

VDE Figures: Electrical Engineering Programs Are Popular Internationally—But the Majority Leave Germany Again

According to VDE calculations, every euro invested in international electrical engineering students generates approximately 16 euros in added value over the long term. That figure could be even higher if so many graduates did not leave Germany after completing their degrees.

(Frankfurt am Main, September 21, 2026) More and more young people from abroad are studying electrical and information technology in Germany. The number of international first-semester students at German universities has roughly doubled over the past 20 years; since 2022, they have accounted for more than half of all first-year students. At the same time, the VDE's analysis shows that a large proportion of these students are not permanently available to the German labor market after graduation.

"Our figures demonstrate the appeal of studying electrical engineering in Germany," says Michael Schanz, who heads the VDE's Committee on Education, Career, and Society and conducted the calculations. This is also encouraging from the perspective of the German economy, says Schanz: "According to our calculations, every euro invested in the education of an international student generates approximately 16 euros in added value later on."

Challenges During Studies

However, this figure could be significantly higher. According to VDE calculations, less than half of international students are available to the local labor market after graduation. "Studying abroad always presents special challenges: a foreign language, a different culture, and sometimes different academic requirements," says Prof. Dr.-Ing. Kira Kastell, chair of the VDE Committee on Studies, Career, and Society and president of Hamm- Lippstadt University of Applied Sciences. Not every bachelor's degree that qualifies a student for a master's program is

comparable in level to its German counterpart. Overall, according to VDE calculations, domestic students are about 7 percentage points more successful than their international peers.

Here, the experts also propose better support: “More coaching during studies and when entering the job market, assistance with language acquisition, and the awarding of scholarships based on clearly defined and transparent criteria would be sensible measures,” says Thomas Hegger, HR consultant and vice chair of the committee. To finance most of this, the approach taken by Baden-Württemberg could serve as a model for other federal states: There, students from non-EU countries are required to pay tuition fees covering about one-third of the costs, which is relatively moderate by international standards. This money must then be made available to universities to provide more intensive support tailored to the specific needs of international students.

Barriers to Entering the Job Market

More than half (55.5 percent) of international master’s degree graduates—which corresponds to just over one-third (35.5 percent) of all graduates—leave Germany after completing their studies.

Those who stay, in turn, often face difficulties entering the workforce despite their degree. Especially at small and medium-sized enterprises, insufficient German language skills frequently present a difficult-to-overcome barrier to entry. Despite the international nature of these companies, German is still the most common language of business there.

In some cases, pursuing a career in Germany later on is not the goal of the studies from the outset—and this is not always an individual decision made by the student. “There are countries that deliberately send scholarship recipients to Germany in order to obtain local research findings and technologies and use them for their own purposes,” says Schanz. For years, the domestic intelligence agencies have also been pointing out the risks of targeted knowledge and technology transfer by foreign actors. And it is not without reason that nationals from some of the most important countries of origin for international students are prohibited from being hired in sectors such as the defense industry or critical infrastructure.

New International Partnerships Are Needed

In this regard, the VDE specifically suggests forming more partnerships, for example, with other European countries, the Mercosur states in South and Central America, or the Global South. “There are often schools there where German is already taught, as well as universities that have reached a high level of development, either overall or in individual departments,” says Kastell.

As a business hub, Germany will need more well-trained workers in the coming decades. Experts repeatedly point out that immigration plays a major role here. Thomas Hegger of the VDE Committee adds: "If we can succeed in integrating more international students into our labor market later on, that will help close the skilled-worker gap."

About VDE:

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

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