regarded as comprehensive nor sufficient for making decisions, nor should it be used in place of professional advice. Ernst & Young accepts no responsibility for any loss arising from any action taken or not taken by anyone using this material.

ey.com



What does construction measure?

The general construction of buildings of all kinds (new, renovation, pre-fabricated structures on site and construction of a temporary nature) by the public and private sector

Definition of Construction (NACE Rev. 2 - Section F (41-43))

F41: Construction of buildings

- Development of building projects
- Construction of all types of residential buildings
- Construction of non-residential buildings
- Renovation of existing residential and non-residential buildings

F42: Civil Engineering

- Roads and motorways
- Railways and subways
- Bridges and tunnels
- Environment (e.g. water systems, flood relief)
- Electricity transmission and distribution
- Power plants, onshore/offshore wind farms
- Telecommunications
- Ports, harbours, marinas, dredging
- Airports

F43: Specialised construction activities / trades

- Construction involving specialised skills and equipment
- Demolition and site preparation
- Installation activities on site
- Building 'finishing' and 'completion' activities
- Mostly carried out under subcontract