Implementation of logistic aggregation with GS1 standards

**Receiving Sales Order**
- CRM - Customer Relationship Management
  - Client information
  - Order number
  - Shipping information...

**Order’s Creation**
- ERP - Enterprise Resource Planning
  - Unique identifiers reservation
  - Production orders

**Production Need’s Analysis**
- MES - Manufacturing Execution System
  - Unique identifiers reservation
  - Production orders

**Supply to the Logistics Platform**
- WMS - Warehouse Management System
  - Commissioning serial numbers

**Batch Release to Market**
- LIMS - Laboratory Information Management System
  - Commissioning serial numbers

**Order Picking**
- WMS - Warehouse Management System
  - Packing list
  - Transport documents
  - Aggregation information and shipping message

**Shipping and Final Delivery**
- Regulatory database
- EPCIS: Electronic Product Code Information Service

### Aggregation recording
- Serialised boxes
- Serialised cases
- Serialised pallets

### Observations for 1 packaging line

**Performance**
- Serialisation: no loss of performance (Change in software, cameras and print modules)
- Aggregation: performance loss (1 sec per cycle dedicated to controlling and recording serial numbers)

**Rejection rate**
- Increased, due to new eject modules for aggregation and verification of serial numbers for serialisation

**Cost impact**
- +300 k€ (aggregation vs serialisation)

**Traceability / Logistics Optimisation**
- Improved (return/recall)

**Implementation time**
- 6 months (for serialisation and aggregation)