Increasing young women’s participation in Science Studies and in the Aeronautic Industry

CASE STUDIES REPORT

WOMEN in Aeronautical Industry

Co-funded by the Lifelong Learning programme of the European Union
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W O M E N in Aeronautical Industry

Project number: 539439-LLP-1-2013-1-ES-ERASMUS-ESIN

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Foreword:

The present report was prepared as part of the IN2SAI project, in the framework of the Erasmus initiative under the Lifelong Learning Program, with a duration of 2 years: September 2013-September 2015.

This document represents a compilation of “case studies” about the academic and professional careers of successful women in scientific areas and Aeronautics Industry (AI) jobs from 7 project partner countries and a European company, EUROCONTROL.

The report contains 18 interviews with female professionals – inspiring models for young women working in AI and willing to share their experiences and to motivate young girls to pursue a scientific carrier. The report tells inspirational stories on being a woman in a “male” type industry – the difficulties and advantages they have met along the way, and how important it is to follow your dream.

This report is available in English, and a brochure presenting the cases studies and highlighting the main findings that came out of the interviews is available in all 7 partner languages.

Fasten your seatbelts and enjoy the reading!

This Report is part of [Deliverable 12] Community Outreach | Plan of Activities under WP4 Community Outreach.

May 2015

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Introduction to IN2SAI project

Although the current economic crisis in the EU has contributed to high rates of unemployment in several Member States, various economic sectors are facing shortages in labour supply.

The Aeronautic Industry (AI) is one of the EU sectors in which a future shortage is a possibility, due to its complexity and requirement for a highly qualified and skilled workforce.

According to the report Competitiveness of the EU Aerospace Industry with focus on: Aeronautics Industry, worries about skill shortages are widespread in aerospace industries. Experts assume that Europe faces a shortage of perhaps 25,000 engineers per year. Replacement rates for engineers will rise and aerospace companies compete for a shrinking pool of technical talent not only within the industry but also with other engineering industries (Ecorys, 2009). Most workers in AI are male (less than 15% of the workforce is female); and 30.3% of the workforce is aged 46 to 55 years.

Educational and cultural contexts influence professional options, as some jobs
are still seen as male jobs (e.g. engineers) and others as female (e.g. nurses). The initiative New Skills for New Jobs of the EC stresses that educational and professional choices of young men and women continue to be influenced by traditional gender paths. Reducing gender imbalances in sectors and occupations could partly address future skills shortages, for example in technical and managerial occupations (COM (2008) 868/3). In this sense, existing stereotypes need to be overcome in order to increase the involvement of women in more technical educational programmes and/or professions. Analysing participation in higher education, young women often do not translate their good school performance into field of studies for higher education that offer better employment prospects, such as STEM studies (OECD, 2011).

Based on this framework, the IN2SAI project aims to increase the participation of female students in higher education studies in scientific fields (especially those relevant for aeronautics) and to contribute to their integration into the AI.

The IN2SAI project is a European project developed in the framework of the Erasmus initiative under the Lifelong Learning Program. It aims to increase the participation of female students in higher education studies in scientific fields (especially those relevant for aeronautics) and to contribute to their integration into the AI. As such, the project work plan foresees several activities that require the active participation of young women, as well as of other relevant stakeholders, such as professors and industry representatives. A strong relationship between the worlds of education, research, and the labour market will be promoted during the full duration of the project (24 months), particularly in the 6 participating countries (ES, DE, PT, IT, NL, and AT), but with the ambition of disseminating further the results and outcomes of the activities. A consortium with representatives from both Higher Education Institutions (HEIs) and Enterprises has been created in order to gather expertise in the field of scientific studies (related to aeronautics), knowledge of labour market needs, and creation of synergies between academia and the labour market.

It has a duration of 2 years from September 2013 to September 2015.
The project’s objectives are:

- To enhance collaboration among academia and industry, so that academia can better address the needs of industry and both can contribute to better gender balance by increasing the participation of female students/workers;

- To describe the existing situation regarding female participation in scientific studies and the AI;

- To identify existing reasons and possible causes for the low female interest in scientific studies and participation in the AI;

- To increase the interest of female students/young women in scientific studies and AI careers by providing information on existing opportunities, presenting successful examples, and promoting events;

- To support academia promoting gender balance in their scientific courses, and motivating female students to pursue careers in AI, by developing educational programmes that can contribute to diminishing prejudices and increase their interest in careers in AI;

- To raise awareness among the general community of the opportunities for female participation in scientific studies and AI, through the organisation of several events and the release of promotional material;

- To perform dissemination activities all over Europe in order to maximize the impact of the project activities and outcomes among the target groups, thereby improving the sustainability of the final outcomes;

Ultimately, the IN2SAI project intends to contribute to a higher rate of participation of young women in STEM fields of study and research (especially those related to aeronautics) and to increase employability rates of women within the AI (also in technical professions). Finally, the project’s results can lead to improvements in the capacity of innovation and growth of the European enterprises involved in the AI and related sectors.
CASE STUDIES OF WOMEN IN AERONAUTICAL INDUSTRY
AUSTRIA
Biliana Slavkovski

Name and Surname:
Biljana Slavkovski

Name of the organization and position:
O.ST. Feinguss GmbH

Experience in the field:
Investment castings of aluminium & steel
What is your current job and responsibilities?
Purchasing manager/sales/trainer.

What is your most important achievement up to date?
Our companies trainee passed her exam after 3 years in-house-training & we hired her now for our purchasing department and of course some other successful achievements in my areas I work.

How did you decide to study aeronautic?
I didn’t study aeronautics. I have the luck that our company developed in this area and we are suppliers of aeronautic parts. And the main motivation some years ago: be in need of a job and there I’m now. In some cases luck is relevant too.

Which qualities do you think helped you to become successful?
Being always inquisitive achieving best results in my working area. Being always solution-oriented.

Do you think there is such a thing as men and women job?
Not the job at all but the approach of doing is different.

Do you think there are more obstacles/barriers for women to be successful in the aeronautic field than in other engineering fields?
No – because results count.

Why do you think women should choose this field of studies?
At this period of time: you could be one of the first girls in this area. Try it!

Have you ever been or felt discriminated while studying at your Higher Education Institution for being a woman?
I had the luck, that I had people around me from whom I could learn a lot and from whom I received a lot of support – mainly men.

Have you ever been or felt discriminated at work place for being a woman?
No, not directly - but I had to prove what am capable of.

» What is discrimination in employment and occupation¹ in your eyes? To think, that a woman is not capable of doing it.

1 «Any distinction, exclusion or preference made on the basis of race, colour, sex, religion, political opinion, national extraction, social origin, which has the effect of nullifying or impairing equality of opportunity and treatment in employment and occupation» (art. 1 ILO Convention No.111).

CASE STUDY 1

Biliana Slavkovski

“I had the luck, that I have people around me from whom I could learn a lot and from whom I received a lot of support – mainly men”
There are jobs definitely, where a woman is physically not able at the same level. But in “mind-demanding-jobs” not.

**How did you overcome gender prejudice at education and/or work placement?**
Always with a smile and proving the opposite by doing.

**How would you describe the existing situation regarding female participation in scientific studies and the AI in your country/culture? Did you notice any relevant changes during the past years?**
Difficult for me – never thought about this… But there is a trend that “access” becomes bigger.

**Please, identify existing reasons and possible causes for the low female interest in scientific studies and participation in the AI particularly in your region/country/culture?**
I think, that women don’t consider breaking through this areas, because they often don’t know, that they or such companies, exist. And that such companies/areas could be a possible employer.

**Are you aware about any promotional activity developed by public and/or private institution to stimulate female participation in science studies? Please, explain further.**
Yes, due to my job more aware than in the past.

**Do you think that projects like IN2SAI can have a real impact on female studies choice on a long-term perspective? Why and how? What should we definitely keep in mind to be successful while addressing our main target group?**
Of course – this is building awareness.

