PRESS

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Into the future: pupils take off with AI microchips

- **VDE and BMBF launch 24th nationwide INVENT a CHIP competition**
- **For grades 9 to 13 with IaC quiz, IaC challenge and IaC camp**
- **Pupils design their own microchips with AI speech recognition**
- **Promoting young STEM talent for innovation technologies**

(Frankfurt a. M., 03.02.2025) Ready to shape the future? The nationwide INVENT a CHIP (IaC) competition is entering its next round and invites young technology talents to make a big impact with small innovations. For the 24th time, the VDE and the Federal Ministry of Education and Research (BMBF) are offering students in grades 9 to 13 the unique opportunity to design their own microchips with their own AI voice control.

"Artificial intelligence and microelectronics are key technologies that are significantly shaping our world. But we need bright minds to develop these technologies safely and responsibly. It is therefore important to get young people interested in microchips and AI at an early stage and to show them future-oriented training, study and career prospects. At INVENT a CHIP, young people are introduced to these topics step by step, they can tinker and implement their own AI projects," says Dr. Martin Hieber, Chief Technology Officer (CTO) at VDE.

Microchips and artificial intelligence can be found in smartphones and computers, they control industrial processes and monitor our health. From sustainable, efficient energy supply, mobility and healthcare to smart homes - the areas of application are diverse. The INVENT a CHIP student competition focuses on a technology that often only electrical engineering students come into contact with. "Our aim is to convey the complex and challenging content surrounding microchip development in a clear and understandable way. The increasing number of participants - almost 2,000 pupils took part last year - shows that we are succeeding in this," says Dr. Hieber.

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Exciting learning content for school lessons

How much energy does artificial intelligence consume? Where do microchips save lives and what logic functions are contained in microchips? Questions like these are posed by the IaC quiz, which anyone interested can take part in online until May 31, 2025. There are microcontrollers and prizes to be won by the schools at which the pupils performed best.

The practice of chip design: shaping the future yourself

Anyone interested in chip design in more detail can take part in the IaC Challenge until July 31, 2025. Exciting online tasks peppered with detailed explanations will lead you step by step from logical gates to your first hardware programming with AI applications. The winners will receive an FPGA board and take part in an excursion to a microchip factory in Dresden.

The basic knowledge from the IaC Challenge is a prerequisite for the next stage: designing your own chip at the IaC Camp. The deadline for participation is March 31, 2025. 25 of the best participants will deepen their knowledge in a four-day workshop in Hanover at the beginning of May under the direction of Leibniz Universität Hannover and develop their own chip with AI voice control by September. All participants are also invited to take part in an excursion to a microchip factory.

The winners of the IaC Camp receive cash prizes of up to 2,000 euros, an internship at Robert Bosch GmbH in Reutlingen, are nominated for the German National Academic Foundation and invited to major technology events. The INVENT a CHIP award ceremony will take place at the end of October 2025 as part of the MikroSystemTechnik congress in Duisburg.

INVENT a CHIP is supported by numerous sponsors in the current round of the competition: Bosch, Cologne Chip, Globalfoundries, Infineon and Siemens. Further information on the competition for school students can be found at www.invent-a-chip.de (German).

Support for electronics projects: LABS for CHIPS

The best electronics projects for schoolchildren will also be in the spotlight again in 2025. LABS for CHIPS, a competition that promotes interest and enjoyment of electronics among young people, will be launched at the same time. Institutions that offer specific projects for young people can apply. The VDE and the BMBF will award these ideas with prize money of up to 2,000 euros. Further information can be found at www.labs-for-chips.de (German).

About the 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 based in Frankfurt am Main. More information at www.vde.com

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