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Using Nuvolo to Improve the Quality of Facilities Maintenance in Commercial Office Space

In 2019, the Chevron Environmental Management and Real Estate Company (CEMREC), initiated an effort to consolidate service providers in-region (in APAC, LATAM, and EMEA) and in-country (United States), improve facilities maintenance service levels and reduce spend. CEMREC, the organization responsible for managing a portfolio of buildings across the 47 countries in which Chevron operates, increasingly recognized that facility maintenance services were inconsistent across facilities and geographies. This was due in part to the reality that maintenance, mostly performed by a series of local third parties, had no significant overarching guiding framework. This resulted in inefficiencies and gaps in business process; for example, without accountability for maintaining key data points, data quality for the facilities management business was estimated to be at just 19%. Too, software licenses from the legacy product were required for each third-party contractor which substantially increased cost.

The first phase of this consolidation required third party providers to access existing IT systems, including the aging Integrated Workforce Management System (IWMS) solution SYNERGY, creating new inefficiencies. Acquiring licenses to SYNERGY was expensive, and the existing system architecture made it difficult to measure performance against key Service Level Agreements (SLAs). Moreover, SYNERGY needed an expensive and time-

consuming upgrade which required costly data center hardware to maintain. Lacking an efficient central source of service, Chevron's selected service provider, Sodexo, suggested using its own IWMS solution instead of SYNERGY to lower costs for Chevron, increase service levels and improve data quality.

Chevron however, wanted one common source of service to manage the maintenance of its assets. Chevron embarked on a journey to implement Nuvolo, a connected workplace application suite built on the Now platform. Key to the successful implementation and adoption of Nuvolo was the fundamental shift to focus on third party stewardship of Chevron-owned assets.

Chevron selected Deloitte to support the implementation of the Nuvolo solution. The implementation entailed 3 major phases: a foundational release, a global build, and a regional deployment of the solution. The team consisted of CEMREC IT, the Chevron ServiceNow team, Chevron's third-party facilities service provider Sodexo, and Chevron's IT partner LTI.

In a little over 6 months the solution was live in 17 countries, being used by 250 users (down from the 661 required in the legacy platform), and data quality for asset data went from 19% to 100%.

Rise of CRE Outsourcing

Consolidation of Corporate Real Estate (CRE) outsourcing providers has become an increasingly common practice to meet the demands and needs of many organizations. CRE outsourcing is growing in the Lease Administration (Lease Admin), Facilities Maintenance (FM), and Architecture Project Management (PjM) services. CRE departments that leverage outsourcing for these services typically use this to drive operational efficiency and effectiveness for their organizations.

While the outsourcing of these services is a growing trend, the technologies that vendors offer with their services are typically standalone and disconnected point solutions that typically do not integrate well with larger enterprise platforms. This creates a gap when integrating services directly to the enterprise operations, which needs easily accessible information in user friendly formats.

With technology in mind, CRE outsourcing is adopting a new wave of solutions that help drive CRE outsourcing services. Data driven solutions that integrate easily with other platforms are at the forefront of this charge. "Internet of Things" or IoT is leading these solutions to a better "Connected Workplace" technology. A technology where solutions can provide a single pane of glass to manage enterprise operations.

Before engaging in a review of CRE outsourcing and new potential tools for their IWMS, Chevron involved their Enterprise Architects who would be responsible for maintaining the solution from a technology standpoint. The Enterprise Architects unanimously agreed that whichever technology that was selected would need to become that "Single Pane of Glass" and have a "Business Engagement Layer" incorporated into the solution. The enterprise had adopted ServiceNow as the single pane of glass for IT and HR Operations, and so integrating the real estate function into the ServiceNow platform offered a compelling value proposition to the organization.

Chevron's digital transformation for CEMREC set out to define a multi-faceted program that would work to deliver new capabilities that met the needs of their business. This included:

- Badging
- Sustainability Management
- Capital Program Management
- Corrective Maintenance (CM) Management
- Preventative Maintenance (PM) Management
- Space Management
- Move Management
- Integrations with partner vendors

Chevron's Corporate Technology Framework

Digital imperative.

- **Data is Chevron's asset.**
The solution design enables and ensures the data flow back from partner system through the use of an application programming interface (API) and data ownership is maintained.
- **Connecting through APIs.**
Chevron strategy for systems consolidation was in a forefront in technology selection. Omni is based on the ServiceNow platform and benefits from standardized API interface to maximize the use of data and functionality.

