

Enhancing Quality in Powertrain Manufacturing through advanced digital Feature & Tolerance Management

Automotive Manufacturers want better quality at reduced production costs. Achieving this objective in Powertrain context needs tight control on Part tolerances, along with flexible Feature Management that enables optimization of Powertrain Manufacturing line. CAMELEAN/PT is an effective collaborative solution that helps automotive manufacturers to plan & manage the Geometric Dimensioning & Tolerance Control as an integrated part of the Powertrain Manufacturing Process Plan. CAMELEAN/PT is a central repository for designing, controlling & managing parts and their features and sharing such information across the global enterprise. By using Part Templates to enforce accountability and by linking each such detail within the overall Manufacturing Process Plan context, Automotive Manufacturers can deliver consistent quality on a repeatable basis.

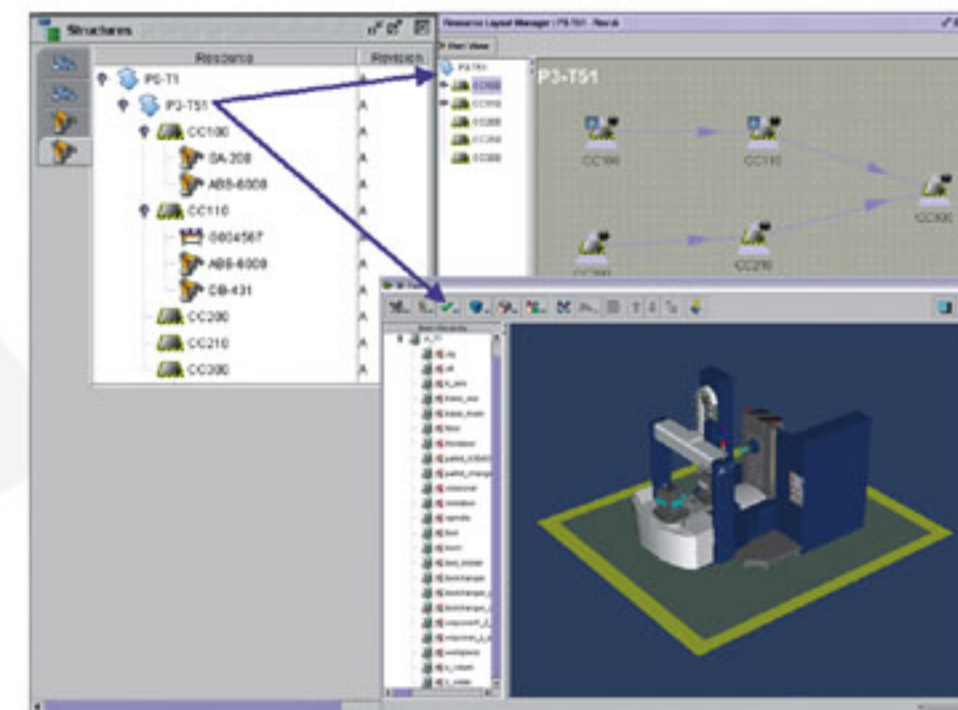
In-Process Detailing

- Define Machining, Inspection Process Plans for a feature
- Define in-process part modeling based on stock removal
- Define in-process tolerances for easy in-context design of setup fixtures and gauges
- Attach and configure template process for each feature
- Analyze Design for Manufacturability anytime with tolerance dimensions for tooling requirements



