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Executive Meetings in the Command Room! ~Beyond the Digital Twin

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Learning Objectives

- Reconcile why we have been working on BIM, Digital Twin and Digital Transformation
- Share the idea of the strategy beyond BIM
- Explain how to utilize Autodesk Solutions to achieve the Mini-Command room at Construction sites
- Explain what is the real data-driven decision making in the Construction Industry

Description

Digital disruption is an inevitable trend in the construction industry, and with many digital technologies, creating the Future Construction Sites will be completed in near future.
On the other hand, the digital data as the output of digital technologies utilization, will gather into a data lake and linked with ERP and other core systems toward more advanced data utilization.
Transferring from "creating" and "collecting" digital data including BIM data to the next stage, "utilizing" data, will be the must. We will present our milestones with the ultimate goal for executives to be able to make data-centric business decisions based on the data gathered in real time.

Speaker(s)

Takaaki Miyauchi

- Joined Daiwa House in 1998
- Expert in Structure design
- Since 2017, working on establishing BIM standard Corporate-wide
- Currently focus on utilization of BIM throughout Construction life-cycle

Yoshinori Shimizu

- Joined Daiwa House in 2017
- Extensive construction experiences in Commercial facilities, logistics, hotels, office buildings etc.
- Inspired by AU2021 and AU-Japan, exploring new technologies for the future of construction

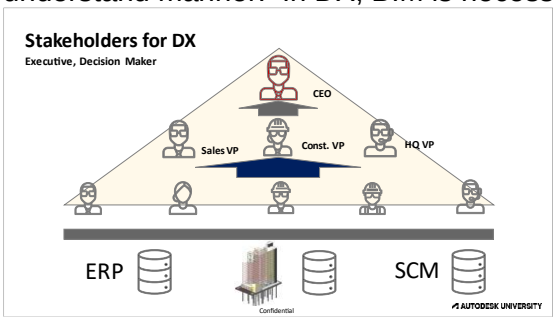
About Daiwa House

Daiwa House has developed an extremely wide range of business areas since 1955 and has grown to be the largest construction company in Japan. We have been providing new products to customers aligned with the times and realized the value chain. And now, by adding all kinds of information to conventional products, we provide services to enrich people's activities, not only to customers but also to employees, stakeholders, and the many people living there and achieve digital value chain in the digital society era.
URL: https://www.daiwahouse.com/English/?page=from_header

BIM for whom? DX for whom?

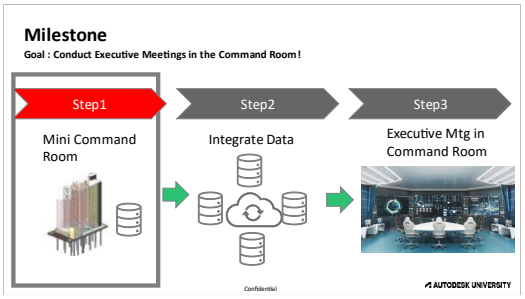
We have been promoting BIM, but was it for whom BIM?
In the beginning, BIM was for Design dept. and Construction dept. respectively.
Design dept. created data / necessary for Design team only /and / it was not used in Construction team. This is so-called “Partial optimization”.
Later, we noticed the issue and changed our perspective to what is required for Construction-BIM, and what “Overall optimization” is, focusing on the data collaboration.
Even though, BIM is the digital data only for those involved in the Building lifecycle.

DX has a great impact on decision makers, especially the management level of the company.
While BIM was only about information for the entire Building lifecycle, with DX, not only information related to BIM, but also information from ERP, SCM, and other core systems will become necessary elements.
DX also requires, only the necessary information is extracted and visualized in an easy-to-understand manner. In DX, BIM is necessary information, but it is also a part of the whole.



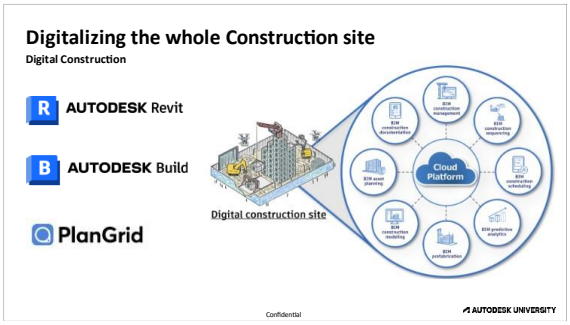
What is the Command room?

