



Structure development and modification process

Form: workshop with a test at the end

Objectives:

- To obtain theoretical experience of processes in the design bureau at preliminary design study, project definition study and full-scale engineering development based on the experience of the aircraft manufacturing concern “AIRBUS”
- To study the basic principles of several design engineers work with a single digital mockup
- To obtain basic knowledge on the certification process of the product and its components
- To obtain theoretical experience of serial production support and modifications implementation
- Analysis of design bureau and production interaction in case of change requests
- To study the basic principles of product development quality control and technical documentation signature process

Core audience:

- Design engineers, lead design engineers and engineering managers working for different machine-building facilities
- Heads and specialists of production system development departments, involved in operational efficiency improvement projects

The participants will get answers to the following questions:

- How to organize the process of a new product design development from the stage of structural layout creation to the certification stage
- How to effectively organize the process of a product basic version modification and customer remarks implementation
- What should the design documentation quality control process look like (taking into account feedback from production)
- What kind of customer support and continuous product shelf life support methods can be used during the whole product lifecycle.

Workshop program

Day 1

Topics:

- AIRBUS and Engineering Center of AIRBUS in Russia (ECAR) presentation. Output types and volumes
Product development stages and milestones. Design based on alternatives
- Design documentation at preliminary design study and project definition study: reference basis for the further structure and systems design; 3D, 2D product structure
Basic principles of several design engineers work with a single digital mockup
- How to provide consistent approaches in cases when the product is being developed by several design bureaus (or several remote departments of one design bureau).

Day 2

Topics:

- Engineering documentation for production: 3D, 2D, specification, databases
- Unity of design and production processes: single product structure; 3D as reference basis; parts, materials and manufacturing processes standardization
- Changes request procedures
- Design documentation check and quality management system. Technical documentation signature process and procedures
- Design organization certification. Production certification. Certification bodies. Certification basis. Certification scope of work at different stages of product design.

Day 3

Topics:

- Serial production support. Design modification process: change levels, stages, documentation
- Certification of changes
- Set of modifications
- Stress analysts scope of work at different stages of design development
- Post production customer support. Repair guide. Operational inspections. Service bulletins.

Test:

- Each participant should complete multiple choice test based on the knowledge obtained during the workshop.