



Let's Solve

SAP and LARSEN & TOUBRO INFOTECH Here to help

Helping the construction industry to use digital technology to emerge stronger from business lockdown and the COVID-19 crisis

Our point of view

The construction industry has played a critical role during the COVID-19 crisis, and technology has been instrumental in ensuring business continuity during lockdown. The industry needs to accelerate the digital transformation process it started before COVID-19 and adopt best practices from other industries such as manufacturing, to improve productivity, attract new talent, and manage their data.

Help us to better understand your current priorities by answering our short market research survey.

[Start](#)

Throughout the COVID-19 crisis the construction industry has played a vital role, responding to urgent requests such as building hospitals in a few days, or donating lifesaving equipment. But the industry has also been badly affected: many construction sites have shut down and supply chains have been disrupted (1).

Like many other sectors, construction had to adapt quickly by taking care of employees and enabling remote ways of working, rebalancing supply chains, and managing cash even more tightly. Projects have been disrupted, customers have asked for new schedules and, in some cases, different commercial terms.

Technology has been instrumental in improving firms' resilience, and confirms our belief since before COVID-19, that construction had reached an inflection point with digital technology adoption set to revolutionize the industry.



“For all of us at SAP, our vision to help the world run better and improve people’s lives has never been more important than in this current moment. We remain focused on our people, our customers, and our communities. Together, we will persevere.”

Christian Klein, CEO SAP SE



Until the end of 2019, construction was an industry with impressive growth opportunities: 75% of the infrastructure expected to be needed in 2050 had yet to be built (2).

It also had its own challenges: it is, for example, one of the least digitized sectors in the world, only slightly ahead of agriculture (3). The construction sector has seen flat or even declining productivity over the last 50 years (4), and during the same period the manufacturing sector has increased productivity 1.7 times.

Projects have become riskier because of greater complexity due to factors such as taller and bigger assets, internationalization of activities, and more stringent health and safety and sustainability regulations.



“LTI has proven innovation capabilities as well as deep technical knowledge and expertise with SAP S/4HANA. We use this expertise to design, build and implement SAP solutions creatively offering customers ways to increase value from their investments. The recognition as SAP’s **Industry Innovation Partner of the Year**’ is an exceptional testament.”

Sanjay Jalona, CEO, Larsen & Toubro Infotech

The industry is also struggling to replace skilled craftsmen and engineers with technology-savvy but inexperienced millennials.

At the same time, construction accounts for 36% of worldwide energy usage, and 40% of CO2 emissions, (5), (6), putting increased pressure on firms to reduce their environmental impact.

Digital technology is starting to make a real difference. It is significantly increasing productivity, alleviating the need for experienced workers and attracting millennials, and enabling risk sharing through integrated project delivery and connected supply chains.

Manufacturing best practices such as cost and quality controls, modular construction and pre-fabrication have started to make their way into the construction sector, and some construction sites have become “open sky assembly lines”.



Digital twins are being used to consolidate the massive amounts of structured data (such as engineering data and schedules) and unstructured data (such as contracts, submittals, meeting minutes, project documentation) generated in commercial, design and build phases. This data is being used to streamline the commissioning process and is then combined with real time operational data (7) from the asset to support the maintenance and operation process.

SAP and LARSEN & TOUBRO INFOTECH (LTI) have worked in partnership since 2018, and together we offer technology innovations and industry expertise to take construction companies through their modernization journey.

The lockdown has highlighted the need for digital technology to make your business more resilient to an ever-changing environment. But we understand that your immediate priorities have changed, and you need our help and support today to emerge stronger from the crisis. We are therefore reaching out to you to make you aware of some free services that we are offering to help

you during the COVID-19 crisis in order to take care of your customers, employees, and supply chain.

We also want to hear about your needs and priorities in these unprecedented circumstances. Your contribution to our [market research](#) is essential and we thank you in advance for it. Our aim is to generate innovative ideas to help the sector prepare for recovery and emerge stronger after the crisis. In July 2020, we will provide an updated version of this paper with the results of our market research, along with an update of our proposals for the sector based on your inputs.