**What could/should be done to raise awareness among the general community of the opportunities for female participation in scientific studies and AI?**
Aiming this target group by different information through media devices (newspapers, e-papers, newsletters, different marketing activities on “Points of Sale”,…).

**Are you aware of existing initiatives that aim to attract/engage female students in engineering?**
Yes, but maybe from my functions more in touch than others.

**What would you suggest to be done to increase female participation in the aeronautical/aerospace industry?**
I think we are at the moment with actual activities on a good way.

**Finally, why do you think women should be more involved in the field?**
Because of other strengths than man. And with the combination of both strengths each area/company can succeed a better development.
Gabriele Metz

Name and Surname: Gabriele Metz

Name of the organization and position: Private entrepreneur, Graz Gender Institute

University degree: Interdisciplinary gender studies
What is your current job and responsibilities?
I am a private entrepreneur and run the Graz Gender Institute, through which I am actively engaged with vocational and operational inconsistencies that occur due to gender, and work towards eliminating them. Using my expertise in the gender field I support companies with the implementation of gender mainstreaming strategies and projects from the Austrian Federal Ministry for Transport, Innovation and Technology and also run my own projects that promote gender equality.

What was your first working experience in the field?
My introduction to the world of aviation has not really been a traditional one, unlike for example being exposed to it from an early age within the family. But rather my involvement began later in life, at the age of 45, through my training to become a private pilot, during which I developed a surprisingly great interest in aviation. Due to the fact that I quickly found flying myself to be such great fun, and contrary to expectations my technical understanding was very good, I decided to attempt to pass on my enthusiasm as a late-developer to other women, who would otherwise probably never think of developing an interest in aviation. In the course of my interdisciplinary gender studies at the Karl Franzens University in Graz the academic thesis entitled "Why is the sky blue? Female pilots as the silver lining on the horizon" began to take shape. This opened up the possibility for me to explore the reasons why so few women work in aviation-related fields and at the same time develop ideas and models in order to increase female participation.

What is your most important achievement up to date?
In all areas of aviation women are markedly underrepresented, whilst at the same time the industry suffers increasingly from a lack of motivated and qualified specialist personnel. Thus my greatest achievement to date is the project "Girls in aviation - flying related careers." The central focus is an "interactive" information day for women about careers in the aviation industry. It will take place for the third time in 2015 at Graz airport.

"...For me the greatest barriers preventing free career choice are by far the stereotypes that exist in people’s minds, that are unable (or do not want) to imagine women working in traditionally male occupations or vice-versa..."
I chose this airport as the venue for "Girls in aviation" as it fulfills the criteria very well for the pillars upon which the project is built: "information and presentation" as well as "experiencing and experience."

Relevant education and training providers, companies and enterprises, organisations and institutions present themselves to young people - naturally men are also included - in a public area within the airport building, providing comprehensive background information. Many different potential careers are introduced through presentations and in addition female role models working in all kinds of related fields are available for one to one discussions and to answer any questions. In order to bring different careers "to life" there are tours to observe the air traffic controllers in the control tower, the aircraft maintenance area and the airport's apron.

Cockpit tours, flight simulators, a test flight in an airliner flown by a female crew and a aerobatics display not only round off the programme, but also attracted parents and friends, who, as well as influencing the career choices of young women, also actively participate in them.

The careers information day "Girls in aviation" has become hugely popular amongst visitors as well as amongst exhibitors, presenters and partner organisations, and after having been staged twice so far it has had an immensely positive impact.

My career in aviation is therefore quite unusual. I do not design or construct aeroplanes or related technical components, but rather help the careers of others, in particular young women, in making it conceivable and possible to enter into this sector, which has to date been rather difficult to access. I do not even see it as work, even though it is work and makes work for me. Rather more I see it as a valuable undertaking, which I am committed to, and which also gives me a high degree of enjoyment and satisfaction.

Which qualities do you think helped you to become successful?

My success is based on my own deep internal conviction about what I do, as well as the essential need to take enjoyment from what we do. Because I have a sense of purpose in my work, a strong will has developed to implement things and make them a success. I count analytical and strategic thinking amongst the most important of my qualities. Others say that I have a "charming persistence" and I can live with that very well.

Do you think there is such a thing as men and women job?

Based on my conviction that no occupations are exclusively for men or for women, just as there is (or should be) no standard man or woman, I support every initiative that opens up career opportunities for all. For me the greatest barriers preventing free career choice are by far the stereotypes that exist in people’s minds, that are unable (or do
not want) to imagine women working in traditionally male occupations or vice-versa, as well as the unfavourable underlying conditions, including a glass ceiling which women continue to come up against.

Do you think there are more obstacles/barriers for women to be successful in the aeronautic field than in other engineering fields?

My experience of aviation is that it is a very open industry that is quite welcoming towards women. I offer therefore my praise in advance but also challenge the aviation industry to offer a future direction, in which the participation of women is regarded as indispensable from a qualitative perspective. Thus it can represent a particularly good example in taking a step forward towards a more socio-politically and economically positive future!

Why do you think women should choose this field of studies?

For this reason I can certainly encourage women to pursue a career within the aviation industry. It is an industry with a future, and the various professional occupations within it are challenging, highly interesting and exciting!

Have you ever been or felt discriminated while studying at your Higher Education Institution for being a woman? Have you ever been or felt discriminated at workplace for being a woman?

I would not subscribe to having any concerns in relation to potential discrimination. Women do always appear peculiar at first in male dominated settings, and a certain basic attitude towards them is unavoidable. On the other hand however women also display a high degree of unusual attention towards “men in female professions.”

Discrimination can be quite explicit in the form of insults or sexist remarks, or even go as far as harassment or bullying in the workplace. Furthermore there is structural discrimination, which can be less obvious as a barrier to the careers of women, such as childcare responsibilities, which are seen only as an issue for mothers. This form of discrimination belongs to the more persistent forms, because at first glance it is not easily identifiable. I myself have experienced discrimination in one form or another. Fortunately however there are a multitude of organisations and institutions, which have made it their duty to expose all forms of discrimination and work actively towards eliminating them. I also subscribe to this group with the Gender Institute!

Women would do well to sharpen their outlook, cultivate greater self-confidence and stand on their two feet in life. Regarding oneself as weak and adopting the role of victim perpetuates the image of vulnerability and turns people into targets. People, who encounter each other on a level playing field, are more likely to regard each other as equals and are more capable of avoiding prejudices based on gender.
How would you describe the existing situation regarding female participation in scientific studies and the AI in your country/culture? Did you notice any relevant changes during the past years?

It is my belief that in recent years there has been much progress made in terms of opening up professions to all genders. Many initiatives such as the "the Girls" and "the Boys Day", state sponsored initiatives and programmes aimed at broadening career guidance, career open days and much more have all contributed towards this. Gender and equality services within universities perform much outstanding work and initiate projects and measures such as "FIT - Frauen in die Technik (Women into Technology)." Their regular presence at careers information events and fairs is always invaluable.

What could/should be done to raise awareness among the general community of the opportunities for female participation in scientific studies and AI?

The process of career guidance begins however at a very early age. Mothers and fathers are the most effective role models. Childcare and education providers also contribute substantially (not only with unsophisticated methods and teaching materials - keyword "non-gender specific school books with gender-stereotyped role definitions") - to the consolidation of old-fashioned stereotyped roles. With astonishing persistence the media also portrays clichés about men and women, that have actually been no longer tenable for some time. However in a very aggressive way they promise consumer and economic success.

Precisely in Austria socio-political strategies still prevail that do not correspond to the modern interpretation of what a human being is and the diverse range of possible lifestyles, but which are strongly promoted by Christian and political ideologies. The role of the woman is cemented as that of the loving, caring mother, whilst the father is the one who provides for the family.

Of course men and women want to correspond to the "ideals "of the society in which they live. Breaking down barriers in society is not only a question of courage and effort, but also involves an element of danger in exposing oneself and becoming a potential target of people's lack of understanding or even hostility. Therefore it is understandable why people opt for the "easier" path. In terms of the career choice process it means that truly opening up the range of professions on offer can be a very long process indeed.

