

Successfully managing complex aerospace supply chain networks Challenges and solution approaches



Introduction and overview

This survey was conducted in May 2016 as part of the Supply Chain Excellence initiative of the aerospace associations (see back page). We are pleased to publish this initial, preliminary analysis to coincide with the ILA 2016. It sheds light on the current status and future challenges regarding the digitalization of the supply chain. More than 60 companies varying in size took part in this assessment of the status quo – predominantly small and medium-sized enterprises with less than 1,000 employees and headquartered in Germany. As expected, their international networking – albeit mainly confined to Europe – is high, both in purchasing and sales, and covers the entire portfolio: from raw materials, single parts, assemblies to cabin equipment and engine components for civil and military aerospace.

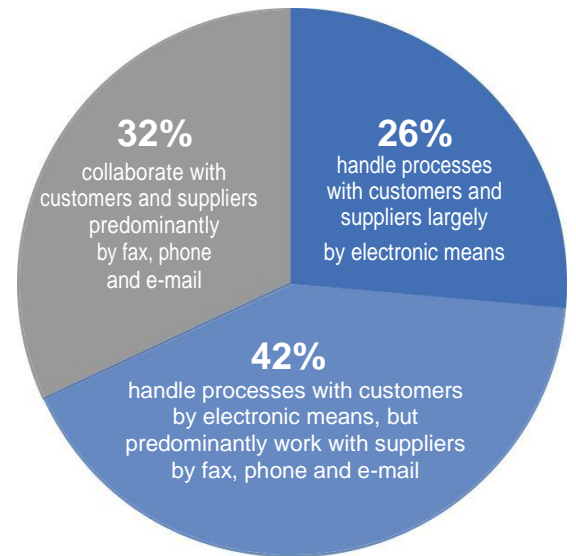
The low level of digitalization is striking: At present, just over a quarter of the companies surveyed, handle supply processes with customers and suppliers by electronic means. However, the need to take action in the field has been recognized: More than 75% of the surveyed companies want a stronger process integration of their supply chain, especially in view of the changing challenges. The top three action areas regard issues such as improving the procedure management, concessions and punctuality management (on-time delivery – OTD).

Issues named as key elements for further digitalization are data security, as well as investments and running costs for the digital infrastructure. More than 80% of those surveyed believe that standardized, industry-wide solutions are necessary.

We thank all participants for their keen interest with this preliminary analysis and look forward to hearing further comments and opinions on this subject, which you are welcome to send to info@stegkemper.com. More than two-thirds of all respondents gave us their contact data – a sign for us to maintain the dialog.

Digitalization of the supply chain is gaining ground – but ...