We care about the success of our customers. Our promise and commitment are to help your company to become an intelligent enterprise. We will leverage modern SAP technology (and any other technology of your choice) as well as LTI knowledge of the construction sector to deliver on that promise.

We look forward to helping the construction sector run better and improve construction workers' lives.



Help your workforce cope with the crisis

Workers on construction sites and in offices have been heavily affected by lockdown. Big changes are affecting their lives and companies need to translate empathy for employees into tangible action to ensure optimal business outcomes.

In many construction companies, the crisis has split employees into two distinct groups: those who are needed on project sites, and those in functions such as sales, planning and administration whose tasks, to a greater or lesser extent, can be performed remotely.

Both groups are impacted. With many schools still closed and vulnerable people asked to 'self-isolate', many employees face an extra care burden and need to balance this with their daily work. Those employees who continue to work onsite are concerned about safe working conditions being maintained. They can also be challenged by increased workloads as they need to deal with client changes and supply chain disruptions, are supported by fewer colleagues, or need to perform new and often unfamiliar tasks.

Employees who now need to balance work life and home life may feel isolated from their colleagues and be required to complete tasks remotely that would be far more effectively done in a face-to-face setting. Many may be or feel

under-utilized. Employees may also be anxious about the long-term impact of the crisis on their employer's viability or their own employment security.

Companies need to provide their employees with a scalable "Work from Home" (WFH) infrastructure across all business units and locations, up and down the chain of command, while maintaining optimal security and productivity.

With travel restrictions adding to the usual labor shortages, finding the right skills and expertise within and outside the company to work on construction sites has become even harder.



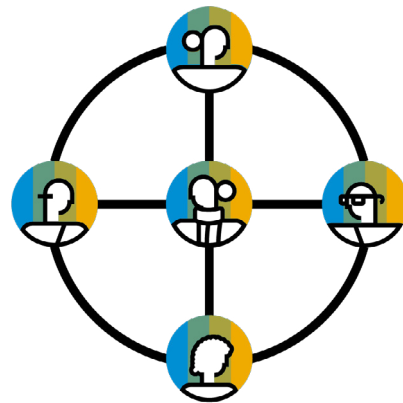
HOW COMPANIES CAN RESPOND

To maintain morale and effectiveness, it is important that employers actively engage with their workforces for regular feedback on individual welfare and how employees are adapting practically to remote working. Companies can then tailor their communication and responses to the real concerns of their workforce rather than based on hunches or limited visibility.

Companies can also use any free capacity to up- and re-skill employees – an area that often gets too little attention in normal times. Not only will this help recoup part of the productivity loss, but it may imbue employees with a greater sense of purpose and lift morale.

Having ensured the continuity of their operations during the crisis, companies are realizing that the way work is performed will be different after COVID-19. They are getting ready to adapt and thrive under a fully distributed model to enable their workforce to stay engaged, productive and emerge stronger while working for home.

To cope with demand spikes or absences through illness, companies are using new processes and systems to efficiently recruit and onboard contingent labor or identify workers with specific expertise that is in high demand.



HOW CAN SAP AND LTI HELP?

Monitor Employee Wellbeing

[Remote Work Pulse](#) is a free and automated feedback solution from SAP Qualtrics, the leader in experience management. It gives you the insights you need to keep teams informed and focused.

Help Employees Cope

Access free, ready-to-watch video-based courses from [SAP Litmos Training Content](#) library until the end of June 2020 to help teams and leaders find ways to cope with unexpected environment changes and work effectively, no matter where they are.

Maintain Business Continuity

[SAP People Connect 365](#) enables essential connections to maintain efficiency and productivity during planned and unplanned business events and disruptions.

Find the Required Skills and Expertise

[SAP Fieldglass](#), a longstanding leader in external talent management and services procurement, is used by organizations around the world to find, engage and manage all types of flexible resources – helping to transform how work gets done, increase operational agility, and accelerate business outcomes in the digital economy.

Everything from Home

LTI have deployed a [5 layers strategy](#) for enabling their employees do [everything from home](#), from being operational to supporting the company's growth.

