

Transforming facilities management with Dynamics 365 at Microsoft

Microsoft Real Estate and Facilities (RE&F), in partnership with Microsoft Core Services Engineering and Operations (CSEO), uses cloud technology to be more productive and efficient. RE&F uses Microsoft Dynamics 365 to transform several disconnected and disparate facilities management tools into a unified, end-to-end, RE&F-managed system—using this system, RE&F is less dependent on vendor technology, gains better governance over data and processes, improves the partner and employee experience, and increases productivity for building and facilities management across the world.

Real estate and facilities at Microsoft

The Microsoft real estate portfolio consists of almost 600 buildings located in more than 110 countries/regions around the world, comprising more than 34 million square feet. In fact, the Puget Sound campus—located just outside of Seattle—is a city in itself, consisting of 120 buildings and 15-million square feet of office space that accommodates more than 55,000 people daily. Operating and maintaining this amount of infrastructure is a huge undertaking. Our vendor teams handle all our facilities' needs, from changing light bulbs to cutting grass to maintaining elevators to ensuring that heating and cooling systems are running.

Improving a decentralized model

Historically, RE&F has contracted facilities out to different managing vendors in each of our local service areas. Most of facilities management has operated based on a three-tier model:

1. RE&F manages Microsoft facilities at the highest level, including purchasing and establishing maintenance contracts.
2. Tier 1 vendors are contracted by RE&F to manage Microsoft facilities in specific regions. Their responsibilities include contracting tier 2 vendors, maintaining service level agreements (SLAs), and overseeing the facilities management fulfillment in their areas. Tier 1 vendors manage their own work order systems, which are used by the tier 2 vendors under their contract.
3. Tier 2 vendors are contracted by tier 1 vendors and are responsible for the day-to-day maintenance tasks on Microsoft properties. Tier 2 vendors track work orders and status through the work order system of their tier 1 vendor and the results are reported to RE&F through the tier 1 vendor.

Examining pre-existing processes and systems

One of the biggest issues we faced with our pre-existing solution was disconnect. Some parts of the facilities management process were controlled by and managed by us, while others were controlled by the tier 1 vendors. The key elements of service request management for our facilities were handled by one of the eight tier 1 vendors, using their own processes and systems. As a result, we had the following functions being managed by eight different processes and systems:

- Work order management
- Procurement and tier 2 vendor management
- Warehouse and inventory management
- Asset management
- SLA management

- Data and reporting management
- System management

We had no control or visibility into the processes and systems of our tier 1 vendors except for the reports that they generated and provided. If we needed to make any change across the entire RE&F management landscape, we had to coordinate and manage the change with eight different vendors and management systems.

