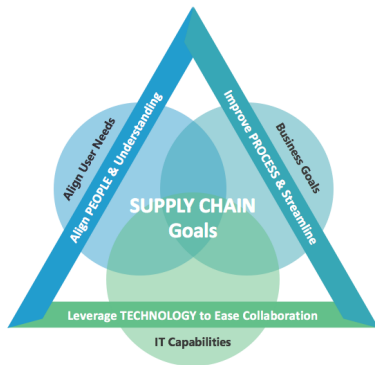


Improving Supplier Collaboration

Introducing an easy lossless exchange of specifications

Resulting in clearer communication, faster contracts and less administrative overhead

Product development and systems engineering are complex. Manufacturers are relying more and more on suppliers to achieve their goals to launch innovative, reliable products faster to market. Effective communication and collaboration are key in making these relationships successful.



An effective supply chain management is a very important factor for the overall business success. As a result, building up good supplier relationships and improving the business processes to create value is a primary goal helping to make greater products faster and less costly.

One of the key tasks with suppliers is communicating the needs and making sure these are understood correctly. Improving this communication, that is to share clear, concise and complete information of the needs is an important part in this process. Getting this interface between the manufacturer's procurement department and the supplier's buying department correct is critical for making any systems development successful. This needs to be taken diligently. The more complex the needs (i.e. the specification thereof), the more this becomes important.

Presently the exchange of specifications between manufacturer and their suppliers is still in many industries very much ad-hoc. Sometimes e-mail, sometimes structured documents, sometimes unstructured, then again, a telephone call, then an update, followed by changes to the original, adapted with feedback from whatsapp etc. Even in the case of clearly structured documents it is normally difficult to trace the changes and analyze the feedbacks from several suppliers systematically and thus effectively. The status quo process is as such very individual and prone to misunderstanding, leading to a lot of wasteful tasks, wasted time and wasted resources. This can be very costly for both sides. The question is: How can this be improved? Let us look at one of our stories, how we addressed this and improved the supplier exchange substantially.

Case Study

One of our customers developing a new innovative complex system, was also relying in the past on a multitude of the above-mentioned exchange formats.

We were involved in consulting at this customer, managing and administrating their new requirements management system in the Systems Engineering department, which was leading this new product development.

We saw how they were struggling in that communication process

exchanging their needs with the suppliers and as such we got involved in understanding their needs and issues.

The challenge they were facing was accentuated by the fact that most components of this new system were based on completely new technologies requiring the selections of many new suppliers. Both of these points had the potential to further jeopardizing the communication load substantially as well as misunderstandings. Getting the needs communicated more effectively and building up many new relationships with suppliers was seen as a high challenge and very time consuming. And there would be many new components which were going to be supplied by new suppliers.

Upon initial discussion, the customer was open to a pilot to evaluate a better way to communicate and select suppliers more effectively. With the clear aim to reduce the overhead of administration of communicating to several suppliers in parallel and a more robust way to communicate the needs and to get feedback more structured. Additionally, the goal was to help to ease analysis of the feedback and helping to deal more effectively with managing and selecting in parallel many new suppliers in the RFI and RFQ phase.

We thus build up a better way of working with the suppliers on following core principles:

- *Structuring the process:*
 - *between R&D and the supplier management team (procurement) at the manufacturer*
 - *between procurement of manufacturer and supplier*
- *Standardizing the communication channel*
- *Focusing on an easy, simple, complete and validated exchange*
- *Specification format based on an official industry standard*

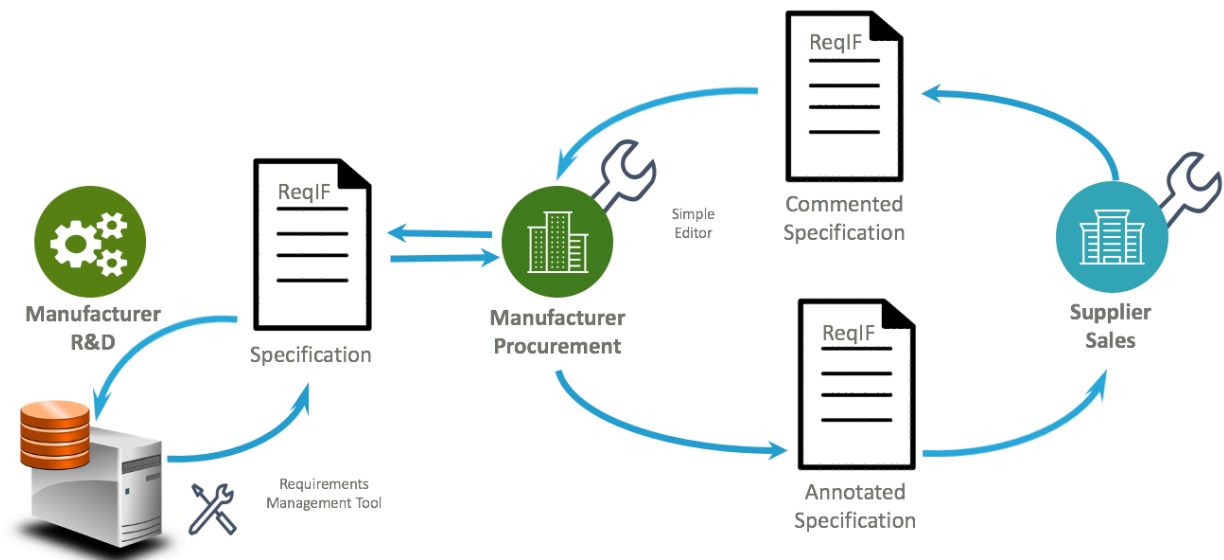
The aim was from the beginning, that both parties, the manufacturer and the supplier, shall benefit from this change. This was validated by the above-mentioned customer case.

