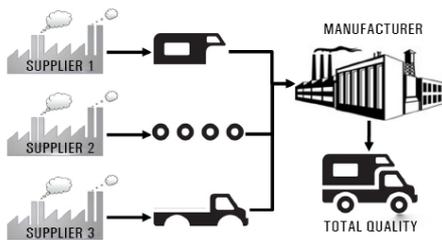




## Integration of Supplier Quality Information

Manufacturers have to face a tough competitive situation, an increasing number of product variants and quite often reduced product life cycles. Due to these facts, they start to focus on their core competences and reduce their own depth of added value. They are able to compensate this new trend by moving the focus of the added value chain from manufacturer to supplier who, instead of just being a classical supplier, becomes more and more an expert on components and systems. Numerous product recalls show the importance of having supplier quality information available in time and of integrating them into the QM system. It becomes even more important to have a transparent quality



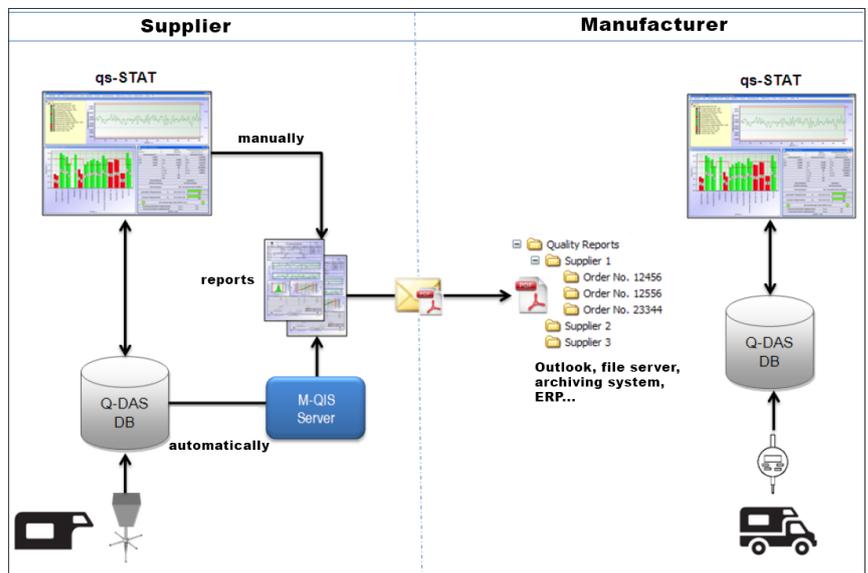
status of all upstream processes in order to be able to react to variations in quality in time and to investigate the causes of these variations. The responsibility for supplied parts and components is closely associated with traceability.

This article shows different approaches illustrating how Q-DAS supports you in designing a comprehensive quality information system even including supplier quality information. Each approach has a different level of integration and is based on different Q-DAS licenses.

### Approach A: Sending Reports Including Quality Information

This approach is based on a simple integration of supplier quality information. Quality information is documented by sending qs-STAT reports manually or automatically by email. Supplier and manufacturer do not need to have a common database.

The Q-DAS software required for this solution is installed independently at the supplier and at the manufacturer. You only exchange information by using reports. The supplier has data sovereignty (inspection planning, data management, evaluation ...) and thus needs the respective Q-DAS licenses. The required kind and number of Q-DAS licenses depends on the desired level of automation and the respective type of quality data recording.

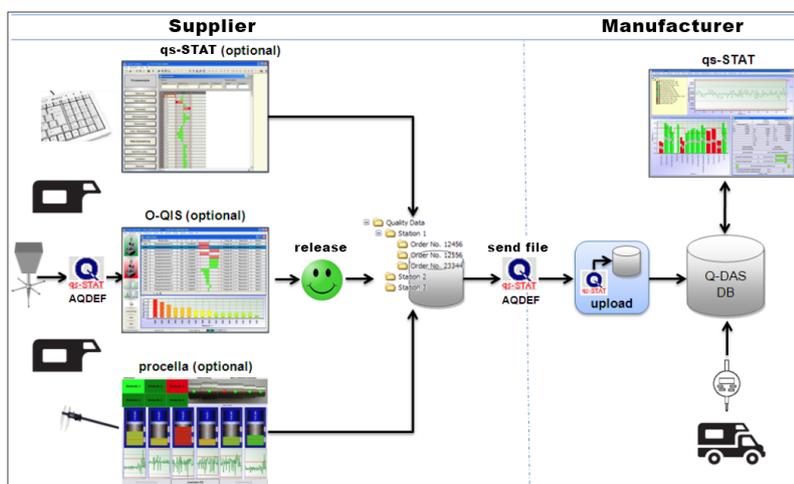


### Approach B: Transferring Data between Supplier and Manufacturer

This approach is a first expansion state of approach A. The exchange of quality information between supplier and manufacturer is based on the recorded test data (raw values) that the supplier provides to the manufacturer for evaluation purposes.

