


Intergraph Smart® Construction

Increasing Productivity. Reducing Risks. Growing Success.







Intergraph Smart® Construction is a modern work package planning solution proven to efficiently manage construction resources, materials and schedules. Designed to meet the specific needs and challenges of construction companies, project management offices, fabricators and owners, Smart Construction is an industry-trusted solution used worldwide.

Smart Construction provides real-time forecast, status, reservation and visualization of materials through built-in integration with Intergraph Smart Materials or client internal material management systems. The Smart Construction dashboard for materials enables dynamic re-planning capabilities, and a configurable planning window enables planners to make economical modifications before problems grow. Hexagon's PPM division created Smart Construction specifically for construction planners to more efficiently plan and manage fabrication and construction projects, resulting in enhanced safety, increased quality and improved productivity.

Using current information from various sources such as 3D models, 2D engineering tools, materials management and a bidirectional interface with project controls and scheduling systems, Smart Construction ensures accurate and timely decisions can be made with the most up-to-date information. Users can view 3D models and drawing filters with enhanced 4D animation, powerful new pre-configured filters and selection rules for a 3D model. This delivers significant efficiency and improvements in building a complete work package, saving time and money.

Benefits



Lower Costs



**Enhance Collaboration
between Departments**



**Eliminate Errors
and Redundancies**



**Improve Scheduling
Projections**



Increase Productivity



Streamline Processes

Scheduling

Smart Construction offers a direct link with Primavera and imports a Level 3 schedule for work package planning. A scheduler feature also enables users to customize durations, crew size, work week schedules and non-working days and set dependencies. Users can view, sequence, calculate and animate schedules. Then they can export detailed schedule information back into Primavera.

Users can animate work packages in the 3D model that links to the scheduler, then record and save schedules.

Mobile Capability

Digitally extend work packages into the field and track progress directly at the workforce. Smart Construction OnSite reduces the labor hours required to capture progress and minimizes opportunities for data entry errors associated with traditional methods of status reporting. Using Android devices, on-site workers are able to view, update and track project progress in real-time. Having the ability to view the work package from a tablet or phone allows crews to have the most up-to-date project information, which improves productivity and enables accurate task planning.

With automatic updates to the system when connected to Wi-Fi, users can work offline with ease knowing their inputs are being captured instantly.

Component Register

The component register will allow Smart Construction to retrieve data not modeled in 3D nor existent on drawings, such as cable pull schedules and component lists of any sort. Users can quickly generate the component register in a spreadsheet-like user interface. Subsequently, users can now drag and drop electrical cables and/or components from the register into work packages. The preconfigured rules of progress will associate the component work steps and their labor hours to the work package and automatically generate the planned work package labor hours just as it does for components modeled in 3D or existent on a smart drawing.

Improve Efficiency in Capital Projects and Shutdowns/Turnarounds

The new age Smart Construction product is also an essential project and construction management tool that brings the owner, engineering, construction, supply chain and project controls together early on the project.

The challenge for the construction industry is determining how to make informed decisions based on the most accurate information available and how to manage people and materials in a dynamic construction environment to advance the project in the safest and most efficient manner. Smart Construction not only helps in addressing these concerns, but the system also streamlines the work process and mitigate issues early on the project that may have otherwise not been known until the project entered the execution or turnover phase.

Sustaining projects can use Smart Construction to integrate design, execution planning and package creation ahead of shutdown for delivering optimal results such as:

- Reduces hours in the plant shutdown execution
- Eases induction of the work sequence for owner personnel and contractors
- Guarantees decreasing the risk during the plant shutdown execution
- Allows performance calculation and personnel estimation by work front
- Reduces the impacts due to engineering modifications and establish fabrication priorities of materials

Construction Progress Measurement

One of the most critical tasks in field construction is the ability to accurately measure and report actual construction status throughout a project. Smart Construction provides a platform to precisely record field construction status based on configured rules of credit and report on this status. By using the 3D model, users can easily view the current progress in any stages of construction. This improves reporting accuracy and speed, giving an accurate picture of the project status.



Constraint Management

Projects and job sites are full of constraints: Things that need to be requested, acquired or fulfilled before a component on the project site can be worked. Smart Construction can track any sort of constraint, scaffolds, work permits, labor resources, special equipment, etc.

Smart Construction provides the ability for project planners to manage constraints within the software, but constraint requests can also be managed within the SmartPlant Foundation Web Client. Accessing and managing these constraints do not require a Smart Construction license.

Enterprise Solution

Smart Construction benefits the entire engineering, procurement, construction and operations value chain:

- **Owner Operators** can improve CAPEX efficiency by consistently managing engineering information from concept planning, detailed engineering, procurement and construction into operations and maintenance.
- **Fabricators** can provide direct input to facilitate real-world construction plans.
- **Constructors** can reduce project cost with improved visibility on project plans, accelerate their ability to re-plan dynamically in response to real-world changes and take advantage of enhanced integration with engineering, procurement and fabrication to optimize both engineering and construction decisions.



Increasingly, our customers want to see their construction status in real-time and manage sites through data-driven systems, with no inconsistencies. We are confident that Smart Construction will help us to achieve this. We expect the end result to be improved project execution and improved operational readiness for handover to the owner.”

Manager, Hyundai Engineering & Construction





Hexagon is a global leader in sensor, software and autonomous solutions. We are putting data to work to boost efficiency, productivity, and quality across industrial, manufacturing, infrastructure, safety, and mobility applications.

Our technologies are shaping urban and production ecosystems to become increasingly connected and autonomous — ensuring a scalable, sustainable future.

Hexagon's PPM division empowers its clients to transform unstructured information into a smart digital asset to visualize, build and manage structures and facilities of all complexities, ensuring safe and efficient operation throughout the entire lifecycle.

Hexagon (Nasdaq Stockholm: HEXA B) has approximately 21,000 employees in 50 countries and net sales of approximately 3.9bn EUR. Learn more at hexagon.com and follow us @HexagonAB.