

MDU – Mälardalen University, Sweden

- MDU prides itself with conducting collaborative research with industry; we have research in six specializations whereby research in Future Energy and Embedded Systems is internationally prominent.
 - Students: 19 900; Study Programs: 52 at Bachelor's level, 27 at Masters level
 - Courses: 1200; Teaching staff: 523
 - Doctoral students: 221; Professors: 60
- MDU's expertise and domain knowledge in NRPCES
 - Expertise in automated predictive modeling and estimation to utilize for machinery and component lifetime given sustainability parameters.

Description of MDU Role in NRPCES

- MDU's Project Participation & Contributions:
 - MDU will contribute in NRPCES through research and tool development for automated prediction and estimation of machinery lifetimes or durability of machineries given sustainability parameters.
 - MDU will be active in 4 WPs:
 - WP1: Project Management and Administration.
 - WP3: Environment Impacts and Circular Economy.
 - T3.1. KPI selection for monitoring, environmental impact assessment.
 - T3.2. Identification of the factors influencing the optimal replacement time of the use case machineries.
 - T3.4. Sustainability impact analysis including tracking carbon footprint.
 - T3.5. Emission cost computation.
 - WP5: Economic Replacement Time (ERT) Model Development.
 - T5.2. LCC analysis under different scenarios considering environmental impact.
 - WP7: Project Dissemination, Exploitation and Marketing Activities.
- Measurable Indicators:
 - Precise measurement of equipment replacement times given sustainability/environmental parameters.
- Contribution to sustainable growth in Sweden:
 - Reduced downtime of critical equipment, such as railway infrastructure.
 - Continuous monitoring of key environmental parameters for climate friendly operations.