Resilience: The New Normal in the E&C (Engineering & Construction) Industry

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Agenda

**Construction Market short-term challenges and industry outlook**

*Mark Smith, PhD*
Deloitte Transactions and Business Analytics LLP
Managing Director
New York, NY

**Responding to disruption with emerging technology**

*Mike Whalen*
Deloitte Transactions and Business Analytics LLP
Managing Director
Houston, TX

*Ryan Uhrin, PE*
Deloitte Transactions and Business Analytics LLP
Manager
Pittsburgh, PA

**Long-term opportunities for E&C companies**

*Jodie Kim, PE, PMP*
Deloitte Transactions and Business Analytics LLP
Manager
Washington, DC

Moderator
The construction industry has proved its resiliency in the past and continues to be successful during trying times.

Construction activity has been largely exempted since it’s categorized as an ‘essential business’. However, construction companies are required to be extremely cautious with the health and safety of on-site workers who are working during the pandemic.

Construction organizations are required to manage, monitor, and report social distancing practices to keep jobsites open and workers safe and healthy. Below are key areas to confirm the health of their workforces while maintaining stricter safety norms as a priority:

- **EPCs are leveraging new/advanced technologies.** For e.g., a leading national construction company has deployed a custom-designed wearable IoT tag* to remind workers to maintain social distancing and provide contact-tracing information for jobsites.

- **EPCs are monitoring on-site workers for COVID-19 and other symptoms – conduct regular temperature checks and prohibit workers who may be ill from working.**

- **EPCs are conducting regular risk assessments of construction sites** to confirm they comply with the health and safety guidelines laid down by the government. Companies are virtually and remotely monitoring on-site workers to confirm they are complying with the safety standards, such as, maintaining social distancing and personal hygiene, frequently disinfecting, wearing PPE etc.

- **Some companies are using social distancing automation**, which includes automatic detection and notification to workers of crowding with patterned vibration and visual message if a cluster of X people are too close.

*Source: Deloitte analysis, Construction Dive, Lexology, and Safety+Health*
Poll Question #1
Owners and EPCs are focusing on leveraging digital technologies as one of the key strategies to respond and recover from ongoing project challenges.

This can act as a catalyst for organizations to accelerate the adoption of digital technologies.

### Increased use of robots on-site as skilled labor levels decline

- Construction companies are leveraging robots and autonomous rovers to reduce the need for humans to conduct site inspections. This helps address the entire industry’s challenge of maintaining (or even increasing) skilled craft labor forces required to meet current demands.

### Using digital building twins, 5D BIM, and AR/VR during the project life cycle

- Construction projects are increasingly using drones for remote surveillance and inspection of construction projects.
- This will help allow drones to complement connected construction, as well as reducing onsite labor and overhead costs.

### Leveraging drones for remote site monitoring and inspection

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### Enabling remote management using connected construction sites

- Organizations are gradually increasing the use of cloud technology as well as digital collaboration tools to confirm construction sites are connected, which makes remote management and collaboration easier.
- IoT is enabling intelligent asset management including inventory management and equipment monitoring and repair.

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Source: Deloitte analysis

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Poll Question #2
Digital technologies will continue to aid construction cost and schedule KPI’s for current and future construction work.

**Advanced technologies are having an unprecedented impact in transforming how the sector firms operate**

- Geolocation
- Remote monitoring
- Personnel location tracking
- Live markups

**Human robot talent management**

- New digital capabilities bring with them new skill requirements, eventually changing future construction jobs

**Incident risk mitigation**

**Reduced insurance cost**

**Upsides from workforce safety digital tools**
Poll Question #3
Poll Question #4
Owners and EPCs are leveraging modularization and prefabrication to drive efficiencies and overcome schedule overruns

Other sectors are following the lead of Oil and Gas, moving towards modularization and prefabrication of components to offset/mitigate the current impact.

Modularization improves productivity and project margins when it is executed well.

In addition to reducing labor costs, modularization is driving improvements in quality and shortening project schedules, as both time and cost overruns are likely to increase significantly.

Adding module assembly yards—strategically located sites for fabrication and assembling building elements—facilitate rapid assembly when transferred to a construction site.

Prefabricated construction is enabling work to occur within a controlled environment, controlling costs and mitigating risks.

3D printing is helping contractors to develop innovative designs and create superior structures that help reduce the construction schedule.

Source: Deloitte analysis, Construction Dive

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E&C companies have significant opportunities in the medium- and long-term

**Availability of skilled labor**
- Shortage of skilled labor has been an ongoing industry challenge
- The pandemic shook up the labor market: 40M jobless claims and a real unemployment rate of 23.8%*
- As the sector recovers, hiring may be accelerated once certainty is achieved

**OPPORTUNITY**: Attract untraditional skillsets to accelerate adoption of technology and efficiencies

**Merger and Acquisition (M&A) for long-term value creation**
- Many companies will divest non-core or underperforming assets during the COVID-19 slowdown
- Companies with robust balance sheets can scout for acquisition targets
- Create long-term value using M&A during depressed valuations

**OPPORTUNITY**: Consider creative collaboration in current and future capital projects

**Reduction in costs to drive profitability**
- Contractors are seeing cheaper cost of capital for financing projects owing to a conducive monetary policy
- Many E&C companies now plan to reduce overhead costs moving forward
- Decreased pricing of key commodities can reduce planned project expenses

**OPPORTUNITY**: Evaluate traditional cost centers and expenses to improve profitability long-term

*Source: Deloitte analysis, Bloomberg, Fortune*
Workforce, digital technologies, cost management: Key areas business leaders should focus on for short-term and long-term resiliency

1. Work closely with subcontractors and governments to plan and execute measures for **worker safety**, while **keeping the projects running**

2. Consider if the crisis can be used as a catalyst to **rethink how work is done** and to **accelerate adoption of digital capabilities**

3. Review how **cash flows and profitability** can support ongoing operations in light of diminished and relocated activity and consider **contingency planning** scenarios
Questions?

Deloitte
Infrastructure & Capital Projects

Mark Smith, PhD
Managing Director
Deloitte Transactions and Business Analytics LLP
markasmith@deloitte.com
New York, NY

Mike Whalen
Managing Director
Deloitte Transactions and Business Analytics LLC
mwhalen@deloitte.com
Houston, TX

Ryan Uhrin, PE
Manager
Deloitte Transactions and Business Analytics LLC
ruhrin@deloitte.com
Pittsburgh, PA

Jodie Kim, PE, PMP
Manager
Deloitte Transactions and Business Analytics LLC
jodiekim@deloitte.com
Washington, DC

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