AIRSUPPLY – SCM Platform for the European Aerospace Industry

EADS

CONTENTS

INITIAL SITUATION

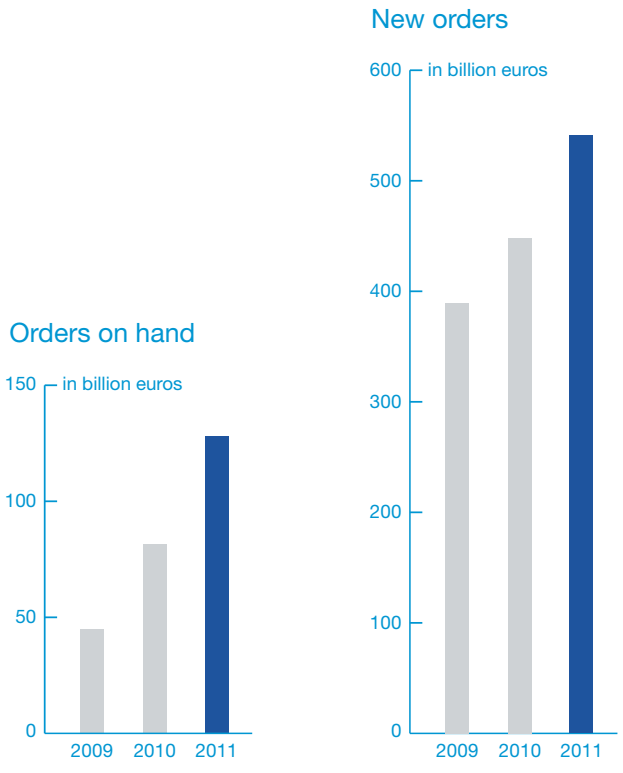
EADS is a global leader in aerospace, defense and related services. It generated revenues of almost 50 billion euros in 2011 and employed a workforce of around 135,000. The operating divisions of EADS include aircraft manufacturer Airbus, helicopter maker Eurocopter, aerospace subsidiary Astrium and the defense and security unit Cassidian.

In 2009, the company decided to closely scrutinize the SCM processes used by itself and its suppliers with a view to optimizing workflows. The Sup@irworld solution being used to handle SCM processes up to that point in time had become outdated – from both a workflow and a technical perspective.

The company was experiencing a sharp rise in new orders and had therefore become even more reliant on a perfectly functioning supply chain and transparent collaboration with suppliers. A further problem was that, although developed by EADS itself, Sup@irworld had never become the standard solution for all its divisions. This led to a situation in which suppliers of EADS were forced to use several different supplier portals in collaboration with their customers.

What was envisaged was a solution for handling SCM processes that could be used throughout the entire aerospace industry – not only from OEM to tier 1, but also from tier 1 to tier 2 and so on. This initiative to create an industry-wide standard was supported by other leading aerospace players and by an important industry association (see section on “Importance of the project”).

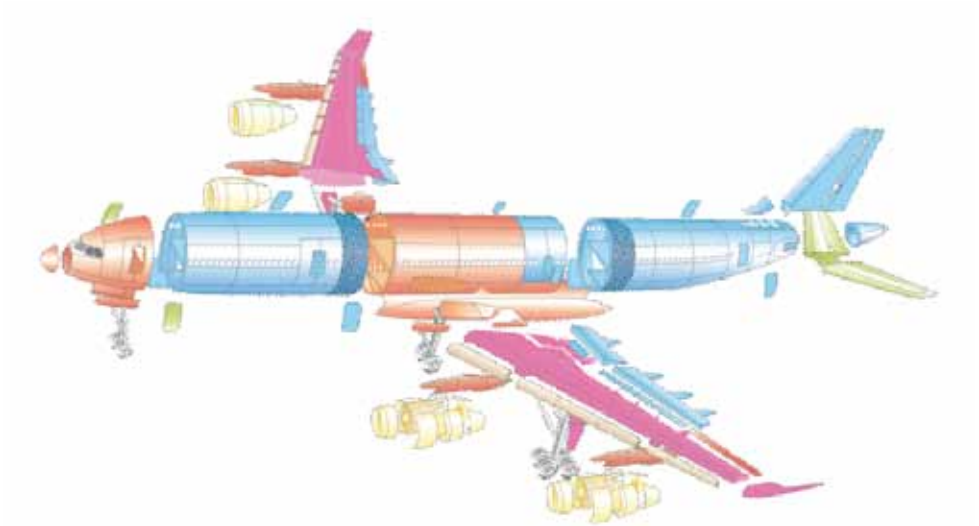
To create an industry solution with a high level of availability from the very beginning, the decision was made to take the industry partners’ tried-and-tested SCM processes (predominantly those of Airbus) and enrich them with SupplyOn‘s 10 years of experience in developing and operating a standard solution for the automotive sector.

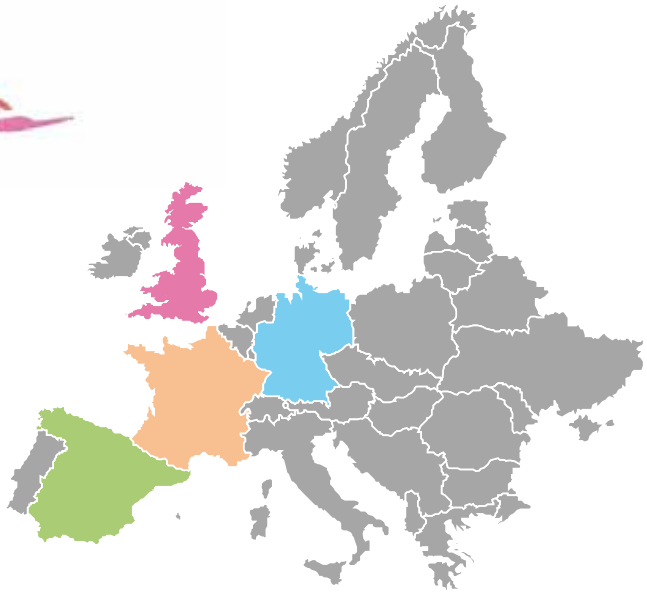


New orders increased by 21 percent to a record high of 541 billion euros. This was primarily due to the rise in orders for passenger planes from Airbus.

