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About this document

This report corresponds to section 4.1 “Final publishable summary report” of the Project Final Report. Its content was developed considering the guidelines of the Participant Portal, namely to address a wide audience, including the general public.

Disclaimer

The views expressed in this publication are those of the authors and do not necessarily reflect the official European Commission’s view on the subject.
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Executive Summary

The aeronautics industry (AI) plays a crucial role for Europe, not only from an economic perspective, but also as catalyser for innovation, competitiveness, social cohesion and mobility. Encompassing multiple fields and demands, the aeronautics sector requires a highly qualified and innovation-oriented workforce with a strong background of science and engineering. However, the current European demographic context and trends – e.g. ageing population and decline of younger age groups - point to a preoccupying shortage of qualified personnel, which is already affecting and will affect the AI, unless conjugated efforts succeed in getting European youngsters to choose educational paths leading to careers in this sector.

The FLY HIGHER project (www.fly-higher.eu) aimed at raising the interest of young Europeans to scientific and engineering activities related to aeronautics and fostering sustained interactions between the aeronautics industry and school community. The project focused on the “Fly Higher Mission”, comprising different activities targeted at (i) children and youth, (ii) teachers and educators, (iii) careers advisors, all based on the strategy of making a difference for children and youngsters when they choose their training, education and future career paths. Under the motto “Dream it, Explore it, Learn it and Get it!” the Fly Higher Mission developed and implemented a set of “Edutainment Activities” (e.g. study-visits, aeronautics fairs, competitions) and materials for teachers, schools, careers counsellors, children and parents. These materials include: 5 Science, Technology, Engineering & Mathematics (STEM) Tutorials to be used by teachers in classroom or directly by students; 10 activities for students and teachers/schools to be implemented during classes or as additional exploratory exercises; 15 career kits profiling the most important jobs currently demanded by the industry; 1 cards game with 7 aeronautics careers to discover more about each career while playing a fun game.

During 24 months, Fly Higher involved directly hundreds of professionals (including teachers, counsellors, careers advisors, aeronautics professionals) and thousands of children across the 5 partner countries (Portugal, Spain, United Kingdom, France and The Netherlands), providing resources to boost science education and inform about career possibilities in the aeronautics sector. It has proved to be very important to reach children from an early age (from 10-11 years old) as they are still in time to be influenced to study STEM subjects and engage in a career related to aeronautics.

Despite the very positive feedback and evidences that it is possible to include aeronautics examples especially in STEM subjects, many teachers still perceive Aerospace as advanced engineering, not realising how many opportunities there are in this wide field. On the other hand, a very positive symptom of the potential impact of Fly Higher is the number and variety of invitations, contacts and interactions with project partners, which demonstrates that many organisations and individuals are interested in using the outputs of the project.
Summary of project context and main objectives

The aeronautics industry (AI) is a key driver of European cohesion and competitiveness, playing a fundamental role for economic growth and social inclusion, providing revenues to otherwise isolated regions and helping people to widen horizons. The recent unprecedented economic crisis brought additional challenges to this sector, affecting European competitiveness, performance and sustainability. From its early days, the aerospace sector has required a highly educated and innovative work force and today this is perhaps more important than ever.

As this sector operates in a long-term perspective of 20 to 30 years, the policy framework which is being implemented today and the assigned resources will shape and determine the performance and success of this industry for the next decades. As in other aspects, also in the struggle for the best workforce this sector competes with other sectors and demands for a permanent and thorough skills forecast and quantitative and qualitative employment preparation and forecast. Europe is also going through a demographic evolution characterised by an ageing population and also decline of younger age groups.

In this context, shortage of qualified personnel may affect the aeronautics sector in the future, unless there is a joint effort to attract young Europeans to future careers in the field of Aeronautics. This implies that the scholar community, academia and industry need to think and work more tightly to engage children and youngsters in this field and to reverse this trend.

The image bellow provides a summary of the context conditions that motivated the design of the Fly Higher project:

![Figure 1 - FLY HIGHER context conditions](image)

Considering the current context conditions summarised above, the Fly Higher consortium was built, gathering partners from 5 different countries (Portugal, Spain, UK, France and Netherlands) which represent a full set of complementary skills and competences with special...
regard to aeronautics. This partnership gathers the critical mass of the best resources to form a pool of excellence capable of finding the best possible solutions to raise the interest of young Europeans for activities in the field of Aeronautics. The consortium defined the main aim and concept of the project, along with a set of strategic objectives and specific targets.

The main aim of the FLY HIGHER project is to attract, motivate and encourage young Europeans to embrace future careers in the field of Aeronautics by raising awareness of young people about future career paths in aeronautics and by fostering a close, open, informal dialogue and sustained interactions and networking activities between the aeronautics research community, industry and the scholar community (in particular primary and secondary schools).

The following strategic objectives were defined for Fly Higher:

- To foster a close, open, informal dialogue and sustained interactions and networking activities between the aeronautics research community, industry and the scholar community (in particular primary and secondary schools);
- To offer young people (namely students from primary and secondary schools) the opportunity to have contact with different real work situations in the aeronautic sector;
- To raise awareness of young people about future career paths in aeronautics (including future work opportunities) and foster an enthusiasm for science education;
- To contribute to the promotion of entrepreneurial spirit among young students, as entrepreneurship plays a vital in the labour market;
- Provide teachers and other school professionals (including counsellors and career advisors) with the knowledge, training, tools and assistance to put theoretical frameworks in to practice;
- Provide students with new science learning methods and tools, with a special focus in simulations, real life applications and serious games.

In order to achieve these objectives, the project implemented a wide programme of “EDUTAINMENT” activities (including regional, national and European level based activities). The programme of activities (including hands-on experiments; games and simulations, visits, open labs, workshops, exhibitions, competitions, science cafes, training for teachers and career advisers, speed-dating, organisation of a national event called “AIR DAY”, among other activities, etc.) promoted a closer dialogue and allowed a direct contact on a friendly, informal and fun environment between children and youth, parents, school community, universities, industry and several aeronautic key stakeholders.

With the FLY HIGHER activities, which focus in raising the interest of young Europeans for activities in the field of aeronautics, we intended to reverse the trend of aging of professionals in this field and also motivate students to learn more and acquire the relevant skills and knowledge to be excellent future aeronautic researchers or/and industry professionals. The
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project concept was based in an holistic approach to different target groups, from students from primary and secondary schools to teachers, as well as counsellors and Career Advisors and aeronautics key actors (Figure 2 – The FLY HIGHER CONCEPT).

