



## **PTC acquires LBS Ltd, the leader in Integrated Logistics Support (ILS)**

PTC now delivers turn-key solution for S1000D Technical Publications, Provisioning (S2000M), Training and eLearning (SCORM), and Logistics Support Analysis (LSA)

## Acquisition Details

---

### PTC acquires LBS Ltd. - the leader in Integrated Logistics Support (ILS) software

- Established in 1995, LBS Ltd. serves the Aerospace and Defense and Civil Aviation markets throughout Europe, North America and Australia
- LBS is based in the UK and has about 45 employees
- Recognized for specialist expertise, in-depth domain knowledge, and proven track record
  - LBS's founders come from the A&D industry and have unmatched experience in A&D and Civil Aviation
- Market leading solutions and support services to all levels of the supply chain including Defense Ministries, Armed Forces, Prime Contractors, Suppliers and Sub-contractors

### With this acquisition, PTC is uniquely positioned to deliver the industry's best Integrated Logistics Support solution for A&D and Civil Aviation, including

- Technical Publications compliant with S1000D
- Provisioning compliant with S2000M
- Training and eLearning compliant with SCORM
- Logistics Support Analysis (LSA)

## LBS Ltd. Fits PTC's Acquisition Strategy

---

### Adds value for PTC:

- LBS's technology enables PTC to deliver the industry's first turn-key ILS solution for A&D and Civil Aviation
- LBS enables PTC to sell aftermarket support solutions for A&D and Civil Aviation
- LBS's employees bring valuable A&D industry expertise to PTC

### Adds value for LBS:

- PTC's large customer base and global distribution model will help drive sales of LBS software in A&D and Civil Aviation
- LBS customers will have the opportunity to derive additional value from PTC's broad set of product development solutions
- PTC's global scale, financial strength and enterprise solutions expertise benefits LBS customers

