Department of Mechanical and Aerospace Engineering, IITH

Industry Lectures

Laser powder bed fusion based additive manufacturing of components for industrial and strategic sectors

U. Chandrasekhar

The proposed talk would encompass the application of metal additive manufacturing technologies of laser powder bed fusion and electron beam melting to the entire cycle of product development in industrial and strategic contexts. The talk would delineate the potential value proposition through additive engineering with reference to monolithising, light weighting and functional integration.

The other salient feature of the talk is to cover the aspect of process optimisation with focus on structural integrity and dimensional fidelity of the additive manufactured parts. The talk would describe the AM applications corresponding to feed cluster assemblies of a communication satellite, high pressure compressor module of a gas turbine engine and a combustion chamber used in an unmanned system. The concluding portion of the talk would present the challenges involved in proving out the AM parts.

About the speaker

Dr. U. Chandrasekhar, Program Director AddWize Wipro 3D, Bangalore . He has about 3 decades of industrial and research leadership in mechanical analysis, additive manufacturing and structural integrity evaluation of aeronautical gas turbine engines. He worked as Additional Director in DRDO from 1986 to 2013, as the Director General of the Institution of Engineers and Visiting Professor in IIT Bombay. He led a group of scientists at Central Institute of Aviation, Moscow for flying test bed trials of a development aero engine. He setup the first ever Additive Manufacturing lab in DRDO in 1999. He carried out Indo Canada Project on the use of drones for structural integrity evaluation. He studied BE at NIT Suratkal and M Tech from IIT Madras and PhD from DRDO Research Centre under VTU. He is the recipient of a Gold Medal from Dr. APJ Abdul Kalam for academic excellence in 1991 and commendation medal from the Ministry of Defence. He is the Member of the National Board of Accreditation – Academic Subcommittee since 2015 and Developed MHRD-NPTEL program along with IIT Madras on the Future Manufacturing Technologies.