

## **Changing the world with microchips: School Students reach for the stars at INVENT a CHIP**

- **VDE and Federal Ministry of Education and Research launch 22nd nationwide INVENT a CHIP competition for grades 9 to 13**
- **Science Year "Our Universe" - Microchips also indispensable in space**
- **Exciting MINT promotion for young scientists**

(Frankfurt a. M., 09.02.2023) It's that time of year again: the nationwide INVENT a CHIP competition is starting and looking toward outer space with school students. Microchips are indispensable there, too. "No rocket could take off in space travel without them, there would be no International Space Station ISS with all its research facilities, and astronauts would not be able to carry out field missions for maintenance work there," says Dr. Martin Hieber, Chief Technology Officer (CTO) at VDE.

For the 22nd time, the technology organization VDE, with funding from the Federal Ministry of Education and Research (BMBF), is calling for the nationwide INVENT a CHIP competition. The competition is looking for the next generation of technologists. All students in grades 9 to 13 are eligible to apply.

Mario Brandenburg, Parliamentary State Secretary at the Federal Ministry of Education and Research, emphasizes: "Microchips are needed almost everywhere today. And they will have an even greater impact on our lives and daily routines in the future. This offers great opportunities for innovative solutions from Germany and Europe. For this, we need bright minds and good ideas, for example to develop energy-saving chips for climate-friendly digitization. Chip design also offers excellent career prospects. Even today, talent in microelectronics is desperately sought after. That's why it's so important that we use INVENT a CHIP to offer young people insights into the exciting world of microelectronics and thus attract the skilled workers of tomorrow."

The many areas of application for this exciting technology of the future range from everyday life to outer space. Whether smartphones or e-bikes, sustainable, efficient energy supply, medicine or the smart home, there are a wide range of applications. At INVENT a CHIP, students gain practical knowledge and design their own microchips. No one needs any special prior knowledge to participate. However, an interest in technology and science is an advantage. In concrete terms, the young people can try out chip design themselves and work on their ideas with experts. "Today, we have an enormous backlog in technical professions and training. We lack almost 15,000 graduates, and that's where we have to start early in schools to get young people excited about technical or electrotechnical studies," says Dr. Martin Hieber.

### **The competition:**

The start into the world of microelectronics is offered by the online quiz with 20 questions about microchips, which runs until May 31, 2023. Grades 9 and 10 answer 16 questions. Grades 11 to 13 all 20 questions about electronics in space and microchips. There are microcontrollers to be won and prizes for the schools where the students did best.

### **The practical elements:**

The IaC Challenge is the entry point for the hands-on portion of the competition. Participation is open until September 3. It starts with logic gates, and as the total of five tasks progresses, the young people design an integrated circuit. The goal is to implement a complex counter with display in real hardware.

Those who want to delve further into the practical side of things can apply for the IaC camp. The deadline is March 31, 2023. Under the direction of Leibniz Universität Hannover, the top 25 participants in the IaC Challenge will deepen their knowledge in a four-day workshop at the end of April and also apply it practically by controlling a solar tracker.

The results of the IaC Challenge and the IaC Camp will be available by September 18. The top 10 IaC Challenge finalists will each win an FPGA board worth about 100 euros and an online tutorial. The winners of the IaC Camp will receive an invitation to the awards ceremony, cash prizes of up to 2,000 euros, an internship at Robert Bosch GmbH in Reutlingen, will be nominated for the German National Academic Foundation and will be invited to major technology events.

INVENT a CHIP is supported by numerous sponsors in the current round of the competition: Bosch, Cologne Chip, Globalfoundries, Infineon, Siemens and DKE.

Further information on the student competition is available at [www.invent-a-chip.de](http://www.invent-a-chip.de)

## **About VDE**

VDE, one of the largest technology organizations in Europe, has been regarded as a synonym for innovation and technological progress for more than 130 years. VDE is the only organization in the world that combines science, standardization, testing, certification, and application consulting under one umbrella. The VDE mark has been synonymous with the highest safety standards and consumer protection for more than 100 years.

Our passion is the advancement of technology, the next generation of engineers and technologists, and lifelong learning and career development “on the job”. Within the VDE network more than 2,000 employees at over 60 locations worldwide, more than 100,000 honorary experts, and around 1,500 companies are dedicated to ensuring a future worth living: networked, digital, electrical. Shaping the e-dialistic future.

The VDE (VDE Association for Electrical, Electronic & Information Technologies) is headquartered in Frankfurt am Main. For more information, visit [www.vde.com](http://www.vde.com)

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