In order to open up study in technical subjects to women much more, intensive cooperation is necessary from educational facilities, universities and colleges. This cooperation with educational establishments must however begin at the primary education level. Industrial sectors and the companies within them are called upon to reach out to young women and make them aware of what opportunities are possible. "A picture is worth a
thousand words!" Once a picture is in young people's minds it is not easily displaced. Even young children at nursery school age are receptive to "stories relating to professions." Going forward companies need to communicate their requirements, career descriptions and the realities of working life in a simple and honest manner. Many young people possess no background information about companies in relation to what they actually do or produce. By the age of 18 the course has already been set for many people - in favour of gender stereotyped career choices, because their view is directed too little or not at all towards other opportunities.

**Do you think that projects like IN2SAI can have a real impact on female studies choice on a long-term perspective? Why and how? What should we definitely keep in mind to be successful while addressing our main target group?**

**Facilities and platforms such as in2sai** represent excellent opportunities in demonstrating and contributing towards the stimulation of interest among women in pursuing careers in technical professions. Linking up with all other platforms and companies pursuing the same objective goal is an extremely important element. Further ways of reaching very young women need to be considered too. If they are already at college or university, then they can "only" be role models and multipliers.

**Do you think that improvements and advances in Information and Communication Technologies (ICT) (e.g. e-work, work at home, better connectivity, etc.) have had a direct effect on an increment of women working in the aeronautical/aerospace industry?**

In response to the question, whether e-working, teleworking etc. have directly led to a larger proportion of women being employed in the aviation industry, I can only offer the assumption "NO", because I do not know whether such work models are common within aviation or not. Although I do consider such work/time models to be practical for women who have caring obligations and family responsibilities, but in terms of the gender perspective I maintain the following: the aim must be for family responsibilities to be shared equally between the mother and the father, because otherwise the burden falls practically 100% on the shoulders of women, thus restricting their ability to pursue a career that is fair to them and their companies. Teleworking is predominantly part-time work, which in turn means lower salaries and the reduced likelihood of being able to climb the internal career ladder. Such situations do not affect men in the same way, which
does not escape the notice of women and this can lead to job-related frustration and dissatisfaction.

**Ideally** companies should offer in-house child care, coupled together with opportunities for children, both girls and boys, to experience their mother's or father's working environment. In this way, at an early age, they get an early view and "an impression" of a company, which has already made women into role models for daughters and other young girls.

*Finally, why do you think women should be more involved in the field?*

**Why are more women needed in the aviation industry?** It is because all products are always made for both men AND women - and it is no different in aviation. Excluding women means only experiencing and implementing half of the actual demand for products, and only half of the available know-how is utilised. Furthermore it means only one half of society are inspired about such products and push for their development, which depends precisely upon this enthusiasm and is undertaken with great energy and pleasure. Only if work is "lovingly" undertaken will a man or woman be able to dedicate all of their energy and skills towards it. Committed and inspired employees make perfect planning and development processes possible, leading ultimately to optimal results and the fulfilment of all requirements.
Anja Totz

Name and Surname: Anja Totz

Name of the organization and position: O.ST. Feinguss GmbH Pankl Aerospace Systems Europe, Head of Quality

Experience in the field: DI(FH)
CASE STUDY 3

Anja Totz

“There are jobs that are just called men or women jobs. But the intension of the wording is not principally a gender question. It’s a question of the physical and mental constitution that is needed to successfully do a certain job...”

What is your current job and responsibilities?
The job title is Head of Quality which is mainly a management function covering product quality assurance and quality management in terms of system related requirements.
The responsibilities are
• Leadership of quality department, budget and resource planning
• Maintaining of existing quality certifications/customer approvals
• Improvement of quality system and Integration of new customer requirements
• Improvement of processes and performance of operational quality assurance
• Monitoring of Key Performance Indicators
• Training of Certifying Staff in terms of EASA requirements and QMS trainings
• Management of system documents
• Management Review with Managing Directors
• Occurrence Reporting to National Aviation Agency and EASA
• Customer / Agency / Certification body Audits

What is your most important achievement up to date?
• Achievement of Production Organisation Approval according EASA regulation Part 21
• Restructure of quality assurance department and implementation of transparent capacity / workload planning cockpit
• Online shopfloor traceability by usage of state-of-the-art equipment
• Concept and specification of an individual customized CAQ system within existing ERP system.

How did you decide to study aeronautic?
I didn’t study specifically Aeronautic.
» Why Industrial Management? What did you think to reach/achieve entering science studies?
My overall intention was to gain a viewpoint and a sustainable understanding of industrial processes from different perspectives. The basic objective was not to be a scientist in any certain field, but to understand the coherences and to know the “vocabulary”.

**What was your first working experience in the field?**

My first experience in industry was sales & marketing at SIEMENS medical solutions (not aerospace), which did actually not open any interesting perspectives to me. My second experience was already Pankl, but in the field of Information Management. I entered the Quality Management department of Pankl Aerospace shortly after SIEMENS experience, which makes me more and more convinced to stay in the field of aerospace.

»**Did this experience made you more convinced in the choice of the career? Did it open up perspectives for you?**

Perspectives... yes.

I started as Quality Manager and have undertaken sole responsibility for the Pankl Aerospace quality management system after a year. Another year later the product quality assurance and quality management department merged. The quality department grew from 4 inspectors to 12 within 2 years. In addition we had to manage a relocation from a shared facility to an independent quality department and a capacity enlargement in terms of equipment and personnel of about 300% in the same time.

»**Did you learn a lot from it?**

Yes, I learned that it is absolutely necessary to have a plan

**Which qualities do you think helped you to become successful?**

Not sure about what helped, maybe the property of being resilient and the ability to manage problems quick and sustainable.

**Do you think there is such a thing as men and women job?**

No. There are jobs that are just called men or women jobs. But the intension of the wording is not principally a gender question. It’s a question of the physical and mental constitution that is needed to successfully do a certain job. We should put the emphasis on relevant subjects (good examples of the past: allow women participation on elections, allow women to apply for a study,...) instead of historical grown wordings.

**Do you think there are more obstacles/barriers for women to be successful in the aeronautic field than in other engineering fields?**

No.

**Why do you think women should choose this field of studies?**

I think women should choose a field of study that meets their field of interest and their natural abilities. Same for men.
Have you ever been or felt discriminated while studying at your Higher Education Institution for being a woman?

I think there is no student on earth who never felt discriminated or disadvantaged for all kind of reasons. Maybe that’s a good exercise. Work (actually the whole life) is not a bed of roses and if you never run against opposition or get the feeling of contrary wind, how would you cope with real problems in really bad times? To my mind there is sometimes a quite small-minded picture about what discrimination really is.

Have you ever been or felt discriminated at work place for being a woman?

No. Of course everyone has some kind of prejudices against young starters who are suddenly assigned with a significant project or with difficult tasks or with huge responsibilities. Most of these end up in smoke after a while.

»What is discrimination in employment and occupation¹ in your eyes?

The term discrimination means to me: getting less paid and differently treated than others only because of gender, religion, culture, birth, appearance, sexual attitude etc.

How did you overcome gender prejudice at education and/or work placement?

Show that you are able to learn ("women have not the technical understanding...")
Show that you are able to take into account critical feedback ("women are not open to criticism...")
Show that you are able to face pressure ("women are too sensitive...")
Show that you are able to act on factual basis ("women are too emotional...")
Show respect to your staff and you'll earn respect back ("women won’t be accepted as leader...")
Show that you take decisions even if they might be wrong ("women are not seen as authority...") and Show that you are not afraid to disagree ("women are not determinant enough...").

How would you describe the existing situation regarding female participation in scientific studies and the AI in your country/culture? Did you notice any relevant changes during the past years?

