

Digital Construction: incorporating digital technologies into the construction industry

The construction industry impacts all of our lives daily. Without it, there would be no roads, offices, hospitals, schools, and perhaps most importantly, homes. The industry represents the building blocks of our communities and, from a wider point of view, is a cornerstone of the economy.

COVID-19 will without a doubt have a major impact on the construction industry. However, it can be observed that the challenges the industry faces are more fundamental and rooted in the lack of digitalization.

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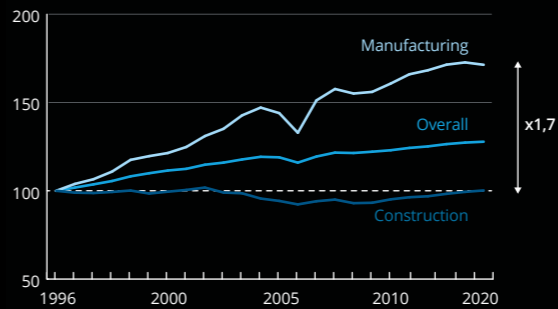
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Trends that shape the construction industry

In recent years, the construction industry has faced a number of challenges: Climate change, sustainability, talent shortage and financial pressure. The construction incumbents are still formulating a response to these trends, and productivity still lags far behind the norm.

Figure 1: Standardized labor productivity growth (28 EU countries) of various industries 1996-2019

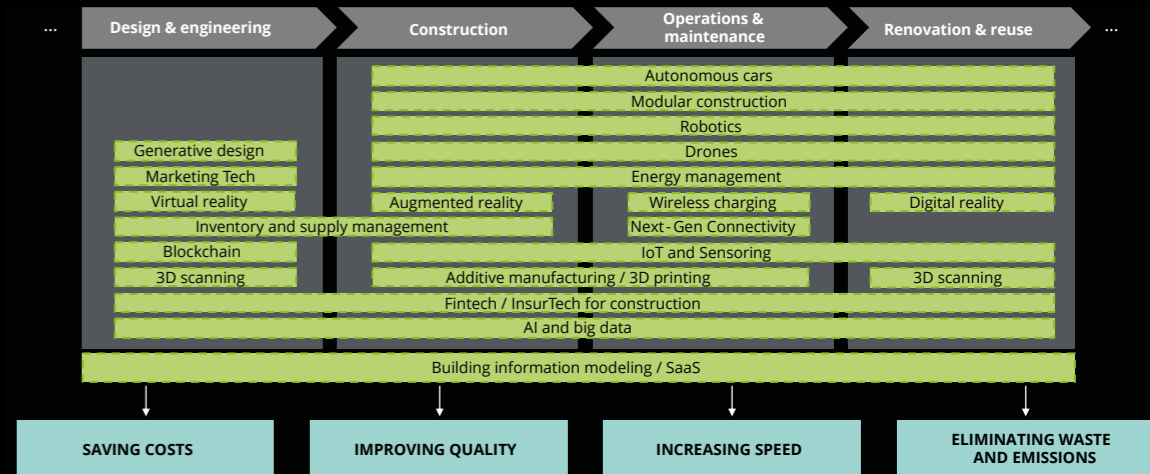


1. Source: OECD, 2020; Monitor Deloitte analysis
2. Source: Monitor Deloitte análisis

Digital technologies create opportunities

Digital construction could provide an answer to these challenges. Digital construction is defined as utilizing digital technologies to construct more efficiently with higher quality. However, when looking at Information Technology (IT) investments, the construction industry has historically underinvested in technology — only 1.2 percent of its revenue is allocated to IT, compared to a 3.5 percent average across industries. We believe that digitalization presents a significant opportunity to not only deal with these challenges, but to use them to thrive.

