



# Space Taxonomy Report

PAE-STX-REP-01/03

July 2017



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## Configuration Control

Document	Issue	Modifications
PAE-STX-REP-01/01	01 Rev 01	Initial issue (July 2017 - 26 pages)
PAE-STX-REP-01/02	01 Rev 02	Small changes and mistakes corrected from version 1.1 (July 2017 – 26 pages)
PAE-STX-REP-01/03	01 Rev 03	List of contributors added (July 2017 – 27 pages)

This report summarizes the PAE's proposed taxonomy for Space with the following main objectives:

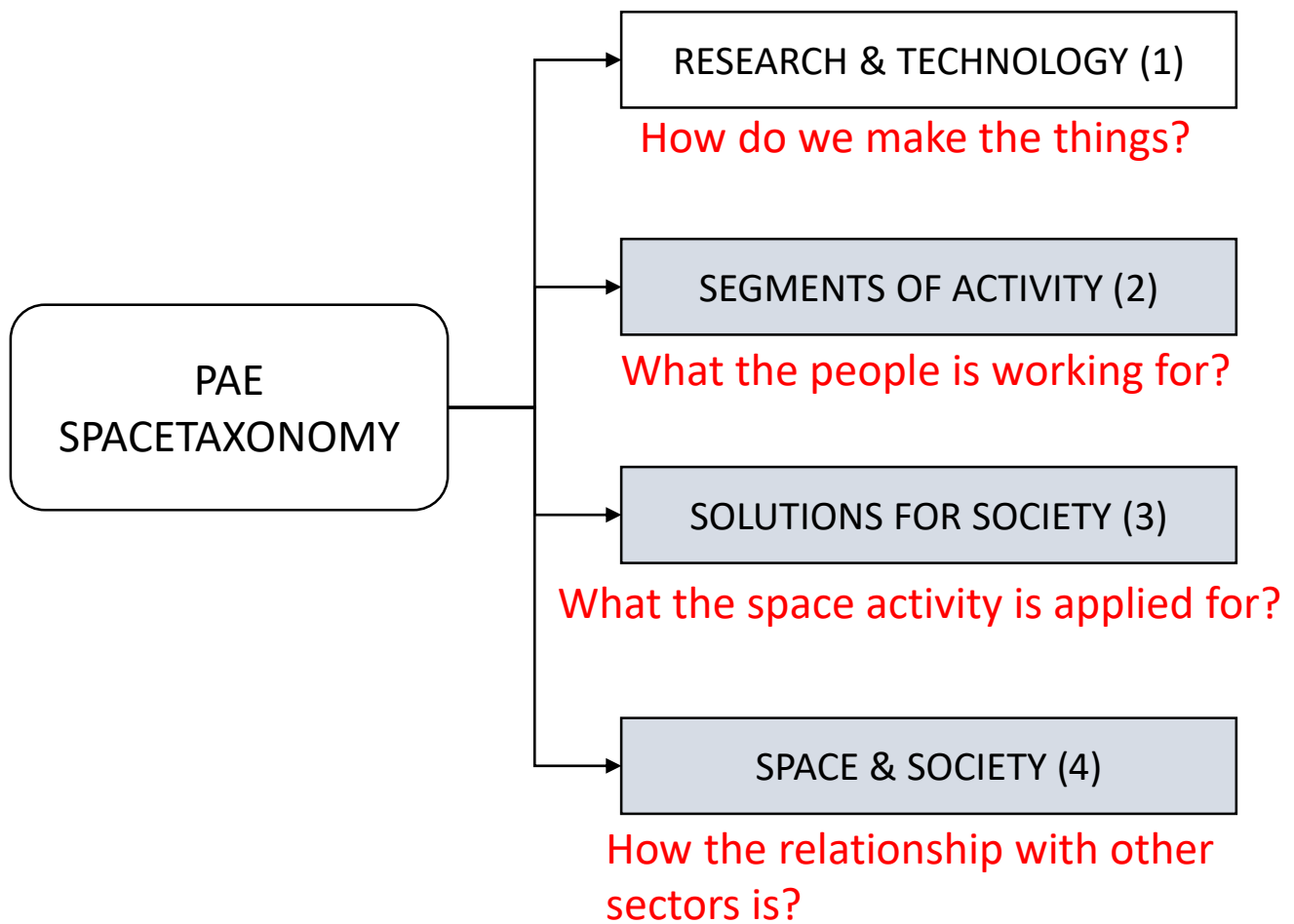
1. Having a common understanding and language to define our Strategic Research Agenda (commonly accepted definitions of technologies).
2. Classifying the entries in our Catalogue of Capabilities and Infrastructures.
3. Obtaining, by analysis of the classified information, a better knowledge of our needs and capabilities to do research and taking better decisions.

The report is divided in two parts: the overview of the different levels of the taxonomy (main branches) contained in the present document, and the detailed description of all the branches contained in the Annex.

There is a similar document defining the PAE-AEROTAXONOMY.

The following references have been used to prepare this document:

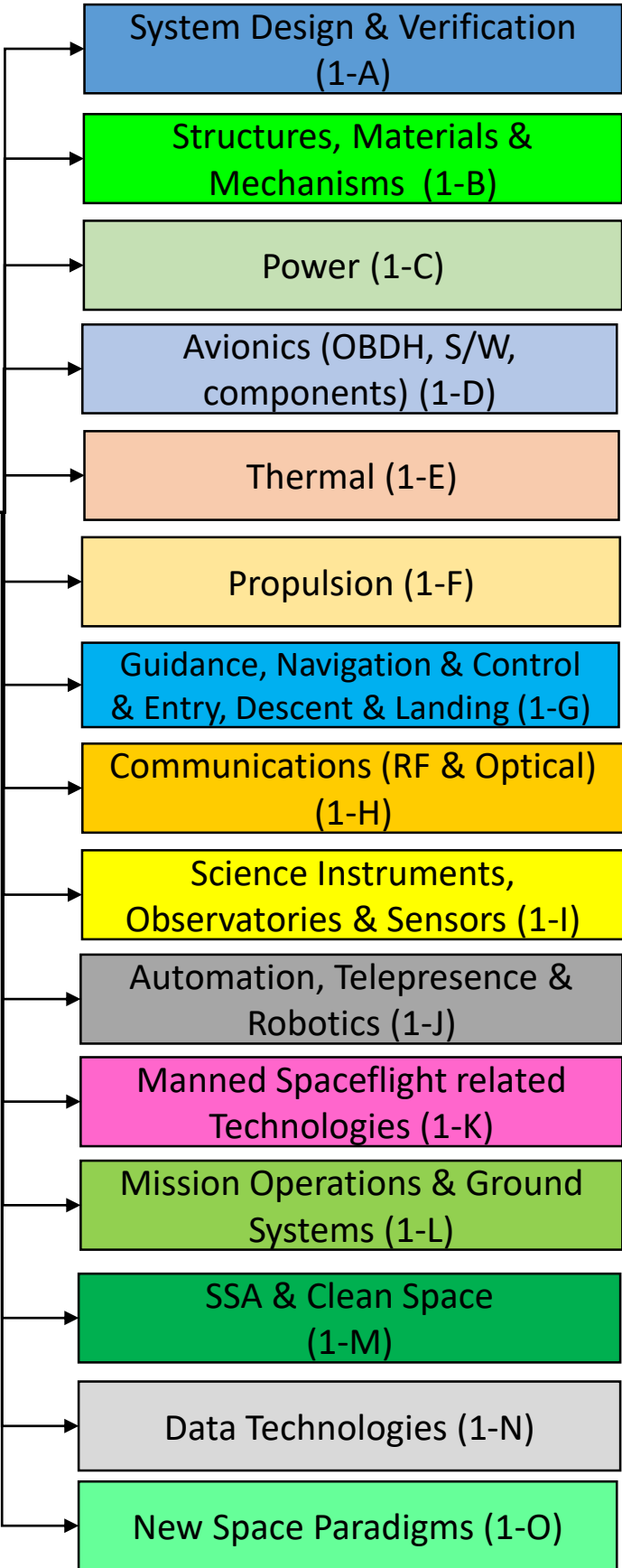
- R1. ["NASA Technology Roadmaps" May 2015 Draft](#)
- R2. ["ESA Technology Tree" STM-277 Version 3.0 October 2013](#)
- R3. ["Technology Roadmap of SMART", the Eureka Advanced Manufacturing Program, draft 2, published in January 13<sup>th</sup>, 2017](#) and used in part as a guide for the "New Industry paradigms for space manufacturing " part of the SPACETAXONOMY
- R4 ["North American Industry Classification System", United States 2017](#)
- R5 ["REGULATION \(EC\) No 1893/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 20 December 2006](#) establishing the statistical classification of economic activities"
- R6 ["Space Economy at a glance 2014", OECD](#)



