ITSM FOR MANUFACTURING ENTERPRISES

Real-life ITSM success stories of two manufacturing giants

Read how ManageEngine improved ITSM workflows to reduce complexity and solve business challenges of two enterprises

ManageEngine

1.
INTRODUCTION

The manufacturing sector has contributed greatly in ManageEngine's evolution over the years. The manufacturing enterprises we deal with have been operating successfully for decades, and the classic and comprehensive nature of their processes have played a huge part in our learnings.

And providing them with a modern ITSM environment that infuses well with the traditional manufacturing process has led to some of the most fulfilling experiences for our staff. While we've helped these companies doctor their ITSM, they've helped us shape our products with new unique features.

This book tells you the story of how we worked with two such manufacturing enterprises to transform their ITSM setup for the better. This book also gives you an insider look of how our Onboarding Implementation and Migration (OIM) consultants work with enterprises to bring about such transformations.

How we created this book

We created this book with the help of our OIM consultants and the enterprises they worked with. Their process of working together on an ITSM solution is what made this book possible. For that, we start with an elaborate workshop to gather the requirements, which runs for about two weeks. This is where our OIM experts dissect our customer's processes and existing infrastructure. We then take a milestone-based approach where we present our deliverables, their expected timelines, and the cooperation we need from our customers.

As we develop the solution we presented, we get ready for a user acceptance test (UAT). The UAT will reveal the challenges and complications we need to address in the next phase. Once we fix those problems, we train our customer's technicians to handle the ITSM setup. We also provide them with comprehensive documentation on it. After we go live, we stay with them for an extended period to support them with any challenges and also answer all their questions.

This book will elaborate on the process of transformation at two enterprises:

1. Cemm-Tech Ltd, a French-Swiss multinational company that manufactures cement

2. Auto-Tech, a leading supplier of advanced automotive technology as well as systems and components for major automakers

These two enterprises are vastly different in terms of their processes, work culture, and, mainly, their ITSM objectives. They represent two unique styles of industries in the manufacturing sector, while also bringing out their own unique challenges with ITSM.

In this e-book, we will dive deep into their stories to understand the challenges from their perspective. Through our experience with these enterprises, we will guide you on how you can improve your ITSM environment.

This book contains two stories and comprehensive analysis of the ITSM structure of two different manufacturing enterprises. We will lay down the context, give you a perspective of the challenges faced by manufacturers, and introduce you to the methods and frameworks that worked for them.

2.

HOW A CEMENT MANUFACTURING ENTERPRISE OVERCAME ITS ITSM SETBACKS

A look at Cemm-Tech's business environment

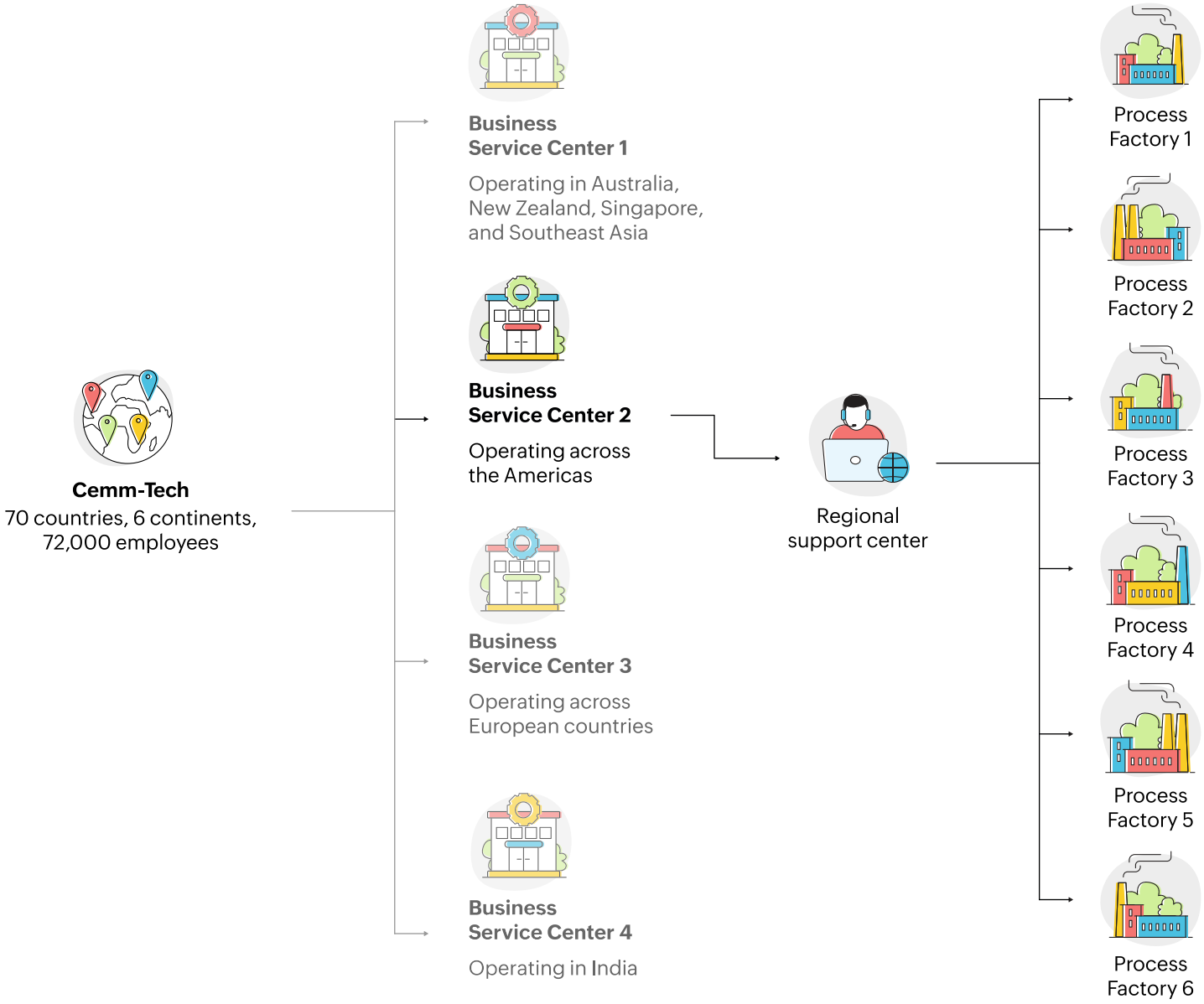
Our first story involves **Cemm-Tech**, a multinational cement manufacturing giant.

Our first story involves Cemm-Tech, a multinational cement manufacturing giant. Cemm-Tech has a strong global presence in almost 70 countries and employs close to 72,000 employees total. It operates with four business service centers across six continents. Cemm-Tech's America Business Center alone has a tremendous spread across 12 countries. Each country supports six business process factories, and, in turn, each process factory has numerous processes.

A **process factory** is a collection of processes that involve all activities from procuring raw materials to delivering the final product (cement) to customers, and all the related sub-activities. Cemm-Tech has a regional support center (RSC) with close to 650 technicians supporting the company's process factories. Cemm-Tech has a total of six process factories.

For example, Process Factory 1 handles the process of raising the orders placed by customers and processing them. Process Factory 2 is responsible for procurement of raw materials, supplying to the factory, and so on.

Here's an overview of how Cemm-Tech operates:



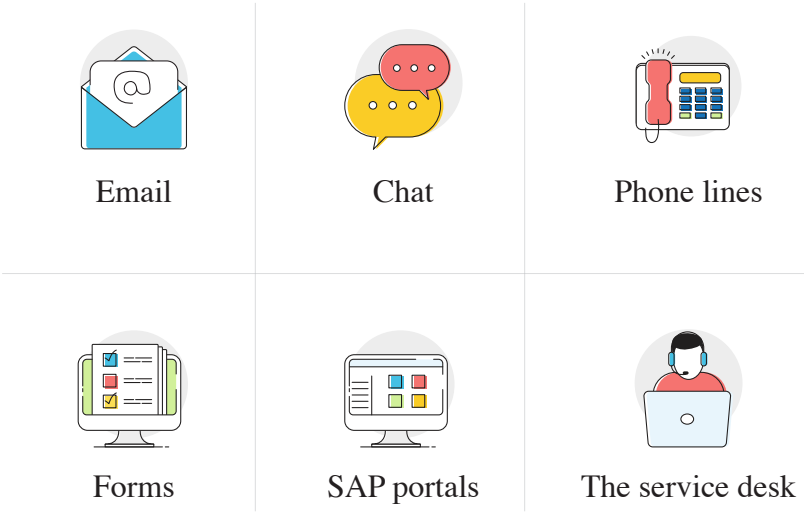
In this e-book, we'll be taking a close look at BSC 2: the company's America Business Center. BSC 2 has a complex layer of requirements. Let's understand Cemm-Tech's process and requirements first before we see how the company ended up with a viable ITSM solution.

