+ Qualicision

Qualicision Sequencing optimises your production sequences

Software for optimal KPI-oriented production control

Qualicision Sequencing is a solution developed by PSI FLS Fuzzy Logik & Neuro Systeme for optimising line production. The optimisation covers the areas of weekly planning, day-to-day or shift planning, control and simulation. Through multicriteria optimisation, in each of these applications, Qualicision Sequencing provides a balanced sequence based on product characteristics and workloads supporting an optimal and failure-free production throughput. The automated KPI calculation makes the advantages of Qualicision Sequencing measurable and transparent.
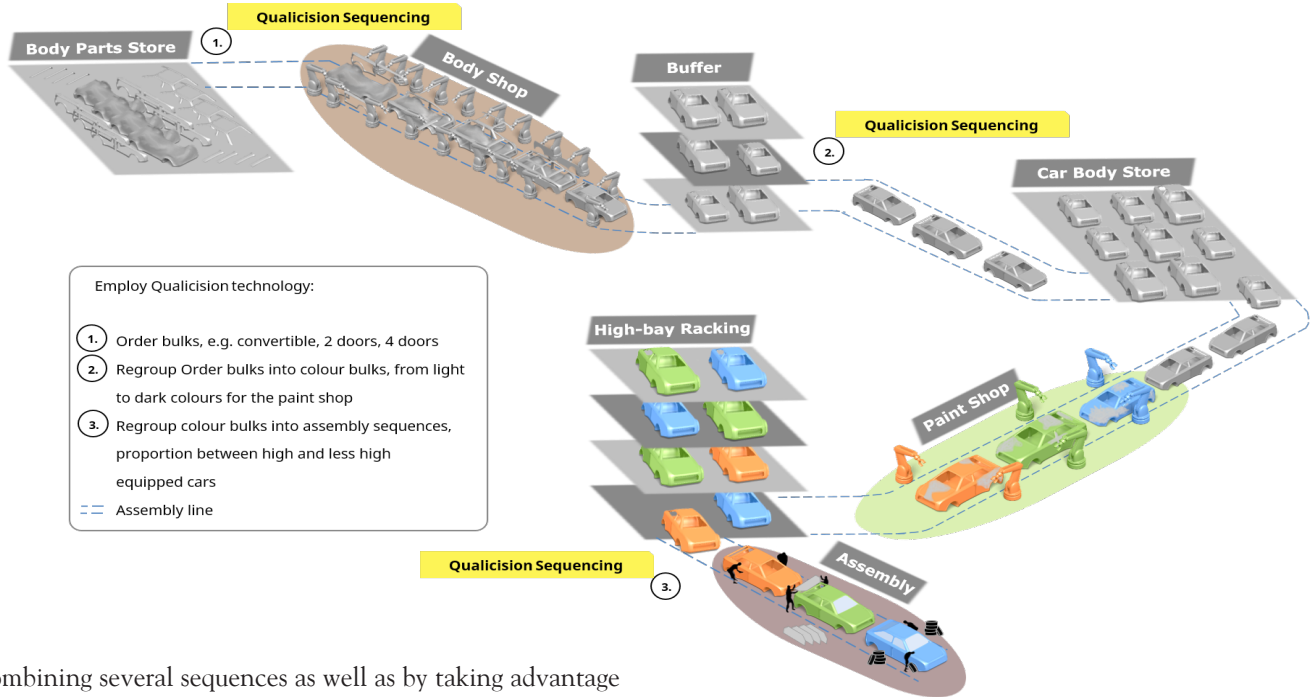
Planning with Qualicison Sequencing

Qualicision Sequencing generates balanced weekly packages, the basis for JIS/JIT requests to suppliers. It also specifies precise daily volumes in order to facilitate, for example, the starting period with model changes. The weekly package can be fixed on a daily basis to allow for changes of equipment features and thus react with high flexibility to changing customer requirements. Qualicision Sequencing optimises upstream production areas by

PSI

FLS Fuzzy Logik & Neuro Systeme GmbH

Qualicision Sequencing

Body Parts Store 1.

Body Shop

Buffer

Qualicision Sequencing 2.

Car Body Store

High-bay Racking

Paint Shop

Employ Qualicision technology:

1. Order bulks, e.g. convertible, 2 doors, 4 doors
2. Regroup Order bulks into colour bulks, from light to dark colours for the paint shop
3. Regroup colour bulks into assembly sequences, proportion between high and less high equipped cars
   -- Assembly line

Qualicision Sequencing 3.

Assembly
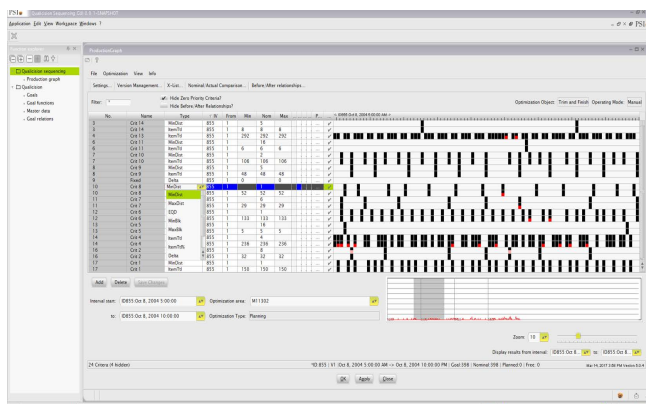
combining several sequences as well as by taking advantage of intermediary buffers. In the car production, for instance, the assembly sequence serves as a basis for further paint shop and body shop sequence corresponding to their own area-specific optimisation criteria (e.g., color bulks). If necessary, a certain day or shift of weekly packages can be re-planned in order to compensate short-term disruptions (e.g., supply bottlenecks).

Control with Qualicison Sequencing

During the production phase Qualicision Sequencing controls the actual assembly sequence based on the planning requirements and reality. This allows automated response to immediate disruptions by re-sequencing in real-time, taking into account the changed general conditions. Qualicision

Sequencing makes sure that at all times any technical restrictions are adhered to, also in the event of a disruption, and that an optimal throughput is achieved while avoiding utilisation peaks.

Simulation with Qualicison Sequencing

Based on the current production situation it is possible to simulate the production control system. This can be done manually to verify changes to the optimisation criteria or the impact of time-limited order locks. The resulting sequences are assessed KPI-orientedly and are thus comparable. For manual simulation, Qualicision Sequencing provides stationary and mobile apps. Within the scope of KPI-oriented online

monitoring, Qualicision Sequencing offers a cyclical simulation feature. Running in the background it provides the user at any time future prospects on the upcoming KPI values. This enables the user to act proactively in the event of production disruptions rather than to react later.