**RESEARCH AND TECHNOLOGY (1)**

**How do we make the things ?**

We start by a global conception (1A), then we need a the skeleton (1B). Power is always necessary (1C), then Equipments with their connections (1D) and management of thermal problems (1E). Many times we need propulsion (1F) and, if we want to go to a place we need guiding (1G). When we have a guided spacecraft we need to communicate with it (1H) and many times we introduce sensors and instruments (1I). Our mission can be unmanned (automatic, robotized) (1J) or manned (1K). And we need to control it from ground (1L). Nowadays we are specially concerned with space environment (1M). Downstream sector is based on space acquired data (1N). New space paradigm is taking a lot of attention (1P)

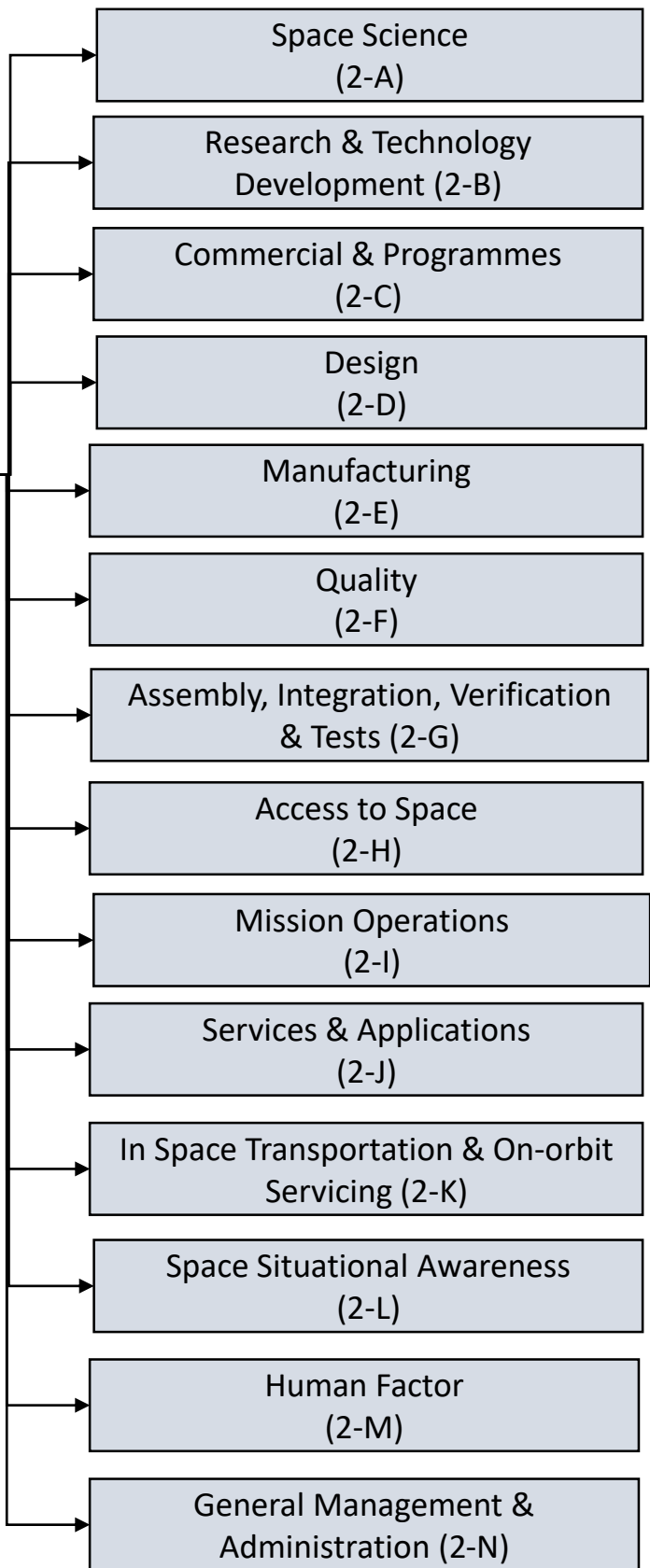


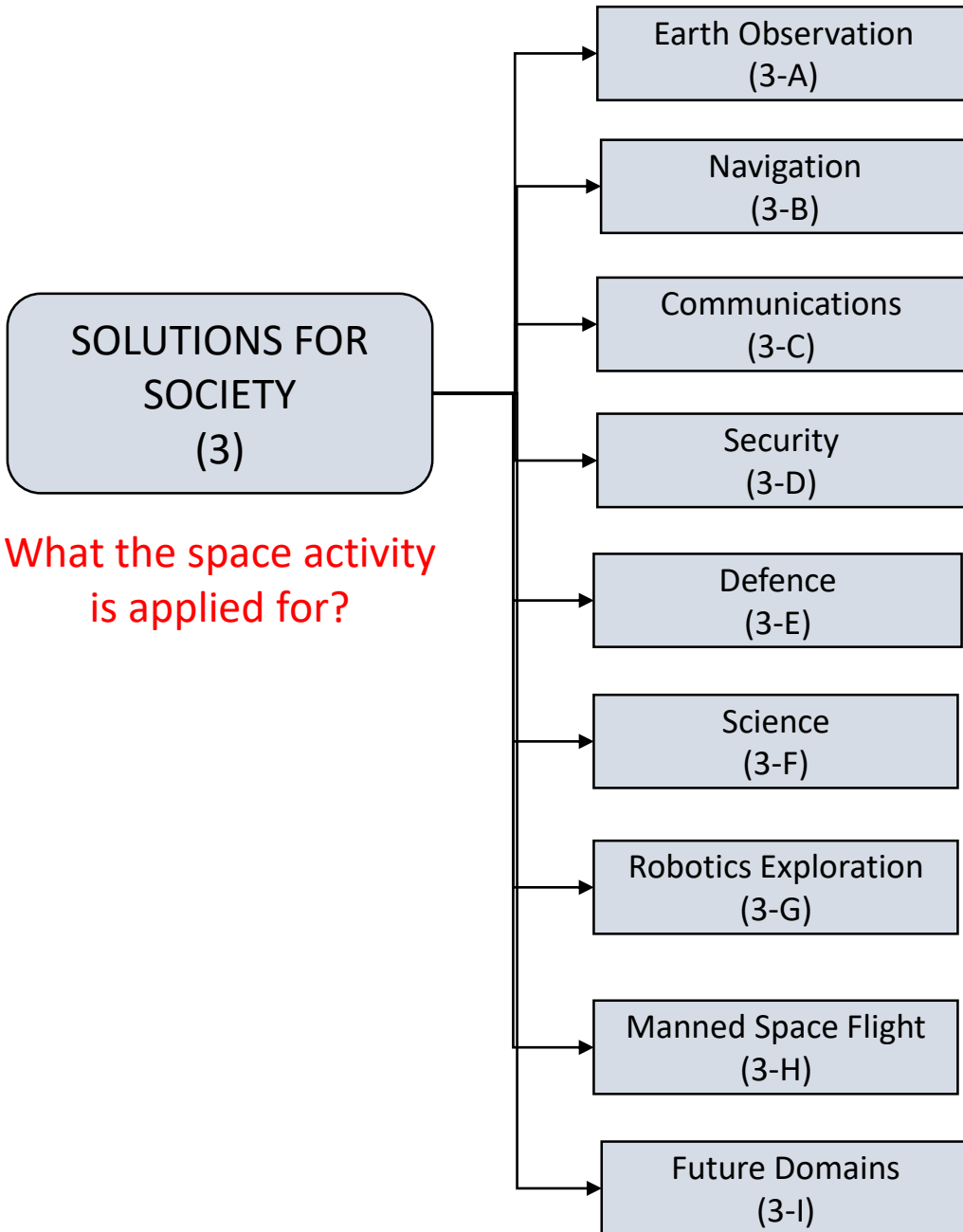
**SEGMENTS OF  
 ACTIVITY  
 (2)**

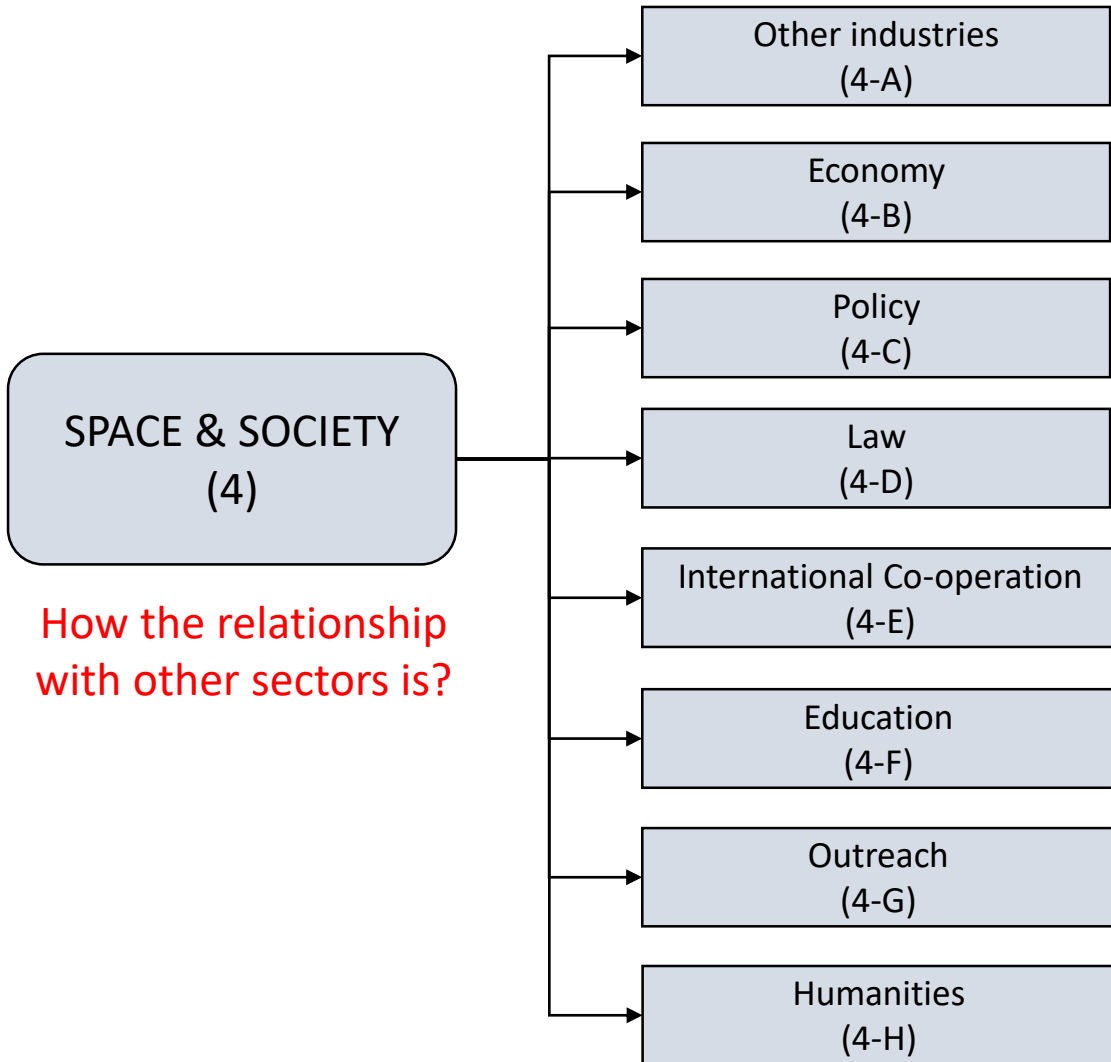
**What the people is  
 working for?**

People can work in one or several of the following fields:

- Doing science from space (2A)
- Doing RTD for space (2B)
- Managing programs (2C)
- Selling or studying the market (2C)
- Designing space systems or subsystems (2D)
- Manufacturing space elements (2E)
- Assuring the quality (2F)
- Assembling, integrating and validating (including testing) space elements or systems (2G)
- Providing the services linked with access to space (2H)
- Operating space missions (2I)
- Developing space based services (2J)
- Providing transportation and servicing in space (2K)
- Detecting hazards (coming from natural or artificial sources) to space infrastructure (2L)
- Allowing human flight to space (2-M)
- Doing general management & administration (2-N)

