

# CHRONOS SYSTEMS SOLUTIONS



**CHRONOS**  
systems

## Track and Traceability



Chronos Systems completed a bespoke manufacturing application development project for an automotive manufacturer to trace the production of their products.

### BUSINESS OBJECTIVES OF THE PROJECT

The business objective of the project was to track as precisely as possible, which components are being built into a certain product.

If the supplier reports a quality issue, using this system it is possible to determine which product might be involved. It should be possible to revoke this product due to the quality defect.

### System architecture

The overall system architecture is based on **J2EE** standard, using JSP, JDBC, JNDI and servlets technology.

Data conversions are implemented in perl scripts.

### Data flow

Production data are collected in XML format on different measurement points on different

conveyors and converted into the Oracle database on a daily basis.

### Reporting

Authorized users are able to access **static** and parameterized reports like:

- Production/Component history
- Model report
- Search product by built-in components
- Search built in components by product

**Dynamic reports** can be generated and stored by the user. Each report can be downloaded in **Excel** format.

### User interactions

Users are able to interact into the production process by providing the following data through a web form:

- Distrains
- Disposed components
- Upload new components

The above inputs are loaded back to the manufacturing system in **XML** format.

### Operational Environment

**Operating system:** Windows 2000 Server + SP3

**Application server:** Oracle 9iAS

**Java Runtime:** j2sdk-1\_3\_1

**Database engine:** Oracle 9i

**LDAP server:** Sun iPlanet Directory Server

**Browser compatibility:** Internet Explorer 5.5 and above

### User/group management

The system is integrated with the corporate LDAP directory; users, access rights are managed in a centralized place.

### Language translations

The application is language independent, all text, error messages, labels are stored in XML files. Language translation of the entire application requires no programming interaction; the administrator user can do it.

### Data migration

Migrating of the existing production data from **POSTGRES SQL** into Oracle DB was also in scope of the project.