Figure 2 - FLY HIGHER Concept

The “Dream it! Get it!” initiative was defined to include the implementation of a wide programme of activities, targeted to children and young, aiming to attract, motivate and encourage young Europeans to embrace future careers in the field of Aeronautics. The main objective is to encourage young people’s passion for aeronautics, showing them the interesting topics that they might find in this field, with the aim of attracting them at a later stage to scientific and technical careers in the aeronautic sector.

The “Dream it! Learn it!” initiative was designed to support teachers and other educators with tools and methods to encourage students (predominantly between 12-16 years) to engage in Science, Technology, Engineering and Mathematics (STEM) to improve their skills, qualifications and career prospects.

The “Dream it! Explore it!” initiative focused especially in the counsellors and Careers Advisors (CA). Failure to provide adequate material and up-to-date information to CA can clearly have a huge impact on the selection of careers in the aeronautical sector by children and youth. Therefore, a set of materials explaining the most relevant careers in the aeronautics sector was developed.
Description of the main S & T results/foregrounds

Fly Higher focused on the development and implementation of the “Fly Higher Mission”, which comprised different activities targeted at

(i) children and youth,
(ii) teachers and educators,
(iii) careers advisors,

all based on the strategy of making a difference for children and youngsters when they choose their training, education and future career paths. Under the motto “Dream it, Explore it, Learn it and Get it!” the Fly Higher Mission developed and implemented a set of “Edutainment Activities” (e.g. study-visits, aeronautics fairs, competitions) and materials for teachers, schools, careers counsellors, children and parents. These materials include, among others:

- **5 Science, Technology, Engineering & Mathematics (STEM) Tutorials** to be used by teachers in classroom or directly by students;
- **10 activities** for students and teachers/schools to be implemented during classes or as additional exploratory exercises;
- **15 career kits** profiling the most important jobs currently demanded by the industry;
- **1 cards game** with 7 aeronautics careers to discover more about each career while playing a fun game.

Although the “Edutainment activities” and the above-mentioned materials were probably the most visible results as they were implemented with direct participation of the Fly Higher target groups, several other S&T results were developed during the project. The first stage of Fly Higher was dedicated to a thorough needs assessment that provided the basis for the development of adequate materials and activities: this needs assessment included several interactions with the industry (e.g. European seminars, interviews) to provide a sector report on future skills needs, but also an assessment of the conditions of schools to carry science-related educational and extra curriculum activities, an assessment of the teachers background and needs, and an assessment of the background and skills of the careers counsellors.

During and after the development and implementation of the Edutainment programme of activities and materials, several assessment activities were implemented and results were analysed and compiled in detailed reports, whose conclusions were then incorporated in subsequent deliverables. Finally, several promotion, dissemination and communication materials and activities were developed, many of which are still active.
Overview of the main results/foregrounds

Following the concept of the Fly Higher project and the structure of the “FLY HIGHER MISSION – PATHWAY TO SUCCESS”, the main results of the project can be grouped in the following main components (as highlighted in Figure 3):

- Future Skills Priorities and Needs (sector analysis and needs of the industry);
- DREAM IT! GET IT! (materials and activities for children/schools);
- DREAM IT! LEARN IT! (needs assessment, materials and activities for teachers and schools);
- DREAM IT! EXPLORE IT! (needs assessment, materials and activities for counsellors);
- Impact Assessment; Dissemination and Exploitation Activities.

**Figure 3 - Main results of Fly Higher**

<table>
<thead>
<tr>
<th>FLY HIGHER MISSION – PATHWAY TO SUCCESS</th>
<th>Future Skills Priorities and Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Aeronautical Sector Report on Future Skills Needs</td>
<td></td>
</tr>
<tr>
<td>- European level database of firms in the aeronautical sector and GIS maps</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>“DREAM IT! GET IT!”</th>
<th>“DREAM IT! LEARN IT!”</th>
<th>“DREAM IT! EXPLORE IT!”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Programme of activities:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 5 national “aero days”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 10 active learning study visits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 5 European competitions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Needs analysis - Report</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 5 tutorials (STEM)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 5 training seminars</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 5 scientific cafés</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 10 activity sheets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Needs analysis - Report</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 15 career kits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 1 cards game</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 5 networking events</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Impact Assessment |
| Quantitative and qualitative assessment |

| Dissemination and Exploitation Activities |
| Fly higher weblog, social networks presence |
| Publications, events, awareness campaigns, final conference |

In the next pages we provide a short description of each of these results, their target groups, features and other relevant information.
Results associated to the component “Future Skills Priorities and Needs”

Name: Aeronautical Sector Report on Future Skills Needs

Main target groups: stakeholders interested in the AI sector including industry, academia, schools, teachers, trainers, etc.

Short description: This report examines the needs and supply of appropriate skilled personal for the aeronautics industry. With the help of surveys, interviews and desk research, an analysis was conducted in order to identify the strong and weak points of the existing education and training in the European market. The document includes information on a range of important issues such as: The size of the aeronautics industry in Europe; The key high level skills sought by employers; Availability of these skills, and the difficulties which employers face in filling vacancies; The impact of these trends on future skills needs within the sector; Actions taken by industry to encourage young people to consider careers in the aeronautic industry.

Type/format and other relevant features: Report (available on project website). Besides being available in the project website, the report was used in other EU projects related to Aeronautics, namely IN2SAI (http://www.in2sai.eu/) and AIRVET (http://www.airvet-project.eu/). The document has been and will continue to be presented in public events.

Name: European level database of firms in the aeronautical sector and GIS maps

Main target groups: stakeholders interested in the AI sector including industry, academia, schools, teachers, trainers, etc.

Short description: The database of firms in the aeronautics sector provides information about the fields of activity and geographical distribution (map) of Tier 1 and 2 of European companies in the AI. A detailed map of these companies in European countries was assembled by the Fly Higher partners, providing a general view of the main operators in the Aeronautical sector in Europe and reaching, by the end of the project, more than 800 location points on the map for tier 1 and tier 2 suppliers.

Type/format and other relevant features: Online format, available through project website and in: http://www.flyhigher.eu/wp-content/uploads/2013/07/GIS-Map-v4.html. Companies are organised in categories (with colours): Aero Engine; Aerospace Components; Aerostructures; Aircraft Design; Airport Operations; Avionics; MRO; Space; UAV. It is possible to include further companies by filling in a form, which is thereafter validated by the project consortium. Both the map and the form are still online and active.
Figure 4 - Screenshot of Fly Higher GIS map
Results associated to the component “DREAM IT! GET IT!”

Name: Fly Higher Programme of Activities: Aerodays, Study visits, competitions

Main target groups: Schools, especially primary and secondary schools. Beneficiaries: children.

