IAF SPACE PROPULSION SYMPOSIUM (C4)
Interactive Presentations - IAF SPACE PROPULSION SYMPOSIUM (IP)

Author: Mr. SHREEJITH TV
Liquid Propulsion System centre, India, tvshreejith@lpsc.gov.in

Mr. Ganesh Pillai M
Indian Space Research Organization (ISRO), Liquid Propulsion Systems Centre (LPSC), India, m_ganeshpillai@lpsc.gov.in
Mr. Robin Alexander
Indian Space Research Organization (ISRO), Liquid Propulsion Systems Centre (LPSC), India, robinalexander@lpsc.gov.in
Mr. Suresh M S
Indian Space Research Organization (ISRO), Liquid Propulsion Systems Centre (LPSC), India, ms_suresh@lpsc.gov.in
Dr. Vanniyaperumal Narayanan
Indian Space Research Organization (ISRO), India, v_narayanan@lpsc.gov.in
Mr. Ajith S
Liquid Propulsion System centre, India, s_ajith@lpsc.gov.in
Mr. Sarath Chandran Nair S
Indian Space Research Organization (ISRO), Liquid Propulsion Systems Centre (LPSC), India, sarathcnairs@gmail.com

TECHNOLOGY ROADMAP MODELS FOR LIQUID PROPULSION SYSTEM DEVELOPMENT FOR INDIAN SPACE PROGRAMME

Abstract

Technology Roadmap is a strategic tool used in technology management for fostering innovation and as an enabler to chalk out the future for sustainable development of organisations. It provides a mechanism to forecast technology developments, identify critical technologies, capabilities and technology alternatives and a framework to plan and coordinate technology developments. Being one among the top organisations led by technology development and implementation, management of technology is highly relevant for ISRO. Liquid Propulsion Systems Centre (LPSC), the lead Centre of ISRO for developing liquid, cryogenic, semi-cryogenic and electric propulsion systems have generated a propulsion systems technology roadmap that addresses specific technology solutions for meeting the future demands of Launch Vehicles and Spacecrafts. This roadmap focuses on short term and long-term technology solutions, technology alternatives, milestone targets and their timelines. It also addresses the global scenario, emerging opportunities, challenges to be overcome and ways to harness space and its resources with the state-of the-art-technology in a cost-effective manner. Analysis was carried out to assess the current trends in space industry, worldwide demand for future launch services, satellite-based applications and human spaceflight programme. This paper addresses the models developed for the process of technology road mapping, strategies formulation, implementation and mid-course correction if any required for the technology roadmap prepared by LPSC.