



CRITICAL SUPPLIERS IN THE AUTOMOTIVE SUPPLY CHAIN:

Escalation process, the ultimate solution to avoid a quality
management crisis

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INTRODUCTION

In the last 30 years, the automotive industry has experienced major shifts in vehicle quality standards, profoundly influencing OEMs and the supply chain due to changing consumer expectations for components.

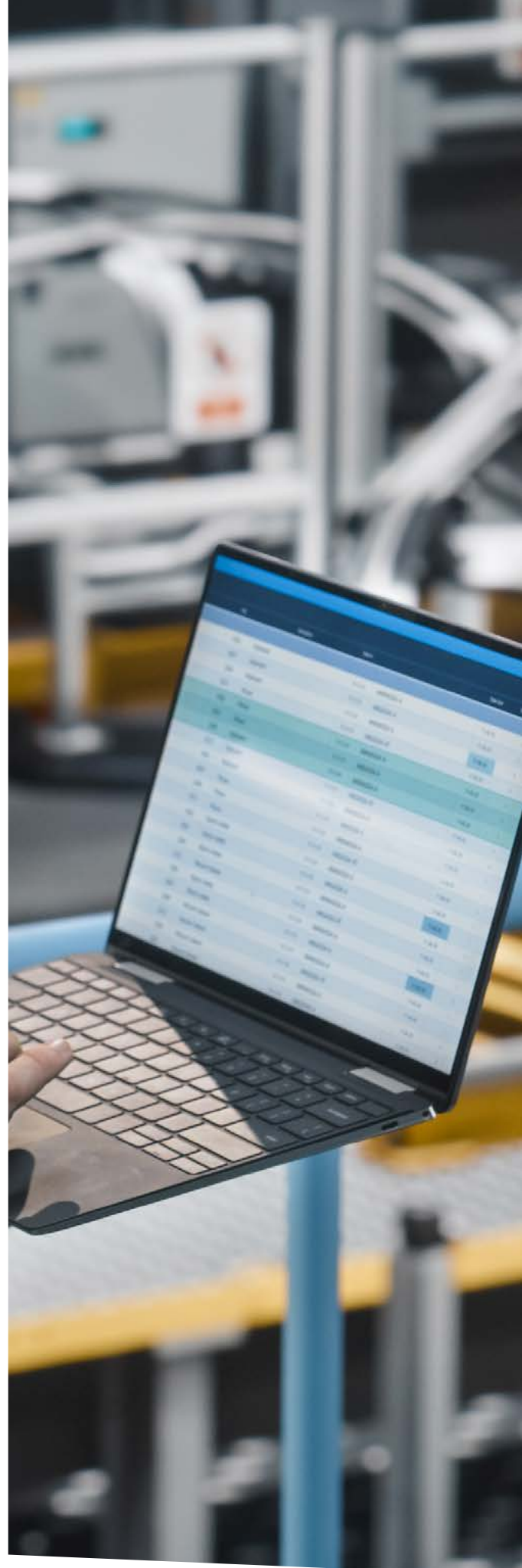
Quality expectations in the automotive sector can be broadly categorized into three main areas depending on whether it is coming from the consumer's perspective or each State's perspective. First of all, expectations related to Reliability, Economy and Safety criteria as well as Perceived Quality are driven by customer expectations. These expectations are usually followed by legislative, compliance requirements and regulations defined by each State, which eventually also impacts the supply chain.

Reliability, Economy and Safety represent the fundamental expectations of all customers, regardless of their location or socioeconomic status. Even in developing countries, customers expect their cars to be reliable and safe.

Perceived Quality encompasses factors that contribute to a consumers overall experience such as premium materials, drivability, driving assistant systems, and infotainment features.

Unlike the two first categories, expectations implied by Legislative, Compliance, and Regulatory requirements go beyond individual customer wishes. It encompasses features and properties mandated by government regulations and regional laws such as emission reduction standards, adaptive cruise control, pedestrian recognition systems, and more.

These requirements reflect the broader social and political expectations of creating a safer and environmentally friendly automotive landscape.