Understanding the company's requirements

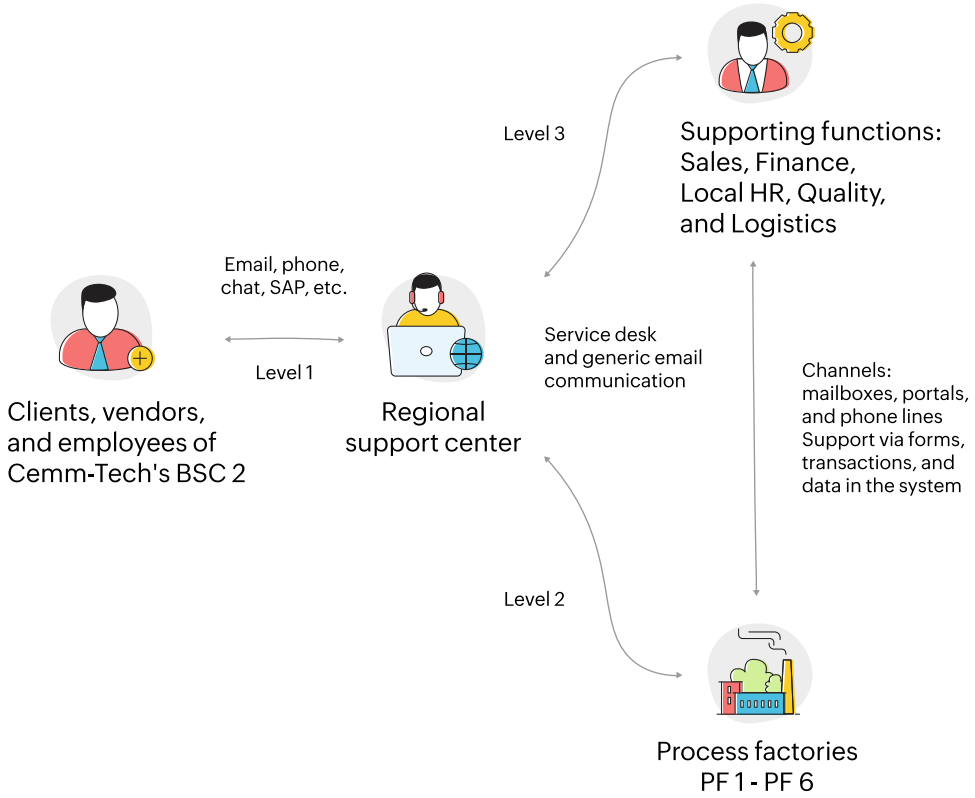
Cemm-Tech's requirements are based on how its process factories function and interact with each other. The 650 technicians in its RSC handle the process factories across many levels, interacting with more than 30,000 users. Here's how the interactions take place:

- All communication and queries from clients, vendors, and employees go to the RSC first. Each query is a ticket.
- When the query is beyond the scope of the support center, the ticket is passed on to the process factories.
- People outside the ITSM system (which comprises the support center and the process factories), like sales representatives and finance executives, might have to attend to the ticket, but the system must still take account of the ticket.

- Interactions take place through multiple channels:



- Each interaction between a person and the system can be categorized into three levels:
  - **Level 1:** Clients, vendors, and employees interact with the support center, and it creates a ticket.
  - **Level 2:** The ticket moves beyond the support center and escalates to the process factories.
  - **Level 3:** Supporting functions handle a small percentage of these tickets.



Cemm-Tech had a straightforward requirement for its ITSM solution:

> *"A well-oiled ITSM machine that ensures every interaction is both simple and good enough to do the job."*

To produce that, we first needed to achieve the following requirements:

- An easy-to-use medium to facilitate the transactions between the RSC and all other parties involved
- A robust interface to manage ticket queues that allows technicians to prioritize tickets and minimize response and resolution times
- Escalations handled with accurate transfer of data:
  - Escalation from Level 1 to Level 2 or Level 3, i.e., from technicians to process factories and supporting functions
  - Escalation from Level 2 to Level 1 or Level 3, where process factories resolve tickets or pass them on to supporting functions
- A system for how process factories, which raise an order and follow up to complete it, interact with the system and between themselves
- A way for members that are not present inside the system (like support functions) to handle tickets
- A workflow for how tickets are escalated outside the system, and how their responses are updated back in the ticket
- Other generic ITSM features like SLAs, ticket categorization, and ticket assignment to groups

These requirements, though comprehensive, were only the surface-level requirements. *Our real task was* to understand the deeper challenges that existed. Understanding those challenges was a major step in establishing a full-fledged ITSM solution for Cemm-Tech.

Establishing a full-fledged ITSM solution

After multiple rounds of interactions with Cemm-Tech, we began to understand the company's processes inside and out and the challenges in them. We had to tackle these challenges first before we could go on to implement regular ITSM functionalities. Once we did that, we went on to fix the company's ITSM process at the root and established a complete ITSM setup to power Cemm-Tech's business processes. Here's a snapshot of the company's ITSM transformation:

Category	Cemm-Tech's IT environment before	Cemm-Tech's new IT environment with ManageEngine
Speaking the industry terms	Te rms like "asset request" and "project permissions" did not make sense.	We replaced them with industry-friendly terms that make sense to all process factories.
ITSM functionalities	The functionalities mirrored an IT company's and were not much help to Cemm-Tech.	We modified and implemented functionalities to suit Cemm-Tech's process factories—especially mapping tickets to various aspects of the business.
A unified ITSM space	Having two different service desk solutions created room for error amongst IT teams.	We implemented a unified ITSM solution to streamline the company's entire process under one umbrella.
Ticket management: Creation, escalation, and resolving tickets	Duplicated tickets led to inefficiency and wasted man-hours.	The company has an efficient process with no duplication, enhanced with automation, traceability, and visibility into tickets.
Volume of tickets	The IT team received a large volume of tickets due to gaps in processes.	Overall ticket volume was reduced by more than 25%, resulting in increased response time.

In the following sections, we have elaborated on the above snapshot to give you an idea of the entire process of transforming Cemm-Tech's ITSM.

Setting the stage for the implementation

Before we executed the ITSM transformation, we fixed a few gaps and addressed some challenges to set the stage for implementation.

Speaking the industry language

You could refer to most of the employees of a software-based startup as “IT people” and still be right. The opposite is true for a manufacturing enterprise. Many of the employees at manufacturing companies are not comfortable using software and, at times, not even computers. For Cemm-Tech, its RSC is staffed by IT professionals while its process factories are not. But while handling escalations, the professionals from these process factories must also use the system.

Consider these departments:

Procurement

Vendor Management

Supply Chain

Shop Floor
(manufacturing plant)

Design

Maintenance

Most of these departments are heavily dependent on a handful of IT personnel for tasks that involve computers. Even those in other departments that are used to software are strictly confined to SAP and other software that is specific to their industry. When these people need to handle escalations using an ITSM solution that doesn’t speak their language, it creates problems.

Typical ITSM language like the following doesn’t work here:

Asset request

New user addition

Access request

Project permissions

Request templates

Imagine a Supply Chain person, whose work mostly involves interacting with the Shop Floor workers, looking at a screen filled with terms they don't understand. That is where the challenge of speaking the industry language comes in.

Here's what we did to tackle it:

Simplify or remove complex IT jargon from the solution. The more industry-friendly a solution is, the more efficiently employees can handle escalations and close tickets.

Removing IT jargon can increase productivity and make those outside the IT team more comfortable using the service desk. Our repeat interactions with the managers and Shop Floor technicians of Cemm-Tech helped us simplify the solution. We replaced the ITSM terms with industry-specific terms. And if a particular feature did not make sense, we removed it.

From a manufacturer's perspective, you should seek those features that save you time and improve productivity. Any level of complexity is going to achieve the opposite. You want the terms on the screen to be ones that your employees can understand and relate to.

From our perspective, it was about replacing the term "assets" with "equipment," "incidents" with "equipment issues," and so on. We also had to remove some features that could confuse technicians.

For example, "project permissions" would probably never make sense for a Shop Floor manager to use on the employees working under them. The employees would rather use the manager's profile to raise their equipment issues than create profiles for themselves, and then request that the manager give them permissions. Rather than increase complexity, it would make sense for us to remove this feature.

The challenge of speaking the industry language applies to those managers and engineers who are already working with SAP and other software, too. Here's one such scenario that could happen with any manufacturing enterprise like Cemm-Tech.

A manager, who is a design engineer, hires a recruit to work under him. Cemm-Tech's IT person is now approaching the manager to sort out the recruit's IT requirements.

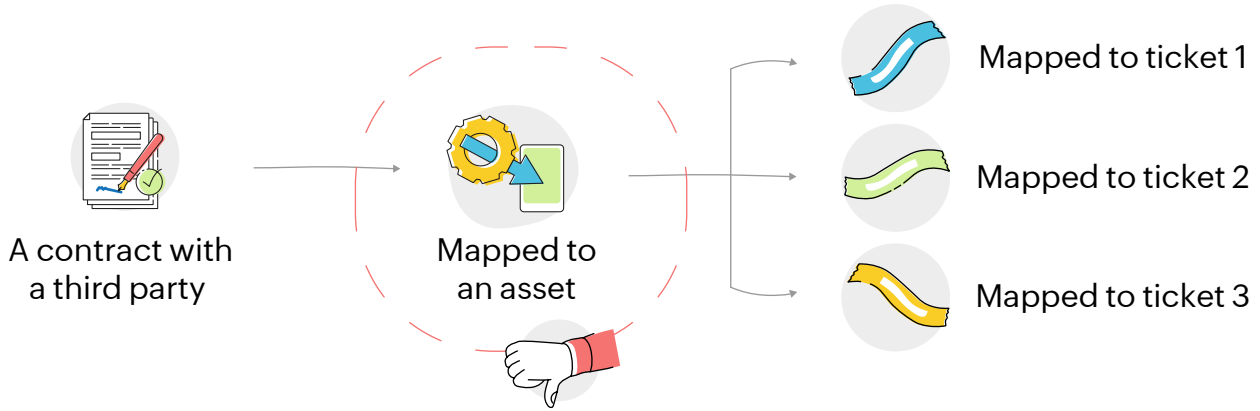
Scenarios like these can pop up when an ITSM solution does not speak the industry language. This should be a primary area of focus for a manufacturer looking at an ITSM solution.

Improving ITSM functionalities

Beyond just speaking the industry language, mismatched functionalities can be a huge challenge for a manufacturing company.

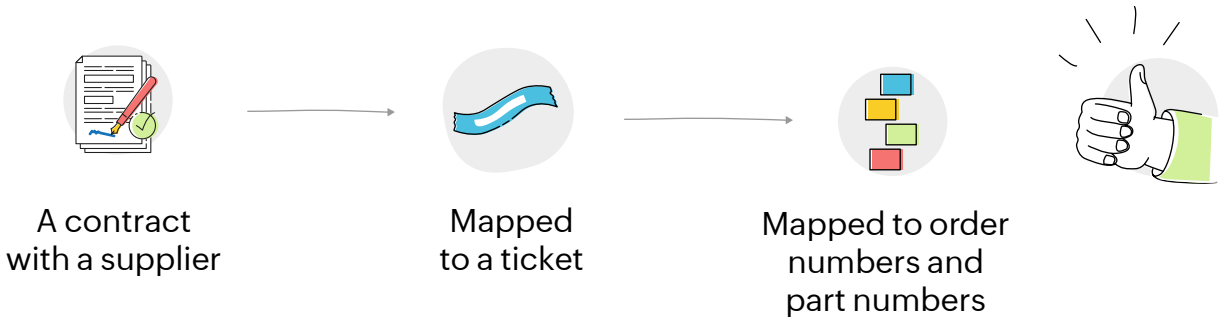
Let’s look at a scenario to understand mismatched functionalities at the Supply Chain process factory for a manufacturing enterprise like Cemm-Tech.