Short description: The objective of the implementation of this programme of activities was to encourage young people’s passion for aeronautics, showing them the interesting topics that they might find in this field, with the aim of attracting them at a later stage to scientific and technical careers in the aeronautical sector. The following table summarizes the main activities included in the “EDUTAINMENT” programme of Fly Higher:

<table>
<thead>
<tr>
<th>AERO DAYS</th>
<th>EDUCATIONAL VISITS</th>
<th>WEB COMPETITIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organisation of the “AeroDay!” - Experiences, Speed Dating with Scientists and Aeronautics Fair in schools.</td>
<td>Show the professionals working in their fields and provide a more practical and less theoretical point of view.</td>
<td>Organization of the “Fly Higher Club” – for youngsters to register online and have access to aeronautics-related contents and participate in the competitions</td>
</tr>
<tr>
<td>Central theme driving the Activity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Target group (age)</td>
<td>9-14</td>
<td>Primary schools, secondary schools</td>
</tr>
<tr>
<td>Scale of the activity (local, regional, etc.)</td>
<td>REGIONAL/NATIONAL</td>
<td>REGIONAL/NATIONAL</td>
</tr>
<tr>
<td>Duration of the activity</td>
<td>1 day each Aero Day.</td>
<td>2 educational visits will be organized by each country of Fly Higher</td>
</tr>
</tbody>
</table>

In short, the 3 main components of the implemented programme of activities can be described as follows:

(i) AeroDays: In different countries, during whole-day aeronautics fairs in schools, young students were able to meet with aeronautic professionals and interact with them. Building rockets, launching balloons, flying simulators, “Amazing Space” and “Exploring
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with Leonardo da Vinci” were just some of the thrilling workshops that were available at these fantastic Aeronautic Days! For one day, hundreds of students and teachers were dazzled by the fantastic discoveries of the Aeronautic world! At the AeroDay, secondary-school students met with aeronautic professionals in “speed-dating” sessions where all sorts of questions have popped out of the youngsters’ minds, such as “Why did you choose to be an aeronautic engineer?” or “How long did you have to study for?” During the afternoon, a wide set of workshops and activities were organised for all. Some of the sessions included: Aeronautic Fairs; Sky highways: magic? How are they controlled?; Aircraft flight test – Flight simulators; Fly higher tutorials; Draw the aeroplane of the future!; Move your body!; Aero-Trivial.

(ii) **Study-visits:** Within the Fly Higher programme of activities, Visits to Air Museums, to Air Traffic Control Towers and to Aerospace Laboratories have inspired even the most sceptical students. For example, more than 100 students had the opportunity to visit an Air Control Tower, to meet the Air Traffic Controllers (ATC) and ask all sorts of questions! At the end of the visit students learnt how Air Traffic Management works, distinguishing between different kinds of Air Traffic Controllers (ATCo’s) and connecting the tasks carried out by the different control centres (en route and at the airport). They were also informed about the different professionals who collaborate in Air Transportation. Students were also able to understand the importance of English Language for these careers.

(iii) **European competitions** (drawing, photographs, essays and trivial knowledge): More than 500 Aeronautic-Wannabes have grabbed their crayons, pens and cameras to amaze us with their artistic talents. The Fly Higher Mission has launched four competitions over the 2 years of the project, challenging the most creative minds across Europe! Drawings, Photographs, Essays and AeroTrivia were the four competitions available that have put the creativity of the youngest to the test while calling for their Aeronautic knowledge. The best participations have been awarded fantastic prizes and are displayed in the Fly Higher website.

**Type/format and other relevant features:**

The feedback obtained with the implementation of the programme of activities was very positive both from the perspective of students, teachers and other people involved. The programme of activities (or part of it) could be repeated in the future or even implemented with other themes/sectors. However, some restrictions need to be considered, e.g. in countries like France and the Netherlands, due to legal restrictions, external persons are not allowed into schools and there are many constraints to taking children to activities outside schools. Therefore, the organisation of study visits and Aerodays in some countries proved to be difficult and alternative strategies need to be implemented in order to reach the students.
Figure 5 - Pictures of some of the initiatives of the Fly Higher programme of activities (Aeroday, Study Visits, drawing competition)
Results associated to the component “DREAM IT! LEARN IT!”

**Name:** Report on the science-teachers background and aeronautics teaching needs analysis

**Main target groups:** Schools, teachers, policy makers, industry, aeronautics key stakeholders.

**Short description:** This document describes the work undertaken to establish the current position with existing school workforces and the potential to influence them to give greater prominence to aeronautics concepts in their teaching and, thereby, raise the awareness of young people of the aeronautics industry and their career potential within it. It provides information on the teachers’ level of interest and expertise, the constraints and challenges they face and how to offer them materials they would choose to use in their own classrooms.

**Type/format and other relevant features:** Report (available on project website). Besides being available in the project website, the report was used in other EU projects related to Aeronautics, namely IN2SAI (http://www.in2sai.eu/) and AIRVET (http://www.airvet-project.eu/). The document has been and will continue to be presented in public events.

**Name:** Tutorials for aeronautics and science-teaching

**Main target groups:** teachers, educators, trainers, parents; regional authorities (schools, municipalities), youth and students associations, aeronautics key stakeholders.

**Short description:** The 5 Fly Higher tutorials were designed to promote efficient science-teaching with aeronautic examples and themes, through a set of activities and learning materials. They aim at improving the STEM teaching and learning experience by transforming traditional classrooms into exciting and engaging learning environments with examples from the aeronautics world.

The produced tutorials, available in different languages, explore the following subjects:

- **Tutorial 1: How humans fly:** This first Tutorial aims at giving younger students an appreciation of the early quest to uncover the secret of human flight and, further, to give them a simple appreciation of the scientific principles involved. The tutorial is designed for students who are 11 to 14 years old, but has been used successfully (in an edited format) with students who are younger still and with older students who have no pre-knowledge of aeronautics.

- **Tutorial 2: What jet engines do:** This second Tutorial aims at giving students between 12 and 16 years old an appreciation of the development of modern aircraft (which Tutorial 1 omits) and the massive impact of the jet as an alternative to the (heavy) internal combustion engine. The science is explained, albeit at an elementary level.
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✔ Tutorial 3: Helicopters: The third Tutorial focuses upon the early efforts to achieve human flight through an alternative to bulky, fixed-wing aircraft. The enormous flexibility of the helicopter is celebrated and leads to (slightly complex) explanation of how the pilot can move the craft up and down, left and right as well forwards and backwards. This Tutorial, too, is intended for 12 to 16 year olds.

✔ Tutorial 4: The science of flight: The fourth Tutorial is the most technical and is intended for 15-18 year olds with an interest and some knowledge of science – in particular Newton’s Three Laws of Motion, basic Forces and their interaction. The Tutorial then illustrates and extends these aspects of school/college level science through aeronautic applications, emphasising the four dominant forces on an aircraft: Lift, Weight, Thrust and Drag. In doing so, the Tutorial offers a good number of examination revision opportunities in a fascinating and exciting context that is very relevant to modern life.

