Rapid prototyping, an innovating market, where Datakit is proud to count Materialise among its customers.

Both companies like to thank the people who came to visit their stands on the Micad show.

The industry of rapid prototyping has known a quasi continuous growth since its emergence in the 80’s. In his annual report, Terry Wohlers, * highlights the tendencies of the year:

- 4.83 million models were produced with approximately 13,000 rapid prototyping machines
- the US market continues to maintain its grip on both the production and utilization of RP systems
- an unprecedented increase in the sales of 3D printers
- increasing interest for modeling tools

* Wholers Associates, Inc is a consultancy organisation, specialized in rapid prototyping

Materialise was one of the first European rapid prototyping bureaus. It has since grown into a worldwide leader in software solutions for the rapid prototyping industry. It offers a broad range of software packages, all interfacing between part design and manufacturing one way or another.

Materialise’s mission is to innovate product development. The company has over the years evolved into four separate divisions: Industrial Services, Software Development, Medical and MGX (design). Each division serves a particular market. Altogether they meet the needs of the whole market.

Materialise has the ambitious objective to maintain its leadership in the world, thanks to its great capability to adapt to the evolution of the industry’s needs. It targets a global market and strengthen its relationships with machine manufacturers, for whom they develop custom software solutions. This approach is all the more strategic, since besides the large manufacturers, you see the emergence of numerous suppliers of smaller machines, complementary to those used in the classical dedicated prototyping room of large companies or prototyping companies. Among the 5700 industrial groups which use its software, 2000 chose Magics, core product of its range of applications.

The purpose of these applications is to automate the production of prototypes. They allow to prepare CAD models for building on an RP machine, to repair them easily, to conceive the support structures, to design complete tools...

The basis of the prototyping process is to manipulate scanned data or 3D models, that have been imported into the software. In both cases, the files will be adapted to the type of the selected prototyping machine.
The triangle-based STL format is Materialise’s working standard. This file type allows the users to work directly on every triangle composing the part in order to check their shape and if necessary, to correct or modify them. This format has the advantage that it allows for a large degree of design automation. Optimizing STL models for design changes, simulations or finite element analysis could be done easily. Whatever the method used to define the very first file, the result must be the best possible one. Materialise has collaborated for more than 5 years with Datakit to provide their users with reliable solutions to import the 3D native CAD models of Catia V4, Catia V5 and UG. As a consequence, as soon as new versions of these software are available, Datakit must provide an update. The last version of its UG library now allows users to work directly from NX 3 files.

Johan Begine, Software Sales Manager in France, comments: "my 6-year experience at the industrial services department, and my daily interaction with end-users, allow me to say that in the world of prototyping, customers are particularly demanding and generally they don't allow any errors. This is as much true for data conversion, where it is necessary for us to be good and constant. Approximately 95% of the files are well converted. We have progressed much, also in terms of repairing the imported files. This is a key element for our customers who mainly work with CAD software and are constantly looking for time savings. We, who emphasize on the shortest possible delay for a user to be operational with Magics, we cannot allow to waste any time while translating files."