

Intergraph Smart® Completions

Capitalize on the Latest Digital Execution Process Throughout Your Entire Project Lifecycle





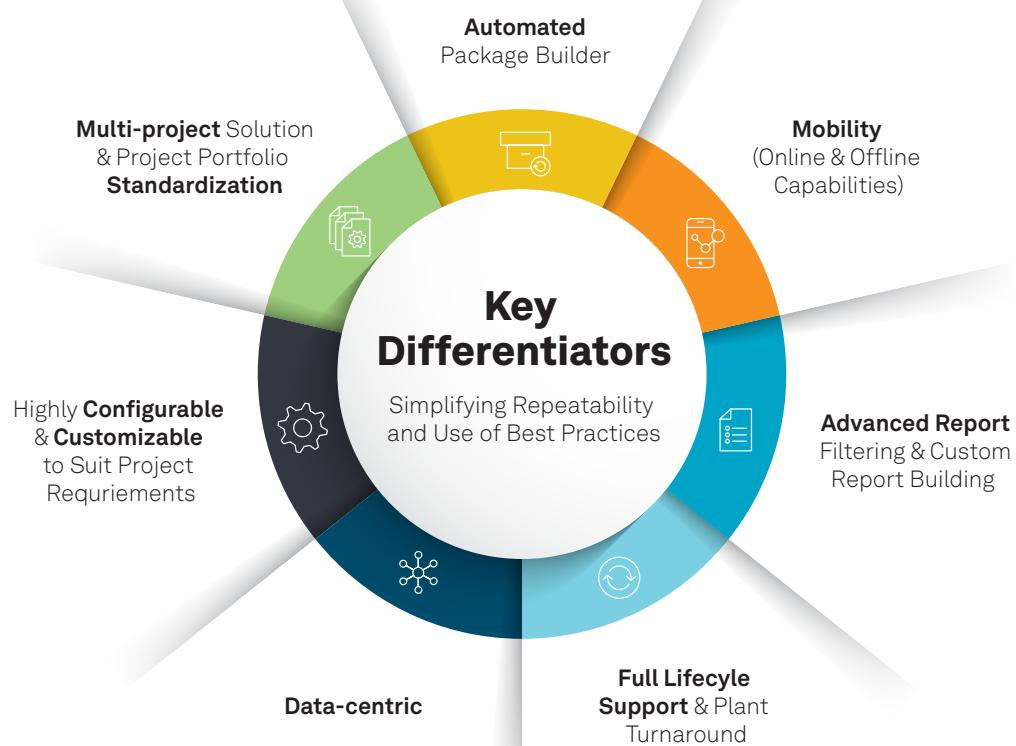
Intergraph Smart® Completions (ISC) creates a foundation of information with traceability and accountability for custody, control and work processes providing seamless transitions to operations and maintenance. Manage all projects, large or small, by enabling your organization to effectively plan, prepare and execute a project.

Smart Completions is used on some of the largest mega-projects throughout the world with exceptional performance and results. It is a reliable and predictable system, designed to achieve owners' goals.

Smart Completions is designed to consolidate asset information and verify installation, testing and performance of all equipment, instruments, piping and Control System Input Output (I/O) points. The flexible foundation provides projects the tools needed to track all facets to ensure system integrity and deliver the end product that meet ISO specifications or higher standards.

Smart Completions, the “plant and project lifecycle” application suite, includes:

- Completions & Commissioning Management System
- Safety & Risk Management System
- Turnaround Management System



Key Benefits

- A more sophisticated approach to project portfolios (standardization)
- Quick to deploy
- Fully scalable
- Transparent and consistent reporting across vendors
- Simplify re-use of best practices on new projects
- Single repository of data
- Demonstrate technical integrity across all phases of the project
- Paperless mobile execution with real time reporting for inspections, punch items and turnover
- Automatic work package/job car compilation
- Automatic turnover package compilation and submission to operator
- Equipment history for warranty and maintenance
- Integration with other products - data-centric and easy to integrate with third-party systems