In consultation with the manufacturer, the supplier is responsible for inspection planning, quality data

recording and measuring programs. He stores the data and provides the test data to the manufacturer, who can now evaluate them in qs-STAT, at regular intervals.



This approach, however, is only feasible when both companies have a uniform and common data format. AQDEF (Automotive Quality Data Exchange Format; specification according to the Q-DAS ASCII transfer format) forms a solid basis.

Due to a cyclical exchange of data, supplier and manufacturer do not need a permanent data connection;

however, both parties should have a common concept of data management.

Depending on how the supplier records quality data, he will not need any Q-DAS licenses. Many measuring instruments and SPC systems support the AQDEF format. Only the manufacturer has to purchase the respective Q-DAS licenses in order to record test data, save them in the AQDEF format and evaluate them later.

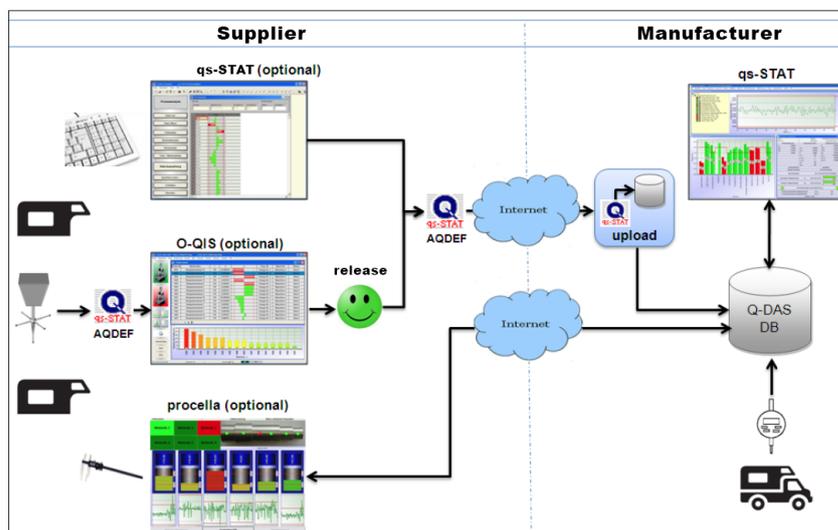
## ● Approach C: Exchanging Data between Supplier and Manufacturer in Real Time

This approach is about an increased integration. The manufacturer is exclusively responsible for inspection planning and data management. The supplier can access his test plans online or is able to save the recorded test data directly in the manufacturer's database.

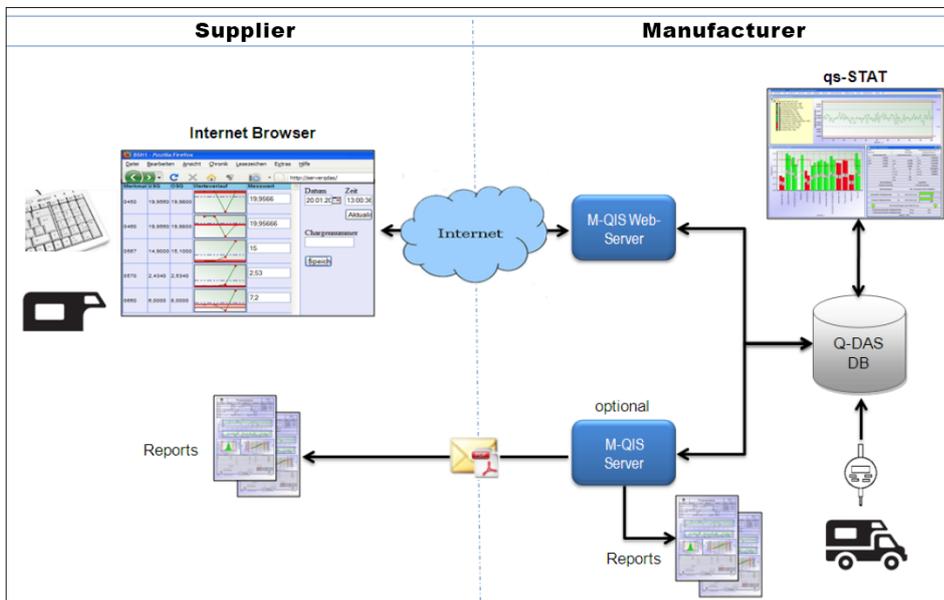
Since the supplier accesses the manufacturer's database directly, a stable and permanent data connection between both companies is required. Immediately

