Dynamics 365 automates complex transactions and business processes

Complex contracts and transactions—such as agreements, orders, and amendments—can be hard to track in a large, global company. Like many others, Microsoft needed a robust management system to efficiently process—and answer questions about—multimillion-dollar contracts and associated transactions. To meet this need, Core Services Engineering (CSE, formerly Microsoft IT) developed COSMIC (Customer Obsessed Solution Management and Incident Care), a Microsoft Dynamics 365–based contract and transaction case management solution. COSMIC streamlines the tasks required to complete a transaction, called a case, with a structured, agent-guided workflow. It provides a clear view of the case as it progresses, and uses defined stages to show status from start to finish. The stages also help Microsoft track vendor performance, and business process controls and analytics help manage outsourced operations more efficiently.

Transaction landscape complexities

The 100,000-person Microsoft partner and customer network books more than $72 billion of revenue each year. Contract and transaction case management and administration spans 12 internal business units, such as Channel Incentives, Microsoft Business Services, Volume Licensing, and Original Equipment Manufacturer (OEM)—to name a few.

Contract operations is largely outsourced to vendors in multiple regional operations centers (ROCs) worldwide. Some data points give you an idea of the scale of Microsoft contract operations across the ROCs:

- 3,800 agents process transactions and manage inquiries.
- 2.5 million transactions and inquiries are handled each year.
- 18 million email messages are handled each year.

With any enterprise-scale services contract, there are always related transactions, such as agreements, orders, or amendments. What we call a case is the group of tasks needed to process a transaction. Here’s a quick example. A deal is struck to buy 100,000 Windows 10 licenses. A Microsoft partner provides data such as deal codes, contact information, and so on. Out of those licenses, 200 might be Japanese, and 300 might be German.

There are unique software compliance regulations in Japan and Germany, so a contract amendment—a transaction—generates a case, and the required transaction tasks are managed through to completion. Within the case, parameters such as Service Level Agreements (SLAs), approved holds (when the transaction is temporarily interrupted), and timeline targets are assigned. Case completion can involve multiple teams in several locations.

We had a case management system for contracts and transactions, which was unwieldy and created unnecessary complexity for our agents. Agents had to know unique rules to work cases to completion. The system required a lot of training, and agents had to work in multiple systems. Case tracking was not intuitive. For example, if a partner submitted a case, they might receive a “Request Submitted” message, and no additional information. Or they might receive a “Request on Hold” message, with no reason stated. The system couldn’t grow to meet business needs. From a business perspective, multiple data entry points resulted in redundancy and errors.

Microsoft needed a solution that provides a holistic, 365-degree view of customers, and that accommodates users, partners, and the Microsoft field organization. They needed to manage contracts and cases at any stage, from start to finish, and they needed more nuanced ways to assess and refine business processes.
**COSMIC—a new, automated case management system**

Using Dynamics 365 as its foundation, COSMIC offers critical case and contract management for Microsoft. Built on a concept that matches case tasks to qualified agents, case management in COSMIC is a configurable system that tracks and supports cases from intake to resolution. It uses attributes to automate case workflow, and efficiently leads certified agents through each stage of a transaction. In COSMIC, each stage must be completed before proceeding to the next. COSMIC segregates agent duties if local regulations require it, and gives agents necessary Sarbanes-Oxley Act (SOX) controls. Figure 1 shows a representative workflow and each stage.

![Figure 1. Automated workflow](image)

Microsoft needs to monitor and optimize how contracts and transactions are managed. *Business process management* in COSMIC enhances and refines our control and analysis, optimization capabilities, and agent performance assessment. COSMIC ensures that business transactions are configured specifically for the business unit that they apply to—for example, a Volume Licensing transaction differs from an OEM transaction. COSMIC supports a variety of vendor billing models and contract information, such as:

- Time required to process a case, start-to-finish (also referred to as cycle time).
- Multiple types of processing holds.
- ROC location and business hours.
- SLA compliance.

