The Road of Liming’s PLM

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May, 2006
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Shenyang Liming Aero-Engine Group Corporation

Location: Shenyang, China

2004 Revenues: RMB 2.1 Billion

Number of Employees: 10000+

It is mainly engaged in production and repairs of aero engine products. Non aero products mainly include subcontracted aero parts, gas turbine, automotive turbine pressure booster, aluminum extruded sections, etc.
Key business challenges of Liming Corporation are shorten research and production period of new products and achieve batch production.

Existing facts
- Rigid workflow of string-like paper business trip
- Decentralized staff structure
- Backward technical information system without collaboration

Strategy to face challenge——establish the brand new lean enterprise
- While product life management (PLM) is the necessary IT system of the lean enterprise.
- The most important objectives of Liming PLM system: achieve collaboration of design and production, optimize business flow and shorten production preparation time period.
1995: started using Unigraphics software
2000: bought 100 seats Unigraphics software for one time
End of 2002: have more than 200 seats Unigraphics SW
Dec, 2002 to Apr, 2003: implemented Teamcenter Manufacturing pilot project
Aug, 2003 to Dec, 2003: invited EDS for detailed consultation and evaluation of its production preparation stage and relevant environment
Feb, 2004: Prototype test of design/production collaboration at separate places
May, 2004 to Dec, 2004: finished the implementation work of the first stage of Liming PLM system
Jan, 2005 to Dec, 2005: Implementation of the second stage of Liming PLM system
Liming PLM System Architecture

Client
- Archives management
- Information inquiry by other departments
- Project supervision & management
- System maintenance & management
- Design Institute Product data

Application software
- Interfaces, like ERP/MES
- Other software
- AUTOCAD
- UG NX
- UG NX CAM

Teamcenter application interface
- Product structure management
- Workflow management
- System management
- Resource management
- Workshop layout
- Process output
- Overall inquiry
- Data download & synchronization

Teamcenter server
- TC Eng. application engine
- TC Mfg. application engine
- IDS M service
- Teamcenter foundation

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Liming PLM System Hardware Architecture
PLM Phase 1: Built multi-site design/manufacturing collaboration platform

1. Publishing object
2. Global inquiry
3. Import objects
4. Synchronization

Record table of publishing object: (Parts No., names, etc.)
PLM Phase 1: Part process planning and management

Shenyang Liming Aero-Engine Group Corporation
After the prototype system being tested, specialists and users gave some modifying and optimizing requirements after they did assessment to it.

Through many assessments and testing, we were gradually optimizing the system.

Speed up the system hardware construction and generalize it within certain area.
9% decrease of product design data receiving time
51% decrease of tooling applying time
48% decrease of design modification time
50% decrease of process establishment (including examination and approval) time
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Currently it is implementing Jigs&Fixtures PDM and generalizing process planning system.

- It is about to do PLM & MES system Integration in the next step.
- Implementation of assembly process planning and management in PLM system.
- Gradually implement and generalize it on each line.
- PLM & ERP system integration.

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Thank You