Typical User Base

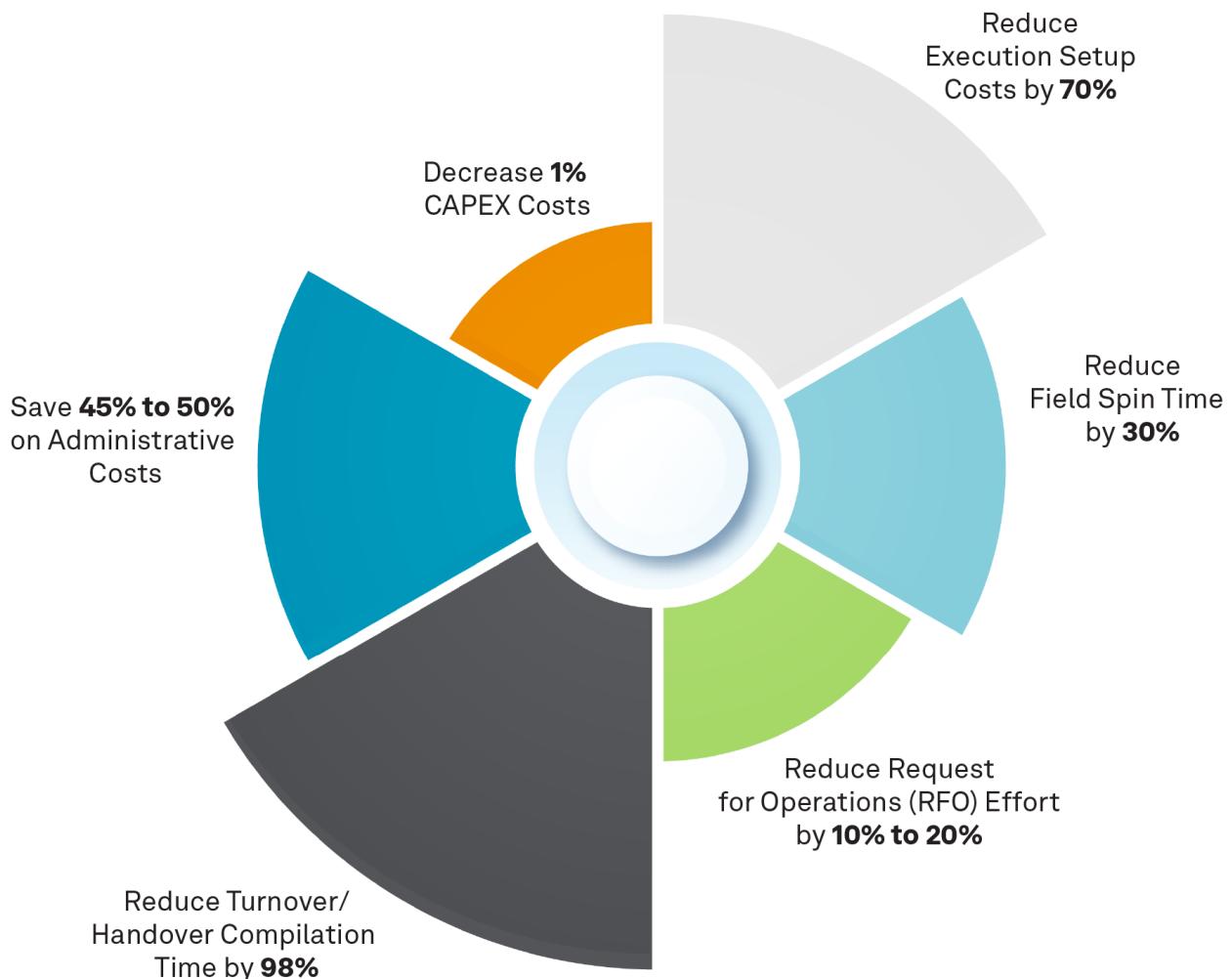
- Oil & Gas
- Alternative Energies & Renewables
- Life Sciences
 - Pharmaceutical
 - Chemical
 - Food & Beverages
- Mining & Metals
- Power & Utility
- AECs

EPCs and Owner Operators are transitioning to an integrated environment in an effort to reduce delays through improved collaboration and information accessibility.

- EPCs
- Owner Operators
- Service Providers

CCMS - 'Typical' Implementation Process:

- **Step 1:** Import Engineering Data, Define Work Breakdown Structure (WBS), Systemization, Location, Structures and Role Profiles & Rights assignments to Users
- **Step 2:** Develop Task Models (Smart Forms), Test Profiles and Format Test Forms
- **Step 3:** Configure Turnover Package (TOP) requirements, Perform PCA and Enter RFIs
- **Step 4:** Batch Assign Tasks, Define TOP Packages & Content Requirements
- **Step 5:** Develop Job Cards (JC), Schedule JCs and Complete Baseline S-Curves
- **Step 6:** Perform Resource loading vs. Workload Requirement Analysis
- **Step 7:** Execute Work Packs, Track Punchlist Items and track custody transfer of Subsystems and Systems, Generate "Completions" reporting



Reliable, proven and tested

More than 14,000 Licenses used by EPCs and Owner Operators.

