## SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1) Space Workforce Development - Problems Encountered and Resolutions (7)

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## WORKFORCE MANAGEMENT: NEED FOR SPECIALIST VERSUS GENERALIST

## Abstract

In December 2007 the decision was taken to entrust the European Space Agency, in addition to its classical role, with the management of the In Orbit and Validation Phase (IOV) of the GALILEO Programme at System Prime level. This is the first time in ESA's history that it will be responsible for such an activity. More recently this new role was confirmed for the development of the Full Operational Capability (FOC) of GALILEO. Besides this new role, GALILEO and EGNOS (the European Geostationary Navigation Overlay Service of GPS) are designed to be operational systems without any limit in time for the operations. This new role combined with the fact that ESA is with GALILEO and EGNOS now deeply involved in the design and development of operational systems calls for a different type of workforce. In order to successfully play this new role ESA must find the right balance between specialist and generalist. The problem ESA is facing is that current educational institutions are mostly oriented towards specialisation and that it is difficult to find generalist such as system engineers, security engineers etc. The demand for generalist will not be limited to GALILEO and EGNOS in the near future more and more integrated space application programme will be developed combining for example telecommunication, navigation and earth observation satellite systems. In order to cope with this demand for generalist special concrete actions need to be taken without jeopardising the education of specialist.