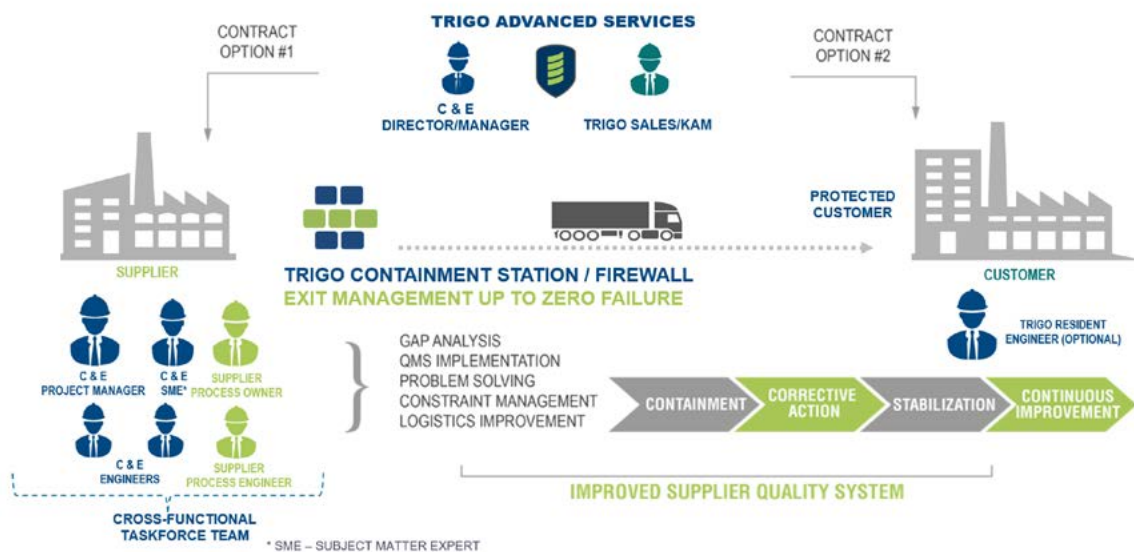


Due to increasing quality expectations, a trend of significant improvements has emerged throughout the entire automotive supply chain. OEMs define expectations with Tier 1 integrators taking on a substantial portion of R&D and design development functions. These expectations are cascaded to Tier 2 and Tier 3 suppliers, even reaching raw material providers. Quality built into design and technology has become a crucial focus, ensuring disciplined and controlled delivery throughout the development process.

And as a result of these efforts, the average ppm (parts per million) quality performance of Tier 1 suppliers has drastically improved by reducing from thousands to less than 200, leading to more robust designs and error-proof technologies.

That said, some suppliers still tend to fail meeting these expectations. Consequently, causing disruptions for OEMs, they may find themselves subject to escalation procedures.

Supplier development – exit management team layout



PART 1: THE ESCALATION PROCESS, A PRECISE METHODOLOGY

Several escalation levels exist in New Product Introduction (NPI) or serial phase situations from Warning / Alert to New Business Hold through Level 1, Level 2 and Level 3 Controlled Shipping.

The Escalation Process methodology is a structured approach between OEM and Tier 2 suppliers to manage and resolve issues that arise in a manufacturing or service environment. This methodology consists of a series of steps designed to identify the root cause of a problem, develop a plan of action to address it and verify the effectiveness of the implemented solution.

These steps are:

1. Establishing a task force team

A cross-functional team including representatives from the OEM, suppliers and service providers, responsible for coordinating the escalation process, communicating with relevant stakeholders and facilitating problem-solving efforts.

2. Define exit criteria- Measurable and objective

These criteria will define the conditions that must be met before the escalation process can be considered complete.

3. Establish enhanced containment measures

This may include controlled shipping or the establishment of firewalls to prevent the spread of the issue with the team adopting an enhanced problem-solving approach.

4. Monitoring the problem-solving stages throughout the escalation process. This ensures that the issue is being addressed in a timely and effective manner.

5. Identify the root cause of the issue, by using a drill-deep method to ensure that all potential causes are considered.



