

A Game Changer for Project Execution

Digitally Transform Your Asset Lifecycle
with HxGN SDx™ Projects



Owner operators face the challenge of implementing larger capital projects than ever before with limited resources and pressures to ensure projects are delivered on schedule, to specification, and within budget. This is not easy to achieve. According to a survey of 61 energy executives from 21 countries who have responsibility for capital projects of at least US\$1 billion, only 34% of respondents said they had delivered to within 25 percent of their approved budget for all projects, and less than a third (32%) said they delivered to the approved schedule.¹

One clear trend is a positive correlation between the size and complexity of projects and the relative magnitude of cost overruns and delays. It appears that as projects grow larger and more complex, the number of things that can potentially go wrong increases, as do the consequences and complexities in project execution.



This is troubling in an industry where US\$1 billion projects are now becoming standard, and multi-billion dollar projects are more frequently encountered, involving different contractors working globally in multiple locations.

Many factors determine the successful outcome of capital projects, but effective communication is an essential prerequisite. The best way to drive efficiency is by promoting a collaborative environment where the client, contractors, and other stakeholders can easily and securely exchange information, monitor progress and track their obligations. HxGN SDx™ offers a secure, user-friendly platform for managing the submission of information, performing quality assurance reviews, communicating between project stakeholders, and accessing project data.

HxGN SDx is a modular, cloud-based asset lifecycle information management (ALIM) solution that digitizes facilities and leverages this digital twin to optimize efficiency, reliability, predictability and safety across the full lifecycle. SDx Projects addresses the capital project phase when contractors and owners are interactively engaged in the design, procurement, construction, and completions. The objectives of SDx Projects are to improve project efficiency, reduce risk, and improve quality.

The amount of information created on a capital project can be overwhelming and make it difficult for engineers and specialists to find what they need. Once the information is found, it is often out of context, and additional time is lost searching for related information in order to fully understand the design.

This issue, coupled with information sitting in a variety of sources and disconnected systems results in wasting time – one of the company's most valuable resources. A system that maintains the deliverables and their design context makes it quick and easy to find what you are looking for, to understand it, and communicate with other stakeholders about it. SDx Projects combines document management with a rich, data-centric engineering environment to provide capabilities that are not possible in more basic systems. SDx Projects benefits from the engineering data by applying rules that mine information and pre-select documents for review, making it much easier for the reviewers to create their plans in advance. When the documents they want to review arrive, the documents are automatically sent to the appropriate reviewers.

Technical Queries, RFIs, and Review Actions are typical project communications that need to be managed to ensure that the flow of information is secure and continuous.

The Key Factors

- Fast, secure access to project information: anytime, anywhere, on any device
- Better utilization of skilled resources
- Get the right information, to the right people, at the right time
- Improved communication between project teams and contractors
- Increased efficiency through streamlined processes
- Stakeholders work together in a connected environment
- Minimize costs and risks as a result of reduced time to submit, review, and return project deliverables

The zero-footprint web client allows viewing and marking up documents, drawings, and 3D models. Stakeholders from all over the world can participate in projects, using a wide range of devices without installing any software.

The traditional way to execute projects is for the client and each contributing stakeholder to have their own system in their offices. Information was sent between them via emails or posted onto network drives. The result is that the communications are slow, unreliable, out of synch, un-traceable, and delayed. The lack of a collaborative platform also leads to uncontrolled communications via email and phone, causing lost communications, inconsistency, and confusion. SDx Projects ensures that communications are immediate and that everyone is working on the same “single source of truth.”

One of the challenges for exchanging information is a secure process for uploading content, such as documents, and data, such as tag registers. SDx Projects includes a mechanism for uploading content to a staging

area, invoking a virus scanner, and loading the safe content into the system. It includes handling of large, multi-gigabyte files such as 3D models and video surveys.

