# Group/project:

*Reviewee: Group 5(Austere Field light Attack Aircraft )*

**PM/SE peer review provided by:** *Group 5(Personal Air Transport)*

This document contains the peer review grading sheet for the Systems Engineering and Project Management items addressed in the Design Synthesis Exercise as listed in the title.

Instructions for peer review

Please provide peer review towards the PM/SE aspects of the DSE reports of your peers, as allocated to you. Per deliverable / criterion, provide at least 1 tip (improvement suggestion) and 1 top (accomplishment).

**Consider the following guidelines (but addressing points beyond these guidelines is expected, especially for the deliverables not covered in these explicit guidelines):**

* Functional Flow Diagram (FFD)
  + Does the FFD adhere to standard formatting and syntax?
  + Does the FFD include functions in a logical sequence?
  + Does the FFD include functions to a sufficient level of detail for understanding the project from a functional point of view?
* Functional Breakdown Structure (FBS)
  + Does the FBS adhere to standard formatting and syntax (e.g. proper grouping of functions)?
  + Is the FBS sufficiently detailed (at least up to 3 levels)?
  + Does the FBS translate generic functions to DSE-specific functions (i.e., is the connection with the specific DSE mission statement made, including flow down to detailed functions)?
  + Are the common functions of different mission phases grouped together?
* Requirements Discovery Tree (RTD) & requirements tree
  + Does the RDT adhere to standard formatting?
  + Is there a complete specification of mission and system requirements (either in the RDT or in a dedicated list of requirements)?
  + Do the requirements adhere to the ‘requirements on requirements’?
  + Are the customer-provided (user-)requirements properly analysed, and, if need be, extended with requirements from the functional, market, risk and sustainability analysis?
  + Are sub-system requirements given, provided they affect the top-level system choices?
* Design Option structuring (tree) - DOT
  + Is / are the DOT(s) logically arranged?
  + Is / are the DOT(s) used to think broadly about design generation, i.e., does it include feasible as well as ‘blue-sky’ concepts?
  + Is the initial screening (= trade off) provided, and are the concepts that will enter the mid-term phase provided?
* Market analysis
  + Does the market analysis include stakeholder identification, market segmentation and initial size estimation?
  + Does the market analysis include competitor analysis (including SWOT and/or competitive positioning of the own product)?

**5 – Functional Flow Diagram(s)**

Tip:

* The top-level functions should be numbered with integer and **zero decimals**. E.g. 1 should be changed to 1.0
* A reference function should be used at the beginning and end of 2nd and 3rd level function sequence. E.g. Before starting 1.1(Maintaining) a 1.0(ref prepare for operations) block should be added and as this 2nd level sequence ends with 1.3(payload loading) a 4.0(ref Warm-up/taxi) block should be added after it.
* Landing & taxi function block is not numbered.

Top:

* The functional flow diagram is easy to follow and the way recurring functions like Fly & Service are described separately makes it even better.
* Level of detail provided for each top-level function is sufficient.

**6 – Functional Breakdown Structure**

Tip:

* Level of detail given after 3rd top level function can be increased. E.g. function 7.0 (cruise) can be further explained by keep altitude and keep heading.
* A few functions are only described until level 2.
* Providing a legend can be helpful for reading the diagram.

Top:

* Overall the breakdown structure well made. Use of different colors aids in reading the diagram efficiently.

**7 – Requirements Discovery Tree & Requirement Structuring**

Tip:

Top:

**8 – Technical Resource Budgets**

Tip:

Top:

**9 – Technical Risk Assessment**

Tip:

Top:

**10 – Design Option Tree(s)**

Tip:

Top:

**11 – Contingency Management**

Tip:

Top:

**12 – Market Analysis**

Tip:

* Market dynamics can be discussed in more detail by considering a greater number of aircrafts and discussing the historical development in the related field. So, a trend can be extrapolated in higher detail to forecast the market.

Top:

* All stakeholders and their requirements are discussed in detail. Sufficient detail and reasoned estimates are provided in cost analysis.

**25 – Sustainable Development Strategy**

Tip:

* For environmental strategies it can be helpful to quantify the impact of the categories discussed as it can make it easier to compare different concepts during trade-off. E.g. for production methods software’s like Gabi or soildworks can be used to get a detailed impact of the method on environment (like carbon footprint, water use, energy use, etc ).
* It will be nice also to mention if someone has been assigned a role to make sure these strategies are implemented throughout the project.

Top:

* Each aspect of sustainable development has been discussed adequately especially social sustainability as this aspect is overshadowed most of the time.