✔ Tutorial 5: Opportunities for all: The final Tutorial focuses upon careers in aviation. It sets out to move students from common, simplistic impressions of what working with aeroplanes might mean (as a pilot or steward) to a deeper understanding of the myriad of different tasks that need to be done within the industry, and at every level of qualification and sophistication. As every individual student’s aspirations and circumstances are different, the Tutorial attempts to stimulate discussion and personalised research. It is therefore suitable for any age group but most relevant to those about to choose optional pathways within their schooling systems.

Each tutorial consists of a PowerPoint presentation with video illustrations, supported by a Teachers’ Guide that offers a host of suggestions (for simplifying or extending the lesson) that enable the teacher to tailor the presentation to the students’ age and ability. The Guide also offers the teacher a wealth of supplementary information, slide by slide, so that he/she can embellish the basic presentation and other materials that can be used as in-class or at-home extensions.

Each Tutorial has a targeted time slot of 50–55 minutes, but the in-built flexibility is intended to allow teachers to make the presentation significantly shorter or longer, according to their local circumstance. Each Tutorial can be offered as a ‘stand-alone’, singular exercise or as part of a sequence. Tutorial 1 is obviously an introduction and Tutorial 5 (as a careers presentation) probably best completes such a sequence. Tutorial 4 is more advanced and intended for older school students committed to sciences. We feel our order is a logical one – however, the exact order is for the teacher to define.

Type/format and other relevant features: The Tutorials can be downloaded in different formats, with the videos already embedded or without. They are all available in English, French, Spanish and Portuguese from http://www.flyhigher.eu/teachersadvisors/. Tutorials will remain available through the project’s website, which is linked to the websites of several organisations. Additionally, USB sticks were produced and distributed with the tutorials and the consortium is establishing contacts to have them translated to further languages.
Name: **10 activity sheets**

**Main target groups:** Career counsellors; Teachers, Educators, trainers, parents; regional authorities (schools, municipalities), children and youth; students; youth and students associations, aeronautic key stakeholders.

**Short description:** 10 activities to foster a closer contact with the aeronautics world were developed for students and teachers/schools and parents. They can be easily implemented during classes or as additional exploratory exercises. Activity sheets include tips for different initiatives:

1. Build a glider
2. Enter a competition
3. How to make a paper aeroplane
4. Investigate Aeronautic events
5. Invite a speaker into your school
6. Join the Fly Higher member club
7. Make a radio controlled aircraft
8. Take a student flying
9. Visit a museum
10. Visiting a local company

**Type/format and other relevant features:** Each activity is available in an A4 sheet, which can be downloaded from the project website. Activity sheets can be used with the tutorials or alone. Although they are prepared to be printed, the electronic version of the sheets includes links to lists of relevant organisations or other useful resources.
Figure 7 - Picture of Activity sheet nr. 7: “Visit a Museum”

Name: Training seminars and scientific cafes

Main target groups: Career counsellors; Teachers, Educators, trainers, parents.

Short description: The Fly Higher team promoted a set of events targeted at teachers and educators (“AeroCafés”). In these events, which had different features from country to country, teachers, counsellors and other professionals explored the Fly Higher materials and together with representatives of the industry, discussed how Aeronautics shapes the new evolving generation of professionals. The AeroCafés proved to be an excellent opportunity to debate, explore and share expertise and know-how about the importance and interest of careers in the Aeronautic sector.

Type/format and other relevant features: Several sessions were organised in Spain, Portugal, France, United Kingdom and The Netherlands, especially to present and test the tutorials and the careers kits. The methodology for the organisation of these events can be transferred to other contexts.
Results associated to the component “DREAM IT! EXPLORE IT!”

Name: Report on skills, knowledge and background of CAs and counsellors

Main target groups: Career counsellors; Teachers, Educators, trainers, parents; regional authorities (schools, municipalities), youth and students associations, aeronautic key stakeholders.

Short description: This document reports on current skills, knowledge and training background of career guidance practitioners in Europe and specifically in the UK, France, Spain and Portugal. The objective of this analysis was to provide support for building the most adequate career information materials for career advisors and counsellors.

Type/format and other relevant features: Report (available on project website). Besides being available in the project website, the report was used in other EU projects related to Aeronautics, namely IN2SAI (http://www.in2sai.eu/) and AIRVET (http://www.airvet-project.eu/). The document has been and will continue to be presented in public events.

Name: Career kits

Main target groups: Career counsellors; Teachers, Educators, trainers, parents; regional authorities (schools, municipalities), youth and students associations, aeronautic key stakeholders.

Short description: 15 career kits were developed in order to describe and present in an attractive way job profiles of aeronautic sector. These profiles were created by the Fly Higher partnership according to the key findings obtained near the industry regarding most necessary jobs in the sector. They include, for example, the description of the job Interactive Cockpit Design Engineer, which represents a very recent kind of job, about which there were no resources for career advisors and for students (until now).

Figure 8 - Pictures of parts of 2 career kits
The jobs for which career kits have been produced are:

1. Embedded Software Engineer
2. Manufacturing Engineer
3. Sheet-metal Worker
4. Aircraft Mechanic
5. Logistics Technician
6. Test Technician
7. Business Development Manager
8. Aircraft Painter
9. Structural Engineer
10. Air Traffic Controller
11. Planner Scheduler
12. CNC Operator
13. Composite Technician
14. Quality Technician
15. Interactive Cockpit Designer Engineer

The selection of the kits has been performed to represent the diversity of jobs that can be found in aeronautics, as illustrated in the following table.

<table>
<thead>
<tr>
<th>Personal interest</th>
<th>Industrialisation stage</th>
<th>Design</th>
<th>Production</th>
<th>Inspection</th>
<th>Sales, customer support</th>
<th>Maintenance</th>
<th>Operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineer</td>
<td>Embedded software engineer</td>
<td>Make, build, transform</td>
<td>Control ensure that the product is compliant with its specification</td>
<td>Build sustainable relationships with customers, gather their needs</td>
<td>Repair, maintain in good shape</td>
<td>Provide services to travellers, ensure their destination is safely reached</td>
<td>Air Traffic Controller</td>
</tr>
<tr>
<td></td>
<td>Interactive Cockpit Design Engineer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Manufacturing Engineer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Structural Engineer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technician</td>
<td>Planner scheduler</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Business Development Manager</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Composite Technician</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Worker</td>
<td>CNC operator</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Aircraft Mechanic</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sheet-Metal Worker</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Aircraft Painter</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2 - The 15 careers classified per personal interest, industrialization stage and level of education

Type/format and other relevant features: Similarly to the tutorials, career kits can be downloaded in different formats and are available in English, French, Spanish and Portuguese from [http://www.flyhigher.eu/teachersadvisors/](http://www.flyhigher.eu/teachersadvisors/). They will remain available through the
project’s website and were also included in the USB sticks produced and distributed with the Fly Higher materials.