**COSMIC, from the ground up**

When we started developing COSMIC, we knew we needed a solution that would:

- **Offer seamless connectivity between multiple systems.** This was the single biggest driver for us. As our data-driven culture continues to evolve, the movement and use of data is of paramount importance. In our old, disjointed system, it was impossible to see across all components. Delays occurred, and errors were common. COSMIC communicates seamlessly across multiple platforms, including portals that Microsoft customers and partners—companies that provide Microsoft products or services—use to submit issues or check the status of a case. The system offers real-time agent and management dashboards, and supplies all data components for self-service reporting, including Power BI, Azure cloud repositories, and document libraries within Dynamics 365 and SharePoint.

- **Optimize agent workflow.** Managing our business has everything to do with optimizing our agents’ workflow. We define specific SLAs and carefully track task time. In our old system, it wasn’t always clear when the clock started and stopped. We had multiple types of holds—customer, external, and internal—defined for specific business scenarios. However, a case was limited to one status, and we could apply only one hold to a case. In COSMIC, we can apply multiple types of holds on a case. Now, agents can reach out to multiple teams concurrently for help—such as asking a customer for more information while they reach out to the sales team for assistance. In the past, this type of activity was managed in offline Excel workbooks. The control and level of detail in COSMIC means that agents have more opportunities to refine and optimize tasks, and to see case exceptions and bottlenecks. New hold capabilities give us a much more nuanced view of the case life cycle.

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• **Support flexible and configurable SLAs.** In the old system, service level agreement (SLA) definitions weren’t flexible and sometimes didn’t accurately reflect the needs of a specific business unit. With COSMIC, SLAs can be configured in any number of ways—by the business unit, by geography, and so on. For example, the same contract in the Asia-Pacific region may have a different SLA in the Latin American region.

• **Harness the power of the cloud.** Our old system was on-premises. COSMIC takes advantage of flexible Azure Blob storage, advanced Azure Machine Learning, and artificial intelligence capabilities that give us instant text translation services and sentiment analysis. This means less work for our agents, and instant feedback that makes it easy for us to assess the quality of work.

• **Provide dynamic dashboards and reporting.** Our old system made it hard for agents and managers to get a quick view into their assigned work and status of cases in progress. And it was hard for leaders to quickly assess and manage the work across teams and across the larger business. Dynamics 365 provides rich, real-time dashboards configurable for different roles, such as agent, team lead, service delivery manager, and so on. All COSMIC data is published in near real-time with the data repositories the system draws from. This gives all operations teams—including vendor operations teams—data for further analysis and performance reporting. Power BI provides role-based dashboards into all facets of the business, and shows how the business is being managed, without having to research specific queues and cases.

• **Eliminate institutional knowledge.** In our old system, institutional knowledge of contract processes was required to complete case tasks. Not surprisingly, error rates and redundancy were high. In COSMIC, agents are certified to complete specific tasks. Taxonomies define the tasks that are presented to agents, which means that agents receive only the tasks that they are qualified to complete. Cases are created in templates, and agents can convert email messages to cases when necessary. This makes it easy for our agents, saves time, and provides consistency for the business.

## Defining common ground

Microsoft business units are large, diverse, and complex. How did we agree on common functionalities for COSMIC? A few decisions were easy. Stakeholders all agreed that the solution needed to tell agents what tasks to perform at each step of the case, ending the need for institutional knowledge. We used Agile software development practices, and committed to an aggressive planning and development timeline:

• **Workshops** were held to explore capabilities and to identify needed features. Representatives from each business unit, the Dynamics 365 product group, vendor managers, subject matter experts (such as business unit representatives and COSMIC system managers), and agent managers all provided input.

• **User stories** were created from workshop ideas, and subteams presented them to the larger group. Two types of stories emerged. The first focused on the capabilities that all the business units agreed were necessary, such as common status codes and defined stages. The second type focused on capabilities for specific business unit needs. Taxonomies differ and branch according to business function, and shape the rules that define automatic case routing, communications, and so on.

• **Details** and more scenarios and features were added during whole-group discussion.

A clear theme was that we wanted all transaction stages—the steps in the transaction process—to be established before work begins. Tasks need to be completed in a specific order to resolve a case, and each stage must be completed before proceeding to the next.

