General Overview of Design, Manufacturing and Certification of Passenger Aircraft Ailerons

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Abstract: Ailerons are important flying control surfaces on aircrafts. Recently TAI is working on A350 XWB Ailerons design. The purpose of this presentation is to give a general overview of design, manufacturing and certification activities of the ailerons which are very good examples of flying surfaces. The main idea is to increase the composite percentage of the component both to decrease the weight and to increase durability to damage tolerance and environmental conditionals. However each new decision should be taken based on the results of development tests. The biggest challenge in manufacturing is to catch the tight tolerances which are stated by customer as a requirement. Another challenge is to complete the Static Full Scale test limit and ultimate loads before the first flight.

Biography:
Gülşen Öncül is Product Chief of Aero Structures and Space Group of Turkish Aerospace Industry. She obtained his B.S. degree in Mechanical Engineering from METU. She obtained her M.S. degrees in Mechanical Engineering from METU. She works mainly in technical management as Engineering Program Manager (EPM) of the composite components A350 XWB Ailerons, B787 Cargo Barrier and EC FP7 MAAXIMUS Program in which RTM window frames have already been designed and manufactured. She was the Engineering Program Manager for A400M Ailerons and Spoilers between 2005 and 2009.