**The Rise of Full Colour 3D Printing**

**The range of applications for 3D printers is becoming even wider. This is why we hear so much about innovative projects in aerospace, the manufacturing sector and medical science. Just as interesting is the emergence of full-colour 3D inkjet technology, which can be used to print 3D objects in no less than 10 million colours. This allows the ability to substantially shorten production times and time to market, as well as to immediately deliver a ready-to-use product.**Much has changed since the first electronic printer was developed in 1968. Within a few decades, we have moved from single colour dot matrix printers to full-colour inkjet and laser printers. A similar evolution is currently taking place in the 3D printer market–and it seems to be developing many times faster. Most 3D print volumes still come from the fields of prototyping and print-on-demand. Until recently, the process of turning a 3D printed object into a ready-to-use product was still laborious: think, for example, of manually cutting tags or other support structures, or sanding, polishing and overpainting. With Mimaki’s 3D printer, which is based on inkjet technology, all these steps can be significantly reduced, or even rendered unnecessary. Objects can be printed directly in 10 million colours with UV-curable ink. In addition, the support material can be easily dissolved by submerging the object in lukewarm water. This results in a much quicker and less labour-intensive process, where product can actually come out of the printer in full colour and almost ready-to-use.
 **Printing objects in full colour**
The Mimaki full-colour 3D printer (3DUJ-553) is a revolutionary product thanks to the UV LED inkjet print technology. The material is just as hard as ABS, making it suitable for various applications, and just like traditional inkjet printers, it can also produce more than 10 million colours. This may seem obvious for someone unfamiliar to 3D printing, but it definitely is not. There are indeed many 3D printers on the market, but they mostly differ in aspects like the print resolution and types of material they support. Full colour 3D printing technology only came onto the market about 10 years ago, partly thanks to Mimaki’s efforts in this field. For the 3D market, this was an important step towards making the technology much more accessible and allowing it to be used for a wider range of purposes. After all, now you can model an object entirely in 3D and colour it, and then physically reproduce it one-to-one in a full-colour 3D printer. With this development, at one fell swoop, 3D printing has almost reached the same status as 2D printing, but for printing physical objects. You create a design on your computer, which you can then print out effortlessly without the need of extensive finishings, such as overpainting or manually removing support material.

**3D art and scale models on demand**
Full-colour 3D printing is now conquering the market at a great pace. Not only does it shorten time to market, it also delivers better looking and higher quality products than a standard 3D printer. For many companies, the technology has now become more accessible, for example, for making full-colour prototypes of new products. This allows them to rapidly deliver a visually attractive prototype without additional treatments. In practice, we are also seeing the technology being used to print scale models where a lot of detail is required, such as the cabins of a cruise ship, yachts or offshore constructions. It used to be a big job for model building experts to produce these types of objects. Now it can be done more quickly, and at a much lower cost.

Full-colour 3D printing is also increasingly interesting for consumers. More and more 3D scans or data are being shared and sold online, and can easily be ordered as a 3D print. Artists can thus sell their virtual creations online and print them on demand, ranging from 3D paintings to all kinds of complex sculptures and figurines. Collectors and model builders are also relying on 3D printing in their search for an alternative way to obtain unique or unusual objects.

Objects like spare parts, enclosures or electronics covers, are now also available on demand, in all shapes and sizes. With full colour 3D printing, the 3D models used can also be fully adapted and personalised, without the limitations of mass production. This opens a huge market for companies that want to give consumers access to their small 3D print factory in a user-friendly way.

It is clear that full-colour printing is an important breakthrough for the 3D industry, which will provide the market with huge momentum over the coming years.