

TFK programme, funded projects 2025

Project title: The FINnish and BRAZilian joint force for H2 and Electric systems Expertise development	
Coordinator Aalto-korkeakoulusäätiö sr Mahdi Pourakbari Kasmaei, Mahdi.Pourakbari@aalto.fi	The FINE-BRAZe-H2 project aims to strengthen the academic ties between Aalto and the Federal University of ABC, UFABC, in Brazil. The proposed activities build on the already initiated collaboration between Aalto and UFABC in the area of clean Hydrogen (H2) by exchanging knowledge in tandem with the recently established Master's Program at Aalto (e.g., Hydrogen and Electric Systems). In a nutshell, the project activities and expected outcomes are as follows. 1) H2 curriculum expansion; the UFABC will benefit from Aalto's expertise in curriculum development and international market trends, and Aalto will gain rich insights from UFABC's local H2 production and movements toward clean solar- and wind-based H2 due to close collaboration with H2-based industries. Just recently, Aalto launched a new Master's Program at Aalto on "Hydrogen and Electric Systems", which is used as the main point for transferring curriculum development knowledge and pedagogical experiences. 2) Intensive in-person and online course development and delivery; both Aalto and UFABC are famous for their collaboration with industries, and industry people are keen to learn about the H2 economy as a game-changer topic. For instance, UFABC is located close to a petrochemical hub that consumes a lot of H2 produced locally, which produces high greenhouse gas emissions. Companies that are part of this hub and other companies located near the UFABC (port of Santos, Sao Paulo, Brazil) are interested in short courses to learn about clean H2 technologies, the commercialization, and certification of renewable H2. Likewise, the situation is the same in Finland. Aalto offers advanced digital technologies to prepare high-quality lectures, helping the life-wide learning of the participants, while pedagogical experience can be transferred to the UFABC. Also, the National Council for Scientific and Technological Development (CNPq) from Brazil can help with such developments. The idea is to establish two pilot courses. 3) Scoping out the practices of establishing a Dual degree; expanding the already existing collaboration between Aalto and UFABC (e.g., already co-supervising 2 MSc and 1 PhD students and received 1 visitor from UFABC at Aalto) by feasibility analyses of establishing dual-degree programs for MSc and PhD levels. 4) Mobility: the students' and staff's mobilities are required to understand the existing and upcoming challenges in both countries and thus establish the foundation of dual degree programs, gather the required material and digitalize the courses to support research-based education. Practically, mobility is an essential tool to support the above targets.
Partners Federal University of ABC (UFABC)	

	A detailed plan, regular meetings, follow-ups, and the project manager's fluency in Brazilian Portuguese facilitate the fast pavement of the project toward the targets. All challenges, experiences, and outcomes will be shared transparently to encourage sustainable collaboration and boost such activities among the two countries.
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OPETUSHALLITUS
UTBILDNINGSSTYRELSEN

Finnish National Agency for Education EDUFI
Hakaniemenranta 6, P.B. 380, FI-00531 Helsinki
Puh. /Tel. +358 (0) 29 533 1000, Faksi /Fax +358 (0) 29 533 1035
www.oph.fi