Digital Guardrails.

- **Digital platforms are responsible for creating data products.**
Leveraging the built-in capabilities of the system, the system can establish the source of records for historically managed independent systems. (Building Asset data, Location Master Data).
- **All Digital Platforms must integrate and interoperate.**
The Omni is based on ServiceNow platform and is well integrated with other ServiceNow based applications and others with API.
- **The services and information exposed by a digital platform must be easily discoverable.**
Service catalogues, business engagement layer, built-in search functionality and chatbot has made it information discovery easier than before.

- Lease Management
- Location Master / Portfolio Data

Business perspective: Third Party management of key business process

Chevron's decision to consolidate CRE outsourcing to Sodexo was designed to strike a balance of efficiency and effectiveness. With CRE outsourcing in place, Chevron found that each business process required a substantial footprint in their technology environment. This footprint spanned over four large areas of contention:

1. Vendors that managed the FM processes require extensive licenses for all the tools that are used to manage this process.
2. Vendors had to use Chevron on-premises systems instead of their own industry solutions, requiring additional time to train each onboarded vendor.
3. Cumbersome systems-based processes required vendors to attain access to Chevron systems. This was a swivel chair effort for the vendors, constantly monitoring and updating multiple systems.
4. Data separation between vendor and Chevron systems drove data inconsistency for reporting. This increased the time and effort to track down valuable information in business making decisions.

This consolidation drove the desire to not only merge the third-party technology footprint into the Chevron ecosystem but also leverage vendor-owned technology to manage the portfolio, all while facilitating improved maintenance of Chevron-owned assets. The natural solution to this challenge was to focus on maintenance of data outside of the Chevron ecosystem in vendor-owned solutions and then to interface that data back into Chevron-owned systems.

Technology perspective: Aging IWMS solution

Over the years, Chevron's existing IWMS solution became increasingly difficult to manage. With other technologies being introduced into the landscape, upgraded, and expanded, the SYNERGY solution was aging rapidly. Integrations with the on-premises technology solution were becoming increasingly expensive—both from the perspective of the required implementation work as well as the following maintenance.

Not only was the previous IWMS solution unable to keep up with an expanding technology landscape, but it was also becoming increasingly out of date through lack of upgrades. The tool had been customized for business-driven needs and it no longer was being supported by the original platform.

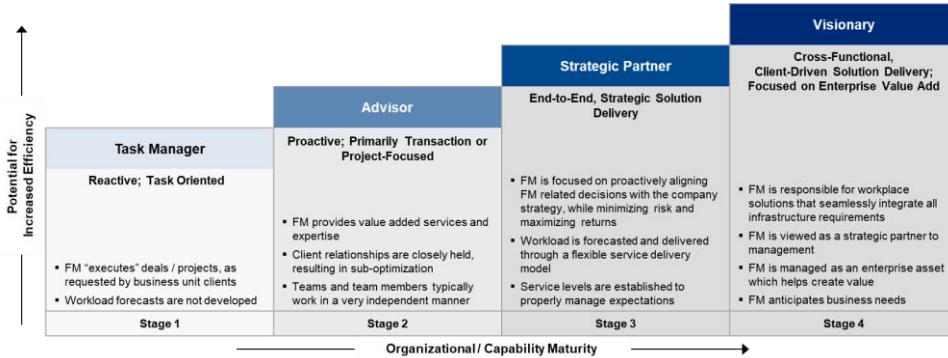
The existing IWMS solution did not offer a robust mobility solution. If mobile capabilities were to be enabled it would have required custom handheld devices to be procured, limiting scalability of remote teams to adopt the solution. With many CRE outsourced services happening in remote locations, mobile capabilities were crucial to ensure that team members could perform their job functions efficiently and correctly.

Project Evolution

CEMREC kicked off "Project Evolution," as a partnership between the business and IT, which was tasked with modernizing key platforms to increase solution quality, retain asset ownership, and reduce the total cost of ownership. Project Evolution supported Chevron's broader corporate strategy for systems consolidation and supplemental investments in digital service management (DSM). Leveraging Chevron's selected DSM solution, ServiceNow, was an attractive choice as both IT and HR had already embraced the solution

for the single pane of glass for employee service management. It was a logical next step for CEMREC to consider ServiceNow as a platform for their IWMS solution.