The community, the culture has definitely developed and changed. This is obvious to my mind. Not obvious is, if this change can be seen only positively. Our mothers and grandmothers stayed at home for children and housework. Today it’s normal that both parents are working at least part or even full time. This is also reflected by numerous magazines (with female target group) publishing articles like “how to be a perfect mommy and a tough career woman”. So in fact today you are not mandatory a poor mother when you’re not at home.

Still I think every manager who is supposed to build up a successful

¹ «Any distinction, exclusion or preference made on the basis of race, colour, sex, religion, political opinion, national extraction, social origin, which has the effect of nullifying or impairing equality of opportunity and treatment in employment and occupation» (art. 1 ILO Convention No.111).
high-performing team knows that a well-experienced core personnel is one essential success factor (in every business). Flexibility is another one (if your company is the Titanic, you will sink). So, what is needed? Experience. What else? Flexibility. What else? Continuity.

And now the hypothesis:
If there is a woman applying for a job, 28 years old, completed study, the anticipation is that you can build her up in terms of experience in 3-5 years but she will get pregnant around 30 and you lose her workforce at least one year. (→ failed in continuity and experience).
If there is a woman applying for a job, 40 years old, completed study, two children 7 and 3, the anticipation is that you can count on her continuous employment, but she won’t be flexible in terms of business trips and overtime hours and she is not up-to-date after 1-3 years break. (→ failed in flexibility and experience)
So what? A man is the more reliable choice in both cases, that’s a matter of fact. But this has nothing to do with culture, country or community. This has a biological root cause (we get the babys) that can never be closed-out. It’s simply God-given.

Anyway I think the participation and possibilities for women before and after they got children have evidently increased. There are more and more female apprentices at Pankl. Imagine young girls operating on big mil-turn centres manufacturing flight safety parts as good as others. Pankl Aerospace has actually a female quote of 30%, which has constantly increased in the last years. And finally I want to say that personally I think the always-so-loved-to-be-highlighted difference in payment does not reflect the reality anymore.

Please, identify existing reasons and possible causes for the low female interest in scientific studies and participation in the AI particularly in your region/country/culture?
Is there such a low female interest? Not sure about this assumption. However I think the Austrian education system does not really well correspond to the needs of industry and is not on a State-of-the-Art level. This is of course not the best condition to awake and fund the female interest on engineering fields and to take away their possible fears and doubts when applying for a technical scientific study. Considering the historical role allocation of men and women it seems to me justified that women might not fully trust in their technical capabilities.

According to your experience, what is needed to enhance collaboration among academia and industry, so that academia can better address the needs of industry and both can contribute to better gender balance by increasing the participation of female students/workers?
Strongly depends on the sector. But very simplified I think if an academia offers manufacturing system engineering, you should be able to read a drawing.
I think the question is not only which lessons/practices/skills shall be taught and which syllabus shall be followed on. Personally, I think the first step is to look at the teachers (train the trainer). Long-term teacher saved by old contracts, without motivation (getting paid anyway and not too less), without understanding of latest industrial trends, without practical experience in the industrial sector, without the budget to invite lecturers/managers of industrial companies and finally without any means/support to cope with fully-networked, real-time-online generation Y teenagers,... come on, how should that work?

Are you aware about any promotional activity developed by public and/or private institution to stimulate female participation in science studies? Please, explain further.

Only marginally I have to confess. After internet research I found several organisations/programs that I have already heard about (FIT...) but I cannot say that I’m really “aware” of them.

Do you think that projects like IN2SAI can have a real impact on female studies choice on a long-term perspective? Why and how? What should we definitely keep in mind to be successful while addressing our main target group?

Depends on the three aspects that might be worth to keep in mind:

- Distribution / communication of the results to the right people
- follow up actions
- effectiveness of actions taken
- repeat of analysis.

What could/should be done to raise awareness among the general community of the opportunities for female participation in scientific studies and AI?

I’m not an expert on this particular subject, but in a very simplified way I would sum up as following: Inform them & see question above.

Do you think that improvements and advances in Information and Communication Technologies (ICT) (e.g. e-work, work at home, better connectivity, etc.) have had a direct effect on an increment of women working in the aeronautical/aerospace industry?

Not sure. ICT does not replace an employee on site. I guess it depends on the function.

Finally, why do you think women should be more involved in the field?
The better question is why not...
ITALY
Nay Mezannar

Name and Surname:  
Nay Mezannar

Name of the organization and position:  
University of Balamand, Lecturer; Mechanical Engineering Department; Training Manager; Balamand Institute of Aeronautics

Experience in the field:  
At the University of Balamand as a lecturer: since Spring 2007 (8 years)

University degree:  
- Currently finishing Doctor of Philosophy diploma at the University of Bologna  
- Master of Science in Aeronautical Engineering: Graduated with distinction from SUPAERO / ISAE (Ecole Nationale Supérieure de l’Aéronautique et de l’Espace) – France
Case Study 4

Nay Mezannar

“I would like to share with you a quote by Amelia Earhart that in my opinion ought to be a permanent and sustainable work that can only be done hand in hand and with great convictions: “Women must try to do things as men have tried. When they fail, their failure must be but a challenge to others.”

What is your current job and responsibilities?
My current job at the University of Balamand is lecturer in the Mechanical Engineering Department and Training Manager at the Balamand Institute of Aeronautics. I teach courses such as Fluid Mechanics, Flight Dynamics and Control, Safety Management Systems, for undergraduate students enrolled in the mechanical engineering and/or aeronautical engineering major. As long as other courses such basic aviation physics, aeronautics and aerodynamics, and, Lebanese aviation regulations for the students enrolled in the Bachelor in Technology in Aircraft Maintenance Engineering. As the training manager, I interact with students on daily basis; I manage the theoretical training of the Bachelor in Technology in Aircraft Maintenance Engineering by organizing every academic semester the courses students must enroll in.

What is your most important achievement up to date?
For me every day is an achievement. Starting out in this field which is not usually a female known environment, then having to deal with macho mentalities and all kind of cultural aspects and backgrounds is not easy to do. But that is what is nice about it after all!

How did you decide to study aeronautic?
I first did my BS in Physics (a field in which also you don’t see a lot of women attracted by), because I didn’t want right after school to specialize myself in a certain type of engineering field. After three years, I started to see that I would be interested in the aerospace domain. But I honestly thought of coming back to my home country namely Lebanon, and then I would have no career opportunity. Half way through space an Earth, my target fell on the Aeronautical field, which was more down to earth; and I would never regret my choice.

How did you know about the possibilities to study this field? (e.g. school orientation):
It was by a simple internet search that I got interested in all the fields of application of aeronautics, and started checkin in more details that major.
Why (the field of study)? What did you think to reach/achieve entering science studies?
Just thought of a place in which I was not going to be limited. Science and research fields are the best categories in which one can improve on daily basis.

What was your first working experience in the field?
I can count my internship as a first working experience, after my Masters degree in Airbus Toulouse. It was in the performance department. My tutor didn’t have much time to dedicate in order to guide me through the objective my internship had. Therefore I was left on my own seeking help from colleagues around, and in fact it turned out to be a great experience.

Which qualities do you think helped you to become successful?
Perseverance and Tenacity.

Do you think there are more obstacles/barriers for women to be successful in the aeronautic field than in other engineering fields?
I don't think that in aeronautics there are more boundaries for women than in any other engineering fields. People are simply not used to hear that a woman is working in the aeronautical field. But I feel mentalities are changing and people are getting more and happier when they see that it is not only a men's world.

Why do you think women should choose this field of studies?
The aeronautical field of studies is a dynamical and multi-disciplinary environment. For women who are fond of being challenged in their careers, it would be a good choice.