# Current PTC A&D Landscape

Plan

Concept

Design

Validate

Production  
Ramp Up

Support

Management



Program Management

Regulatory Compliance

Quality Management

Change and Configuration Management

Sales & Mktg



Proposal Response

Requirements Capture and Management

Product Marketing Publications

Engineering



Concept Development

System Design

Verification and Validation

Detailed Design

Variant Design & Generation

Sourcing



Design Outsourcing

Component and Supplier Management

Advanced Sourcing

Manufacturing



Manufacturing Process Management

Tooling and Factory Equipment Design

Manufacturing Outsourcing

Aftermarket



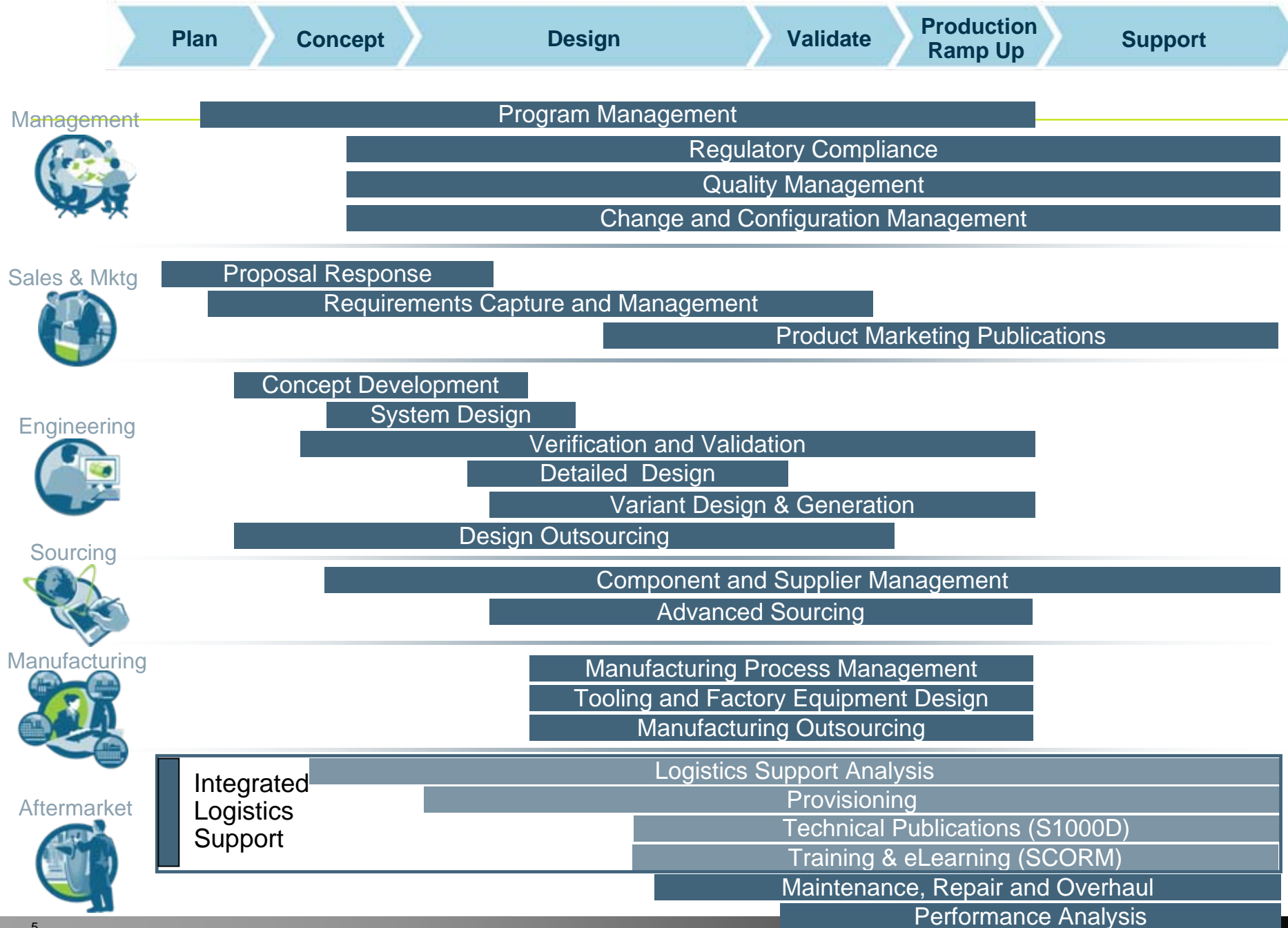
Service Program Management

Technical Publications

Equipment Management

Performance Analysis

# Impact of LBS Acquisition on PTC's support of A&D Processes



# Aftermarket Support Challenges and Opportunities

## Logistics support is a significant source of revenue and profit in A&D

- Aftermarket support and logistics often contribute for up to 60% of revenue from A&D and Civil Aviation programs
- Industry trend toward performance-based logistics