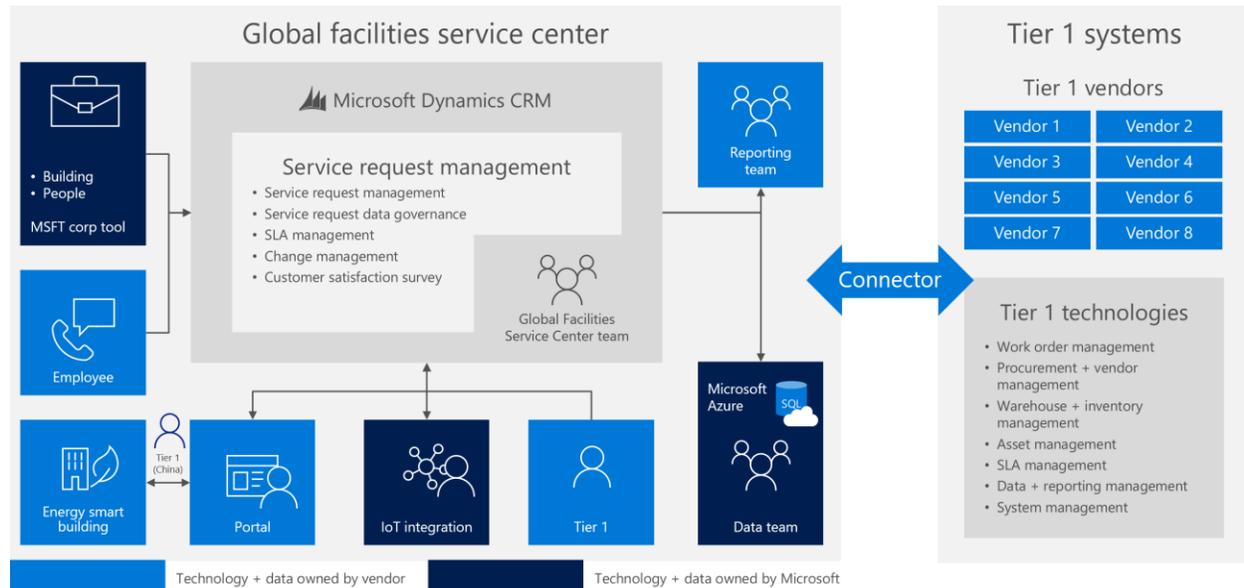


Figure 1. The RE&F facilities management system prior to Dynamics 365

Understanding challenges

The decentralized model that we use for vendor contracting works well to get the best maintenance services in each of the many regions in which we operate facilities. However, we identified several challenges with the multitier nature of our facilities contracting system, including:

- **Work order tracking was different for each vendor.** We had no way to gain visibility into the entire facilities management picture. Each tier 1 vendor used their own work order tracking system, and we couldn't control the work order process that our vendors were using. This caused issues with governance and compliance standards. It also prevented us from seeing potential improvements that could be made across the entire facilities management landscape.
- **We were too dependent on vendor-supplied systems.** Vendor-supplied processes were tracked on vendor-supplied systems, so we had limited control over the standards to which the systems were run and maintained. We also didn't have control over when and how these systems were modified or replaced.
- **Agility and managed change was almost impossible.** With the lack of control over vendor processes, implementing change in the system was tedious and frustrating. For example, to make a simple change like adding a problem class work order page, we had to synchronize the change with each of the different tier 1 vendor systems to ensure that all systems were ready for the change before it was pushed out.
- **End-to-end processes were inefficient.** Because of the lack of standardization and end-to-end visibility, our processes weren't as efficient as they could be. Time and effort were being wasted in several parts of the process, and we didn't have recourse to make the improvements we wanted in the old system.
- **Lack of mobility.** Our technicians didn't have any way to view or update their daily status and progress while they were in the field. Work order management tasks were performed at the beginning and end of the day when they were back at the office.

- **Limited work scheduling.** The process for scheduling work was entirely manual. Our technicians were scheduled out at the beginning of the day and were limited to the set schedule. If a specific work order took less or more time than expected, the schedule didn't flex to accommodate the change.

Creating an agile RE&F, end to end

We knew that our existing systems were holding back our business and that the toolset needed to be changed. We also knew that the right toolset would need to be combined with a new cultural view of RE&F facilities management to truly enable digital transformation in our organization.

To address the challenges of the existing system for managing facilities, we first examined what we wanted to accomplish with a new system and where we thought we could gain the greatest improvements. We established a set of goals and a high-level plan for a new system that would move our business toward digital transformation and a more efficient and effective way of working.

Establishing goals for an end-to-end facilities management system

Based on the challenges we faced in the old system and other areas for improvement that we identified, we set out several important high-level goals that we wanted to achieve with a new facilities management system:

