

TRACK CORE

TOWARDS A WORLD-FRIENDLY ASSET TRACKER

The LCA of the current TRACK showed that the plastic enclosure contributed less than 5% to the total impact, with the electronics being responsible for the remaining 95%. Therefore the goal of the project was to reduce the impact of the electronics.

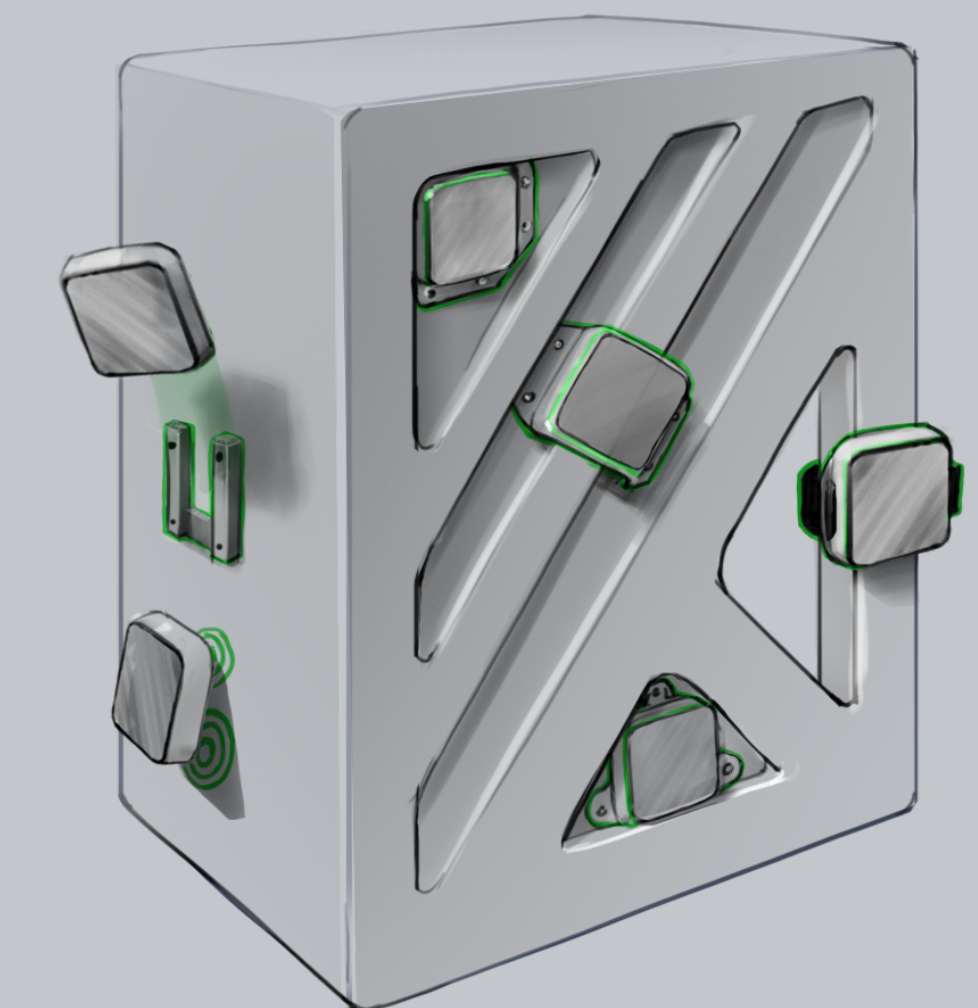
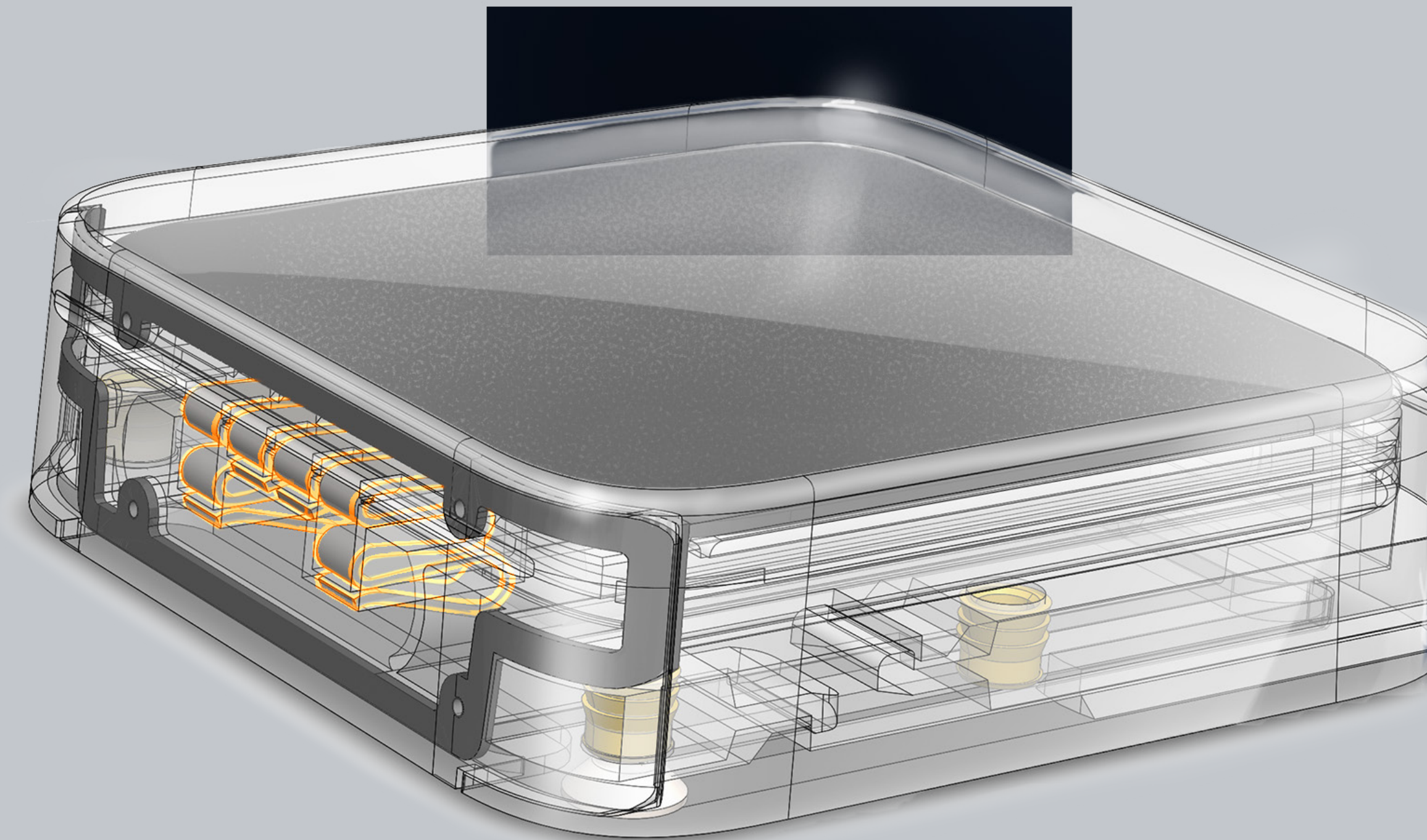
The impact was reduced by integrating lower impact electronics and by extending the lifetime by circular product design. The enclosure was redesigned for direct access to the components, using a 'drawer' type architecture and clamp connectors.

The PCBA can be upgraded to extend the lifetime of the components and the mounting was rethought to make reuse more attractive. The circularity was improved without compromising on the weatherproof design.



Direct access disassembly concept

In the existing TRACK the battery disassembly took 80s while the PV panel cannot be replaced. In the redesign all components can be accessed within 6-17 seconds, depended on the mounting type.



