© Pablo Castagnola

Prof. Dr.-Ing. Steffen Müller
 Department of Automotive
 Engineering, Institute of Land and
 Sea Transport Systems (ILS),
 Faculty of Mechanical Engineering
 and Transport Systems,
 Technische Universität Berlin
 (Germany)

Future Engineers

The Bologna Declaration, which was signed by 29 European ministers of education in 1999 with the aim of harmonising academic courses and degrees, resulted in a wide-scale conversion to Bachelor and Master degree programmes in Germany. As a result, the German academic title “Diplom-Ingenieur” (Graduate Diploma in Engineering) has gradually been replaced by “Bachelor/Master of Science/Engineering”. Except for a few individual cases, German universities will therefore soon no longer award the title “Dipl.-Ing.”.

Some federal states have taken this development as a reason to tighten the so-called “engineer laws” in order to comply with EU Directive 2013/55. These laws are regulated by the federal states and, since the 1970s, have specified the conditions under which the professional title “Ingenieur” (Engineer) may be used and how qualifications obtained in other countries are recognised. Until now, a German degree programme in engineering has had to fulfil only basic requirements: the degree programme must have a technical or scientific specialisation and have a duration of at least six semesters. Some federal states now want to make far-reaching changes to this. For example, they plan to prescribe by law a minimum proportion of 80 % MINT subjects (mathematics, information science, natural science, technology). The Chambers of Engineers are to be granted the fundamental right to examine and authorise the use of the professional title

“Engineer”. They will prescribe professional duties and typical activities. And engineers with a foreign professional qualification will be required to enrol in a register kept by the Chamber of Engineers.

Such proposals are neither conducive to protecting the good reputation of the engineering profession nor constructive with regard to streamlining and simplifying the regulations, as was the intention of the EU directive, in order to recognise professional qualifications. Instead, they create additional bureaucracy, weaken the autonomy of universities, impede the national and international mobility of engineers and reduce the possibilities of engineering courses to adapt to new technical and social developments.

To ensure that we can continue to educate excellent engineers in the future, the certification of the quality of engineering degree courses must remain within the university and academic domain. Detailed legislation is unnecessary. We require a simple and transparent process for recognising equivalent credits and qualifications gained abroad. Participation by the Chambers of Engineers should be possible, but not necessary. And the degree certificates of all German engineering courses should grant the right to use the professional title “Engineer”, thus making sure that “Engineer” still remains a recognised and transparent trademark in the future.