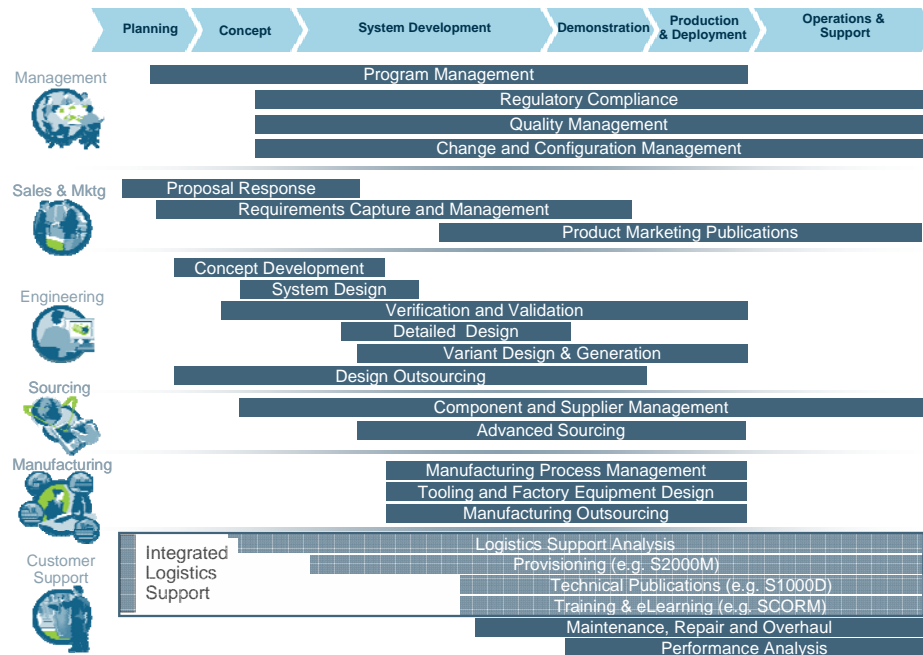
## Need for process integration

- In the past, each aftermarket process produced a separate set of information
- Interdependence between processes
- Opportunity for content reuse

## Integrated Logistics Support improves information quality and time-to-market

- Re-purposing product and logistics information
- Unified approach to addressing aftermarket support activities

Impact of LBS Acquisition on PTC's support of A&D Processes



# Industry Standards in A&D and Civil Aviation

## Value to global programs

- Increasingly global nature of the A&D and Civil Aviation industries
- Need for a common method to share information across geographically dispersed locations

## Value to equipment operators

- Mixed fleet in defense agencies and commercial airlines
- Lower training and support costs and reduce downtime by providing standard documentation different equipment and different vendors

## Value to OEMs

- Improved communication in the supply chain
- Product and aftermarket support information

## Value to OEM suppliers

- Standard documentation format for all customers

## Compliance mandate

- All program vendors (both main contractors and sub-contractors) must produce documentation compliant with the program standards



# Important Standards in A&D and Civil Aviation

## S1000D

- Defines how content for technical manuals should be created, managed, and published
- Simplifies data management and understanding through common information structure
- Defense programs in Europe mandate adoption
- Defense programs in USA, ROW, and commercial aviation programs recommend and will likely mandate adoption

## S2000M

- Defines business rules and standard messages used to exchange information
- Mandated for European defense programs including all program suppliers

## SCORM

- Collection of standards and specifications for web-based e-learning
- Set of rules that specify the order in which a learner may experience content objects
- Mandated by defense departments for eLearning purchases





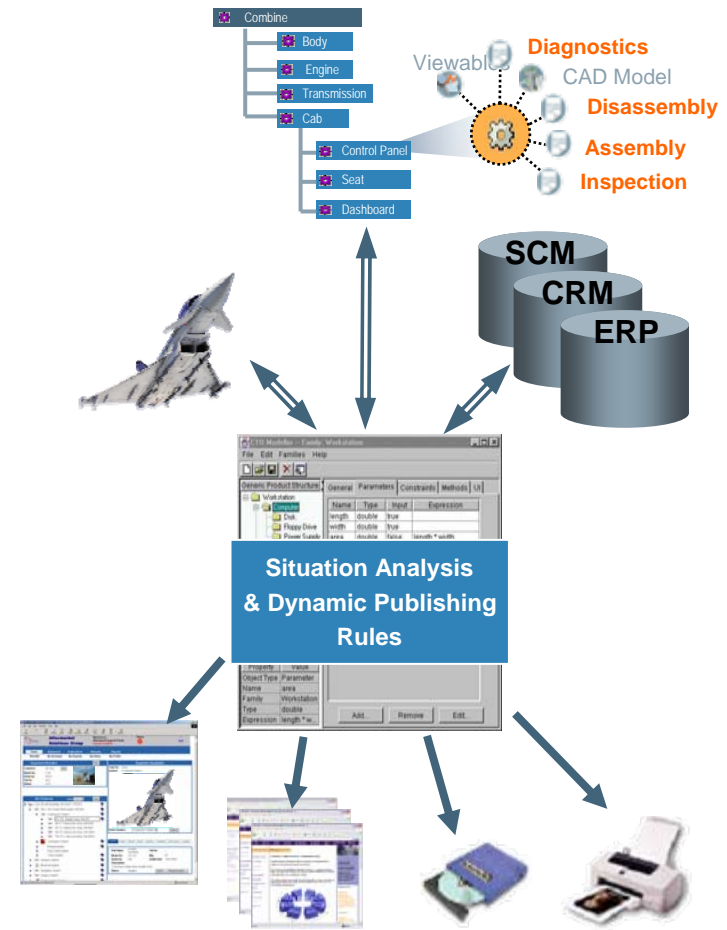
# Challenges Implementing Integrated Logistics Support (ILS) Solutions in A&D and Civil Aviation

