University of Münster awards Transfer Prize for two projects

A brace of awards: As before, in 2016, the Rectorate of the University of Münster (Germany) has again awarded two Transfer Prizes this year. One went to biotechnologist Prof. Dirk Prüfer, and the other was awarded to business information specialist Prof. Jörg Becker. Each prize worth 10,000 euros.

A brace of awards: As before, in 2016, the Rectorate of the University of Münster has again awarded two Transfer Prizes this year. One went to biotechnologist Prof. Dirk Prüfer and to the tyre manufacturer Continental for their joint project entitled “TaraxagumTM: Innovations with Russian Dandelion”. The second prize was awarded to business information specialist Prof. Jörg Becker and the Münster company WEICON, a manufacturer of industrial products. The name of their project is “ISO 9001:2015 with icebricks”. Each prize is worth 10,000 euros.

Details of the projects:

Business information specialists prepare quality certification

About 18 months ago, the Münster company WEICON turned to Prof. Jürgen Becker, a business information specialist at Münster University, for assistance – and he welcomed the approach with open arms, because it was just such a case, with practical relevance, that he had been waiting for. The international trading company, whose product slate includes adhesives and sealants for industry, was looking for support in its endeavour to get internationally recognized certification for its quality management (ISO 9001:2015). For Jörg Becker, this presented the opportunity to use, for the first time in getting quality management certified, a method of process modelling which had been developed at his chair since 2010 and had already proved itself in business process management.

The so-called “icebricks” method is implemented using software which helps companies to model their business processes, analyse them and optimize their efficiency. What TÜV Rheinland, the organization which carries out the certifying process to meet quality management standard ISO 9001, is particularly interested in, however, is a company’s reliability. Customers should be able, for example, to depend on getting good service and on reliable deliveries of the goods they have ordered. “In order for TÜV to award its seal, the processes within the company have to be well documented,” Becker explains. “All staff should have clearly-defined tasks, and the company must be able to provide evidence showing that it has any potential risks under control.” This is often the sticking point in everyday business life, he adds. For example, information relating to processes such as incoming goods, warehousing and sales is stored in a variety of document files, or documented using different types of software, making it difficult to collate or be assigned to the person responsible for it.
What Jörg Becker and his team and the WEICON company have demonstrated is that “icebricks” is exceptionally well-suited to obtaining this quality certification. “TÜV spent two days auditing WEICON, and the auditors were very pleased to see how clearly and logically all the processes and responsibilities were digitally documented. They awarded the seal unconditionally – which doesn’t happen often,” says Becker, who has now received the Transfer Prize for the second time. For the ISO certification he and his team made special adjustments to the software.

Jörg Becker describes “icebricks” as a simple solution ideally suited to the age of digitalisation, but which is far from being used as a matter of course. One thing is important to him, though: “Digitalisation and automation do not per se provide added value. First you have to simplify processes and tasks. When you’ve achieved simplification, you’ve seen to the heart of the problem. And then the digitalisation can follow.”

Rubber tyres made out of dandelions: biotechnologists pave the way

Russian dandelion has a fascinating property. Its latex contains high-molecule rubber, i.e. long chains of rubber molecules, which are an important raw material for many rubber products. Attempts to use this raw material in the past were not very successful, however. But recently that has changed: the tyre manufacturer Continental produced prototypes of tyres for cars and trucks – made from dandelion rubber – and tests showed that the tyres were suitable for use on the road in every respect. Continental is currently investing 35 million euros in a research and testing laboratory for dandelion rubber in the German state of Mecklenburg-Vorpommern (Mecklenburg-West Pomerania) with support from the state’s Ministry of Economics.

It is thanks to the team of researchers headed by Prof. Dirk Prüfer that dandelion rubber is now being utilized. Prüfer is Professor of the Biotechnology of Plants at the University of Münster and is also head of the “Plant-Based Polymers” department at the Münster branch of the Fraunhofer Institute of Molecular Biology and Applied Ecology. Initially, however, the researchers had not been thinking about this particular application. “Our job is not to produce tyres. What we want is to have a better knowledge of the molecular bases of rubber biosynthesis in plants,” says Dirk Prüfer. And it is precisely this biological knowledge which is bringing an industrial application ever closer. Although Russian dandelion (Taraxacum kok-saghyz) contains more rubber than other types of dandelion, it is not yet available in sufficient quantities for production on an industrial scale. And dandelion may be robust and undemanding – but it is not an arable crop which provides a sufficiently stable yield to make it profitable. At least, it hasn’t been so far. But that is currently changing as a result of specific plant-breeding programmes.

One major aspect of this process are the so-called DNA markers which the Münster researchers have developed. These markers are naturally occurring places in the DNA which are detectable in the lab and occur in combination with the “stage direction” in the DNA producing a certain desired property in the plant. One example is a higher rubber content. Using DNA analysis, the researchers can already establish whether a seedling possesses the property being aimed for. They can tell the plant breeder immediately whether it is worth continuing to breed this plant. This means that it is possible to carry out the breeding process – which in the case of old crops took place intuitively and, in some cases, over thousands of years – in a targeted way, and that this can produce promising results within just a few plant generations.

In parallel with the plant-breeding currently underway, the Continental testing lab in Anklam, Mecklenburg-Vorpommern, is due to start operations in late 2018. The forecast is that the first dandelion tyres will be on sale in about five years.

URL zur Pressemeldung: https://www.uni-muenster.de/AFO/en/afo/transferpreis/index.html Information about the Transfer Prize
Rector Prof. Johannes Wessels (4th from right) and Chancellor Matthias Schwarte (4th from left) – awarded Transfer Prizes to Prof. Jörg Becker (3rd from left) and Prof. Dirk Prüfer (3rd from right).

WWU-Heiner Witte (Münster View)