19th IAA SYMPOSIUM ON VISIONS AND STRATEGIES FOR THE FUTURE (D4) Strategies for Rapid Implementation of Interstellar Missions: Precursors and Beyond (4)

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SPACE DEVELOPMENT MASTER PLAN FROM IRREGULAR GROWTH TO SINGULARITY

Abstract

To plan future space development goals and activities is importante to have instruments such as roadmaps where we can include and consider specific proposals. For that purpose we are proposing a phased space progress schedule to include past, present and future activities in an integrated format. We can divide past and future space development in four main phases that defines its degree of growth utilizing the parameter of business value -Phase 1:the existing one from the first sputnik 1957 to the return to the Moon expected in the near future This phase represent the pioneering years that prepare the foundations for a future space economy and society In this phase most jobs available are related to aerospace companies, space agencies, communications, astronomy scientific research and more directly connected with space activities while its growth can be considered quite irregular depending of too many unplanned external political conditions total value, on a yearly basis, estimated at approximately $500 \mathrm{B-}Phase 2 will start with the return to the moon and the construction of permanent bases in other bodies including Mars and the construction of the start with the return to the moon and the construction of the start with the return to the moon and the construction of the start with the return to the moon and the construction of the start with the return to the moon and the construction of the start with the return to the moon and the construction of the start with the return to the moon and the construction of the start with the return to the moon and the construction of the start with the return to the moon and the construction of the start with the return to the moon and the construction of the start with the return to the moon and the construction of the start with the return to the moon and the construction of the start with the return to the moon and the construction of the start with the return to the moon and the construction of the start with the return to the moon and the construction of the start with the return to the moon and the construction of the start with the return to the moon and the construction of the start with the return to the moon and the construction of the start with the return to the start with the return t$ -Phase 3 would represent the explosion of space activities that would join the mainstream economy like the beginning of Mars terraforming and space settlements for business including diffused asteroid mining. During this phase all types of work will be interested from primary, secondary and tertiary Growth will be exponential and it could lead up to over 100M jobs over a century -Phase 4 would be the crowing event of previous growth both economical and technological with the beginning of interstellar travel plans when this will happen all skills will have an exponential expansion and our society could reach a Singularity both from the technological and economical point of view with 1B jobs in the entire space economy. In this paper we want to explore each phase main activities and milestones laying the ground for a future space development Master Plan as a main inntrument for future developments.