



French Presidency
of the Council of the European Union 2022

From the engineering degree in Europe to the European engineering degree

— Propositions of the Conference of Deans of
French Schools of Engineering (CDEFI)

Background

Historically speaking, engineers appeared in Europe during the modern age as a response to emerging nation states' needs for technical expertise. From the beginning, the engineering profession has been based on mobility; whether it is for training or to address various projects and commissions, engineers are required to travel and come across many other trades and professional practises. Still today, this background serves as the matrix of the French engineering training model. Mastering the English language and studying abroad for a long period are thus both mandatory requirements for students to graduate. This institutional feature is also reflected in our schools' agility to project worldwide with offshore campuses and academic programmes, strategical partnerships and double degrees. For the last thirty years, they also have contributed to the success of Erasmus, which may be the most well-known collaboration programme Europe-wide as illustrated by today's widespread use of the word in popular culture.

Today European construction is looking for a new lease of life. The foundations of Europe's community project are sometimes questioned by some states within the European Union itself. At the very heart of political agendas stand issues of strategic autonomy and sovereignty, especially regarding technology. Engineers reappear as a key element, not only for nations but now for the EU as a whole, as if history repeated itself.

The French Presidency of the Council of the European Union (FPEU) highlights the return to a Europe feeding on other urgent matters related to digital, environmental, climatic and societal transitions, especially for the French engineering schools as internationally open higher education institutions. Today's pandemic is interfering with mobilities, making the European Union a safety net to maintain international students flows. By its proximity and infrastructures, Europe can moreover respond to the requirement for travel decarbonisation.

As a sign of this renewal, the European Universities Initiative was especially well received by French higher education institutions, including schools of engineering. A quarter of them are involved into more than thirty transnational alliances, either as themselves, as a brand or a group, or as a component or a school internal to a bigger institution, thus attesting their institutional plasticity. The alliances they take part in are equally diverse in their configurations and objectives.

Addressing sovereignty issues and European alliances ambitions requires to go beyond the dichotomy of higher education on one end and research on the other, and to support the training-research-innovation/business/economic development continuum within a strong embedded European Higher Education Area, built on shared values and serving economic growth, and a sustainable and responsible revival: quality training and research to increase European companies' competitiveness and to achieve the Sustainable Development goals.

The FPEU is a way to emphasise achievements and collective experiences and to remind the French schools of engineering they have a responsibility towards Europe regarding training as well as research and innovation, the whole being held by an ambition of sovereignty.

This Presidency is built on three topics: revival, potency, sense of belonging. CDEFI is convinced that the issues addressed by engineering trainings and schools can answer each of these ambitions in a specific way, while being able to act as a junction between them. The term "engineer" refers to a profession, a title, an academic expertise serving the business world, research, innovation and society and positioning itself at the core of the "knowledge square" (education, research, innovation and service to society) thanks to its skills. ★

1/ Revival

The issue of skills at the service of relocation, reindustrialisation and sovereignty

The European Commission established a skills-related Europe-wide strategy, coupled with a pact involving all partners on key industrial ecosystems. Students' initial and continuing trainings in our schools will benefit from these ambitions and serve them. **From our perspective, several measures are essential to take in order to ensure their successful implementation:**

- ★ **Promoting apprenticeship in Europe** as a path to excellence, social inclusion and successful employability, by supporting the creation of a **dedicated European area** based on a **European Apprentice status that would allow mobilities within the EU with no funding shortfalls.**
- ★ **Strengthening the role of internships** as an integral and recognised part of training (through academic credits), by defining a **European Intern status in addition to a single convention enabling mobilities between companies as well as between higher education institutions.**
- ★ **Promoting a culture of entrepreneurship within Europe**, by extending the existing measures of the French PEPITE initiative (the Student Entrepreneur status for instance) in order to foster creativity and talents' mobility.

2/ Potency

The diplomatic issue of the European Universities Initiatives and other European networks of higher education institutions

Covering scopes of influence, cooperation and attractivity, academic diplomacy is growing an increasingly stronger voice within the public sphere. It is especially assertive regarding higher education institutions' policies. Thanks to the European Universities Initiative, the point of convergence between higher education interests and foreign policy shifts from a national to a European framework; this new role is held by alliances, providing they are given adequate – although non-exclusive – resources. The French schools of engineering claim their position as defenders and promoters of the European project, as well as their role in addressing social transformation and humanity's challenges, issues that are all parts of the new diplomacy of influence. In addition, the schools are also stakeholders in economic diplomacy. In this respect, CDEFI supports the following measure:

★ **Creating representative offices for alliances and other European networks of higher education and research institutions.** These consortium would include various alliances or other pre-existing associations. The representative offices would be selected through a dedicated call for interest inspired by the Enrich initiative (European Network of research and innovation centres and hubs) of the Horizon 2020 programme.