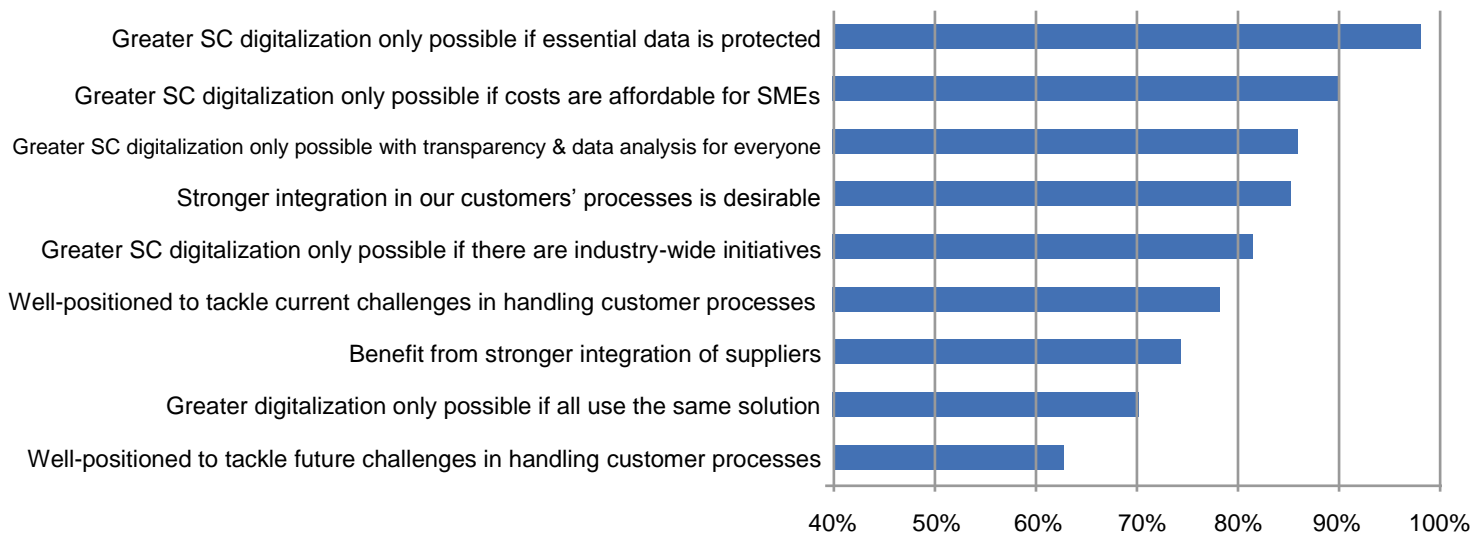
... there is still considerable potential to be leveraged. Just one-quarter (26%) of companies have extensively digitalized their inbound and outbound supply chain, remarkably with a strong focus on the customer interface. This is certainly also due to the digitalization requirements of OEMs and system suppliers.



What has to change to drive digitalization onward?

Data security is the top issue when it comes to advancing digitalization of the supply chain. This is followed by affordable costs and investments, as well as the desire for all parties to have the same transparency and ability to analyze data. There is likewise clear endorsement of industry-wide, standardized solutions, with approximately 80% in favor.

Around three-quarters of those surveyed feel they are well-prepared to tackle current challenges in handling customer processes. That's different when it comes to future challenges: One in three companies feels the need to take action. The competitive disadvantages for these mostly small and medium-sized enterprises are just one aspect. The growing risk of interruptions in the supply chain however, may even extend through to the OEMs with even more drastic effects unless suitable counteraction is taken.



