

# NEXT GENERATION EXPEDITION STOVE

## A lead user approach to product development



During the research phase of this project, interviews and user tests were conducted, which lead to a product development guide for the next generation expedition stove. Based on the guidelines, a concept of an expedition gas stove, designed for repairability, was developed.



In 1996 Primus launched their expedition stove Multifuel, the first stove that could run on liquified petroleum gas (LPG), white gas, kerosene and aviation fuel. The multi-fuel stoves are part of the Primus expedition range of equipment. The line was designed to perform in extreme conditions. The expedition stoves have been roughly the same since then. Therefore Primus wanted to investigate what the future looks like for these stoves. The expedition segment is important to the company as it reflects its heritage. Primus had an internal goal of updating the expedition line within the next few years, which was the main reason why this master thesis project arose.

The purpose of the project was to investigate the usability of expedition line stoves and understand the user needs to find a direction for the next generation of expedition stoves. The goal was to deliver product development guidelines that Primus can make use of in the continued work as well a well-motivated concept and recommendations for future development based on these guidelines.

The work has been carried out applying an adapted lead user approach, meaning some chosen users have been involved throughout the whole development process. Extensive research was made, including interviews and user studies. The qualitative data was analysed with inspiration from the Gioia framework and resulted in product development guidelines, including insights from the analysis, a user-centred re-segmentation of Primus' expedition stove line and identification of whitespace. It became evident that an expedition gas stove should be included in the segment as professional users show a great will to use gas and the need for multi-fuel is low.

Based on the guidelines and user involvement, a validated product concept was brought forth. The Primus Altitude Ti is an expedition gas stove in titanium with a flame spreading laminar flow burner providing silent and fuel-efficient cooking. The stove has a regulated valve at the burner and an ON/OFF valve at the canister allowing to run the stove in liquid feed mode which is beneficial in cold conditions. Altitude Ti is designed to be disassembled and repaired in the field, to make it more reliable.

