Getting a Biobank “Fit for Blackout” – A Required Investment of Resources?

Introduction

In 2022 Biobank Graz – a partner of BBMRI.at - initiated an evaluation of its infrastructure‘s durability during a multi-day power blackout. The evaluation aimed to determine critical infrastructure, assess emergency power supply and possible infrastructure upgrades.

Material and Methods

During the evaluation process, several steps were taken.

1. Definition of the critical infrastructure required to maintain sample storage within our specifications. This included refrigerated storage systems and safety related systems such as gas leak detectors. Additional technical facilities needed to operate -80°C storage systems during blackout were also considered.
2. Evaluating the effectiveness of our emergency power supply in securing critical infrastructure.
3. Assessment of options to upgrade our infrastructure in order to ensure the functionality of essential devices in case of a multi-day power blackout.

Results and findings

In the course of getting prepared for a long-term blackout, it became clear that simply connecting our storage systems to an emergency power generator is insufficient. In fact, additional technical facilities “in the background” are needed to operate our cooling systems within specifications.

Discussion and conclusion

The evaluation concluded that making our Biobank “fit for blackout” would require a substantial investment of resources. Biobankers are responsible for sample quality assurance. However, developing a concept for a blackout-scenario prompted us to critically examine following questions: Where does our responsibility for sample quality end and our responsibility for our environment begin, and do we have environmentally more sustainable storage options?