Typically, a service desk maps all issues to “assets.” While this functionality makes sense for a software company, it causes headaches for a manufacturing company. This functionality should be customized to suit the manufacturing industry. Here’s what the functionality, which would create problems for a manufacturing enterprise like Cemm-Tech, looks like:

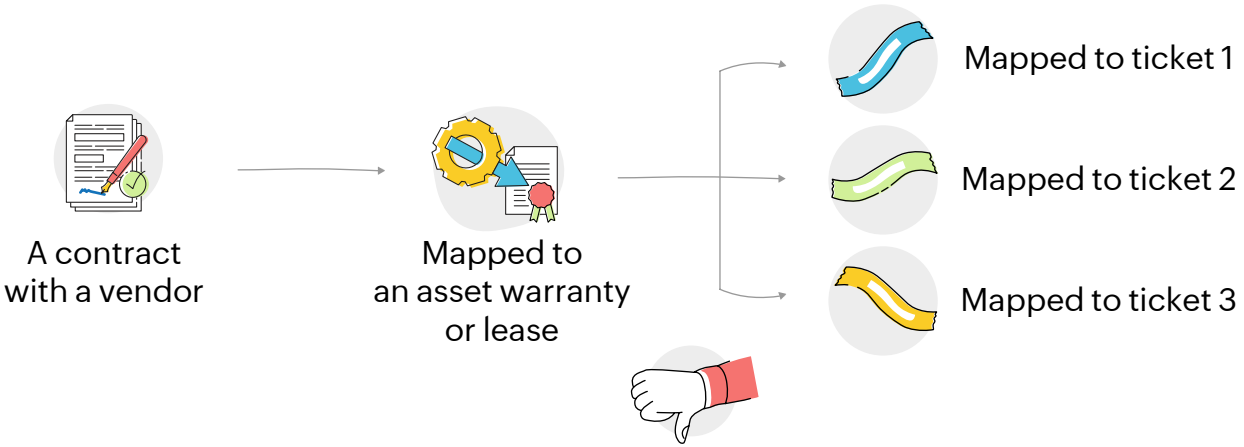


An IT company would want all its assets to be managed properly and linked to the correct third party so the ticket is appropriately communicated about and closed. A contract is only mapped to an asset, and the tickets are all connected to that asset.

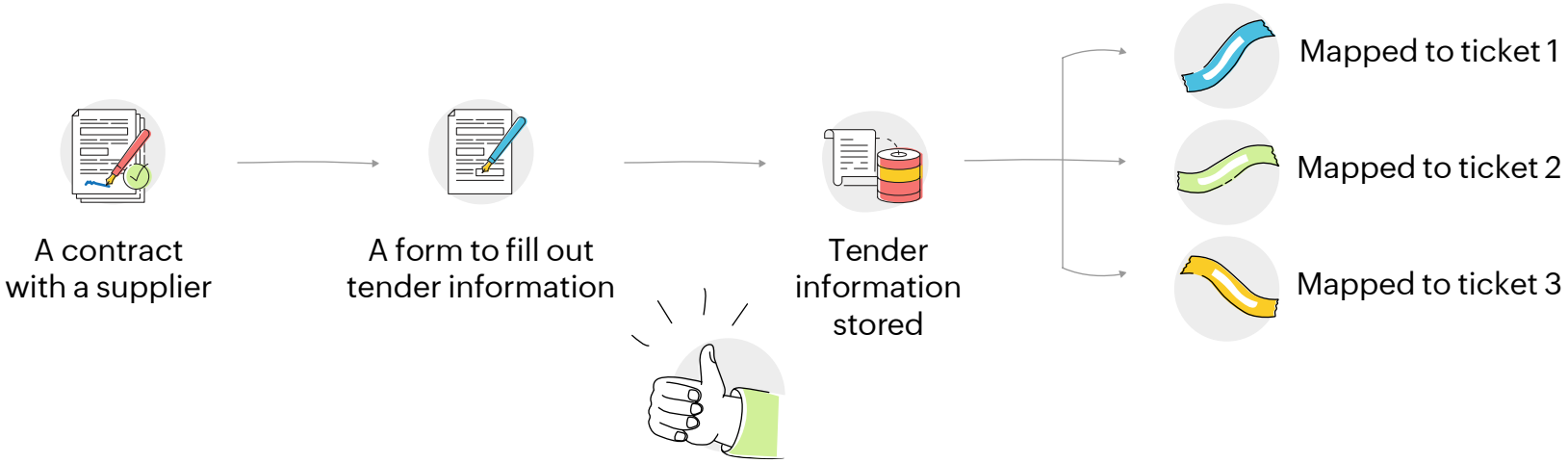
However, this makes no sense at all for a manufacturer like Cemm-Tech. Its suppliers are in no way related to their "assets." It would now be much simpler and more productive to simply map the contract directly to the ticket. And that ticket can then be mapped into related part numbers and order numbers, which would easily solve the problem.



An extension of the above scenario applies to related documents. As a manufacturer, you want to have documents that make sense to your department. In the same scenario, it is possible to upset the Supply Chain department even more by misguiding them or giving them functionalities for storing and maintaining asset warranty details, leases, etc. Here's how it is:



If you are the Supply Chain department head, this functionality would be of no use to you. All these are asset-oriented contracts, and you would probably never use them. However, if there was a functionality to maintain tender information, that would be helpful. If you have a form where you can fill out tender information and map it to a ticket, that would be even better.



There are also cases where we needed to add some functionalities. Cemm-Tech's engineering team has a change in design, and they want to create a ticket to handle it. They'd be sharing design files through this ticket. A good idea now would be to make the design file a protected one so that it is not accidentally changed or accessed by someone. Likewise, if a factory employee wants to raise an issue about the equipment, there must be a functionality to do so. The solution should fetch the equipment number easily and also list the possible issues to make it easy for the employee.

For an enterprise like Cemm-Tech, the process of understanding its industry-specific functionalities could take weeks or even months of effort. But that effort is precisely what helped us provide a solution that Cemm-Tech feels comfortable working with.

Creating a single ITSM space

Before implementing ManageEngine's solutions, Cemm-Tech's BSC 2 was using two different service desk tools:

- A tool for the RSC to handle Level 1 interactions
- Another tool for managing requests inside the process factories and supporting systems

The company used two different service desk applications for good reason: each satisfied a different set of users with different requirements. However, even though the decision was understandable, Cemm-Tech still did not have a unified ITSM space to streamline all of its processes.

Let's now consider some numbers to put things in perspective:

Number of technicians
650

Number of interaction levels
3

Number of process factories
6

Average volume of tickets per month
264,000

Number of users
30,000

Number of languages supported
4

Number of countries supported
12

The above are the results of analysis by our team when we gauged Cemm-Tech's overall requirements. The volume of tickets per month itself is a significant number for an RSC with fewer than 700 representatives coordinating the entire process.

However, if you look closer, you can see the smaller picture—an RSC has to juggle two different tools to cater to more than 30,000 users across multiple interactions. On top of that, the requests are distributed across six process factories and 12 countries, with users who need the support of various languages. Here's what this meant for Cemm-Tech:

- The executive in the RSC needed to recreate every ticket that was escalated, in a different tool. This means the actual number of tickets that the team was handling could have been higher than what's in the table above.
- Both these tools were different in their functionalities, user interface, and other service management aspects. That was a challenge.
- A good amount of information might have been lost since it's almost impossible to transfer data from one tool to another with 100% accuracy.

One of our main challenges was to streamline these different channels into a unified space. The RSC should be able handle tickets without much trouble. And from a manufacturer's perspective, this challenge is a crucial one. No matter your varied requirements, a streamlined ITSM solution that caters to both support staff and the process factories, without placing an unreasonable load on either one, is crucial.

To implement a full-fledged ITSM solution like we did, understanding these challenges well was of utmost importance. And during every step of our implementation, we tackled these challenges.

Implementing a complete ITSM solution

Establishing a minimalist process

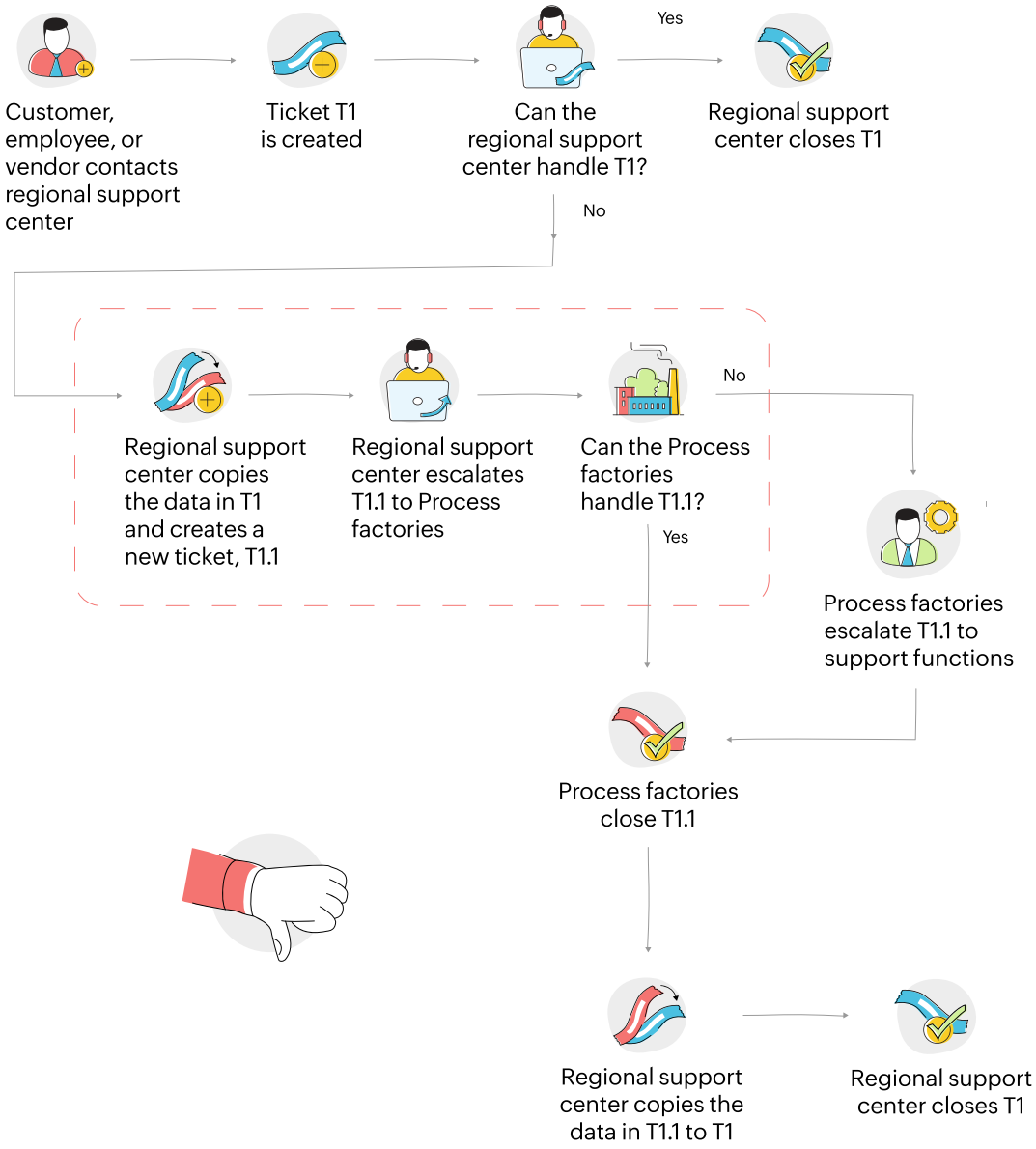
When we dug deeper to tackle the challenges we discussed earlier, we stumbled upon our biggest process-based challenge yet. Before we jump into it, here's a quick reminder of how Cemm-Tech's BSC 2 process works:

