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# SUPPLIER QUALITY ASSURANCE – STEP TO COMPETITIVE ADVANTAGE

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**Abstract:** This paper aims to provide the main directions for the standardization of Suppliers Quality Assurance (SQA) processes. The standardization of such processes is to provide a “same face” to SQA areas, allowing their interaction, exchange of information, adoption of best practices and achievement of better and comparable results, besides the recognition, by global Suppliers point of view, of only one company.

## 1 Introduction

If the company wants to be competitive, it must think about lot of key things [13]. One of the most important is supplier quality assurance, which is confidence in a supplier's ability to deliver a good or service that will satisfy the customer's needs [9]. Achievable through interactive relationship between the customer and the supplier, it aims at ensuring the product's 'fit' to the customer's requirements with little or no adjustment or inspection [11].

## 2 Basics of supplier quality assurance

The US quality guru Joseph Moses Juran divides the supplier quality assurance process into nine steps [8], [9], [10]:

1. definition of the product's quality requirements,
2. evaluation of alternative suppliers,
3. selection of the most appropriate supplier,
4. conduction of joint quality planning,
5. cooperation during relationship period,
6. validation of conformance to requirements,
7. certification of qualified suppliers,
8. conduction of quality improvement plans,
9. creation and use of supplier ratings.

The Suppliers Quality Assurance processes are designed to promote the management of the quality of outsourced raw materials/components, since their initial qualification until their final performance at Customers and in the field. These processes are four [5], [6], [7]:

1. item/supplier certification,
2. item/supplier quality monitoring,
3. corrective action,
4. suppliers quality improvement.

Suppliers Quality Assurance process is shown in figure 1 [8].

The Suppliers Quality Assurance processes must be aligned with the company strategies, serving as a support to the achievement of established targets and measured through defined Key Performance Indicators (KPIs). Such processes shall be sustainable and flexible, since changes might be introduced anytime due to a changing environment [6].

Changes in processes usually require adaptations in culture and behaviours or, in other words, changes in the mind set. This interconnection is shown in figure 2 [2].

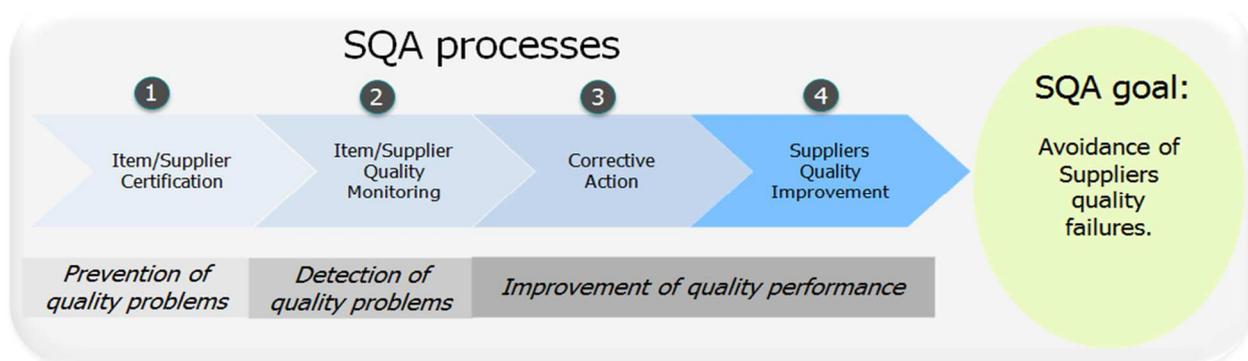


Figure 1 Suppliers Quality Assurance process [8]

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Figure 2 Interconnection in SQA process [2]

The effectiveness of how Suppliers Quality Assurance processes are being operated and providing expected results must be regularly questioned and checked, through a suitable governance, and changes introduced, as necessary, in order to promote their continuous improvement. The cycle (Figure 3) represents, on a simplified way, how this might be carried out [3], [4], [5].

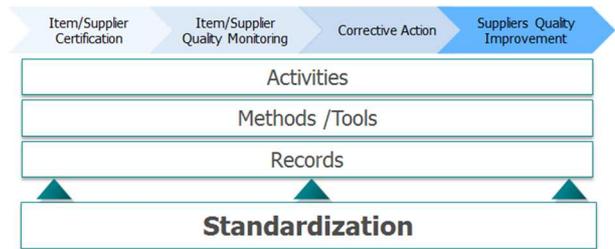


Figure 4 Area of SQA processes [3]

**3 Operation of supplier quality assurance**

SQA Processes are composed by activities, supported by standard tools, methods and records, which must be properly standardized and accomplished by all company’s Suppliers Quality Assurance areas of every site. This is shown in Fig. 4.