Each career kit corresponds to a job/position and includes:

- **Career sheet**: description of the main activities, qualities, education and qualifications required, missions and examples of projects within that career.
- **Career presentation**: detailed description of the career and a testimony (video) of a person that has that position: “a day in the life of a....”

**Name**: Cards Game and Mobile Application

**Main target groups**: Children and youth; students; Youth and students associations, Career counsellors; Teachers, Educators, trainers, parents; regional authorities (schools, municipalities), aeronautic key stakeholders.

**Short description**: With 7 of the 15 careers described in the Career Kits, a cards game was developed. The cards are available in English, Portuguese, Spanish, French and German, and can be downloaded and printed from the website. This game intends to be a fun way to discover more about each career while playing a “classic” game, allowing to involve children and parents in career choices.

A video game is also being developed based in the aeronautics careers described in Fly Higher (this is an extra element of the project, not covered by the grant).

**Figure 9 - Pictures of the cards and mobile application**

**Type/format and other relevant features**: A total of 100 cards games in the 5 available languages were printed and distributed. Besides, cards games are available for download through the project website and in the USB sticks produced. Regarding the video game, once it is ready it will be available as an application for smart phone.
Results associated to impact assessment

Name: *Reports on the activities carried out, respective impact and assessment*

Main target groups: These reports are internal documents restricted to the consortium and to the EC services. Despite not being available to the public, the results of these reports were considered and incorporated in the planning of activities (e.g. in the exploitation plan).

Short description: The following reports were produced with the results of impact assessment:

- Report on the evaluation of the aeronautics and science teaching tutorials (WP2),
- Report on training and scientific cafes implementation and impact (WP2),
- Report on the evaluation of the career kits (WP3),
- Report on networking events implementation and impact (WP3),
- Report on implementation of the programme of activities (WP4),
- Report on the evaluation of the achieved performance (WP4),
- Report on dissemination activities (WP5),
- Report on impact assessment (WP5).
Results associated to dissemination and exploitation

Name: *Project communication materials, including website and social networks*

Main target groups: All (target groups of the project, general public).

Short description: The Fly Higher website was designed, developed and continuously updated to be the convergence platform of all the activities and events of the project (a privileged “show-window”). The structure of the website was developed in order to respect and follow the user’s needs in various aspects. The FLY HIGHER website offers dedicated areas for teachers, parents, CAs, children and youth and also to business and R&D Community accordingly to their interests /needs. It’s also available in several languages: Spanish, French, Portuguese and English.

![Image of the Fly Higher website](image-url)

Figure 10 – FLY HIGHER Website | Dedicated Sections and Languages available

Apart from the official and unofficial project websites and weblogs, papers & articles published, the Fly Higher project has also been promoted through the Social Networks, such as [LinkedIn](https://www.linkedin.com), [Facebook](https://www.facebook.com) and [YouTube](https://www.youtube.com). In the case of YouTube, a set of videos were shared and made available as complements to the videos presented in the 5 Fly Higher Tutorials.

Besides the website and social networks, several other communication materials were produced, including a project brochure, materials for the promotion of aerodays and competitions, posters, roll ups, etc.
Also 6 newsletters were developed to report and announce the main activities and results of the project.

**Figure 12 – Fly Higher newsletters**

**Type/format and other relevant features:** The website’s features play an essential role for its exploitation as a result: the website includes the main products developed and also highlights the project’s methodology. The website will be maintained for at least 5 years, allowing exchange of information and facilitating use and re-use of the materials. The linkage of the Fly Higher website with other relevant websites is also being explored. Several institutions are and will be invited to insert a link to the Fly Higher website in their online website/media and/or to upload the materials directly in other platforms at their disposal.

**Name:** Booklet and eBooklet about the Fly Higher initiative

**Main target groups:** All (target groups of the project, general public).

**Short description:** A short book was developed in the final stage of Fly Higher to present and illustrate the project’s activities, materials and methodology. Additionally, a video (eBooklet) with animations and pictures illustrating the project’s activities was created and made
available in youtube. Both materials are excellent ways to present the project as they provide a good insight on what is available for future exploitation.

**Type/format and other relevant features:** The booklet is available on the website for download and announced in the news section. Besides, 1500 paper copies were produced and distributed among all partners. The ebooklet is available in youtube channel. Both the booklet and the ebooklet were also included in the USB sticks produced in the end of the project with all the Fly Higher materials.

![Figure 13 – Pictures of the Fly Higher booklet and eBooklet](image)
Other results

Name: Project Methodology/Work plan and Lessons Learned

Main target groups: Aeronautical key stakeholders; Other sector authorities, business and industrial associations; sectorial associations and clusters, project managers, etc.

Short description: The Fly Higher methodology was developed and implemented on the basis of the following main activities:

- Develop an Aeronautical Sector study on Future Skills needs (WP1);
- Define and implement a programme of activities to support teachers with the knowledge, tools, training and network to put theoretical lessons into practice (WP2);
- Implement a set of activities to support career advisors and counsellors with the knowledge, tools and networking relations to support them to describe, explain and argue for the importance of careers in the aeronautical sector (WP3);
- Design and implement an “edutainment” programme of activities to generate passion for aeronautics in children and youth (WP4).
- Disseminate and assess the impact (WP5) of the above mentioned project activities.

Figure 14 – Project Methodology and Workplan

Throughout the implementation of the project several adjustments were needed as a result of a set of challenges/specific circumstances. In some cases, actions needed to be taken to overcome identified obstacles; in other cases, multiple and continuous actions were carried out in order to improve the situation.
Considering the successful implementation of the Fly Higher methodology and the adjustments made, we believe Fly Higher’s methodology is also a transferrable result. In fact, the methodology was already transferred (and adjusted) to an European project in another sector (proposal under evaluation).
Potential impact, dissemination and exploitation

During 24 months, the Fly Higher project actively and directly involved hundreds of professionals (including teachers, counsellors, careers advisors, aeronautics professionals) and thousands of children mainly across the 5 partner countries (Portugal, Spain, United Kingdom, France and The Netherlands) and through activities such as Aerodays, study visits, meetings and seminars to test materials, among others. The project was a true success in all participating countries, especially in the sense that both children (students, especially within the age range 11-15) and adults participated enthusiastically in the activities of the project and learned about aeronautics and career possibilities in this area.

