



# SOPHIA

Sustainable Off-grid solutions for Pharmacies and Hospitals In Africa

Aims to improve quality of life of populations through better treatment & working conditions in rural and remote health facilities in Africa

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## By providing:

- 🔥 Safe, clean drinking water and deionized water for medical purposes
- 🔥 Hot water and steam production for hospital thermal requirements
- ⚡ Emergency electricity supply for surgical and intensive care units
- 🌡️ Ultra-low temperature storage of sensitive medication at  $-70^{\circ}\text{C}$
- 🌡️ Low temperature storage of blood plasma at  $-30^{\circ}\text{C}$
- ❄️ Cooling of medicines and food at  $+5^{\circ}\text{C}$

## SophiA M30 Partner's meeting

The last week of February was intense for the SophiA project!

From 26 to 28 February, two train-the-trainer sessions were held simultaneously at two of the project's partners premises: HKA in Germany and OST in Switzerland. Involved in both theoretical and hands-on activities, about 15 participants from Burkina Faso, Cameroon, Germany and Uganda considered this training session an enriching experience, from which they got a lot of useful information that they can use in further training activities.



The training sessions on cooling with natural refrigerants like carbon dioxide and propane and on water treatment were given by HKA University in Karlsruhe, Germany. A Danfoss representative drew particular attention to safety when using hydrocarbons and CO<sub>2</sub> as refrigerants. The consortium also provided more training regarding safety at the TWK training centre in Karlsruhe. For further information, you can check [Michael Kauffeld's LinkedIn](#), who organised the Train the Trainers.

Together with SophiA partners [2iE](#), [Raach Solar](#) and [Simply Solar](#), [SPF](#) has prepared three inspiring days for the future SophiA trainers on solar technologies. Professors from the [OST](#) - Eastern Switzerland University of Applied Sciences, study program in [Renewable Energies and Environmental Engineering](#) were also involved in this unique initiative aiming to empower future trainers for SophiA and solar technologies in Africa. The training took place in Rapperswill-Jona, in Switzerland, at the Eastern Switzerland University of Applied Sciences (OST). More information on [SPF LinkedIn](#), who organised the event.

Then, all SophiA partners gathered for two intense days, **29 February and 01 March 2024**, in Karlsruhe for **SophiA Consortium**. **Twenty-six partners attended live and ten online.**



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The meeting was opened by the HKA University's new Rector, Prof. Dr. Rose Marie Beck; the Mayor of Karlsruhe, Dr. Frank Mentrup; and the Vice Rector for Research, Prof. Dr. Franz Quint.

Inspiring discussions on the project's progress and creative working groups for planning the remaining work brought the participants closer to the project vision: sustainable cooling and heating solutions as well as virus and bacteria free water for hospitals in Africa. **An important milestone was achieved: the first water and refrigeration containers for Burkina Faso were successfully built in South Africa by Everflo and are currently heading towards Burkina Faso.** They are expected to arrive end of March in Ouagadougou. Léo Surgical Clinic from Burkina Faso is getting ready for their arrival and the ground preparations for the site where the containers will be installed are almost done.

Different working groups were created during the consortium meeting. SophiA technical partners discussed intensively about the new design for the other three demo sites in Cameroon, Malawi and Uganda. Tailored to the needs of the hospitals, less expensive, simpler to manufacture and easier to use are the watchwords for the new SophiA systems.



SPF and Makerere University, responsible for the environmental impact assessment, have shown the LCA results which indicate that the SophiA's solar-powered systems lower the environmental impact by around 30 to 60 % and 65 % to 85 % compared to the use of 100 % diesel off-grid and on-grid, respectively.

The first consortium day ended with a dinner in [a typical German restaurant](#) close to the University. The partners shared a warm networking moment over German beers and Spätzle with [the new HKA Rector](#) and [the new HKA professor for heat pumps!](#)

The main topics discussed on the second day were the inauguration days of the containers in Burkina Faso and their post-project maintenance. Administrative and financial issues were also discussed.

Finally, the forthcoming collaboration between the SophiA and PrAECTiCe projects was emphasised. Bringing together sixteen partners and starting in November 2022, PrAECTiCe focuses on agroecological practices. Its aim is to help small farmers in their agroecological transition by exploring the potential of these practices in East Africa. PrAECTiCe aims to provide a new set of agroecological indicators focusing on circular water-energy-nutrient systems of integrated aquaculture, while making small farmers' needs the major concern. For further information on PrAECTiCe, visit the project's [website](#) and [CORDIS](#).

Over the past six months, SophiA has taken part in many events, including six major ones in six different countries. Check out the News and Events section of the [SophiA website](#) for more information. The project is also very active on social media, especially on [LinkedIn](#) and on [X](#), through the [#sophiabottle](#).

