Upgrade Forecasting

Design and Testing of a Novel Circularity Engineering Method

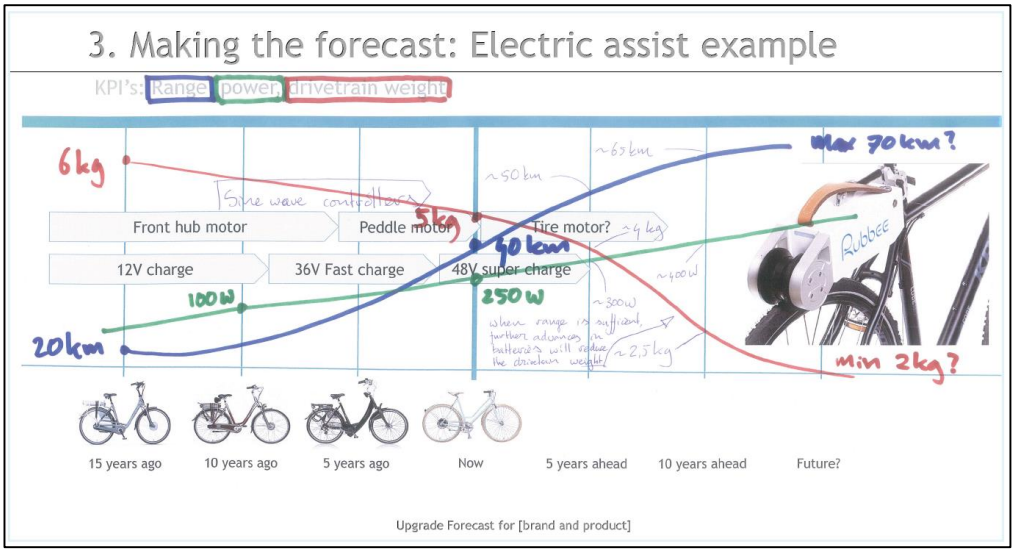
Vacant thesis (BA, MA)*

Recommendet for: M.Sc. SSE,

Multiple methods exist for the selection of suitable value-retention processes (VRPs) for existing products in a circular economy. Only little research exists on how to identify technologically and overall suitable VRPs for products under development or redesign, to derive design objectives from these predictions (Design for Circularity). Core elements of these predictions are the evaluation of the techno-evolution (backsight) and the upgrade forecasting (foresight) of the functions of a product. This analysis could serve as a base to derive objectives and constraints for circular product design and material selection, as well as the modelling of economic and ecological implications over multiple use cycles.

This thesis aims at:

- Summarizing the existing research
- Development and validation of:
    - An upgrade forecasting methodology for Design for Circularity
    - Sets of constraints and objectives, derivable from the results of upgrade forecasting for Design for Circularity
    - An approach for ecological & economic predictions, based on the upgrade forecasting and the proposed specific design for circularity



https://www.ideal-co.nl/tool.html#upgrade

Starts: As soon as possible

Timeframe: According to examination regulations

More topics on request!

* Forschungspraktikum = FP, Vertiefungspraktikum = VP, Study Project = SP, Bachelor Project = BA, Master Project = MP, Master Thesis = MA

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