BOBBY TAILOR
unique cars for unique kids

Creabis
realized conceptions

Facts

Challenge

Economically manufacturing high-grade components for luxury Bobby Cars.

Solution

Batch-size adjusted additive manufacturing of components and tools using EOS systems.

Results

- Customized: The ability to quickly produce one-off pieces that fulfil customers' desires
- Cost awareness: Series production of small batch sizes
- Empowering: EOS technology as the basis for an entire business model

Exclusive all around: inspired by real designs, parts like the front grill and the wheel rims are manufactured with industrial 3D printing and refined manually with passion. (source: Bobby Tailor)

From Business Ideas to Series Production – Speeding to Success with Additive Manufacturing

Bobby Tailor produces custom-made Bobby Cars for the discerning young motorist

Short Profile
Bobby Tailor manufactures luxury children's cars for young and not-so-young customers. Whether it's the paintwork, leather, chrome, electrics or rims, each Bobby Tailor Car is a customized, exclusive one-off.

Creabis is an expert in additive manufacturing. The company's service portfolio includes the production of individual pieces and small series and additional related services – from initial consultations through to post-processing and finishing.

Further Information
www.bobby-tailor.com
www.creabis.de

Bobby Tailor produces exclusive Bobby Cars that draw their inspiration from the plastic red original that every toddler dreams of owning. The luxury version of the push-along classic elevates this dream to supercar levels. Each of these ride-on roadsters has lavish fittings and plush finish in character with its petrol-driven relatives. The key technology driving the project is additive manufacturing, supported by EOS.

Challenge
Car manufacturers have long understood the value of the luxury models in promoting their brands. In 2015, with an eye for the supercars cruising the streets of his city, Steffen de Bochdanovits saw a niche with business potential: custom-made luxury small editions of genuine motorcars in the Bobby Car style. Inspired by family and friends and supported by his network, the idea of Bobby Tailor began to really take shape later that year: hand-finished leather seats, spectacular alloy rims, high-end electronics and lavish applications all combine to transform the concept of a simple ride-on car into an exclusive product.

The company's affluent target group was never in doubt – flagship dealerships of car manufacturers, hotels and exclusive private clients. Yet despite a functioning niche and the existence of a clientele happy to pay for quality, costs couldn't be allowed to spin out of control. The aim was to integrate customization with high quality within a corresponding price structure. This had added significance since the high degree of individualization meant that, from the beginning, the company would frequently be looking at single-unit production.

Besides this challenge, Steffen de Bochdanovits found himself faced with a different problem: some of his ideas just couldn't be realized with conventional production methods. This was particularly the case with the aluminum wheel rims, which – as in the real automobile sector – might be eye-catching, but are very problematic to produce: "It is impossible to mill the wheel rims from aluminum. Costs aside, at this size, quite a few designs would simply not be achievable because the flexibility to customize is not there", explains the Bobby Tailor founder.

Easy complexity: instead of milled rims from aluminum, the 3D printed polymer rims look strikingly realistic and reduce production costs dramatically. (source: Bobby Tailor)

Solution
Steffen de Bochdanovits found the solution to his problem in industrial 3D printing. The technology uses a laser beam to fuse a powdered material, layer by layer. It is so well-suited to the needs of Bobby Tailor that the company actually uses it twice in the manufacturing process. For some of the small parts they use the EOS M 290. With the DMLS system, complex tools were produced from metal with conformal cooling. In a second step, they used these tools to produce the ignition lock and key and the fuel cap by way of plastic injection molding. The hubcaps, cooler, cockpit and logo are all manufactured directly from the powdered plastic by means of the EOSINT P 395. Subsequently, these and additional luxury parts, like hand-sewn leather seats and electronic equipment, are installed in a conventional chassis that the company buys in.

Bobby Tailor uses partner companies to carry out the individual manufacturing steps for its unique product. This is also the case with the additive

manufacturing, which is undertaken by Creabis. The partner firm from Kirchheim, near Munich, uses the EOSINT P 395 from EOS to make the aluminum rims - the most striking and complex component of the whole car. The material used is the PA 2200, which, with its balanced characteristics profile, is practically the all-rounder of source materials. "Milling a component like this from aluminum is almost impossible", explains Ralf Deuke, CEO at Creabis GmbH. "It is a relatively small form with a complex structure and the machine hours alone would be prohibitive. 3D-printing processes are cheaper, offer more design freedom and allow faster iterations. The EOS products provide access to the highest quality, as many of our customers would attest to. Now we can offer our partners a genuine first-class product."

EOS technology is proving once again that in addition to the increased freedom of design, it offers the ability to produce any batch size economically. Leveraging this advantage, Bobby Tailor was able to successfully manufacture prototypes and series products cost-effectively and with a very short lead-time – a key advantage of this technology. Steffen de Bochdanovits penned his first ideas for these small luxury vehicles in the middle of 2015, and by May 2016 he was already able to begin selling them. For the complete start-up of a company, along with manufacturing and development, this is an extremely short timeframe.

Results

The fast market launch, supported by additive manufacturing, was however, not only notable on the development side, but also in terms of series production: Bobby Tailor saves, for example, 22 hours in the manufacture of each aluminum rim. The cost implications mean that a wheel rim costs a two-digit rather than a four-figure sum. Also, the company is able to accommodate special requests for wheel-rim designs quickly and easily, with a simple photo sufficing as source material. The young company has also mirrored the manufacturers of real cars by installing a configurator on its website, allowing clients to build the car of their – and their child's – dreams. Thanks to the 3D-printing technology, Bobby Tailor can add new cars at short notice, incorporating the automobile industry's latest models into its portfolio.

The company will continue to benefit from low costs, as it produces more and more components in this way, even with small order sizes. What's more, when it comes to combining tool construction and conventional injection molding, additive manufacturing can play one of its trump cards: the fact that negative forms for casting can be easily managed and are therefore cheaper. Above all, however, it was the possibility of manufacturing complex structures, and thereby producing high-quality molds, that proved decisive.

"This type of service would, with conventional manufacturing technologies, either not be possible, or would mean incurring horrendous costs for the manufacturer and, ultimately, the customer." The entrepreneur is clearly delighted. "The possibility of having a high-quality Bobby Car additively manufactured forms the basis for my company's entire business model. Through the support of competent service providers such as Creabis, we have been able to bring a completely new product to market in a very short space of time. That is a real paradigm shift." In this way, additive manufacturing is making a positive contribution to a vibrant startup culture – innovation at its best, and made in Germany!

"The EOS technology has delivered a path for me, as an entrepreneur, to realize my ideas. After many years of management experience in the telecommunications industry, I was able, with the right business partners, to develop a unique, high-grade and customized product for the luxury segment in the shortest timeline imaginable – from the initial idea, through series production and market readiness. Just a few years ago this would have been unthinkable."

Steffen de Bochdanovits, Owner Bobby Tailor

"We have already taken on many commissions for additive manufacturing. The technology is brilliantly suited to meeting the needs of entrepreneurs who want to conquer the market quickly with fresh ideas. We have consistently had great experiences with EOS products. An additional plus factor is the close cooperation, whether in terms of maintenance or production queries. As a result, our customers also profit from the high quality products we deliver."

Ralf Deuke, CEO Creabis GmbH

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