Our design reflected 168 distinct programs, many channels, and multiple methods of selling products and services at Microsoft. Business is done differently across diverse programs and service teams, such as Enterprise, Educational Markets, Government Markets, OEMs, and Microsoft Consulting Services. Specific regulatory compliance and contract exceptions exist for different programs, business units, and locales.

Feature requests were categorized and fed into one-month sprint cycles, which generated the backlog for the development cycle. The approach spawned 64 user stories and 444 requirements, which were delivered as of February 2017.
Bringing COSMIC to life

Effectively delivering COSMIC meant committing to deliver a solid base of capabilities first, and then building on them to meet specific business needs. We quickly adapted, and coordinated change management and readiness across many teams and roles.

Build on a foundation

Three sets of COSMIC capabilities deployed in sequence. As each set deployed, only the business units that used that set of capabilities transitioned to COSMIC. The capability sets were:

- **Case management.** The first set of business units transitioned to COSMIC when basic case management functionality was available.
- **Workflow.** The second set of business units transitioned after workflow capabilities were available.
- **Agent-guided workflow.** The final—and most complex—business units transitioned when the agent-guided workflow capability was available.

Like any other software development project, we learned from our mistakes in the first deployments, and incorporated the lessons learned into subsequent deployments.

With Dynamics 365, we can turn on and turn off COSMIC features, depending on what functionality the business unit needs. We avoided customization, which would increase the cost of adding—and then maintaining—more code. Long-term, it simplifies Dynamics 365 application upgrades and allows COSMIC tenants to adopt new features and capabilities faster.

Adopt quickly

Our business units cleanly adopted COSMIC—they cut over from their old systems and started using COSMIC on the same day. Some factors that made this possible include:

- **A delta data migration approach.** We carried forward only in-progress cases, because resolved cases are rarely referred to. In addition, resolved cases had a very different taxonomy, and normalizing the data would have required an extensive, costly, mapping operation. Instead, resolved case data that we needed for audits was exported and then made available in a data mart.
- **Comprehensive organizational change management.** Deploying the COSMIC solution was a global effort that spanned six vendor teams and multiple groups within the Microsoft user community, such as operations account managers, field sales support staff, vendor managers, and so on. Agent trainers became COSMIC subject matter experts who trained users, trained agents, and understood limitations and workarounds. The team also provided traditional training for agents. Dedicated resources provided ad hoc training sessions when required.
- **Close coordination across teams.** Working across business intelligence and reporting teams, operations account managers, service delivery managers, and program managers ensured that the entire organization understood COSMIC and could navigate the new reporting system.

Like with all deployments of this size, there were some minor issues when COSMIC went live with each group, but after two weeks, we could make changes and incorporate lessons from that experience.
Designing COSMIC

We had a long-term approach to the design of COSMIC. The challenge was to make COSMIC both flexible enough to serve very different business units, and easy for us to make changes. Our workflows adapt to business units as they grow and change. We committed to configuring whenever we could, instead of taking on resource-intensive customizations. On the rare occasion when we needed to customize, we did it in such a way that the functionality could be repurposed by others. We incorporated universal design principles, and used the artificial intelligence and machine learning power of Azure.

Create flexible case workflow structures

We were intentional when we created case workflow structures. The workflow classifies the work that comes to agents, so it can be processed through to resolution. We wanted to give each group the flexibility to expand or change workflows to meet their unique needs. There are many different business functions, even within the same business unit, and they had to be represented in COSMIC. Here are a couple of examples:

- Volume Licensing has both before-sale (pre-sales) and after-sale (invoicing) functions.
- Credit Services has both risk and collections functions.

Define types and subtypes

We also needed to define multiple types of activities or information in COSMIC workflows, and define nuances within each workflow. The old system included only general types of transactions or inquiries. That wasn't enough. We needed to define specific types of transactions—such as order or amendment—or inquiries.

We defined a transaction activity and then a transaction subtype that provides context. We defined an inquiry activity, and then subtypes, like a question on an invoice, a product key query, a promotional pricing question, and many more. That helps us tie a reason, or even a subreason, to that inquiry. Taking this even further, we can add root cause to any activity, so that we can easily document the original reason for contact.