Resource Management

[LTI Resource Kaleidoscope](#) is a comprehensive solution to manage project resources (Staff, Labor, Equipment) throughout the project lifecycle in accordance with budget and timeline.



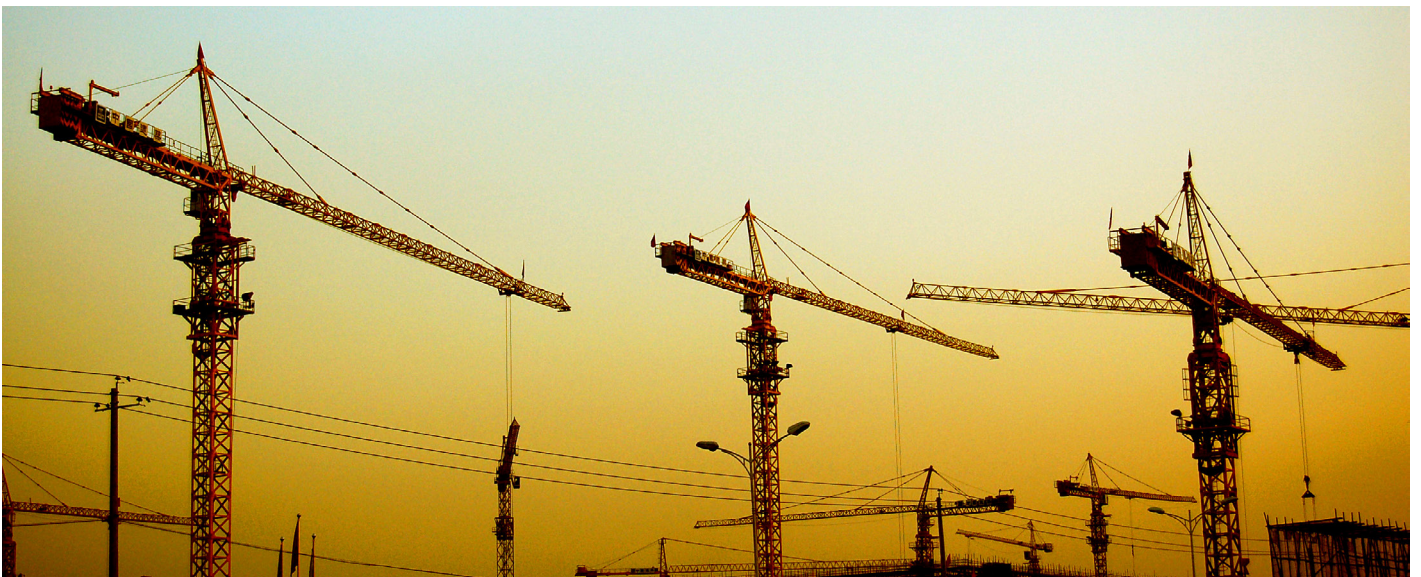
Help serving **your customers**

Providing an outstanding customer experience is top of executives' minds, from bidding on the right projects to meeting customer expectations, project timelines, and quality and budget objectives. Companies in every industry are leveraging standard enterprise software packages and advanced technologies, such as experience management and machine learning, to manage their customer relationships and deliver outstanding experiences.

Deciding which projects to bid for, providing quotes to customers in a timely manner and evaluating the risks of a project are everyday tasks for construction companies. Accomplishing these in an efficient and effective way while providing an outstanding experience to your clients is often a challenge.

First, the information required to properly estimate project costs and evaluate the project risk is scattered across different systems. Second, the work must be coordinated with many different stakeholders in real-time. Third, it is vital to manage the relationship and communications with the customer.

Although it has been largely overlooked, the customer experience will also be the key success factor in the construction sector – and cannot be delivered without motivated employees. Our market research (8) shows that employees and employers do care about customer experience. In fact, 54% of construction employees say they go out of their way to make sure customers have a good experience. It also shows that 59% of construction employees consider that their employer rewards them for helping deliver a good customer experience. The missing piece of the research puzzle is finding out what their customer actually thinks of the experience they are receiving, and ensuring there is no gap (9).