6. Eliminating the root cause of the problem

The team identifies action steps for eliminating the root cause and implement these actions. It is important to verify the effectiveness of each action to ensure that it has been successful in addressing the issue.

7. Institutionalization

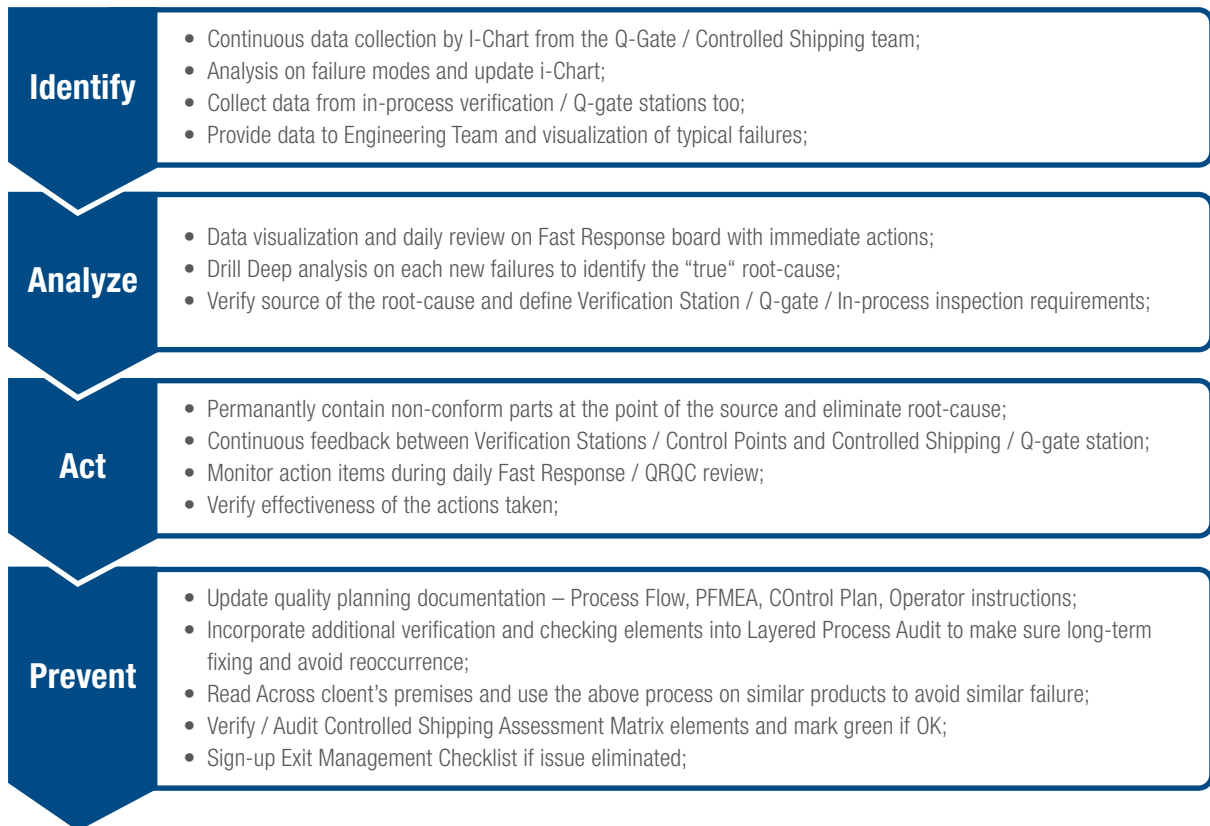
As the last phase of the process, institutionalization involves implementing horizontally preventive actions and long-term lessons learned to ensure that similar issues do not arise in the future. The team should also monitor firewall statistics for Controlled Shipping and conduct manufacturing process and QMS assessments to identify and correct systematic failures.

By following this methodology, organizations can effectively identify and address issues, implement preventive measures, and improve the quality of their products and services.

