

SPACE EXPLORATION SYMPOSIUM (A3)
Space Exploration Overview (1)

Author: Dr. Viktor A. Vorontsov
Lavochkin Association, Russian Federation, vorontsov@laspace.ru

Prof. Victor V. Khartov
Lavochkin Association, Russian Federation, npol@laspace.ru

Dr. Konstantin M. Pichkhadze
Lavochkin Association, Russian Federation, pichkhadze@laspace.ru

Mr. Maxim Martynov
Lavochkin Association, Russian Federation, maxim.martynov@laspace.ru

Mr. Kharun Karchaev
Lavochkin Association, Russian Federation, kov@laspace.ru

Mr. Pavel Primakov
Lavochkin Association, Russian Federation, pavel.primakov@laspace.ru

POSSIBLE SCENARIO FOR INTERNATIONAL VENUS EXPLORATION MISSION SCHEDULED
FOR 2021-2025**Abstract**

Lavochkin Science and Production Association celebrate 50th Anniversary of its space activities in 2015. Planetary explorations play a major role in the enterprise function. Significant achievements were acquired during Venus study missions. Particularly in the field of Venus atmosphere investigations and Venus surface exploration by contact means. Thirty years ago “Vega” mission descent vehicles have performed analysis on Venus surface during all-time high two hours. First time in space exploration history aerostat probes drifted in Venus atmosphere during two days. These probes by means of scientific equipment which was designed by Institutes of Russian Academy of Sciences in cooperation with international science community have carried out the analysis of atmosphere characteristics and lift the veil of Planet’s mystery, in particular, phenomena of atmospheric super rotation. Joint activities in the frame of “Vega” project (Venus – Halley’s Comet) should be a good example for international cooperation. Scientists from 11 countries took part in this project. At present time after a long break in Venus exploration we develop various scenarios for missions towards Venus. A next generation spacecraft of Russian project “Venera-D” will be designed for long-term Venus study and consist of Orbiter (Orbital Module), Sub-spacecrafts, Lander (Descent Vehicle) and Atmospheric Probes. Proposals for organization of the international mission are considered with distribution of responsibilities for different spacecraft component parts and probably different launch vehicles. Obviously the complex Venus exploration international mission will allow increase scientific effectiveness significantly in parallel with high economic efficiency.