Corona hitting construction — a paradoxical boost for digitalization

By Christina Hvid
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Molio is an industrial foundation with the aim of strengthening the construction industry through digitalization and innovation. Molio offers digital tools and services supporting all links of the value chain. Molio also runs the Danish chapter of buildingSMART.

In Q1 2020 the construction industry in Denmark was flying. We had a high demand as well as a record high number of more than 180.000 Danes working in the industry. The highest in 12 years. But then the world changed. The country was locked down, and workers sent home. Throughout the crisis, Danes have been working from home, shops are closed, and social activities and gatherings of more than 10 people are not allowed.

The corona-crisis started as a health-crisis, but has since evolved into a worldwide economic crisis. There is no doubt, that the corona-crisis is serious and is going to leave a lasting mark on everyone, big and small, regardless of industry or trade. However, though the corona-crisis has proven to be a storm hitting several layers of our society, the construction industry has to some extent been able to weather the worst of it so far. This is in large part due to an unprecedented increase in the use of digital tools.

When corona hit Denmark, Molio did a survey on how Danish companies in the construction industry were handling the crisis in their day-to-day work and how they were affected by it. And the findings turned out to be quite interesting. The large majority – more than 9 out of 10 – have increased their use of digital tools during corona, and more than 8 out 10 respond that this increase has helped them sustain the same level of activity as before the crisis. Two thirds of companies even respond that they actually have become *more* effective due to the use of digital tools.
This development is in itself a positive trend. But what is more important is that the increase has taken place across both architects, engineers, developers, and craftsmen, as well as company size. It is not a case of the big getting bigger or the "most digital becoming more digital", but a trend playing out among every link in the construction value chain.
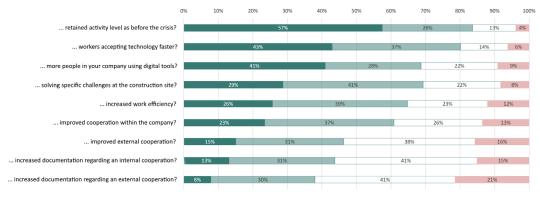
Necessity is the mother of invention
In our biennial survey on the state of digitalization in the construction industry made before the corona-crisis, we could see a near-standstill of the state of digitalization. Though everyone agreed on the positive effects of increased digitalization, the transformation just was not taking place.
The main barriers across the construction sector were lack of digital skills, a lack of digital culture, and cooperation – a Gordian knot that the current crisis seems to have started to loosen.
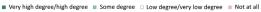
We are now, during corona, seeing a massive increase in the number of companies and people using the digital tools and services. This not only concerns the use of communication-tools like emails or Skype, Zoom, Teams and the like, but even industry specific tools such as Revit, Dalux or LetsBuild. In fact, among contractors and craftsmen, the latter being one of the least digitalized professions, 1 out of 5 have now increased their use of industry specific tools considerably.

Furthermore, companies report that more and more of their employees have begun to use digital tools in their day-to-day work – and doing so willingly! For instance, a plumbing-company recently reached out to Molio asking for help using a digital tool. They reached out, because the architects on one of their projects had insisted on using it. It was completely new and unfamiliar practice to them, but they embraced it and started using it. With conviction and without reluctance.

The importance of use of digital tools during the corona-crisis
To what degree has the use of digital tools during the corona-crisis resulted in...

A lasting effect or a breeze?
All the current data show us that the corona-crisis has pushed the construction industry onto a path to increased digitalization. Though we cannot say for certain, I am convinced the digital momentum we are currently experiencing is much more than a momentary breeze.

When we asked the 450 participants in our survey during the height of the corona lockdown in Denmark, more than 9 out of 10 responded that they would continue their use of digital tools and services after the government lifting the imposed restrictions. I am seeing similar trends in other industries as well, and it implies a perception of *no going back*, which can have enormous effect. It will help create a more effective construction industry with a higher level of productivity.
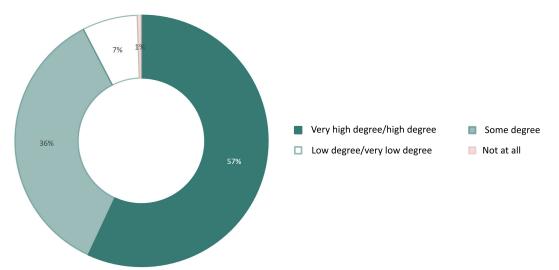
This will not only benefit the construction industry, but society as a whole.

First of all, the unprecedented increase in the use of digital tools and services coupled with a commitment of continuing this use can lead to an increased demand of more advanced tools. Having been forced to take the first hard step and experiencing the results first-hand, digitalization has become demystified and more people are encouraged to take on further tools and services, and to adopt a more digital way of working.

The way I see the future outlook
I believe we are going to see a vast increase in the use of *construction technology* in the coming years which will give rise to an increased demand for standardization. Here, I believe *buildingSMART* will become the new normal, offering the open standards and tools necessary to support a digitalized workflow across the value chain, which will have major impact on our efficiency. We will travel less across country to inspect a site, because everyone will be using digital tools and virtual meetings. We can create better solutions faster, because more advanced tools are becoming commonly used, and we can reduce costs and better document our work. We are already starting to see the effects here in Denmark, with an increased trust between different professions due to the use of these tools.

This in turn will also impact society more broadly. Our biennial survey on the state of digitalization in the construction industry highlighted the fact that digitalization is an essential part of transitioning to *sustainable* construction. It is through the use IoT, AI and data-driven tools and services we can find out where and how to optimize our efforts and document our results. With all links in the value chain becoming more digital, and with the developers setting higher demands for the use of digital tools, we are making crucial gains on an issue that has broad awareness. The issue of our footprint on the world has become even more present during the current crisis, where we have experienced rapid changes with cleaner air and clearer water in our cities. Digitalization is the foundation of a sustainable construction industry, and it is my hope that we in the industry will act on the current momentum and accelerate this process even further. We need to *work digitally to build sustainably*.

To what degree do you expect your company to continue the use of digital tools, when COVID-19 restrictions cease? (n=350)

Legend:
- Very high degree/high degree
- Some degree
- Low degree/very low degree
- Not at all

Finally, going forward I believe that corona will mark a turning point for the decade. We will see massive changes to the way we build, how we want our buildings to be and what we want them to *do*. We will see a broader use of property technology in our real estate business, we will see smart cities popping up, and even our common urban spaces will become digitalized.

At Molio we are working on creating a hub for experimenting with construction technology, a ConTech Lab. Here, I hope we will be able to test new ways of working together, designing, developing, and constructing, and to explore how we can think differently when it comes to digitalization for creating the buildings of the future. The importance of creating such a hub has only been confirmed with the current crisis.

Paradoxically, it seems the storm hitting society has turned out to be the much-needed wind in the sails of making a digital transformation of the construction industry.