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SPACEPLAN 2020: IDENTIFICATION AND ASSESSMENT OF KEY SPACE TECHNOLOGIES TOWARDS 2020

Abstract

Keeping track of technology developments within the space sector and assessing potential priorities is an ongoing and difficult task. Space agencies and organisations perform regular reviews and periodic assessments to gauge the status, identify trends and plan potential developments for each technology category, typically in the form of technology roadmaps. These typically vary however in terms of which timelines are of interest and in accordance with the social and political climate of that region.

SpacePlan 2020 is an EU FP7 funded project that seeks to identify key space technologies that will be important in the near future, specifically in the areas of GNC, propulsion, launch vehicles, small satellites and space exploration. This study aims to create a series of roadmaps and white papers detailing the necessary stages and timelines required for each key development.

As part of this process this study has now identified a number of space technology developments which are deemed critical within the 2020 timeline. Each proposed technology development is chosen to meet a growing need, address a recognised issue and focus on specific research gaps and next-generation technologies. The list of suggested technology developments will be revealed within this paper along with justification and details of the selection process. In order to help assess the benefits of the selected technology developments a new set of hierarchical metrics has been developed. This allows the potential of the different technologies and developments to be gauged and priorities to be established. Details of the metric system along with results from the assessment process will also be presented within the paper.