Have you ever been or felt discriminated while studying at your Higher Education Institution for being a woman?
No but It just came to my mind an anecdote, that I don't consider as discriminating, but I have always received replies on my emails mainly as “Mr. Mezannar” and it always made me laugh when I meet in person with the sender of that email (whom, most of the time is a man!), and he/she notices that I am woman. (This answer is applicable to the question below too, BUT not in the discrimination area!).
Have you ever been or felt discriminated at work place for being a woman?
I don't think I can call it “discriminated”. Unfortunately in some cultures and even mentalities, men don't like to take any “orders” or even suggestions from a woman. But then comes the woman's reaction towards such a reaction: in case she will not fight for what she considers best in her career principles and she lets go easily due to the lack of response from her men fellow co-workers, I would say it is honestly her fault in this case. On the opposite side, I had a lot of times encountered such a situation especially when you are working in a team, the first steps to prove you belong to the group is harder sometimes for a woman because you would always have a man that wouldn't accept or tolerate your initiative. But as soon as this latter sees what you are capable of it would be ok.

» What is discrimination in employment and occupation in your eyes?
I honestly kept this question till the end! And I still don't know what to answer!! I don't feel that there is any discrimination, I am sometimes afraid that people use this word as a simple gateway from the real reason behind any conflict happening in their work place.

How did you overcome gender prejudice at education and/or work placement?
I don't think I have encountered any gender prejudice so far. But I would say that as long you have the chance to proof to the rest what you are capable of, you won't have any problem. Personally I would encourage women to persevere in anything they believe is right; any person will be able to overcome any barrier in life.

How would you describe the existing situation regarding female participation in scientific studies and the AI in your country/culture? Did you notice any relevant changes during the past years?
As a lecturer at the University of Balamand, more specifically in the aeronautical related courses I taught, since spring 2007, I really notice an increase in female students in my classes, and even in the mechanical engineering field. At the beginning I had zero female students in my classes... Regarding the maintenance engineering program, which in my opinion is known to be more of a male dominated field, I only have one woman enrolled in the program. This Aircraft Maintenance Engineering program was launched in 2009, and up to now only one woman will be graduating. I feel that it’s a pity, but I truly believe that it will change. I personally started to spread the word in the only Part 145 Organization in Lebanon, and will do my best to change these numbers during my career.

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1 «Any distinction, exclusion or preference made on the basis of race, colour, sex, religion, political opinion, national extraction, social origin, which has the effect of nullifying or impairing equality of opportunity and treatment in employment and occupation» (art. 1 ILO Convention No.111).
Please, identify existing reasons and possible causes for the low female interest in scientific studies and participation in the AI particularly in your region/country/culture?

Culture. Parents. And, ... Reputation. And behind all these, I can mainly see the lack of courage from the young woman side, that are willing to enrol in aeronautical studies out of passion, and they give up, simply because it is known as a “man related field” (which is completely wrong).

According to your experience, what is needed to enhance collaboration among academia and industry, so that academia can better address the needs of industry and both can contribute to better gender balance by increasing the participation of female students/workers?

Communication, Open Doors, Transparency. According to my experience in academia field (as the training manager of the maintenance engineering program) and specifically in the Middle East region where industry needs to recruit a lot of aeronautical related personnel, we are facing main basics problems while trying to collaborate with the industry: lack of proper communication. Now regarding the gender balance issue, I would think of the following plan: after agreeing on a strategic plan of action between the academia and the industry, this latter start sending some representatives to universities (and why not schools?) in order to present the existing jobs they have and how specifically women can fit. At a later step, shadow days programs could be scheduled in the industry, and academia could send some young women to the targeted workplaces. It would be the task of the academia to support and encourage young women to participate. In order to do all that, there should be a real and true communication between both industry and academia. They both should be having the main target in front of them, and work hand in hand to achieve it.

Are you aware about any promotional activity developed by public and/or private institution to stimulate female participation in science studies? Please, explain further.

I encountered the experience of Zonta Internationall that seeks to advance the status of women worldwide by improving the legal, political, economic, educational health and professional status of women. If we focus more specifically on the educational part, Zonta International helps women overcome gender barriers to careers in traditionally male-dominated fields through the Amelia Earhart Fellowships (for aeronautical studies) and Jane M. Klausman Women in Business Scholarships (for business related studies). According to Zonta International, gender inequality in education, begins much earlier in life: Of an estimated 93 million children not in school, 48.4 million are girls. Through Zonta's International Service Program, Zonta has increased access to educational opportunities and vocational skills training for girls and young women in Africa, Asia and
While I was in my second year of PhD, at the University of Bologna working in the field of the Innovative Man-Machine Interfaces in Aeronautics, a colleague of mine saw the Amelia Earhart fellowship application and insisted that I should be applying. And in fact she was right... This prestigious fellowship is awarded to 35 Fellows around the globe each year, and I was one of them for the academic year 2013/2014. I would like to pay special tribute to my colleagues at the University of Bologna who believed in my capacities and encouraged me in applying for the Amelia Earhart fellow. Thank you again!

Do you think that projects like IN2SAI can have a real impact on female studies choice on a long-term perspective? Why and how? What should we definitely keep in mind to be successful while addressing our main target group?

I think that yes projects like IN2SAI will have a real impact on female studies choice. By communicating with the industry, implementing visits to their premises. Both the young women and the industry will really see what are the female studies choices and might act accordingly.

What could/should be done to raise awareness among the general community of the opportunities for female participation in scientific studies and AI?

We can resume all my answers earlier in this question. In my opinion, frequent visits to the industry in order to remove any reputation, and even for parents to really see that it is not that a bad world their daughter will have to work in! Posters to be disseminated all over university campuses and schools. Events focusing on already existing talented women in the aeronautical or sciences field, in front of school students and their parents.

Are you aware of existing initiatives that aim to attract/engage female students in engineering?

Not really. Zonta International is trying to do that, but its programs are not focussed only on engineering.

Do you think that improvements and advances in Information and Communication Technologies (ICT) (e.g. e-work, work at home, better connectivity, etc.) have had a direct effect on an increment of women working in the aeronautical/aerospace industry?

At a first glance, I really don’t see the link between the two! Furthermore, in the aeronautical/aerospace industry one can’t stay behind her/his screen all day and perform tasks... In my opinion the aeronautical/aerospace is a fast paced industry, in which any worker will have to be on ground, communicating,
going to conference, be in laboratories, etc. For sure the Information and Communication Technologies are helping any kind of industry, but I don’t see where the ICT will have a special effect on the increment of women in industry.

What would you suggest to be done to increase female participation in the aeronautical/aerospace industry?
Target schools mainly and parents. Especially in countries where there is the domination of what I can call: the male spirit.
Conferences might be scheduled in schools, with some live testimonials of already existing women in the field. The students will be able to ask any type of question they feel like asking. At a further stage, visits to the industry could be organised, so that the young women will see what the industry is really about.

Finally, why do you think women should be more involved in the field?
Why not!
I would like to share with you a quote by Amelia Earhart that in my opinion ought to be a permanent and sustainable work that can only be done hand in hand and with great convictions: “Women must try to do things as men have tried. When they fail, their failure must be but a challenge to others”.
Caterina Grillo

Name and Surname:
Caterina Grillo

Name of the organization and position:
University of Palermo, Associate Professor

Experience in the field:
over 20 years
CASE STUDY 5

Caterina Grillo

“Why do you think women should choose this field of studies? Because it’s extremely stimulating in the continuous evolution of the society.

What is your current job and responsibilities?
Associate Professor of flight mechanics (ing-ind 03).

What is your most important achievement up to date?
My students have been received prominent job positions..

How did you decide to study aeronautic?
For passion.

What was your first working experience in the field?
Research and teaching.

Which qualities do you think helped you to become successful?
Ability to create the conditions for the identifying and highligthing the best qualities of the students and to give a chance to the students to enhance and capitalize them.

Do you think there is such a thing as men and women job?
No.

Do you think there are more obstacles/barriers for women to be successful in the aeronautic field than in other engineering fields?
I think, mostly in the industry of the AI, not in the education.

Why do you think women should choose this field of studies?
Because it’s extremely stimulating in the continuous evolution of the society.

