



Paving the digital
way ahead for the
construction industry



The construction industry is one of the largest on several fronts. According to a report published by McKinsey Global institute “**Reinventing Construction: A Route to Higher Productivity**”, the construction industry employs 7% of the world’s working population, generates 6% of global GDP and consumes a staggering 3 billion tonnes of raw material. Safety is also a major pain point in the sector: in the UK, the Health and Safety Executive credits 30% of workplace fatalities to it. And a lack of innovation and large scale digitization have led to silos in the industry, and flat line productivity growth for the last 5 decades.

The story these numbers tell is unmistakable: any innovation in the industry will have a positive impact on the industry and environment.

It can dramatically increase the health and safety of workers on site, minimise risks for all stakeholders, reduce wastage and energy consumption, avoid cost and time escalations and deliver greater value at lesser cost. And yet, vis-à-vis other sectors, construction is yet to truly digitize. The question is why?

The master key to innovation: Collaboration

It is easy to think of innovation as simply applying the latest technology to one’s field. But for innovation to truly work, all the main stakeholders must collaborate. But such collaboration is not easy in the industry, to say the least.

The industry is highly fragmented and informal, with cut throat competition, thin margins and many isolated and disjointed processes, all of which make collaboration challenging. Risk sharing between stakeholders is quite often lopsided. Project monitoring is manual and relies on paperwork, which leads to belated response to critical on-site issues and poor knowledge transfer across projects.

And most importantly, the linear planning process, with inputs at different stages from owners, contractors, subcontractors, suppliers, and other stakeholders, makes it impossible to leverage existing expertise and knowledge at the beginning. Often, how a change of plan affects





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the cost and the schedule is not visible to owners and contractors until it is too late.

Clearly, innovation is not a one-day project. It needs a complete paradigm shift, one that digitization can facilitate considerably. Predictably, the World Economic Forum identified “People” as the first area that needs to be changed for innovation to occur, rating the influence they have at 4.6 out of 5.

A pioneering framework for the future

As the World Economic Forum has noted, technologies such as AI, automation, augmented reality, wireless monitoring, real time mobile collaboration, and advanced project planning tools are primed to disrupt the industry. With increased demand for quicker, cost-effective and future-proof infrastructure, the most competitive players have already embraced new delivery models like public private partnership (PPP), joint ventures (JV) and build–operate–transfer (BOT).

We realized from industry trends and needs that the time is ripe for radical innovation and change. So we created a framework that integrates and brings together the entire ecosystem; a pioneering and forward-looking model that touches on four themes:



Reimagining design-build-operate

Digitization will overturn the traditional sequence of design, build and operate. With powerful, real time modelling, you will know exactly how any change in plan will affect your cost and time. This brings transparency and actionable insights for all stakeholders.



Design build operate machines

You can automate high risk, repetitive, labour intensive tasks like excavation, brick laying, moving of materials and leverage your manpower for greater productivity. With cloud computing and IoT, you can monitor your project virtually and minimize potential risks and hazards to the workforce, waste generation and energy consumption, and prevent loss of workhours and material.



Personalization

The Wipro HOLMES™ tool uses NLP and AI to comb through your bidding and project history, giving powerful and time-saving information on new and upcoming projects. Sidestepping manual paperwork and hours of reading, you can bid for projects that best suit you. It can also log and track your equipment leases for your upcoming work and ensure you are never unprepared.



New Economy

The urban population is growing at an unstoppable 200,000 people per day. Construction companies have to provide the infrastructure for all these people. Traditional models of engineering and construction are inadequate. A human-to-human (H2H) approach is necessary. The most competitive players will be those who best address health and safety concerns, and are able to provide sustainable and environment sensitive infrastructure.

The way ahead for the construction industry is almost certainly digital. As the industry braces for change, the winners will be those who embrace it first. **Be digital and build digital** —and lead the world into the future.



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Anu Pillai leads the Digital COE with Wipro's Engineering Construction and Operations vertical, that caters to Engineering and Construction, Transportation Infrastructure (Airports, Metros, Ports) and Smart Cities. He has close to 10 years of consulting experience, focusing on strategy, and evangelizing and building new age digital solutions, creating an ecosystem to deliver those solutions to

businesses to derive value addition and agility in operations. He has worked with leading EC&O establishments across the globe on businesses transformation and innovation engagements.

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