Deloitte initially worked with Chevron to assess the current maturity of the FM outsourcing model and scope required to transition third parties from “Task Manager” and “Advisor” stages towards “Strategic Partners” and “Visionary” leaders. This required a strong partnership with Sodexo and CBRE to provide stewardship of Chevron-owned assets. Consequently, the transition to a high level of trust in the CRE outsourced vendors Sodexo and CBRE enabled the shift towards a strategic and visionary partnership.



Many organizations only integrate work orders across systems – for Chevron to fully transition “stewardship” of their CRE processes to third parties, the full cross-section of FM data needed to be managed in third party systems and mirrored back to Chevron’s systems – inclusive of assets, PM plans, and work orders. This required confidence in stewardship that third parties will “maintain” data quality. SLAs would ultimately be reported against with new solution, but the maturity of the relationship must support this in advance.

A New Connected Workplace application

With ServiceNow defined as the enterprise DSM tool of choice, extending ServiceNow from IT and HR to facilities was a natural extension of the platform and a one-stop-shop for workflow. Chevron selected Nuvolo, a Connected Workplace solution that is built on the Now platform and offers a compelling replacement to legacy IWMS solutions. The Nuvolo solution on the Now Platform offers a better together story meaning it is easier to configure, has a quick time to value, has robust reporting and analytics capabilities, and offers an intuitive mobile platform.

Nuvolo as a product has built the Connected Workplace solutions to leverage existing ServiceNow data when possible and allows for easy integration into the other applications on the platform. Leveraging ServiceNow's platform results in seamless integrations with third parties and an API-first based architecture, reduces TCO/license cost, and squarely places stewardship of maintaining Chevron data with third parties. Chevron still retains ownership of data to validate completion of work and SLAs.

With Nuvolo selected as the technology, Chevron identified Deloitte as a partner for implementation with credentials in CRE process design, IWMS technology implementations, and ServiceNow. Deloitte is both a global elite partner for ServiceNow as well as Nuvolo and has depth in both real estate connected workplace solutions and ServiceNow. Deloitte additionally has a long history of serving Chevron across a range of functions and in support of an array of efforts including working with CEMREC.

With an implementation partner identified, Chevron aligned on a minimum viable product (MVP) based approach for their foundational release. This required aligning stakeholders across the business, IT, and their third-party providers. The team determined their core principles to be that they needed to have an API-first integration approach, determine a series of sprints using SAFe (Scaled Agile Framework), align a governance team for decisions, and most importantly eliminating any customizations to keep the solution "out-of-box".

With a SAFe framework in place with a Scrum Team, Release Train Engineer (RTE), and multiple release trains, Chevron was determined to deliver common build capabilities with each release of the platform. The team first focused on a global build for FM, to be rolled out in waves across the Chevron real estate footprint in 47 countries. After the initial FM deployment, the team split to focus on sequential delivery of Space and Move Management, as well as Data Management for remediation. With teams in place focused on delivering individual products, there was a strong emphasis regarding getting the data "right" to ensure that data quality would allow for a quality deployment and systems adoption.

As the teams started ramping up their build sprints for their respective streams, the world was hit with the COVID-19 pandemic. Overnight, the teams had to shift from in-person scrums and war-rooms to virtual led implementation teams. The team also focused on deployment to low-risk sites followed by more complex sites across the landscape. This allowed for additional time to identify and adopt customizations that might be needed to deliver the product.

As of August 2020, the solution has been deployed across Canada, Europe, and will be deployed to the rest of the world by the end of 2020.

Sodexo's Perspective

A great advantage for Sodexo in serving our customer was to be able to conduct our business in Sodexo's native tools. For this project, deploying Maximo and our Asset Management Framework (AMF), service management and mobile technician applications, enabled Sodexo's FM team to closely monitor performance of our operators and the serviced assets. The integration enabled Sodexo to synchronize performance data in real time directly into Chevron's Omni platform for a wide lens of real estate activities on a global scale. The Sodexo operations team leveraged Maximo and AMF processes for lifecycle management including PM schedules, facility condition monitoring, integrated IoT (Internet of Things) devices interactions and service requests from Chevron's on-site resources.

The integration project enabled Sodexo's development team to leverage our Global Azure platform and the Common Data Service toolset to configure and map field by field between Chevron's Omni system and Sodexo's Maximo. The development project management approach created a collaboration experience that fostered in-process innovations, incorporation of both technology and FM best practices and a focus on strategic asset management. The connected workplace solution additionally included an integration of Move Management activities into the overall architecture. This enabled Sodexo's resources to build Move Management plans and generate work orders to ensure a seamless experience for Chevron's staff as they relocate locally and globally.

