„Paradigm shift in the service sector“

Rafi Boudjakdjian, Quanos Service Solutions interviewed by EngineeringSpot

From spare parts catalogue to service information system

Ralf Steck, Friedrichshafen · EngineeringSpot

Following the merger of Docware and TID to form Quanos Service Solutions GmbH, Rafi Boudjakdjian, as Managing Director and Chief Technical Officer of the new company, is responsible for bringing together the two former providers of spare parts catalogue solutions. In an interview, he talks about his vision of a service information system (SIS).

Mr Boudjakdjian, what are the challenges facing companies in the after-sales market?

If a spare part is wrongly delivered, the return and the dispatch of the correct part often wipes out the profit margin. Companies therefore need to be able to rely on their bills of materials being correct and up-to-date, so that they can identify the correct part. This can be difficult, firstly, if products have changed during their production time or if they were changed as part of any maintenance work. Secondly, the ever-increasing distinctive individualisation of products results in an increased risk of sending the wrong spare part.

There are software solutions for these challenges, but implementing these – or more precisely, getting the data to a level of quality that will deliver good results – is anything but trivial. The spare parts catalogue that arises, based on the data from the design and the ERP system, also needs to be just as detailed and simple to use, and it needs to enable the customer or service engineer to reliably identify the parts required.

In addition, the spare parts catalogue is just one aspect of the information that the user requires. As well as the straight parts data and bill of materials, assembly and disassembly

Quanos Solutions GmbH
Hugo-Junkers-Str. 15-17 · D-90411 Nürnberg
+49 911 21794 199
info@quanos-solutions.com

instructions are required, as are operating manuals and potentially training videos or other information material. That's why I talk of a service information system.

Where does the data used as the basis for building a service information system come from? Are 3D CAD models that are often stored in the PLM system enough?

No, because they are incomplete. For example, the 3D model does not include any details on oil fill quantity, screw locks or other additional materials; what's more, the CAD model hierarchy is not usually suitable for direct use in the spare parts catalogue. A good example is an engine gasket for a combustion engine: this includes seals from the various technical assemblies, from the fuel injection to the cylinder head, engine block, aggregates and exhaust system.

That is why we usually use an interface to the ERP system, where the relevant bills of materials are available. The ERP system also includes other important information, such as prices and lead times.

Further information comes from the documentation system, which forms the background to the merger with Schema GmbH. We can thus offer a solution that consolidates the necessary information, references and instructions for each component with targeted precision and presents it to the user.

What does the future look like for the service sector?

Targeted, individual and clear. We are all familiar with car operating manuals, in which various engine variants are presented page-by-page, which means that we have to search for the section that applies to our own car. Our aim is to be able to offer all information on the spare parts on one page – perfectly matched to the individual product and in the language required.

With the tools that we have under the Quanos roof, we can compile an individual bill of materials and use this to generate appropriate spare parts catalogues and operating and service manuals. This gives rise to a fully comprehensive parts description, the Digital Information Twin of the component and the entire machine.

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In the more distant future, I can envisage systems that have a precise knowledge of all the user's machinery. Then, the service information system would be able tip users off, for example, that several other machines have the same part installed with similar hours of operation and it might be worth buying several parts at the same time.

We are looking into the possibility of giving each part an individual number and then to be able to locate the parts individually in the room. That would be interesting, for example, if six M6 screws are listed in the bill of materials, but one of them in particular needs to be bonded with a screw lock. In that case, the SIS would be able to tell the mechanic exactly which screw it is – ideally, while displaying the 3D model.

However full digitisation is a fundamental requirement for this.

That's definitely true. We are facing a paradigm shift. Previously, attempts were made to keep the documentation as short as possible and to introduce as few changes as possible. If we work on the 3D model in future and can save ourselves the task of lengthy drawing derivation, we have the resources to create higher quality right at the data source, and thus to save a lot of time and expense.

In our customer projects, we often see that "only" a spare parts catalogue system needs to be implemented. But the time and cost involved with that is often underestimated, because this type of system exposes all the "gremlins" in the database. An automated spare parts catalogue requires a high level of data quality, such as the hierarchies and links – and the language versions required also need to be fully available.

This level of data quality brings many benefits. One example is the option of being able to offer customers automatic enhancements based on the configurations of their product. And last but not least, sales that can be generated as part of after-sales business increase, as does customer satisfaction – because the customer receives the right spare part at the first time of asking, in the right configuration and with all the information that they require.

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Mr Boudjakdjian, thank you very much for talking to me.

Dipl.-Ing. Ralf Steck is a freelance journalist and expert in the area of CAD/CAM, IT and mechanical engineering.

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