Asset specific mounting bracket

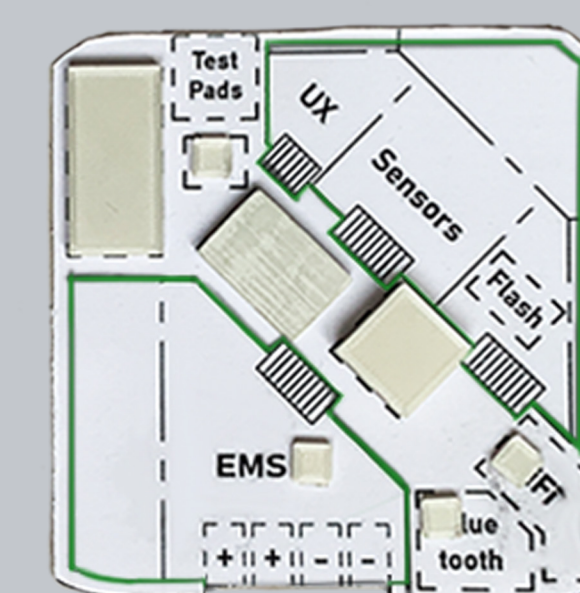
New detachable 3D printed internal and external mounting brackets augment the number of mounting possibilities Core enclosure and make reusing the Core attractive in new assets



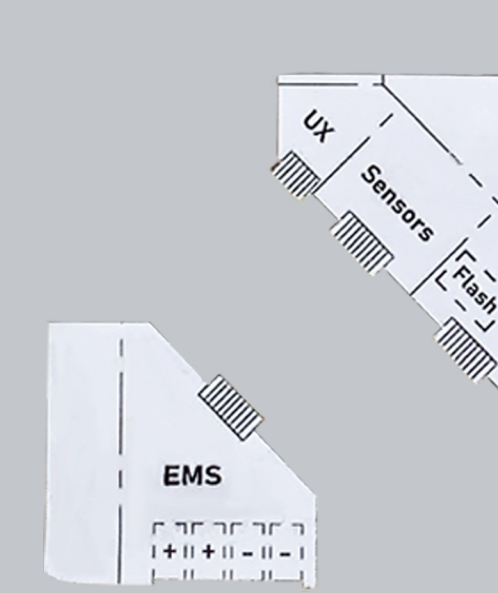
Reversible fixation method ensure reliable connection between the modules



Novel upgradable PCBA upgrade process



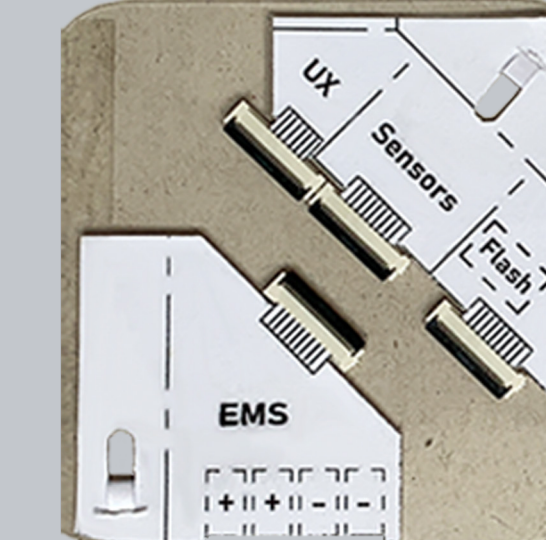
A Existing TRACK Core PI FlexPCB, etched Modular circuit design



B Die cut TRACK Core modules with contact pads



C New TRACK Core 5G upgrade module with FPC connectors. Printed Electronics on r-PET



D TRACK Core with upgraded 5G network components

E TRACK Core 5G Upgrade fits in existing enclosure

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Integrated Product Design

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