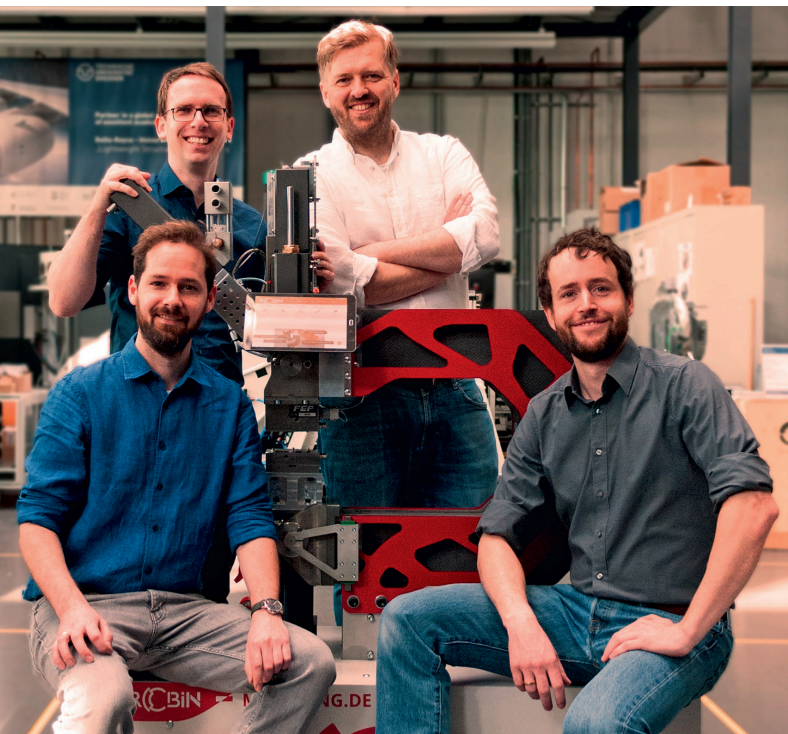




New Plastic Heroes: Anybrid

“Mobile Injection Molding Needs Time to Mature”

What Anybrid envisions is using lightweight construction technologies to build injection molding technology compact and light enough to take off with the corresponding robotics or automation. The Dresden start-up knows how to convince: not only with words, but also with its grasp of technology.



Founders from left to right: Michael Stegelmann, Michael Krahl, Tony Weber and Jan Luft © Anybrid

Michael Stegelmann is one of the managing directors at Anybrid: the Dresden start-up that makes light, mobile and flexible injection molding machines. Stegelmann and his three co-founders have broken new ground by combining the disciplines of plastics technology and lightweight construction in hitherto unforeseen ways. Stegelmann was the next guest in

Facts on the Start-up

- Name: Anybrid GmbH
- Founded: 12/2020 in Dresden, Germany
- Total customers: 15
- Number of employees: 4
- Homepage: anybrid.de/en

our ongoing New Plastic Heroes start-up series to talk about the company, its ups and downs and what the future of lightweight construction holds.

Kunststoffe: *What sparked the idea?*

Michael Stegelmann: We have worked with the automotive industry to set up various processes in a number of publicly funded projects, which have seen us develop various structural components such as tailgates, seats or complete underbodies using thermoplastics, metals and/or composites. Many of these approaches involved us deploying injection molding alongside forming processes. The processes we refined to do so remain state-of-the-art and some have also made it to series production. However, if components are only to be functionalized locally with plastic, transferring existing solutions to sectors outside the automotive industry is not always easy.

Kunststoffe: *Why is that?*

Michael Stegelmann: Well among other factors, it's down to very high investments in plant and tool technology, the ROI of which only comes when you process in bulk. So we took this dilemma as the chance to develop an all-new approach. By doing so, we want to ensure the numerous advantages of injection molding technology can be leveraged to produce components via multi-material design, which other industries can also use. Scope to move an injection molding machine freely in space paves the way to implement flexible production and assembly lines.

Kunststoffe: *At K 2022, you already showcased your second-generation mobile injection molding machines. What things have changed since your first trade show appearance in 2019?*

Michael Stegelmann: Shortly after K 2019, we were awarded EXIST funding, which we used to extensively test our first pilot system and evaluate its usability in initial customer projects. What we also have to remember is that mobility exerts additional demands on mechanics, which are much simpler when classic injection molding machines are used. We were able to build on what we learned to improve the machine.

Kunststoffe: *In other words?*

Michael Stegelmann: We made it an additional 10 % lighter. The position of the robot connection has also changed, which allowed us to optimize the system's center of gravity and extend its reach.