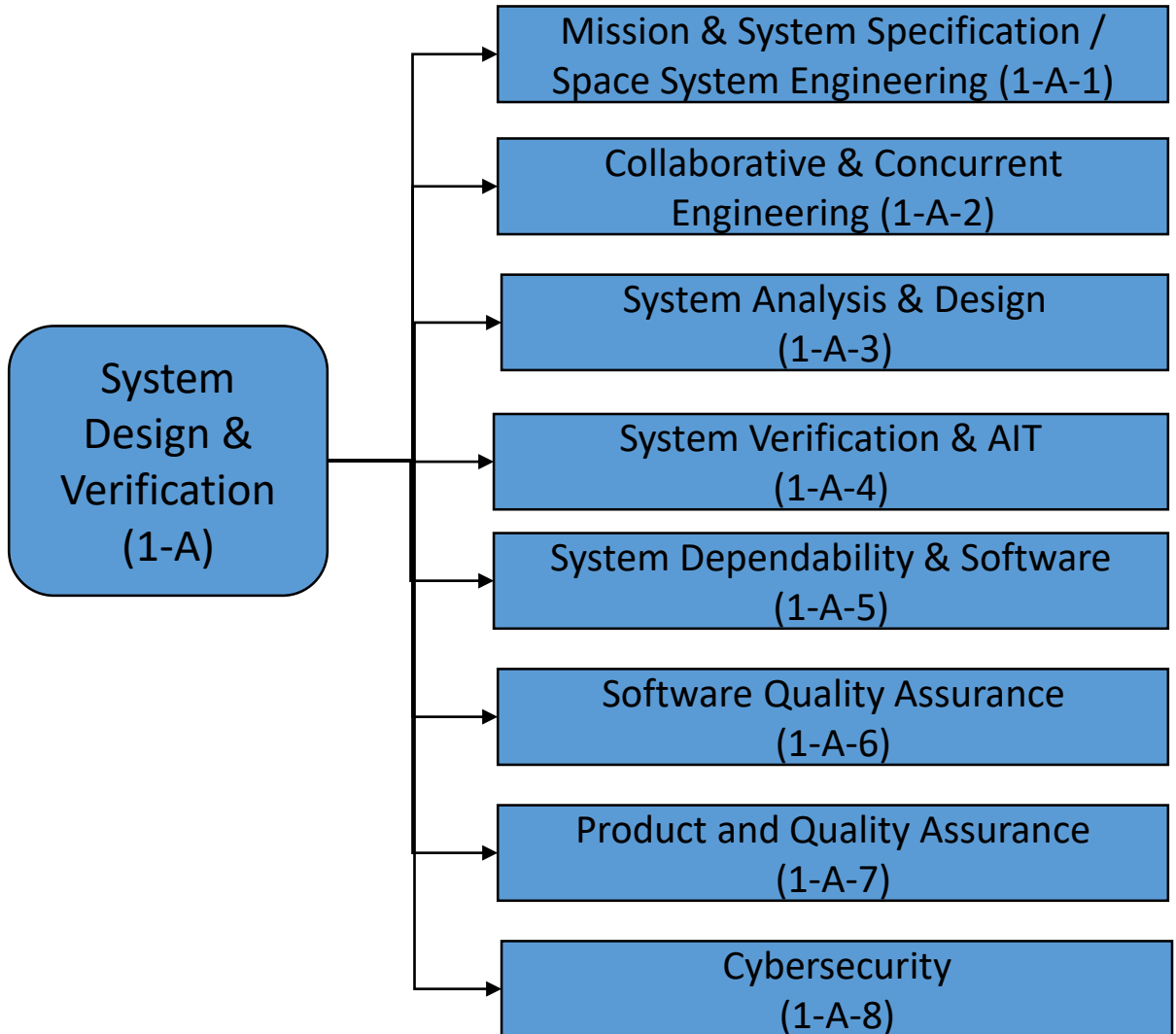




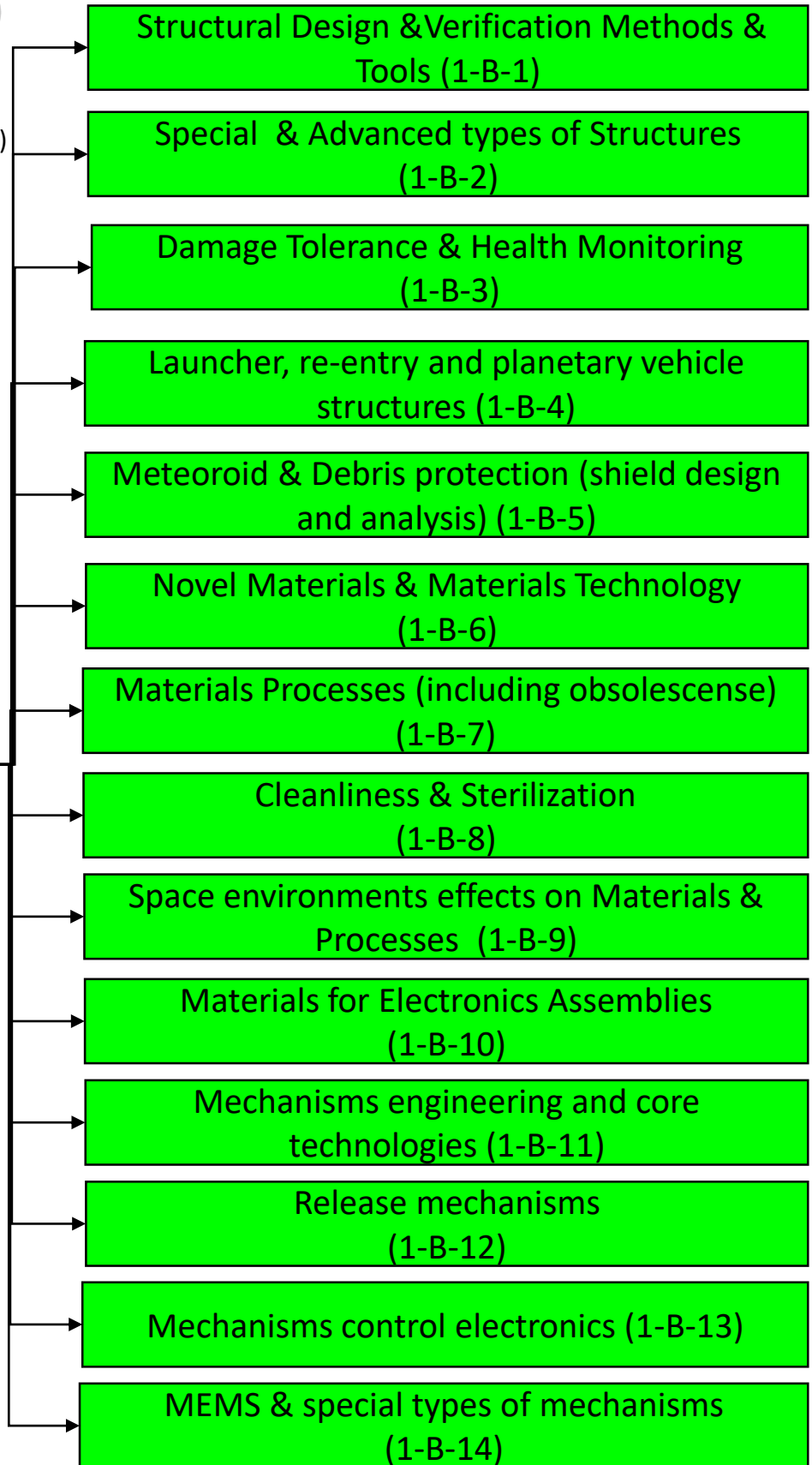




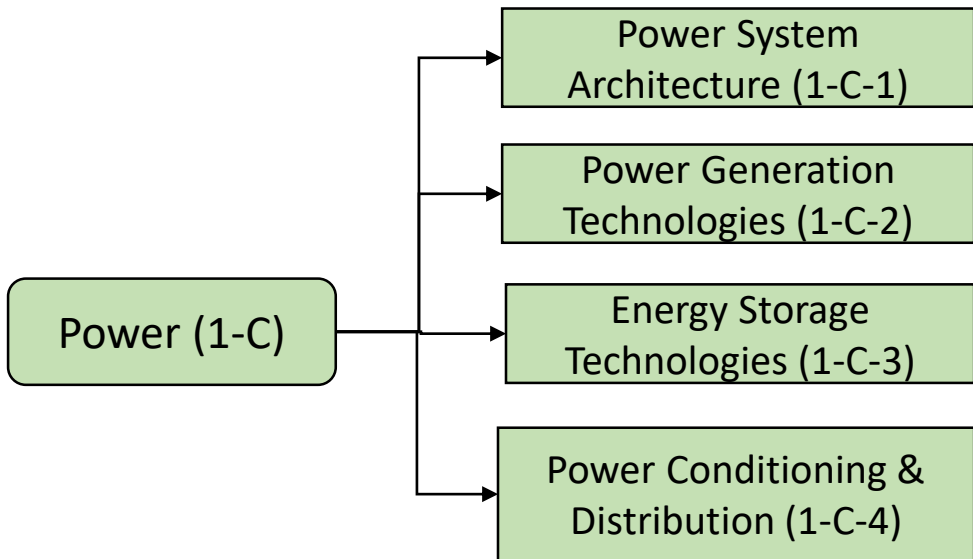
RESEARCH & TECHNOLOGY (1)



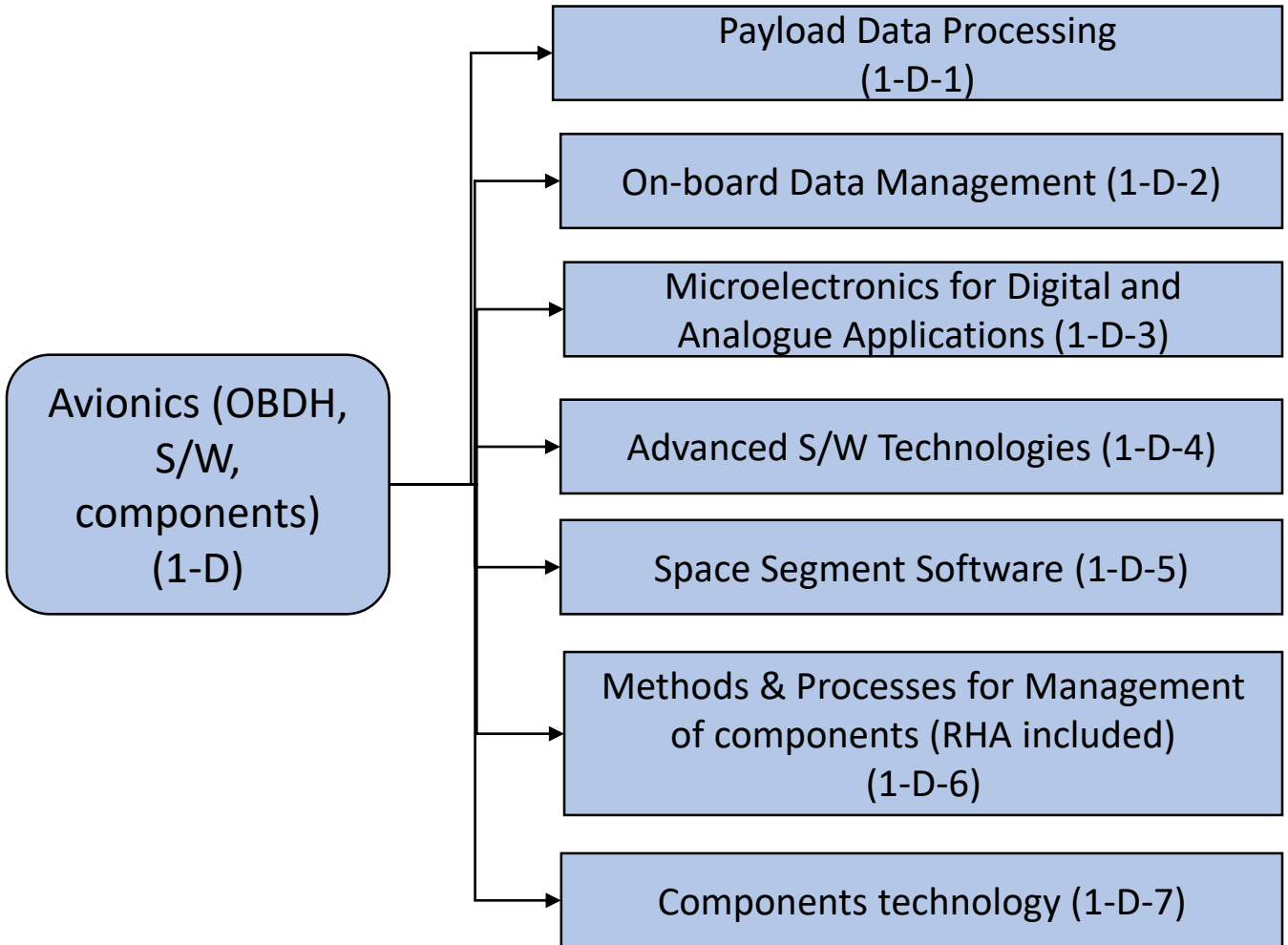
**Structures,  
Materials &  
Mechanisms  
(1-B)**