Direct contact with target groups

Direct contact and engagement of the stakeholders was by far the most effective way of “convincing” the target groups to be more open to the messages of Fly Higher, such as the inclusion of aeronautics examples in STEM subjects, organisation of events to foster contact with aeronautics careers, etc. At this stage, the impact of the project needs to be enlarged through a continuous exploitation effort, which allows “conquering” more children and professionals to aeronautics.

The following tables provide an overview of the main events carried out in each country that required a direct involvement of the target groups, e.g. study visits, sessions to test the materials developed, etc.

<table>
<thead>
<tr>
<th>Type of activity</th>
<th>Participants professionals</th>
<th>Participants students</th>
</tr>
</thead>
<tbody>
<tr>
<td>First meeting with SCUIO career advisors</td>
<td>5 Career advisors</td>
<td>0</td>
</tr>
<tr>
<td>Meeting with career advisors and UIMM</td>
<td>6 career advisors, 1 head of communication of the UIMM</td>
<td>0</td>
</tr>
<tr>
<td>AirExpo</td>
<td>2</td>
<td>Around 150 persons came to the Fly Higher booth</td>
</tr>
<tr>
<td>Jeunes Talents Mathématiques</td>
<td>3 teachers, 1 JTM organizer</td>
<td>20 secondary school students</td>
</tr>
<tr>
<td>Hippocampe 2013</td>
<td>2 high school teachers, 1 organizer</td>
<td>22 high school students</td>
</tr>
<tr>
<td>Career kits evaluation meeting</td>
<td>6 career advisors</td>
<td>0</td>
</tr>
<tr>
<td>Hippocampe 2014</td>
<td>1 high school teacher, 1 organizer</td>
<td>22 high school students</td>
</tr>
<tr>
<td>Caouscou High School</td>
<td>1 teacher</td>
<td>30 students (around 17 years old)</td>
</tr>
</tbody>
</table>

Table 3 – Main activities carried out in France with active participation of target groups

1 These tables only cover activities carried out during the official timetable of the project grant (From June 2012 to May 2013). Most of the partners carried out additional activities after the project formal conclusion (for example, in the Netherlands it was only possible to organize study visits in June 2014). These tables don’t include more general dissemination events, dedicated to the wider public.
### Table 4 – Main activities carried out in Portugal with active participation of target groups

<table>
<thead>
<tr>
<th>Type of activity</th>
<th>Participants professionals</th>
<th>Participants students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visit to control tower, Sá Carneiro, Oporto</td>
<td>2 teachers</td>
<td>15</td>
</tr>
<tr>
<td>Meetings with counsellors/ analysis of Career Kits</td>
<td>5 professionals analysed career kits</td>
<td>0</td>
</tr>
<tr>
<td>Aerocafé</td>
<td>47 teachers/counsellors + 1 pilot/trainer</td>
<td>0</td>
</tr>
<tr>
<td>Aeroday</td>
<td>8 teachers + 10 professionals</td>
<td>150 students</td>
</tr>
<tr>
<td>Visit to Air Museum, Sintra</td>
<td>3 teachers</td>
<td>48 students</td>
</tr>
</tbody>
</table>

### Table 5 – Main activities carried out in Spain with active participation of target groups

<table>
<thead>
<tr>
<th>Type of activity</th>
<th>Participants professionals</th>
<th>Participants students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aeroday</td>
<td>1 Physics teacher</td>
<td>8 groups of students = 160</td>
</tr>
<tr>
<td>Visit to control tower, Barajas, Madrid</td>
<td>4 teachers</td>
<td>100</td>
</tr>
<tr>
<td>Visit to Air Museum, Madrid</td>
<td>4 teachers</td>
<td>100</td>
</tr>
<tr>
<td>Guadalab (Science Café)</td>
<td>14 high-school &amp; childhood education teachers, psychologists</td>
<td>0</td>
</tr>
<tr>
<td>SAE session</td>
<td>1 speaker (pilot)</td>
<td>50 children (and parents)</td>
</tr>
<tr>
<td>ATM World Congress</td>
<td>4 teachers</td>
<td>50</td>
</tr>
</tbody>
</table>

### Table 6 – Main activities carried out in Netherlands with active participation of target groups

<table>
<thead>
<tr>
<th>Type of activity</th>
<th>Participants Professionals</th>
<th>Participants students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meeting with ESHA members - Utrecht</td>
<td>9 senior schoolteachers</td>
<td>0</td>
</tr>
<tr>
<td>Meeting with career advisors - Nieuwegein</td>
<td>35 School Head teachers and Careers Advisors</td>
<td>0</td>
</tr>
<tr>
<td>Meetings in Helsinki</td>
<td>40 ESHA members</td>
<td>0</td>
</tr>
<tr>
<td>Seminar with career advisors, “Fokker” School, Amsterdam</td>
<td>7 Careers Advisors</td>
<td>0</td>
</tr>
</tbody>
</table>

### Table 7 – Main activities carried out in the UK with active participation of target groups

<table>
<thead>
<tr>
<th>Type of activity</th>
<th>Participants Professionals</th>
<th>Participants students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study Visit Brookland Museum</td>
<td>2 teachers</td>
<td>26</td>
</tr>
<tr>
<td>Coventry University STEM Masterclass Presentation</td>
<td>10 teachers</td>
<td>250 students</td>
</tr>
<tr>
<td>Aeroday in Coventry</td>
<td>6 local schools x 4 professionals = 24</td>
<td>6 schools x 30 children = 180</td>
</tr>
<tr>
<td>Study Visit Coventry University</td>
<td>4 teachers</td>
<td>30</td>
</tr>
<tr>
<td>Meeting with counsellor, senior teacher and students - President Kennedy School, Coventry</td>
<td>1 counsellor, 1 physics teaching team member</td>
<td>4 students</td>
</tr>
</tbody>
</table>
Dissemination materials and actions

Besides the numerous activities where the target groups of the project were directly involved, several other initiatives allowed Fly Higher to reach thousands of children and professionals across Europe. Several dissemination materials have been produced during the lifetime of the project and several initiatives have been carried out to promote the project, its activities and results. Among others, the following can be highlighted:

- Fly Higher webportal (www.flyhigher.eu) and social Networks (facebook, linked in, youtube)
- Project brochure, final booklet and other promotional materials
- Pen drives with the Fly Higher materials
- Newsletters and press releases
- Videos (including e-Booklet)
- Articles, papers and advertisement campaigns
- Organisation of events: Final Conference in Madrid (within the World ATM Congress in March 2014), Aerodays, Aerocafes, Presentations
- Participation in other events (e.g. presentation of Fly Higher by invitation of other aeronautics-related projects)
- News and other presence online

The following tables provide a summary of the quantitative results of dissemination activities carried out during the implementation of Fly Higher².

