

AI for EV motor optimization



ST-HPE Group Prometeo Joint Lab



**AI virtual sensor
for temperature estimation**



**AI for predictive maintenance
in electric motor performance**



**Stellar E MCU
the brain of the system**



HPE Group, flexible, agile and innovative provider of engineering solutions, technology, projects and products for automotive

In partnership with HPE Group, ST has established **Prometeo**, a new Joint Innovation Lab dedicated to R&D activities

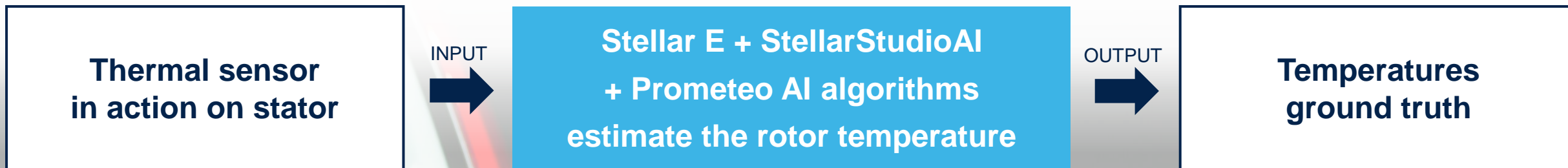
Prometeo aims to develop innovative solutions for automotive electrification by combining expertise and solutions of both companies, on products with embedded AI



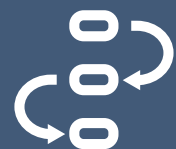
Stellar E Automotive MCU combined with AI algorithms by **HPE Group** improves performance of EV



Edge AI virtual sensor for temperature estimation



Virtual AI sensor can estimate rotor temperatures with the same accuracy as the physical sensor



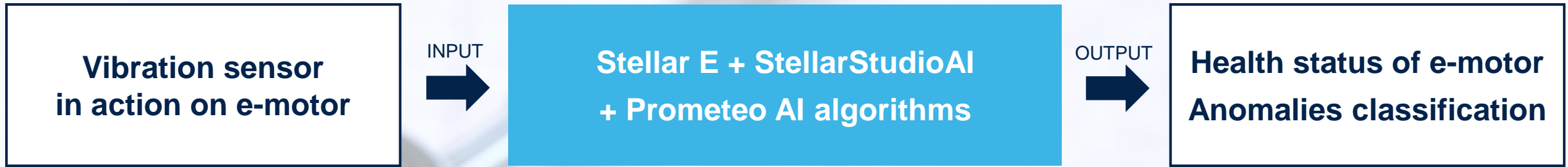
Virtual sensor simplifies systems design and reduces costs



Stellar E computing power + AI algorithms conceived by Prometeo enables significant improvements in the performance of electric vehicles



Edge AI for predictive maintenance in electric motor performance



Edge AI detects the overall health status of the e-motor by promptly detecting anomalies, preventing component failures



Edge AI ensures operational continuity & reliability while maintaining optimal performance



Stellar E automotive MCU the brain of the system

Power conversion efficiency

System performance

Fast sensing
& actuation



SiC / GaN
enabler



Math
accelerator



Primed for signal processing & core processing

Security

Real time
computing power

Non-volatile
Memory

Safety up to
ASIL-D

32-bit CPU
Arm Cortex® M7

OTA

System & control in ONE MCU