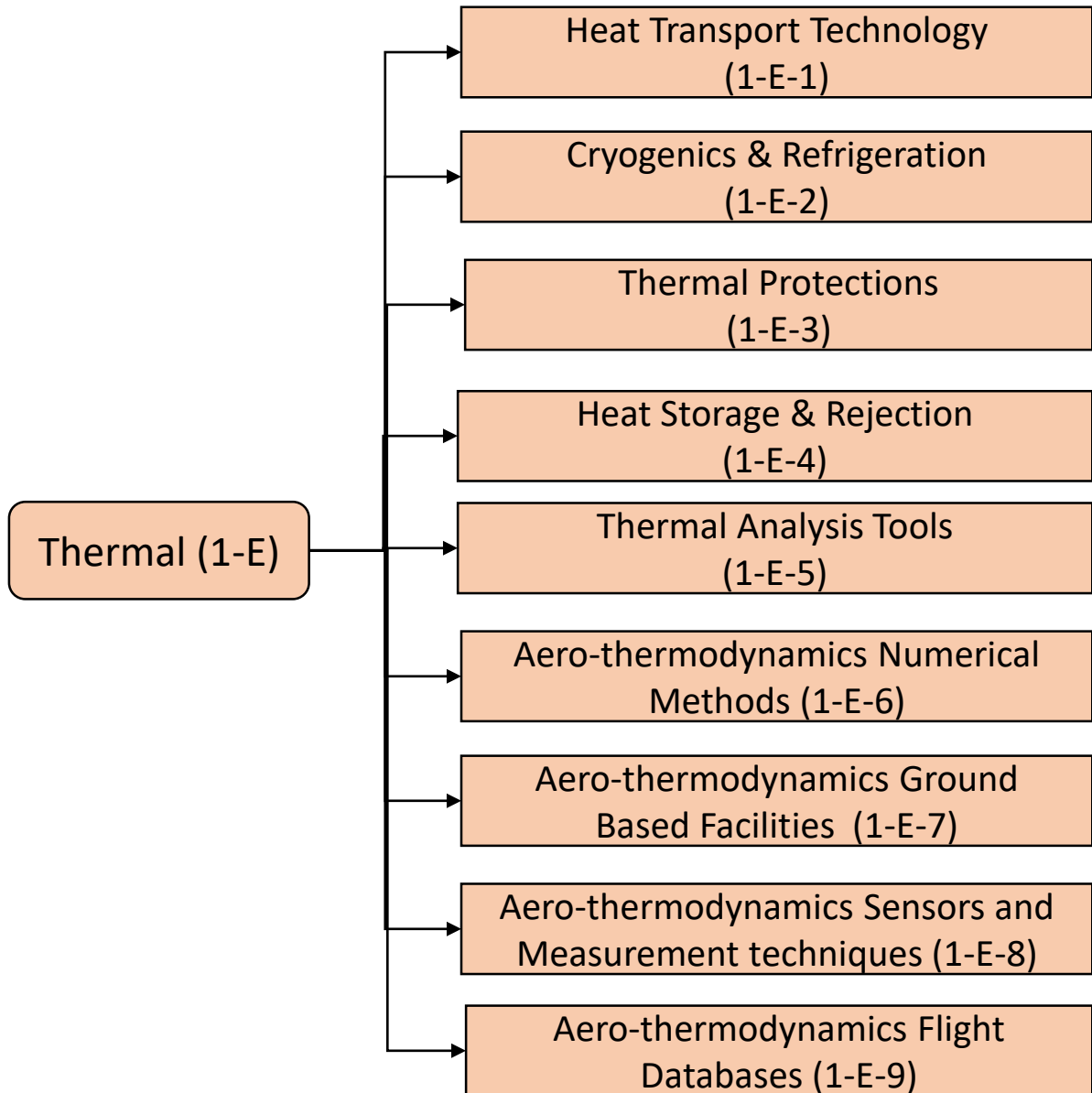
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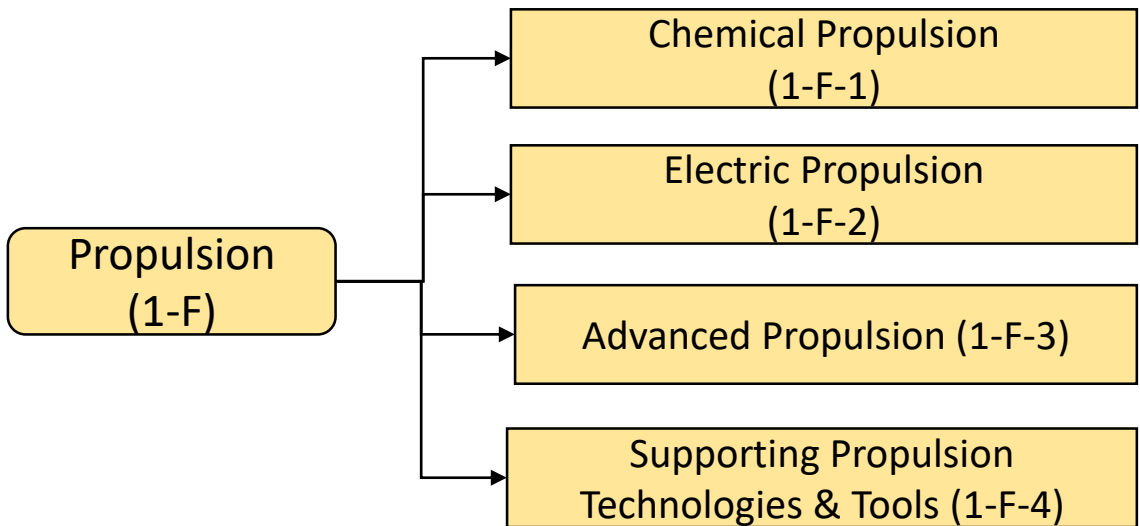
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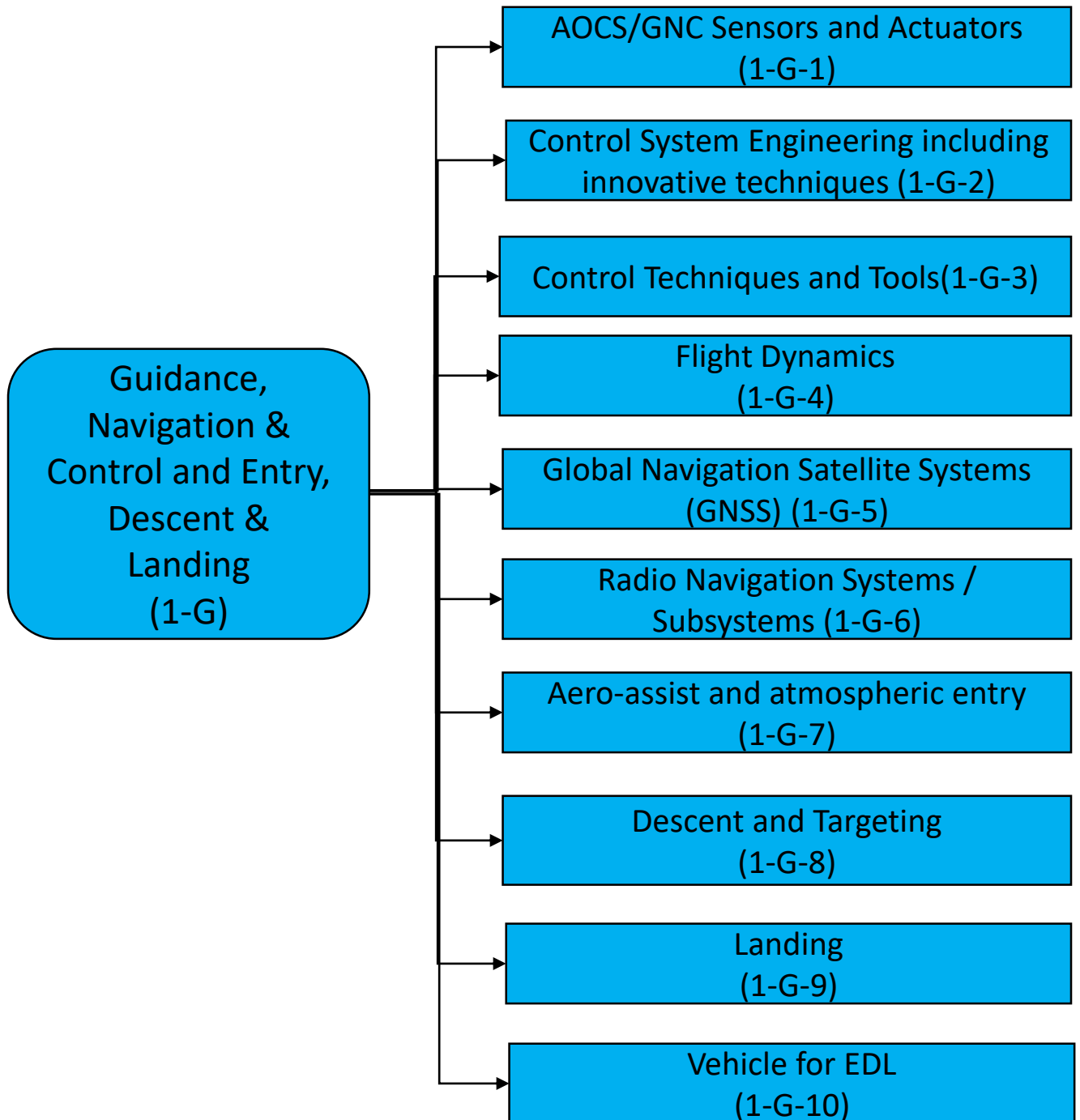
