

Lab tackles electric blackouts

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Switzerland and Cameroon are establishing a joint laboratory in Yaoundé. [EPFL](#) (Ecole polytechnique fédérale de Lausanne) and [ENSPY](#) (Ecole nationale supérieure polytechnique de Yaoundé) will work together to develop technologies for stabilizing and improving electricity grids.

Electricity networks in sub-Saharan Africa are unreliable – a critical problem for hospitals, because medical equipment is very sensitive to sudden variations in current. And the increasing number of energy sources – solar panels, generators – makes the issue of transmitting power even more complicated. ENSPY and EPFL are tackling the problem. On October 8, the two polytechnics are opening a joint laboratory in order to develop solutions. Ten people, a majority of them Cameroonian, will work with academic and industrial partners. The [project](#) is part of the [RESCIF](#) program, which brings together North-

South French-speaking universities.

"We're tackling the problem of [electricity networks](#) where the stakes are really high, in hospitals," explains Bertrand Klaiber, who is heading up the project, which is part of the EssentialTech program coordinated by EPFL's Center for Cooperation and Development. "But in reality, these developments should end up being equally relevant to other sectors and even for developed countries. With the increase in renewables, we are also experiencing a decentralization of energy as electricity flows from multiple smaller sources. Whether for Cameroon or Switzerland, smart grids must prevail if we want to ensure electricity in the future."

The two institutions are planning to intensify exchange programs for students, PhD students and professors. This summer, a Cameroonian student came to Lausanne to work on electric grid simulations. The project also aims to strengthen collaboration with Cameroonian businesses and stimulate the creation of start-ups in Yaoundé – the researchers will benefit from a partnership with the University of Lausanne's business school.

The joint ENSPY/EPFL laboratory has a surface area of nearly 180 square meters. Its main mission is to develop smart microgrids that can be deployed in hospitals in Cameroon. Yaoundé engineers, in collaboration with their Lausanne-based colleagues, will also conduct a measurement study to better understand and evaluate problems with the local [electricity](#) grid. As part of this, EssentialTech is pursuing with its Swiss and African partners a project to develop an all-terrain x-ray device that can stand up to even the most extreme climatic or electrical conditions.

Provided by Ecole Polytechnique Federale de Lausanne

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