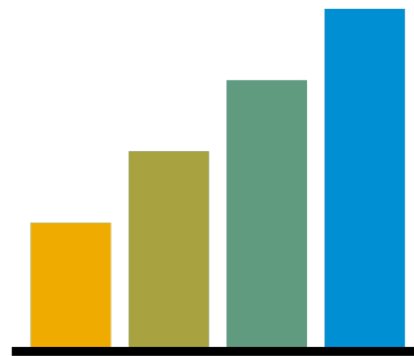


HOW COMPANIES CAN RESPOND

With the help of business analytics and machine learning, construction companies are improving win rates and becoming better at managing risks thanks to, among other things, a single view of historical data. A common data environment and mobile technology allow them to track project progress, cost, and margin with greater accuracy, in real time, on any device. Tendering processes can also be streamlined and lead opportunities increased by centralizing all project records and data and increasing visibility due to central insights (11).

Construction leaders are connecting operational data from companies' business systems with the experience data coming from customers, employees and suppliers to get actionable insights and deliver better experiences to both customers and employees (12).

Qualtrics XM platform allows organizations to gather customer, supplier and employee feedback at all touch points. This allows them to better understand their stakeholder's needs and address the gaps in processes and the tools required to deliver an outstanding customer experience.



HOW CAN SAP AND LTI HELP

- [Qualtrics Customer Confidence Pulse](#) is prebuilt, available, and free for all organizations. It helps companies monitor customer expectations and capture feedback in real time, so they can know what to stop, start, and continue to maintain strong relationships with customers and ensure business continuity.
- [Remote Work Pulse](#) is a free and automated feedback solution from SAP Qualtrics, the leader in experience management. It gives you the insights you need to keep teams informed and focused.
- [Qualtrics Experience Management](#) is the system of action that turns customers into fans and employees into ambassadors.
- [SAP Sales Cloud](#), a mobile-first solution that focuses on the four key areas of your business to act faster, become more relevant, have a strong presence and sell more.
- [SAP Commercial Project Management](#) Help your teams plan, manage, and collaborate on projects, whether they are in the same building or halfway around the world. Larsen and Toubro Infotech have templated the implementation of the solution to enable [quick adoption](#).



Help manage **your operations tightly**

Projects have been delayed, but not stopped. However, the long-term outlook for new projects might be negatively affected by global economic trends. The sector needs to overcome the limited capability to interact at the construction site by sharing project data with all stakeholders to prevent rework, delays, and mistakes.

Depending on the region and regulations, some companies have shut down all project sites while others are running within guidelines for essential construction. However, to date, projects are mostly facing 30 to 90 day delays and have not been cancelled. There are many root causes for the delays, but stricter health and safety regulations, clients' change requests and the reduced mobility of workers are among the main reasons. Despite the short-term challenges, which require extra care to preserve cash, the outlook is positive. Spending on infrastructure projects as soon as normality returns will reinvigorate the industry. However, there will be a lingering and potentially heavy impact on private investment owing to the financial toll that has been inflicted upon businesses and investors across a wide range of sectors (9).

The limited ability to interact at the construction site needs to be replaced by better visibility into each supplier, vendor, and sub-contractor through making the information residing within each company's IT systems or emails available to relevant parties. Rework, delays, and mistakes due to lack of communication and lack of real-time transparency during project execution will not be the norm any longer.

Cash being the king in both the short and long term, it is important to be able to bill clients based on milestones achieved and actual progress, and pay suppliers accordingly. Most advanced companies in the sector are adopting offsite manufacturing practices to limit the work done on site, reduce project risks and increase profitability.





HOW COMPANIES CAN RESPOND

Cloud-based network enables collaboration with all project stakeholders including owner, contractor, subcontractors, engineers and architects, facility management, and authorities. Different disciplines are brought together, such as structural, architectural, electrical, and plumbing, as well as engineering, logistics, project control and service, into an open Business Information Modelling (BIM).

