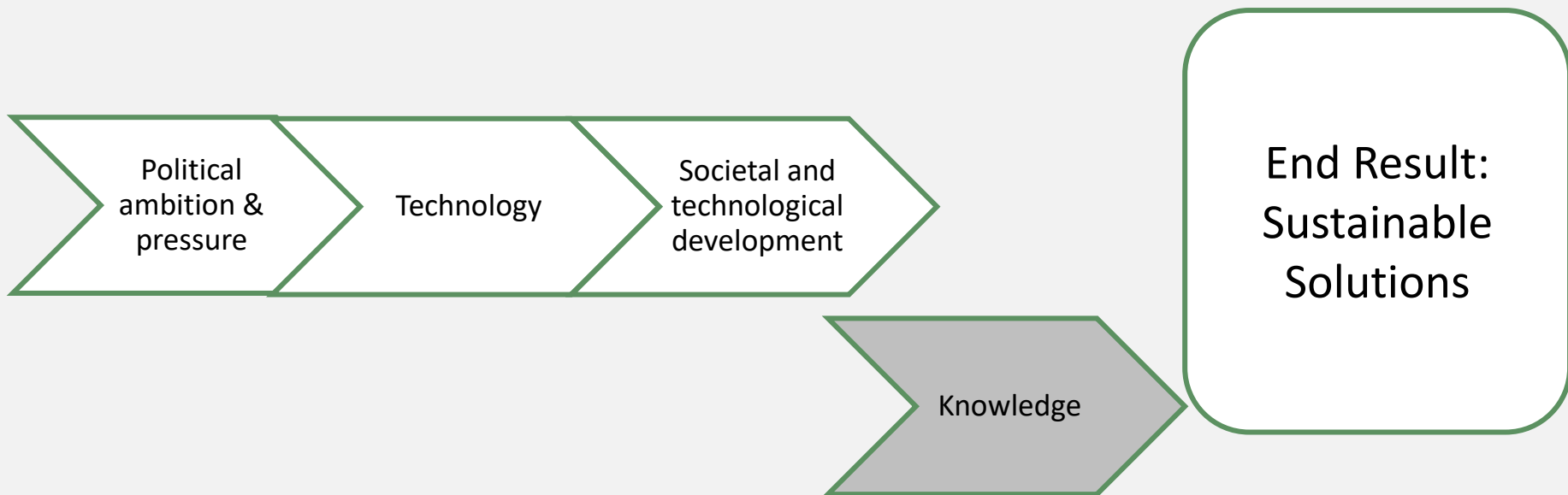




Klima - Økonomi - Teknologi

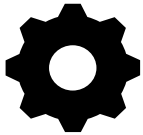


Energy Transition





MHTech
Sustainability
Decision Support



Technology



Economy



Climate &
Environment



Key Focus Areas

- New low & zero emission technology requires change in:
 - Hardware
 - Software
 - Use
 - Infrastructure
- Identify required changes
- Identify potential for optimization on a system level
- Requires systematic approach with focus on totality combined with more fine grained analysis of actual system behaviour



Business Areas

Shipping & Marine



Energy



Transportation



Energy Systems



Project goal

Develop a calculation model that simulates the operation of vessels to predict, map and control the expected effect and energy needs of ports.

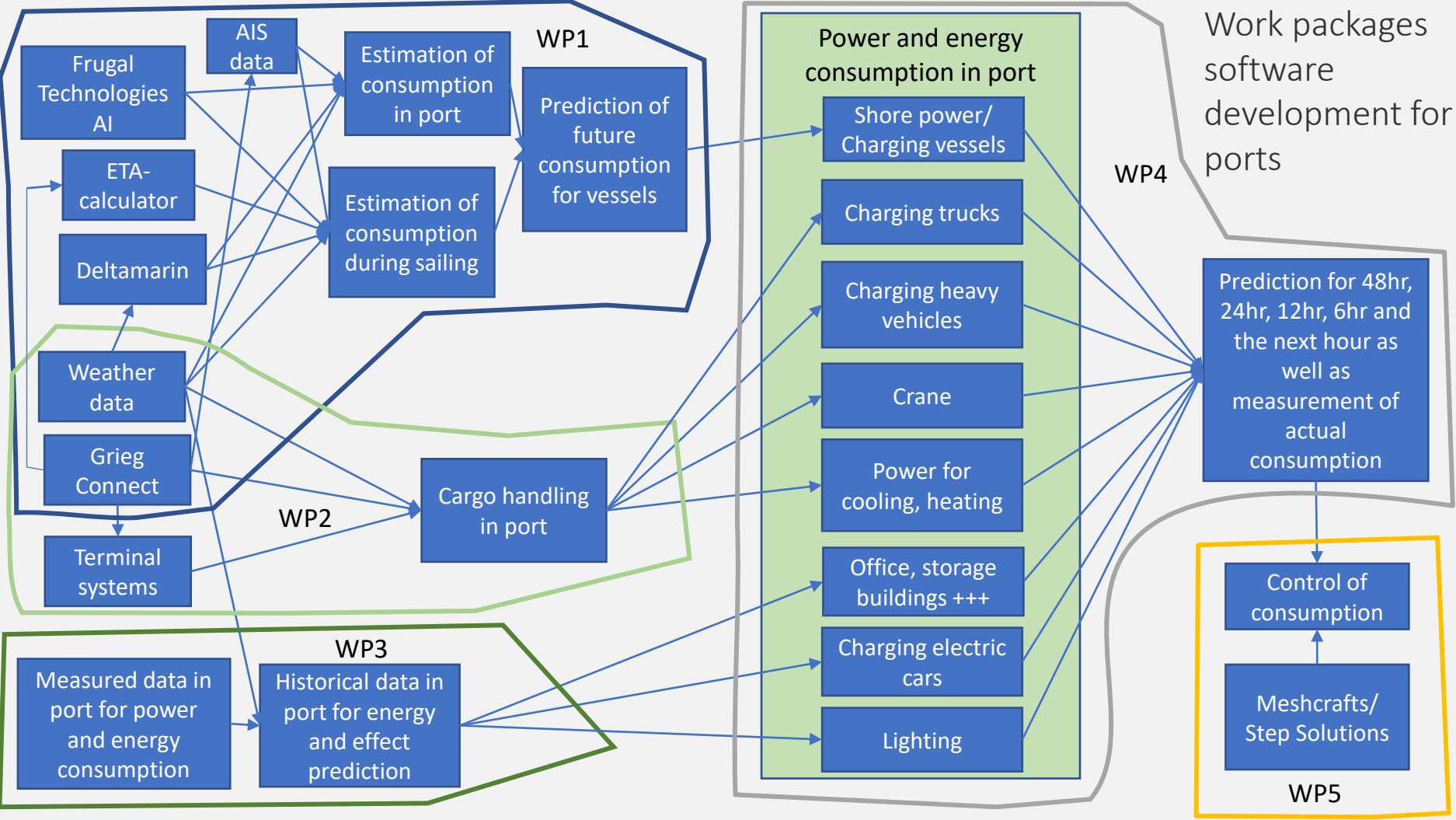
The goal is to help the port achieve:

- More predictability and the opportunity to **plan, streamline and control energy consumption.**
- The opportunity to prepare before the arrival of a ship, either by **prioritizing and possibly disconnecting consumers** or by **charging battery banks** or similar.
- Increased available power for incoming vessels and at the same time **avoid extensive upgrading of the energy infrastructure.**

The software service developed in the main project shall:

- use historical data combined with a calculation model to calculate energy requirements when charging points and speed are taken into account.
- continuously improve the underlying assumptions and estimate of the remaining range by using user data, machine learning and artificial intelligence to recognize driving factors such as weather, wind and operational profile.





SPECIFICATION SETTINGS

RESULTS

max next 48 hrs

6 108

max next 12 hrs

6043

max next 6 hrs

2836

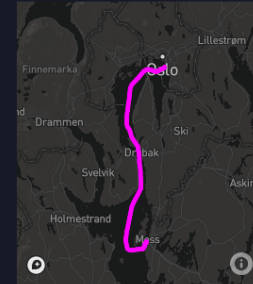
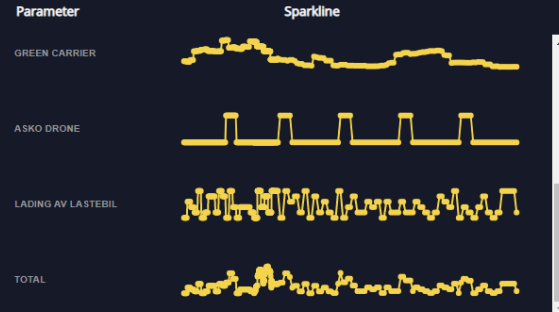
max next hr

2 128

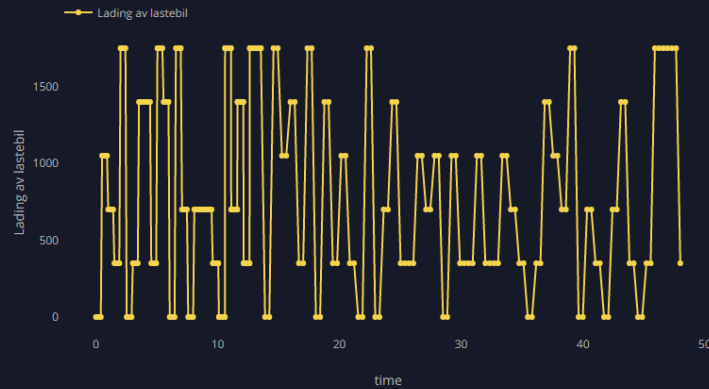
total kwh

1 13 130

Process Control Metrics Summary



Detailed chart



Main project

- Applying for Pilot-T support program.
- Nordic Innovators is working on the application and plan to have it completed by 15.01.20.
- Planned project period 01.02.2021 - 06.02.2023.



Project partners



Work packages

Work package	Title	Responsible
WP1	Project administration	MHTech
WP2	Establishment of design basis	MHTech
WP3	Set-up, collection and exchange of data	MHTech
WP4	Interface	MHTech
WP5	Consumption for vessels	MHTech
WP6	Cargo handling in port	MHTech
WP7	Historical data in port	MHTech
WP8	Overall prediction of power and energy consumption in port	MHTech
WP9	Control of power and energy consumption in port	Step Solutions
WP10	Development of user interface	Grieg Connect
WP11	Pilotation and testing	MHTech
WP12	Ownership, IPR and commercialization	MHTech



Milestones

Description	Date
Project start-up	01.02.2021
Progress plan, resource plan and document list completed	01.03.2021
First issue of design basis	05.04.2021
Method descriptions, frameworks and set-up activities completed	16.08.2021
WP5, WP6 og WP7 completed	06.12.2021
WP8, WP9, WP10 completed	06.06.2022
WP11 and WP12 completed	07.11.2022
Project completed	06.02.2023