Single Source of Truth.

Industries Span and applicability

Oil and Gas, utilities, Renewables, Mining, Petrochemicals, offshore, Industrial 4.0, Cloud base and Intrinsic Lean End-to-End Solution.

Real-Time Smarter Decision

Advanced Reporting, Power BI interface. Collaborative environment for all stakeholders.

Proven and Tangible Outcome Results

CAPEX and OPEX impact that matter. Enablement to execute business strategy.

Smart API Integration

Unlocking communication barriers with Digital Twin and SPID live integration. Seamless reliable and validated data flow.

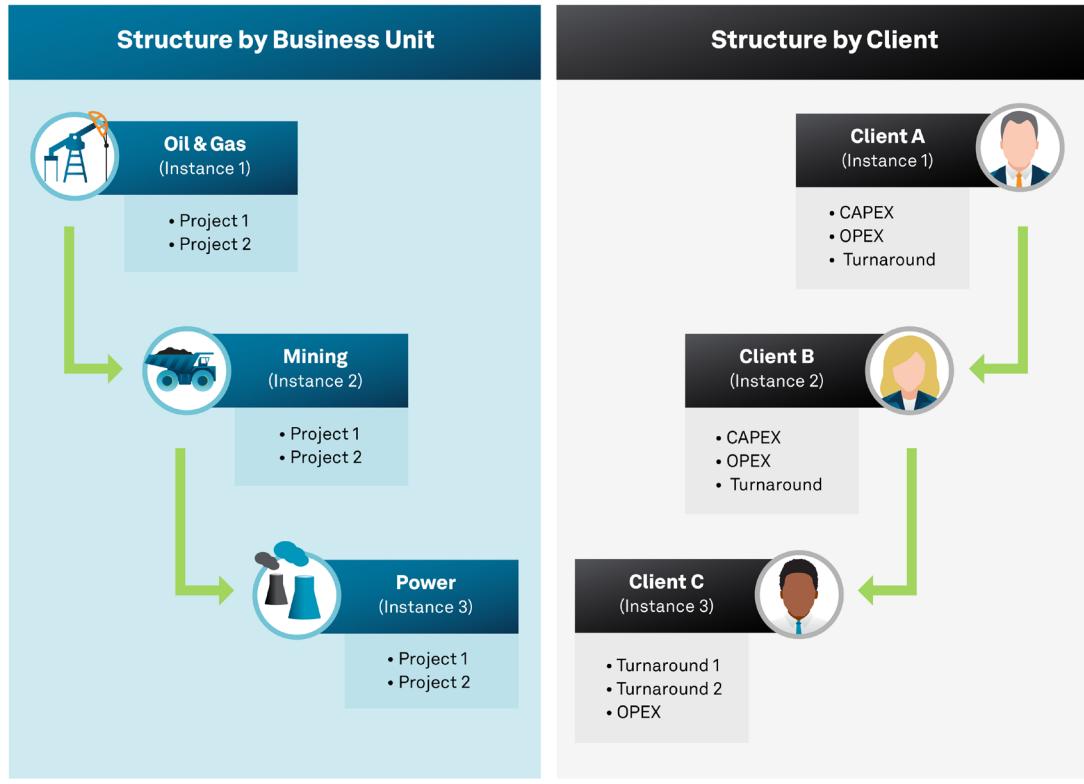
Innovation and Ingenuity

R&D and Enhancement. Smart and actionable Feedback capturing for continuous improvements.

Relevance

Modern and intuitive UI experience. Developed by hands-on field experts to meet site commissioning challenges (e.g., advanced “wizards” to automate task assignments, saved searches/reports, etc.).

Standardize Project Portfolio – Execution and Reporting



Instances and Projects

Depending on the project needs, Smart Completions allows System Administrators to create multiple instances within a site and multiple projects within an Instance. There is no limitation to the number of instances and projects you can create. Some configurations and data are shared within projects that are not shared between Instances, and each customer's specific circumstances will determine the logic employed.

Systemization and Location Structure

The Smart Completions database is an advanced database that has more than 1,000 tables and tens of thousands of fields. Assigning tags to systemization provides the end-user a simple method to find a tag, or collection of tags without actually knowing what tag they are looking for. Process Breakdown Structure (PBS), also known as systemization and Location Breakdown Structure (LBS) is design to allocate tags, work, certification and handover, which is key to review the overlap between Construction and commissioning turnover processes. It also provides the basis for the “Completions Skyline” designed to provide all relevant information to meet turnover requirements.