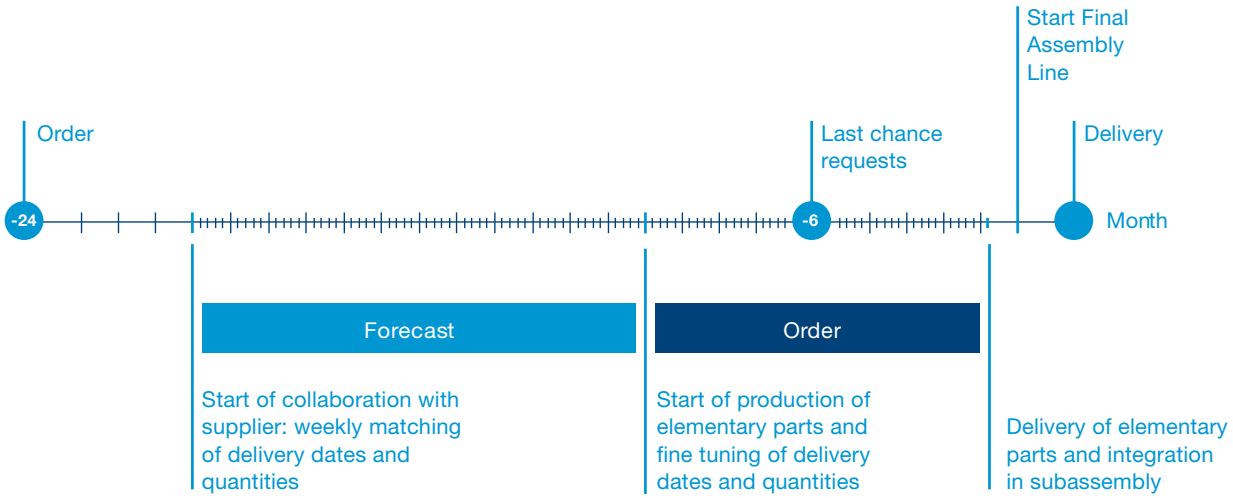
TARGETS AND ULTIMATE GOALS

Production processes at EADS are highly complex. The company's products are customizable to a large degree, with a high proportion of external value added (approximately 75 percent). EADS is provided with direct production material by a total of around 1,000 suppliers. A long-haul aircraft, for example, is made up of around 4 million individual parts. At the final Airbus assembly line, workers are putting together components originating in at least four different countries.





What makes for added complexity is that customers are able to submit change requests right up to 6 months before the scheduled delivery date – a point in time at which the production of individual components has already started. This means that the material requirements and ordering processes with suppliers are correspondingly complicated. Delivery dates need to be closely coordinated with suppliers, on both the capacity planning and order levels.



This is why the goal of the AirSupply project was to define a collaborative forecasting and ordering process that provided the best possible support for the scenario described above, and to implement this process using a web-based IT solution.

The project team‘s aim was to achieve the optimum results in terms of both process logic and technical basis. The ultimate goal that EADS set itself, in collaboration with the other industry partners and SupplyOn, was to develop the best solution in the world.

IMPORTANCE OF THE PROJECT

The project is of the utmost strategic importance for EADS and for the entire European aerospace industry, as will be explained below:

Importance for EADS

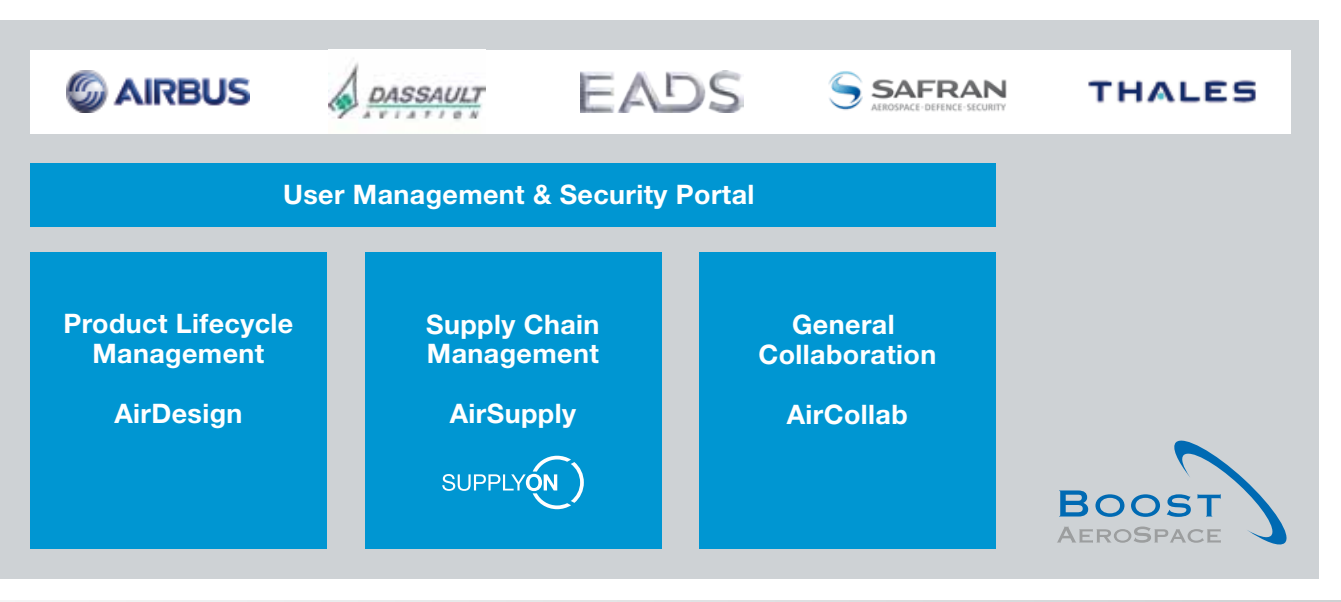
Because of the extremely high proportion of external value added in the aerospace industry – between 70 and 80 percent in an Airbus aircraft, for example – the design of business processes with suppliers is eminently important for EADS from a strategic point of view. The project was therefore initiated at top management level and its progress was closely monitored by leading company executives.