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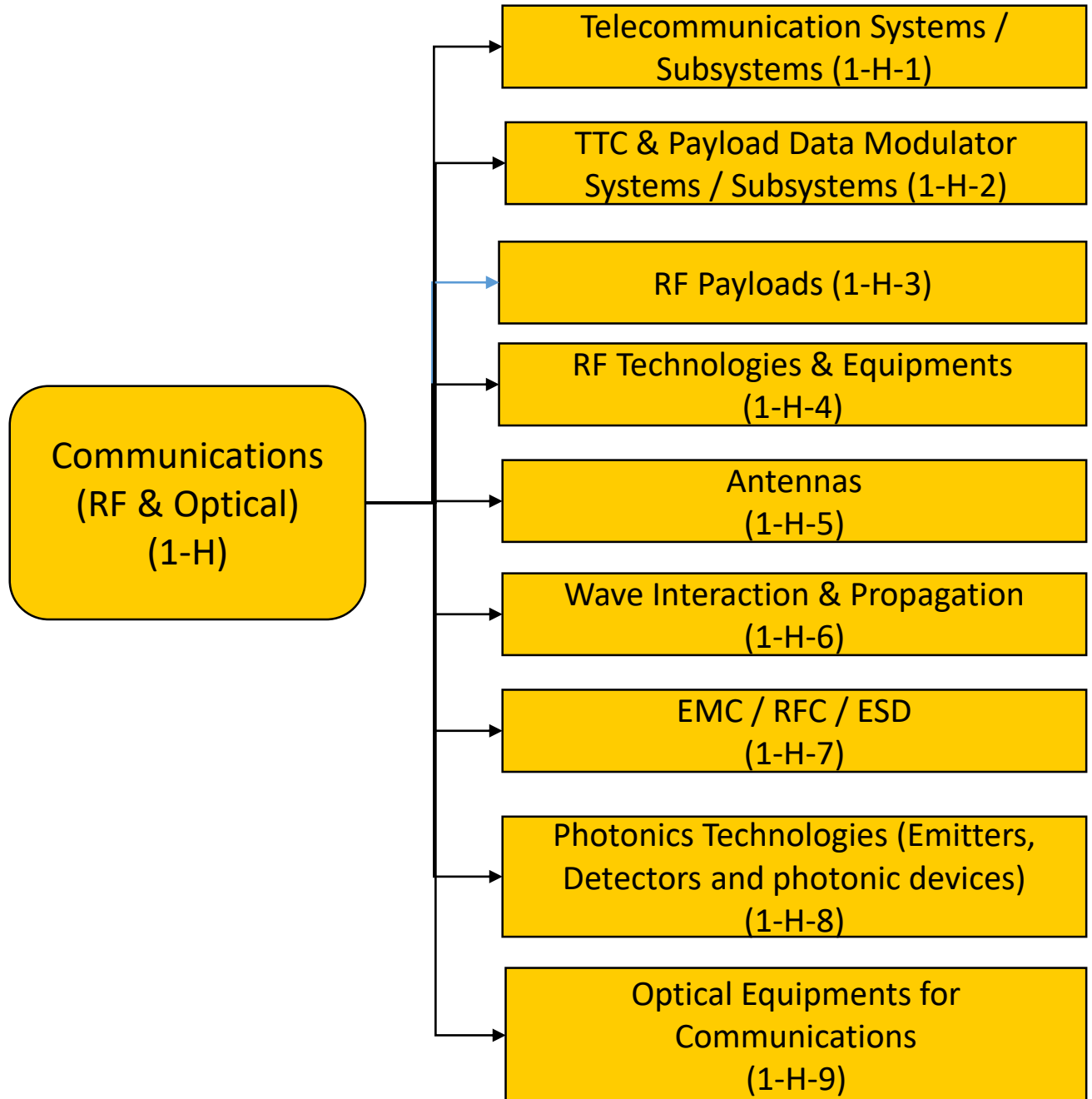
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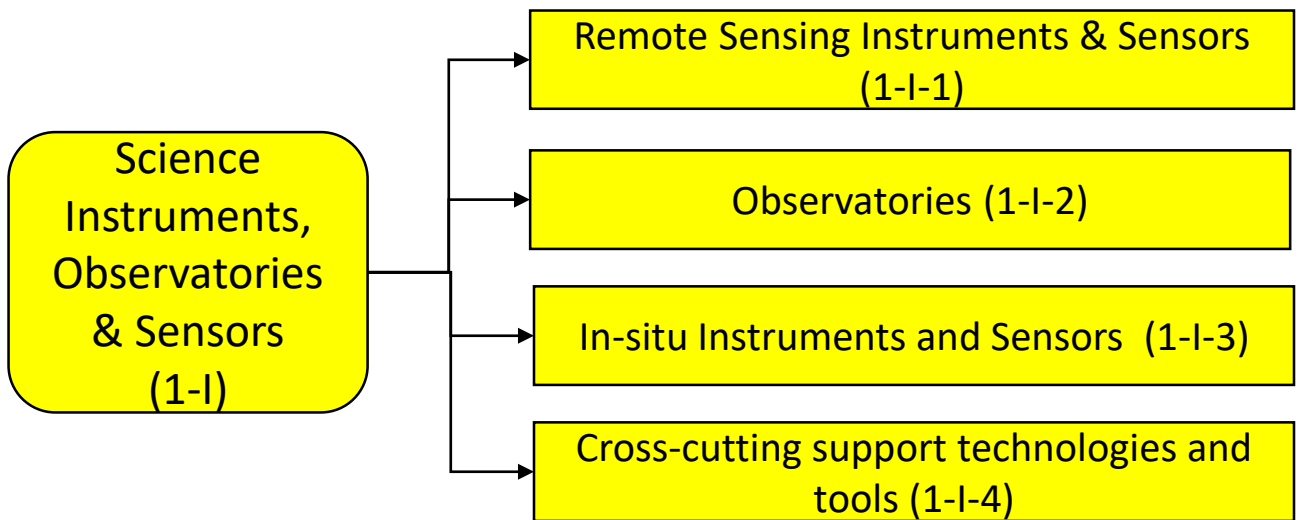