- **Increase business agility by bringing facilities management processes under one system.** Business agility was one of our top goals. The siloed nature of our previous system created significant inefficiencies in our end-to-end management processes. We were too slow to react to situations, and we wanted the new system to improve response time and business agility.
- **Gain control over end-to-end data by enhancing governance, security, and data quality.** Because our data wasn't completely in our control, we lacked the end-to-end visibility we needed. We wanted to put our data into a system that we controlled end to end to ensure compliance and security (such as with the EU's General Data Protection Regulation, or GDPR, requirements), and gain the ability to use end-to-end data to better understand and improve our business and processes.
- **Create a more efficient inventory management by enabling efficiencies in warehouse processes.** We wanted an end-to-end inventory management system that would allow us to control inventory shrinkage and turnover. We also needed a system that provided quicker ordering and better visibility of vendor spending and efficiency.
- **Reduce maintenance costs by improving asset lifecycle management.** We saw several opportunities to improve how we managed our assets, including mobile tools for barcode scanning and inventory management and predictive reporting systems to supply asset conditions.
- **Improve user satisfaction with facilities management field services.** Improving user satisfaction and the overall performance of our business was a big goal. We wanted the new system to give us the ability to proactively detect, troubleshoot, and resolve issues so our technicians are dispatched only when necessary. We wanted to automate and improve scheduling to dispatch the right technician to resolve tickets faster and allow our technicians to be more productive. We also wanted our technicians to have more tools at their fingertips while they were mobile or in the field.

Creating an end-to-end business solution with Dynamics 365

We're transforming the way that RE&F manages facilities by creating an end-to-end facilities management solution using the cloud-based capabilities of Dynamics 365. By incorporating our facilities management processes into a unified, cloud-based solution, we're working toward our facilities management goals.

Our Dynamics 365-based solution begins with a portal-based user interface that our facilities users can use to submit service requests from any device. The user interface also includes an interface for our vendor technicians, using Dynamics 365 for Field Service. This interface enables them to view and update work order requests, query, and request inventory from our warehouses, and maintain up-to-date status for the duration of the work order from a

mobile device. We'll be implementing solutions for warehouse and inventory management, asset procurement, and automated scheduling to create an end-to-end solution that will be completed by a powerful analytics component using Power BI and Cortana Intelligence to reveal insights about facilities management and identify opportunities to create greater efficiency in facilities management processes.

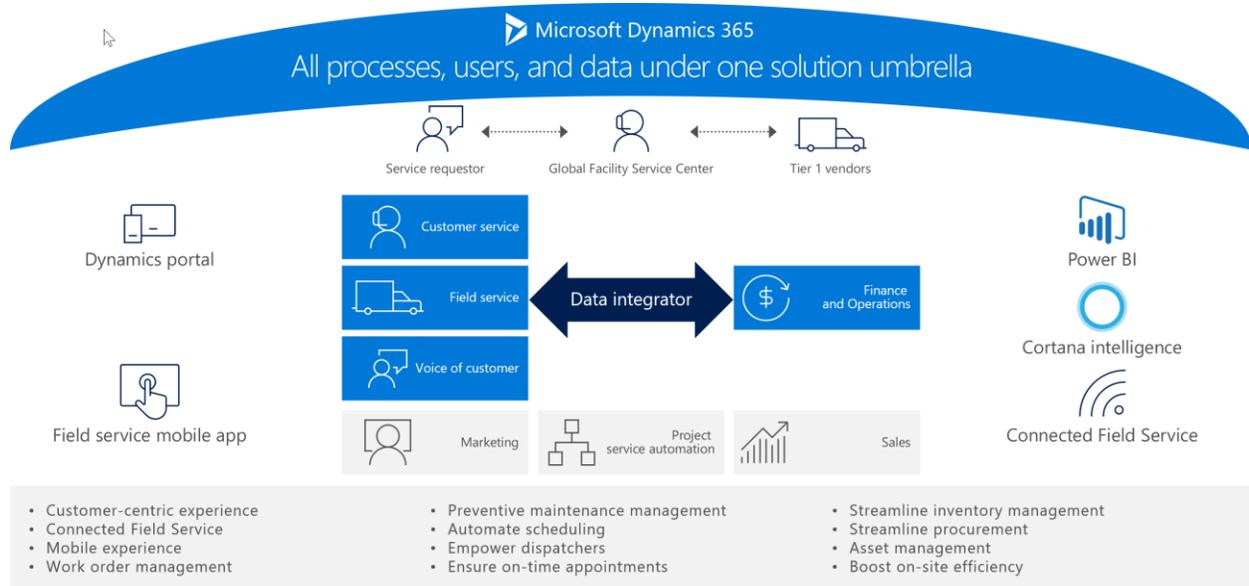


Figure 2. The RE&F management system in Dynamics 365

Our implementation has been divided into two phases—we use them to manage change in our processes and ensure that we are meeting our goal.