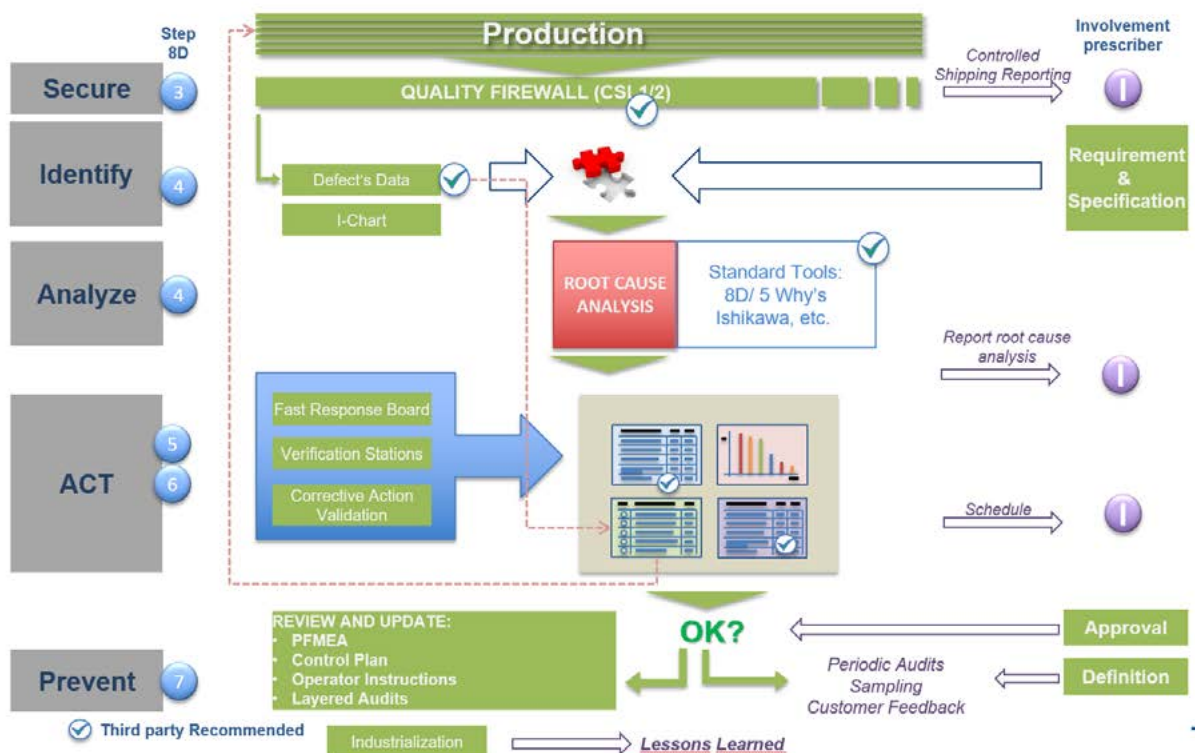


The Escalation Process, a precise methodology

Exit management process



Enhanced Problem Solving and Systemic Implementation





PART 2: THE ESCALATION PROCESS, A CRITICAL PROCEDURE WITH HARD CONSEQUENCES FOR SUPPLIERS

This is a critical procedure with potentially damaging consequences for suppliers:

Reduction of the supplier's score in the bidders' list. The supplier's chances of getting future business from the OEM are reduced. The reduction in the score can be based on the severity of the issue and the supplier's response to it.

- The OEM may also identify **the level of escalation on the supplier's bidders list**. This identification will show the level of issue the supplier faced and how they handled it. This can result in the supplier's image being tarnished, which can affect their reputation and ability to acquire new business.
- In the worst-case scenario, the OEM may **put a hold on new business** with the supplier resulting in the supplier losing a significant amount of business and revenue, as well as a potential loss of reputation and trust among other potential customers.
- The OEM may introduce **controlled shipping**, where requirements must be met before products are shipped resulting in additional costs for the supplier.
- The OEM may involve **a service provider to help the supplier improve its quality or delivery performance** in consulting fees, training and additional staff. These temporarily costs are meant to fix the issue and help avoid further larger losses.
- The OEM may seek **to recover the cost** from the supplier. This can result in a significant financial impact, which can affect their ability to operate.

