



# *DurAlcell*

Multi-Sensory AI for long duration battery management

*Ferdinand Fuhrmann*

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Multi-Sensory AI for long duration battery management



## *Partners*

- JOANNEUM RESEARCH
  - Digital
  - Materials
  - Life
- Advanced Thermal Technologies (ATT)
- Webasto Roof & Components

## *Kontakt*

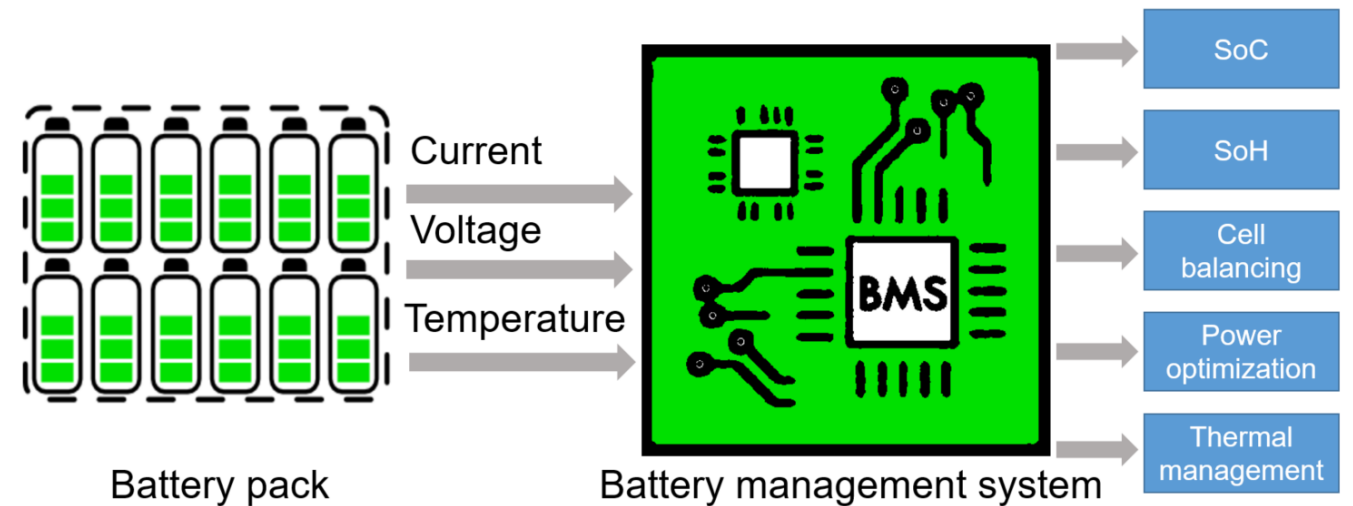
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# DurAlcell

## Goals

- Printed and integrated sensor foil for EV battery packs
- Recording new cycling data set
- Enhanced AI for battery state estimation and anomaly detection



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## Printed sensor foil

- Sensors between individual cells
  - → monitoring of every cell
- Multi-modal sensing
  - Temperature
  - Static pressure
  - Vibration (dynamic pressure)



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## Cycling data set

- Integration of sensors in battery packs
- Recording in cycling lab
  - Cycling profiles from driving data
  - Different environmental conditions
  - Ca. 100 days



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## Battery state estimation AI

- Currently imprecise estimation
- Higher accuracy with new sensory information possible
- Machine learning approach
  - State estimation
  - Anomaly detection
- Better battery management