- All requests by customers, vendors, and employees move through the RSC, and a ticket is raised.
- When the RSC cannot handle the ticket themselves, they escalate it to process factories.
- Depending on the ticket, the process factories either handle it themselves or escalate it to other support functions.
- Once either the process factories or the support functions handle the ticket, the RSC closes it.

Now, here's the key point to note in this process:

Requesters (customers, vendors, and employees) should not be able to contact the process factories or the support functions directly. All requests must pass through the RSC. Also, the requesters cannot know who handles their queries inside the process factories.

Here’s how Cemm-Tech handled this requirement:



The company duplicated every ticket that had to be escalated.

And since the technicians in the process factories shouldn't have direct contact with the requesters, the RSC staff removed the requester's name, created a duplicate ticket in their own names, copied all the data from the original ticket, and escalated this new ticket. Once the process factories handled the new ticket, they copied all the data back to the old ticket and closed it.

This method has more drawbacks than meets the eye:

Loss of efficiency

Obviously, there is no productive output from copying the same data twice. The technicians lost time, and it meant they couldn't maintain SLAs and that ticket closure times increased.

Risk of losing effectiveness

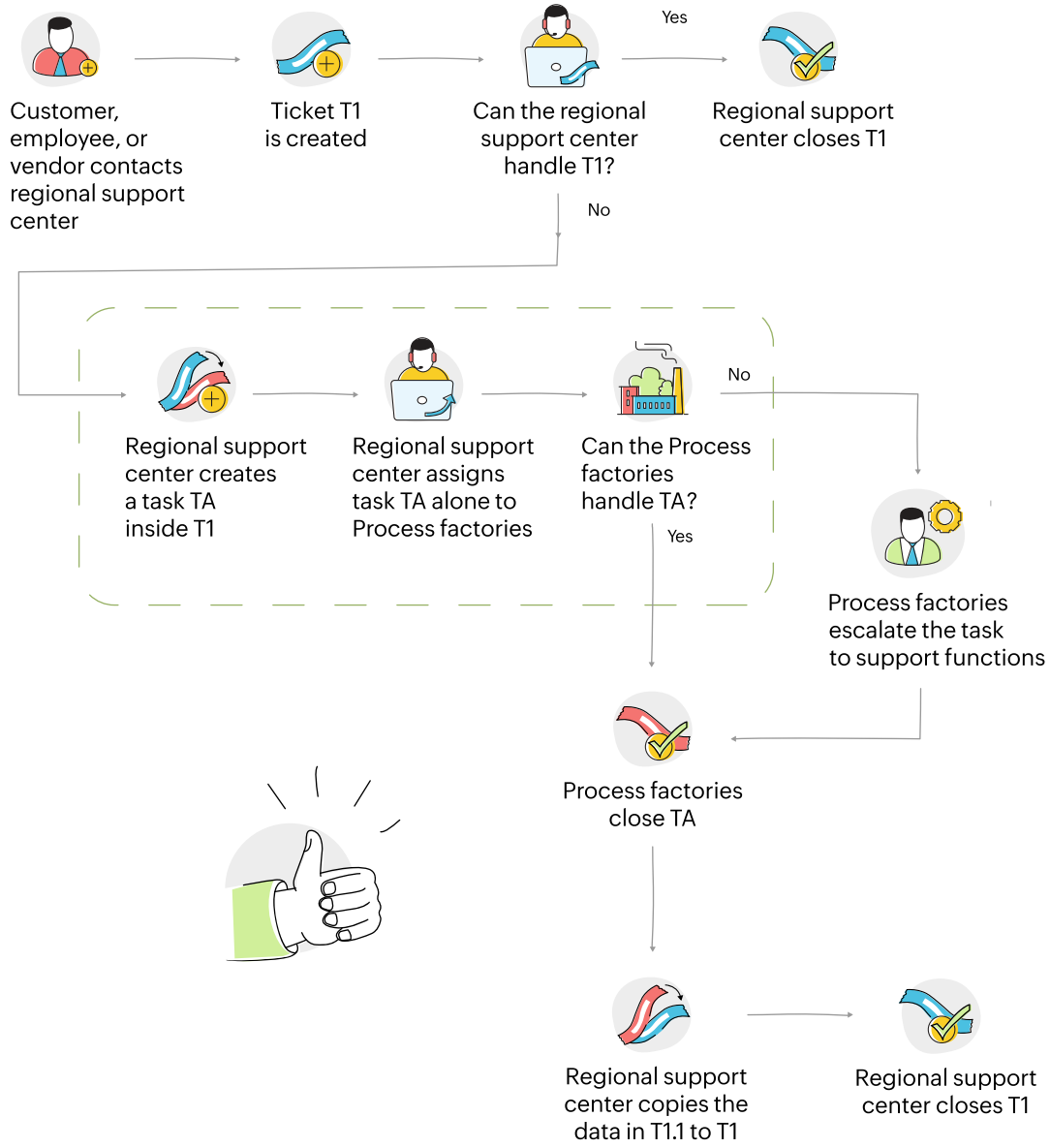
Since technicians had to manually reproduce the data from duplicate tickets back to the original tickets, the chance of error increased. Errors in ticket handling could lead to requesters not having a good experience, or damaged relationships with vendors, either of which is critical for a company like Cemm-Tech.

Complications

If there is an escalation, the RSC must manage two tickets instead of one. And they should have a way to identify which ticket is which. Technicians may maintain their own table for tracking tickets. Or they may distinguish the duplicate ticket by adding information that points to the original ticket, but this information could readily get mixed up with other data in the ticket, like part numbers, order numbers, and contract numbers. In any case, this leads to complications. If Cemm-Tech wanted to expand and establish a new business center in a bigger region like South Asia, this complication would make it more challenging.

These drawbacks could almost convince a manufacturer that an ITSM solution is not worth it. This meant we had our work cut out for us when figuring out how to deal with this problem in a much smoother way.

Here’s how we dealt with it:



We applied our service management tool's task management feature to eliminate all the extra non-value-adding processes.

Every time someone in the RSC needs to escalate a ticket, they simply create a task under the ticket and assign it to the process factory. They can either assign it to a team in the process factory or to an individual. If it is a team, the manager responsible will in turn assign it appropriately. In any case, the ticket is completely removed from the picture.

Here's how this solution worked well for Cemm-Tech:

- Process factories have to deal with tasks alone. This means they save time and energy and do not need to interact with features that do not help them.
- It has solved Cemm-Tech's objective of requesters and those attending to tickets not having direct communication with each other. As the RSC alone handles the tickets, this separation has become rather simple.
- The RSC now spends little time managing escalations. This has improved SLA adherence and, ultimately, technicians' productivity.
- Unforeseen errors have been reduced drastically. Relationships with suppliers and customers have improved as the margin for error has reduced.

We introduced some automations to help Cemm-Tech further.

- Every time a task is closed, the data in the task is automatically copied to the original ticket. The reverse happens too: Every time a task is created, the data in the ticket is copied automatically to the task. This has reduced the time taken by the RSC, and ticket closure rates have also increased.
- If a process factory technician closes a task, the ticket is automatically closed.
- When a task or ticket is closed, an automatic email is sent to the requester. This again leads to more satisfied suppliers and customers.

To truly realize how much trouble our solution saved Cemm-Tech, we must look at this in terms of volume. For ease of understanding, we will be rounding off some numbers.

