

IN-ORBIT SERVICING & MANUFACTURING COMPETITION 2022-23 CHALLENGE ONE



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Introduction

This document details the work you are expected to produce for this first competition challenge.

There is no maximum page limit for the submission, but a reasonable length is 4 or 5 pages, including images and diagrams. The first page should be a title page (not counted in your page count) – there is a cover page template at the end of this document that you may use if you wish.

Please contact iosm@ukseds.org if you have any further questions.

Deadline

The deadline for the submission of your Challenge One report is:

Friday 10th February 2023.

Submission

Your report must be submitted in PDF format to your team's allocated Google Drive folder, which will be shared with you in due course.

Feedback

Your submitted reports will be reviewed and marked by IOSM industry experts, and feedback will be provided. The mark given for this submission will account for 5% of your final mark for the overall competition.



Challenge Description

The first competition challenge aims to get teams to familiarise themselves with IOSM, and begin thinking about their business and its place within the market. At this early stage in the competition, you are not expected to have finalised ideas regarding the business and technological domain you wish to explore within IOSM. The purpose of Challenge One is primarily to inspire ideas and encourage exploration of the endless possibilities that exist within the field. Please be mindful that this competition has been crafted with the intention of eliciting innovative solutions from participants.

At this stage you have some freedom to decide how exactly you explore and flesh out the ideas you put forward, but the Challenge One report must contain the following three sections.

1. Team introduction
 - Detail names, courses, and academic years for all students in the team
2. Choose 2 IOSM key areas and discuss:
 - Background and overview of the area
 - The technology and/or missions that currently exist in this area
 - Their potential for growth / commercialisation possibilities
3. Select one of the areas researched in part 1 and conceptualise a business that falls within it:
 - Explain your idea! What will the proposed mission/technology do and why?
 - What is the market opportunity? Why is your business worthy of investment?
 - Perform SWOT or PESTLE analysis



Key IOSM Areas

Below is a list of some 'key areas' in IOSM. These are areas of heightened interest points at the moment, and so you may wish to choose items from this list to write about in your report. Additionally, it is recommended to choose a topic aligned with the interests or future scope of our sponsors. However, you are by no means limited to the topics listed below. You are free to choose (or even invent!) your own.

- In-orbit manufacturing for space
- In-orbit manufacturing for Earth
- Space debris removal
- In-orbit transportation
- In-orbit refuelling
- Lunar activities
- In-orbit enabling technology (e.g. space robotics, assembly)
- In-orbit repair
- In-orbit recycling
- In-orbit servicing (e.g. Satellite maintenance and upgrades)



IOSM Competition

2022 – 2023

<Team Name>

<Team Logo>

Issued by: <Team Lead Name>

University: <University Name>