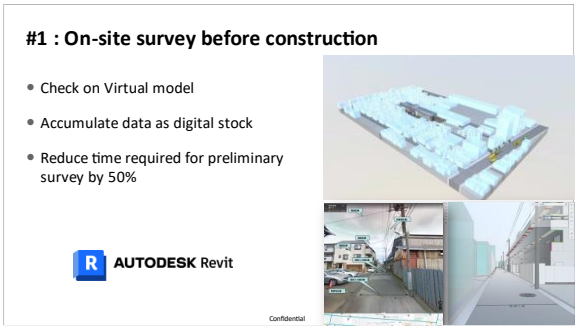
Decision-making by the information gathered before the meeting day. In terms of using data, this is also a data-driven management. However, the situation is often different today than it was yesterday.
We believe decisions based on real-time information is the data-driven management.
We often saw a scene in Hollywood movies, when a crisis happened, the president of the United States rushed into the command room and checked the necessary information with real-time data and then made a decision. Because BIM is ready to use, we can achieve such a movie world in the Construction industry.



Mini-Command room at On-site

We store our existing intuition and experience as digital information.
First example is to conduct a preliminary survey in a virtual space, instead of visiting the site many times to check. By using the model, we could establish a clearer picture of the site, investigate check points in advance, and keep records as digital data.

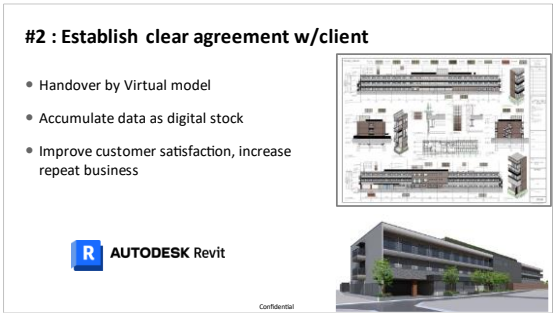


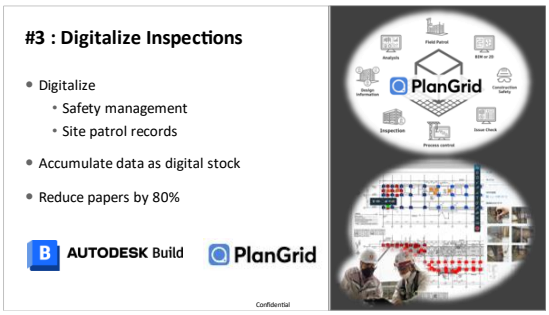


We also used a virtual model created in Revit to confirm details with the client.
By check and confirm detailed requests by the owner with a realistic model, not only reducing the rework risk but also improving customer satisfaction.

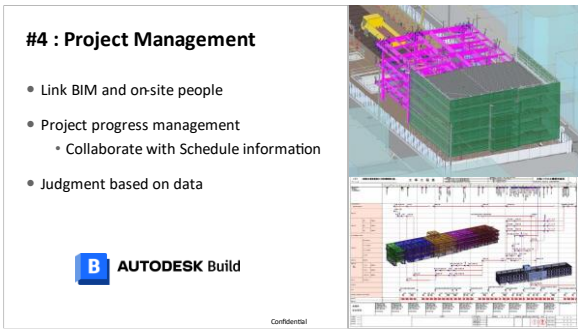
With PlanGrid and Autodesk Build, we digitalized safety management, site-patrol records, and construction photos. Digitalizing conventional operations alone had a significant effect, but also it leads to increase in digital stock.

Increasing the number of digital stock on-site will accelerate the data utilization, and lead to the data-driven world.



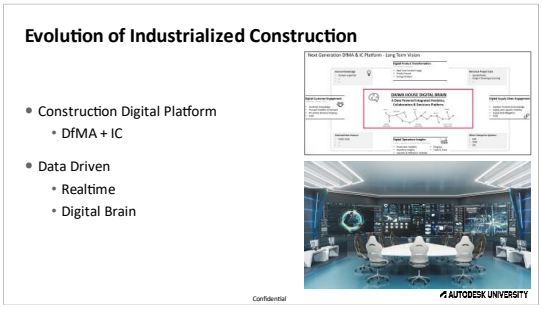


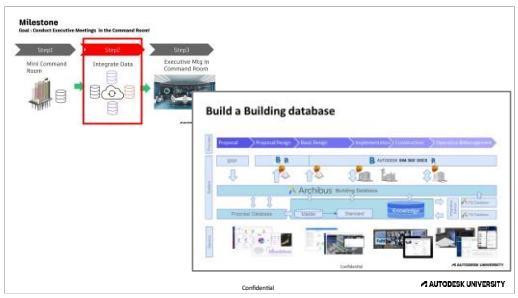
An example of Autodesk Build used for project management.
By connecting BIM information with people on-site, Project management is conducted.
Collaborating with the process information, project progress can be managed based on data.



Step2 ~ Evolution of Industrialized Construction

Working with Autodesk on a concept for this part of the project, we are planning to link the construction digital platform with ERP, SCM, and other mission-critical systems.
Also, we are considering a way to visualize data on a dashboard, extracting necessary information from the data lake.
As the first step, we started to link BIM and databases through Archibus project, currently on-going in maintenance management.





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