

SAP for Aerospace & Defense



SAP FOR AEROSPACE & DEFENSE – MANUFACTURING

To succeed in today's competitive environment, aerospace and defense companies must overcome a myriad of challenges. They must design technologically superior products in a collaborative environment faster than ever; accurately forecast sales quotas and operating budgets; manufacture products using a variety of lean production processes; and make sure that these products meet the most stringent tolerances. The SAP® for Aerospace & Defense set of solutions gives leading businesses in the industry the tools they need to stay ahead of the competition.

INDUSTRY TRENDS

The aerospace and defense sector is considered to be a source of technological innovation by other industries. Aerospace and defense manufacturing is increasingly dominated by a few very large companies, supported by strategic tier 1 and tier 2 suppliers that have very close relationships with end manufacturers. Often these companies are both partners and competitors. For instance, two companies may partner on a military aircraft program and compete against each other for a commercial aircraft program.

Mergers and the creation of new partnerships are quite common in the industry, making a significant impact not only on business, but also on logistics and IT infrastructure. Aerospace and defense companies are increasingly turning to manufacturing philosophies such as "lean manufacturing" and Six Sigma to focus on value-added activities and remove waste in their business processes.



Such concepts as just-in-time and vendor-managed inventory (VMI) are no longer industry buzzwords and fads, but necessary techniques for survival in today's highly competitive market. The need to innovate, develop, and deliver new products or modify existing ones – and do it faster than ever before – has also become essential for honing a competitive edge. The need to deliver more with less, to get it right the first time, and to avoid expensive rework and delays that frustrate customers are pressures affecting all areas of the enterprise, from the shop floor to the executive boardroom. Globalization in the aerospace and defense industry is a fact of life, and alliances are created and dissolved frequently. Fast reaction and a flexible response to changing circumstances are keys to achieving and maintaining competitiveness.

IMPORTANT QUESTIONS

How does your company measure up in this environment?

Can you answer these questions?

- Can you accurately monitor your company's performance?
- Can you leverage system information for continuous performance improvement?
- Is your company using the latest techniques in pull-demand-based production?
- Can you change plans quickly to accommodate changing customer requirements?
- Do your business systems help you identify where you need to improve business processes?
- Do material shortages often take you by surprise?
- Do your suppliers and customers operate as a seamless part of a "lean enterprise"?
- Have you taken advantage of e-business to improve purchasing and sales processes?
- Can you define and monitor your company's global supply chain?
- Do you have a clear understanding of your customers and their requirements?

SAP FOR AEROSPACE & DEFENSE

SAP for Aerospace & Defense is the right set of solutions for your organization, whether it produces complete aircraft or engines, assemblies, or components.

The solution map highlights the capabilities of SAP for Aerospace & Defense, which supports the following scenarios:

- **Contract manufacturing:** For design and manufacture of products in major programs, such as for defense customers or airlines
- **Make to order:** For customer-specific variants of finished products, assemblies, and components whose configuration can be defined by use of product characteristics
- **Make to stock:** For items whose configuration is non-variant, and is customer- or contract-independent

The following sections highlight key functions of SAP for Aerospace & Defense – capabilities that can help you to run your business better.

PRODUCT LIFE-CYCLE MANAGEMENT

The product life cycle starts with the design phase, during which the initial specifications are turned into drawings and product and process descriptions. SAP for Aerospace & Defense enables enterprise-wide collaboration between the design and manufacturing areas of your company and your critical suppliers, bringing the benefits of concurrent engineering to life. And that's a key step in getting your company's new products to market in the shortest time possible.

The product life-cycle management capabilities of SAP for Aerospace & Defense support full change control processes and collaboration scenarios using workflow techniques and the Internet. The product design tools, which integrate product and process engineering, are the same as those used for defining the manufacturing processes.

MATERIAL PLANNING AND MANUFACTURING

Contract manufacturing, make-to-order, and make-to-stock environments require different material planning philosophies for production processes. In a contract manufacturing or make-to-order production environment, specific customer requirements form the basis for production planning, whereas a make-to-stock production process can be based on forecasts or dependent demand. In aerospace and defense companies, a key issue is the product configuration, which requires accurate stock control per customer order. SAP for Aerospace & Defense supports them all.

SAP supports the full range of material replenishment processes, from make to stock and make to order to kanban. Effectivity in bills of material can contain serial numbers, customers, or other user-defined parameters. Master data has to be defined only once, and during the planning run, the effectivity solution selects the correct components and processes.

SAP provides an integrated solution for project-based manufacturing. With grouping, pegging, and distribution capabilities, you can track all costs per project, and at the same time, optimize lot sizes in production and purchasing (cross-contract planning) according to accounting standards set forth by regulatory bodies. And you can tailor manufacturing based on the order type or production philosophies. With SAP for Aerospace & Defense, you can use production orders, assembly orders, and kanban to control the manufacture of a component using demand, capacity, and cost as variables.

Quality control is crucial in aerospace production, and products must meet exacting tolerances. With SAP for Aerospace & Defense, quality inspections in the manufacturing and purchasing processes quickly and efficiently find products that deviate from specification. Depending on the quality of a production lot, products can be scrapped, reworked, or released at a lower level

of quality. SAP for Aerospace & Defense tracks resources such as labor, material, and services as they are consumed during production, then totals them to calculate total costs. Actual costs are available at all times, so you can compare them to forecasts and quotations. You can also monitor profitability.

SUPPLIER RELATIONSHIP MANAGEMENT

Procurement is a fundamental process for aerospace and defense manufacturing, with the bought-in value of products sometimes exceeding 80% or even more. Building efficient and successful partnerships with the supplier community is one of the key fundamentals that today's leading companies continually strive to improve.

BUSINESS INTELLIGENCE

Aerospace and defense companies place an ever-growing emphasis on monitoring their performance — a key feature of a continuous improvement process. Using the SAP Business Intelligence component of the SAP NetWeaver™ platform (the backbone of SAP for Aerospace & Defense), you can monitor your progress and performance against key performance indicators (KPIs). SAP supports the KPI standards set by the Supply Chain Council, the largest international organization for the standardization of supply chain standards and definitions. Performance information from your SAP environment will help you identify where you need to target Kaizen events and implement techniques, such as single minute exchange of die (SMED).

THE SAP COMMITMENT TO MANUFACTURING

SAP is completely committed to supporting aerospace and defense manufacturing. SAP:

- Provides a solution for manufacturers based on the SAP NetWeaver™ platform and SAP® technology
- Analyzes the latest business improvement techniques, such as lean manufacturing, and ties them into SAP for Aerospace & Defense
- Works with SAP manufacturing user groups to further refine requirements; share experiences among SAP, our customers, and our customers' client bases; and drive development

POWERED BY SAP NetWeaver

The SAP for Aerospace & Defense set of solutions is powered by the SAP NetWeaver platform, the open integration and application platform that enables change. SAP NetWeaver helps companies align IT with their business. It allows companies to obtain more business value from existing IT investments and to deploy a services-oriented architecture. SAP NetWeaver reduces total cost of ownership (TCO) and complexity across the entire IT landscape.

SAP NetWeaver powers mySAP™ Business Suite, SAP xApps™ packaged composite applications, and partner solutions. It provides the best way to integrate all systems running SAP or non-SAP software. SAP NetWeaver unifies integration technologies into a single platform and is preintegrated with business applications, reducing the need for custom integration.

For more information, please visit www.sap.com/aero-defense