HEXAGON

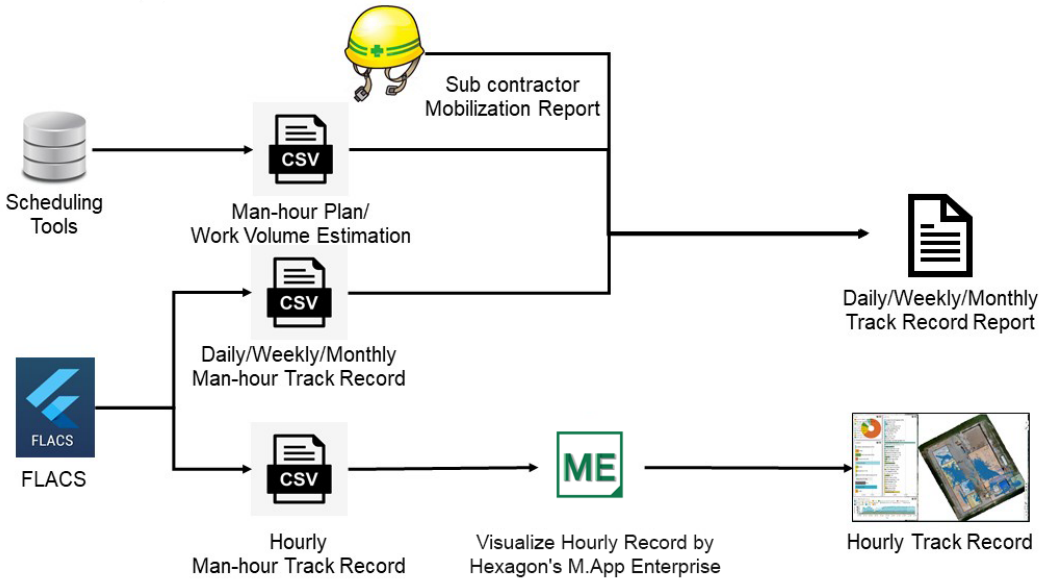
Case study

Chiyoda optimizes construction workforce and site management

Headquartered in Yokohoma, Japan, Chiyoda Corporation is a global engineering company that specializes in oil and gas midstream services for gas processing, as well as downstream refinery and petrochemicals and liquefied natural gas facility design and construction.

With more than 5,200 employees around the world, Chiyoda needed to optimize its construction labor management processes to create efficiencies, reduce costs and gain a better understanding of its global construction site operations.

To address this need, Chiyoda developed the Field Labor Access Control System (FLACS) to accurately track employees and work progress at construction sites by leveraging IoT data from employee devices. However, the system struggled initially to easily visualize and analyze such a large amount of dynamic data using standard GIS and business intelligence tools, which were cumbersome to use, costly and difficult to maintain and required developers to write complex code in the cloud.



FLACS System Data Flow

Mapping and analyzing IoT data

Chiyoda implemented Hexagon's M.App Enterprise platform to deliver higher performance and streamline mapping and monitoring of sensor data and field-based assets. It supports real-time visualization, analysis and information sharing for a deeper understanding of projects, which provides the company with location intelligence to enhance its engineering, procurement and construction (EPC) processes.

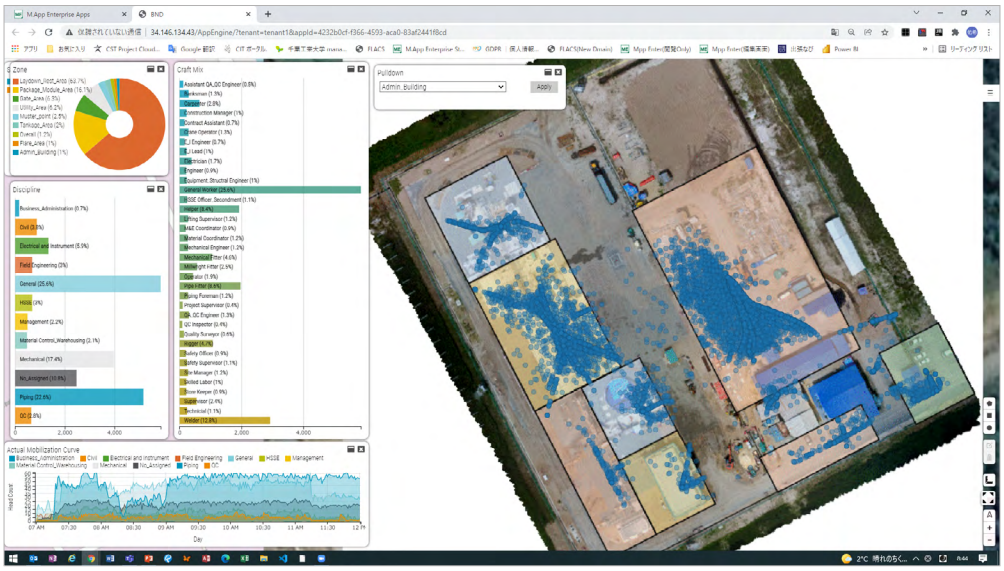
The M.App Enterprise-based solution visualizes and analyzes employee and construction data in one map-based dashboard, providing off-site managers with enhanced awareness of on-site operations. It also supports security and safety for personnel working on construction sites. By categorizing information such as employee location and skills, Chiyoda can immediately analyze workforce mobilization in a dynamic and visual format and compare it to project status on construction sites.

It's also easy to use. Employees can manage and understand the location-based data and activities without the need for extensive GIS knowledge and training.

A platform for the future

FLACS has been implemented for a large-scale project to verify operational efficiency and track daily plans and progress. To share information efficiently and store the data securely, Chiyoda runs M.App Enterprise on Google Cloud Platform.

As M.App Enterprise supports point-cloud and 3D data and machine learning for automated analysis, it will enable FLACS to incorporate more and richer data in the future. Chiyoda also plans to add other trackable assets, such as construction equipment and materials, into the system for more comprehensive monitoring and management of sites. Because of the value it delivers to operational efficiency, Chiyoda plans to sell the FLACS solution to other EPC providers.



With Hexagon's M.App Enterprise platform as part of FLACS, site managers can monitor which construction zones workers are moving in and out of to confirm site safety and security.

About Hexagon

Hexagon is a global leader in digital reality solutions, combining sensor, software and autonomous technologies. We are putting data to work to boost efficiency, productivity, quality and safety across industrial, manufacturing, infrastructure, public sector, and mobility applications. Our technologies are shaping production and people-related ecosystems to become increasingly connected and autonomous – ensuring a scalable, sustainable future.

Hexagon's Safety, Infrastructure & Geospatial division improves the resilience and sustainability of the world's critical services and infrastructure. Our solutions turn complex data about people, places and assets into meaningful information and capabilities for better, faster decision-making in public safety, utilities, defense, transportation and government. Learn more at hexagon.com and follow us @HexagonAB.