

Innovations in concrete from Saxony-Anhalt

B.T. innovation GmbH's low cost housing project quickly provides living space

At B.T. innovation the working day has just begun, two engineers are already putting their heads together over a test stand. Managing Director Felix von Limburg is listening to their suggested solution and adds what needs to be considered: "Can we manage this by next week?!" His colleagues nod.

B.T. innovation – the name says it all. The company from Magdeburg, capital of the German federal state of Saxony-Anhalt, develops ground-breaking technology for one of the most used building materials in the world – concrete. The "innovation" is in practical, efficient and cost-effective solutions for new buildings and conversions using prefabricated concrete elements. Besides the European construction industry, the in-house research and development department also focuses on countries that are battling with infrastructure and housing problems caused by poverty and overpopulation, as well as by natural disasters and war as its target group.

B.T. innovation does not just do business in Europe, but also in South America, Africa and Asia. Felix von Limburg often brings mental images of "living" in the slums home with him from his business trips there.

Von Limburg came to Magdeburg as a young sales representative in 1991 and stayed because he felt that being involved in developing a new economic structure was an exciting task. He founded B.T. innovation GmbH in 1996. Felix von Limburg tells us how his company was originally purely a wholesale and foreign trade business for special building articles.

Even as a retailer he was in constant dialogue with his customers, he knows what they need. And he knows what is not yet available on the prefabricated concrete elements market. Step by step the entrepreneur developed his company into a manufacturer of products that occupy niches on the market.

Many of them are world firsts. The ultra light magnet weighing just 5.4 kilograms and with feet is one of them. Small but incredibly powerful: "Mag Fly" can hold 2.2 tonnes. Or the BT turnbuckle: you can't tell by looking at it that experts tinkered away it for a long time until prefabricated concrete elements could be easily, quickly and yet precisely connected together using this technology.

While building his own office building, B.T. innovation's owner tells us, he saved a great deal of time on the erection of prefabricated elements using these turnbuckles.

B.T. innovation now has more than 50 registered industrial property rights for in-house brands and inventions. Naturally, this can only be achieved with a professional and committed team of staff, emphasises von Limburg. 52 employees work at his company.

The specialist knowledge of experienced engineers is combined with the know-how of young colleagues. These include 27-year old Nina Rahmzadeh. She studied industrial engineering specialising in mechanical engineering at the Otto von Guericke University in Magdeburg and got to know B.T. innovation at a trade fair.

She has been supervising a new company project as a development engineer for a year now: "Low cost housing – affordable living space made from concrete".

The B.T. team has been toying with this idea for many years, says Felix von Limburg. In addition to the experiences that he has brought with him from slums all over the world, Nina Rahmzadeh can also contribute her experiences from Uruguay, Brazil and Colombia. The meaning of "living", she says, is very subjective. In Germany the word is interpreted differently to in Africa or India.

The aim of the "low cost housing" project is to produce safe living space quickly and cheaply. For this purpose B.T. innovation developed a space-saving and transportable formwork together with IBB Ingenieurbau Bismark in a research project. The concrete building elements can be very easily produced using this. With the help of the prefabricated concrete element structure, houses can be built in just two hours. "Everything on site in a mobile field factory", emphasises Felix von Limburg. "Concrete can be produced almost anywhere in the world out of local raw materials." Experts from his company train builders in the region to handle the equipment and the manufacturing and assembly technologies.

A 36 or 48 square metre base area, two rooms, kitchen and toilet, a water tank on the flat or saddle roof, there are two prototypes in the company's production hall. In one a kitchen and bedroom are set up to demonstrate the homely atmosphere. The technical details are shown off in the other one. Felix von Limburg presented the project for the first time at the Hanover Trade Fair in spring 2015. An advertising campaign was then launched. The target countries are in the "tropics around the equator", says von Limburg. "We have written letters to embassies and ministries in 100 countries", recounts Nina Rahmzadeh. "A house costs EUR 5,000. If investors are found in the countries, a value creation chain could even be developed there", adds von Limburg. He is even considering starting up a crowd funding project to launch a reference project in an aid region.

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