It is therefore critical that the supplier seek to avoid escalation to ensure the sustainability of its business and relationship with the OEM.

PART 3: HOW TO AVOID AN ESCALATION PROCESS?

To minimize the impact of an escalation, it is important for OEMs to be proactive in addressing potential issues and have contingency plans in place.

Both OEMs and suppliers should monitor the financial stability and health of any project. If a project shows no healthy return of investment, a supplier will sooner or later try to reduce costs, which may in turn impact the product and process quality.

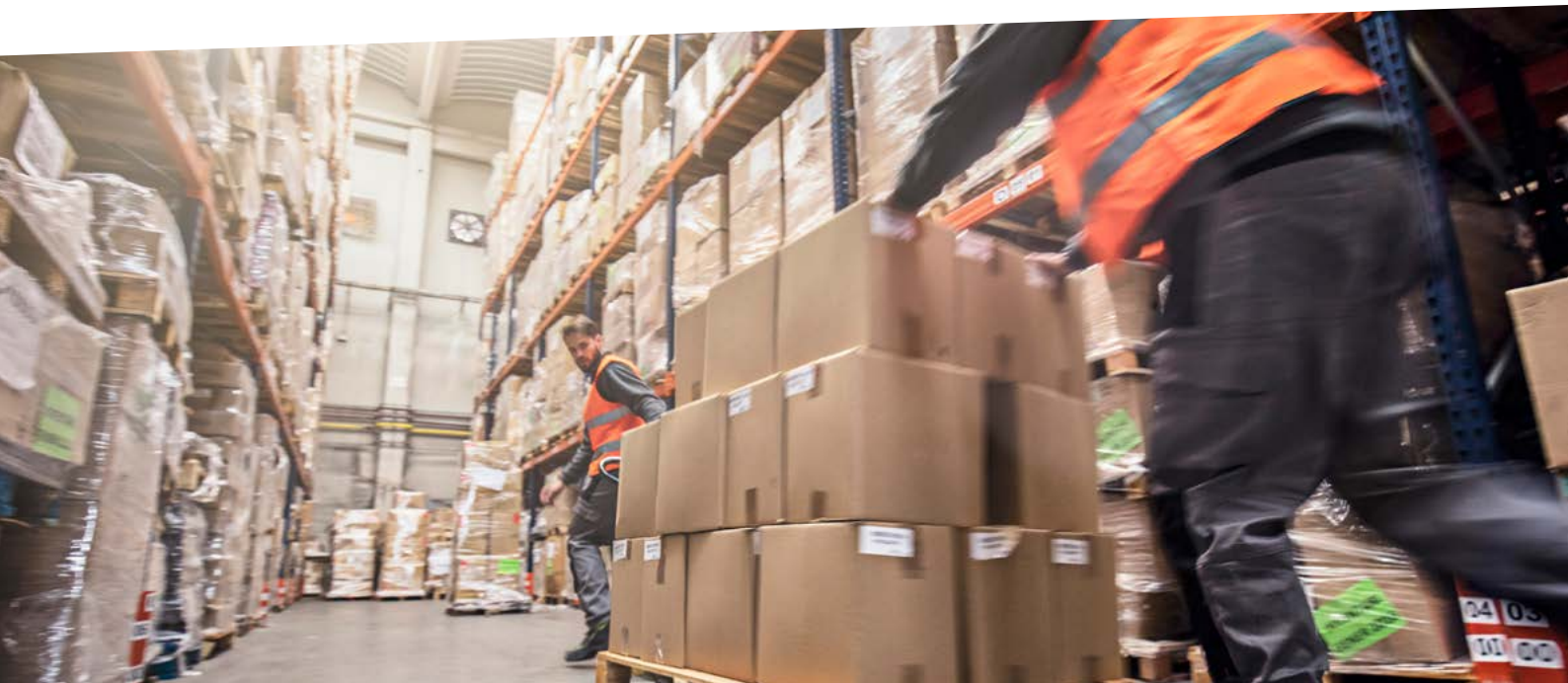
Furthermore, escalation should be avoided through effective communication, quality control measures and a proactive approach to issue resolution.

