

# Composite Related Research Activities in COMAC R&T Center

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## *Abstract*

Composite materials have emerged as the materials of choice for increasing the performance and reducing the weight and cost of civil aircrafts. COMAC R&T center has engaged in research and development of composite materials and structures since 2011, and has made great progress in an effect to increase the usage of composites into primary load carrying structures of civil aircraft. These works include structure design and manufacture of wingbox and fuselage barrels, development of analysis methods (e.g. thermal stress of hybrid joints, crashworthiness simulation and damage tolerance, etc.), implementation of test pyramid up to full-scale wingbox, and exploration of cutting edge material and low-cost processing technologies (e.g. chopper fibers, thermoplastics, AFP and RTM, etc.). Core competency for design, analysis, fabrication and airworthiness means of compliance for composite technologies has been developed. Lessons learned from the aforementioned R&T programs are highlighted to illustrate the problems encountered and our solutions, such as collaboration with airworthiness authority, integration of design and fabrication, and application of non-destructive technologies, etc.. Suggestions for future research topics have been made.

## **Brief Biography**

Dr. Dongsheng Li, Acting President of Beijing Aeronautical Science and Technology Research Institute of COMAC, Fellow of Royal Aeronautical Society of the UK. Dr. obtained his PhD from Bristol University in the UK. He worked for Airbus in Europe for many years with technical and management responsibilities. He has been Industrial Ph.D. supervisors for Imperial College, Bristol University and Bath University in the UK. He has also worked as Vice President of Shanghai Aircraft Design and Research Institute of COMAC. Dr. Li has many years of experience in industry and academia in both China and Europe. He is widely known as an expert in composite aircraft structures with more than 70 publications.