Dr. Ravi Rajamani is an independent consultant who has accumulated many years of experience in the area of aerospace propulsion and energy, specifically in data analytics and model-based methods for controls, diagnostics, and prognostics. He has three books to his name including *Electric Flight Technology: The Unfolding of a New Future*, published by SAE International Press, many book chapters, journal and conference papers, and patents. Prior to his current job, Ravi worked at Meggitt, United Technologies Corporation, and the General Electric Company. He has a BTech from IITD, an MS from IISc, a PhD from the University of Minnesota, and an MBA from the University of Connecticut. He is active within various SAE technical committees dealing with PHM and electric propulsion. He is also active in the PHM Society, serving on its board of directors. Ravi is Visiting Professor at Cranfield University. He is the editor-in-chief of the *SAE International Aerospace Journal*; and has been elected a fellow of SAE and of IMechE in the UK. In 2018 he received SAE’s Forest R. McFarland Award.
The propulsion system is arguably the most critical part of the aircraft; it certainly is the single most expensive component of the vehicle. Ensuring that engines operate reliably without major maintenance issues is an important goal for all operators, military, or commercial. Engine health management (EHM) is a critical piece of this puzzle and has been a part of the engine maintenance for more than five decades. In fact, systematic condition monitoring was introduced for engines before it was applied to other systems on the aircraft.

**Tracing the history, the benefits, and the challenges of engine health management since the 1930s.**

Ravi Rajamani

The goal of engine health maintenance is ultimately to reduce the cost of operations by catching problems before they become major issues, by helping reduce repair times through diagnostics, and by facilitating logistic optimization through prognostic estimates.

*Diagnostics and Prognostics of Aerospace Engines* shows that the essence of these goals has not changed over time.

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