<table>
<thead>
<tr>
<th>Detail</th>
<th>Numbers</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of visits in 2013 (April-December) + 2014 (Jan-May)</td>
<td>70,165 + 344,420</td>
<td>414,585</td>
</tr>
<tr>
<td>Unique visits in 2013 (April-December) + 2014 (Jan-May)</td>
<td>24,747 + 61,218</td>
<td>85,965</td>
</tr>
<tr>
<td>Top 10 countries in 2013: China, Portugal, US, Ukraine, Russia, France, Finland, Germany, Taiwan, Romania. (countries from where the FH website was accessed)</td>
<td>N.A.</td>
<td>N.A.</td>
</tr>
<tr>
<td>Top 10 countries in 2014: China, USA, France, Saudi Arabia, Portugal, UK, Germany, Estonia, Sweden, Netherlands.</td>
<td>N.A.</td>
<td>N.A.</td>
</tr>
<tr>
<td>Downloads in 2013 (April-December) + 2014 (Jan-May) (mostly tutorials)</td>
<td>78 + 206</td>
<td>284</td>
</tr>
</tbody>
</table>

Table 8 – Main statistics of the Fly Higher Webportal

²(i) We are aware that other figures might have been left out of this summary (e.g. e-mailings to announce the competitions, press releases, etc.).
(ii) These tables only cover activities carried out during the official timetable of the project grant (From June 2012 to May 2013). Most of the partners carried out additional activities after the project formal conclusion.
<table>
<thead>
<tr>
<th>Detail</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facebook Nr of likes</td>
<td>137 from 20 different countries</td>
</tr>
<tr>
<td>Facebook Nr of publications</td>
<td>More than 120 since March 2014</td>
</tr>
<tr>
<td>Facebook average outreach of shared connections</td>
<td>319 people reached</td>
</tr>
<tr>
<td>Facebook average outreach of publications</td>
<td>182 people reached</td>
</tr>
<tr>
<td>Youtube videos uploaded and posted, including FH videos</td>
<td>23 videos, of which 4 created by FH</td>
</tr>
<tr>
<td>Views of the videos, including of FH videos</td>
<td>2852 views, of which 173 of FH videos</td>
</tr>
<tr>
<td>Linked in members and discussions</td>
<td>18 members, 6 discussions</td>
</tr>
</tbody>
</table>

Table 9 – Main statistics of the Fly Higher Social Networks

<table>
<thead>
<tr>
<th>Detail</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation in face-to-face events (all partners) to present Fly Higher</td>
<td>61</td>
</tr>
<tr>
<td>Published articles/news/mailings (all partners) about Fly Higher</td>
<td>18</td>
</tr>
<tr>
<td>Newsletters released online</td>
<td>6</td>
</tr>
<tr>
<td>Visits to the GIS map (from Nov.2012-May 2014)</td>
<td>45,513</td>
</tr>
<tr>
<td>Project brochures printed (all partners)</td>
<td>1000 paper copies</td>
</tr>
<tr>
<td>Booklet printed and distributed among all partners</td>
<td>1500 paper copies</td>
</tr>
<tr>
<td>Game cards printed and distributes in 5 languages</td>
<td>100 games</td>
</tr>
<tr>
<td>Pen drives with FH materials</td>
<td>400 (UPM/BRTE) + 350 INOVA</td>
</tr>
<tr>
<td>Other promotional materials: t-shirts, posters, small airplanes, flyers, etc.</td>
<td>N.A. (several)</td>
</tr>
</tbody>
</table>

Table 10 – Main numbers about other dissemination actions of Fly Higher

<table>
<thead>
<tr>
<th>Activity</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total visits to the website</td>
<td>414,585</td>
</tr>
<tr>
<td>Unique visits to the website</td>
<td>85,965</td>
</tr>
<tr>
<td>Publications in the social networks</td>
<td>More than 150</td>
</tr>
<tr>
<td>Participation in the social networks</td>
<td>More than 3,000</td>
</tr>
<tr>
<td>Participation in face-to-face events to present Fly Higher</td>
<td>More than 60</td>
</tr>
<tr>
<td>Visits to the GIS map (from Nov.2012-May 2014)</td>
<td>45,513</td>
</tr>
<tr>
<td>Promotional materials printed and distributed</td>
<td>More than 4,000</td>
</tr>
</tbody>
</table>

Table 11 – Global dissemination numbers
Feedback, impact and potential impact

Taking up the information presented previously in terms of quantitative results, it is clear that in terms of dissemination and promotion, Fly Higher was able to “spread the word” very effectively, e.g. 414,585 total visits to the website; 85,965 Unique visits to the website; organisation/participation in more than 60 events; 45,513 Visits to the GIS map. However, beyond getting to know the project, it is difficult to estimate the number of people (children, teachers, counsellors, etc.) who will actually use and benefit from the projects’ outputs.

Considering all the information and perceptions collected during the implementation of Fly Higher, including the results of discussions held among partners and interaction (often informal) between project partners and teachers, counsellors, parents, industry representatives and other stakeholders, the following main conclusions should be highlighted regarding the impact and potential impact of the project:

- The feedback to the Fly Higher materials and activities has been extremely positive. Despite this, the possibility of collaborating with schools to implement e.g. Aerodays and study visits was often successful only through personal/direct contact, i.e. partners knew someone in the schools or vice-versa.

- Students and teachers/other professionals are open to learn more about possible future career paths in the aeronautics sector, as there seems to be a lack of awareness raising/information about these items.

- Although it proved to be possible to include aeronautics examples especially in the teaching of STEM related subjects, teachers perceive Aerospace as advanced engineering, not realising how many opportunities there are in airport operations and being reluctant to attend the very events where we hoped to explain them!

- It is very important to reach children from an early age (from 10-11 years old) as at this age they will still be in time to be influenced by the use of the materials and decide to study STEM subjects and engage in a career related to aeronautics. Many of the initiatives currently carried out focus on “pre-university” students (14-17 year old).

- Teachers would happily attend an event with their school children (as they could see the return directly to the students) and in those countries where child protection issues did not intervene, they were happy, too, for outside speakers to come into school. However, a “teachers only” event did not generate viable interest - attaching a briefing onto an existing teachers’ event was a much better approach.

- One of the “obstacles” teachers expressed was the fact that school programmes have little flexibility, so it would be difficult to integrate the tutorials as a “regular” lesson in the programme.
Exploitation of results

The impact of the Fly Higher project is not restricted to the activities carried out during the lifetime of the project. The Fly Higher consortium awards a great importance to exploitation and sustainability and has carried out various efforts to ensure continuation of the Fly Higher project in the years to come. In fact, several schools and other organisations have already expressed their interest to continue to use the Fly Higher learning materials and multiply some of the activities.