Collaborative platforms are available to connect business partners across the value chain and establish a single source of truth for project payments by providing visibility of contractual clauses and project progress, as well as control over corresponding payment applications.

[Katerra](#) and [Top Hat](#) have adopted manufacturing best practices such as cost and quality controls, modular construction and pre-fabrication and transformed their construction sites into “open sky assembly lines”. TopHat are now collaborating with Industry Leaders such as BokLok (Ikea & Skanska Joint Venture) to manufacture two and three-bedroom houses over five years, leveraging their Modern Methods of Construction (MMC) Platform [\(13\)](#) .



HOW CAN SAP AND LTI HELP

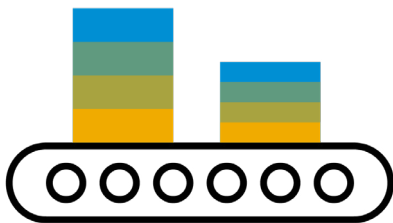
- [Packaged options for Cash Management and Treasury and Risk Management bundles](#) help maintain liquidity with real-time cash flow visibility for critical decisions.
- [SAP Project Intelligence Network for Construction](#) helps you manage projects from design and planning coordination and execution through completion and handover in a central system. It allows project collaboration across multiple stakeholders, centered around a digital twin, enabling you to see project risks and proactively mitigate them before they get out of control.

- [Project Paychain](#) from LTI helps improve cash flow in the short run by simplifying, automating and thereby speeding up the payment application process between clients, general contractors and sub-contractors and ensuring payments are made for work done.
- LTI has built a [pre-packaged solution](#) to support the end-to-end value chain of the modular housing eco-system from site development and planning to design, offsite manufacturing of housing modules, transportation to construction sites, and final assembly in-situ.
- [Construction Planning Synchronizer from LTI](#) enables seamless project execution by integrating planning data maintained in industry standard estimation and planning tools with SAP ERP data, delivering enhanced project management efficiency.
- [Execution Workbench & Mobility Application](#) helps perform detailed project scheduling and capture actuals in terms of execution quantities, tasks, and resources (craft labor and equipment).



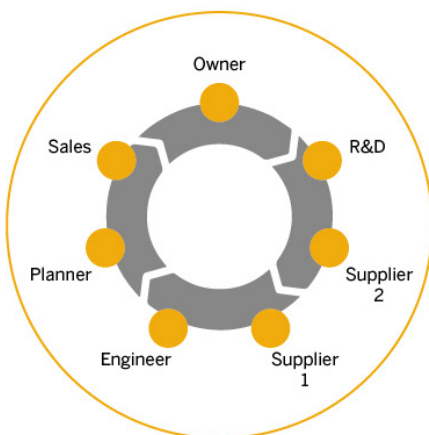
Help address supply chain volatility and improve your resilience

The industry supply chain has been disrupted during this period. There are short-term and long-term measures you can take to improve the visibility and control over your supply chain.



The European construction industry is urging the European institutions and the European Member States (10) to support the construction supply chain by putting in place measures to allow the efficient functioning of the EU internal market. This is due to the uncertain supply of critical equipment and building materials – especially structural steel and glass – from Asia.

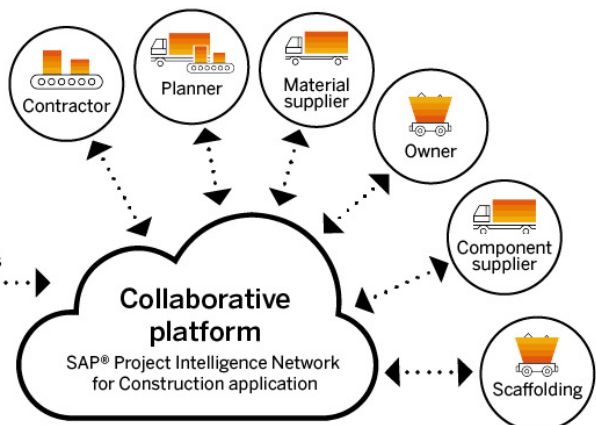
The lack of supply of personal protective equipment (PPE) is also a challenge to resume operations in agreement with COVID-19 regulations, and logistics bottlenecks are arising because of inbound and outbound supply chain challenges.



