



klimator

Creating a better tomorrow

Scalable Monitoring and Error Detection in IoT Sensor Networks

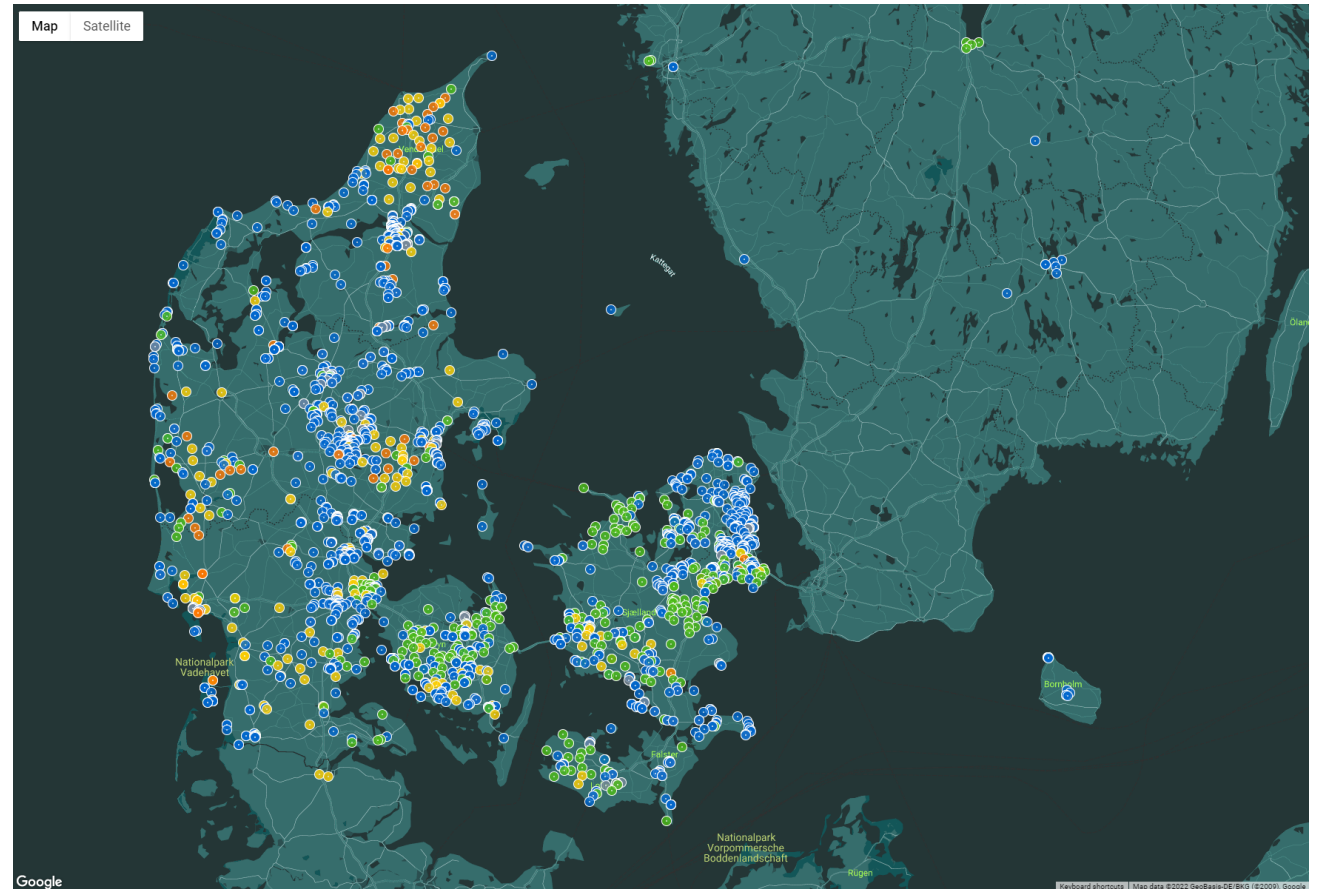
Bachelor Project Proposal 2024

Introduction

- Klimator is an IT company that provides services in Road Climatology
- Business areas
 - Automotive, AHEAD
 - Road Climate Data
 - RCD
 - RSI
 - IoT Sensor business
 - Wide range of IoT devices across countries
 - Special focus on Winter Services
- Offices in Sweden and Denmark
 - Göteborg
 - Odense

Project Overview

- Existing IoT infrastructure
 - API
 - Web-UI
 - Data-pipelines
 - MQTT-brokers & workers



Goals and Objectives

- Scalable monitoring system development
- Firmware error detection methods
- Reporting system using telemetry

Scope of the Project

- Software-focused solutions
- Inclusion of real-time and historical data analysis

Methodology

- Data collection via MQTT
- Error Detection Algorithms
 - Device-model specific faulty measurements
- Telemetry Data Analysis
- Heartbeat Monitoring

Expected Outcomes

- Prototype system development
 - Own setup using Docker containers
 - Simulation of various devices
 - Stochastic generation of faulty measurements