The Exploitation and Sustainability Strategy of the FLY HIGHER project has the following main purposes:

- Plan a process with a comprehensive range of activities able to reach the project target groups and the final end-users of the Fly Higher project;
- Present the project results with strongest exploitation potential and provide plans for its use and exploitation;
- Highlight the positive impact of the project on the defined target groups;
- Assure the sustainability of the project results;
- Contribute to further develop, improve and increase what has been done in terms of materials, activities and results.

There were different types of target groups considered in the project and also for exploitation purposes, namely:

- Children and youths;
- Students;
- Parents;
- Educators/teachers/trainers;
- Counsellors and career advisors;
- Companies and business leaders;
- Regional authorities;
- Aeronautic key stakeholders (R&D centres, ground and airborne industry, airports, training institutions, professional associations);
- Youth and students associations;
- Decision makers and media professionals.

For each of the target groups a set of differentiated activities were defined and implemented, always adapted to the targets’ characteristics, needs and role in influencing/orientating the youngest. This also applies to the Exploitation Strategy that reflects also the specific characteristics of each one of targets considered.
As described in the previous section, the project’s results that have strongest exploitation potential are the following:

<table>
<thead>
<tr>
<th>Educational</th>
<th>Methodological</th>
<th>Media</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 STEM Tutorials and teachers guides</td>
<td>Programme of activities</td>
<td>Project website</td>
</tr>
<tr>
<td>10 Activity sheets</td>
<td>Project methodology/work plan + Lessons Learned</td>
<td>FH database, GIS map and network of contacts</td>
</tr>
<tr>
<td>15 Career Kits</td>
<td></td>
<td>Other communication materials</td>
</tr>
<tr>
<td>Cards and video game</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 12 – Project’s results with strongest exploitation potential

Partners have already identified and discussed a range of possible targets/actions that can be carried out to ensure sustainability and enlarge the impact of the project. These possible actions include:

- Expand the use of the materials to more:
  - Schools, teachers, counsellors, children
  - Countries/languages
  - Sectors

- Further develop and improve what has been done:
  - Develop more career kits
  - Update/complete existing career kits
  - Develop more tutorials and activity sheets
  - Adjust the programme of activities

Among the various possibilities of future exploitation considered, several have been already addressed by Fly Higher partners, representing a true commitment and real impact to the project after its end. For this purpose, there are several exploitation tools, means and activities available for the Fly Higher partners that can facilitate sustainability of the project results:

**Fly Higher Website and social networks:** The website is open to access by the consortium members and the public, and it serves as a presentation window of the project, its aims and objectives, materials and consortium members. Partners will continue to update and contribute to the promotion of the project in the website and social networks. INOVA+ will maintain the Facebook profile and the website of the project for at least 5 years and will try to keep them animated with the support of the partners.

**Fly Higher Booklet and USB sticks:** The booklet created in the final stage of Fly Higher presents the project’s activities, materials and methodology in an appealing and simple fashion. The USB sticks were loaded with the project’s materials in all languages available. Together with
the Fly Higher booklet, the USB stick provides a complete insight of the project and its outputs and gives immediate access to all Fly Higher materials.

**Fly Higher database and network of contacts:** Each partner was responsible for building up a mailing list of contacts by including relevant stakeholders and end users from their network of contacts and also by including other contacts at local, national and European levels. Exploitation activities will be mostly based on this existing partner networks and future new contacts with relevant institutions. The FH database was established to serve as the basis for the further support activities at European level to various stakeholders. This database is free and can contribute to support different target groups (teachers, students,...) to be aware of relevant aeronautic actors and stakeholders at European level. The registration of new companies is free and available at the project website.

**Participation in Events, Workshops and Conferences:** All partners shall participate conveniently in events aimed at disseminating the project’s results. The events can be informal to encourage people of various backgrounds and disciplines to take part in the discussions. Other events and also direct contacts and meetings with stakeholders will be very important to promote the sustainability of the project’s results.

**Further improvement of project results:** There’s always space for improvements, especially in the actual globalised world. The needs of the labour market are evolving, so they require a continuous monitoring and update. As mentioned above, there’s the possibility to amplify the use of the educational materials to other European countries/languages and to other sectors and scientific fields. Additionally it’s also possible to increase the number of tutorials and career kits.

**Synergies with relevant projects/initiatives:** The main goal of this activity consists in stimulating the exchange between projects and initiatives in order to establish sustainable future collaborations and future joint efforts to promote aeronautic careers. This is being implemented in several ways including: the exchange of speakers, the organisation of joint workshops, dissemination in project newsletters, joint seminars and participation in project events presenting and releasing information about the FH materials. The collaboration activities started by sending dissemination material to the coordinators and dissemination leaders of each project identified; the second step was/is to discuss and find the most appropriate and useful collaboration activities.

**Transfer activities/methodologies** (to other sectors/fields, languages, countries, etc.): The project’s methodologies can also be exploited. Based on the results and experience acquired during the funding phase of Fly Higher, the partners are ready to extend the project’s results and transfer them to other sectors, fields, languages and countries. As for example, the translation of the materials to other languages (German and Italian) is already being discussed and the transfer of the methodology of the project to an initiative focused on another sector (Textile) was already submitted for funding under the ERASMUS+ Programme.
Considering the activities carried out and planned and also the results obtained with the implementation of the project, the consortium believes its two main goals have been achieved and will be reinforced with the exploitation activities:

1. To attract and engage young people into future careers in aeronautics by implementing a well-balanced programme of activities and to provide teachers and other school professionals (including counsellors and careers advise professionals) with the knowledge, training, tools and assistance to put theoretical frameworks in to practice;

2. To connect Aeronautic research centres with end-users through real-life applications, in order to inspire and motivate both students and school staff, to learn and teach science through real-life applications.
Public website and contacts

Website:

The website of Fly Higher, where all public materials are available is: [www.flyhigher.eu](http://www.flyhigher.eu)

The website is available in: English, Portuguese, Spanish and French. It includes connections with the project’s social networks (Facebook, Linked In, Youtube).

Contacts:

A dedicated e-mail address was created to receive any requests related to Fly Higher: [flyhigher@inovamais.pt](mailto:flyhigher@inovamais.pt)

There is also a contact form in the website of the project: [http://www.flyhigher.eu/contacts](http://www.flyhigher.eu/contacts)

Besides, the project coordinator can be contacted for all purposes related to the project:

Mr. Gil Gonçalves: [Gil.goncalves@inovamais.pt](mailto:Gil.goncalves@inovamais.pt)
Deliverable 5.4: Report on the Dissemination Events