HOW COMPANIES CAN RESPOND

Even before the pandemic, best-in-class construction companies were tracking suppliers' disruptions to gain the agility to react quickly. If you face an immediate disruption of your supply chain and are looking for alternative sources of supply, SAP is offering free access to the Ariba Network for a limited time – see below for further details.

In order to emerge stronger, companies can use this time to make their businesses and projects more resilient for the future by using intelligent planning and advanced analytics. Connecting projects to all suppliers and synchronizing the delivery of materials and resources can improve schedule predictability, cost controls, and on-time completion and handover. Building the digital twin of your project using collaborative Building Information Modeling (BIM) and reliable project data from the construction sites is also highly recommended. In the future, construction companies will be able to utilize artificial intelligence such as machine learning to combine demand sensing and supply chain limitation information to optimize project planning and scheduling.



HOW CAN SAP AND LTI HELP

- SAP is providing free access to [SAP Ariba Discovery](#) so you can post your sourcing needs and get quick responses from suppliers all over the world who can deliver. This will help to minimize shipment delays and accelerate response to customer demand.
- Try a free, lightweight version of SAP Ariba Sourcing called [SAP Ariba Start Sourcing](#). Improve resiliency through dual sourcing, flex/dedicated capacity, vendor managed inventory (VMI), and other strategies.
- [SAP Ariba Network](#) helps speed up the sourcing process by engaging with millions of global suppliers to build a more resilient buyer-seller network.
- [SAP Ariba Supplier Risk](#) helps improve visibility into operational, reputational and regulatory risks to mitigate risks in volatile business.
- [Qualtrics supply continuity pulse](#) is a free prebuilt survey to help companies assess the risk level of supplier network, validate business continuity and recovery plans, and follow up with high-risk suppliers.
- [SAP Project Intelligence Network for Construction](#) helps you manage projects from design and planning coordination and execution through completion and handover in a central system. It allows project collaboration across multiple stakeholders, centered around a digital twin, enabling you to see project risks and proactively mitigate them before they get out of control.



Helping the industry build long-term sustainability

Now more than ever, the construction sector needs to reduce the environmental impact of the assets they build. SAP is developing a new solution to accompany the sector on its journey to a low-carbon economy.

The climate change challenge for the construction industry won't go away anytime soon. The sector is the leading global consumer of raw materials and responsible for a large proportion of [worldwide energy usage](#) and [CO2 emissions](#). The volume of natural resources used will be even more under scrutiny after COVID-19, and the industry cannot afford to compromise the environment for the sake of growth. The industry needs to act now to reduce CO2 emissions, and to protect the construction sector from regulation that makes life more difficult, sometimes without making an impact.

Yet companies still need to be able to perform work right now and ensure the safety of employees that are performing operational tasks at the construction site or away from their home office.

HOW COMPANIES CAN RESPOND

Green House Gas (GHG) emissions don't just happen; they are the result of many distributed business decisions at all levels within the enterprise. Businesses that want to minimize their CO2 emissions need the tools to analyze the impact of production, transportation, and logistics across the whole asset lifecycle and take decisions based on masses of structured, unstructured and operational data. Dynamic,

transparent, and real-time insight lays the foundation for minimizing GHG emissions in day-to-day operations. It enables companies to analyze business performance, negotiate with suppliers, communicate with authorities and clients, and provide a sense of purpose to their employees.

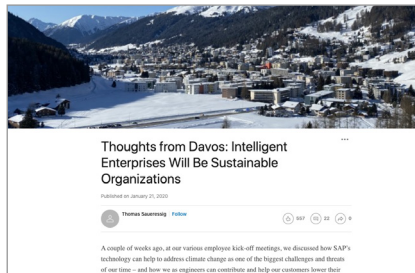
For operational workers who need to perform their tasks away from the home, best-in-class companies are using the ISO 45001 standard to develop a systematic approach to managing the health and safety of people employed by them or impacted by their operations.



