**Week 1 - 29/01/24**

Discussed which projects we would like to work and formed a group

**Week 2 - 05/02/24**

Discussed a list of potential sensor systems to create. The following list was created:

- Magnetometer (Payload)

o A magnetometer designed with the intention of being able to be attached to a satellite to measure magnetic fields of celestial bodies

- Metal detector (Handheld)

o A classic metal detector, that can be carried on a person to find buried pieces of metal

- Velocity/ Distance sensor (Handheld)

o A sensor to detect distance and/or velocity of an object, using lasers or ultrasound systems.

- Temperature sensor (Handheld or payload)

o A sensor to detect temperature using emitted IR radiation

- Multimeter (Handheld)

o A handheld multimeter to detect at least DC voltage and resistance

- Mechanical sensor (Handheld or payload)

o A system to detect mechanical properties such as applied force/pressure/etc

After a meeting with José, it was decided that we would create a magnetometer-payload, designed to be launched from a satellite and impact a planet/moon/asteroid to measure the magnetic field at the surface.

**Week 3 - 12/02/24**

Work on the problem that we had to hand in thursday that week

**Week 4 - 19/02/24**

DTU Findit and introduction to projektbeskrivelse

**Week 5 26/02/24**

Starting work on a project plan that is due next week. This included Requirements Specification, limiting the scope of the projekt, solutions methode and the schedule for the project. While also taking into account the feedback we got on the thesis statement (Problemformulering, idk hvad det hedder).

**Week 6 04/02/24**

This week we made the final touches for the project plan, particularly finalizing the solutions methode of the project, and sending it in for approval.

Digital:

Research on COM-device.

Analog:

We looked into the possibilities for the AMR, including the specifications. In the datasheet a low cost 3 axis example is given, which we ended up using as the primary inspiration.

**Week 7 11/03/24**

We had a meeting with Jóse discussing how the project had moved on the last 3 weeks, since Jóse had been busy and we therefore had not had a meeting.

Analog:

We started researching the possibilities for the gyroscope to measure the tilt of the device. looking into both premade modules and what it would take to implement it ourselves.

Digital:

Decided to go with the LX1278 LoRa communications module.

<https://semtech.my.salesforce.com/sfc/p/#E0000000JelG/a/2R0000001Rc1/QnUuV9TviODKUgt_rpBlPz.EZA_PNK7Rpi8HA5..Sbo>

Realized the MCU only has a 12-bit ADC, where we would like a resolution of 16 bit. Currently researching possibilities for hardware oversampling to obtain required resolution.

Otherwise, stand-alone module will be the solution.