

# Some of the ways forward

## A new policy for education activities at the European Space Agency

Europe faces a severe decrease in the interest of young people in Science, Engineering and Technology (SET) subjects as well as a decline in the uptake of SET careers. This general disinterest in SET subjects and careers amongst young Europeans, in particular young women, is more evident in the classical SET disciplines in school and university subjects, such as mathematics, physics and chemistry, than in emerging fields such as Information and Communications Technology (ICT) or applied science, such as medicine and biotechnology.

Combined with an overall ageing scientific population in the European SET workforce, this decrease of young people in SET related subjects and careers could have serious consequences. These shortages will not only affect the future tertiary education systems in Europe, but more importantly

the SET related industries and their employment markets. Furthermore, without an appropriate quantity and quality of human capital in SET related areas, the basis for a knowledge-based society and economy in Europe will be jeopardized.

*Roger Elaerts*

*Head of the Education  
Department,  
European Space Agency*



*Modern classroom at Andøy Secondary School, Andenes, Norway.  
Photo: Nordicspace*

## ESA's future Education policy

To support Europe's needs of encouraging an increasingly knowledge based society by inspiring and motivating young people to enhance their literacy in science and technology, including associated applications, and to pursue a career in these fields and in the space domain in particular the European Space Agency (ESA) is implementing a new policy to support both national and European institutions to attract the best talents to space activities.

ESA decided to pursue a project called the European Space Education Resource Office (ESERO) and to establish in all ESA Member States contact points manned by an education expert well integrated

into the national educational system and networks.

This should allow the ESA Education Department to support, through ESERO, the specific educational needs of the Member States and to get easy access to the already-existing national networks (publishers, museums, teachers' and students' associations, etc.).

These offices, whose primary task is to share the enthusiasm for European space exploration, are responsible for the development of close relations with national education stakeholders and the participation in education activities tailored to the specific situation in each Member State.

In addition to horizontal functions, such as promoting science and engineering careers in the European space sector, providing support for the delivery of national curricula these offices will in particular:

- Promote the long standing and successful space exploration by ESA and offer up-to-date information and relevant support to show the importance of space for daily life,
- Create a fuller awareness of the rich and varied career possibilities within scientific and technical fields, in particular in the European space sector, to all young people, regardless of gender, nationality, background, etc,
- Better direct and target young people in their critical career choices, by presenting, in the context of the European space sector, an attractive image of science, engineering and technology careers,



*Educating operators to the many receiving stations in Europe. Here at KSAT, Tromsø, Norway.  
Photo: Nordicspace*

- Using space as a vector, communicate enthusiasm for science and technology and raise interest in SET careers via the organisation of or participation in collective local events such as science fairs and festivals, industry open days and careers fairs and by offering applicable material, presentations, and complimentary online resources and support,
- Promote the value of trans-European study, research and career opportunities,
- Create a fuller awareness of and appreciation for European diversity and collaboration and stimulate a European identity among young people,
- Increase the concrete opportunities for individuals to gain first-hand experience of scientific and technical activities through existing space-themed events (i.e. university student satellite projects, parabolic flight campaigns) and courses (i.e. International Space University).

### To that end they will:

- Establish and maintain contact and partnership with the local, regional and national education stakeholders (Ministry of education, museums, publishers, space industry, teachers associations, ...)
- In partnership with the abovementioned stakeholders, develop and disseminate information material on careers in the space sector with a special emphasis on the scientific and technical ones and the "paths" to access them.
- Organise training sessions for teachers; develop specific family events/activities; ensure direct contact with the public, participate to education fairs or events of "educational" interest,...
- Organise dedicated sessions to promote the ESA activities and the related scientific and technical careers.
- Monitor the overall trends in the space sector (policies, news, events) and adapt the provision of information accordingly.

### Conclusion

It clearly not being a role for ESA to do Education itself; by leaving this role to the professional educators and by applying a Member State by Member State and bottom-up approach; the setting up the European Space Education Resource Office allows direct interaction with the national "Education community", supports their specific needs and establishes sustainable partnerships.