Medicine from a pharma 3D printer

Dr. Markus Dachtler, CEO of the system supplier DiHeSys Digital Health Systems GmbH, has a vision: Providing customized treatments to patients by printing drugs. In an interview, he talks about the road to get there, the benefits of personalized treatment and the pharmaceutical printers developed in collaboration with Harro Höfliger.

DiHeSys, Helmar Lünig

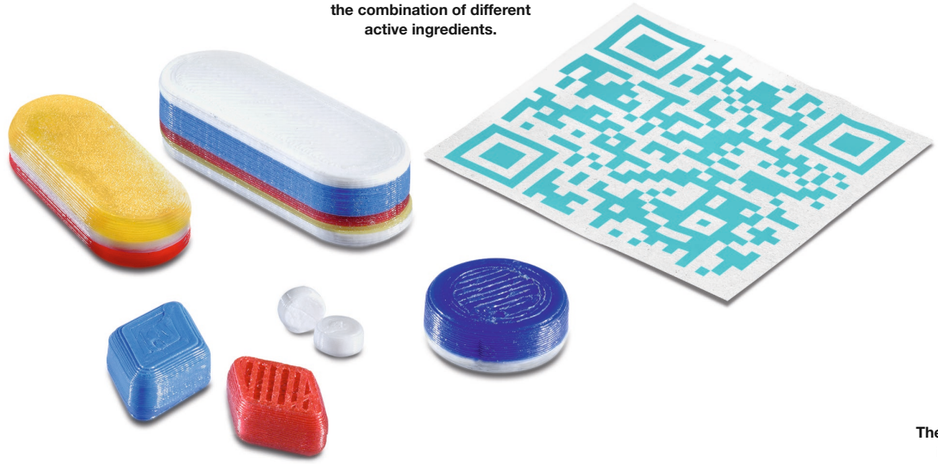
Dr. Dachtler, what significance does personalized medicine have for you?
It is estimated that up to 60 % of all drugs prescribed today do not achieve the desired therapeutic benefit. With DiHeSys we would like to play a part in changing this situation. Personalized therapies that are tailored to the individual patient enable a more targeted treatment with fewer side effects. For example, the optimal amount of active ingredient strongly depends on body weight. In addition, in Germany alone there are more than 13 million patients who need to take more than three different drugs per day. The elderly are often the ones who find it difficult to sufficiently control and coordinate multiple drug intake. Therefore, personalized medicine also aims to produce individualized combination products.

How does DiHeSys contribute to personalized treatment?
Our work focuses on the individualized production of printed drugs. We specialize in the personalized production of thin films for oral intake in 2D printing and tablets in 3D printing. With both dosage forms, we can provide patient-specific dosing and combine several active ingredients in one drug. We offer a complete package that includes printer, formulations and cartridges, but also software and data management.

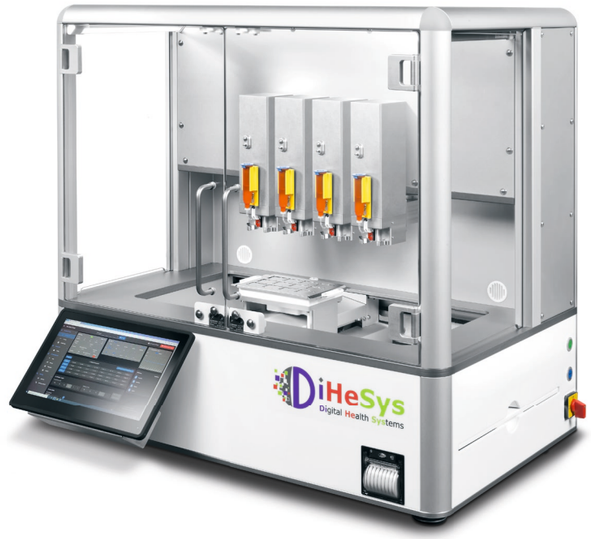
Did you develop your own hardware?
Together with Harro Höfliger, we are developing the FlexDosePrinter, a printer suitable for the pharmaceutical industry that can produce medicines in 2D and 3D printing. Being able to offer the processes for both methods from a single source is what makes DiHeSys unique: From the formulation development of active ingredient containing inks for 2D printing or filaments for 3D printing to the production of drugs in the FlexDosePrinter, all the way to the supply of consumables such as cartridges.

Why did you choose Harro Höfliger as a partner for the FlexDosePrinter?
With our plan to build pharmaceutical printers for personalized medicines, we entered unchartered territory. As Managing Director of Gen-Plus in Munich, an innovative high-tech pharmaceutical development laboratory, I already know Harro Höfliger as a future-oriented specialty machine manufacturer who is capable of developing the ideal solutions for our requirements. For example, we already jointly developed a machine with an integrated printing unit for the manufacture of personalized thin films. In addition, we knew that the company had the necessary experience in the field of personalized medicine, for example in the exact dosing of microtablets. Their focus on systems for pharmaceutical and medical technology applications also convinced us. This has made it possible for us to meet the high demands of the medical pharmaceutical industry; at the same time, the compact printers fit on any table. With their pharmaceutical expertise and personal and visionary approach, Harro Höfliger has proven to be the ideal partner for the development of the FlexDosePrinter.

Learn more about how 3D printing works at:
www.harro-magazine.com



Personalized drugs enable patient-specific dosing and the combination of different active ingredients.



The FlexDosePrinter is suitable for the production of personalized thin films and tablets.

About DiHeSys

DiHeSys is an innovative, digital healthcare provider. The company develops and manufactures information and process engineering systems to provide patients with access to personalized medicines. The products and services optimize the drug supply of patients in all areas (prevention, diagnostics, treatment and therapeutic success). With the FlexDosePrinter, DiHeSys offers its customers a manufacturing system for individualized medicine in 2D and 3D printing, from printable drug formulations to the production of personalized medicines.

DiHeSys Digital Health Systems