

Q-DAS PROJECT WORKSHOP

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Guidance on the implementation of a successful Q-DAS CAMERA Concept

The Q-DAS CAMERA Concept considers your individual system architecture for the application of a standard software solution.

The first step towards the implementation of the Q-DAS CAMERA Concept is thoughtful planning. The software has to cover the available structure of manufacturing sequences and map it correctly. Manufacturing sequences include workflows, machines, processes and lines but even more detailed information such as product, batch and order. Only when the software is able to represent the production as accurately as possible, you can make flexible and well-structured evaluations of quality data. Moreover, the software has to reflect organisational aspects such as shifts and teams but also roles and responsibilities of privileged users. You also have to embed the software smoothly in your existing IT landscape since all kinds of data sources, such as measuring equipment, and even third-party software solutions, e.g. ERP, SAP, CAQ and MES, shall become part of the information flow. Finally, you have to define the technical aspects of the implementation and the time required to complete the project.

Experienced Q-DAS project engineers apply different tools to gather and structure these individual requirements. They advise you on a possible approach and develop comprehensive solutions in project workshop. Later, they support you in implementing the project.

FIRST STEP - DEFINING THE CURRENT SITUATION

A Q-DAS employee visits you on site to collect information and get an overview of the current situation, even before the workshop starts. In most cases, this is also the time when the Q-DAS sales team passes the project to the system integration team. You document detailed information about the production process and collect data about workflows, lines and machines. The system integration team compiles information about measuring equipment relevant to the project and associated test plans, in case the sales team has not done it before. The project engineer explains to you which connections are possible. He collects data about the location and connection of measuring equipment, serial interfaces and the output formats of in-line and coordinate measuring machines. This helps to find out whether the equipment is able to provide data in the Q-DAS format or whether you need a Q-DAS converter to convert the respective measurement protocol to the Q-DAS data format. Such a converter, however, will be specified later on.

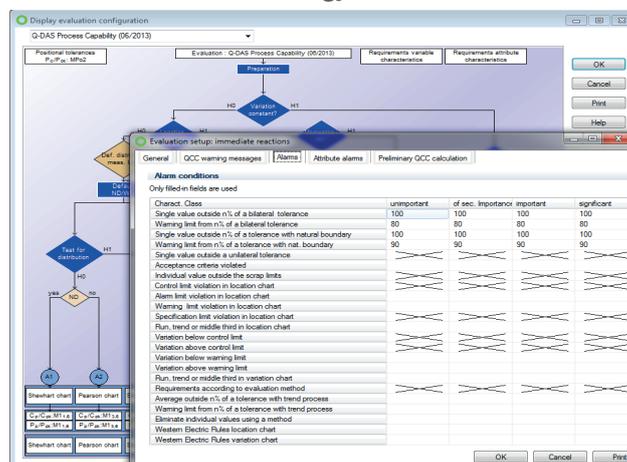
The next step is a meeting on the integration into the available IT landscape. The Q-DAS engineer and you determine the suitable **Q-DAS installation type**, which exclusions you might need, the operating and server systems to be applied, the appropriate **database management system** and last but not least the **third-party systems** to be connected to the Q-DAS architecture. Typical third-party systems are ERP-systems – especially SAP – CAQ, MES or the connection of a PLC. You try to identify which information they can provide in which format and which kind of data the Q-DAS system might have to provide to these third-party systems.

All in all, this is an important step to define the project. It helps the Q-DAS project engineer to get an insight into your production environment, to define the project scope and to develop solutions together with you.

SECOND STEP - DEFINING TARGETS

After having an overview of the current situation, the project engineer collects detailed information about respective targets and associated requirements. When defining targets, all parties concerned should ideally be present, e.g. quality management, production and IT. The following topics are at least discussed:

- **(1) Evaluation:** Which studies do you want to conduct, which kind of statistical evaluation do you need and which information do you require? A critical aspect is also the alarm definition of statistical process control.
 - All specifications and requirements become part of the **Q-DAS evaluation strategy**.



- **(2) Reports:** What do reports look like, which information shall they contain and who has to create and receive them?
 - All specifications and requirements become part of the Q-DAS reporting matrix determining the required configuration and design of an automated reporting system. The following questions help to collect the required information about the reporting job and define it completely.