A Steering Committee of high-level managers was closely involved throughout the course of the project to ensure that it delivered the intended results. Two of the Steering Committee's members were the Chief Information Officer (CIO) and Chief Procurement Officer (CPO) of EADS/Airbus.

Importance for the European aerospace industry

The project has a significance that extends far beyond the boundaries of EADS. From the very beginning, the ultimate goal was to create a solution that could be used by EADS and by the entire European aerospace industry. For this reason, leading industry players such as Dassault Aviation, Safran and Thales became involved from the very outset. The project participants are convinced that the creation of a common sector solution will make the European aerospace industry more competitive in the long term. This competitiveness will stem from better and standardized processes, but also from the use of a shared solution and the ensuing cost and efficiency benefits.

Airbus, Dassault Aviation, EADS, Safran and Thales have established a joint venture to further these aims:
BoostAeroSpace (www.boostaerospace.com). The goal of this joint venture is to standardize processes and data formats across the European aerospace industry in the areas of Supply Chain Management (SCM), Product Lifecycle Management (PLM) and Collaboration Management.



BoostAeroSpace's Board of Directors is made up of a top manager from Airbus, Dassault Aviation, EADS, Safran and Thales. This body is closely involved in all important decisions related to the project, as is the Board of the French industry association GIFAS (Groupement des Industries Françaises Aéronautiques et Spatiales), comprising the CEOs of the leading French aerospace companies.

You can read more about the strategic importance of the project in an article from the Financial Times Deutschland published on June 28, 2011: "Europe's aircraft manufacturers get networking" (see appendix).

PROCESSES

This section describes the business processes that were defined and specified within the project for implementation via the AirSupply IT solution.

Due to the collaborative nature of the defined processes, the AirSupply concept is reliant on the web-based connection being able to dovetail seamlessly with the customer's internal ERP systems. It would not be possible to conduct such a complex collaborative process by simply exchanging messages in EDI format. Therefore, all collaboration between customer and suppliers takes place via the web in AirSupply. After collaboration in the web has been successfully accomplished, the results are transferred back to the ERP systems for further internal processing.

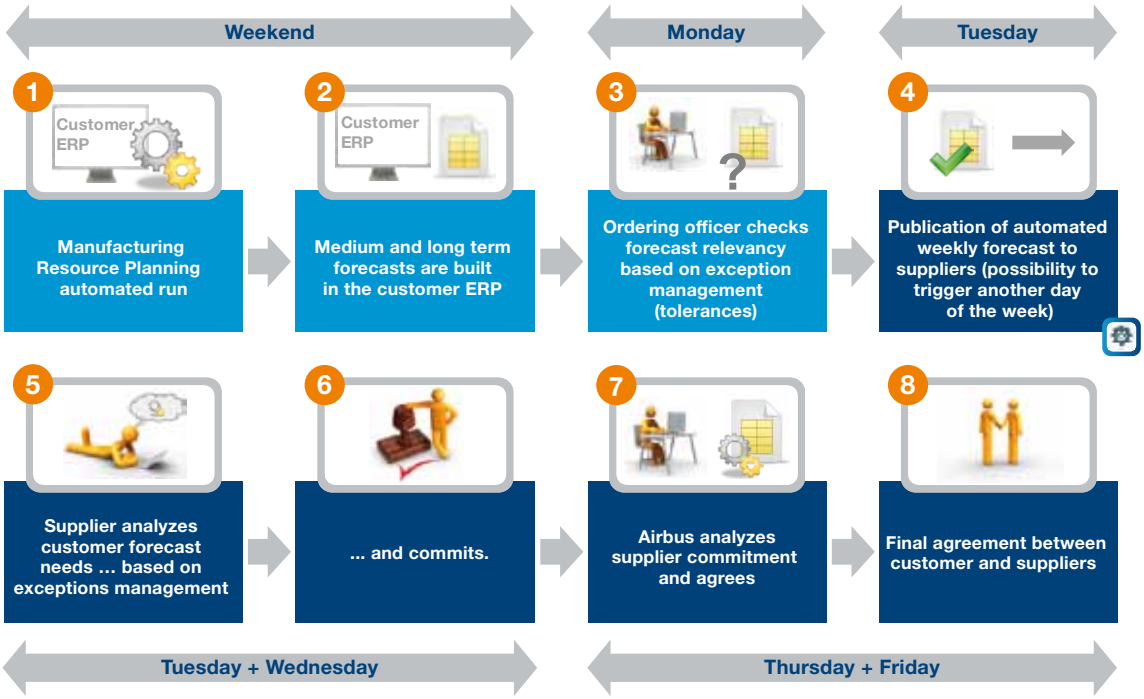
The defined processes are

- Forecast
- Purchase Order
- Despatch Advice
- Goods Receipt
- Vendor Managed Inventory with Self-Billing

The "Forecast" and "Purchase Order" processes take place on a weekly basis. Every Monday, the customer's order officer checks the results of the weekend's automated MRP (Material Resource Planning) run in the internal ERP system. Once he has approved the figures, the latest forecast data is transferred to the suppliers via AirSupply. This triggers the start of the bilateral agreement process.