Core principles of solution

In a first step it was decided to structure the documents defining the needs (we use the term specifications) which were going to be sent to the supplier in a formal way, such that they can be managed more easily, but also allowing integrated feedback and comments as required in a structured way. We were driven by the need that these specifications shall be easily handled, i.e. to be read or edited in an easy secure way (word/excel like). Further the proposed specifications, are based on an industry standard (ReqIF¹), which

¹ ReqIF stands for Requirements Interchange Format, an industry standard managed by the Object Management Group (www.omg.org), a not for profit technology standard consortium dedicated to developing technology standards which drive real-world value. Current Version of ReqIF is 1.2.

was initiated by the automotive industry, who are the leaders in the supplier exchange integration. The standard addresses the challenges in exchanging requirements data (i.e. specifications) lossless between organisations that do not have the possibility to share the same repository. These xml-based specifications are domain agnostic and are easy to view/edit. They are a mixture of a word like document and excel, however with major advantages over word or excel, such as unique identifiers, which enable clear traceability to other requirements or changes with respect to older versions, definition of read-only columns, easy filters to ease feedback and statistics to make sure the two parties are talking about the correct version of the specification.



In order to make it easy for suppliers to adapt to the new way, the initial exchange is enriched with clear and easy instructions, a special easy to use reader/writer to open these documents and amend them as requested (i.e feedback with respect to acceptance, comments and information). The viewing of the specification is word/excel like and can include graphics, pictures etc. which are directly embedded in the document viewer but can also be viewed by the appropriate tools as needed.

Benefits for the supplier

The benefits for the supplier are that the specifications are clear, complete and concise in order for the supplier to respond in an easy and fast manner to any request including ways for checks of completeness. Further, if updated specifications are received, the

supplier can follow the changes easily and as such this simplifies the analysis of any impact, and thus saves valuable time and effort.

Benefits for the manufacturer

The information to be exchanged with the supplier can be extracted from their Requirements Management System used internally by the manufacturer. As such the Interface between R&D and procurement / supplier management can be managed in a structured way. The procurement department can further initiate and manage easily in parallel several different RFIs/RFPs and collect and synthesize the feedback effectively. Streamlining this process helps them in dealing with the variety of potential specification in the same way and thus reduces unnecessary overload and communication overhead. Through integrated validation checks they can further always check if they are speaking about the correct specification and version in order to eliminate misunderstanding.

Challenges in changing the status quo

The main challenges remain in extracting the data from the “Requirements Management System” being used by the manufacturer and the implemented support of ReqIF thereof. Being a rather new standard the support by the tools is still very variable. In our mentioned case above we were involved in the roll-out of that systems and the requirements data model. As such we could manage the process and the implementation thereof and adapt it to the specific needs of the customer, making sure any manual processes which were needed due to insufficiencies of the involved tools were seen and addressed in the greater picture. Where appropriate and beneficial the manual processes were automated. For example, in the above case we could only extract the complete set of attributes for each requirement of a defined component specification in the requirements management system. However, the manufacture did not want to exchange all the attributes with the supplier. This was therefore covered in a first stage by a manual process by procurement and in a later stage the used ReqIF editor of the specification was amended with the possibility of selecting specific templates, which reflected the customer needs for a one-click selection. We also logged a request for enhancement for the Requirements Management Tool. However, this may take longer to be solved, as it needs to be evaluated and hopefully implemented. Our consultant’s expertise and relationships in the Requirements Management System and ReqIF Tools, as well as the deep know-how in the ReqIF Standard helped in making the process smooth and sustainable.

From a supplier’s point of view the challenges are given primarily through the change in the format in which they will receive the specifications. Openness to a new way of managing and editing the

specification is required. To our surprise none of the suppliers of the above-mentioned customer case were aware of the ReqIF standard and initially were not very optimistic about the change and rather resistant to the change. However, an introduction webinar of about half an hour was sufficient for them to understand the background and the process such that each one of them was seeing the benefit after this webinar and reacted positively to the trial. As a result, all suppliers saw the benefits after the trial. The buy-in was finally very easy but seemed to be very high at the beginning.

Outlook

We believe that this way of exchanging specification is very valuable. It forces a formal, structured and effective way for lossless exchange of specifications. We want to promote this way more in future and see much more potential in making the exchange of specifications even more streamlined, especially as Requirements Management Systems are being rolled out more and more. But even if no Requirements Management System is in place, basing your specifications exchange on this process can ease the supplier exchange substantially.

In a next stage, suppliers receiving complex specification can also import these in their requirements management system and as such have a digital thread right through the system without any gaps.

Conclusion

We have been very encouraged by this case, as the feedback has been overwhelming from both the procurement of the manufacturer and the sales departments of the suppliers, as well as domain specialists. As the exchange is easier it also promotes more continuous communication which is very important for joint developments and partnerships.

One of the suppliers, who was very reserved at the start resulted in following statement: "Vow – this is awesome". This underpins that change and reflecting on better ways is very important.

Let us help you in making your suppliers feel like this!