Internship position at master level

"Electrification of the industry as a lever for decarbonisation"

Expected dates: *1 February or 1 March 2026*
Location: *LEMTA, 2 Avenue de la Forêt de Haye, Vandœuvre-lès-Nancy, France*
Host organization: *CNRS*
Duration: *6 months*
Language: *French or English*

Context

The SPLEEN Program *"Supporting innovation to develop new, largely decarbonized industrial processes"* is part of the France 2030 national acceleration strategy *"Decarbonisation of the Industry"*. The programme aims to develop a robust technological offer and breakthrough solutions that will support France's 2050 climate commitments while strengthening national sovereignty over key decarbonisation technologies.
The SPLEEN Programme for industrial decarbonisation is deploying a comprehensive research agenda aimed at redesigning industrial processes to significantly reduce their greenhouse-gas footprint. More than 90 laboratories, 40 institutions, 300+ researchers and 100 PhD+ students and post-docs are contributing to the program. The program supports upstream research activities, at maturity levels TRL 1–4, addressing the priorities defined in the France 2030 national acceleration strategy *"Decarbonisation of the Industry"*. The program is jointly led by CNRS and IFP Energies Nouvelles, two major research organizations in France.
Launched in September 2025, the SPLEEN Think Tank brings together a panel of experts from national, European, and international institutions (IEA, UNIDO, EERA, IDDRI, APED, Ministry for Europe and Foreign Affairs, Ministry of Higher Education and Research, Ministry for Ecological Transition and Territorial Cohesion). The mission of this Think Tank is to develop a long-term strategic research roadmap, amplify the impact of the research work done in SPLEEN on industrial decarbonisation, and adopt a comprehensive forward-looking vision of the decarbonisation solutions of different level of maturity, being operative at different timeframes.
Its goals include building a framework for analysing decarbonisation of industrial ecosystems, putting in perspective a multiscale approach including the local, European and global scales (including developing economies) while reinforcing competitiveness, sovereignty and sustainability of the European industry. The Think Tank has chosen to push the topic "*Electrification of industry as a major lever for decarbonisation*" as its first pilot study.

Missions

The trainee will work closely with the SPLEEN programme management team, including the programme manager and the two co-directors. His/her primary task will be to develop, on a sound scientific basis, an analytical framework— including relevant

assessment criteria— for examining industrial electrification as a lever for decarbonisation. In addition to this core mission, the trainee will contribute to the programme's day-to-day activities, such as events (e.g., SPLEEN Days in March 2026), communication tasks (e.g., inputs for the weekly review), and to various meetings, in close cooperation with the programme manager and the communication officer. These complementary activities will help broaden the trainee's skills and deepen his/her understanding of the programme's operations.

Description of the work and objective

The objective of the internship is to develop a preliminary analytical, multiscale (France, Europe, World) framework for assessing electrification of the industry as a lever for decarbonisation. This includes:

1- The analysis and synthesis of national and international studies, along with comprehensive literature reviews on electrification technologies—including the use of green hydrogen, applied to various industrial sectors (e.g., steelmaking, chemical industry, heat and cold generation, CO_2 capture, CO_2 conversion into molecules, etc.).
2- Interviews of researchers/teams involved in the SPLEEN program and the Think Tank members (IEA, EERA, UNIDO, IDDRI, French authorities) with a structured methodology
3- Using documentation and methodologies produced by Think Tank members (e.g. IEA), together with insights from the literature review, to develop a preliminary analytical framework grounded in quantitative data and qualitative criteria.
4- Writing a comprehensive and usable scientific document that can serve as a basis for a future SPLEEN funded project and a policy-brief style document with recommendations that will be exploited by the SPLEEN program and its Think Tank.

Required education

A second-year Master's student enrolled in a programme related to energy, engineering, or ecological/climate transitions, or alternatively, in the humanities and social sciences (e.g., political science, economics and management, management studies, humanities), with a demonstrated interest in science and technology.

Required skills

- Interest in scientific and technological topics;
- Strong motivation for issues related to energy transition and industrial decarbonisation.
- Interdisciplinary skills and open-mindedness.

- Strong organizational skills, dynamism, autonomy, and initiative.

As dialog with English speaking stakeholders will be part of the job, English fluency is mandatory.

Conditions

- Minimum internship allowance corresponding to the regulatory amount (approximately € 640 net per month).
- Travelling will be required, in France and across Europe (Brussels in particular).