



CSEM AM parts
electrification



smart

advanced manufacturing

CSEM's PROFILE

We are a public-private, non-profit Swiss **technology innovation center**

We enable competitiveness by **developing and transferring world-class technologies to the industrial sector**



1984
FOUNDED



600
SPECIALISTS
in 2023



100.4
MIO TURNOVER
in 2022

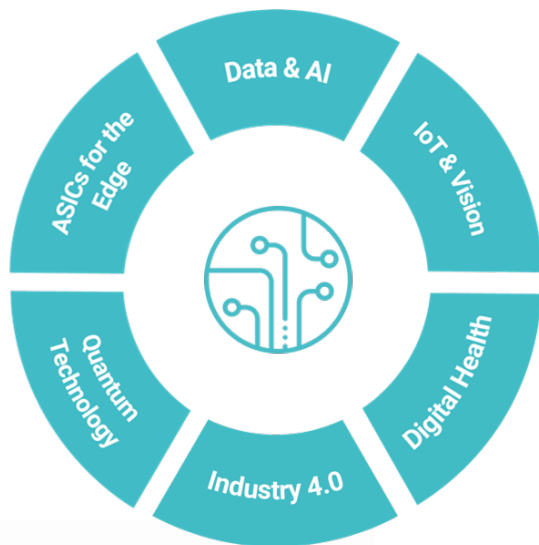


> 50
VENTURES
since 1984

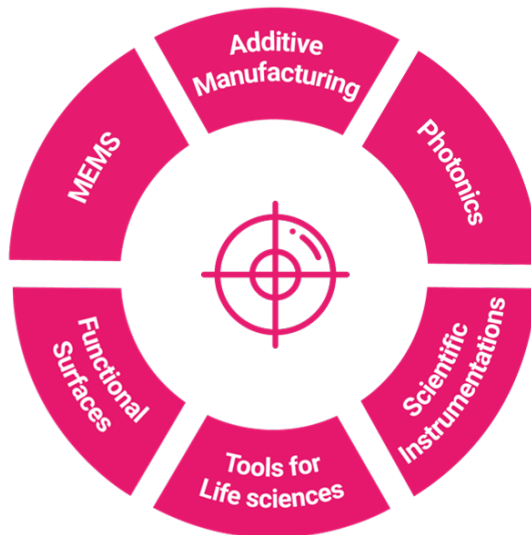


CSEM's PROFILE

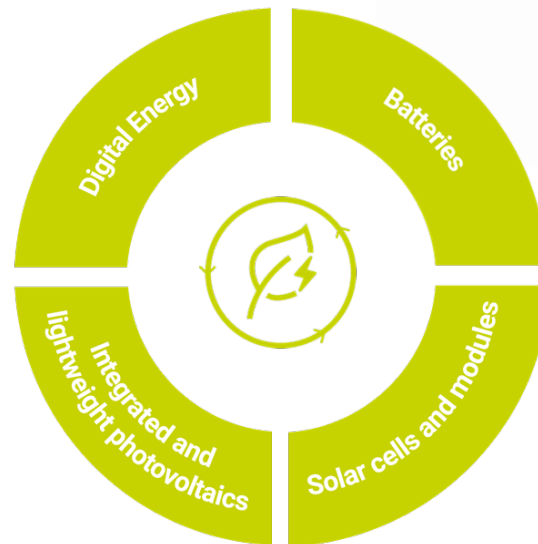
Digital Technologies



Precision Manufacturing

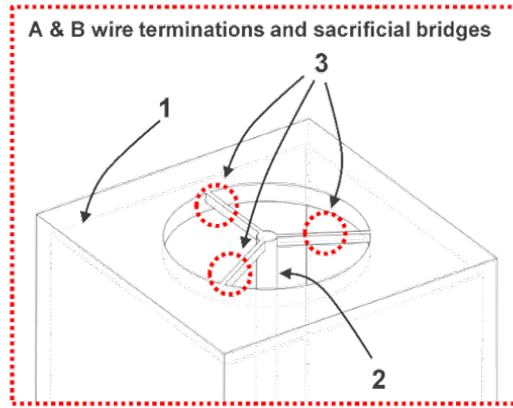
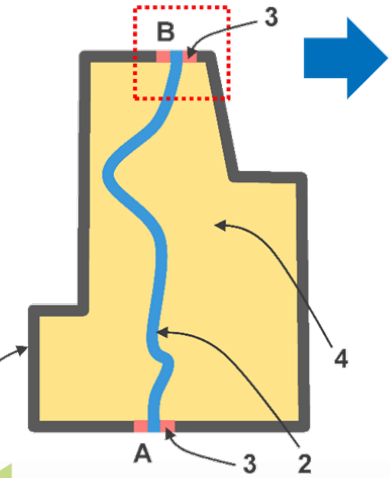


Sustainable Energy



PROPOSAL INTRODUCTION (I)

1. Structural hull 2. Conductive wire 3. Sacrificial bridges 4. Insulating material



PATENT EP3740382

I. Metal Additive Manufacturing

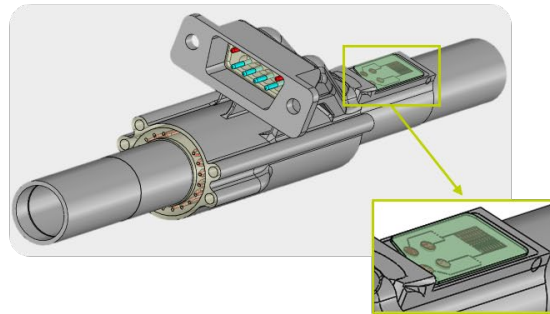
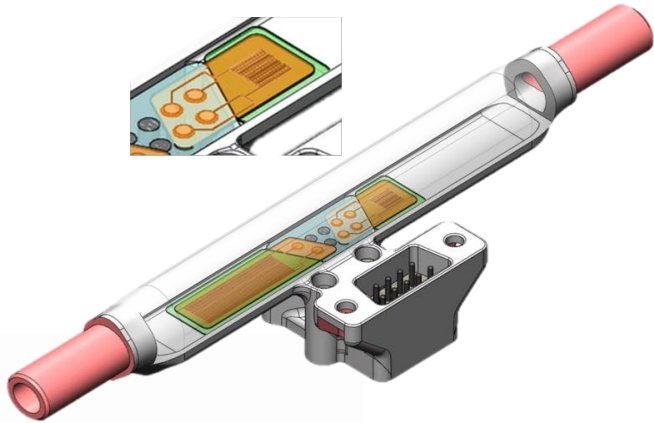
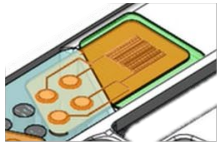
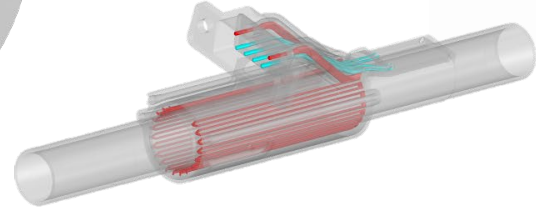
- structural hull (1)
- conductive wires (2)
- sacrificial bridges (3)

II. Insulation casting & curing (4)

III. Bridges (3) removal

Smart pipes

- Built-in sensors and heaters
- Part-count reduction
- No assembly / gluing
- Digitalized design



Energy storage

- Mass reduction 20-30%
- Part-count reduction
- Digitalized design
- Design for demise
- Integration of all electrical functionalities in the design

ALMATECH



24 month activities

Technical opportunities

part-count reduction

in-situ monitoring

advanced functions (actuation, heating, etc..)

main challenges

metal/polymer combination vs environmental requirements

insulation casting process

wires routing design process

PARTNERS

Current

Swiss SME (use case)
CSEM

Partner search: -

SME that may benefit from the technology
RTO with printing capabilities



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