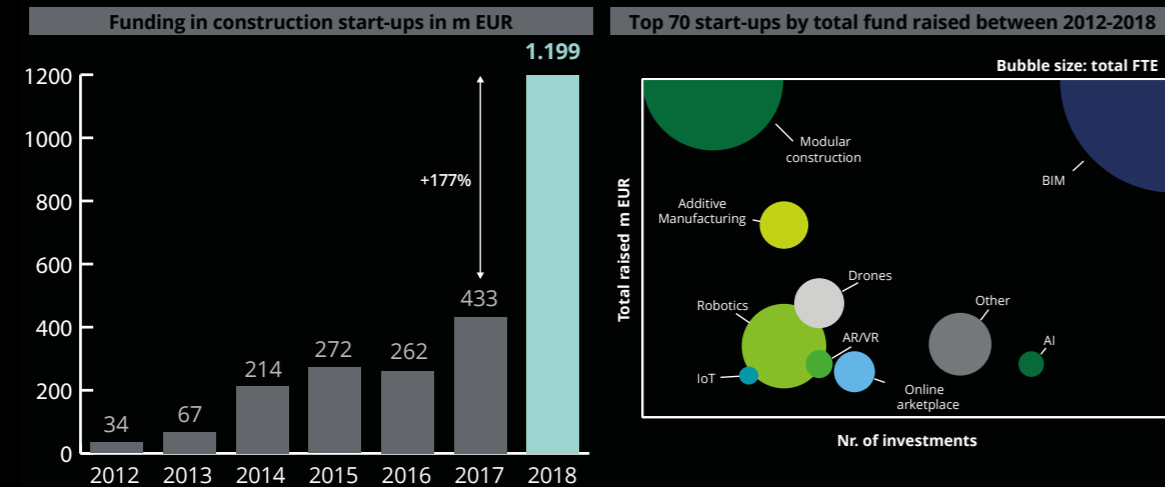
Figure 2: Digital technologies through the construction lifecycle



Learning from new entrants

Digital construction is on the radar of ConTech start-ups and tech giants to gain a foothold in the industry by applying new disruptive technologies that could upend the playing field. And they aim to do it in different ways. ConTechs are presenting focused solutions around a single technology to solve a specific but industry-wide problem, such as using augmented reality to enhance the productivity and safety of workers.

Figure 3: Capital investments in construction start-ups



3. Source: Pitchbook, 2019; Note: Buyout and M&A deals are not counted and technologies that are also applicable to other industries are not captured here (e.g. robotics for agriculture which also applicable for 3D scanning are not captured). Start-ups are categorized by their primary technology, i.e. AI here meaning start-ups using it as a core value proposition for their products.

In contrast, tech giants are focusing on solving the world's big problems, including urbanization and congestion, by rethinking the entire way of working and using a mix of technology solutions for one specific problem. They heavily invest to create industry-disrupting business models that stretch beyond 'simple' product development and sales. This is very different from most incumbents' strategies, which focus on cost saving and improved efficiency rather than value creation.

For construction incumbents wanting to seize the opportunity, there is much to learn from these new entrants' strategies. First, you need to be well-funded to change the value chain, as new entrants are either VC-backed start-ups or capital-rich tech giants. Simultaneously, be cautious in asset-centric thinking; disruptors bring "asset-light" strategies and think "digital first" in order to avoid only adding new tech to legacy products and processes. Another area of growth is identifying the critical data elements to own early on, which has proven vital to driving financial returns for most SaaS start-ups.

Finally, focus and speed matter. By focus, we mean concentrating efforts on as few technologies as possible, allowing you to continuously iterate and improve the proposition to facilitate a timely market launch ahead of the curve.

Conclusion: a call to action for construction incumbents

To successfully seize these learning opportunities, construction incumbents should consider establishing a digital foundry to accelerate their digital goals. They will need to think big, start small and act fast:

- Immerse yourself in technologies to explore the "art of the possible".
- Build your ecosystem and evolve your supply chain into "value webs" through collaboration.
- Set up a "black ops" team to enable disruption on the edge of the established organization.
- Prioritize your two or three desired initiatives to start with.
- Prove it works (quickly) by using an agile, iterative approach.
- Champion your successes to gain traction and achieve enterprise-wide adoption.

We believe that by incorporating digital technologies into a more focused and value-creating mindset, construction incumbents can strengthen their position and respond to the disruption caused by the new players.

4. Source: Monitor Deloitte analysis

Figure 4: Establish a digital foundry



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