Original volume of tickets per month on average = **250,000**
Total number of technicians in the RSC = **650**

Attributes	Cemm-Tech's original status	Result after ManageEngine's solution
Original volume of tickets	250,000	200,000
Tickets added due to duplication (with 10% escalation)	50,000	-50,000
Time taken to handle duplicate tickets at an assumed efficiency of 10 minutes per ticket	250,000 minutes	200,000 minutes
Extra time saved per technician	N/A	**385 minutes**

Total man-hours saved per month = 4,167 hours

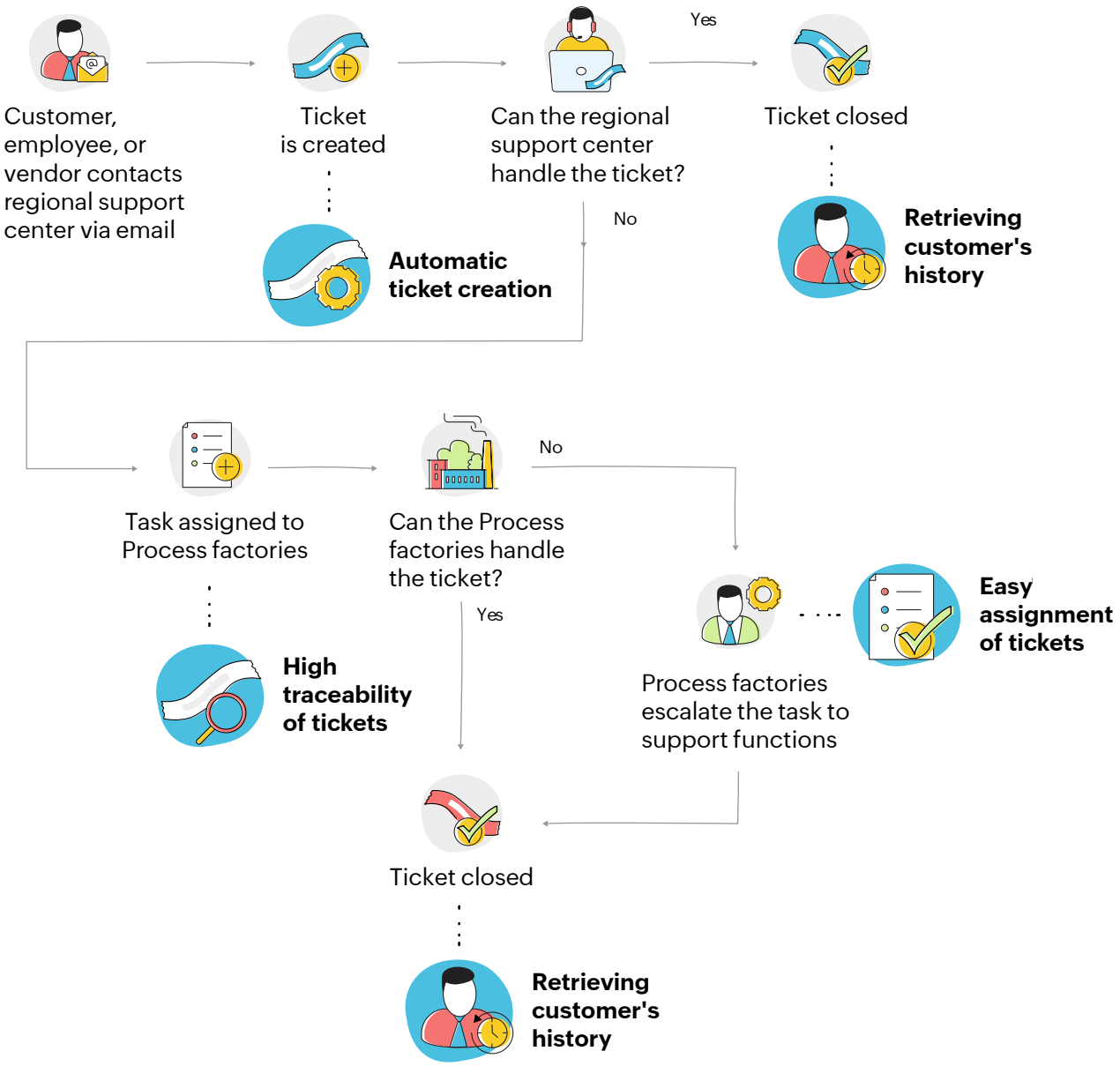
Every single man-hour reflects as dollars saved for an enterprise like Cemm-Tech. Once this effect compounds over months and years, the company would be looking at an improved, scalable, and profitable ITSM process.

Enhancing service management at the root

Once we removed the problems like duplicity and established a minimalist process, it was time to do some enhancements at the root of the company's service management: its ticket management.

A manufacturing enterprise's priority is always its process factories and, in turn, its support centers. Cemm-Tech's RSC should have the best ticket management system if it must serve the process factories well.

Here's how we implemented an enhanced ticket management solution:



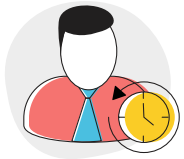
Automatic ticket creation

Creating a ticket once communication is made, especially via email, is a standard process. But when we automated it, the RSC's work became a lot easier. All RSC staff had to do was focus on how to either respond to tickets or escalate them.

Traceability of tickets

Once a ticket is opened, it might have to go through multiple process factories before it is closed. For example, Process Factory 1, which handles the entire process of raising the order, collecting the cash, and serving the order, might pass tickets on to many departments internally. The commercial team, the Procurement department, and the Accounts department might all be involved in processing one ticket.

Accurate and easy tracing of a ticket across departments and stages makes it a lot easier for the process factories to close tickets.



Retrieving acustomer's history

This useful function gives the RSC better visibility into a customer's mindset. For example, a particular vendor might have provided the wrong batch of raw materials the previous month, and Cemm-Tech's Accounts department might have withheld payment temporarily. The same vendor could raise a ticket about the delayed payment later. If an executive from the RSC has access to the previous interactions, there will be no need to escalate this ticket.

With a customer's, vendor's, or employee's history at hand, there are fewer escalations and the ticket closure rates increase.

Easy reassignment of tickets

This feature lets Cemm-Tech create business rules that automatically route tickets to the concerned departments. It also helps the company apply templates appropriately to categorize tickets. For example, a Shop Floor worker raises a ticket about an issue with a piece of equipment. This ticket would first go to Cemm-Tech's in-house service engineers. If it is beyond their scope, it should then go to a vendor that consults about the issue and fixes the equipment. This process could repeatedly occur until the equipment is fixed satisfactorily.

Cemm-Tech can now use this feature and reassign the ticket using a few easy-to-write business rules. This saves the company lots of back-and-forth communication and valuable time.

Going a step further

Every enterprise has its unique flavor that makes it successful. Implementing an ITSM solution for them is no different—they have their unique flavors in terms of what they want. After fixing Cemm-Tech's process and enhancing it even more, we went one step further and catered to some of the business's other requirements.

These requirements were mostly for features yet to be added to our general solution. However, for a manufacturing enterprise like Cemm-Tech, these new features gave the company's processes a huge boost.

Custom notifications for external users

This is another feature specific to Level-3 users (the support functions like Sales, Finance, Quality, and Logistics). This is particularly useful since these users handle minimal escalations yet still some of the most important ones. This feature is critical for most manufacturing industries as it helps cut out unnecessary interactions with those outside the system.

Ticket closure via email responses

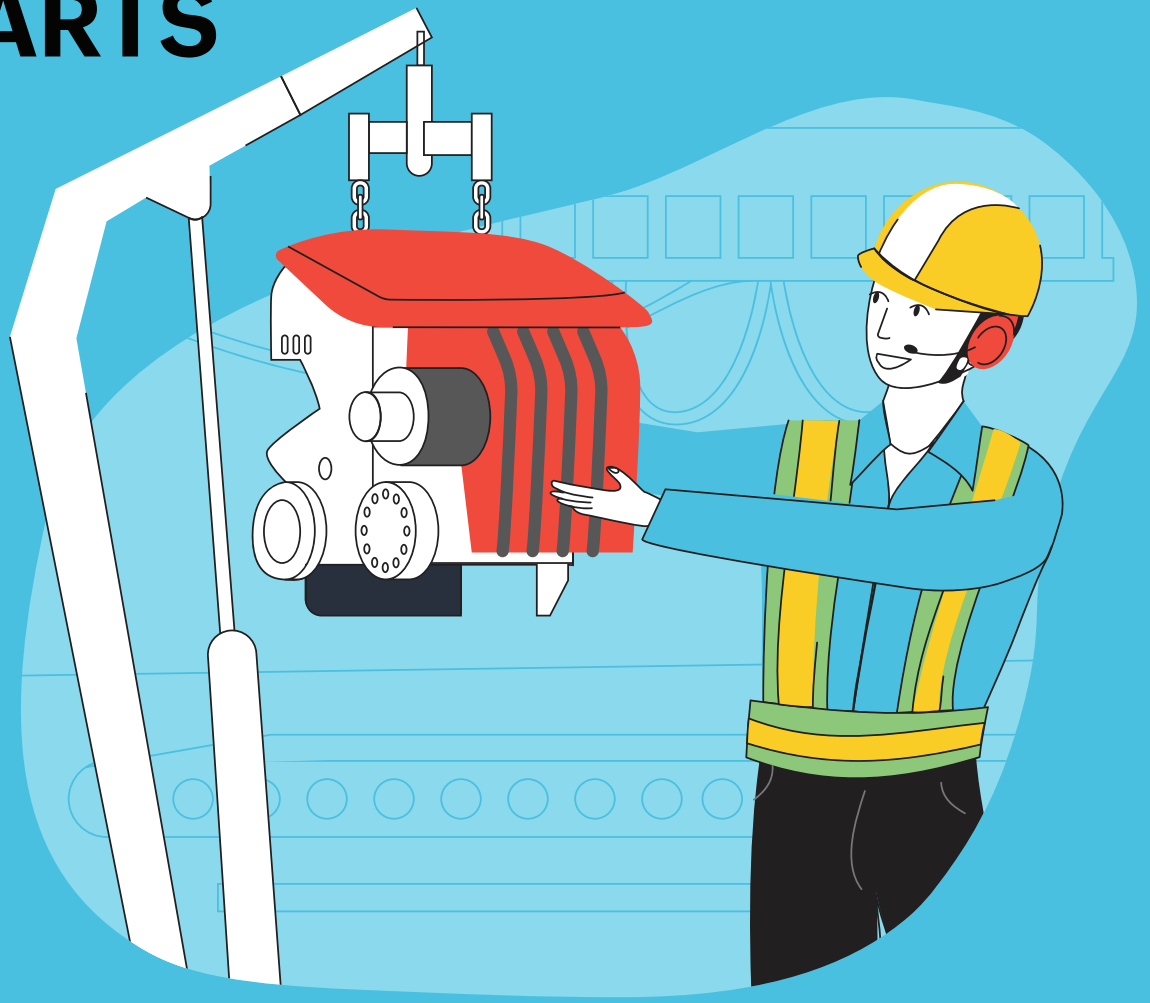
Given the size of the RSC and its need to cater to 30,000 users, this feature is a crucial one. It could save them hundreds of man-hours since many tickets are straightforward and can easily be closed with email responses.