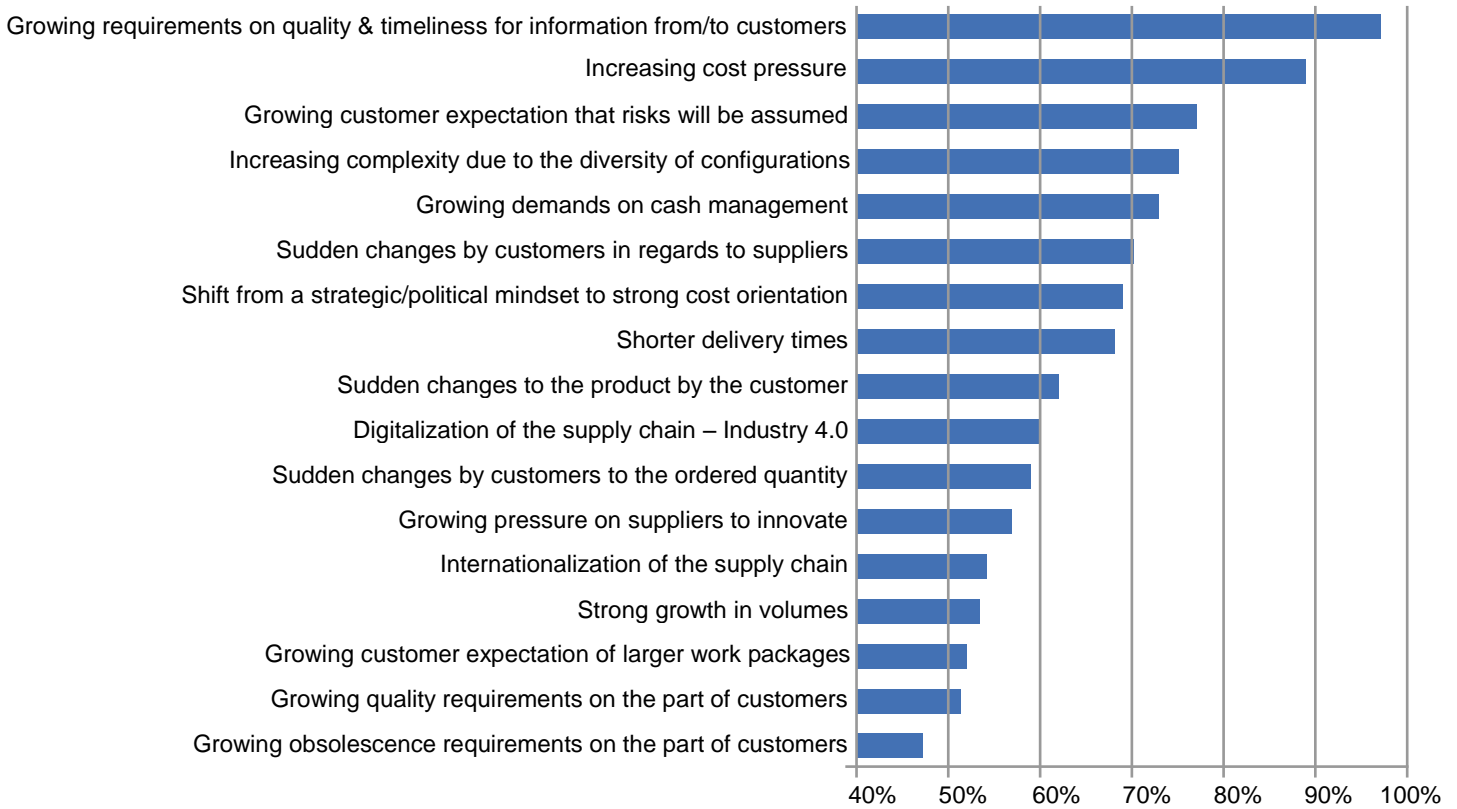
The active engagement of participants during the survey was also evident in respect to the open questions, since all made use of this option.

An analysis of the free-text responses revealed the following focal aspects:

- Strong demand for standards: for tools, data, processes, IT interfaces and data security
- Attention to “soft” factors – from the desire to cooperate to the need to learn
- Balanced cost/benefit ratio
- Limitations in the digitalization of complex contents and processes (quality, negotiations, etc.)
- Planning problems in complex supply chains

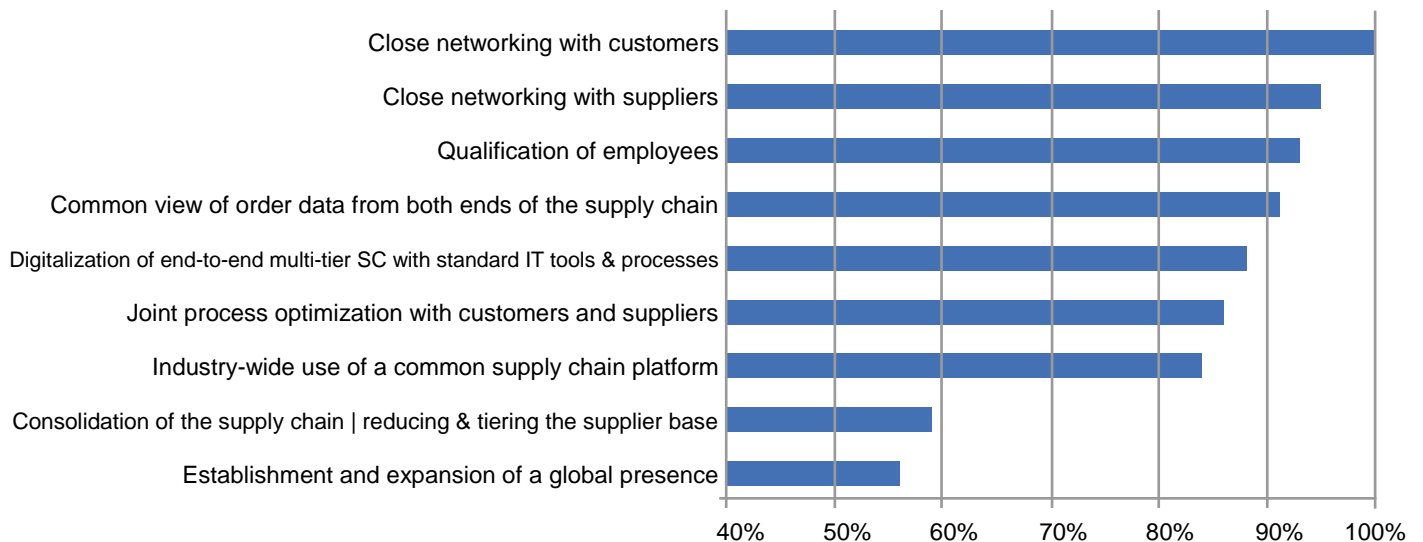
Company-specific challenges – Where is the focus?