These processes and related activities must serve to [1], [2], [3], [4]:

1. prevent the occurrence of quality related nonconformities,
2. treat quality excursions of supplied raw materials/components to avoid recurrence,
3. promote the continuous quality improvement of such materials,
4. monitor and report to Organization the Suppliers quality performance,
5. allow comparisons of suppliers’ base quality performance among sites.

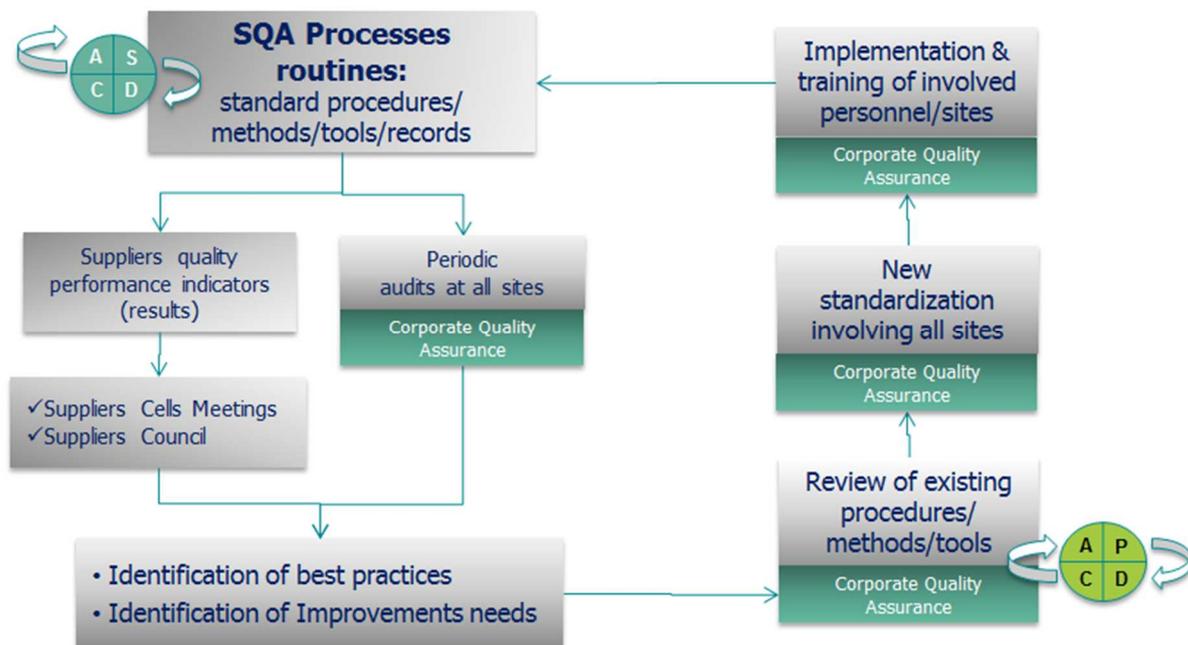


Figure 3 Suppliers Quality Assurance process [5]

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When we want to evaluate SQA process, we have to go back to the figure 1, which consists of 4 basic processes, which have to be evaluated separately [12].

**3.1 Step 1 – Item/Supplier Certifications**

Item/Supplier Certifications is a process conducted by SQA as a support to Procurement area, aiming to get robustness in every approved supplier certification step and to promote the acquisition of knowledge about Suppliers manufacturing processes.

Figure 5 depicts the involved activities, standard tools and process indicators related to the Item/Supplier Certification process.



Figure 5 Suppliers Quality Assurance process – step 1 [12]

**3.2 Step 2 – Item/Supplier Quality Monitoring**

Item/Supplier Quality Monitoring (Figure 6) aims to check, on a continuous basis, the quality performance of supplied items and respective Suppliers as a whole, generating Key Performance Indicators and scores, as well as essential information to fix undesired results, to identify/prevent potential failures and to provide evidences to support decisions related to the supplier’s base.

The defined activities above are applied to provide clear evidences about the quality performance of supplied items/Suppliers and to prevent quality excursions.

