- **An executive summary.**

**"*R*aising *E*uropean *St*udents *A*wareness in *A*eronautical *R*esearch *T*hrough *School*_*labs*"** is the main objective of the project REStARTS. The project emerged from a concern about the motivation of young people in Europe toward sciences in general and aeronautics in particular, the reduction in the number of pupils interested in aeronautical sciences and the consequent decrease in number of young people with the necessary level of expertise. The project aims to develop the pupils' awareness of a scientific technological industry and of its research, to develop their understanding of flying issues and the related safety and environmental issues and to improve their attitudes towards research, industry and possible employment within it.

In this project, the aeronautical research partners (CIRA, DLR, INCAS and VKI) and a teaching department (ULEIC) develop informative material about current research topics in aeronautics including basic aerodynamic fundamentals like 'How does an airplane fly?' or special challenges the aeronautical research is facing like 'How to green air transport?' or 'How to ensure satisfaction and safety of the passengers?'. This demonstrates the direct link between research and society.

The scientists work in cooperation with a pedagogic team and teachers of local schools to compile understandable teaching material, which also includes simple experiments to demonstrate the physical phenomena being investigated. The school lessons based on this material give a first impression of the challenges of modern aeronautical research.

Researchers in Belgium, Germany, Italy and Romania collaborated and wrote background information material for teachers (primary, secondary and upper-secondary) and prepared teaching activities and resources for the teachers to use with pupils in their classes (ages 6-18). They liaised with each other and local teachers about the suitability of the material. Material was shared between the researchers. In addition, they planned visits for the pupils to their research centres and organised activities for these visits. The example of the school_labs established at the DLR provide a very well established practice of more sophisticated experiments and enable school classes to get an hands-on experience in scientific work in direct link with the research field of the research center.

The aims and objectives of REStARTS were ambitious. The researchers were working outside their area of expertise. Some have limited pedagogical experience and insight to theoretical perspectives on children's learning in science and the importance of starting with children's ideas and experiences. The teachers in the primary schools, and some lower secondary schools, were not science specialists and lacked confidence with this area of science. The report includes a review of the process of researchers preparing materials and activities for teachers and for use with pupils in schools and the nature of the appropriate pedagogical support required to deal with the challenges faced in addressing the needs of teachers and pupils.

This will build bridges between school theory and applied research by delivering an insight into the work of research organisations. The ambition is to stimulate young people's interests in a R&D career in aeronautics and to follow the DLR example to create European network of Aeronautical School_labs. It is essential to establish a European network to share the experience and to stimulate a common dynamic. These School_labs show a perfect link between the researchers, the students, their teachers. Experiments within School_labs demonstrate, real life applications of sciences and mathematics this is extremely motivating for young people who are always inspired by the meaning of knowledge. Teachers are also strongly motivated in their profession by collaboration with scientists.