Forecast

The supplier receives the customer's forecast for delivery quantities and the scheduled delivery dates, transfers the data to his internal system, and commits to deliver a specific quantity. EADS analyzes the supplier's commitment and agrees.



AirSupply

Customer ERP

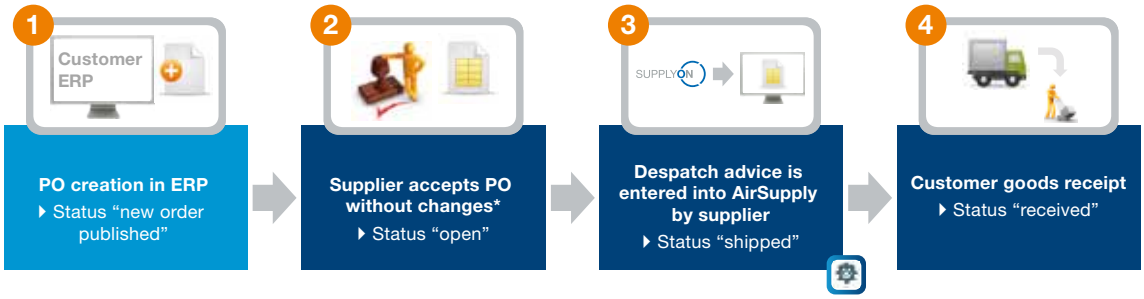
Logistic Step

ERP / AirSupply synchronisation

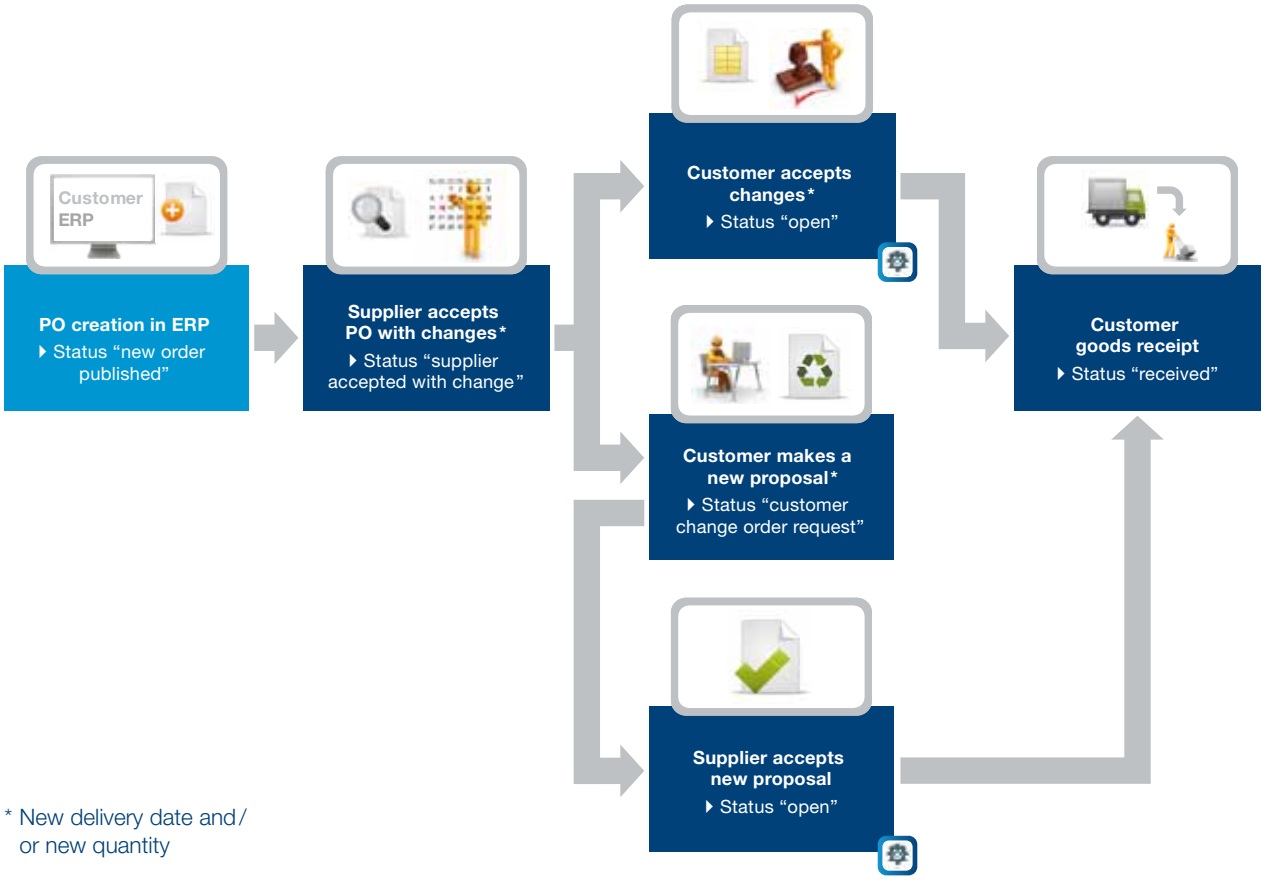
Purchase Order

Here, the initial step is identical to that in the Forecast process. Via AirSupply, the supplier receives the binding forecast delivery quantity and the scheduled delivery dates. There are then several ways in which the process can continue:

1. The supplier is able to deliver as specified in the order. He simply accepts the PO.

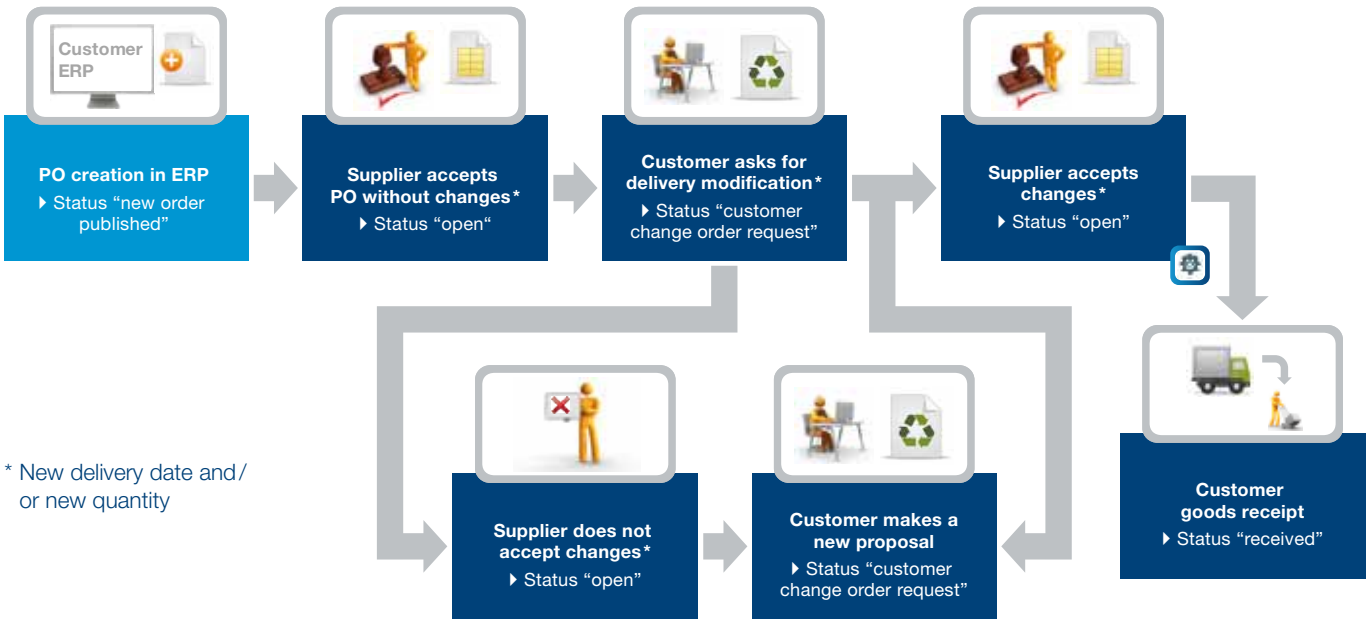


2. Although the supplier is able to fulfill the order in principle, he needs to make changes to what is specified in the PO, such as delivery on a different date. The supplier therefore accepts the PO with changes. The changes are analyzed at the customer’s end. They can be either accepted as they are or a new proposal can be made and sent back to the supplier. This continues until a final agreement is made on delivery quantity and date.



* New delivery date and/or new quantity

3. The supplier is able to deliver as required and has already confirmed this via AirSupply. On the customer's side, however, the agreed order now needs to be modified. This again triggers the coordination process described in case 2.