Why?	
	Control cycle
	Reporting level
	Report description
Who	... shall receive the information?
How	... do you want to send the reports?
	... often do you generate reports (interval)?

When

- do you want to generate reports / information?
- Time?

Which data

- ... from the database (*.udl)?
- ... do you want to analyse?
- Filter K-fields?
- Reason for test?
- Time?
- ... do you use for data compression?
- How do you want to compress them?
- How do you want to sort them?
- ... need to be modified?
- ... shall be filtered out/isolated?

Which statistics

- ... do you want to display?
- How do you want to display them?
- ... are calculated based on which method?
- ... from which module?

Which illustration

- Reference to parts / characteristics
- Graphics
- Charts
- All characteristics / evaluation result n.o.k.

- **(3) Visualisation:** Which information does the software show to the user, especially while recording data, e.g. value chart or quality control chart?
 - All specifications and requirements become part of the Q-QIS or procella configuration but even of the configuration of other products that you might apply.



In case the Q-DAS software procella for data recording is part of the project, you also define how to open test plans. You may either open them by using specific buttons, a barcode scanner or third-party software (e.g. MES) opening procella by means of a call parameter and loading the test plan. You also specify when and which additional data the software requests.

- **(4) Data management:** Which information do you want to record; how do you adjust the selection criteria and database structure (Q-DAS K-fields) accordingly? This sometimes requires an extended output of the CMM or third-party software and an adapted test plan. Q-DAS and you create a K-field list serving as an input for adapting measurement routines or the output of third-party systems. Q-DAS checks the correctness of the output; the software subsequently provides possible responses. Even descriptions of different kinds of information might vary from customer to customer and this fact must also be considered in the **Q-DAS text database**.
 - All specifications and requirements become part of the Q-DAS K-field list.

Workshop: CAMERA Concept

Project: SPC standardisation

K-field	Type	Field description Q-DAS	Field description customer	Remarks / K-fields upload	Example
K0100		Total no. of characteristics in file			
Part data					
K1001	A30	Part number	Material number	K-field upload; 11-digit no.	31901120000
K1002	A80	Part description	Material description		Engine case
K1004	A20	Part amendment status		K-field upload; to ... date"	to 2011-08-10
K1086	A40	Work cycle / operation		K-field upload	Remould
K1900	A255	Remark		Only applied in procella test plans	

- **(5) Hardware/software specifications:** You define the IT requirements applying to the criteria mentioned above. It mainly concerns hardware performance, data volume, the software and its configuration (Q-DAS products, third-party products, databases). You also define roles and responsibilities of users and discuss the basic configuration of different Q-DAS components. First of all, it is about the Q-DAS Upload collecting, processing and writing data to the database, the Q-DAS installation scheme (server/client, offline, terminal server solutions, etc.), catalogues and input screen masks. The contents of this process have already been discussed under **(4) database management**. Finally, Q-DAS engineers test the architecture and the data flow.

- **(6) Training:** Last but not least you frame a training concept together with the customer. It varies depending on the respective requirements – from individual training of single users or general introductions to standard methodological or software training to “key user training” for power users with a high level of responsibility for the Q-DAS software. Q-DAS key users perform administrative tasks and are typically the main contact persons in case of internal requests.

THIRD STEP – COMPLETING THE PROJECT DEFINITION

After all targets have been defined, you start a successful rollout of the Q-DAS CAMERA Concept. The planning in terms of time and content is completed and can be communicated to all employees concerned. A reasonable and typical course of action starts with the implementation of the database. Afterwards, you focus on all data recording channels to ensure that all incoming data have a maximum of authenticity, integrity and completeness in the end. The next steps focus on the classical products performing specific studies. When you reach a high degree of perfection and maturity for the recording and evaluation of data, the reporting system takes major priority. Based on this system, you may create and use various dashboards or web functionalities.



Ensure that all incoming data have a maximum of authenticity, integrity and completeness..

Eventually, this straightforward approach of the project workshop supports a successful implementation of the Q-DAS CAMERA Concept.

Interested in this topic?

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