In Advanced New Product Introduction (NPI) Phases

The advanced NPI phase is crucial, as it sets the stage for the rest of the product's life cycle. The first warning signs to watch for include:

1. **Non-conform delivery in prototype/pilot/pre-production phases:** This is a warning sign that needs to be addressed as soon as possible to avoid quality issues further down the line.
2. **Lack of proper cooperation:** can cause misunderstandings and issues in the project.
3. **Not meeting the deadline of project deliverables:** can result in delays in the project and can lead to further issues down the line.
4. **Repeating delivery issues from the supplier**
5. **Late deliveries and logistic failures:** can cause delays in the project and can lead to additional costs.
6. **Not respecting procedures:** a warning sign that there might be issues with the supplier's operations.

All these warning signs are important to address as soon as possible to avoid further complications.

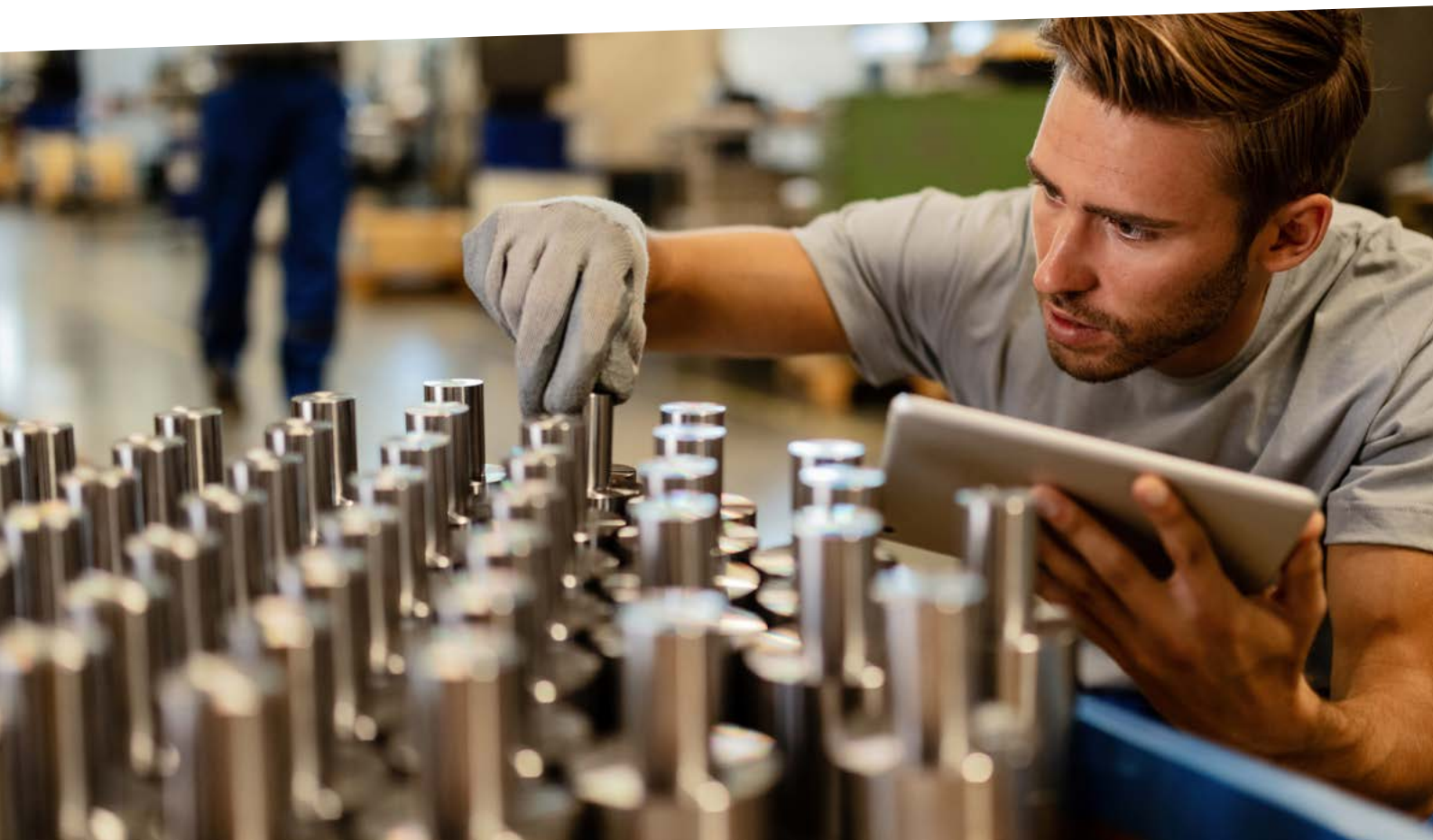


In Serial Phases:

The serial phase addresses the production and delivery of the product. Here also, first warning signs of potential quality issues must be acted upon in order to avoid further problems.

1. **Repeating quality failures/delivering non-conform parts:** Indicates the supplier may have fundamental process issues that need to be addressed immediately.
2. **Delivery/logistic failures causing stock-out/line stoppage:** resulting in additional costs and delays.
3. **Key Performance Indicators (KPIs) not being achieved:** indicate the supplier is not meeting the agreed-upon metrics
4. **Ineffective corrective actions/not fixing issues in time** resulting in delays to address quality issues.
5. **Significant field quality issues/call-back campaign:** resulting in significant costs and reputational damage for the OEM.
6. **Poor responsiveness:** prompt, adequate and professional communication is a key! Therefore identifying key contact persons with authority to communicate quickly with the OEM is essential.

By addressing these issues as soon as possible, the OEM escalation process may be avoided.



PART 4: HOW TO DE-ESCALATE?

When it comes to managing a de-escalation project with a supplier, it's essential to define the exit conditions that signify the project's completion. **Typical exit conditions** may be as follows

1. **Achieving zero defects during controlled shipping level activities**

This is an important metric that measures the effectiveness of the containment measures put in place to prevent the spread of defects in the production process. Achieving zero defects for several consecutive weeks indicates that the root cause of the issue has been identified and corrective actions have been successful in addressing it.

