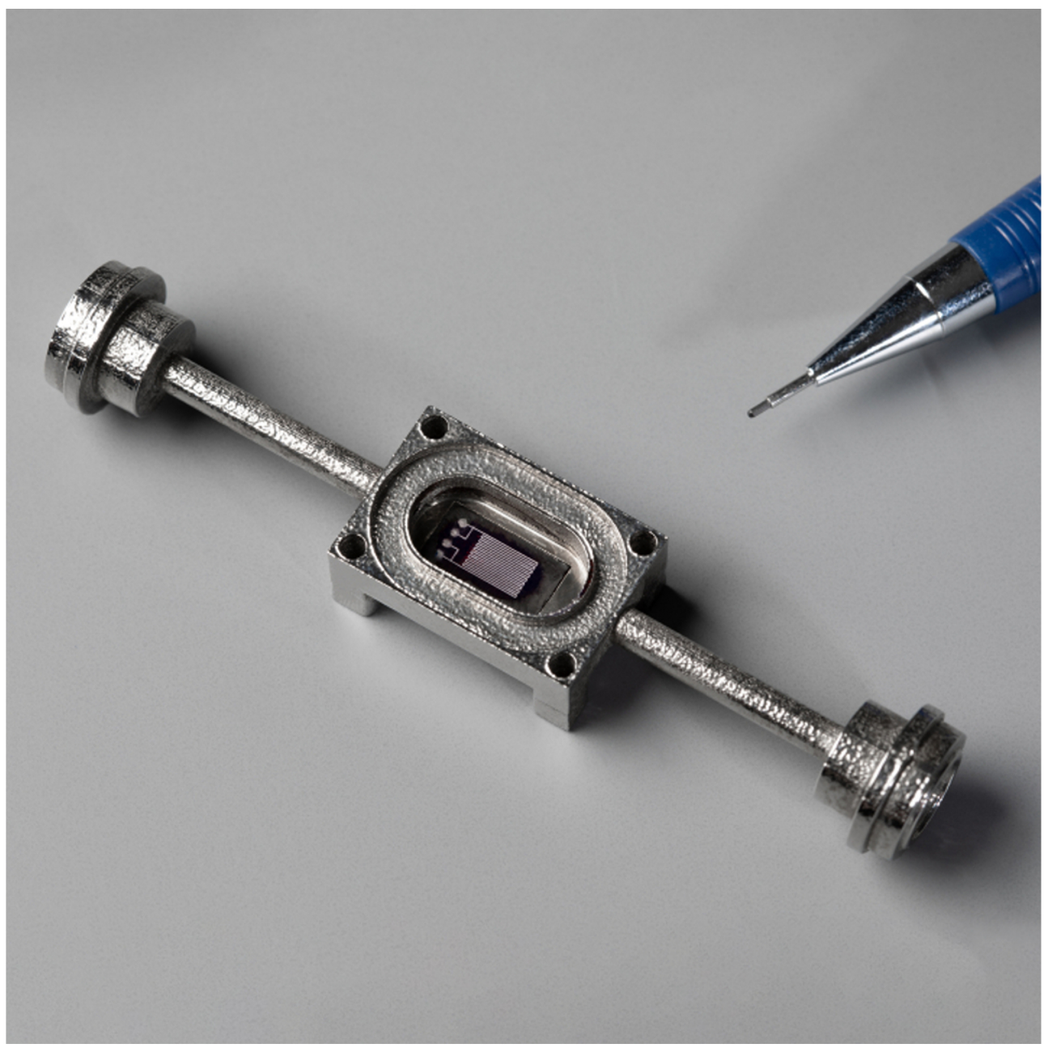
IdeaSquare
The innovation space at CERN

Advanced Heat Exchange Devices (AHEAD)



ATTARCT Phase 1 (2019-2020)
SWaP project: 3D printed metal pipe featuring pressure fittings, electrical feedthrough, and embedded 3D printed sensor
Features:
- Pipe & segments: 3D printed via Selective Laser Melting (SLM)
- Sensor: 3D printed via Aerosol Jet Printing (AJP)
- Sensing: fluidic temperature
- Data transmission: wired

ATTRACT Phase 2 (on going)
AHEAD project: 3D printed metal pipe, electrical feedthrough, and embedded sensors, heating elements and energy harvester devices.

Scope: monitoring fluidic parameters with a non-invasive method
Functions: standalone monitoring, in situ sensing, heating and energy harvesting
Uses cases: CO2-based industrial refrigeration systems / Mechanically Pumped Loops in space

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