after the supplier recorded test data, these data are available in the manufacturer's database and the manufacturer may evaluate them at once. Moreover, the supplier can also use a terminal server connection to work directly with the manufacturer's system. This solution is recommended to suppliers who often transfer data to the manufacturer.

Depending on how the supplier records test data, he will need respective Q-DAS licenses. The manufacturer has to purchase the respective Q-DAS licenses, too, for evaluations and central data management.



## Approach D: Recording Data Based on a Web Application



This solution is recommended to suppliers who deliver parts and components only occasionally to the manufacturer and thus do not deal with a huge amount of data or frequent reports.

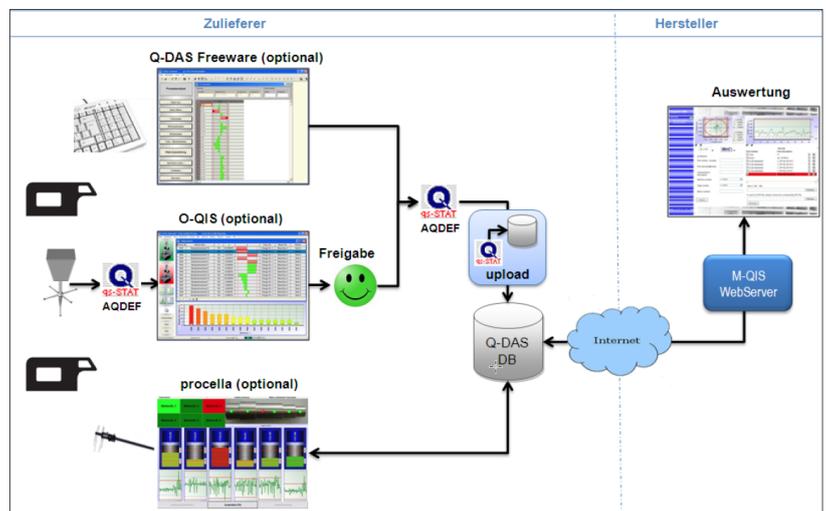
The manufacturer is responsible for inspection planning and data management. He provides the supplier with login data granting him access to a protected area in a web application.

The supplier uses this web application to load test plans and record data manually. The application saves the data immediately to the manufacturer's database where qs-STAT can evaluate them. You may configure the graphical user interface of the web application individually. The supplier cannot only input data but is also able to display some qs-STAT graphics. This solution for small amounts of data requires a stable and permanent data connection between manufacturer and supplier, at least while data are being recorded. The supplier does not need any Q-DAS licenses. Only the supplier needs qs-STAT and M-QIS (Management Quality Information System) since M-QIS is able to generate a report of evaluation results and, if necessary, sends it automatically to the supplier.

## Approach E: Using a Web Application for Evaluations

The main difference of this approach compared to the other ones is that the supplier is responsible for the entire management of data. The manufacturer only accesses the supplier's system occasionally for evaluations.

The supplier is in charge of inspection planning and a well-structured data management. As usual, you may record test data manually, via serial interface or from measuring instruments and SPC systems. The AQDEF format once again provides the basis for central data management. The manufacturer accesses the supplier's database for evaluation purposes by using a web application. An appropriate user management /respective activation keys are required to ensure protected access to the supplier's quality information. Since there is no permanent transfer of data between both companies, you do not need a permanent internet connection.





As the supplier is responsible for the system, he needs some Q-DAS licenses depending on the respective expansion stage. In addition, the supplier has to grant the manufacturer access to his web application.



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