* New delivery date and/ or new quantity

AirSupply

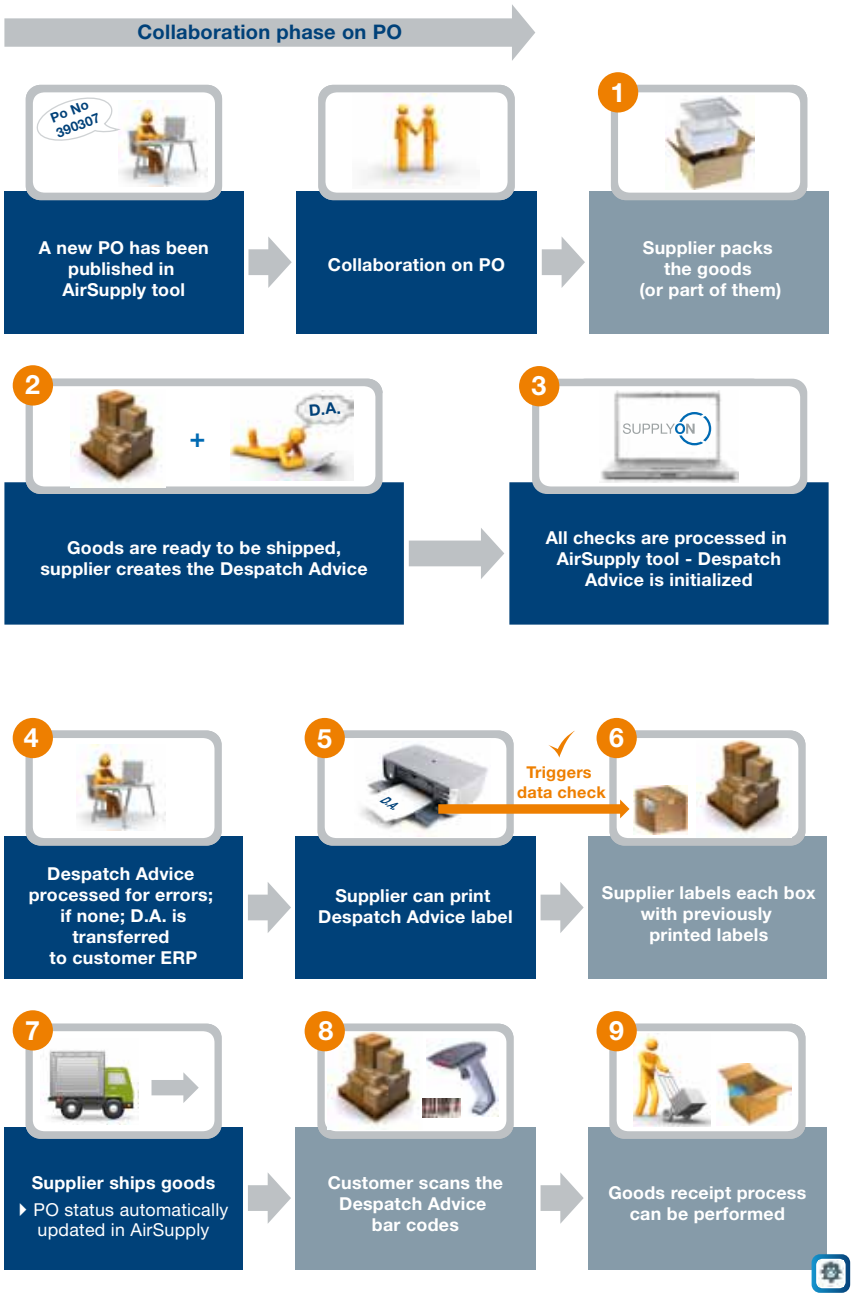
Customer ERP

Logistic Step

ERP / AirSupply synchronisation

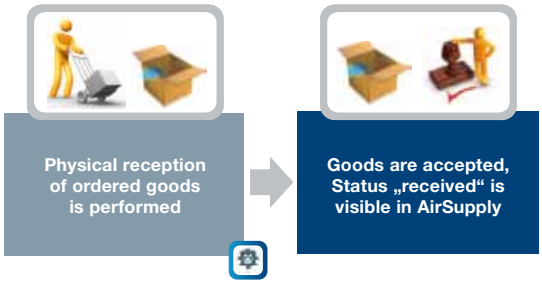
Despatch Advice

Once the required components are ready for shipping, the supplier creates the Despatch Advice in AirSupply. The customer checks and approves the data and subsequently transfers it to his internal ERP system. The supplier then prints out the barcode labels and attaches them to the goods that are ready for shipping.



Goods Receipt

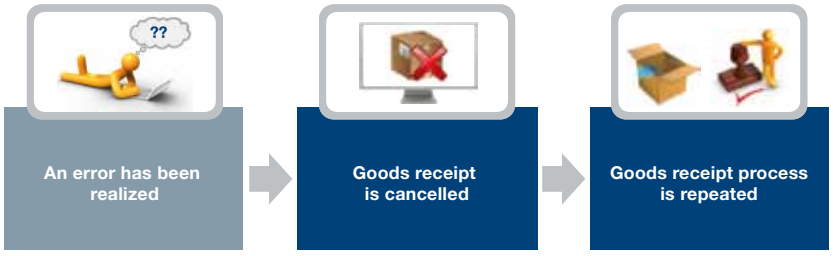
As soon as the goods have arrived at the customer's premises and the goods receipt has been logged into the system, the AirSupply status changes to "received".



After receiving the goods, there are two possible scenarios:

1. The goods turn out to be faulty or incorrect. In this case, the goods are returned to the supplier and the status in AirSupply is set to "open". The supplier needs to ship new goods.

2. It turns out that the goods have been incorrectly booked on receipt, due to a scanning error for example. The "received" status is set back to "open" and the goods receipt process is repeated correctly.



Vendor Managed Inventory with Self-Billing

Vendor Managed Inventory enables the supplier to view the customer's stock levels and ensures that quantities remain between the agreed maximum and minimum thresholds. In critical situations, where there is an imminent risk of stock levels falling below the minimum threshold for example, both customer and supplier are automatically informed. AirSupply enables the supplier to simulate deliveries and so adjust them to the customer's precise requirements. Once the supplier has created the Despatch Advice, the goods are shown as "in transit". The goods are booked into the internal ERP system on confirmation of delivery. As soon as the goods are consumed, AirSupply generates a credit note for the supplier.

AirSupply

Customer ERP

Logistic Step

ERP / AirSupply synchronisation

Implementation of further processes

The AirSupply platform provides a broad scope for further collaboration processes. An ongoing development is the implementation of an order process involving two suppliers, where supplier A delivers the goods to supplier B instead of EADS. This process is normally used in cases where a high-quality component from one supplier (e.g. a monitor from supplier A) needs to be integrated into a module from a second supplier (e.g. supplier B) and the module manufacturer cannot be expected to carry the costs for the high-quality components until his module has been delivered and paid for.

It is evident from this description that it would not be possible to conduct this process by exchanging messages in conventional EDI format. The rules required to logically represent this collaboration are not supported by classical ERP systems. This is why the entire collaboration takes place as part of a web-based solution (cloud). Collaboration results are subsequently transferred back to the internal ERP systems for further internal processing.

CONNECTING EXTERNAL PARTNERS

In the course of 2012, around 1,000 suppliers have been linked up to the system for the three EADS divisions Airbus, Eurocopter and Astrium. Companies can register with AirSupply in two different roles – as a supplier and as a customer. Eurocopter, for example, uses AirSupply to control the supply of aircraft doors to Airbus, and also employs it to handle ordering and delivery processes with several hundred of its own suppliers. The same applies to Aircelle, a subsidiary of the Safran Group and a manufacturer of engine housings.

Organizational aspects of the link-up

The extensive rollout got underway in February 2012 after successful piloting at the end of 2011/beginning of 2012, in the course of which the described processes were tested in actual everyday operations together with around 1,000 suppliers.

The rollout is grouped into “waves” of approximately 60 to 80 suppliers a month. It takes about three months until the new solution is being used productively, and the following steps take place within this period:

- A letter is sent out with initial details of the AirSupply solution and inviting the supplier to participate in an information event
- At this event, the supplier is given detailed information about the processes, functions and benefits of AirSupply, and about the organizational and technical aspects of how the new solution will be introduced
- The supplier signs a new set of logistics agreements
- The supplier receives a link for registering with SupplyOn
- If the supplier is already registered with SupplyOn, AirSupply can simply be added to the range of supported solutions.
- If the supplier is not already registered, he must first sign a usage agreement with SupplyOn.
- The supplier is then activated within the AirSupply solution.