Have you ever been or felt discriminated while studying at your Higher Education Institution for being a woman? Have you ever been or felt discriminated at work place for being a woman?
No, never

» What is discrimination in employment and occupation\(^1\) in your eyes?
Using the own gender as a flag or a shield to defend oneself in order to preserve or acquire the rights.

\(^1\) «Any distinction, exclusion or preference made on the basis of race, colour, sex, religion, political opinion, national extraction, social origin, which has the effect of nullifying or impairing equality of opportunity and treatment in employment and occupation» (art. 1 ILO Convention No.111).
How did you overcome gender prejudice at education and/or work placement? By proving to possess qualities comparable to those of others.

How would you describe the existing situation regarding female participation in scientific studies and the AI in your country/culture? Did you notice any relevant changes during the past years? The female professors over the last ten years have increased significantly.

Please, identify existing reasons and possible causes for the low female interest in scientific studies and participation in the AI particularly in your region/country/culture? At the level of the labour market, a possible cause could be that it’s too global.
According to your experience, what is needed to enhance collaboration among academia and industry, so that academia can better address the needs of industry and both can contribute to better gender balance by increasing the participation of female students/workers?

- To better meet the needs of the industry is necessary to review the training and education programmes taking into consideration the evolution of the technology
- To contribute to the achievement of gender equality is necessary to facilitate the dual role of women as wife / mother and as a worker.

Do you think that projects like IN2SAI can have a real impact on female studies choice on a long-term perspective? Why and how? What should we definitely keep in mind to be successful while addressing our main target group?

Yes, because a contact between students and academia and between academia and industry is created, in order to facilitate the transfer of experiences.

Finally, why do you think women should be more involved in the field?

Creativity and analytical skills.
Anna Maria Di Giorgio

Name and Surname: Anna Maria Di Giorgio

Name of the organization and position: ENAV (An agency that manages the air traffic control in Italy), Radar approach controller- trainer

Experience in the field: over 20 years
CASE STUDY 6

Anna Maria Di Giorgio

How did you overcome gender prejudice at education and/or work placement?
By proving that I have the same or better qualities and skills as others.

What is your current job and responsibilities?
Air traffic controller, organise the flow and separate the air traffic that’s arriving and departing.

What is your most important achievement up to date?
That I have succeeded in my job.

How did you decide to study aeronautic?
To get the pilot license.

What was your first working experience in the field?
Touristic aircraft flights with ENAV

Which qualities do you think helped you to become successful?
Being mentally flexible and open minded.

Do you think there is such a thing as men and women job?
No.

Do you think there are more obstacles/barriers for women to be successful in the aeronautic field than in other engineering fields?
No.

Why do you think women should choose this field of studies?
The work of air traffic controller can be combined with a family life.

Have you ever been or felt discriminated at work place for being a woman?
In the beginning it was difficult, while throughout the years, it became better.

» What is discrimination in employment and occupation in your eyes?
It’s more verbal discrimination and it’s expressed in the relations among the colleagues.

1 «Any distinction, exclusion or preference made on the basis of race, colour, sex, religion, political opinion, national extraction, social origin, which has the effect of nullifying or impairing equality of opportunity and treatment in employment and occupation» (art. 1 ILO Convention No.111).
How did you overcome gender prejudice at education and/or work placement? By proving that I have the same or better qualities and skills as others.

How would you describe the existing situation regarding female participation in scientific studies and the AI in your country/culture? Did you notice any relevant changes during the past years? The female air traffic controllers over the last decade have increased significantly.

Please, identify existing reasons and possible causes for the low female interest in scientific studies and participation in the AI particularly in your region/country/culture? Cultural limitations, low information on the working environments in the field that are thought to be discriminative against women.

According to your experience, what is needed to enhance collaboration among academia and industry, so that academia can better address the needs of industry and both can contribute to better gender balance by increasing the participation of female students/workers? Awareness raising through face-to-face meeting, conferences, seminars.

Do you think that projects like IN2SAI can have a real impact on female studies choice on a long-term perspective? Why and how? What should we definitely keep in mind to be successful while addressing our main target group? Yes.

What could/should be done to raise awareness among the general community of the opportunities for female participation in scientific studies and AI? Create a contact between students and academics with employers in order to understand the life of the company and work environment.

Finally, why do you think women should be more involved in the field? Women make the working environment more friendly.
Zaira Reale

Name and Surname: Zaira Reale

Name of the organization and position: SELEX ES SPA, Human Resource Manager for the sites of Palermo and Catania, Italy.

Experience in the field: 15 years

University degree: Work and Organisations Psychology
CASE STUDY 7

Zaira Reale

“...why do you think women should be more involved in the field?”
Because the field can be enriched by the originality and creativity of the female approach to the knowledge.

What is your current job and responsibilities?
Human Resource Manager for the sites of Palermo and Catania, Italy.

What was your first working experience in the field?
My first work experience was working for a company that operates in the field of electronics for the defence, also in the field of Human Resources: selection and recruitment of staff. The first experience was the starting point for the following work experiences as have led to a significant growth until the current role through acquisition of business analysis skills, talent enhancement, training skills and personnel management. This experience has enriched my “technical” competencies (legislative knowledge, trade unions, etc.) but most of all the “human” skills.

Which qualities do you think helped you to become successful?
Determination, communication and interpersonal skills, negotiation skills and leadership.

Do you think there is such a thing as men and women job?
I think that there are certain predisposition (also of physical nature) for men and women job but it doesn’t apply for the business office or companies type of jobs.

Do you think there are more obstacles/barriers for women to be successful in the aeronautic field than in other engineering fields?
The companies (I mean those of high international standing) offer the same opportunities to men and women. The ability to succeed is independent of gender.

Why do you think women should choose this field of studies?
Because it’s a very varying field which
gives you an opportunity to diversify and enrich professional and personal competences.

What is discrimination in employment and occupation\textsuperscript{1} in your eyes? To think, that a woman is not capable of doing it. A discriminatory attitude in the workplace is what actually prevents someone to express their full capacity / potential for reasons not directly related to the activities carried out (but just for diversity of gender, race, politics, religion, etc.)

How did you overcome gender prejudice at education and/or work placement? In reference to my experience I cannot comment on the existence of discriminatory attitudes in education field. At work I have never encountered such attitudes and I believe that discrimination cannot be applied to the top class companies whose goal is to attract talent and strive for competence (everything is independent from discrimination above).

How would you describe the existing situation regarding female participation in scientific studies and the AI in your country/culture? Did you notice any relevant changes during the past years? Over the past decade there has been a significant increase of the percentage of women in corporate areas of engineering, including areas of the design of electronic devices; a particularly high number of women is observable in the areas of software design. This progression of women in the areas of engineering business is consistent with the increase of women in university faculties of engineering (eg Roma).

Please, identify existing reasons and possible causes for the low female interest in scientific studies and participation in the AI particularly in your region/country/culture? Apart from the obstacles of an economic nature, which are transverse to both men and women, it is possible, however, that interest in electronics / aeronautics may vary according to the male and female nature. A feature of the electronics / aviation is to be a discipline with a strong theoretical basis (like mathematics or physics), but with an equally strong applicative and technological relapse (or expectation); This “broad spectrum” ranging from

\textsuperscript{1} “Any distinction, exclusion or preference made on the basis of race, colour, sex, religion, political opinion, national extraction, social origin, which has the effect of nullifying or impairing equality of opportunity and treatment in employment and occupation” (art. 1 ILO Convention No.111).
cultural theory to technology, which is inseparable in the engineering can find different areas of interest in the female and male personality.

According to your experience, what is needed to enhance collaboration among academia and industry, so that academia can better address the needs of industry and both can contribute to better gender balance by increasing the participation of female students/workers?

Companies today have a need for competence, and whether this is possessed by a man or a woman does not matter. To keep the attention focused on the competences rather than on the difference between the sexes, it can be very useful to increase the collaboration between companies and universities through internships, thesis development with company representatives and other forms of scientific collaboration between companies and universities.

