

THE Port Association
1, rue Fendt
CH - 1201 – Geneva
info@theport.ch
+41 76 310 6711



Call for challenges

THE Port Humanitarian Hackathon at CERN 6-8 October 2017

THE Port puts together well-balanced and diverse teams to work on technology-related humanitarian challenges, with benefit to society. Within our methodology it is important to shape appealing and well-defined challenges. The better the challenge is defined, the more likely a tangible solution can be expected at the end of the hackathon.

The challenges can present a need without necessarily recommending a particular solution, for instance:

- *How can we resolve the challenge of cooling goods and medications in field operations?*

Or they can present a specific product idea to fill a need, for example:

- *How can we design a compact and inexpensive cooling unit with the aim of improving availability of fridges in the field?*

Challenges do not need to be standalone challenges, which create a whole new prototype. They can also be specific feature requests for an existing open source project. **The challenge should represent a significant development, which could ideally be designed, planned and completed to become a working prototype in a single intense 60 hours hack-sprint.**

How to submit a challenge idea

Submit your challenge ideas at idea@theport.ch. Deadline: **31 March 2017**

Example of a challenge idea: (Please follow this template)

Title	The 10\$ fridge for field operations
Short description (max 200 words)	For many humanitarian projects, fridges are necessary to cool medications and vaccinations. Locally organizing or transporting fridges to refugee camps is expensive due to their size and weight and loading them with other goods is not really practical and is time-consuming. There is a need to develop a compact and inexpensive (product costs under \$10) cooling unit that could improve the flexibility and availability of fridges in the field operations.
Contact person	Name and Surname, Title, Division, Organisation, e-mail, telephone

Challenge selection process

If your idea is pre-selected, we will work together with you to shape a stimulating challenge. The goal is to write a one-page challenge description (*see example on next page*), which includes:

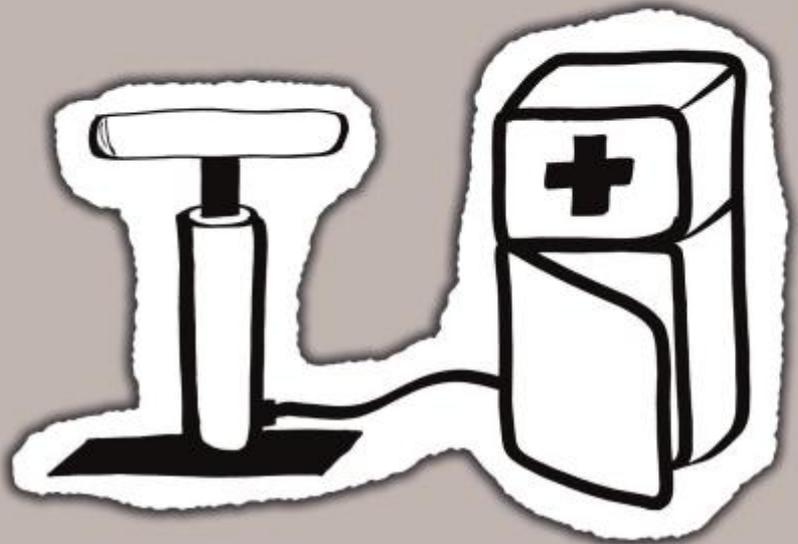
- A catching title
- A to-the-point topic or challenge description
- An outline of potential goals, that could be reached during the hackathon
- Resources, e.g. existing products or projects, access to information mentors, etc.

This document should be finalized by June 2017.

The selected challenges will be announced during July 2017.

THE Port - Hackathon at CERN

The 10\$ Inflatable Fridge For Field Operations



Summary:

In many humanitarian and social projects fridges are necessary, e.g. to cool medical or vaccination preparations. Organizing locally or transporting fridges to refugee camps is expensive due to their size and weight - loading them with other goods not really practical and time consuming. An inflatable fridge with a compact cooling unit using new isolation techniques could improve the flexibility and availability of fridges in field operations.

Goals:

In a first step we want to concentrate on the inflatable aspect of the concept. Using super-isolator foils and foams (e.g. reflector foil compounds and thin aerogel layers) paired with cheap plastic foil production techniques (e.g. inflatable swimming pool) are a possible way to reach this goal. A conventional cooling unit can be used for a first prototype. Anyhow a concept for cooling which might use waste water evaporation in combination with solar cell powering and using environmental friendly coolant (e.g. CO_2) could be developed. A production, transport and long term use plan should be discussed in parallel.

Resources:

Simulation and analysis skills are necessary to calculate and simulate a reasonable isolation and powering design. A production and maintenance cost calculation should accompany the technological development.