Technical aspects

The complex nature of the collaboration processes involved in coordinating delivery volumes and dates requires the use of the web-based technology integrated in AirSupply‘s web front-end. Where there is a direct EDI connection, collaboration results are subsequently transferred back to the supplier‘s internal ERP system. In the case of a web connection, the supplier can upload and download the relevant data.

SECURITY, AVAILABILITY, PERFORMANCE

Due to the fact that business-critical information is exchanged using AirSupply, the levels of security, availability and performance required of the solution are extremely high. A further important aspect are the extremely high costs caused by situations in which aircraft have to remain on the ground for longer periods due to the late delivery of components, for example.

This is why, together with SupplyOn, numerous workshops were organized in the development phase of the project to specify the precise requirements and define detailed measures to meet them (Security Plan). Several audits were carried out, both at SupplyOn and its service providers. A dedicated line to SupplyOn was set up in order to be able to alleviate any possible problems as quickly as possible.

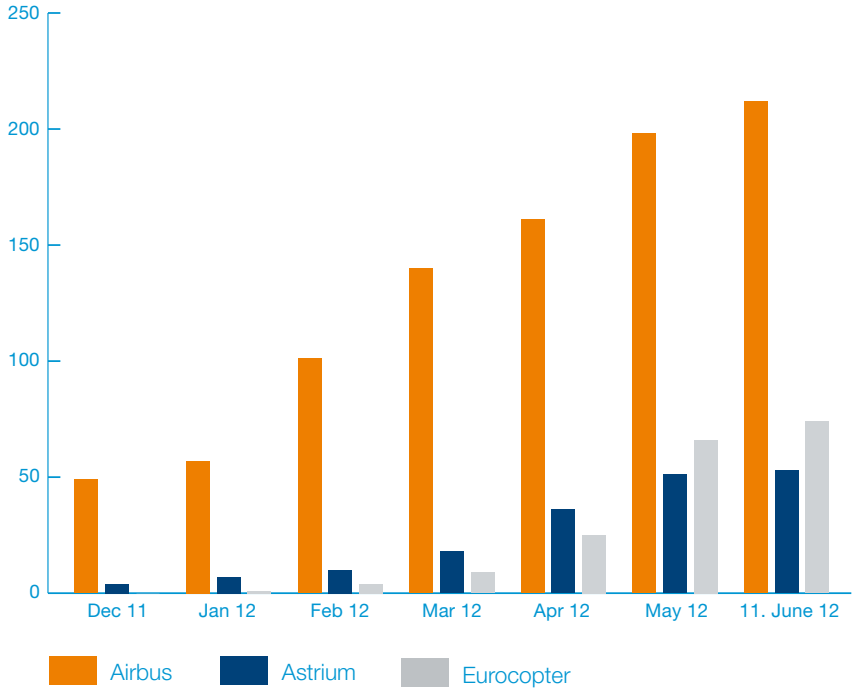
A range of technical measures was implemented to ensure a high level of security for data and applications, including data mirroring at two separate locations.

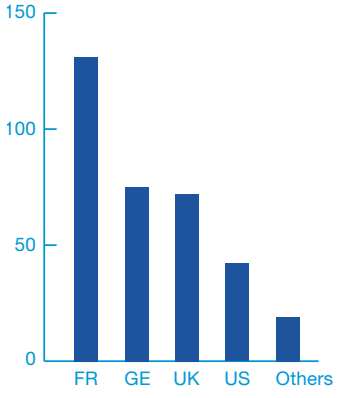
The development phase also saw intensive testing of different ramp-up scenarios with a view to guaranteeing high performance during the subsequent live operations. A high level of performance is critical as certain messages, such as those involving replacement parts, need to be processed within 15 minutes – even when the system is operating at peak load.

CURRENT STATUS AND OUTLOOK

Connecting suppliers

Airbus, Astrium and Eurocopter had linked up 339 of their suppliers by June 11, 2012.
Around 650 more will have access to the solution by the end of 2012.





International distribution

Adoption of the processes by further companies in the aerospace industry

A product or solution can be regarded as an industry standard once the most important players in that industry are using it. This is now certainly the case with AirSupply and the processes described above. With Airbus, Aerolia, Astrium, Eurocopter, PAG and Safran, AirSupply has already been adopted by a significant portion of the European aerospace industry. And other important aerospace players such as Dassault Aviation and Thales are also on board due to their participation in the BoostAeroSpace joint venture.

BENEFITS AND SAVINGS

For process users

After only a few weeks of operation, it has already become clear that there is a high level of user acceptance for the new processes. The reasons for this include the solution's flexible interface, which every user can configure to suit his or her workflows and information needs, the ergonomic user interface and easy navigation, and the diverse ways of defining individual notifications that give users advance warning of critical situations and provide them with ideal support in their day-to-day work.

The introduction has also seen an increase in satisfaction and efficiency on the part of suppliers; no longer confronted with a large number of different portals, they can collaborate effectively with multiple customers using a single solution.

A further factor is that AirSupply is available in German, English, French and Spanish, enabling the vast majority of users to utilize the solution in their own language. The same goes for the hotline: Assistance is available in the same four languages – free of charge and round the clock. This frequently underestimated aspect plays a major role in widespread deployment and consequently the long-term success of newly introduced processes and solutions.

For EADS and the European aerospace industry

The main strategic advantage of the AirSupply solution is that it enhances collaboration between companies throughout the industry and increases transparency in business-critical processes thanks to harmonized workflows and consistent terminology across several levels of the supply chain. This leads to more efficient collaboration with suppliers and therefore to reductions in costs.