These precise activity definitions let us look at incoming cases, detect why they are being submitted, and start analysis at the right place in the workflow. Activity definitions form the rules that determine automatic case routing, communications activities, and so on.

Maintain robust data definitions

We realized the importance of data definitions when we were creating COSMIC. At first, we tried to migrate open case data—using data definitions provided by the business unit—and immediately had issues mapping data between the two systems. We needed to dig deep and ask a lot of questions to get to the root cause of different definitions within the same business unit.

We created data marts to host old data structures and their definitions. This information is vital when disagreements arise about the meaning of terms and status codes that can differ from system to system, such as “in progress” or “customer hold.” Table 1 shows how the definition of “customer” differs between our own business units.

**Table 1. Data definitions**

<table>
<thead>
<tr>
<th>In this business unit</th>
<th>Customer means</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microsoft-internal</td>
<td>Microsoft employee</td>
</tr>
<tr>
<td>Volume Licensing</td>
<td>Partner</td>
</tr>
<tr>
<td>Microsoft Business Services</td>
<td>Partner or a user</td>
</tr>
</tbody>
</table>

These distinctions are important when senior leaders look at comprehensive views of their businesses. If the meaning of a word isn’t consistent, it jeopardizes understanding.
Universal design creates visibility at any level
We worked to keep activity and status definitions easy to understand across business functions and business units. For example, we defined only four types of cases: transaction, inquiry, project, and administrative. These definitions are high-level so that any reader can understand a report. But we also created subtypes that let business units tailor definitions in deeper levels of the workflow such as agreement processing, order processing, or inquiries about program rules or policies.

We used COSMIC test data to create a report that showed our senior leadership how important structure is. Delivered as a COSMIC proof of concept, our leaders could easily use the report to look at multiple business units around the world and identify risks. It showed that with consistent structure, our business units can immediately recognize the types of transactions and questions that their business is getting, anywhere in the world.

Bot framework and Microsoft Teams support field organization
In the past, status messaging within our system was not intuitive, and we had latency issues. When our field organization wanted to see case information or ask questions of agents, they had to communicate using methods outside of COSMIC. Those activities weren’t captured—and definitely weren’t tracked—as part of the case.

In COSMIC, status messaging is delivered more efficiently—people get the right status, at the right time. COSMIC users can see that a case has been submitted, is in process, assigned to an agent, and so on.

Although status messaging is significantly improved, we’ve also integrated a bot and Microsoft Teams framework into COSMIC. Using Dynamics 365, we’ve enabled greater productivity by deeply integrating familiar Office 365 applications. It combines the worlds of business process and personal productivity.

The bot brings artificial intelligence (AI) into COSMIC. Microsoft Teams allows people within the company to instantly receive case updates, add notes directly to a case in COSMIC, and follow a case using auto-notifications. People can check the status of transactions and holds, and add information to advance the case.

The bot framework quickly delivered proof points for us. Development was fast and didn’t take a lot of coding. Now, a user who’s connected to our corporate network—either with a computer or a mobile device—submits a COSMIC case number in Microsoft Teams, and then responds to a bot request to send email to the case or follow it. Microsoft Teams returns all information about the case. The query and bot response is shown in Figure 2.

The data in the COSMIC bot interaction is logged into case data and appears in associated

Figure 2. Microsoft Teams integration
Computer Vision API automates data entry

We’re using new Azure functionalities to automate data entry steps and errors, shrink cycle time, and reduce our vendor costs. A Microsoft business unit like Volume Licensing handles extremely high-value contracts. Because of that, some local governments require physical documents for a transaction. However, most of them accept electronic files, like PDF files. We’ve incorporated the Computer Vision API into the COSMIC solution to automate data entry and validation, and reduce errors.

For example, a customer might submit information through one of our external portals or by email. Most documents submitted to COSMIC have a document number. The system uses that number to identify fields and updates the case with that information. The Optical Character Recognition (OCR) capability of the Computer Vision API then scans and validates document data. A summary page is sent to the agent. It reduces the agents’ average handling time by eliminating routine manual validation and data entry, and it empowers agents to prioritize more critical activities.

With enough information, the system can apply COSMIC business routing rules and the case can move through the Ops In, Triage, and Validation stages and move on to Data Entry.

