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Extending Virtual Design and Construction to Support Total Cost of Ownership

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B06878 The U.S. design and construction industry is shifting toward single-source delivery approaches such as design-build and integrated project delivery (IPD). A fundamental feature that these delivery systems share is the participation of subcontractors in the early stages of the project. DPR Construction has invested heavily in the use of new technologies such as Building Information Modeling (BIM) and in development of expertise in collaborative delivery methods. We find that including owner's Operations and Maintenance Teams in IPD leads to better total-cost-of-ownership outcomes, providing an opportunity to make asset data flow from the project into asset management systems. This information, along with building-automation-system trend data, makes possible a more accurate picture of building system performance, thereby improving decision-making about energy spend, system maintenance, and repair. We will share DPR's experience working with owners who understand the business value of IPD in order to achieve breakthrough outcomes in whole-life management of projects and buildings.

Learning Objectives

At the end of this class, you will be able to:

- Understand how O&M is evolving practice
- Understand business case for BIM for FM in lowering total cost of ownership
- Understand virtual design and construction principles and their extension for O&M
- Understand the importance of early owner involvement

About the Speaker

Andrew Arnold applies more than 25 years of experience in product design and management, product and process modeling for applications, and consultation to help DPR Construction customers establish appropriate lean construction, Building Information Modeling (BIM), integrated project delivery, and operations and maintenance practices. Recently Andrew assisted in BIM for facilities management implementation on a large-scale healthcare project in San Francisco. Andrew received his PhD in construction engineering and management from Stanford University's Center for Integrated Facilities Engineering. He has worked in architecture on hospitality, health science, and education projects. He also consulted in computerized-aided facilities management (CAFM) implementations. After graduate school Andrew designed and managed BIM applications that database product information and provide content management and analysis, including quantity takeoff, cost estimating, Leadership in Energy and Environmental Design (LEED) contribution, and immersive visualization.

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