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HUMAN SUSTAINABILITY BY SPACE ENGINEERING

Abstract

Humanity desire to keep in the future more or less same lifestyles has driven worldwide debates especially after remarking that some developments are bringing pretty serious effects, not always positive ones. Technological progress connected with scientific research assured the increase of humanity quality of life, but developments did however emphasize that beside wanted effects of technological progress, undesired and even unthinkable effects can appear. Currently humanity is confronted with a series of global problems, their complexity is basing on their interconnectedness as well as on the fast changes taken place in technological field. In order to find solutions for identified problems debates on scientific, political and social levels have worldwide started some time ago. As a result in 1987 the concept of sustainable development has been defined in the Brundtland Report and pretty fast accepted as a possible solution for the global complex environmental, economic and social problems. When considering mobility field, the current vision is to develop mobility by respecting sustainable development, i.e. by shaping sustainable mobility. In this regard Technology Assessment has to be used, which tries to give an answer to the questions on needed technologies, and how they integrate into environment and society. Technology Assessment brings together almost all scientific disciplines with the common goal of finding best ways for sustainability operationalisation and points out that new evaluation criteria for technological applications are needed, that include not only technical and economic aspects, but also environmental and social ones. Similar assessment criteria should be considered in decision-making processes regarding also Space Engineering. Actually potentials of space technology for socioeconomic development have been since long recognized and the relevance of international cooperation in using outer space was clear. In this regard the UN Committee on the Peaceful Uses of Outer Space, COPUOS is preparing the "SPACE2030" Agenda, which should enhance the use of space science and technology for getting the 2030 Sustainable Development Agenda. With this goal three UNISPACE Conferences on the Exploration and Peaceful Uses of Outer Space have been organized, which provided a platform for global dialogue on key issues related to space. During the UNISPACE+50 Conference, held last year, the potential contribution of space for assuring sustainable development of humanity has been emphasized. The role and challenge of Space Engineering for achieving Human Sustainability, even on cosmic level will be debated, where systemic thinking is required, needing in this respect inter-, trans- and multidisciplinary skills.