Group Submission 2:

The requirements for this assignment is based on slides and supplementary documents provided in **Weeks 11-15 May 2020 and 18-22 May 2020**.

Instructions:

There should be a title page with your:

1. Group number
2. Student names and numbers
3. Table outlining each member's contribution
4. A declaration mentioning that you have not plagiarized

Section 1

The previous submission separated the complete system into various subsystems, which have been allocated to each member in the group. **Each member** must now complete the following:

1. Identify the subsystem user requirements (URs). Clearly justify how these are relevant to your subsystem or the larger overall solution. This justification could be 2-3 sentences. Tabulate these individually as per the template (R1-REQ-000001, pages 14-21).
2. Identify the subsystem functional requirements (FRs). Tabulate these individually as per the template (R1-REQ-000002, page 9-25).
3. Identify and tabulate the subsystem design specifications.
4. Create a set of acceptance test protocols (ATPs) to fulfill these requirements.
5. Create an OPM diagram for your subsystem

Remember to use identification tags when creating these requirements and link each:

<div align="center">

ATP->Design Specification->FR->UR

</div>

Section 2

Each subsystem needs to be refined into multiple levels of and number of sub-subsystems, and continuously be refined until you have reached the atomic level.

The atomic level is the point at which you can either purchase, design/manufacture the required product, or obtain code from a source like GitHub. Some subsystems will need less refinement to reach the atomic level, while others may not.

1. Show how your subsystem has been refined into further sub-subsystems and eventually atomic level components.

Of these numerous atomic level components, **each member** will focus on **only 3-4** of atomic level system elements for his/her part, and complete the following for **each** of these 3-4:

2. Compare different products/available solutions and justify your final choice. E.g. if your atomic level component is to use a microcontroller and you have identified the STM32F0 and STM32F4 as suitable candidates, justify why you would choose the one over the other. Justification can be (but not limited to) factors such as price, size, processing power, GPIO ports, availability etc. .

3. Simulate your chosen components and/ or sub-subsystems to show that it meets your design requirements. These can be in the form of models such as CAD, Spice, and statistical models.

Section 3

To meet ELO 7, each member must complete a one-page analysis detailing the sustainability and impact of their **subsystem/section** on the user and environment. The combination of social, workplace (industrial) and physical environmental factors must be appropriated in your writeup. Comprehension of the role of engineering in society and issues in engineering practice in the discipline: health, safety and environmental protection; risk assessment and management and the impacts of engineering activity: economic, social, cultural, environmental and sustainability can also be used as guidelines in your writeup.