## Standards complexity

- S1000D, S2000M, and SCORM require deployment of XML or SGML solutions that historically have been complex
- Standards contain mandatory vs. optional data (need to determine and communicate business rules and validate data)
- Programs struggle to adapt their solution to simultaneously comply with each standard required for the different aftermarket support processes (e.g. S1000D for technical publications, SCORM for training and eLearning)

## Fragmented solutions

- Organizations often integrate multiple point solutions
  - High integration cost and total cost of ownership
  - Lower reliability and upgradeability
- Solutions are often incomplete and lack automation
  - Manual programming as part of the publishing process
  - Design and configuration changes do not trigger documentation updates
  - No capability to reuse product development information or logistics data for technical publications
  - No capability to reuse published product support information for training materials



## LBS Enables PTC to Deliver the Industry's First Turn-Key ILS Solution

### PTC is a leading software supplier to A&D and Civil Aviation organizations

- All top 10 A&D companies are using PTC solutions
- PTC is a leader in the A&D market for scalable enterprise PLM deployments

### PTC provides the industry's de-facto standard publishing solutions

- With Arbortext, PTC offers the leading XML/SGML publishing solution (mandated by S1000D, S2000M, and SCORM)
- With ITEDO, PTC offers the de facto industry standard solution for creating and viewing S1000D-compliant CGM technical illustrations
- PTC understands XML/SGML and CGM technologies, concepts and adoption better than any other company in the market

### The combined solution is an industry first

- LBS's products are already integrated with Arbortext
- PTC's turn-key solution contains the full set of capabilities required to create, publish, and deliver information, compliant with S1000D, S2000M, and SCORM



# Combined PTC and LBS Solutions

## Integrated Logistics Support (ILS)

- Technical publications (S1000D)
  - Authoring (including text and illustrations)
  - Content Management
  - Publishing
  - IETM/IETP Viewing
- Provisioning (S2000M)
  - Illustrated Parts Catalog
  - Spares Provisioning
- Training and eLearning (SCORM)
  - Learning Content Management
  - Learning Management System
- Logistics Support
  - Logistics Support Analysis (LSA)
  - Interface between LSA and Technical Publishing



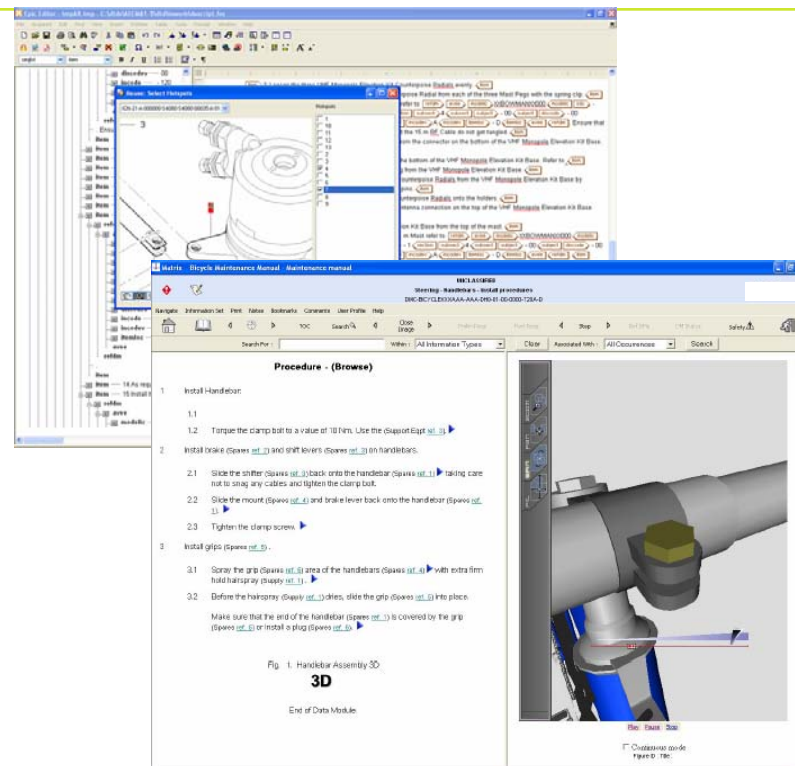
# Technical Publications (S1000D)

