Press Release – October 20, 2021

New EU funded project began on October 1st, 2021: "SophiA - Sustainable off-grid solutions for pharmacies and hospitals in Africa"

With a budget of 8 million euros over four years, SophiA will develop containerized solutions for hospitals using natural refrigerants, solar thermal and photovoltaics to enable more and more African people to access carbon-neutral energy for electricity, heating and cooling of medicine and health care units as well as safe and clean drinking water, increasing the quality of life in a sustainable way

Tags: Horizon 2020, EU Green Deal, Africa EU Partnership, hospitals, water, solar energy, electricity, heating and cooling, natural refrigerants

Funded by the European Union's Horizon 2020 research and innovation programme, and coordinated by Karlsruhe University of Applied Sciences (HKA), SophiA had its first consortium meeting on October 12-13, 2021. More than 50 participants representing the 13 project partners, as well as members of the Advisory Board and Friends of SophiA, attended the meeting organized as a hybrid event in Karlsruhe and online. At this official launch of the project, participants were welcomed by Dr. Med. Frank Mentrup, Lord Mayor of the City of Karlsruhe, Prof. Dr. Franz Quint, Prorector for Research, Cooperations and Quality Management at HKA, and representatives of the European Climate, Environment and Infrastructure Executive Agency (CINEA).

SophiA in a nutshell

SophiA aims to provide sustainable off-grid energy supplies and water free of bacteria and viruses for rural and remote health facilities in Africa, thereby accelerating the sustainable development, growth and economic transformation, and ensuring improved access to energy and health services for all.

Using various technologies, such as photovoltaics, solar thermal, electrical and thermal storage, sophisticated water treatment and natural refrigerants with low global warming potential, SophiA will develop and manufacture locally innovative, modular, affordable and efficient solar powered systems for providing:

- electricity supply for use during power grid failure;
- safe and clean drinking water, free of bacteria and viruses;
- hot water and when needed also steam;
- cooling of surgical or intensive care units;
- cooling of medicines at +5 °C; and food, when needed;
- low temperature storage of blood plasma at -30 °C;
- ultra-low temperature storage of sensitive medication (e.g. some Covid-19 or Ebola vaccines) at -70 °C.

In addition, PV MedPort, a simple and 100% solar powered solution will be developed and tested as a mobile health care station in small remote areas in 4 different geographical conditions in Africa.

SophiA systems will be manufactured in Africa and will provide for the first time innovative solutions based on climate-friendly natural refrigerants to cover cooling demand for three different temperature ranges (-70°C, -30°C and +5°C). The systems will be tested and demonstrated at four rural hospitals in remote regions throughout the African continent covering the major geographical regions and different climatic condition in Burkina Faso, Cameroon, Malawi and Uganda.

Joining forces for a clean energy transition, the multinational and multidisciplinary SophiA team will use a holistic approach for developing tailored solutions to provide green energy and clean water to hospitals in Africa, without the need to re-design the existing infrastructures.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101036836

SophiA consortium

SophiA involves 13 partners from Europe (France, Germany, Switzerland) and Africa (Burkina Faso, Cameroon, Uganda and South Africa): Karlsruhe University of Applied Sciences (HKA - IKKU; coordinator); University of Applied Sciences of Eastern Switzerland (OST - SPF); Makerere University; Institut International d'Ingénierie de l'Eau et de l'Environnement; Steinbeis Europa Zentrum; Ministry of Public Health in Cameroon; International Institute of Refrigeration; Operieren in Afrika; Everflo; Kovco; Martin Systems GmbH; Simply Solar GbR; Raach Solar.

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