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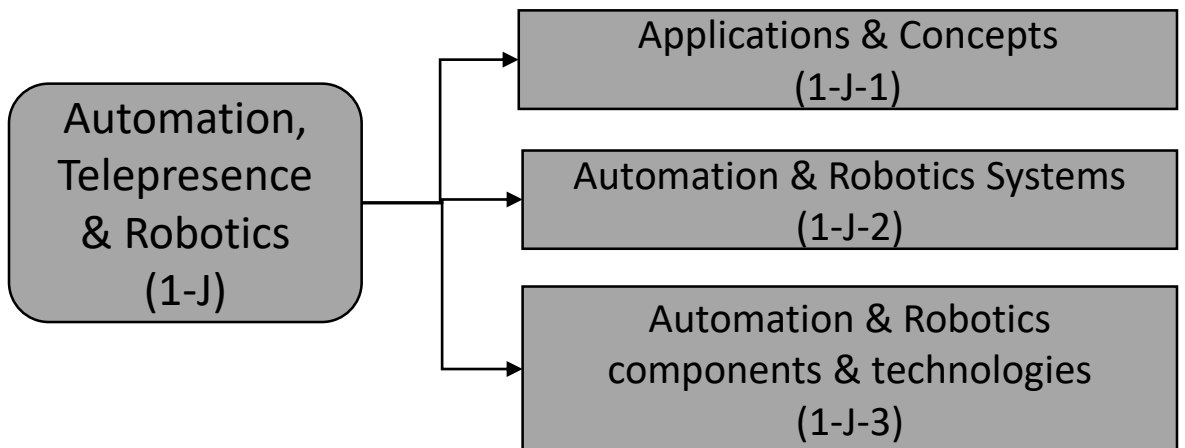