## What is it?

- Turn-key solution that automates and optimizes the publishing process for **S1000D technical publications** for Aerospace & Defense and Civil Aviation industries
- Enabled by a comprehensive set of configuration files and authoring templates that automatically control how the content is authored, managed, and delivered

## Capabilities

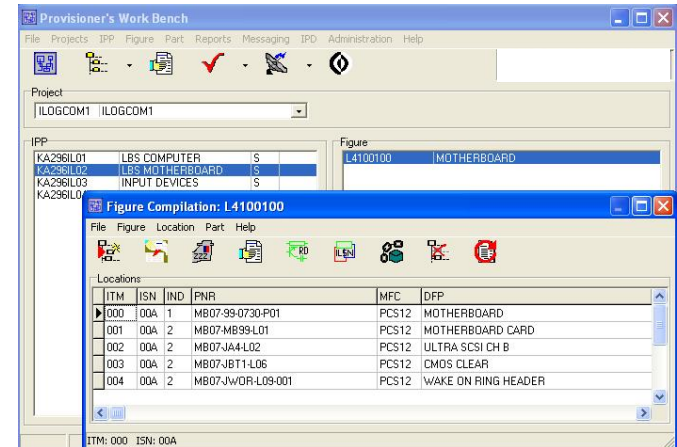
- Text, technical illustration, process data module authoring
  - Guided authoring templates
  - Business rule validation
- Content management
  - Facilitates reuse and manages information at a component level
  - Integration with logistics and PLM systems
- Dynamic publishing and delivery of S1000D compliant technical publications
  - Hard copy (print); interactive electronic technical publications (IETP Class V Type II)



# Provisioning (S1000D and S2000M)

## What is it?

- Turn-key solution that automates and optimizes creation of **illustrated parts catalogs (IPC)** for Aerospace & Defense and Civil Aviation industries
- Enables the cost effective compilation of S2000M provisioning data for the production of IPC and delivery of S2000M-compliant EDI messages



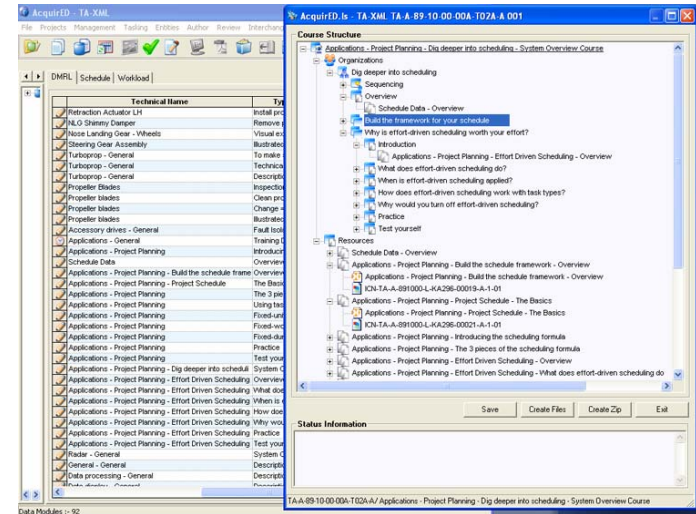
## Capabilities

- Create and maintain S1000D IPC data
- Reuse information from provisioning system and/or BOM
- Automatically output and publishing of the IPC data modules
- Spares provisioning model for calculating spares quantities
- Compliant with the S2000M provisioning system