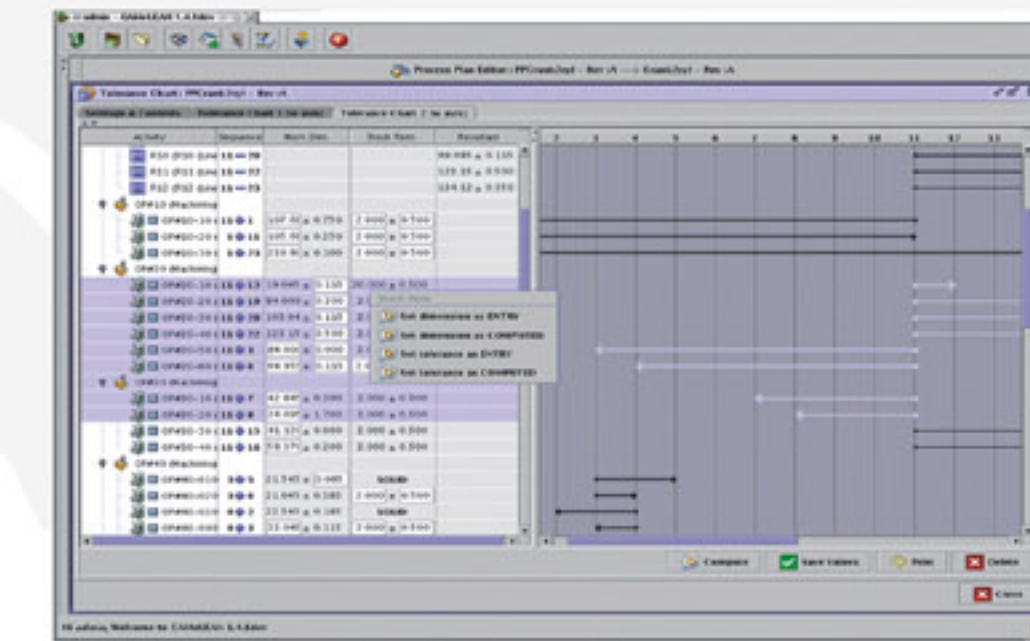
Resource Planning

- Define resource requirements for the feature based process plan (tools, machines, operator)
- Develop Setup Fixtures & gages for in-process part definition
- Define datum position, process cycle time, ..
- Define Line Design along with resource location
- Interface to Plant Layout and NC Simulation software