Kunststoffe: For which industries and components could the machine be useful?

Michael Stegelmann: In some projects, our plant technology will be used in the automotive industry. The key thing for us, though, is this: It is not the only use case. Inquiries have also come from construction and industrial sectors, the furniture industry or even the electronics industry, for a whole range of reasons. Companies from the classic profile extrusion sector are also included and very specific projects exist, setting out how our system is to be used in various scenarios.

Kunststoffe: What are the limits of your technology – for which applications is your technology not usable?

Michael Stegelmann: On the one hand, limits apply in terms of restrictions on shot volume and clamping force. On the other, our plant technology will not work if used in the same way as classic stationary injection molding plants. We see our system as an add-on module for other processes to locally overmold workpieces, profiles or components.

Kunststoffe: To date, what has been the greatest success for Anybrid?

Michael Stegelmann: As well as the various innovation awards that we have won over the past three years, our stand-out successes have been signing two cooperative agreements. The partners see how much potential our plant technology has and want to use it in various production scenarios. So on the one hand, we cooperate closely with Rehau Industries and on the other, with a South Korean electronics group.

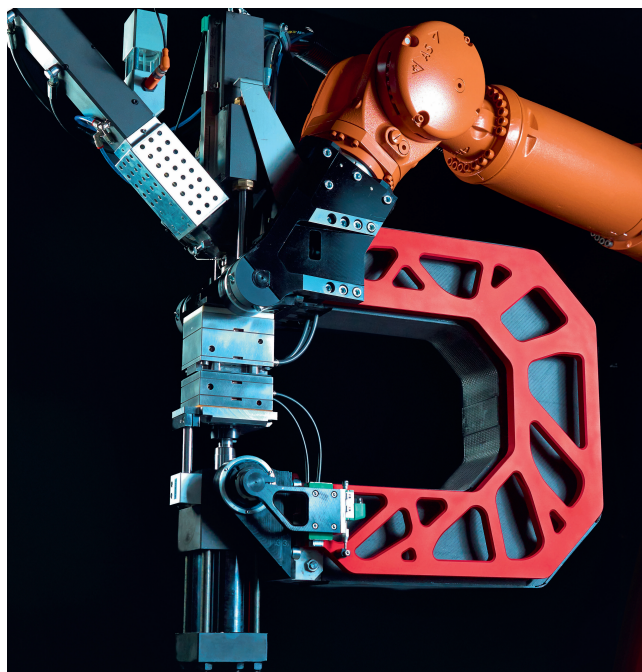
Kunststoffe: Did you also experience setbacks?

Michael Stegelmann: Well, of course, we've also had setbacks. Under current circumstances, particularly, we soon see signs of interest, but the risk that taking further steps would entail is then avoided. This is often also due to the fact that a rethink is required in production, which involves effort from the outset and will only pay off later down the line. Fortunately, however, what we also now see is that many of those with whom we have spoken over the past three years are now approaching us with new and often very specific inquiries. And this underlines for us the fact that the idea of mobile injection molding just needs time to mature in what remains a rather conservative industry.

Kunststoffe: Which industries are spearheading present-day lightweight construction developments? Is it still aviation and carmaking?

Michael Stegelmann: It goes without saying that aviation and carmaking still underpin many classic lightweight construction topics today. However, applications in construction and industrial sectors are also growing strongly. Moreover, lightweight design has been present and applied in various plastics technology applications for many decades, without now necessarily being associated with lightweight design. As a general rule, foams offer the easiest and best solution: lightweight design by omission.

Kunststoffe: Where do you currently see the biggest challenges for lightweight construction?



A mobile injection molding system for start-ups: However, the young company not only sells plant technology, but also develops products and processes related to mobile injection molding technology together with customers. © Anybrid

Michael Stegelmann: As well as ensuring that lightweight technologies do not result in any additional costs, it is imperative to consider the required circularity of the components at an early stage during development. This is particularly applicable when several materials are combined. The already good separability of the materials must be further boosted significantly to allow efficient recycling.

Kunststoffe: In closing: Where do you see Anybrid or your technology in five years?

Michael Stegelmann: We firmly expect to have positioned our mobile injection molding technology in several series applications within the next five years. The goal for the next few years is also to boost awareness on the international market and win more customers there. We also hope to further refine the plant technology. We also see particularly great potential in coupling of several systems that are integrated in production processes in parallel. ■

Melanie Ehrhardt, editor

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