



EDUCATION ACTIVITIES FOR ECS COUNTRIES

Francesco Emma
Head of ESA Education Office

- Answer the general demand in Europe for a knowledge based society
- Federate all ESA educational activities
- Serve the primary needs of the Agency for the recruitment of a “qualified work force”

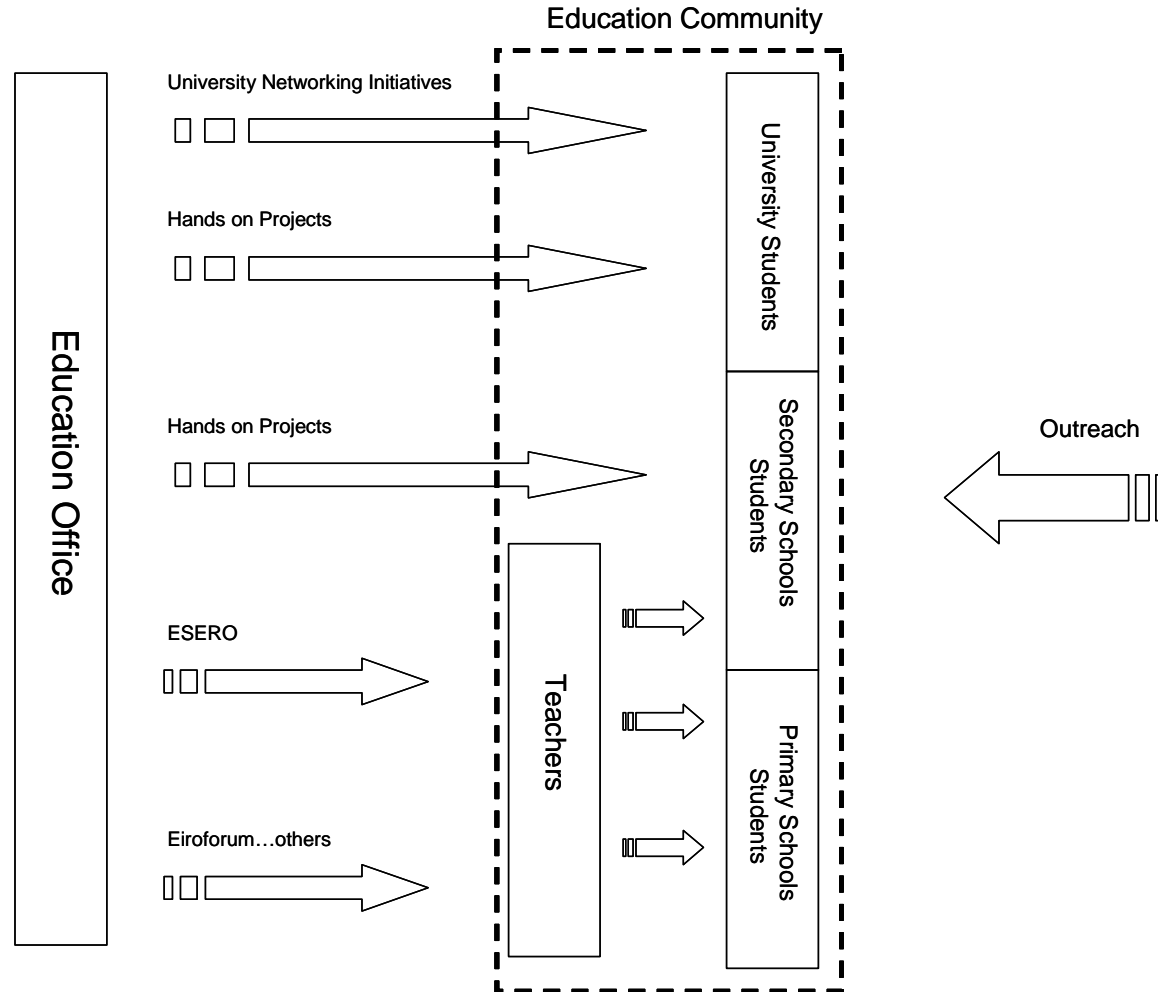


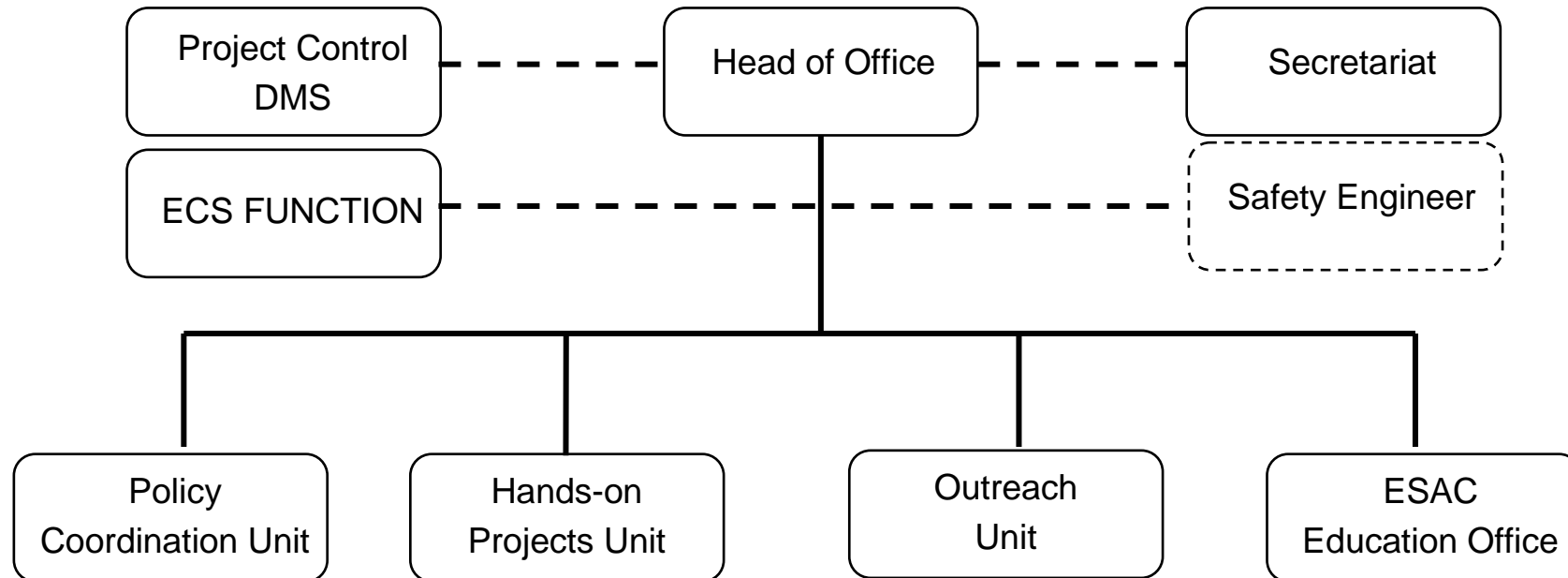
.....and in addition to this



- Act as a tool favouring the set-up of the cooperation with non member states







ECS FUNCTION= Supporting function for European Cooperating States

Safety Engineer= Temporary assignment under HR complement (6 months)



- Policy and coordination

- Promote public events for educational purposes (international cooperation)
 - Use Space as vector to communicate enthusiasm for science and technology
- Set-up of a network of European Space Resource Offices (ESERO)



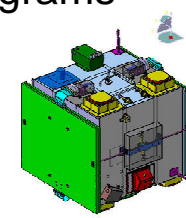
- ESAC Office (Spain)

- Student Participation Programme
- Fly Your Thesis! (Parabolic flight experiments)
- Liaison with Universities



- Hands-on Projects

- Provide students with practical experience on space programs
 - Satellites Projects
 - Experiments with stratospheric balloons, sounding rockets
 - Cubesat's development
 - Ground Network for Educational Satellites