A further benefit for EADS is that operating AirSupply involves lower costs in comparison to its earlier SCM solution (Sup@irworld). This advantage stems from the fact that AirSupply is used by several companies, and these are able to share the costs for development, infrastructure, support and further development. Additional cost reductions are expected when, as planned, use of AirSupply becomes even more widespread.

The financial benefits connected with the introduction of AirSupply are varied, depending heavily on how the company collaborated with its suppliers previously and whether a supplier portal was already in use. Companies using a supplier portal for the first time will predominantly slash their process costs. The companies who were already using their own portal will no longer have to pay for its operation and upkeep. These savings compare favorably with the relative inexpensive usage fees for AirSupply.

The greater reliability and efficiency AirSupply delivers compared with conventional processes will make a major contribution to safeguarding the long-term competitiveness of the European aerospace industry.

APPENDIX

Financial Times Deutschland
June, 28th 2011

Europas Flugzeugk

Frankreich fördert einheitliche IT-Plattformen für E

Gerhard Hegmann, *München*

Europas Luftfahrtbranche steht vor einer einmaligen strategischen Verknüpfung: Die teilweise konkurrierenden Konzerne EADS, Thales, Safran und Dassault bauen unter dem Namen Boost Aerospace bis Ende des Jahres drei gemeinsame IT-Plattformen auf. Mit ihnen sollen Einkauf und Logistik, Konstruktion und Entwicklung sowie die unternehmensübergreifende Zusammenarbeit koordiniert werden. Allein in das Einkaufsnetzwerk sollen den Plänen zufolge mittel- bis langfristig mehrere Tausend Zulieferfirmen eingebunden werden.

Die Boost-Aerospace-Initiative ist die umfassendste Vernetzung einer europäischen Branche. In ihr werden sogar direkte Konkurrenten in nicht sensiblen Abläufen kooperieren. In der Autoindustrie existieren zwar ebenfalls große Einkaufsplattformen, sie werden aber im Wesentlichen von den großen Lieferanten und deren Netzwerk gemeinsam genutzt.

Hinter Boost Aerospace steht neben den fünf Gründungsunternehmen – außer EADS beteiligt sich auch die Konzerntochter Airbus – auch eine Initiative des französischen Branchenverbands GIFAS. Das Projekt tritt der in den USA vor zehn Jahren gegründeten Luftfahrtbrancheninitiative Exostar entgegen. Dem amerikanisch-britischen Einkaufsverbund gehören Konzerne wie Boeing, Lockheed Martin oder Rolls-Royce und BAE Systems an.

Die von Frankreich geförderten Boost-Aerospace-Plattformen sollen im Vergleich aber mehr Servicebausteine bieten und international ausgebaut sein, heißt es. „Wir bauen ein ge-

Mit Boost Aerospace will Airbus etwa den

meinsames, harmonisiertes Multi-Company-Portal auf, das erweiterbar ist. So können die Zulieferer wiederum ihre Unterlieferanten einbinden", sagte EADS-Projektmanager Matthias Naumann gestern auf FTD-Anfrage. Bis Jahresende gehen die Plattformen schrittweise in Betrieb.

Vordergründig geht es bei dem Projekt um einfachere und einheitlichere Abläufe sowie mehr Schnellig-

onzerne vernetzen sich

Einkauf und Kooperation der Konkurrenten // Tausende Zulieferer betroffen

Bau von A380-Rumpfteilen künftig einfacher mit den Zulieferern koordinieren

keit. Dahinter steht aber auch das Ziel der Kostensenkung: Die Gründungsmitglieder wechseln von bisher individuell entwickelten und gewarteten Beschaffungsplattformen auf ein einheitliches Fremdsystem.

So soll der Einkauf künftig über eine Lösung der deutschen Firma Supplyon abgewickelt werden. Anteilseigner von Supplyon sind die großen Zulieferer der Autoindustrie. Die Konstruktionsplattform soll mit Software des französischen Spezialisten Dassault Systèmes arbeiten, für die Projektzusammenarbeit sollen Standardprogramme von Microsoft genutzt werden, die in einem besonders geschützten Umfeld von Thales Services betrieben werden.

Branchenexperten sehen in dem Projekt ein Indiz dafür, dass sich Dassault einen Markt sichern will. „Der französische Industrieverband GIFAS hat die Initiative sicher nicht uneigennützig gestartet", heißt es in deutschen Industriekreisen.

Bislang ist Boost Aerospace noch eine Kooperation. Noch in diesem Jahr soll aber eine Gesellschaft nach französischem Recht gegründet werden, heißt es. Jedes Gründungsmitglied wäre dann mit 20 Prozent beteiligt. Eine Anmeldung beim Bundeskartellamt läuft.

Allein Airbus will 2012 rund 800 Lieferanten in das Netzwerk einbinden, sagte EADS-Manager Naumann. Eine erste Erhebung der Gründer habe 1600 bis 1700 geplante Lieferantenanbindungen ergeben, wobei es große Überschneidungen gebe. „Das Konzept wird bei den großen Lieferanten sehr gut aufgenommen. Sie fragen: Wann geht es endlich los?", fasst Naumann die Reaktionen zusammen. Bessere Abläufe in der Zulieferkette seien wichtig für die Wettbewerbsfähigkeit der gesamten Branche – zumal 70 bis 80 Prozent der Wertschöpfung auf die Zulieferer entfallen.

Konkurrenten vereint

Jeder für sich Bislang nutzen die großen europäischen Luftfahrtkonzerne unterschiedliche eigene IT-Plattformen für ihren Einkauf. Das soll sich ändern.

Jeder für jeden Geplant ist die Einbindung von Tausenden von Zulieferfirmen. Die Idee ist eine Branchenlösung.

Gemeinsam billiger Ein Ziel ist die Kostensenkung, weil nicht mehr unterschiedliche Lösungen betrieben und gewartet werden müssen.

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