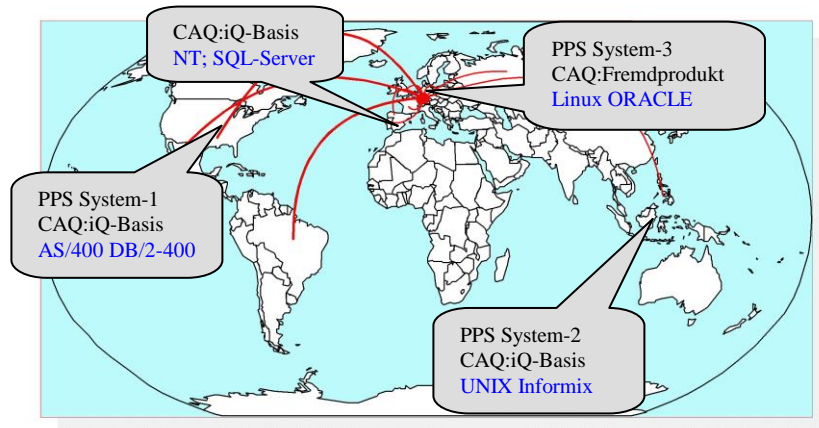# Global Quality Information

iQ Basis

Quality assurance has gone beyond the scope of quality departments. **Large scale enterprises** ask for a unified CAQ-system over all sites anywhere in the world.

We have to accept a **heterogeneous IT-environment, different ERP-Systems** as well as legacy CAQ-Systems, which have to be integrated into a total concept. The iQ-GQI module (Global Quality Information) meets these diversified requirements.

It provides comprehensive information that can be used to make strategical and operative quality management decisions from the executive board down to the operating departments all over the world. The mass of quality data is restricted for evaluation purpose.

CAQ:iQ-Basis
NT; SQL-Server

PPS System-3
CAQ:Fremdprodukt
Linux ORACLE

PPS System-1
CAQ:iQ-Basis
AS/400 DB/2-400

PPS System-2
CAQ:iQ-Basis
UNIX Informix

From the point of view of the Quality Management the hierarchy of a company is:
- Machine operator:
  Controlling and monitoring of **stable technical processes**
- Quality department:
  Systematical deviations of processes, assessment of bought-in parts, state-oriented maintenance
- Site level:
  Assessment of the supplier's quality, PPM rate of the own products at the customer, internal and external audits, quality planning (**APQP, PPAP, FMEA** etc).
- Business area:
  Exchange of **quality experiences** between sites, overlapping quality management of sites, transfer of production processes including all quality information
- Company:
  Assessment of suppliers for all sites, central **quality level from the point of view of all customers,** comprehensive **investments** to improve the quality

Requirements to a Global Management System
- Integration of all quality information from sites all over the world, with **different ERP and CAQ** systems
- Acquisition of quality data from **various IT systems** (e.g. database server with ORACLE, Informix, DB/400, MS SQL server etc. and operating systems like all MS systems, Unix, OS/400 etc.)
- **Cooperation with other CAQ** systems on a least common denominator basis (supplier's quality, own production, customer complaints)

- Registration of production data (item, production date, supplied quantity)

Need for Technical Information and Exchange between Sites
- Which site is responsible for supplier A, what are the results of the last audits?
- How is their **delivery** and **quantity reliability**, service, price flexibility regarding goods and product groups?
- How is their **quality of services**, initial samples, zero series, handling of complaints, documentation?
- How many customer complaints worldwide have been caused by supplier A, what are the costs caused by his defect parts?
- Consequences for the supplier when falling below the quality targets
- Problems in site A with the initiation of a new process that shall also be established by site B
- Maintenance and repair costs for similar machines
- **Quality of gauges** of a certain manufacturer

Strategical Requirement of Quality Information on Enterprise Level
- How is our quality from the point of view of a customer on **average over all sites?**
- Which is the **site delivering the worst quality?**
- How is our view according to the customer?
- What are our service problems?

Processing of Quality Data
Quality data originate on the lowest level
- Original values by measuring
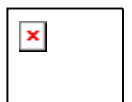
- Attributive failure indication
- Quantity of rejected parts
- Process interruptions, machine breakdowns etc.

These data are to be compressed for the next higher levels (site, enterprise)
- cpk values, mean value over days, weeks
- **Monthly statistical reports** about rejected parts, ppm specification
- Item-spanned failure statistics for the same or similar processes
- Key quality data of a supplier (monthly/yearly)
- **Monthly costs** due to machine breakdowns

In **iQ-GQI data cumulation** is done using very **simple algorithms.** The data are stored in simple structures that can be defined by the user, e.g. for monthly statistics:
- Delivered quantities, mounted quantities
- Number of supplies**, supplies with special releases**
- Complaints from goods received, production, customer, 0 km, field

Because of the simplicity of the used structures the evaluation can be generated easily. The performance for the generation of a report is optimal.

Data Extraction
- All data relevant for the evaluation is **extracted from the operative level**, e.g. from a customer complaint
- At least **20 key fields** are available for selection (time frame, customer, group of materials, site etc.)
- Statistical evaluations (cumulation of quantity, fields, counting events, mean, minimum, maximum values etc.)

iQ-GQI is capable to correct the compressed data if it has been changed or deleted on the operative level.
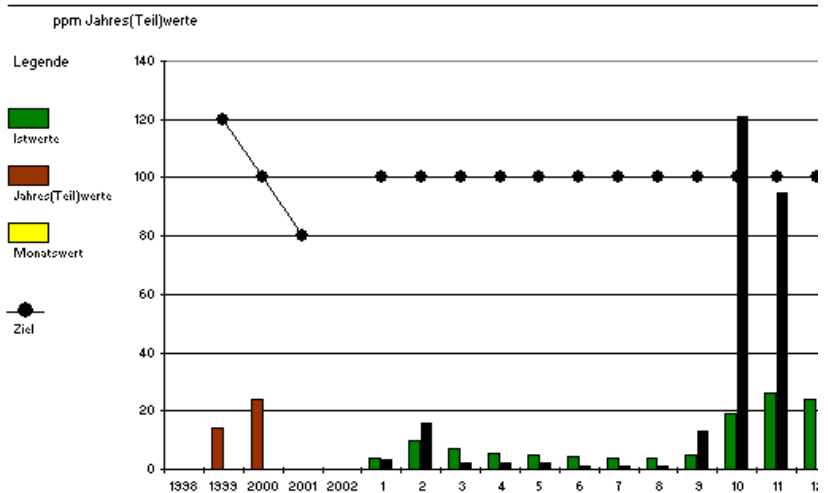
Evaluations
Evaluation can be created using **popular systems like EXCEL, Crystal,** and Business Objects. The user can add his user-defined reports to iQ-Basis.
AHP constantly adds new evaluations.
The example shows a ppm failure rate for purchased parts of a site. The first three years are gathered yearly

ppm Failure Rate for Purchased Parts (against Suppliers)
Site Evaluation

and the year 2000 monthly. Target values can be set by the user.