Courage to Take Risks: Millions Granted Once More for Innovative Research

This funding enables an immense amount of freedom so that innovative, scientific work can be carried out: The German Research Foundation (DFG) has granted Professor Rolf Drechsler a Reinhart Koselleck Project once more. The funding amount, which is spread over five years, exceeds 1.5 million euros. A further special aspect: The computer scientist from the University of Bremen and director of the Cyber-Physical Systems group at the German Research Center for Artificial Intelligence (DFKI) is receiving this funding for the second time. This is the first time that this has ever occurred in the DFG’s funding history.

“I extend my congratulations to Professor Drechsler for this success,” says the president of the University of Bremen, Professor Bernd Scholz-Reiter. “That he is now receiving this funding for the second time shows how much trust the DFG places in his expertise and experience as a scientist.” Rolf Drechsler has been carrying out research into secure hardware and software systems for many years. The 50-year-old is one of the worldwide leading scientists in the field of synthesis, verification and testing of digital circuits.

“Swiss Army Knife” for Examination Processes

What is the project about? “The digital revolution has dramatically changed our lives. “After computers, the internet, and modern mobile devices it is now digitalization that is moving into many tradition industries,” says Drechsler. The foundation of this revolution is formed by so-called digital logic circuits. These are small construction elements that make electronic data processing possible in the first place. In order for said elements to be able to fulfil their tasks, the circuits of digital devices have to work perfectly.

However, experience has shown that this is not the case. Individually assessing the single systems consumes a great deal of time. Therefore, in his project the computer scientist wants to test special processes that can assess as many systems as possible under all conditions. These processes are called formal verification techniques and should run in the background so that users do not have to deal with them. “They should basically become a type of ‘swiss army knife’ for the verification of digital circuits in practice,” explains Drechsler. The project is titled PolyVer: Polynomiale Verifikation elektronischer Schaltungen – which in English is PolyVer: Polynomial Verification of Electronic Circuits.

“I am very happy that with the second Koselleck Project I have the freedom to try things in order to further the technical development of the digital world in the long-term,” says the scientists. Moreover, early-career scientists profit from it, as the computer scientist will also finance qualification positions with the funding.

About Reinhart Koselleck Projects

Reinhart Koselleck Projects stand for more freedom in order to promote innovative projects that carry a certain positive risk. The researchers should therefore have the courage to take risks. The DFG only grants projects to researchers who
can prove their special achievements in their scientific field. The program is named after Reinhart Koselleck, who passed away in 2006 and was one of the most significant German historians of the 20th century. He is seen as one of the founders of contemporary social history in Germany and was regarded as a lateral thinker.

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