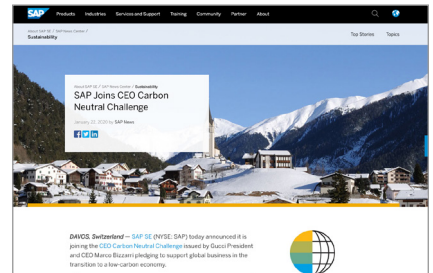


HOW CAN SAP AND LTI HELP

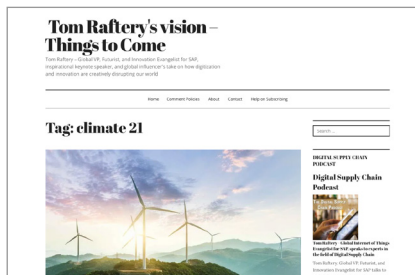
SAP has launched the Climate 21 program to build analytical and transactional capabilities into its enterprise applications that can help our customers understand and minimize the GHG footprint of their products and operations along their value chains. Our motivation is to support them in pursuing their climate-related objectives of the 21st century. We are looking for business leaders across industries to define their needs and the capabilities you require on your journey to a low-carbon economy to a low-carbon economy and to ensure healthier and safer conditions for construction.



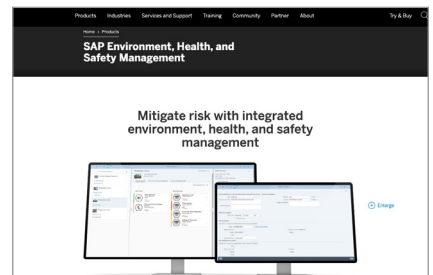
Thoughts from Davos



SAP Joins CEO Carbon Neutral Challenge



Climate 21



Adopting ISO 45001 to mitigate risk with integrated environment, health, and safety management



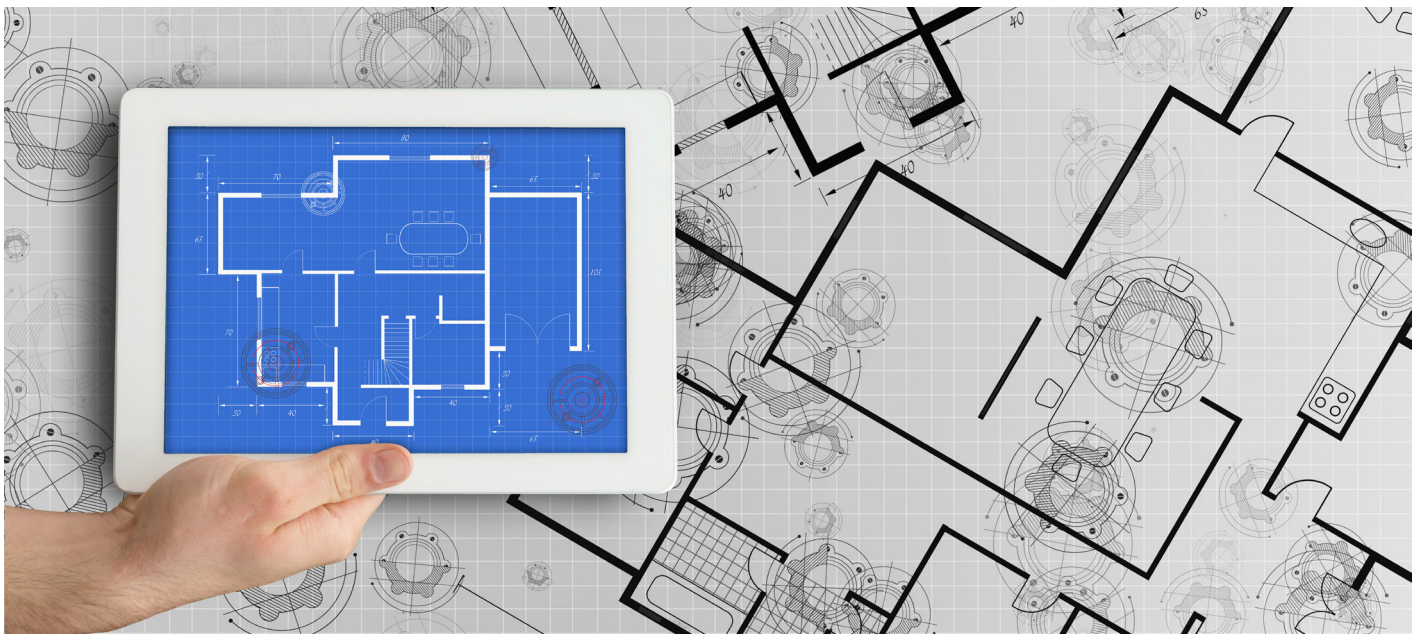
Optimizing Occupational Health and Safety with an Integrated Approach

