

Project „**AKELOP**“, Automatisierte Kryo-Einrichtung zur Lagerung organischer Proben (Automated Cryo-Unit for Storing Organic Samples)

Subject and objective within the AKELOP project is to develop and validate an innovative system for permanent storage of biological material in a deep cold environment (up to -160 °C / -256 °F), as well as a controlled cooling down process and fully automated handling of these organic samples whilst maintaining the cold chain.

This innovative system will be the first of it's kind worldwide to,

- be defined by it's highly automated warehousing and storing abilities (for example a strictly defined cooling down process)
- realize a cascadic structure with build in Heat-Exchangers in a closed LN₂ circulation that powers subordinated temperature areas cost-neutral.
- avoid the necessity of handling the liquid or gaseous LN₂ by hand and in doing so reducing the potential risk of frostbite or suffocation
- be flexible concerning the variety of samples and sample containers
- be a closed system with a modular design that can be maintained by any user as a central Cryo-Storage without the need for any structural measures.
- be easy to use for any clinic operator and staff, for a optimal integration in every clinical process