# Training and eLearning (compliant with S1000D and SCORM)

## What is it?

- Turn-key solution that automates and optimizes the publishing process for **S1000D technical publications** for Aerospace & Defense and Civil Aviation industries
- Enabled by a comprehensive set of configuration files and authoring templates that automatically control how the content is authored, managed, and delivered



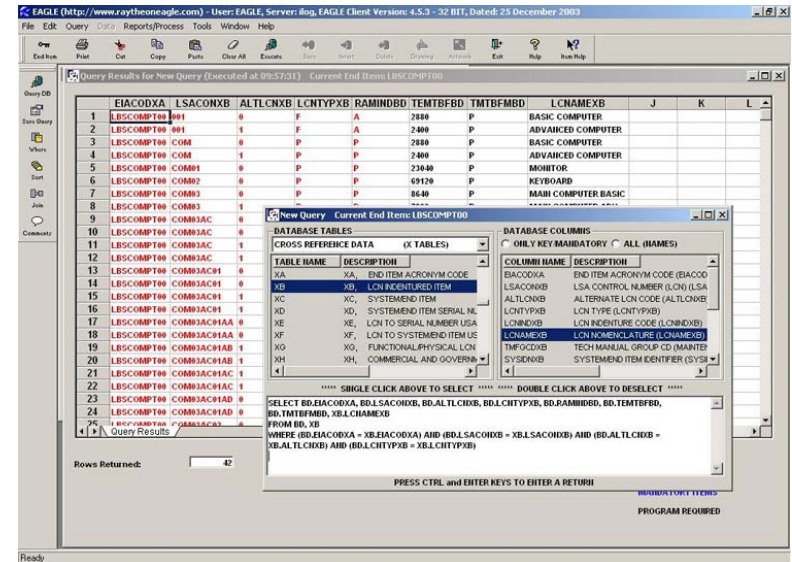
## Capabilities

- Course builder application and Learning Content Management System enabling reuse of technical publications content for training
- Maintain alignment of technical publications and training content
- Combine S1000D content management with SCORM rich media objects
- Deliver SCORM training courses to any compliant Learning Management System (LMS)
- Optional competency based LMS with student training metrics is also available

# Logistics Support Analysis (LSA)

## What is it?

- An enhanced integrated logistics support software system
- Provides the capability to reuse LSAR data for Technical Publications, Supply Support and Life Cycle Costing



## Capabilities

- LSAR (Logistic Support Analysis Record) relational database (based on and fully compatible with MIL-STD-1388-2B, MIL-PRF-49506 or DEF STAN 00-60) provides a complete logistics architecture
- Enhance specifications by adding engineering drawings, technical manuals, and video support
- Speed complex, time-consuming logistics tasks by enabling users to navigate the logistics database by discipline and focus on specific functions within each discipline

# Customer Success





## Going forward

---

**LBS's solutions are a natural extension of the Arbortext family of dynamic publishing software**

**Turn-key ILS solution that optimizes the following processes**

- S1000D technical publications
- Provisioning (compliant with S1000D and S2000M)
- Training and eLearning (compliant with SCORM and S1000D)
- Logistics Support Analysis (LSA)

**Interoperable component of the PTC Product Development System**

**Repurposing and reuse of product and logistics information and S1000D content**

**PTC will maintain interoperability with 3<sup>rd</sup> party logistics and PLM solutions**

## Summary

---

**A&D and civil aviation programs have become more global and are relying standards to optimize aftermarket support**

**LBS brings A&D and civil aviation expertise and leading technology to PTC**

**With this acquisition, PTC is best positioned to provide an ILS solution for the A&D and civil aviation industries**

- S1000D technical publications
- Provisioning including illustrated parts catalogs (IPC)
- Training and eLearning content
- Logistics Support Analysis (LSA)

**The combination of PTC's solutions with LBS's solutions enables companies to better leverage engineering, logistics and support information to optimize customer support processes**

- Repurpose PLM and Logistics information for S1000D technical publications
- Repurpose PLM and logistics information and S1000D content for illustrated parts catalogs
- Reuse technical publications content for training content (compliant with SCORM)

**PTC's scale and financial stability will benefit LBS customers**