Controlled communications – such as RFIs, TQs, and Review Actions – are difficult when the information exists in different places or the communications are tracked in different ways. With all of the stakeholders working in a single system, communications are easily found, tracked, and reported. They are linked to the content in the system, and security controls ensure that information privacy is maintained.

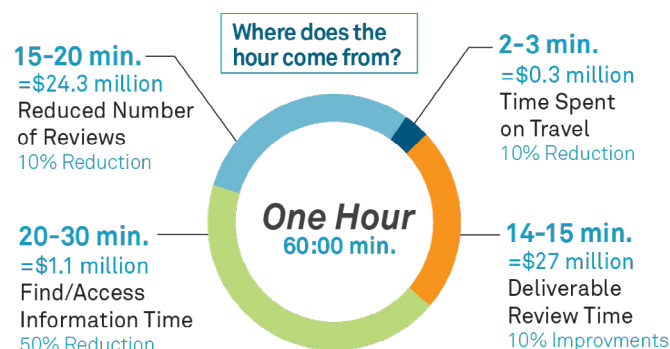


BENEFIT

Greater Efficiency for Reviewers^{2,3}

12% Resource Efficiency Gain

That's about **one hour** per day!



Total Potential Benefit of \$52.7 million	
CAPEX Facility	\$1 billion
Number of Tags	100,000
Number of Documents	500,000
Travel Expenses	3x Daily Man-Hour Rate
Percentage of Documents Subject to Review	15% (75,000)
Number of Revisions Per Document to be Reviewed	3
Fully Loaded Man-Hour Rate	\$150
Average Number of People on Project for OO	100
Average Project Duration for \$1 Billion Plant	150 Weeks
Average Total Change orders on a \$1 Billion CAPEX Project	\$200 million

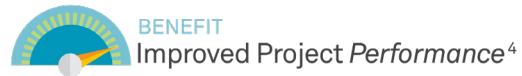
Table 1: More than conveniences, these benefits have results for your bottom line. Using the above figures and researched statistics, implementing SDx Projects could save a typical \$1 billion CAPEX facility \$52.7 Million.

Many document management systems are limited to allow either all or none of the deliverables to be shared among contractors, with no customization for options in between. However, SDx Projects controls who has access to collaborate on any deliverable. For example, “interface” information can be shared between stakeholders to that interface while other deliverables are only visible to the originator and recipient.

During the review process, reviewers need to know who else is commenting or marking-up a drawing; they want to see what others are doing and what they are saying. SDx Projects provides visibility of other reviewers’ work and simplifies consolidation of the feedback. Any Review Actions arising can be tracked to ensure that they are addressed.

It is increasingly difficult to successfully deliver capital projects. There’s increasing focus on cost-effective, on-time project execution, and the growth in complexity of both greenfield and brownfield projects. Organized communication, high-quality information, and new approaches to cooperation are needed to ensure success. SDx Projects improves project efficiency by bringing the project stakeholders together and reducing confusion.

It offers the visibility needed to understand when the project is healthy and when it is not. Rapid implementation is ensured through template pre-configuration and optional cloud deployment requiring no hardware or software installation. Project specific numbering rules, workflows, and properties are easily incorporated. A simple web portal interface allows access anywhere and eliminates training for end users. The quality of information is ensured through rigorous processes and communication between the client and the contributor.



50% REDUCTION - **Review Cycle**
from Linear to Parallel Process

10% REDUCTION - **Engineering Hours**

10% REDUCTION - **Change Orders**

SDx Projects brings the tools, the processes, and the people together to help you deliver your project on-time, on-budget with assured quality of information deliverables.

¹ 2013, Issue 3, Accenture Outlook

^{2,3} Achieving Effective Delivery of Capital Projects: Accenture global survey of the chemicals industry, Accenture, February 2013. www.accenture.com.

⁴ Major Oil & Gas Company Projection

About Hexagon

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.

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 20,000 employees in 50 countries and net sales of approximately 3.9bn EUR. Learn more at hexagon.com and follow us @HexagonAB.