SLA reminders for external users

External users handle some of the most crucial tickets and are already a busy batch. They contribute to Cemm-Tech's productivity in many ways, but a ticket could always miss their attention. SLA reminders are a great way to help them handle these crucial tickets.

3.

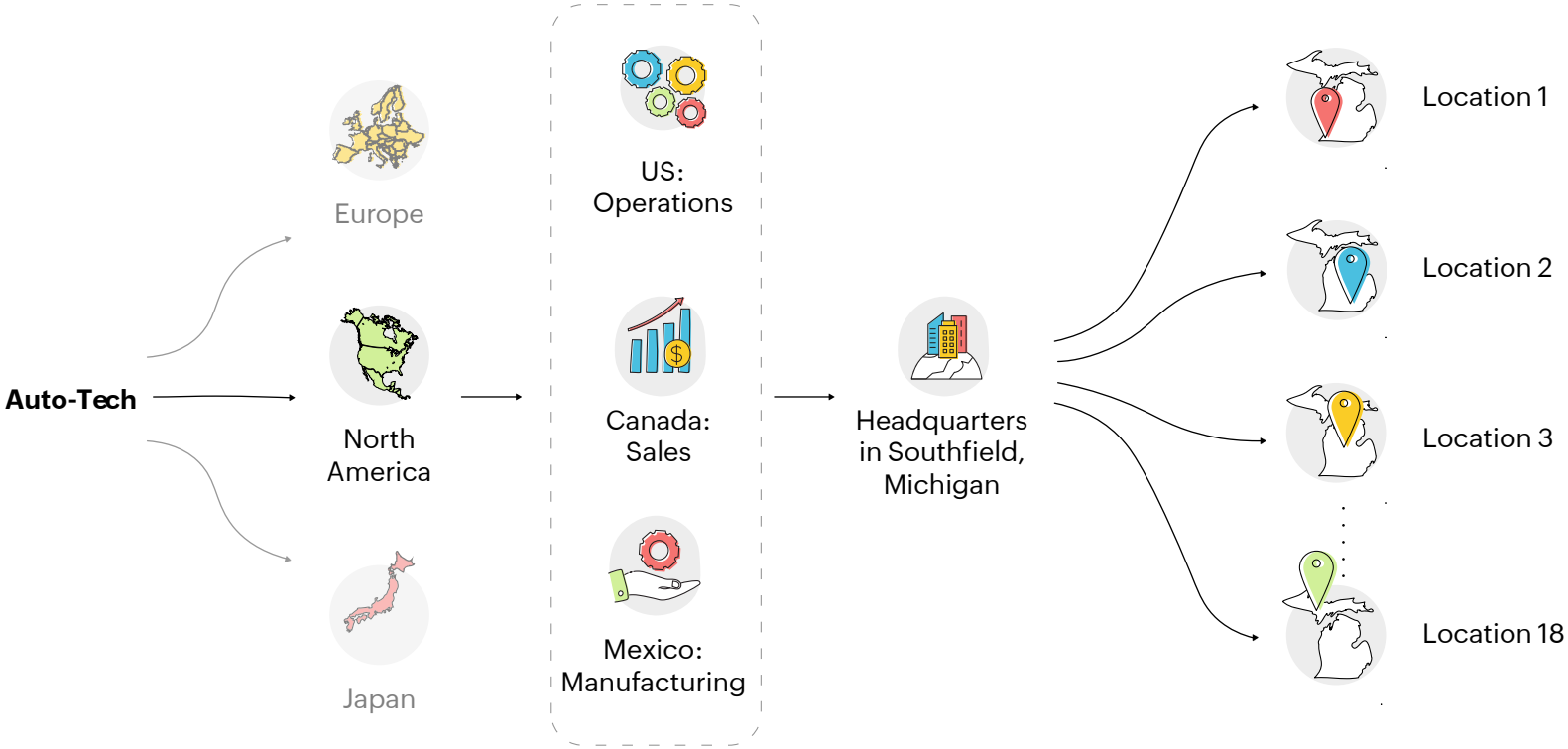
ESTABLISHING A UNIFIED ITSM ENVIRONMENT FOR AN AUTOMOBILE-PARTS MANUFACTURER



The Auto-Tech context

Auto-Tech is a Japan-based automobile-parts manufacturing company. It started out as a subsidiary of Toyota but is now a multinational enterprise serving multiple brands. Auto-Tech has three entities: North America, Europe, and Japan. In this e-book, we will be focusing on its North America entity.

Here's the organizational structure of Auto-Tech:



The North America entity is split between three countries: Canada, the United States, and Mexico. Canada is the sales hub, Mexico is the manufacturing hub, and the US is the center of operations. These three countries together consist of 18 locations for Auto-Tech. These locations predominantly produce HVAC components for automobiles, and the locations are further organized based on customers.

For example, if Ford is a customer of Auto-Tech, then there are representatives in these locations that handle only Ford. There will be a sales representative in Canada focused on Ford alone, and there will be an operations manager who handles operations only related to Ford. Though representatives of different customers have to work together under the Auto-Tech umbrella, they exercise reasonable discretion too to respect their customers.
Auto-Tech has Japanese roots. The company's Japanese values are reflected in its processes throughout all locations. One of those values is the importance placed on job titles. For example, one location would have a job title known as "General Manager." In another location, the same role would be referred to as "Division Top." Both these roles are identical in terms of responsibilities and privileges, but they bear different titles. And Auto-Tech reflects the importance of titles in its IT environment as well. Even though they are identical positions, the IT system has to refer to them with unique job titles. Auto-Tech would never compromise on this aspect. This factor played a crucial role in how we implemented a unified ITSM system for Auto-Tech.

The need for a unified system

Auto-Tech has been around for more than five decades, and this was the first time the company was looking for a unified ITSM system. After evaluating on-premises solutions, Auto-Tech decided a complete cloud solution would suit best to unify its processes.

Auto-Tech's North America entity's headquarters is in Southfield, Michigan. Over the years, Auto-Tech formed new locations across North America, and each location created its own IT team. These different IT teams had their own ways of managing their locations, occasionally with different processes, too. When Auto-Tech's new CIO wanted to unify these locations, the company had its work cut out for it.

Though this system gave Auto-Tech the freedom to operate in a manner customized to each location, it also paved the way for inconsistencies and complications. To sort this out, Auto-Tech decided to implement a unified ITSM solution, with all operations under one umbrella. Locations could be different and may even expand in the future, but they must have one functional space.

If there was a policy is Southfield, it should be reflected in the company's Mexico location. Auto-Tech wanted all inconsistencies to vanish, and to have an irrefutable cloud ITSM solution.

Auto-Tech's IT environment

Before we implemented our solution, Auto-Tech had a localized IT environment—localized domains, Active Directory environments, and other setups. Amongst the 18 locations, they had 12 domains and 12 different help-desk-like systems. The IT teams in these 18 locations adopted a "shared service environment" using a tool

known as Lotus Notes. A user from Location 1 could raise a request across the other 17 locations, and the approver could be a user in any of the locations.

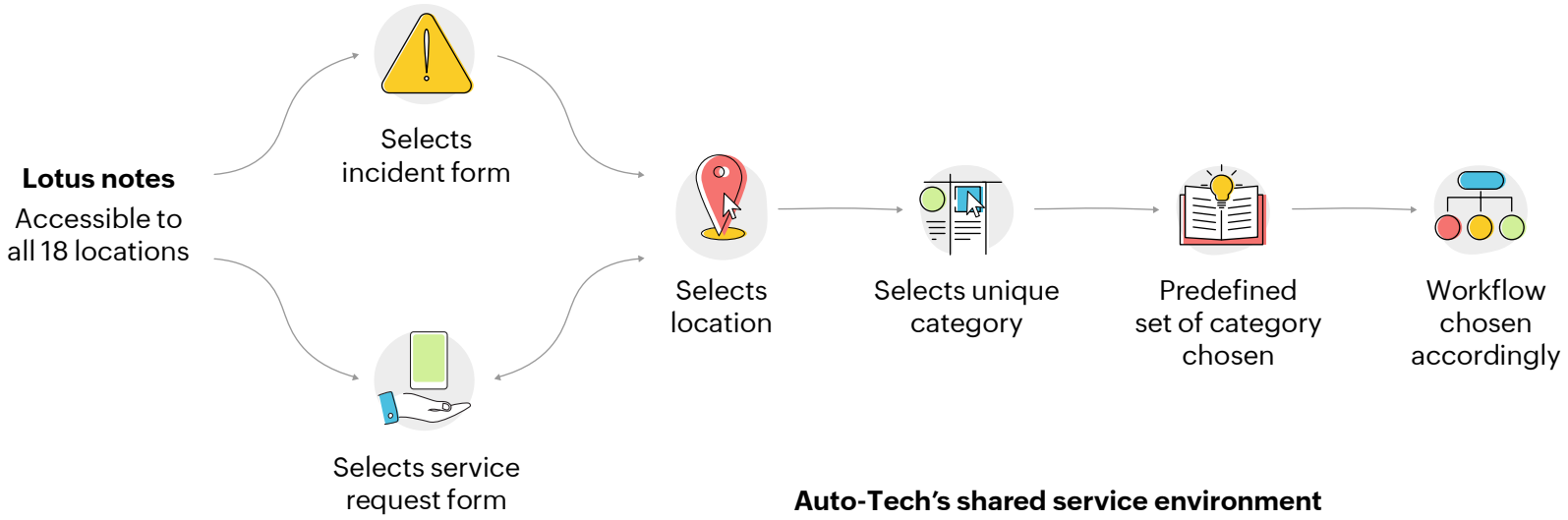
With over 10,000 users across 18 locations, the shared service environment was held together by a heavily customized email client. Lotus Notes gave requesters just two forms to deal with: an incident form and a service request form. When a user wanted to log a service request, they selected the location (a.k.a. "company" in Auto-Tech's terms), and the list of categories changed based on the location.

Also, when a user selected a category, the entire template changed accordingly. The resource options, the fields, and even the approval workflows were all based on the company and category chosen by the user. Auto-Tech has 18 companies and more than 50 unique categories. This amounts to a shared category count of more than 150.