Are you aware about any promotional activity developed by public and/or private institution to stimulate female participation in science studies? Please, explain further.

Private companies promote training activities of its employees, both men and women, based on specific internal needs. This type of training, on higher level, often occurs through enrolment in Master degree education or internships. Public institutions, however, should have in their facilities, the company representatives who perform the function of “permanent observers” of the region’s needs (requirements which may be unknown to the individual company).

Do you think that projects like IN2SAI can have a real impact on female studies choice on a long-term perspective? Why and how? What should we definitely keep in mind to be successful while addressing our main target group?

The project IN2SAI responds certainly to the need of increasing the presence of women in the field of scientific academic studies. To enhance greater presence in the scientific careers, however, it is to increase the opportunities for interaction and knowledge with the Company.

What could/should be done to raise awareness among the general community of the opportunities for female participation in scientific studies and AI?

To increase the involvement in a particular area or sector, it fundamental to have a good knowledge of that area or sector. It would therefore be desirable for
the university, to hold on systematic basis, seminars taught by the industry representatives (specific areas of design/study/analysis/engineering) presenting the activities of the area; these seminars should include time for the “question and answer”.

Are you aware of existing initiatives that aim to attract/engage female students in engineering?
Corporate initiatives most frequently are represented by study tours of school groups in the company. In schools, however, it can be very useful to increase the opportunities for contact between students in their last year of secondary school and the students of the first/second year of the Faculty of Engineering; particularly with college students coming from the same school to present the experience of newly graduates to the future graduates; the common experience can greatly facilitate the sharing of experience and clarity of information.

Do you think that improvements and advances in Information and Communication Technologies (ICT) (e.g. e-work, work at home, better connectivity, etc.) have had a direct effect on an increment of women working in the aeronautical/aerospace industry?

The tools that enhance communication may have some positive impact only when the choice of the career has already been done and when the business contexts permits.

What would you suggest to be done to increase female participation in the aeronautical/aerospace industry?
It would be useful in high schools (before the last year) to present different plans to study electronical engineering/aeronautics, their particularities and career opportunities, to increase visits to companies that produce electronic equipment/aeronautical complexes. This applies equally to men and women.

Finally, why do you think women should be more involved in the field?
Because the field can be enriched by the originality and creativity of the female approach to the knowledge.
GERMANY
Romy Wilczek

Name and Surname: 
Romy Wilczek

Name of the organization and position: 
Fraport AG Head of Airside Operations, Deputy Chief Airport Operations

Experience in the field: 
- Experience for more than 14 years in Airport Management: 
  - Managing Director Frankfurt Apron Control 
  - Deputy Chief Airport Operations 
  - Head of Airside Operations (incl. Resource Management, Follow-Me Services, Operational Planning, Apron Control) 
  - Responsible for construction of 2 new apron control towers at Frankfurt Airport (incl. development of new technical equipment and operational procedures and their operation) 
  - Airport Operations Department is responsible for developing new remote apron procedures and new controller working positions together with the authority

University degree: 
Dipl.-Ing.
CASE STUDY 8

Romy Wilczek

“Women should choose the field they want to choose, doesn’t matter if it is engineering or being a supermodel…”

What is your current job and responsibilities?
Deputy Chief Airport Operations/Head of Airside Operations (incl. Resource Management, Follow-Me Services, Operational Planning, Apron Control). Airport Operations Department is responsible for developing new remote apron procedures and new controller working positions together with the authority.

What is your most important achievement up to date?
Becoming Deputy Chief of Airport Operations of Frankfurt Airport, one of Europe’s biggest hubs.

How did you decide to study aeronautic?
Due to my family environment I was always interested in Aviation Industry. I was looking for the possibility of studying air traffic engineering.
I was always interested in science, so it was not a big deal to choose such subject.

What was your first working experience in the field?
I started working for German Air Navigation Service Provider during my master thesis. This experience gave me a different point of view. I decided to either work for an ANSP or an aerodrome than other aviation industry.

Which qualities do you think helped you to become successful?
Strong willed, interested in science, being straight forward, but most important: have fun with your job.

Do you think there is such a thing as men and women job?
I don’t think a lot about the differences between man and women, I do my job equal and I get paid equal, but I watch out that my environment has the same view on this matter.

Do you think there are more obstacles/barriers for women to be successful in the aeronautic field than in other engineering fields?
Not at all.
Why do you think women should choose this field of studies?
Women should choose the field they want to choose, doesn’t matter if it is engineering or being a supermodel.

Have you ever been or felt discriminated while studying at your Higher Education Institution for being a woman?
Not at all.

Have you ever been or felt discriminated at work place for being a woman?
Once in the very beginning.
» What is discrimination in employment and occupation1 in your eyes?
To threat people different because of their gender, skin color, religion etc.

How did you overcome gender prejudice at education and/or work placement?
Being straight forward.

How would you describe the existing situation regarding female participation in scientific studies and the AI in your country/culture? Did you notice any relevant changes during the past years?
I was born in former GDR, so I noticed a relevant change in gender prejudice between my childhood (where a woman could become everything) and now. But last but not least I think, in my culture a woman can become everything she wants.

According to your experience, what is needed to enhance collaboration among academia and industry, so that academia can better address the needs of industry and both can contribute to better gender balance by increasing the participation of female students/workers?
It doesn’t matter which field, but in my observation a lot of women stop their careers for founding a family. So I think there must be more support, that women can be a mom and having a career.

Are you aware about any promotional activity developed by public and/or private institution to stimulate female participation in science studies? Please, explain further.
Girl’s Day, Mentoring Program

What could/should be done to raise awareness among the general community of the opportunities for female participation in scientific studies and AI?
Being interesting for woman.

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1 «Any distinction, exclusion or preference made on the basis of race, colour, sex, religion, political opinion, national extraction, social origin, which has the effect of nullifying or impairing equality of opportunity and treatment in employment and occupation» (art. 1 ILO Convention No.111).
Ulrike Stoll

Name and Surname: Ulrike Stoll

Name of the organization and position: Rolls-Royce Deutschland Ltd. &Co KG, Life Cycle Engineer

Experience in the field: 2 years

University degree: Diploma in Transport Engineering
What is your current job and responsibilities?
Life Cycle Engineer. I assess specific design solutions/architectures to evaluate their impact on safety and reliability. I develop and deploy statistical models to perform safety numerical risk assessments and engine reliability predictions. Additionally, I develop improvements in tools, methods and processes.

What is your most important achievement up to date?
My colleagues trust and rely on me. I was appointed as the focal point for the corporate fleets.

How did you decide to study aeronautic?
I am always fascinated when I see an aircraft flying in the sky. I wanted to be part of the team that makes this happen. My favourite school lessons were maths, physics and informatics and I wanted to study something where I could combine all these subjects.

What was your first working experience in the field?
I did a 5-month internship at Airbus in the system safety department in Hamburg. During this internship, I wrote a Functional Hazard Assessment for a fuel cell system and got interested in safety. This internship was the reason for my application for safety related jobs after finishing my studies.

Which qualities do you think helped you to become successful?
I am very good in self-motivation, maths and systems thinking.

Do you think there is such a thing as men and women job?
No. Women and men just use different approaches to perform a task.

Do you think there are more obstacles/barriers for women to be successful

in the aeronautic field than in other engineering fields?
No, the obstacles are similar.

Why do you think women should choose this field of studies?
It is great fun. There are lots of job opportunities, because it is a very broad field of studies.

Have you ever been or felt discriminated while studying at your Higher Education Institution for being a woman?
Well. During the physics practical seminar, I had the feeling that I was not taken seriously by some trainers until I asked some specific questions and showed my first results. My informatics school teacher had the opinion that women can't write codes.

Have you ever been or felt discriminated at work place for being a woman?
No.