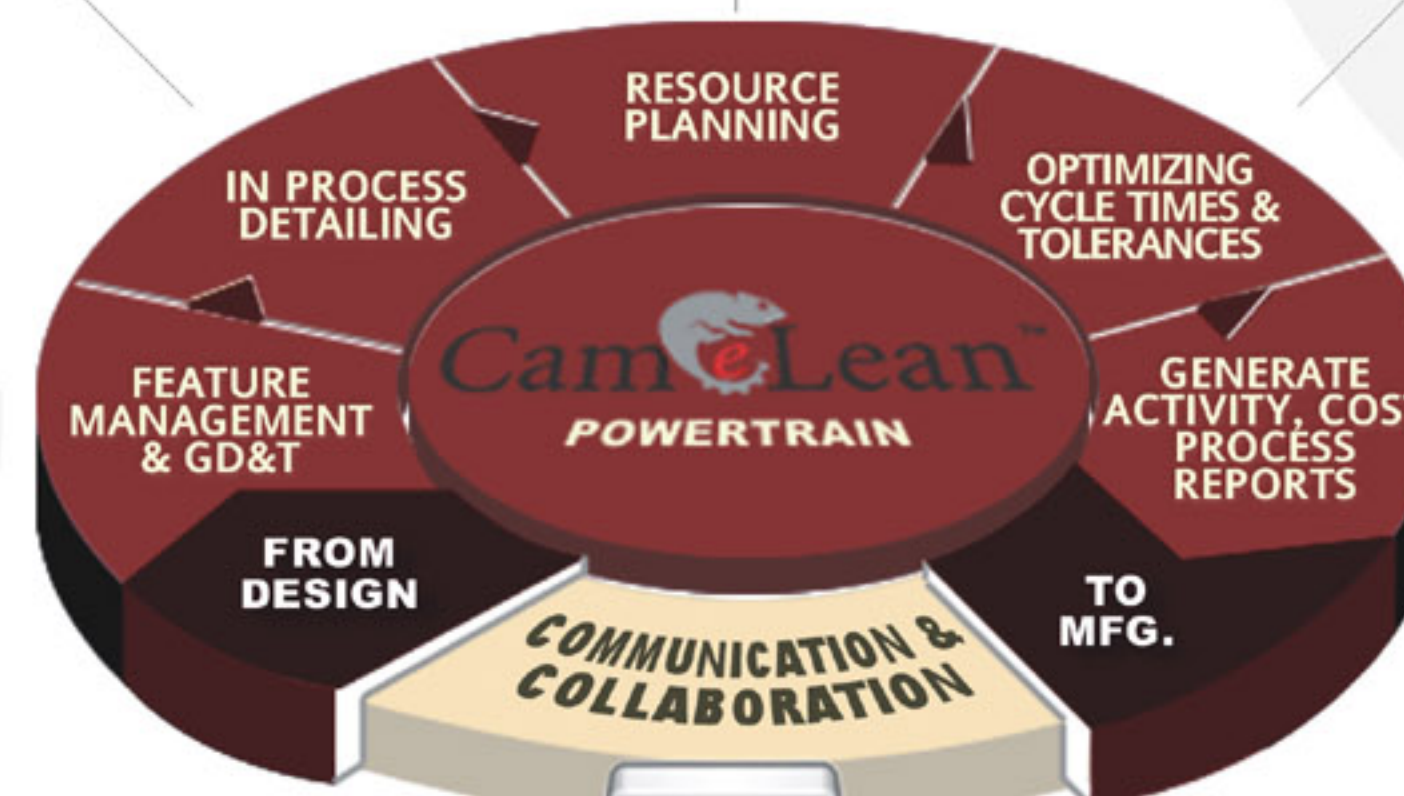
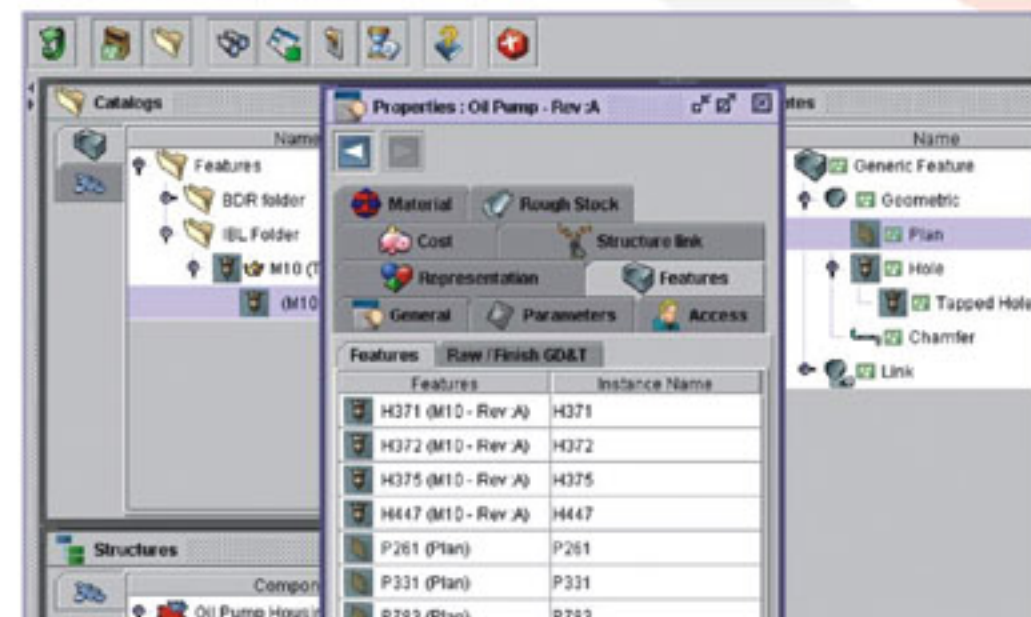
Optimizing Cycle Times & Tolerances

- Analyze alternate process plans to achieve same or better tolerances
- Optimize process cycle time to reduce product cost
- Synchronize cycle times across stations for a balanced line
- Analyze, Manage tolerance control at different activity levels
- Compare tolerance charts 'live' for 'what-if' analysis



Feature Management and GD&T

- Import component data from PDM or CAD system
- Recognize features or define / reuse in CAMELEAN as libraries
- Revise and manage complex GD&T features
- Visualize product by configuration
- Track / manage feature tolerances in 2D visual environment
- Define detailed state parameters for each feature and monitor its change impact



LEGACY / PDM SYSTEMS

FINANCIAL SYSTEMS



ENGG/ MFG SYSTEMS

RESOURCE MGMT SYSTEMS

ERP SYSTEMS



Generate Activity, Cost and Process Reports

- Automatically generate live tolerance charts from In-process data
- Generate tolerance charts of features from raw to finished stage
- Validate blue print dimensions and calculate working dimensions of features
- Generate product, process, feature, resource centric reports
- Generate Customized Reports based on special requirements