We’re also integrating with other internal systems to do things like predictively apply SOX controls and validations. For example, if a document is imported but the fields aren’t available, we can write the content to Azure Blob storage, and apply it elsewhere in other systems.

In our ideal state, COSMIC will automatically read and validate documents, so a person doesn’t have to touch the case. However, if it breaks anywhere, an agent has to look at the case. It’s acceptable to have manual steps—if there’s no way to automate—as long as you know where the steps are. Being able to research the break gives us an opportunity to remove a process defect.

Configure wherever possible

With agile software development, the emphasis is on failing fast, learning, and landing the right functionality at the last minute. We committed to configuring existing software features rather than creating labor-intensive custom code. Here are a couple examples:

- **Creating SLAs.** To configure an SLA, like a credit risk transaction, Dynamics 365 defines the components, such as business function, business unit, case type (such as transaction), and operations center. Success criteria is defined by choosing success (completed within 48 hours), warning (message sent if no progress after 24 hours), and failure controls and actions.

- **Defining business stages.** We stitched together workflow stages in Dynamics 365. For example, in the intake (Ops In) stage, required fields such as title, business function, received date, reason, and so on, are simply toggled on or off as required. The process can be configured for one or more business units.

Customize occasionally

The reality is that business is complex, and that complexity drives unique business unit needs. We had a few situations where we had to create new components to enable the functionality we needed. We created customized but reusable components, such as our Email Analytics and Attachment Management solutions. (They’re publicly available on Microsoft AppSource.)

Email analytics for translation and sentiment analysis

Email analytics provides automated translation services. This means that some tasks can be language—and location—agnostic. Email analytics also gives us an easy way to measure our customers’ satisfaction with their interactions.

The Translator Text API provides automated translation services. For example, an order can be submitted in German, translated, and then processed by a Spanish-speaking agent. This means that not all agents must be multilingual, and it gives us flexibility in where we do some tasks.
Cognitive Services is an Azure service that provides a text sentiment analysis score for email and text messages. This tool helps us understand customer likes, dislikes, wants, and needs, and measures the quality of interactions. The Text Analytics API returns a numeric score between 0 and 1. Scores close to 1 indicate positive sentiment, and scores close to 0 indicate negative sentiment. This feature becomes critical when we assign cases based on customer experience. We may want to assign a senior agent to a case if the sentiment is low. As shown in Figure 3, an email has been translated from Spanish to English and the sentiment score is shown with the smiley emoticon.

**Figure 3. Machine translation and sentiment analysis**

**Optimized attachment management**
The Attachment Management solution manages notes and email attachments using Azure Blob storage. It optimizes Dynamics 365 storage and provides retrieval on demand. It can manage multi-attachment upload and download controls, such as drag and drop, one-click download of multiple attachments, and attachment preview.
COSMIC topology

The COSMIC solution can be broken down into three logical areas. They are the partner and customer experience (which is external to Microsoft), the agent experience within COSMIC, and the Microsoft management and business intelligence experience. Figure 4 shows COSMIC topology and shows how data flows through and is extracted from many different systems.

**Figure 4. The COSMIC topology**

On the left, partners and customers interact with COSMIC through external systems like our Partner and Customer portals, and their input becomes source data in COSMIC. They don’t have access to COSMIC itself, which is used by agents. For example, a partner submits a ticket through Order Central. The data flows through the Online Call Logging Service, and then through the COSMIC API. All external feeds are processed through the COSMIC API. This API allows COSMIC to seamlessly integrate with other applications to share case information. For example, COSMIC integrates with the CSE case management tool—updates made in either updates both of them. Our master data systems are also external to COSMIC.

The center area represents Dynamics 365 and the agent experience in COSMIC. Data management, security, and configured workflows are all managed within the Dynamics 365 experience. Agents work on a variety of devices and sign in through Active Directory and Office 365 security. Agent work instructions are hosted through SharePoint. Azure hosts integration services, like our bot framework, and the Computer Vision API. Data feeds into Power BI for business intelligence services such as dashboards, reporting, and telemetry.

