

EISC WORKSHOP DRAFT CONCLUSIONS

Designing, developing and operating small, micro, nano satellites and CubeSats: hands on experience for aerospace engineering students



- Space is extremely useful to raise the interest of young people in science, technology, engineering and mathematics (STEM) in general, and to prepare the future European highly skilled workforce
- Small, micro, nano satellites and CubeSats (Smaller Satellites) (also hosted payloads) are a multipurpose instrument for education, science, technology demonstration, services and entrepreneurship
- CubeSats are "high-end" tools for tertiary space-related education (besides other tools such as drop/spin/fly) as proven by the success of the ESA Education Programme offering a unique hands-on opportunity to also have access to state-of-the-art facilities and expertise from ESA
- CubeSat projects as QB50 and small satellites as ESEO as well as small missions as Proba V do, through Europe-wide cooperation (and even further international scope), not only provide exciting scientific and engineering opportunities but also support the strengthening of the European spirit and identity
- The commercial potential of Smaller Satellites is increasingly receiving greater attention by a number of actors: academia, science, space agencies, industry, entrepreneurs etc.

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Parliamentarians have an important role in convincing people about the role of space in everyday life and for the future of humankind. What they can do in concrete terms for Smaller Satellites is:

- Inform their constituencies, media, fellow parliamentarians about the benefits of science, technology, engineering and mathematics (STEM) education with the tool of space in general and Smaller Satellites in particular; and take more efforts to increase the number of women (from Girlsday to Hollywood)
- Support that space is reflected in curricula of primary and secondary education, vis-a-vis the responsible levels; space is not a topic per se of the curriculum but it should be used as a learning context
- Encourage universities to set up Smaller Satellite programmes to be funded by regional, national or European organisations and to improve the triangle of industry-universities-agencies
- Call upon the space sector, especially industry, to integrate young people into the heart of space projects and in particular Smaller Satellites in order to provide them with access to high-tech
- Provide frameworks for encouraging entrepreneurship
- Support the provision of access to space (timely and affordable)
- Provide, through legislative action, on the national and European level the adequate regulatory framework for the operations of Smaller Satellites (licensing, registration, frequency use, space debris mitigation) and ask executive bodies to carefully enforce this for the benefit of orderly and sustainable conduct of space activities