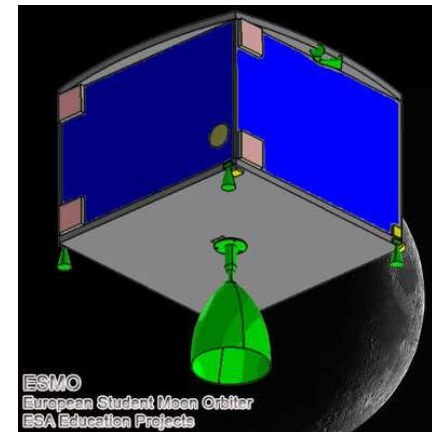
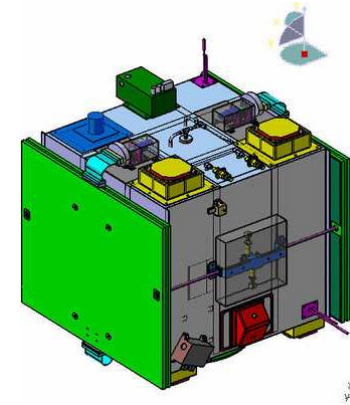
- Outreach Unit

- Web Site development and maintenance
- Liaison with other ESA directorates



- The Education Office intends to support, in coordination with the PECS office, a number of educational activities enabling capabilities to operate in the space sector.
 - The primary objective is to ensure, through the implementation of dedicated educational activities, that the capability to compete for truly industrial contracts is enhanced
 - Opportunities are today primarily seen in the area of hands-on projects.
 - There might be initiatives also targeting primary and secondary schools through the ESERO project
 - Targeted educational initiatives in each country
 - Inclusion in an existing network of European Office for exchange of material/experience
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- **ESEO** (*European Student Earth Orbiter*)
 - Three Years project
 - Kick-off foreseen in November 2008
 - 3.6 M€ Project (including launch costs)
- **ESMO** (*European Student Moon Orbiter*)
 - Four Years project
 - Kick-off foreseen in the second half of 2009
 - 4 M€ Project (launch costs not included)
- Team composition for both projects made of Universities plus a System Prime



- Rocket/Balloon Experiments for Students

- In cooperation with the Swedish Space Agency and DLR

- Stratospheric Platform Experiment

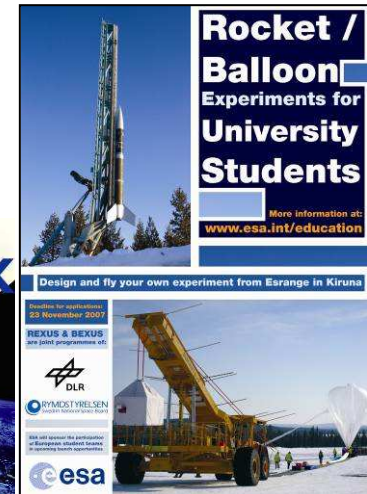
- In cooperation with University of Porto
- Suitable for upper secondary schools students

- GENSO

- Global Network for control of educational satellites
- In cooperation with ISEB members

- CUBESATs on VEGA

- Flight opportunity for 9 CubeSats on the VEGA maiden flight (**University of Bucharest and Warsaw already there**)
- Second opportunity on VERTA-1 will be announced in 2009



- EDUNAV

- In cooperation with the Galileo directorate

- CESAR (Cooperation in Education for Space Astronomy Research)

- New activity in 2009 covering Optical Astronomy and Radioastronomy.
- Allows interaction with the astronomy community in ESAC and interactions with Science Operations.



- ESA FYT Program

- Research on microgravity.
- Flying experiments on Airbus 300-G.

- OSCAR (Open Source Cooperation for Academy and Research) – in development

- Using open source SW on ESA Education Programs.
- To be focused on the areas of interest.
- Launch a dedicated study, pilot case and define strategy for ESA.

- CUBESAT constellation

- Space weather monitoring.

- Internships in ESA or research organisation (e.g. University of Delft/Milan)

- On projects related to ESA.
- A dedicated program for ECS students, favouring the increase of their expertise in the space domain.