The right side of the graphic represents Microsoft management overseeing the system and pushing data back to the business. The COSMIC Data Hub is an offline data store for intelligence, and also serves downstream needs like integrations. An archive stores transaction information.
The COSMIC API provides integration services

The COSMIC API was designed to allow other systems to interact with COSMIC at a very basic level. You can create, resolve, or document a case, and read or write to COSMIC. COSMIC connects to many different systems, including example, ServiceNow, which we use specifically for IT service management. The COSMIC API integration allows a ticket to be created either in ServiceNow or in COSMIC, and both systems update as the case progresses. This supports a typical scenario where people in different systems are working on the same issue.

Benefits

Throughout COSMIC, we’ve streamlined, simplified, and removed redundant back office work. It’s easier to see across our system, and our detailed, structured workflow helps us root out bottlenecks and issues. At the same time, we’re taking advantage of cloud technologies for artificial intelligence and machine learning.

Here are some of the ways we benefit from COSMIC:

- **Workflow and data helps to efficiently manage vendors.** COSMIC reduces agent errors. Agent-guided and structured workflow ensures that issues are routed to qualified agents at the right time, and it enhances the company’s understanding of vendor performance and efficiencies.
- **Dashboards and reporting help assess performance.** With COSMIC dashboards, our agents and supervisors can quickly see how many cases are being worked, what stage they’re in, and how long it takes to complete a task. Dashboards and reporting help us understand performance gaps and provide training opportunities. We have higher quality assessments because we have better tracking for every stage. We can see where vendors are most skilled and identify strengths (or weaknesses) within a group.
- **Precision holds drill into issues.** The ability to apply multiple holds in a single case, and rich reporting on holds, helps us to refine workflows for our agents and dig deep to find the root cause of bottlenecks.
- **Data synergy between systems.** Data flows easily and is segregated appropriately between Dynamics 365, Power BI, Azure, and SharePoint. For example, an instance of Dynamics 365 used for SOX control receives information from COSMIC, executes the appropriate workflows—including writing information into subsequent systems—and then returns a “process completed” value to COSMIC so that the case can move to the next stage.
- **Data security.** Integrated business rules segregate data and ensure that agents see only the data they’re allowed to see. For example, US public sector information may not be visible to non-US-based agents for specific scenarios.
- **Easy to track and trend issues.** With the integration of Power BI, fields are reportable from COSMIC, and data can be easily extracted. Different business units are interested in their own BI reporting based on COSMIC fields. With Power BI queries and reports, it’s easy to answer questions like: How long does an order take? How many holds are there now, and where are they?
- **Easy dashboard visibility.** With dashboards—for both agents and managers—it’s easy to see what’s happening with a specific case. Before COSMIC, we had to do multiple searches to find details. Now, Power BI dashboards highlight case data like related revenue, case status, assigned agent, and date opened.
- **Sales organization visibility.** With the COSMIC bot, we’re using Microsoft Teams to expose case information to our field sales organization. Historically, the field sales organization and other Microsoft employees used email and other communication methods to check the status of their transactions. With the COSMIC bot and Microsoft Teams, they can instantly get case updates, add notes to the case, and follow a case with auto-notifications.
- **Artificial intelligence and machine learning offer translation and sentiment.** Azure artificial intelligence and machine learning bring us the advantage of automatic text translation and immediate sentiment analysis. These features give us flexibility in assigning tasks, and an intuitive and easy way to gauge customer satisfaction.
- **Cloud advantages.** Using cloud-based technologies means that we automatically update to Dynamics 365, Azure, and all other online applications. We scale easily and dynamically as the organization grows.
Best practices

- **Start simple.** By rolling out COSMIC with simpler business units and business components, we built a solid base. This foundation allowed us to quickly configure unique features for our more complex business units and rapidly bring them online. The transition from old to new was achieved in 15 months.

- **Configure, don’t customize.** By configuring out-of-the-box Dynamics 365 features and functionality, we could rapidly bring new features into production and create reusable features that can be shared.

- **Incorporate flexibility.** After you set a taxonomy structure, it’s hard to make changes. By factoring flexibility into our taxonomy structure, it gave us room to grow.