Phase 1: Portal and service request management

Phase 1 transitioned the Global Facilities Service Center (GFSC) service request management interface to Dynamics 365. Any time that our employees need to engage RE&F services, they do it through GFSC. They use the service request management interface to initiate the ticketing process. Based on business logic, the system automatically routes the ticket to the appropriate tier 1.

GFSC was our users' first point of contact and it was managed by one of the RE&F vendors, so it was a logical choice for phase 1. By moving GFSC to Dynamics 365, we slowly began the transition and redesigned GFSC to better suit our needs going forward.

Our previous version of GFSC using Dynamics CRM was heavily customized to fit our business needs, but we found that the flexibility and feature set of Dynamics 365 allowed us to use mostly out-of-the-box features to create GFSC. Because it's in the cloud, the Dynamics 365 implementation requires significantly less support, change management, and upgrade maintenance. This allows our support team to focus more on service request management and making GFSC better for our users rather than just keeping it running. By having GFSC on Dynamics 365, we also take advantage of native cloud benefits like ubiquitous access, scalability, and agility. We can also easily integrate with other cloud solutions, including the rest of GFSC.

Making service request management more intelligent

We're also working on ways in Dynamics 365 to make our service request management do more for us by intelligently reacting to the RE&F facilities landscape. We're doing this in two ways:

- **Smart building integration.** We're integrating our energy smart buildings with service request management to generate tickets if any of the smart components show a fault. By doing this, our facilities management vendors can immediately respond to issues—potentially before users are aware of them. Dynamics 365 provides native support for this integration, which makes the process much easier.

- **Internet of Things (IoT) device integration.** We're running an IoT integration pilot that also enables automatic ticket generation in GFSC. Our pilot involves using Cortana Intelligence technology on small devices outside of our facility washrooms. Employees can use voice interaction to provide feedback, such as, "This washroom is out of toilet paper," or "One of the sinks doesn't have hot water."

Phase 2: Ticketing, inventory, and warehouse management

Phase 2 is the most significant phase in our implementation, and one that we expect to return the greatest business benefit. In phase 2, we're taking the rest of our facilities management processes and bringing them into Dynamics 365 and then providing those services to our vendors. These services include:

- **Mobile interface.** A big part of the end-to-end goal of our solution is to make our technicians more independent and agile. With a mobile interface, our technicians can perform all their interactions with our facilities management system from their mobile devices, including updating work orders, checking inventory, and communicating with users in our facilities.
- **Work order management.** Work order management has been overseen by disparate vendor systems. We're unifying all our vendors under a single, automated work order management system using Dynamics 365 for Field Service. The GFSC service management system will generate orders in this new system, and vendors, their sub-vendors, and the associated technicians will all work within this work order management system in Dynamics 365. Automation will play a big part in the new work order management system.
- **Warehouse and inventory procurement.** Our warehouse and inventory systems, previously disparate and disconnected, will be built into the unified system. This means that warehouse and inventory management can be connected to the facilities management process from end to end for automated inventory management. When a ticket is opened that might require certain parts, the warehousing and inventory module will ensure that the inventory is available and can even trigger the transfer of inventory between warehouses to ensure the fastest possible resolution process.

Building a better business with Dynamics 365

Dynamics 365 is enabling digital transformation as RE&F. As we progress in the implementation of our cloud-based facilities management system, we're seeing and expecting many direct benefits that are having a huge impact on our business.

