Fluor Uses IBM Watson to Deliver Predictive Analytics Capability for Megaprojects

Fluor drives digital transformation with artificial intelligence solution to monitor status of global projects and drive significant project cost savings

IRVING, Texas and ARMONK, N.Y., Sept. 13, 2018 /[PRNewswire](#)/ -- [Fluor Corporation](#) (NYSE: FLR) and [IBM](#) (NYSE: [IBM](#)) announced today the use of artificial intelligence-based systems to predict, monitor and measure the status of engineering, procurement, fabrication and construction (EPC) megaprojects from inception to completion. Fluor's extensive engineering, fabrication, construction and deep supply chain expertise, coupled with artificial intelligence and analytic technologies from IBM Watson, forms the foundation for big data analytics and diagnostic systems that help predict critical project outcomes and provide early insights into the health of projects.

Large capital projects, especially in the energy and chemicals, and mining and metals markets, are incredibly complex with enormous amounts of data, people and moving parts that are constantly changing and need to be understood to keep a project on schedule and budget. To gain insights from project data in nearly real-time and to understand the implications of changing factors, Fluor is introducing the EPC Project Health Diagnostics (EPHD^{sm}) and the Market Dynamics/Spend Analytics (MD/SA^{sm}) systems. Developed with IBM Research and IBM Services, working collaboratively with Fluor, these innovative tools help to identify dependencies and provide actionable insights by fusing thousands of data points across the entire life cycle of capital projects.

Fluor selected IBM Research and IBM Services to assist in the development of these advanced systems as part of its global data-centric transformation strategy. Fluor can now leverage a wealth of experience from across its entire historical data store and global workforce to quickly understand markets and monitor project factors impacting cost and schedule to drive improved certainty and cost efficiency across the entire project scope.

"Harnessing the power of data to make meaningful insights will alter how megaprojects around the world are designed, built and maintained," said Arvind Krishna, senior vice president and director of IBM Research. "Together with IBM, Fluor is embracing artificial intelligence as an engine for transformation in data-driven industries that are ripe for innovation including energy and chemicals, and mining and metals construction projects."

"The ability to rapidly analyze and comprehend big data that drives decisions at any point throughout the engineering, procurement, fabrication and construction of today's megaprojects is an imperative for the success of our company and the protection of our clients' capital investments," said [Ray Barnard](#), Fluor's senior executive vice president of Systems and Supply Chain. "And to be the best at predictive analytics and project execution in our industry, we teamed with IBM to create EPHD and MD/SA, an advanced and effective set of diagnostic tools and capabilities that rapidly predict best-in-class pricing globally, project status and outcomes, and improves the quality of services and decision-making as we serve our clients around the globe."

The EPHD and MD/SA systems are designed to transform complex data into actionable business insights using domain-driven semantic models to guide artificial intelligence-based predictive and diagnostics modeling. A unique feature of the systems is the blending of data with domain expertise to learn models that are operationally insightful. An advanced cognitive user interface provides seamless access to the data, reports and results of the analysis, using EPC domain-sensitive natural language conversational interface. The underlying domain understanding is used to guide project diagnostics and provide natural language summaries based on

the reports, with data visualization techniques to ease its quick consumption and understanding.

These tools assess the status of a project by:

- Predicting issues such as rising costs or schedule delays based on historical trends and patterns.
- Gaining earlier insights from many sets of complex factors across project execution.
- Identifying the root causes of issues and the potential impacts of changes as input to the decision-making process including estimate analysis, forecast evaluation, project risk assessment and critical path analysis.

"Besides the work Fluor was already doing on predictive maintenance and construction sequencing, five years ago we began investing in predictive analytics and artificial intelligence capabilities to further evaluate performance and determine critical project outcomes as a part of our data-centric journey," said Leslie Lindgren, Fluor's vice president of Information Management. "We will be using these innovations on select large and megaprojects to quickly discover trends, *patterns* and meaning in our structured and unstructured data that deliver competitive advantage through the digital transformation of data into critical information with significant benefits to our clients, other stakeholders and our company."

As Fluor continues on its global data-centric transformation journey, the company plans to further develop and expand EPHD and MD/SA using analytics and artificial intelligence capabilities from IBM Watson and integrate them into Fluor's processes.

About Fluor Corporation

Founded in 1912, Fluor Corporation (NYSE: FLR) is a global engineering, procurement, fabrication, construction and maintenance company that transforms the world by building prosperity and empowering progress. Fluor serves its clients by designing, building and maintaining safe, well executed, capital-efficient projects around the world. With headquarters in Irving, Texas, Fluor ranks 153 on the *Fortune 500* list with revenue of $19.5 billion in 2017 and has more than 56,000 employees worldwide. For more information, please visit www.fluor.com or follow Fluor on Facebook, Twitter, LinkedIn and YouTube.

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