Apart from these categories, Auto-Tech has four sets of categories, grouped according to its needs:

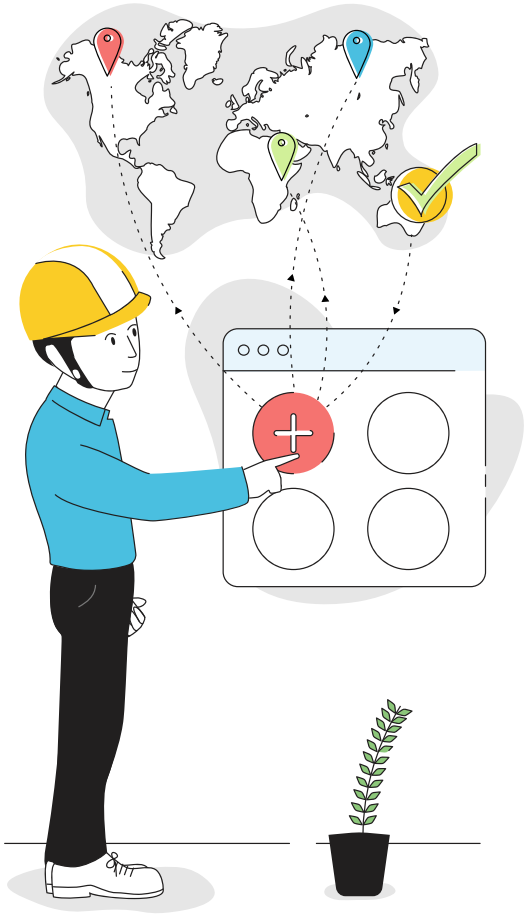
- Requesters' categories, sub-categories, and items
- Technicians' categories, sub-categories, and items
- Incident categories, sub-categories, and items
- Service request categories, sub-categories, and items

Here's what Auto-Tech's environment looked like:



Auto-Tech's shared service environment

Auto-Tech defines workflows for its processes based on the four sets of categories above and the chosen location. Let's take a look at an example to understand what a basic approval workflow looks like.



User A at **Location 1** raises a service request (a chosen set of category) for a service at Location 2. Here's how the approval works:

- **Stage 1** approval goes to the user's reporting manager at Location 1.
- **Stage 2** approval goes to the department head of that service at Location 1.
- **Stage 3** approval goes to the divisional manager. This person may be located at any of the other 17 locations.
- **Stage 4** approval goes to a system (service) owner. This person may again be located at any of the other 17 locations.
- **Stage 5** goes to a help desk manager located at Location 2.

In some locations, instead of "Divisional Manager," the role would be referred to as "General Manager," "Director," and the like. Auto-Tech's IT team achieved this in Lotus Notes by simply placing a contact book for approvals. If a resource or service needs the approval of a department head, an address book icon would emerge to populate the entire user database as soon as the user selects the resource or service. Technically, users had the option of selecting their department heads, divisional managers, general managers, etc. themselves.

This is just one example based on one location belonging to one set of category. Auto-Tech followed this same process for all its ITSM requirements.

The result was scattered data in massive quantities across all locations.

It is understandable why Auto-Tech wanted to unify this system. As the company was on its way to implementing Azure and Office 365, its main requirement was to create a unified ITSM setup for all locations. But we faced some unique challenges with Auto-Tech's environments beyond just the scattered data.

Unique challenges in Auto-Tech's environment

Auto-Tech did not want to lose or modify its processes during the implementation. We faced multiple challenges, two of which were unique to Auto-Tech.

Itemized approvals

Let's say a new user is brought on board at Location 1, and they're a design engineer who needs access to various design tools. Each tool in Auto-Tech has different types of access. In a typical IT environment, there will usually be a form to list all types of access a user needs. The approver can easily go ahead with their job.

In Auto-Tech, however, this was not the case. Let's say the user needs access to an application called Sigma. The user's manager cannot directly give access to their recruit. There will be an owner or a manager for Sigma at that location. Only after that manager approves the request can the technicians provide access to Sigma. Likewise, the engineer might need a tool known as 400, which has another owner.

So, if a manager selects five applications for a user, the approval workflow will have to move through five different owners. This was a major challenge that we needed to tackle in our implementation.

Processes across locations

The second challenge had to do with sites. Let's say Location 1 has a manager for Sigma, while Location 2 has a different manager for the tool. Some locations don't have any owner for Sigma.

One application combined with one location leads to a unique workflow.

Variable titles, but repetitive roles
We already discussed how much importance Auto-Tech places on job titles. Let's say in Location 1, the approver of Sigma might simply be called "Sigma Owner." The same role in Location 2 may be called "Sigma Manager," and in Location 3, it could be "Sigma Technician." Since these titles are of much importance to Auto-Tech, the company's ITSM environment needed to speak the same language with no compromise on the job titles.

So, in 18 locations, there could be 18 owners, with 18 job titles, for one application, and each will occupy a unique space and a process in the ITSM environment.

Each approval has to flow with a different value, catering to different locations, and also respect all the different job titles.

A modern system for a classic enterprise

Auto-Tech has been serving the automobile industry for five decades, and its processes play a major role in why it is the enterprise it is. When we got the chance to unify Auto-Tech's processes and provide it with a single ITSM space, it gave us a new experience in implementation.

Across Auto-Tech's 18 locations, it had 48 different processes. We agreed to demonstrate our unified ITSM solution by testing out six of the company's toughest processes in terms of importance and complexity.

On top of those challenges, here was the scale of our implementation:

800+
Departments

300+
Approvers

120+
Templates

700+
Form and field rules

40+
Custom functions

60+
Organization roles

To achieve the level of versatility required for Auto-Tech's environment, we added 700 different form rules to the templates. We also included 45 unique scripts to customize our solution for the company's requirements.

This was also a learning curve for us in terms of the versatility and customization we could achieve for any enterprise across the world. In the previous chapter, we saw how ticket volume was a major challenge for Cemm-Tech. For Auto-Tech, varied processes across locations was the biggest challenge. Complexity in terms of engineering our solution to suit the company's interactions was a challenge, too.

Beyond the engineering and technical challenges, the implementation phase perhaps had the biggest challenge. We had to gather all the data from Auto-Tech's current Lotus Notes system and remodel the information in a way that would suit our solution. With multiple spreadsheets, forms, and even applications, we reorganized the data and fed it into our implemented solution. We configured all the different roles of various leaders and the users of other levels. We then created user roles in Auto-Tech's new service management solution.

Auto-Tech gave us even more roles with the same privileges and responsibilities. These leaders have employees with more varied roles working under them. To factor in all those differences and blend them with different processes and service categories was challenging.

Let's see how we did it:

- First, we configured the concerned department based on user, and then the department head.
- We then worked out approvals based on the roles of the department heads we created earlier.
- Each process had to be accounted for 18 times because of the different job titles.
- We then accounted for the 800 departments across these 18 locations. There are about 350 approvers. Each of them, again, with different job titles.
- There was then the case of multiple tiers of approvals.
- Let's understand this with the example of VPN access. There are typically four tiers of approval for most requests. For cases like VPN access, there would be five tiers. In Location 1, the person to approve VPN access is called the "Division Top," and in Location 2, they are called the "General Manager" or "Vice President." So, same process, but when seen across 18 locations, it becomes different processes with different approvals. For every such process, we approached it from the user's perspective. We created the users in Location 1, while we had the roles configured for that location and others in another database. Then, for a request like VPN access, we used the data from Lotus Notes to see how the approval takes place and mapped the tiers of approvals to these users.
- We repeated this for all 48 processes.

Fruits of the unified ITSM system

Once we compiled all its data, added customizations, and implemented a unified ITSM space, Auto-Tech started to have a lot more visibility. This aids in its decision-making and provides clarity about the company's own processes. In fact, this unified space will help Auto-Tech evolve with new improvements in its processes. New projects, like adding new domains or configuring Office 365, happen with even more control and informed decisions.

Here's how Auto-Tech's environment improved overall:

Improvement area	Before	After
Data sets	It was almost impossible to find out who had handled an issue in the past and how they did it. Finding this information required users to ask many people across many locations. Let's say someone wants access to a particular file. And now, to track down a security breach, a vice president wants to know who has accessed those files. The VP will have to dissect 12 systems to find this out, and they may still not be able to find the information. There was no proper traceability.	With the unified setup, Auto-Tech now has clearly defined data sets of each location. It is a simple task for a vice president to trace the entire process and discover the person responsible for it.
Process uniformity	There was not a standardized system of processes. An employee from Mexico would probably find it very hard to understand the process of someone working in the US. It was difficult to make operational decisions regarding more than one location.	The unified system has brought uniformity to the company's ITSM process. Process changes make sense to employees in all locations because they use the same ITSM space.
Speed	Lotus Notes was getting slow. It is a legacy system, and the ITSM functionalities Auto-Tech needed were much more diverse.	The modern, unified ITSM space is a lot faster and has more efficient databases, customizations, and reporting mechanisms.
Maintenance	Maintaining a legacy system like Lotus Notes, or any other similar email client, required constant support from external contractors. This meant Auto-Tech had to maintain a separate team and hire technicians from a third party to work exclusively on Lotus Notes. Over time, Auto-Tech also needed an external team on select occasions, and the monthly expense of maintaining those teams was getting higher.	Our complete ITSM setup with external support solved the problem of dependency and excessive maintenance costs. Auto-Tech's own IT team can configure our solution to suit their needs, and we provide excellent support externally.
Approval mechanisms	As discussed above, v used address books for placing approvals. The person applying for approval would access the address book and select the appropriate person for approval, opening the door for misuse.	The IT team behind the process decides who approves the request. We also improved the mechanism by introducing automations at the back end. If someone must change their approver, they have to bring an amendment to the process officially. The IT team, along with appropriate executives in the company, will treat it as a change and validate it with the concerned team to change the process.
Sophistication	Auto-Tech's previous environment lacked features like remote assistance.	Auto-Tech decided to go for our desktop management solution, too, because it complements the unified ITSM space. Once Auto-Tech's IT team and users started understanding the solution and using it, they realized they had more requirements. They went on to design a separate ITSM instance for their design and HR teams, too.

4.

