系思迈 CESAMES

各行业客户实例

Case Studies - Clients of All Sectors

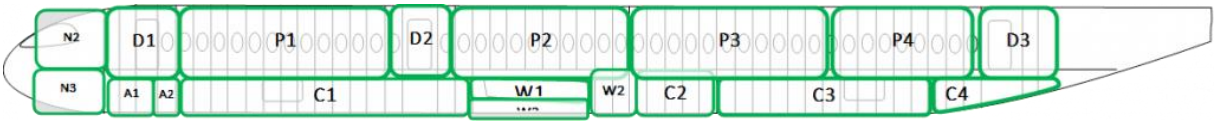
Training + Coaching by CESAMES

Aircraft Multi-System Modularization

- **CONTEXT**

Our client:
A world aerospace company that designs and manufactures commercial aircrafts and helicopters.

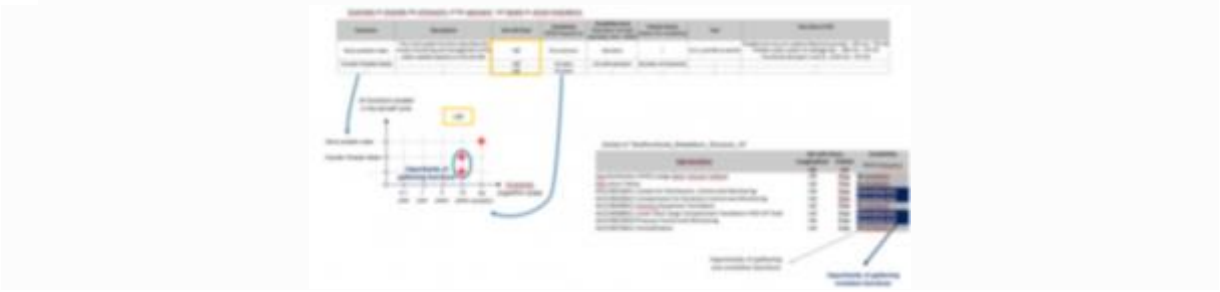
Project context:
The historical geometric distribution of an aircraft of our client, internal and external work-sharing, have introduced strong couplings on overall architectures. Their equipment customizations propagate to other equipment's, introducing as result valueless variabilities. Some of their integration and functional tests in assembly lines only performed once equipment's were installed in the aircraft, which caused inefficiency of in-service activities and upgrades-which should have been considered in line fit designs.



- **APPROACH**

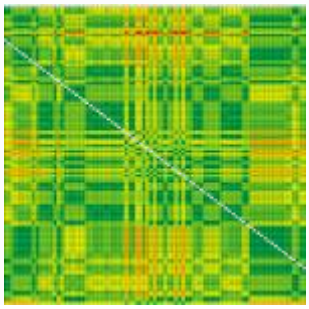
Here are the 4 main phases that CESAMES proposed and followed with client's team: (for privacy reasons we blurred the graphics. Thanks for understanding)

1. Identification of **golden rules** and criteria to **improve the modularity** with representative of the **different lifecycle phases**:

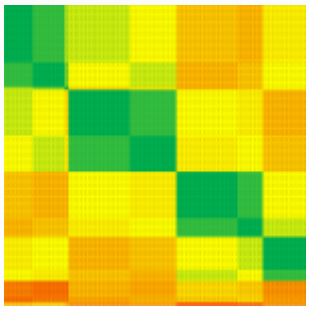


2. Collective assessment of the aircraft functions in terms of **geometrical** allocation, **customization** level, **manufacturing** effort and **in-service upgrade** needs, from the experience on previous programs:

3. Calculation of compatibilities between functions:



4. Diagonalization of the matrix in order to find the **optimized groupings** of components:



- ## CREATED VALUE by CESAMES

1. **Definition of the modularization strategy of a prioritized zone for the future aircraft program,**
2. **Identification of key standardized interfaces for different aircraft variants,**
3. **Proposal of a new Product Breakdown Structure for the zone, as an input for the future Organizational breakdown structure of the development teams,**
4. **Consolidation of the integration process in the final assembly line (delayed differentiation).**