Principle	Gaps in Current State	Future State Aspirations	How does NextGen Support Aspirations?
Supplier Management	<ul style="list-style-type: none"> Service Providers (SPs) have suggested they can be more efficient operating within their own system 	<ul style="list-style-type: none"> Real-time / on-demand data and reports are available to all parties Align incentives to performance and Key Performance Indicators (KPIs) 	<ul style="list-style-type: none"> SP-owned systems will integrate with system-of-record (Nuvolo) to provide parties access to real-time information Reporting and analytics capabilities facilitate near real-time data analysis and KPI tracking
Facilities Management	<ul style="list-style-type: none"> SYNERGY has limited integration across Chevron systems, creating additional workarounds and manual efforts Opportunities in Data quality across Chevron-owned building system assets 	<ul style="list-style-type: none"> Integrations with ServiceNow (e.g., ITSM, HR) will enable access to more enterprise information, streamlining workflows and reducing manual efforts (e.g., end user info capture, work ticket survey generation) 	<ul style="list-style-type: none"> NextGen solution has cross-functional integration capability (e.g., ITSM, HR), user-friendly functionality, and integrates with SP solutions (SI7, Maximo) Suppliers accountable for data quality
Commercial Model	<ul style="list-style-type: none"> Any SP cost efficiencies are not realized by Chevron 	<ul style="list-style-type: none"> SPs are incentivized to leverage industry best practices to increase their effectiveness and efficiency and results are shared with Chevron 	<ul style="list-style-type: none"> NextGen functionality allows for better reporting to keep parties accountable for performance and contractual commitments

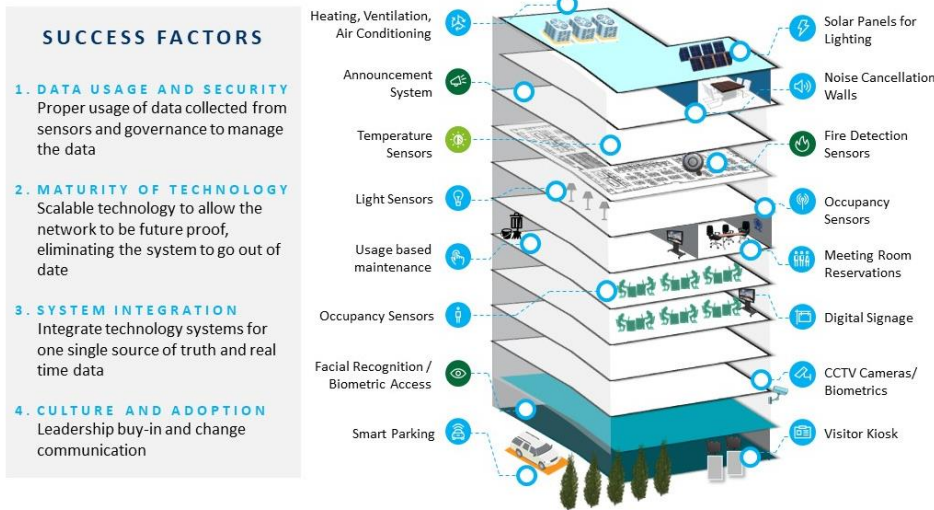
Looking to the future – where is Chevron and the platform headed?

ServiceNow will be the enterprise DSM and with Nuvolo’s rich product roadmap built on top of this, Chevron is already looking to the next set of capabilities that can be introduced. With the capability of the platform demonstrated, Chevron has identified a roadmap of future features to be deployed:

- Facilities Conditions Assessment (FCA), which allows the CRE team make data driven decisions related to rationalization of the existing facilities repair vs replace costs.
- RevIT Integrations - RevIT is a 3D modeling tool that is the future of Building Information Management (BIM)
- SAP Connections for HANA to help capabilities as the back-office changes over the coming years for Chevron
- Mobile capabilities to assist with Corrective Maintenance

- QR capabilities for easy ticket creation
- FCA for Protective Maintenance services and indexing assessments
- Chatbot capabilities planned for use with the implementation
- Wayfinding capabilities that Project Evolution is planning

Bringing the Building Management Solution to Life



With a robust roadmap and plenty of ideas for improvement coming in, Chevron hopes to be leading the modernization of Real Estate management.



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