2. **Ensuring that all corrective actions are verified after implementation**

This step is essential to verify that the root cause of the issue has been addressed and that the corrective actions have been effective. However, if an error-proof solution is not feasible, a permanent systemic level control, involving daily verification, audits, training, and other measures, becomes imperative. Additionally, the verification of the corrective action should be systemic and multidisciplinary, encompassing risk assessment, product and process auditing, enhanced control

3. **Ensuring that all corrective actions are institutionalized.**

This step ensures that the issue has been resolved and preventive measures have been implemented to avoid the same issue from happening again. Therefore, lessons should be learned and a new process applied both vertically and horizontally, ensuring its implementation across the entire corporate structure, and for future projects.

To ensure that the project meets the desired standards, it is essential to achieve acceptable assessment scores during the process and/or system audit in order to evaluate its completion.

4. **Ensuring that customers are protected** and that no "O Km" or field issues arise. This exit condition verifies that the product or service delivered meets the customer's requirements.

5. **Ensuring flawless, on-time deliveries.**

This step ensures that the project has been completed on time and within the defined budget, without compromising the quality of the deliverables.

All other task force actions must be closed before the project is considered completed.

It is also important to ensure that all appropriate training sessions have been conducted to equip the team members with the necessary skills to complete the project to deliver the desired results

Finally, it is essential to **verify corporate level risk mitigations and contingency actions**. This step ensures that the project has been completed in a risk-free environment and all necessary measures have been put in place to minimize or avoid risks.

By defining the typical exit conditions for a project, we can ensure that the project has been completed successfully. The exit conditions discussed above are commonly used to evaluate the project's success and ensure that all stakeholders are satisfied with the outcome. By following these exit conditions, OEMs and suppliers can achieve their goals, deliver high-quality results, and ensure their continued success.

