

From an original idea of Prof. Jean Jacques Dordain

The ASTRI Program

Advanced Student Research in space Industry

UNIVERSITIES

CNAM
EPFL
KTH
MONTPELLIER University
SAPIENZA University
UPM
VKI

INDUSTRIALISTS

AIRBUS DEFENCE & SPACE
ARIANE GROUP
AVIO Spa
OHB
RUAG Space
TELESPAZIO
THALES ALENIA SPACE

ASTRI Program

Advanced Student Research in space Industry

The main rationale for the ASTRI Program can be summarized as follows:

- * Space projects require striking a careful balance between **taking risks** and **achieving success**
- * This balance has to be **pursued** on the basis of (individual and collective) **expertise**
- * Expertise has both a “technical” and “human relationship” nature: **cooperation is key** to success

ASTRI Program

Advanced Student Research in space Industry

Experience indicates that cooperation is favored by a project-oriented organization:

➔ ***A first goal is to favor "Education by Projects"***

Space projects involve a harsh competition among both public and private actors:

Though competition implies less time to deliver an output

➔ ***A second goal is to favor a short time from recruiting to full production of the new engineers***

With a shrinking population, the Space industry needs to attract the best students:

➔ ***A third goal is to attract the best students by offering them a secure job and a challenging job perspective***

The best students and the industrial needs extend beyond the Space Engineering horizon: both hiring and competences should expand toward ICT (software), Automotive (production lines), Big data (statistics,...):

➔ ***A fourth goal is to expand the academic training to include competencies in fields other than Mechanical and Aerospace Engineering***

7 Space industries (covering 80% of the overall space related operations) are located in 11 countries: the young Space engineers will work anywhere in Europe and in a multi-national context:

➔ ***A fifth goal is to train the students to work in a multi-national context***

ASTRI Program

Advanced Student Research in space Industry

This said, it is proposed to re-think the training of young Space engineers using a **project-oriented approach where a multi-national team of students has to deliver an industry-assigned technological output in a competitive context.**

More specifically:

- ★ The project should be carried forward over an extended period of time (min 18 months - max 36 months)
- ★ The project output is going to be a proprietary asset of the proposing industry
- ★ The project topics should be such to be realistically timed over the project duration, including some conservative extra time to account for unexpected developments
- ★ Industry could finance Start-ups as a follow-up of the project output