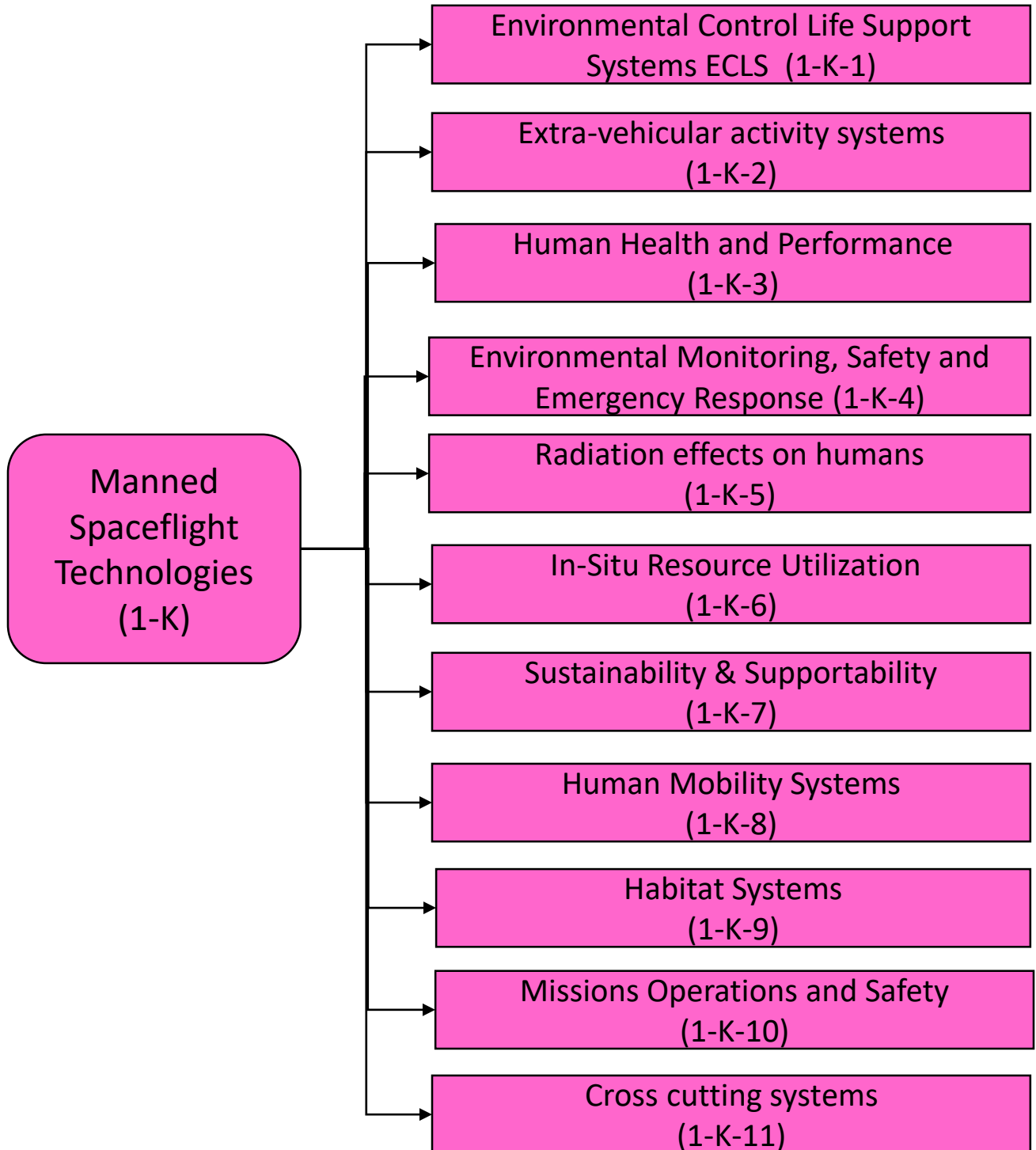
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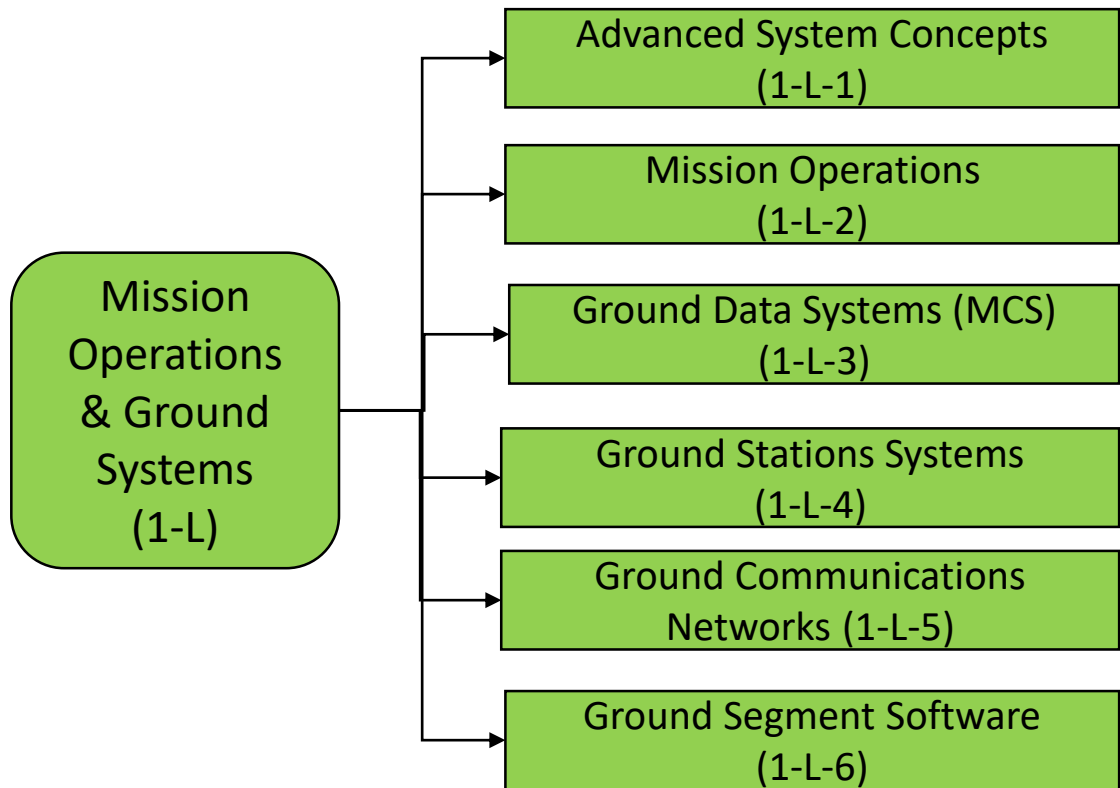
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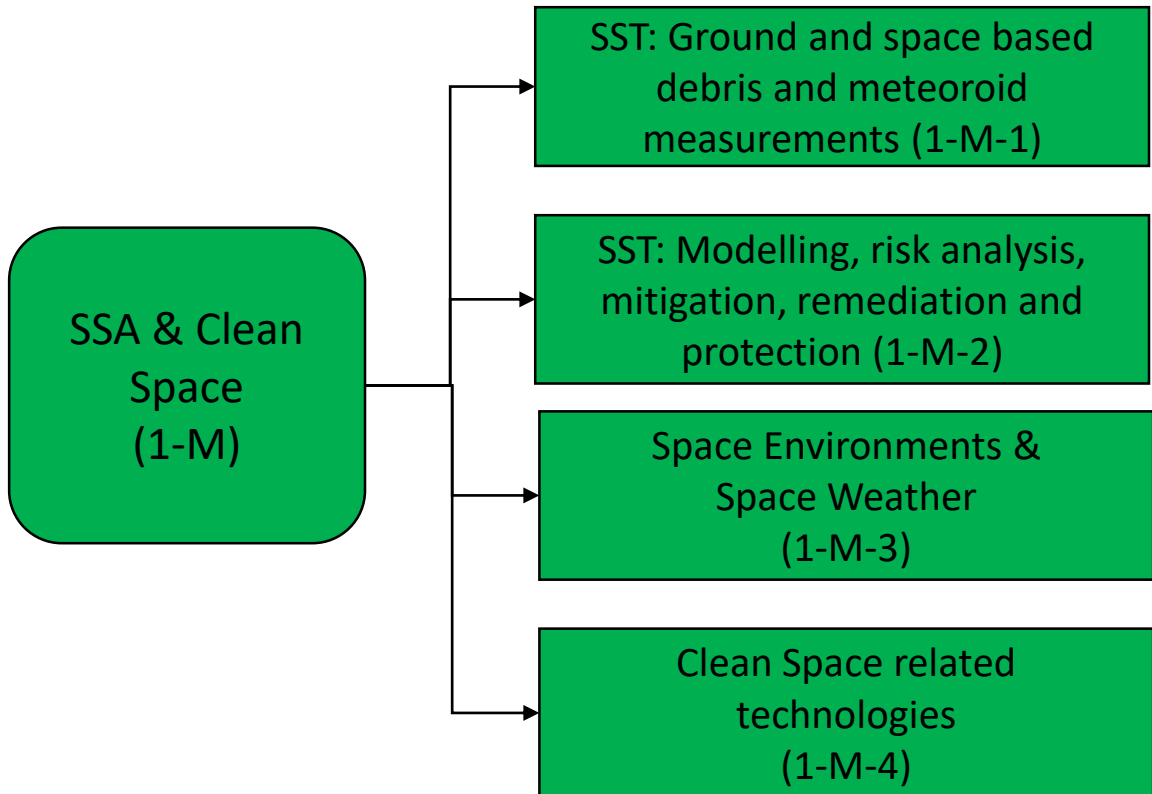
RESEARCH & TECHNOLOGY (1)



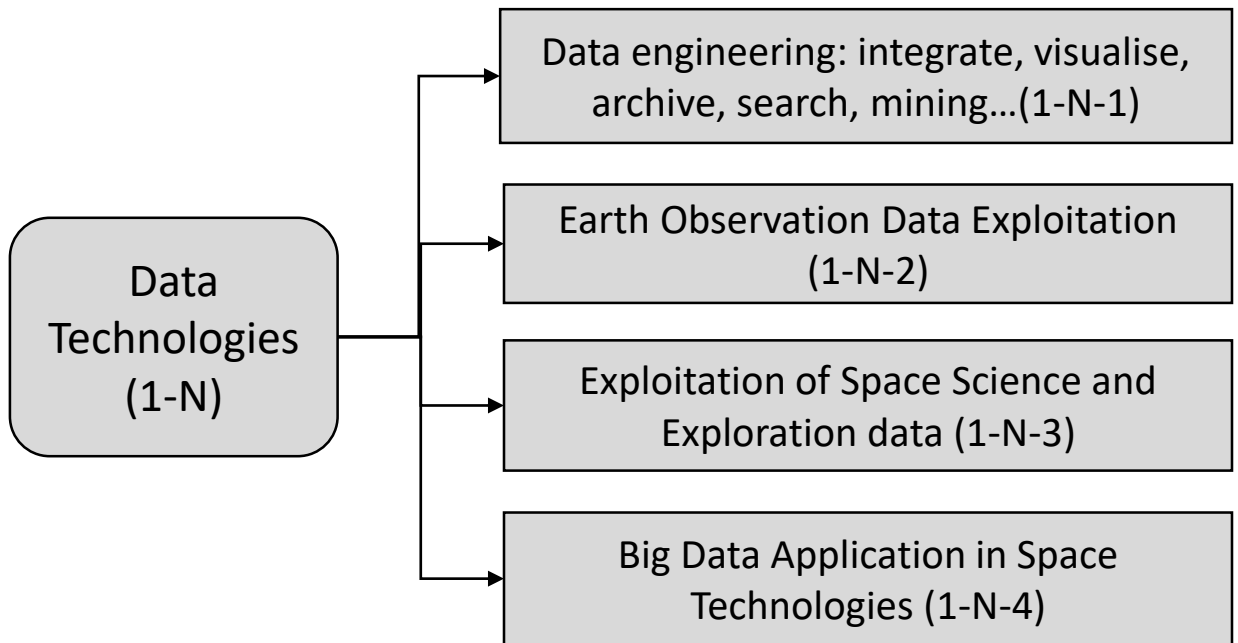
RESEARCH & TECHNOLOGY (1)