PART 5: HOW CAN SERVICE PROVIDERS SUPPORT THE EFFICIENCY OF THE SUPPLY CHAIN?

As a leading service provider, TRIGO plays a pivotal role in enhancing the capabilities of automotive companies through its expertise in Training, Consulting and Comprehensive Task Force Management. In the Training domain, TRIGO offers automotive core quality trainings to equip professionals with essential skills and knowledge required for maintaining and improving product quality. Additionally, the company provides Customer Specific Trainings tailored to meet the unique requirements of individual clients, ensuring their teams are well-prepared to tackle specific challenges.

TRIGO's expertise in Comprehensive Task Force Management, starting with a diagnostic assessment, is where a deep-dive analysis is conducted to identify areas of improvement. Collaborating closely with suppliers, TRIGO sets well-defined targets to drive performance enhancement. The implementation process is executed in a disciplined and systematic manner, supported by a strategic and tactical task list, utilizing standard tools to ensure successful outcomes. TRIGO's comprehensive approach ensures that their clients experience a significant boost in efficiency and quality, both in the immediate context and for future projects.

Benefits of Exit management process



CASE STUDY: THIRD PARTY SUPPORT BY TRIGO ON QUALITY OPERATING SYSTEM AND PROJECT MANAGEMENT

A global Tier 1 supplier to a large global OEM (Original Equipment Manufacturer) was facing quality issues on their CX740 project and quality operating system, leading to escalation with the OEM. They engaged TRIGO Consulting and Engineering teams to provide operational support at their site in Turkey, with the goal of improving their Q1 MSA Score and resolving the problems to meet exit criteria set by the OEM. This OEM and TRIGO had a history of collaborating on supplier escalation and de-escalation efforts.

TRIGO was engaged to improve the supplier's Q1 MSA Score and oversee problem resolution and exit management based on predefined exit criteria.



The collaboration involved coaching and training the supplier. The objectives included achieving a Q1 MSA score above 81 for three consecutive months, implementing a training plan across all levels, improving project management weaknesses, and defining the Quality Operating System (QOS).

First, the diagnostic started with a 5-day diagnostic phase conducted on-site identifying several areas for improvement, including weaknesses in APQP execution, structural problem solving, lack of structured action plans for KPI improvement, and the absence of certain quality practices.

After this first phase of diagnostic, a tracking phase started. The project monitored various tasks, such as APQP training, governance for robust project management, LPA (Layered Process Audits) training and deployment, problem-solving efforts and Q1 MSA audit preparation and implementation.

A specific training was implemented requiring defined training documentation that was developed and delivered as per the plan. Then came a formal closure meeting held between the OEM and supplier to review the current status and confirm that exit criteria were met.

Notable achievements included improvements in project management, 22 training sessions were conducted on various topics, processes deployed, QOS improvement through defined KPIs and action plans, and the successful attainment of an 82 Q1 Score, meeting the OEM's exit criteria.

TRIGO consultants continue to provide monitoring and mentoring to ensure that the implemented improvements remain in place. After reaching the exit criteria, further improvements identified during the diagnostic phase could be implemented to enhance the supplier's processes and quality standards.

Overall, the collaboration between the supplier and TRIGO led to significant improvements in quality management, training, and overall performance, ultimately meeting the set exit criteria and ensuring ongoing quality enhancement.





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Attila is a mechanical engineer with 32 years automotive business experience in the field of supply chain management at OEM and Tier 1 supplier. He has worked in Hungary and as an expat in France and Russia. His activities led him to participate in many cross-functional teams and new product launches, and gained widespread experience in Automotive Purchasing, Logistics, Quality, Supplier Development methodology, core quality tools, and various Customer Specific Requirements.

At an automotive OEM Attila oversaw and managed several purchasing and supplier quality processes and activities. He is a qualified trainer, auditor and senior consultant in numerous automotive quality and operational requirements. Attila is currently responsible for high value-added consulting and engineering services of TRIGO Group. His focus is to provide strategic and operational management solutions for the manufacturing sector, especially in the transportation industries in 25 countries, across 4 continents.