Task Models

Task Models create any task for an asset, loop, pack, system/subsystem, or certificate. Task Models are used to build digital checksheets (Smart Forms) or to attach a mail merge word document from the Forms Library (Paper-Based solution). It is the template of the form that will be taken into the field and the rules that will govern the tasks. They house both the form and the underlying scope for the tasks that will be created from them.

Task models are a great tool to create and apply best practices that can also provide early estimating in required labor, equipment and materials. As soon as an initial equipment/tag list is loaded the task models can be assigned to provide you detailed labor requirements for any phase/stage, system/subsystem, with the required labor types, Work-hours. This is a great feature to review the Level 4 resource and MH estimates typically defined in the master schedule.

Import Project Control Tasks (PCTs)

Project Control Tasks (PCTs) align the CCMS with the master schedule for a project that is generated from either a Primavera P6 or Microsoft Project schedule. The CCMS has the ability to link CCMS planned tasks to any P6 activity so that when the CCMS planned tasks are completed, it will automatically update the percent complete of the activity. This enables projects to configure an export that generates itself on a weekly basis with updated completions percentage for any P6 activity that is linked to completions tasks.



Smart Completions Mobile Application Overview

The Smart Completions Mobile Application is designed to simplify daily tasks and planning for field personnel.

When used in conjunction with our CCMS, the Smart Completions Mobile Application can be used to simplify punch listing, collection of equipment information, and execution of paperless tasks from the field - with or without Wi-Fi connections readily available all from your mobile device. The mobile application provides field personnel; access to content located in a database located on your company intranet or through a Hosted internet solution.

The mobile application is used to:

- Retrieve and Edit (e.g., Primary & OEM Data) detailed equipment (asset) information
- Retrieve detailed document information and view the document itself (e.g., P&IDs, Datasheets)
- View and Execute tasks (e.g., Field Installation Checks) electronically
- Enter and complete Punchlist items in the field (with as-found & as-left images)
- View and Execute Preservation tasks electronically
- Enter and complete Non-Compliance items in the field (with as-found / as-left images)
- View and Execute Routine Inspection tasks electronically









Handover and Turnover Packages

The Handover/Turnover Package is the culmination of the project. It identifies what documents are to be handed from Construction to Commissioning and Commissioning to Operations. It is very important that the “Systemization” breakdown is approved by the client first, as all HOPs/TOPs will be handed over at the System level and Mechanical Completion Packages at the Subsystem level. All tests and related documentation, by law, must be handed over to the client upon satisfactory completion. It is essential that all documents are legible and included.

Reporting and Data Exchange

ISC Reporting

- **Template Reports** included in Intergraph Smart Completions (ISC) will cover all critical and supplemental reporting requirements. Each module within ISC, contain several template reports, whereby each report can display and report on the information filtered in any one module. With the “Saved Report” function it also enables appointed users to create specific reports for specific content and either keep private or publish to all others which is accessed in the primary switchboard. With the combination of advanced filtering, and selection of detail to be included in the saved report, end users are enabled to provide detailed index (list) reports, or summary reports that roll up all status information at a single level of the project (e.g., only report at system level, not at subsystem level). All reports can be exported also into raw data format, using Microsoft Excel formats.
- **Report Packages** is a powerful feature that can combine several individual reports, using similar filtering criteria, into a single PDF file. It eliminates management opening several individual reports. It's very useful for reviewing a contractor scope.
- **Power BI dashboard** is available for those clients that want enhanced graphical reporting. ISC comes with a PBI Template (PBIX) that can be used OOB and will enable users to analyze critical completions and commissioning information.

Data Exchange

- The **DE module** is designed for the system administrators to automate data importing or exporting using Application Programming Interface (APIs) or through traditional Microsoft Excel formats. It provides a single location to configure “data connectors” to other Hexagon products, client In-house and third-party solutions.



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 Asset Lifecycle Intelligence division helps clients design, construct, and operate more profitable, safe, and sustainable industrial facilities. We empower customers to unlock data, accelerate industrial project modernization and digital maturity, increase productivity, and move the sustainability needle.

Our technologies help produce actionable insights that enable better decision-making and intelligence across the asset lifecycle of industrial projects, leading to improvements in safety, quality, efficiency, and productivity, which contribute to Economic and Environmental Sustainability.

Hexagon (Nasdaq Stockholm: HEXA B) has approximately 22,000 employees in 50 countries and net sales of approximately 4.3bn EUR. Learn more at hexagon.com and follow us @HexagonAB.