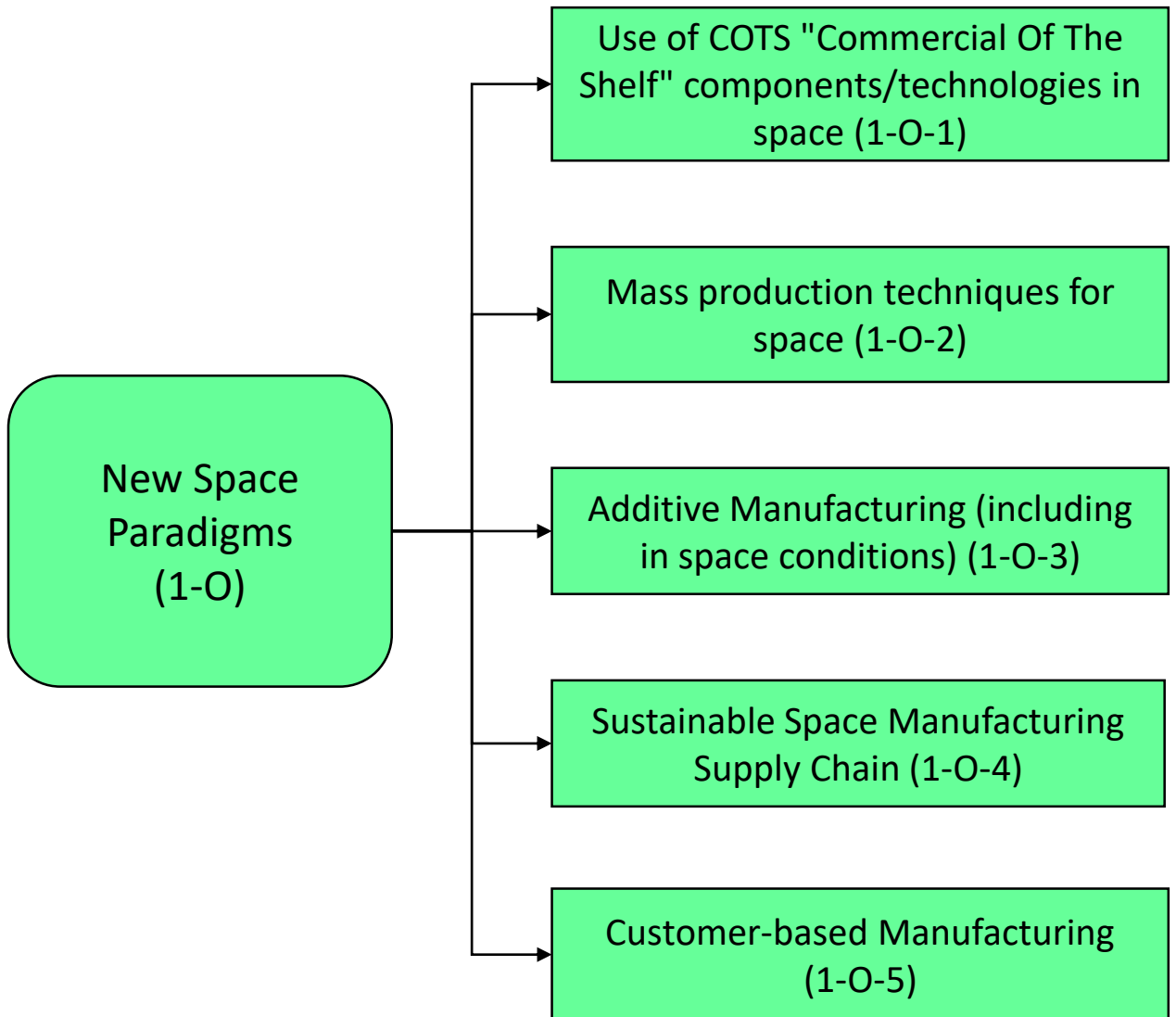


RESEARCH & TECHNOLOGY (1)



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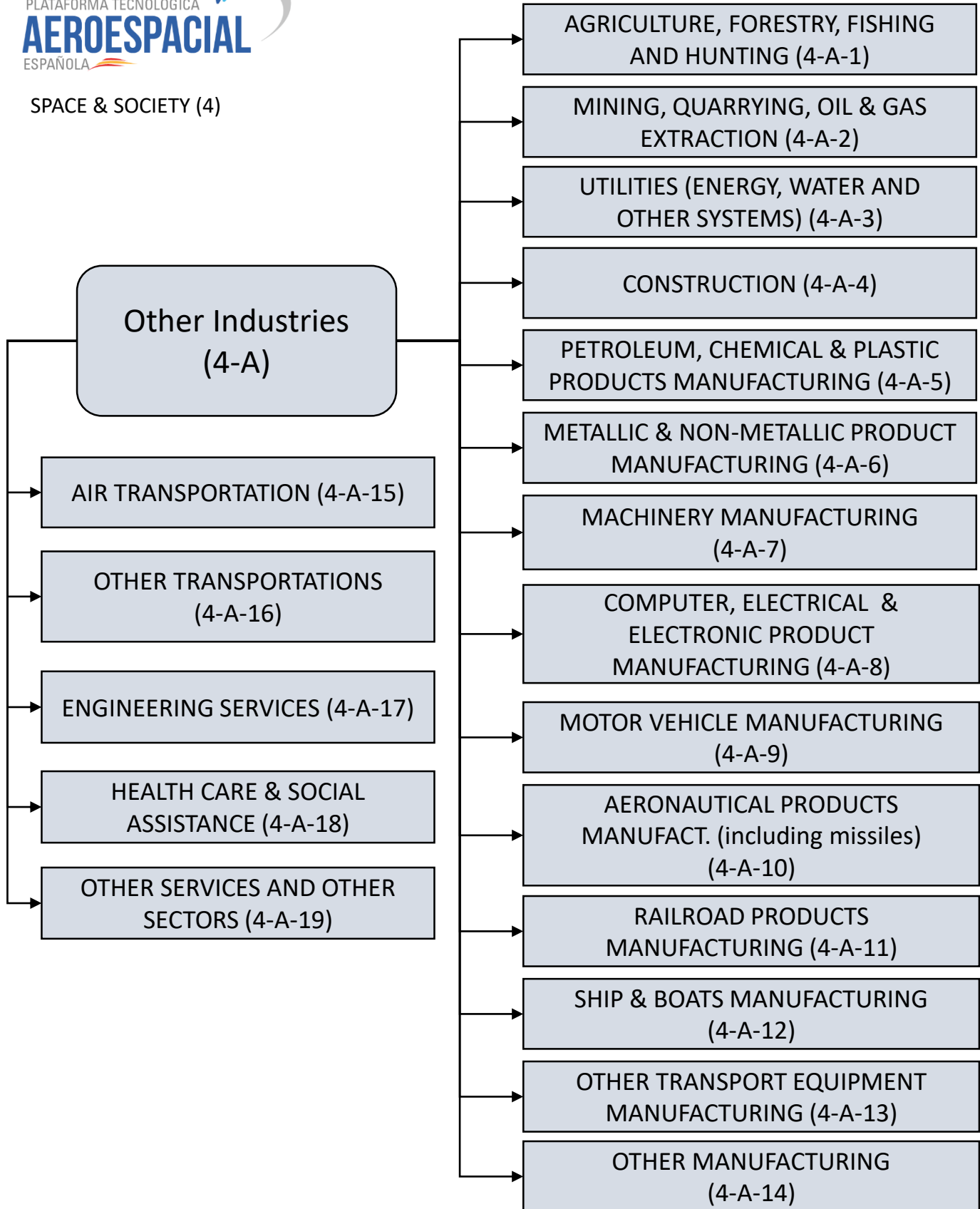




SPACE & SOCIETY  
(4)

How the relationship  
with other sectors is?





In the elaboration of the present issue of the PAE's taxonomies have participated the following entities and persons:



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