Construction sector transformation
Executive summary
The engineering and construction (E&C) landscape is going through a phase of accelerated transformation due to forces both inside and outside the sector. Multiple megatrends – such as population growth, urbanization, climate change and resource depletion – coupled with oft-reported historical challenges – time, budget, quality, safety and productivity – are demanding greater consideration for long-term sustainability and creating the perfect storm for rapid change. With E&C being an important contributor to global GDP and forecasted to more than double by 2020, the time for change is now. The financial benefit available as a result of successful transformation is a multiple of industry average margins, making the case for closing the productivity and digital gap an imperative for those seeking to thrive.

The World Economic Forum suggests that a 1% rise in construction sector productivity could save US$100 billion a year.

In 2017, EY undertook two significant initiatives to better understand how global industry leaders are responding to market demands and transforming their organizations. The first initiative was a global survey designed to better understand technology developments in the E&C industry, to better gauge current digital technology adoption and utilization, as well as to assess cyber readiness. Respondents represent close to US$500 billion in revenues and were concentrated in Europe, North America and Asia-Pacific. The second initiative was a series of in-depth interviews with more than 80 stakeholders, representing 44 organizations across the global construction value chain, to unpack the productivity boosters on the horizon. We spoke with senior executives from tier 1 and 2 E&C companies and subcontractors, representatives from engineering and architect firms, asset managers, developers, prop-tech companies, construction material suppliers and government representatives.

Combining an open-ended approach – interviews – and a more structured survey around a particular focus area – digital – was powerful.

Specifically, four areas were consistently cited as driving sector transformation, in no particular order:

- Digital
- BIM
- Lean
- Off-site construction
Interestingly, while these four areas certainly have stand-alone strengths, a truly transformative strategy should factor in all four focus areas, as their interplay provides an exponential benefit that creates the future state of a truly transformed organization.

Lastly, the critical success factor underpinning each of the quadrants is leadership. Some will commit to transformation, close the productivity gap and redefine their business model and culture; others will merely react by implementing some technology programs or new processes. The industry’s leaders are rising to the challenge, and innovative approaches are being adopted to rapidly lift productivity.

The current period of sector transformation will split the field into those who will thrive and others who may or may not survive. Market leaders in the manufacturing sector have long moved to collaborating with their supply chain for competitive advantage. The digital revolution will enable integration of the fragmented construction value chain. Those companies that retain a fragmented value chain of disconnected parties focused on lowest cost, transferring risk down and fostering, at times, adversarial relationships will, over time, be unable to compete with a collaborative model leveraging the value chain and producing better quality at a better price while at the same time delivering sustainable margins and innovation.

The construction sector has never been one for the faint of heart. This series will outline how the sector will be impacted by this era of transformation and how it will place a big call on its leadership to respond and engage. Those who do will find themselves with increasing competitive advantage, delivering quality at fair and sustainable margins.

**End notes:**


E&C Digital Survey

Global top 30

_EY would like to sincerely thank all the participants in the research who generously donated many hours of their time and spoke with refreshing frankness about their organisations and the industry at large. A special thank you to the board and members of ENCORD, the European Network of Construction Companies for Research and Development, for their commitment to this research._
About EY

EY is a global leader in assurance, tax, transaction and advisory services. The insights and quality services we deliver help build trust and confidence in the capital markets and in economies the world over. We develop outstanding leaders who team to deliver on our promises to all of our stakeholders. In so doing, we play a critical role in building a better working world for our people, for our clients and for our communities.

EY refers to the global organization, 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. For more information about our organization, please visit ey.com.

© 2018 EYGM Limited.
All Rights Reserved.

EYG No. 010715-18Gbl
CSG No. 1804-2654223
ED None