The basic rule in successful supply chain management – “information flow before material flow” – is seen as the greatest challenge: 97% of those surveyed agree with the statement that the requirements for quality and timeliness regarding information flow will increase in the next five years. The top 5 challenges also include the “assumption of risks” and the triple C issues “cost, complexity, cash.”



Effective measures – What should be done?

All those surveyed believe that close networking with customers is an effective means of tackling the challenges. An essential prerequisite for this is further digitalization of the supply chain and industry-wide use of a common supply chain platform. In addition, joint process optimization and qualification of employees are also regarded as very important.



Outlook and recommendation

The aerospace supply chain (SC) is increasingly being shaped by an efficient, international division of labor, whose processes, methods and tools will use the digitalization possibilities more intensively in the future. Stronger structuring and integration of all parties throughout the supply chain is on the rise. As this study clearly shows, comprehensive digitalization of the supply chain is possible only with innovative, standardized processes and IT collaboration tools.

Successful business models in the aerospace industry are founded not only on innovative products and outstanding services, but also on perfect synchronization of all areas of a company on the basis of the S&OP process. The necessary integrated planning and managing of demand (based on forecasts and received orders) and delivery capability (based on operational abilities), as well as the rapid response to risks and opportunities, requires relevant, high-quality and synchronized real-time data to support the operational and cross-company decision-making process. Sound, end-to-end information management with a stringent database is not feasible without further digitalization of the SC in complex supply chains.

OEMs set high requirements when it comes to integratable and complete data for managing an efficient, agile and stable SC. For SMEs, tier-1s should act as moderators to reduce the complexity of the supply chain to a “digestible” minimum. This requires not only powerful interfaces between IT systems, but must also be developed to be practical and integrate seamlessly in business processes. SMEs need standards in order not to drown in the complexity of names, processes and the diversity of digital solutions.

Framework conditions and concrete solution approaches must now be defined. Companies, associations and policymakers must contribute equally. The Supply Chain Excellence Initiative and the common desire to cooperate more strongly can contribute significantly – so as to bolster the global competitiveness of the German aerospace industry.

>>> **Supply Chain Excellence requires excellent information management based on a standardized and secure digital infrastructure**

**Supply Chain Excellence (SCE) –
an initiative of regional aerospace associations and clusters backed by the German Aerospace Industries Association (BDLI), industry and SPACE**



The SCE initiative’s objective is to support companies in the aviation supply industry in the face of structural change and in particular to enhance the global competitiveness of Germany as an aerospace location. It is divided into the following six workstreams: Business Models, Internationalization, Industrial Performance, Financing & Contracts, Sales & Operations Planning, and Cooperation. The improvement measures in the Sales & Operations Planning workstream focus on the field of digital infrastructure presented here, as well as on the ability to manage and accomplish complex challenges in the information and material flow of the companies in the global supply chain.

This study was created by Stegkemper GmbH
in cooperation with SupplyOn AG and the SCE initiative

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