AN ITSM GUIDELINE FOR MANUFACTURING ENTERPRISES

We have seen the challenges, requirements, and the nature of ITSM for two different manufacturing enterprises: Cemm-Tech and Auto-Tech. While Cemm-Tech used our help to establish a system for all its employees, vendors, customers, etc., Auto-Tech did it predominantly for its employees in multiple locations. With any manufacturing enterprise, there are bound to be challenges simply because of their decades of experience using older systems. Many of the challenges we discussed earlier apply to smaller manufacturing companies, too.

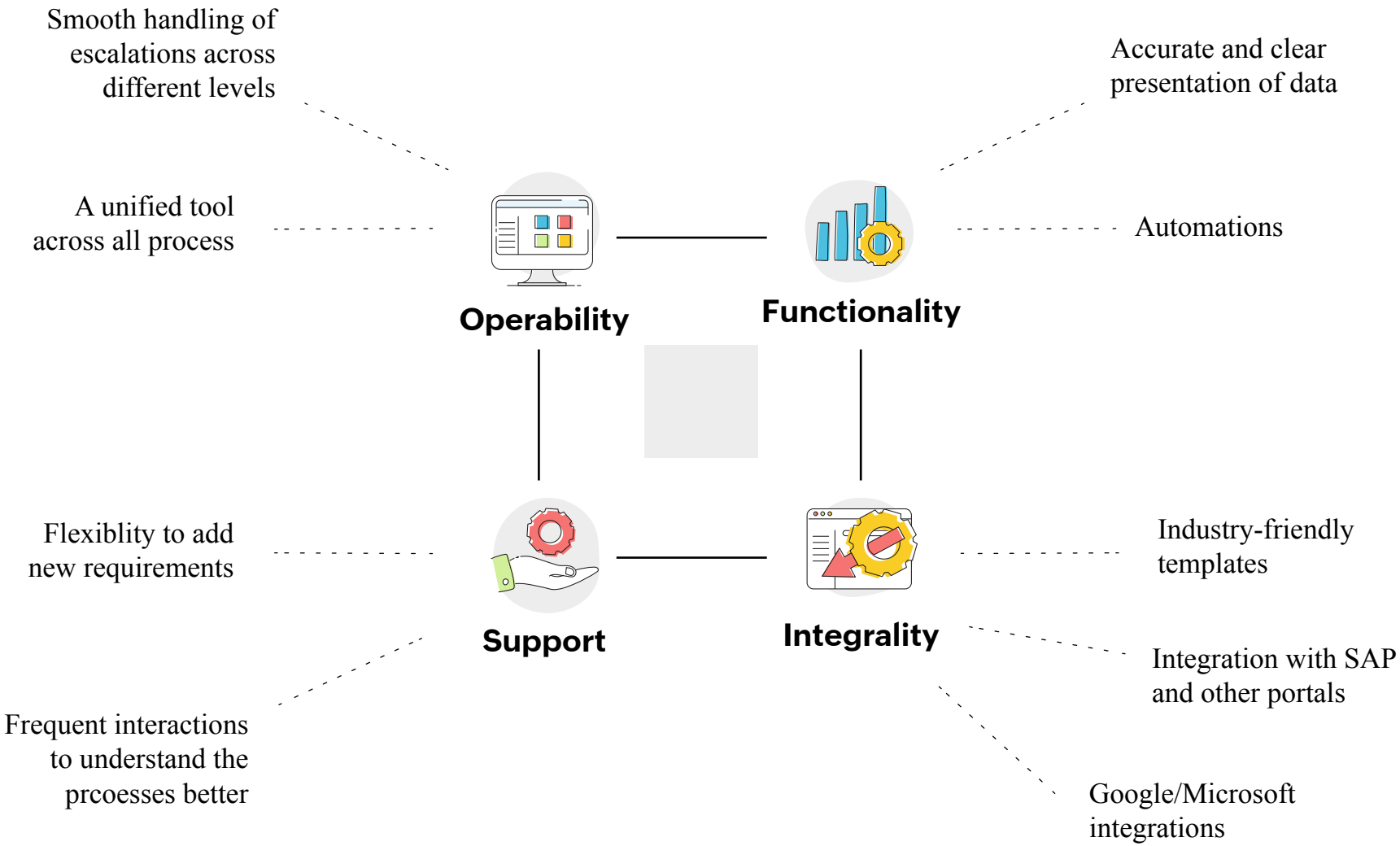
If you are a manufacturer, it goes without saying that you own your process and your ITSM as well, like these two companies did. And you're bound to face similar or different challenges. How you tackle them and make the right choices for your processes and needs will determine how successful your ITSM efforts will be. These two stories gave you an elaborate idea of how the two enterprises did that with ManageEngine's assistance.

While you can take inspiration from these two stories, you need a guideline for yourself to help you tackle ITSM challenges in your own company. Your challenges are bound to be different, and this guideline will help you along the way.

Our experience with Cemm-Tech and Auto-Tech, and other manufacturing enterprises like them, has given us a fair idea of what ITSM should look like from a manufacturer's perspective. To summarize it for you, we have the nuts and bolts of a manufacturer's ITSM framework.

Nuts and bolts of a manufacturer's ITSM framework

Auto-Tech's shared service environment



Operability

An enterprise like Cemm-Tech has six process factories in just one of its business centers. Each process factory has multiple departments, and a request from a customer or vendor might have to go through multiple stages in the process cycle. Cemm-Tech was also using multiple tools to manage its services. When we presented a unified solution that can handle all these differences and still operate efficiently, we solved the company's problem.

For Auto-Tech, the operability needed was in terms of handling all the company's different processes through different locations.

As a manufacturer, you must ensure that your solution is capable of:

- Functioning as a unified system that can operate across all process factories or locations, and one that is suitable for your IT executives as well.
- Handling escalations and de-escalations smoothly.
- Catering to various departments and technicians with varied skill sets using the same set of tools in the same manner every day.

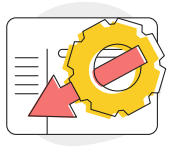
Functionality

Your ITSM system is going to handle requests across complex process cycles. We ensured the solutions we presented to Cemm-Tech and Auto-Tech had suitable functionalities to ensure they would save the companies time and effort at every step of the cycle.

You must ensure your solution has functionalities to:

- Simplify tasks for your factory employees and save them time.
- Give you accurate data including customizable reports, ticket information, configurations, and live KPIs in an organization-wide dashboard.
- Understand and recognize your industry-specific terms.
- Implement templates that are suited for the industry and your organization to allow quick action to be taken on tickets.

Ultimately, the functionalities should make sense to your factory workers and the IT team alike so both can apply them for their own benefit.



Integrality

An enterprise like Cemm-Tech or Auto-Tech cannot run on spreadsheets and paper alone, and it will be running on many tools already. We crafted a solution that worked hand-in-hand with both enterprises' existing tools.

You must be aware of all the integrations you need when you choose a solution, and it should also have room to integrate more in the future. The following integrations are needed by default:

- Telephone integrations
- Google and Microsoft platform integrations
- Integrations with web portals SAP integration

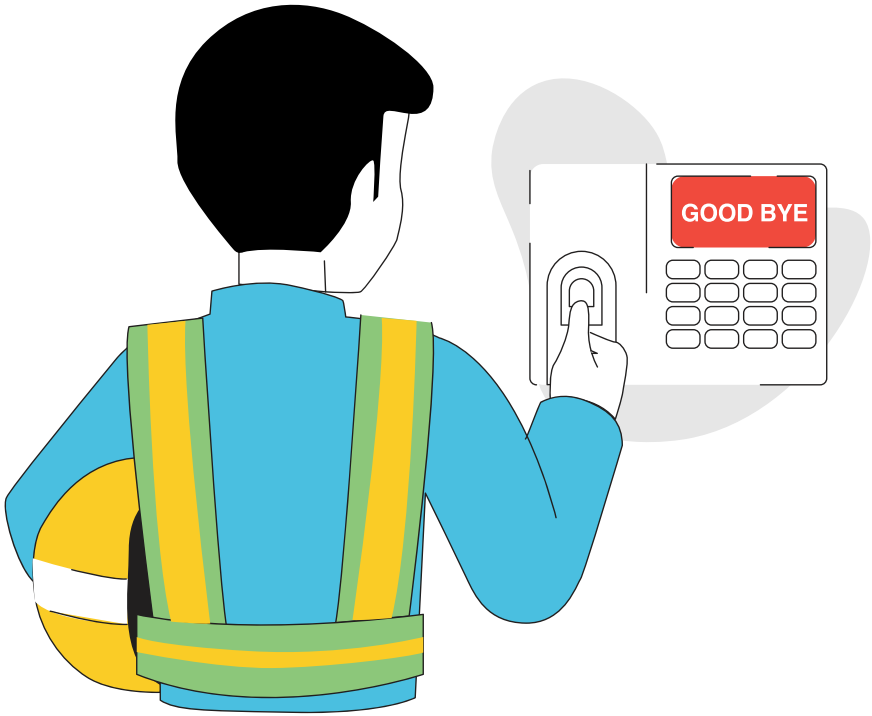
Support and tech

Cemm-Tech's BSC 2 alone operates across 12 countries and needs the support of four languages. The company's other business centers need even more. And beyond just language support, we interacted with both companies' executives on a daily basis for months to understand their pain points and requirements beyond the surface level.

Auto-Tech's complex set of requirements needed our support until the company's IT team was capable of handling the ITSM tool by themselves.

You must be aware of the support you are going to get while implementing a solution. This includes:

- Support across languages
- Technical support to collaborate on new features



Conclusion

These guidelines are relevant for any manufacturer that operates like Cemm-Tech (like cement manufacturing, activated-carbon manufacturing, or bottle manufacturing) or Auto-Tech (automotive-parts manufacturing). These types of industries have their processes in the form of silos (process factories, as Cemm-Tech refers to them, or different departments, like Auto-Tech refers to them) and a team of IT people to handle requests from customers, vendors, and employees. For any such industry, implementing a comprehensive service management solution is a boost. And if you are in one such industry, these guidelines will help you.

The manufacturing industry is vast and has contributed to our learning over the years. It will continue to be one of the most interesting industries we work with. We learn from manufacturing companies' requirements and our experience working with them, which helps us craft better ITSM solutions for the industry as a whole. Above all, we are delighted to help companies in the sector tackle challenges and improve their service management frameworks. We will share such interesting stories and guidelines in the future as we experience them.

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