



DEPARTMENT OF AUTOMOTIVE AND AERONAUTICAL ENGINEERING

Research, Analysis, Evaluation and Selection of Tools for a Completion Center

Project Work

Background

The work covering the entire process chain of a complete aircraft cabin conversion is usually outsourced by the aircraft manufacturer to what is called Completion Centers. A completion centre carries out the conversion of an aircraft starting from the customer request up to aircraft delivery. Some of the tools used inside the Completion Center to perform the engineering work are specified by the ordering customer and have to be bought by the subcontractor. In other instances, tools of the customer can be used by the subcontractor through data links between the subcontractor and the customer. These tools are: CAD-Systems, databases and archives which can be used in the following domains:

- Design and layout
- Design and drawings (also for electric systems)
- Quality management
- Documentation

Task

It is to research, evaluate and compare all the tools to be used inside a Completion Center, which would streamline the engineering processes. This investigation is performed from the point of view of an engineering office, establishing itself as a Completion Centre.

The task consists of:

- Analysis and evaluation of the tools currently used within engineering offices (e.g. tools for the layout design, such as tools of the company Pace: Pacelab Cabin, Retrogen, PSU-Gen). This includes the data-link tools used between the engineering office and the customer.
- Identification of other possible tools (e.g. tools for a 3D representation of the cabin), which could be useful for the process phases of a cabin conversion.
- Research and evaluation of the available tools on the market.
- Proposal of a range of tools for a Completion Center to adopt.

Evaluation criteria need to be identified and proper evaluation methods (e.g. Cross Impact Analysis) needs to be applied for each set of tools.

The investigation should be especially deepened in the area of tools necessary for administrating the drawings (such as PDM - Product Data Management, allowing storage of data and documents as a result of the product development) and indexing and archiving the parts (original and from supplier).

Tools that provide additional assistance and need to be investigated are Enterprise Resource Planning – ERP, which assists in planning resources for the whole enterprise.

The report has to be written in English based on German or international standards on report writing.