A leading aircraft equipment design and manufacturing company faced challenges in the creation and management of technical publications for its portfolio of products, compliant with dynamic industry standards. Tata Consultancy Services’ (TCS’) team of aerospace domain experts and consultants provided the company cost-effective technical documentation based on the iSpec 2200 and S1000D v4.1 standards, using Simplified Technical English (STE) in XML/SGML format. With TCS’ solution, the company reduced TCO of documentation by 45% as well as the turnaround time required for the creation of manuals. In addition, our client is now able to ensure better adherence to regulatory requirements and enhanced customer goodwill.

**Client**
Aerospace Equipment Manufacturer

**Industry**
Manufacturing

**Offering**
Technical Publications
About the Client
TCS’ client is a leading aircraft equipment design and manufacturing company headquartered in Europe that operates internationally. It designs and manufactures components and sub-systems for aerospace, defense, energy, medical, industrial, test, automotive, and other specialist markets. The company’s product portfolio ranges from mechanical, electro-mechanical, polymers and composites, sensors, heat transfer equipment to high complexity weapon system development.

Business Challenge
Accurate and concise documentation is one of the most important but often neglected elements of product development. Good documentation provides product marketing, technical, and risk advantages, while reducing costs and improving competitive advantage.

Operating in the complex and highly regulated aircraft equipment industry required that the manufacturer overcome several production challenges such as increasing complexity of products, multiple design changes and revisions to and several versions of the product. This was further complicated by the need for document conversion, creation of illustrations, and knowledge of various software and tools. Stringent regulatory requirements and industry standards (such as S1000D, iSpec2200 and others) compounded this challenge, leading to mounting expenses for creating and managing technical documentation. With ever-increasing volumes of work and tight turnaround times, the company decided to seek a capable business partner with extensive industry knowledge and experience in aerospace technical publications to provide the support it needed.

After extensive evaluation, the company selected TCS to implement this solution given our experience in successfully delivering end to end product documentation solutions.

TCS’ Solution
Adopting a collaborative approach, TCS and the client established the scope of the project - creation of product documentation as per the iSpec 2200 and S1000D business rules, using Simplified Technical English (STE) in XML format.

After a detailed requirement analysis, we optimized the product documentation process, integrating it with Commercial-Off-The-Shelf (COTS) tools for faster turnaround time. The COTS tool, with its built-in Document Type Definition (DTD) for iSpec 2200 feature and various schemas for the S1000D standard, provided a structured documentation template. This significantly reduced the time required to create product documents such as the Component Maintenance Manual (CMM), the Troubleshooting Manual (TSM), the Aircraft Maintenance Manual (AMM), the Wiring Diagram Manual (WDM), the Illustrated Parts Catalogue (IPC), and the Structural Repair Manual (SRM).

We engaged our domain experts, SMEs, and wide pool of technical publication consultants from across multiple locations throughout the engagement. By harnessing our vast experience in aerospace technical publications, we defined the company’s content management and product structure. Our streamlined processes enabled the client to better manage document revision and version control. The TCS team provided data validation for qualitative outputs, to improve product documentation quality and consistency of data across technical publication.

By leveraging TCS’ mature onsite offshore model, we delivered an effective solution at optimal cost, addressing the client’s key business objectives.
Experience certainty

True certainty of success comes from working with a partner you trust to provide the insight, support and expertise that will propel your business forward. Experiencing certainty with TCS means you can count on results, partnership and leadership.

Results

TCS’ next-generation documentation system and services have empowered the aerospace supplier to increase product documentation efficiency. With our solution, the company has been able to meet its business objectives of improving the technical manual development process, optimizing cost and schedule management, enhancing utilization and control, and improving quality assurance. By streamlining operational processes, the company now utilizes its critical resources for more strategic initiatives. Our client has also achieved:

- Reduction in total cost of ownership of documentation by 45%
- Significant reduction in turnaround time for manual creation
- Significant savings in IT investment due to the use of software tools like FrameMaker, IsoDraw, and others
- Enhanced product quality and consistency across product outputs, due to the data creation, validation and revision inputs provided by TCS’ domain experts, SMEs and technical publication consultants
- Better adherence to stringent regulatory requirements of the aerospace industry

The success of our solution has further reinforced the long-standing relationship between the two companies where several prior engagements had boosted the aerospace company’s reputation and reduced its business risk. The initial scope of the engagement entailed that TCS provide documentation solutions for a single business unit. Given the value TCS delivered to this engagement, the client has now chosen to extend the relationship to include providing engineering services to other business units as well.
About TCS Engineering and Industrial Services

TCS' Engineering Services and Solutions help you foster product innovation, improve operational efficiencies and shorten time-to-market. Our intellectual property, products/tools and strategic alliances, built over years, converge to address your needs. Our process-driven approach, unique Global Network Delivery Model™ (GNDM™) and alignment to specific quality paradigms like Six Sigma, ISO, PCMM, CMMi, AS 9100 and BS 7799 enable you to reap the following benefits:

- Realized product strategy from conception to retirement
- Enhanced market share and customer’s return on investment (ROI)
- Reduced Total Cost of Ownership (TCO)
- Enhanced visibility of manufacturing operations and availability of assets

Contact

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About Tata Consultancy Services (TCS)

Tata Consultancy Services is an IT services, consulting and business solutions organization that delivers real results to global business, ensuring a level of certainty no other firm can match. TCS offers a consulting-led, integrated portfolio of IT and IT-enabled infrastructure, engineering and assurance services. This is delivered through its unique Global Network Delivery Model™, recognized as the benchmark of excellence in software development. A part of the Tata Group, India's largest industrial conglomerate, TCS has a global footprint and is listed on the National Stock Exchange and Bombay Stock Exchange in India.

For more information, visit us at www.tcs.com

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