3/ Sense of belonging

The issue of inclusion and the sense of belonging to a strong embedded European Higher Education Area

Being an engineer involve to be driven by values of ethics and responsibility. The profession relies on interactions based on a humanistic, democratic and intercultural vision; a profession driven by an entrepreneurial spirit. The profession serves the European project. In order to make the future engineers an even bigger part of this collective destiny that is the European Higher Education Area, CDEFI puts forward the following propositions:

★ **Encouraging graduate mobility** – getting past exchange mobility and the Erasmus success to reinforce the EU’s citizenship, sense of belonging and employability. This must be achieved by Europeanising existing technology degrees – from the Bachelor’s degree to the Engineering Doctorate – by relying on the European framework of certifications and on the [26/11/18 EU Council recommendation on promoting automatic mutual recognition of higher education qualifications](#). In this respect, the **conditions of possibility for a European engineering degree** are under review. It is no secret that the task will be complex. Above all, it is a matter of not getting confined to one preconceived model. Instead, the question is to compare different points of view and to preserve the richness and diversity of trainings, while attempting to bring out common elements. The FPEU comes as a good pretext to map out existing initiatives and their exposure and attractivity for stakeholders – especially businesses and students – and to open up new possibilities in more or less integrated frameworks, from the Diploma Supplement to double accreditation, through the EUR-ACE Label or other more

exploratory certifications such as the European Engineering degree that acknowledges academic backgrounds linked to the EU's political and technological priorities. To that end, preferred – yet not exclusive – interlocutors are to be found in European universities that have put joint graduation in Engineering in their alliances' deliverables.

★ **Establishing a legal framework for academic freedom.** A first step was November 2020 Rome Ministerial Communiqué, which included an appended statement and common definition on academic freedom. This communiqué should allow the establishing of a regulatory framework on which higher education institutions can rely and refer when concluding cooperation agreements with their European or international partners. It is the responsibility of institutions, particularly the engineering schools, to promote values that make it possible for them to train, research and innovate and that represent an extension of the rule of law and the democratic system.

★ **Propelling the evolution of research assessment methods in Europe,** so that they consider every aspect of scientific production, work towards a qualitative evaluation and take better account of how science endeavours to open up to society. These principles are outlined in the Declaration on Research Assessment (DORA), also known as the San Francisco Declaration, that CDEFI signed, and in the Leiden Manifesto for research metrics. Still too few higher education and research institutions are promoting them, although they are essential to improve the quality, excellence and influence of European research.

★ **Creating a European teaching workforce based on the European Research Council (ERC) model** – contract teachers, supra/transversal status – that would go beyond joint recruitments academic alliances could conduct in the medium term, and allow teachers to chose what and where they teach based on a multiannual commitment by one or several institutions.

★ **Prioritising inclusiveness issues** by opening European mobility programmes to students, researchers and teachers who are refugees and by strengthening and relying on successful experiences within the member states and through Erasmus, or even by setting up an assistance programme specifically aimed at this vulnerable population. Higher education and research institutions, especially the French engineering schools, have a moral obligation to take action regarding sheltering, training and supporting these people in order to ensure them a sustainable future.

Conclusion

CDEFI has identified several a priori conditions that would make the FPEU a successful opportunity for higher education and research, and intends to help fulfilling them:

- ★ Extending initiatives that will be taken beyond the first half of 2022 by making the handover to future presidencies easier.
- ★ Using the FPEU as an opportunity to consolidate the French engineering schools' Europeanisation in the long run, making Europe a driving force for institutional transformation.
- ★ More broadly, taking notice of the European revival and raising it as an objective of joint actions for CDEFI's members.

The following months will give an opportunity to discuss these propositions further.



Conférence des Directeurs
des Écoles Françaises
d'Ingénieurs



CDEFI (Conference of Deans of French Schools of Engineering) is a non-profit association of Deans of French public and private schools of engineering and universities of technology authorized by the CTI (a French accreditation agency) to deliver the French engineering degree. Created in 1976 by a decree issued by the Ministry of Higher Education and Research, CDEFI is the local, national and international political and public voice of French schools of engineering and universities of technology. ★

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