

Virtual Worlds in automobile Construction

Summer and sun are Cabrio drivers' calling. The warm time of year brings them out on to the streets. Even the Eos - the chic "topless" model from Volkswagen, is booming. Its birthplace was Portugal. In order to understand better the complex car-roof construction and fitting, the staff there uses virtual animations "Made in Saxony-Anhalt".

The assembly instructions are thus explained to you: 3D, interactive and in very clear steps. In a similar way, the VW workers in China are given their work tasks, explained via virtual Prototypes. These highly modern documentations originate from Harbke in West Saxony-Anhalt. There, IGS Development GmbH has been preoccupied since 1996 with virtual technologies. Central skills include engineer provision in exhaust gas systems and cast iron part developments. The specialists are familiar with process chains and create within the technical development constructions, calculations and virtual prototypes on the computer.

As Managing Director, Marion Thiele explained, "We recognized the trend already upon founding the company - thus we built up our business on the peripheries of Volkswagen." It was a time in which a whole sector transformed itself: It was the beginning of the digital industry. The result being that the development time between initial idea to final part, the component, was drastically reduced - thus increasing the value creation. Norman Mollenhauer, shareholder and Chief Executive of IGS Development, knows very well that, through the implementing of the most up to date software, the development time will continue to decrease. The main goal is considerable economies in product-development.

In addition, the Magdeburg region engineers manage virtual prototypes put to the acid test, eventually seamlessly put into production in small series. Volkswagen, Audi, Bugatti, Porsche and also The German Centre for Air and Space flight (DLR) take advantage of the competence from Saxony-Anhalt. The company's location is almost ideal. The University of Magdeburg, the The Anhalt University of Applied Sciences and many research institutions ensure themselves of the acquiring of knowledge, information and technology on the shortest way. In addition there is the MAHREG Automotive network, which crosslinks the majority of more than 260 automobile deliverers with 23,000 staff between the regions of Altmark and Burgenland.

As Marion Thiele explains, "Specialists don't just fall in our lap, the headhunt for the best brains leads us to the best colleges and universities in Germany." Good engineers gain bright prospects, evolve themselves, and even get to accompany the whole breadth of the development work. That makes for talent which knows the market and avoids tunnel vision. In the planning for 2014 is the employment of three young people who will be trained to become a technical production designer. Ten apprentices have been taken on in total - and the number of the around 130 employees continues to grow. "Our company philosophy is clear, we want to be service providers for the whole branch," Norbert Mollenhauer explains. As an example for this, he mentions the development of parts for the Volkswagen diesel vehicles exhaust system. IGS is also seeking trends and technological possibilities for the future.

Lead-times of five years are normal. How will engines of the future look like, i.e. from Golf? What role do the Hybrid engines play? Through these, the exhaust systems will soon look different, smaller, but by the implementation of sensor and electronic systems highly efficient. The VW constructors require a forerun period, in order to adjust the parts to fit into the general concept. They want to know where is which connection, where the wires should be conducted. These are complex solutions, which in their preparation require close contact with potential deliverers and car manufacturers, resulting in the production phase. "With all projects it is important to observe the EU regulations. How they could look in few years, must be accounted for, interpreted and finally quantifiable." explains Norbert Mollenhauer.

To reduce the CO2 emissions is a very responsible task, and leads to new concepts for the automobile industry. For tomorrow's exhaust system, for example, it's about lifespan, temperature considerations, exhaust cleaning with the correct sensors and inspection of the available installation space. The IGS Development is also concerned with trends in light construction. Tomorrow's automobiles are a normality in Harbke at least on the screen - the experts are ahead of their time. They develop cast iron parts for the chassis or engine system. Further business areas, which are the expression of intelligent specialization, include construction of utilities and tools and the establishing of technical documentation.

One of the newest projects was the construction manual for a current venture from Audi. It incorporated the entire finishing process for a car, completely comprehensible and controllable. The fact that the business is an in-demand service provider is shown in the plans for expansion on the Harbke premises.

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