- **Integrate.** When we designed COSMIC, we integrated external systems like SAP and our customer-facing portals. Consider future integrations when you design taxonomy, as they increase automation, and reduce touch time.

- **Know your data.** Old data definitions can get lost quickly. When you create a new structure, export your business unit’s old structure into a repository—we created a data mart for this purpose—and provide a good data dictionary for it. This way, everyone can agree on the meaning of terms and status codes.

Looking ahead

Now that our COSMIC platform is in place, we’ll integrate more tools. These tools will improve automation, artificial intelligence, and machine learning at all steps of our transactions. SLA fails should drop, as our partners quickly and efficiently get the information that they need. Some highlights:

- **Optical Character Recognition (OCR) to drive automation.** We’ll continue to drive automation and refine OCR capabilities with the Computer Vision API. Monthly releases will further reduce cycle time.

- **Virtual operation centers drive efficiencies.** We’ll deploy additional bots to complete pre-validation tasks. For example, regulations require that financial transactions coming to the Americas region must occur in the Americas region. Some work can be completed offshore, but critical stages must be completed in the Americas to comply with federal law. Bots will be deployed for basic and stable transactions. If the transaction has too many customized steps, the work will be sent to an operations center where it will be resolved.

- **Natural language integration.** Machine learning and the Cortana Intelligence Suite will improve natural language query response and case automation. Machine learning helps us refine our knowledge of agent capabilities and strengths, the importance of specific deals, and other case parameters. These capabilities will support automatic case assignment to make the best match of customer to agent. It will significantly reduce manual case assignment and will increase customer and partner satisfaction by assigning the agent who is best suited to the case, regardless of location. The goal is to reduce issues with the first contact.

- **Extend our bot framework.** With the integration of COSMIC and Microsoft Teams through our bot framework, we’ve created new ways for our agents and field sales organization to communicate throughout the life of a case. Looking forward, we want to use artificial intelligence to create other integrated experiences for our customers and partners.

- **Knowledge management dashboards.** With knowledge management in Dynamics 365, customer feedback and issues can quickly be turned into knowledge articles. We plan to use this capability in COSMIC, but we’re waiting until we can segregate articles by business unit.

- **Expand the COSMIC API.** Many other teams within Microsoft are keenly interested in driving automation through integration and the COSMIC API. Looking forward, CSE will be revisiting and expanding the COSMIC API.

*NOTE: We plan to make the entire COSMIC solution publicly available by publishing it to AppSource.*
Conclusion

Digital transformation goes beyond technology. Business leaders must reimagine old business models and embrace a different way of bringing together people, data, and processes to create value for their customers. They also need to capture new opportunities for their organizations through intelligence systems.

Business challenges today are familiar: engaging customers, empowering employees, optimizing operations, and reinventing the value they offer their customers.

At Microsoft, we continue our own digital transformation. Using Dynamics 365 as the foundation for COSMIC gave us key strategic advantages, such as:

- **Embedded productivity.** With finite resources, productivity is critical for businesses to scale. Our company has to refine and automate our business processes. Using Dynamics 365, we embedded productivity tools—such as machine learning, automated translation, and sentiment analysis—directly into business processes to save us time.

- **Quick response.** There’s a new speed of business. Our technology enables new business models at a much faster rate than ever before. To be successful, we need to help our people and processes respond quickly to changes in the market and to capture new revenue opportunities. In COSMIC, we created a Dynamics 365 system that’s almost entirely configuration-driven. Features are simply turned on or off. The lack of custom code lets us bring new business units into COSMIC very quickly.

The COSMIC solution took a very complex transaction and contract processing landscape—operated by multiple vendors and operations centers around the world—and created a system that supports a consistent and structured workflow. In the process, the system has enhanced our outsourced business model, driven automation deep into our case management workflows, and lets us very closely monitor vendor performance and calibrate our business processes. COSMIC, built on Dynamics 365 and other cloud technologies, is the next generation of intelligent business applications that enables us to grow, evolve, and transform to meet business needs and capture new opportunities.

For more information

**Microsoft IT Showcase**

[Microsoft.com/ITShowcase](http://microsoft.com/ITShowcase)

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