Creating an agile platform for facilities management

Dynamics 365 enables business agility and innovation that weren't even fathomable in the old system. Building on the Azure cloud platform gives us instant scalability and agility to respond to demand for our systems. Here are a few of the benefits we're seeing in this area:

- **Scalability.** We can scale up to meet high demand and scale down during low demand periods to save costs. With Dynamics 365, we pay for only what we use.
- **Ability to respond to business changes.** The Dynamics 365 platform is agile, so we can respond to organizational and business changes much more quickly, reducing change times—in many cases, from months to days.
- **Complete visibility over system processes.** Because Dynamics 365 will provide an end-to-end solution in which our systems will be used for all processes, we have complete visibility into what's happening with facilities management across our organization. This means that we can see how the facilities management system is working for our RE&F employees and for our users across Microsoft.
- **Universal access and availability.** With the cloud, our facilities management system is accessible and ready for access from anywhere, anytime. This enables a broader reach for our user interfaces and a greater range of access methods, including mobile, which we expect to have a huge impact on field services and warehouse processes.

Using Dynamics 365 to unify disparate systems

Dynamics 365 gives us an end-to-end solution that replaces many previously disparate and disconnected systems. A unified system in which the infrastructure and data is under our control provides several benefits, including:

- **Greater control over facilities management processes.** With control over all systems and data, we no longer have to depend on vendor systems. All vendors use a single system with a unified experience. Processes and methods can be standardized across our vendors and we can see the entire process.
- **Greater control over data.** Our data is completely under our control and accessible to us in a unified system. We can ensure that security and compliance standards are met, and we can use the end-to-end data in a unified system to make ourselves better.
- **Increased ability to make changes quickly.** With a unified system in Dynamics 365, we're more flexible and changeable than can be imagined with the previous system.

Enabling end-to-end digital transformation

The integration of Dynamics 365 into our warehouse and facilities system is a phased process, but the result is an end-to-end system that will enable digital transformation in our organization. Dynamics 365 gives us what we need to operate our facilities management processes at the speed of our business. These benefits include:

- **Reduced inventory costs.** An end-to-end system allows accurate tracking of every stage of the facilities management process, including inventory management.
- **More productive and empowered employees.** Our employees are simply better equipped with a Dynamics 365 solution. Our technicians have mobile access to their ticket and inventory information instead of working off a paper printout. Our warehouse staff has a more accurate picture of what's going on with their inventory and warehouse processes, and they can easily adapt to changes.
- **Standardized service level agreements.** We can see our processes from start to finish using Dynamics 365, which means we can identify where we're succeeding and where there's room for improvement. This means that shortcomings can be addressed quickly, and we can accurately predict what our service levels will look like. Using these capabilities, we can set accurate and achievable SLAs and ensure that they're adhered to across the organization.
- **More accurate and agile inventory management.** With constant and mobile access, we can speed up warehouse picking and stocking, and improve our inventory returns process. We can also make more intelligent decisions regarding inventory consumption with access to detailed and current inventory data.
- **Proactive detection, troubleshooting, and resolution of issues.** With the integration of smart devices and IoT, we can integrate reactive and proactive ticket generation and resolution. We can also quickly and accurately respond to and update outstanding tickets, so our technicians are dispatched only when necessary.
- **Predictive reporting and business insights.** With a unified system built to enable digital transformation, we have complete control of and visibility into our data. With Power BI integration, we can manipulate and view our data in new and beneficial ways, providing insight into every step of the facilities management process.
- **Ability to provide leadership and guidance to industry colleagues.** More and more frequently, we're seeing interest in how we're doing facilities management at RE&F and how digital transformation is improving the way we do business. We're sharing our insights and learnings with our peers in the real estate and facilities industry to help them learn how to use Dynamics 365 to enable real digital transformation for their organizations.

Looking forward

We're in the middle of a huge step toward digital transformation for RE&F. Using Dynamics 365, we can rethink the way we do business and achieve more than we could in our previous state. We've adopted a phased approach to ensure that we maintain control of the rollout process and provide the smoothest possible transition process for our users and vendors. As the beginning of phase 2 rolls out, we'll enable Dynamics 365 for Field Service for our field technicians, giving them access to the functions and insight they need to be more productive in the field. In the second part of phase 2, we'll roll out Dynamics 365 to our warehouse and inventory management systems—revolutionizing the way our global facilities operations manages the back end of our business. Along the way, we're thrilled to have the Dynamics 365 platform supporting us in our path to digital transformation and a better way of doing business.

For more information

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