

TRACK 3: PROPULSION
“INNOVATIONS IN PROPULSION TECHNOLOGY – MORE INTELLIGENT AND MORE ELECTRIC”

BY
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ABSTRACT

For over six decades the gas turbine dominated aircraft propulsion. During this period, regular advances in material, aerodynamic and aerothermal technologies have ensured continuous improvements in engine power density and efficiency. This presentation will explore the future for propulsion and the game changing technologies set to emerge in aircraft power and propulsion, with particular focus on the transformational technologies and capabilities offered by digital and more electric. Rolls-Royce has been at the forefront of capability development in this area and this presentation will highlight recent initiatives as well as our vision for the future.

In the field of digital and more intelligent systems, the scope for technical innovation and enhancement is huge. This presentation will highlight the potential of data and advanced computing to transform manufacturing, shorten development cycles and enhance in-service capability and reliability. More electric and hybrid solutions are already emerging in aerospace platforms, building on the technical revolution underway in the automotive industry. Future propulsion systems will evolve rapidly to incorporate the potential of turbo-electric generation, distributed propulsion, embedded generators and advance power-dense storage devices. All these will be explored through the presentation.

BIOGRAPHY OF SPEAKER


Mr Conrad Banks is the Chief Engineer – Defence Future Programmes for the Defence Aerospace business of Rolls-Royce plc. In this role, he is responsible for identifying and delivering new propulsion system concepts to meet the future military aerospace market requirements. These include military platforms across all sectors of manned, UAV and rotorcraft propulsion. Prior to his current role, he was the Chief Engineer for Defence Technology Programmes, which followed appointments as the Chief Performance and Controls Engineer on the Pegasus (Harrier) and EJ200 (Typhoon) projects. He has worked at Rolls-Royce for 30 years. Mr Conrad is also a Chartered Engineer and a Fellow of the Royal Aeronautical Society.