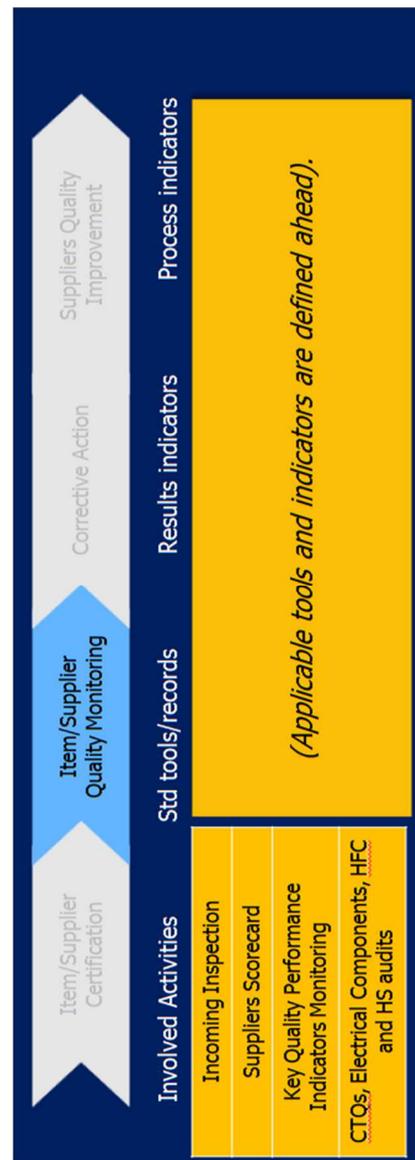


Figure 6 Suppliers Quality Assurance process– step 2 [12]

**3.3 Step 3 – Corrective Action**

Corrective Action (Figure 7) is a process having a single activity (“Corrective Action”) which aims, through

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involved suppliers plus internal resources, the identification of the root causes of anomalies presented by purchased raw materials/ components and the promotion of improvement actions over such causes in order to avoid recurrence.

The Corrective Action activity has to use standardized methodology to be applied by the involved suppliers, which results have to be submitted and validated by company’s team.

**3.4 Step 4 – Suppliers Quality Improvement**

Suppliers Quality Improvement (Figure 8) has to promote the continuous improvement of the quality of supplied items/Suppliers, measured through the quality performance indicators (KPIs). These indicators have to show positive trend along the time, in order to demonstrate that implemented improvements are effective.



Figure 7 Suppliers Quality Assurance process– step 3 [12]

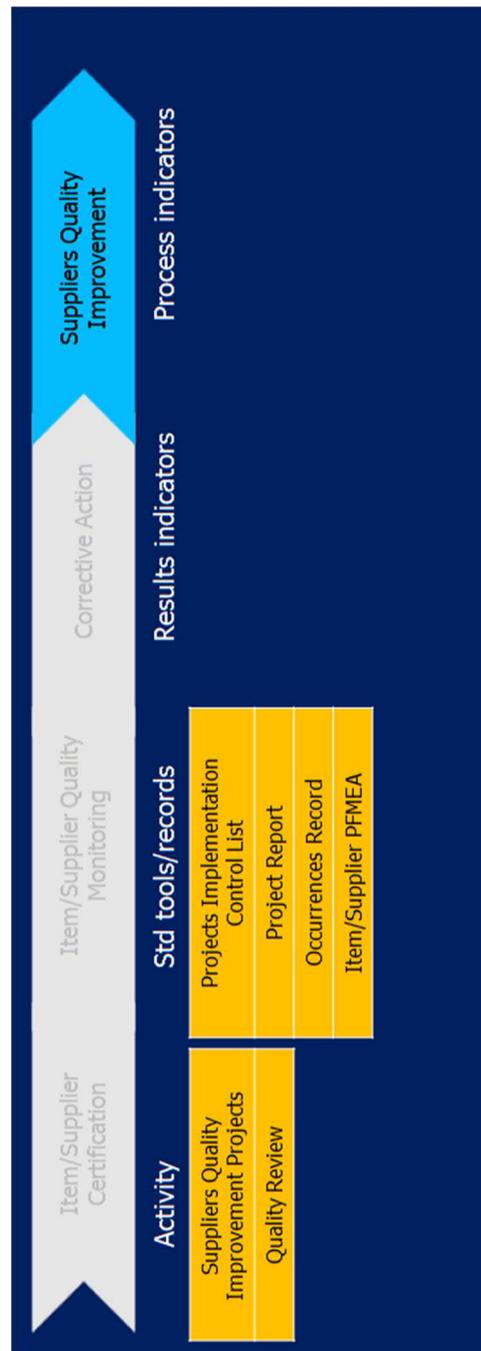


Figure 8 Suppliers Quality Assurance process– step 4 [12]

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**Conclusion**

For quality assurance purposes, intensive collaboration is required between the company and its suppliers to establish a suitable evaluation process based on an objective appraisal of quality capability and quality performance. This may range from initial sample inspection to quality appraisal of parts from series production. [1], [5], [8]

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**Review process**

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