

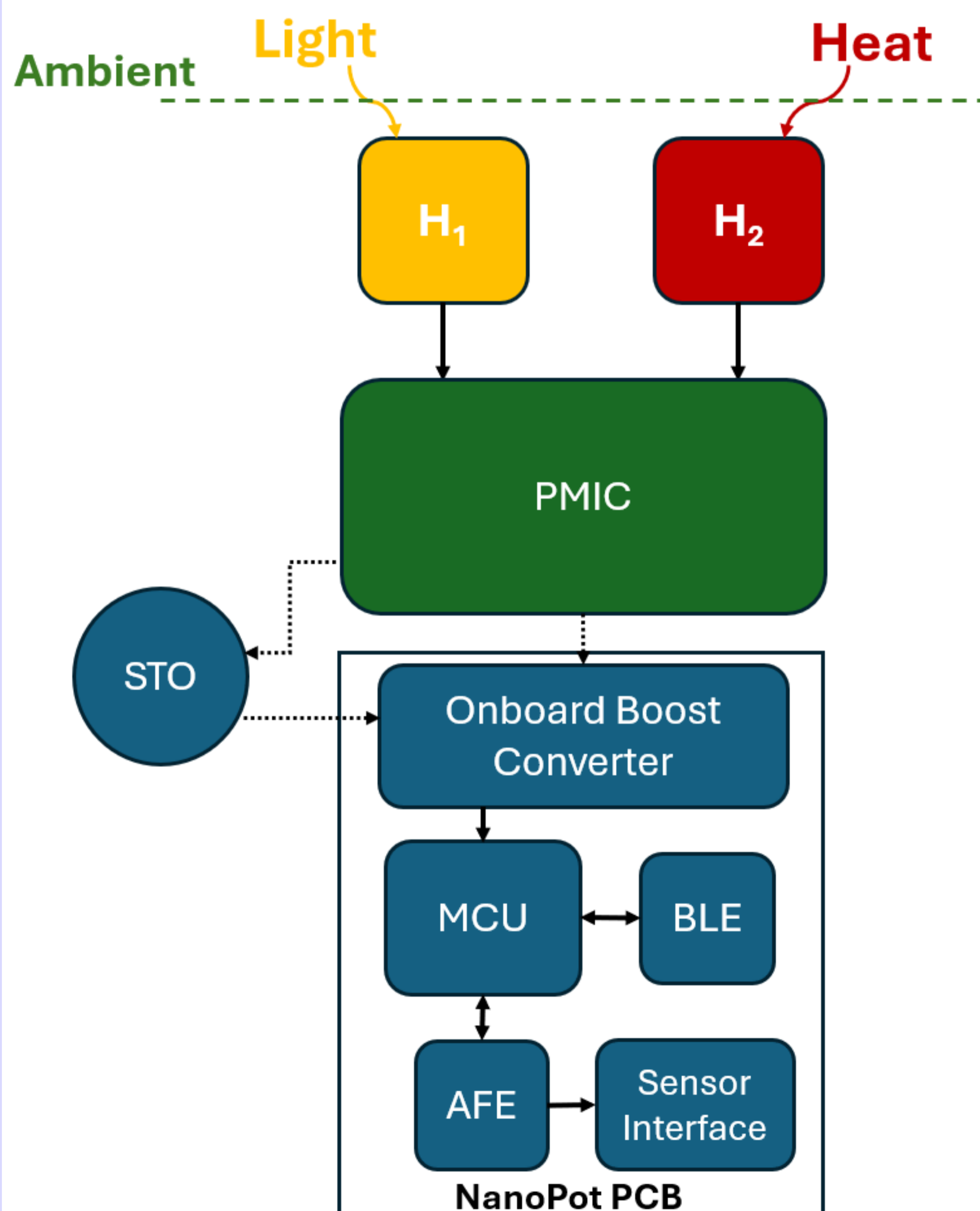
Synergetic Energy Harvesting System for Long-Term Biosensors

Purpose and Aim

The project aims to design a reliable energy harvesting system to power mobile miniaturized analytical biosensing systems for personalized health monitoring applications in order to achieve a reliable monitoring device with extended operational lifetimes. The desired goal is to validate whether this approach is feasible and can achieve energy-neutrality for the system or not. Hence, extended operational lifetime, user comfort and compliance, and improved data availability will be achieved if the feasibility of the system was proven.

Results and Important Findings

A hybrid ambient light/heat energy harvesting regime had been chosen to be the powerhouse of the system. The reasoning behind this choice is the maturity of related harvesting technologies and the ability to harvest energy from ambient without a specific case (passive harvesting). Indoor ambient light and on-body/ambient heat will be harvested simultaneously to fulfill energy-neutrality with overhead budget to proof the system's efficiency.



Mohammad Toufan
277144@usn.no
Joint International Master in Smart
Systems Integrated Solutions
(EMJMD-SSIs)



Supervisors: Erik Andrew Johannessen, Martin Peacock, and Sujith Pillai.
Partners: Zimmer and Peacock AS.