Helping you to minimize **your digital transformation risks**

LTI is the technology arm and fully owned subsidiary of Larsen & Toubro (L&T) Group, an 80 year-old, \$19 Billion, engineering and construction conglomerate. For over 20 years, LTI has implemented SAP and integrated solutions for various global corporations, including its parent company, L&T group. L&T Group has a long-standing history of leading digitization initiatives in the construction sector and [building a data-driven culture](#) from the ground-up, as articulated by the CEOs of L&T Group and LTI in 2020.

LTI will put skin-in-the-game and reduce the inherent risks associated with business transformation programs through time-bound, fixed price implementation proposals based on leading-edge industry best practices from SAP and LTI. Together with real-time analytics on projects — created through an integrated mix of SAP and non-SAP technologies like artificial intelligence (AI), the Internet of Things (IoT), virtual reality/artificial reality (VR/AR), robotic process automation (RPA), and geospatial and cybersecurity technologies, SAP and LTI can ensure modern construction enterprises can accelerate their digital transformations in a safe and derisked manner.

Based on this rich industry heritage, LTI has developed its Intelligent Construction Enterprise (ICE) industry template leveraging SAP Intelligent Suite and SAP Digital Platform. LTI can tailor this solution to meet the unique business requirements of breakaway construction enterprises.



Next Steps

- Visit our [landing page](#)
- Evaluate the relevance of our free offers for your company
- Take the [short survey](#)
- [Contact us](#) for a free assessment of your specific situation
- [Visit Sapphire](#)

SAP has the right technology to accompany the transformation of the construction sector. LTI's industry expertise will enable construction companies to minimize the risks and maximize the value of your investment in IT assets, to accomplish your own business transformation. If you want to know more about how to de-risk the adoption of technology to transform your business please contact us, our details are below:

Who to speak to:

- Francesco via [email](#) or [LinkedIn](#)
- Balasubramanian via [email](#) or [LinkedIn](#)

Where to go for more information

- [Access more information](#) on the SAP solutions for the Construction Industry
- [Access more information](#) on the LTI services for the Construction Industry



Your **Contacts**



Balasubramanian V (Bala)
Vice President – Enterprise Solutions, Larsen & Toubro Infotech, London

Over 25 years' experience in technology enabled business transformation. Having spent his early career in LTI's parent company Larsen & Toubro Group in their Engineering & Construction Business, Bala has played various roles across US, UK, Europe and India, working with Global Customers across ERP, Supply Chain, CRM and other Enterprise Solutions & Technologies. Bala is currently working with LTI's customers to drive Business & Technology Transformations through modern technology solutions.

Talk to me via [email](#) or [LinkedIn](#)



Francesco de Toma
VP Service – Industries Advisory Services EMEA

Over 20 years' experience in IT and business strategy. Leveraging his experience in software implementation, sales and management consulting. Larsen and Toubro Infotechng, Francesco is passionate in addressing market trends and customer requirements with technology innovations based on a value management approach. Francesco has an extensive international exposure, being Italian, living in France and having worked in the US, Thailand and most of European countries.

Talk to me via [email](#) or [LinkedIn](#)





Let's Solve

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