How would you describe the existing situation regarding female participation in scientific studies and the AI in your country/culture? Did you notice any relevant changes during the past years?
There is an improving trend. All big companies are focused on diversity. The smaller ones might not be there yet.

Please, identify existing reasons and possible causes for the low female interest in scientific studies and participation in the AI particularly in your region/country/culture?
The media still shows the traditional roles, e.g. jobs of the actors. There are not enough role models for young woman. There are specific products for boys and girls reflect the traditional roles (e.g. shirts with cars for boys and shirts with horses for girls).

According to your experience, what is needed to enhance collaboration among academia and industry, so that academia can better address the needs of industry and both can contribute to better gender balance by increasing the participation of female students/workers?
Corporations between academia and industry, e.g. student projects, arrangement of internships / working students and improving the feedback culture.

Are you aware about any promotional activity developed by public and/or private institution to stimulate female participation in science studies? Please, explain further.
Workshops Try it! and Talent Take Off of the Femtec, Girls Macht Mi(n)t!, Girls Day.
Do you think that projects like IN2SAI can have a real impact on female studies choice on a long-term perspective? Why and how? What should we definitely keep in mind to be successful while addressing our main target group?

Yes. This project raises awareness for the need to increase the amount of women in technical subjects.

Are you aware of existing initiatives that aim to attract/engage female students in engineering?

Girls macht MI(N)T!

Do you think that improvements and advances in Information and Communication Technologies (ICT) (e.g. e-work, work at home, better connectivity, etc.) have had a direct effect on an increment of women working in the aeronautical/aerospace industry?

It gives women (and men) more flexibility in terms of work/life/family compatibility, but this is not specific to the aeronautical / aerospace technology.

What would you suggest to be done to increase female participation in the aeronautical/aerospace industry?

Role models, development of female leaders with children, part-time leadership

Finally, why do you think women should be more involved in the field?

Women have great and innovative ideas. This potential should not be unused.
THE NETHERLANDS
Catherine Eeckels

Name and Surname:
Catherine Eeckels

Name of the organization and position:
Fokker Aerostructures B.V

Experience in the field:
MATLAB, CATIA, Aviation, LaTeX, Concept development, Aerodynamics Aircraft Design, Composites, Aerospace engineering

University degree:
M.Sc. Aerospace Engineering - Systems Engineering and Aircraft Design
CASE STUDY 10

Catherine Eeckels

“...there is a need for more women in aviation. They can have a different input within the engineering industry that can become helpful...”

**What is your current job?**
Design Engineer trainee at Fokker Aerostructures B.V. A two year program with extensive training of both hard and soft skills and Participation in different projects and departments.

**Projects:** Airbus A350XWB Outboard flap and Gulfstream GVI.

**What is your important achievement?:** Putting something together that is being used.

**How did you decide to study aeronautic?**
I’ve always been interested in aircrafts and after high school I straight away like to take on this study, not knowing exactly what I wanted to become.

**What was your first working experience in the field?**

**Which qualities do you think helped you to become successful?**
Being proactive at my work, not being afraid to give your opinion and also definitely not afraid to ask questions.

**Do you think there are more obstacles/barriers for women to be successful in the aeronautic field than in other engineering fields?**
No, if you are enthusiastic about your study then you will most likely succeed in your goals. In addition, women are more and more wanted at companies.

**Why do you think women should choose this field of studies?**
They should choose this field of studies if they like it and are interested in
these studies. Everyone should strive for a career that makes them happy, when possible.

Have you ever been or felt discriminated at work place for being a woman?
No, I’ve always been accepted

How did you overcome gender prejudice at education and/or work placement?
I did not need to overcome any, I was well able to show my skills. I’ve even attained a lot of confidence in using my skills.

How would you describe the existing situation regarding female participation in scientific studies and the AI in your country/culture? Did you notice any relevant changes during the past years?
I’ve noticed that (especially) international companies are striving for more females in engineering positions to get a better gender balance. Not only increasing the number of employees of a different culture.

Please, identify existing reasons and possible cases for low female interest in scientific studies and participation in the AI particularly in your region/country/culture?
Females are less attracted to beta studies for starters. I think they are afraid to be working with a lot of men. I actually prefer working with them. When I work with more females my work can be performed less sufficient. More problems and issues arise at the work floor which men can put aside.

According to your experience, what’s needed to enhance collaboration among academia and the industry, so that academia can better address the needs of industry and both can contribute to better gender balance by increasing the participation of female students/workers?
I think that more female students should be hired at aviation companies to do an internship, so that they can show their working skills. Companies will then see themselves how well women perform in the aviation industry. Female projects at the aerospace university could become open the public.

Are you aware about any promotional activity developed by public and/or private institution to simulate female participation in science studies?
Yes I’ve heard from the “Woman with Wings” student association promotional activities. The females working there have been in contact with me for arranging special open days at Fokker.
Do you think that projects like IN2SAI can have a real impact on female studies choice on a long-term perspective? Why and how? What should we definitely keep in mind to be successful while addressing our main target group?

I think that this project will create more awareness. On the long-term awareness always results into activities to take place.

What could/should be done to raise awareness among the general community of the opportunities for female participation in scientific studies and AI?

That there is a need for more women in aviation. They can have a different input within the engineering industry that can become helpful.

Are you aware of existing initiatives that aim to attract/engage female students in engineering?

Yes, I’m now aware of the IN2SAI and the “Woman with Wings” student association initiatives.

Do you think that improvements and advances in Information and Communication Technologies (ICT) (e.g. e-work, work at home, better connectivity, etc.) have had a direct effect on an increment of women working in the aeronautical/aerospace industry?

I think it does, because most women need thus type of support when they have children at home.

What would you suggest to be done to increase female participation in the aeronautical/aerospace industry?

I think that females need to get a better picture on what working environment they can get into.

Finally, why do you think women should be more involved in the field?

They can help in getting a different perspective in this field of industry. I’ve had a situation in which in which my opinion had a good influence and was very well helpful. I think other women will also have this.
Hester Bijl

Name and Surname:
Hester Bijl

Name of the organization and position:
• Dean of the Faculty of Aerospace Engineering, Delft University of Technology
• Member of the Supervisory Board of ECN, The Dutch National Energy Research Centre
• Full professor of Computational Aerodynamics, Delft University of Technology, Faculty of Aerospace Engineering

Experience in the field:
• Director of the Delft Energy Initiative, Delft University of Technology
• Department head of the Aerospace Faculty’s Department of Aerodynamics, Wind Energy, Flight Performance and Propulsion
• Visiting scientist, NASA Langley, Hampton VA, USA
  Senior associate, The Boston Consulting Group, Amsterdam

University degree:
Ph.D., Computational Fluid Dynamics, Delft University of Technology
What is your most important achievement up to date?

- Antoni van Leeuwenhoek full professorship - personal research chair for top scientists awarded by TU Delft, March 2006.
- Member of the first board and selection of the Young Academy of the Dutch Royal Academy of Sciences (KNAW).
- VIDI personal innovation grant (600,000 euros) awarded by the NWO (Dutch National Science Foundation) in 2004.
- Aspasia personal grant (200,000 euros and promotion to associate professor) awarded in 2002 by NWO/STW. Youngest of the year. 40 out of 140 were awarded. (Aspasia provides grants to help more female scientists progress to associate and full professorships.)

How did you decide to study aeronautic?

I never studied aeronautics, but I did end up there. I started out in applied mathematics. I have always loved to solve problems, and the field of aerospace is truly challenging. In mathematics, I would develop models, and then look for how they might be used (like having a hammer and looking for a nail). Within aeronautics, you start with the problem and then build a model to solve it. Furthermore, in math, you usually work with few degrees of freedom. In aerospace, in my field you are typically faced with millions of degrees of freedom. These are the things that attracted me. In fact, my whole background fits with aeronautics. I worked on fluid dynamics models, and aerospace was one of my cases. I love the challenge in aerospace.

What was your first working experience in the field?

I performed research on development and application of algorithms to solve unsteady flows and aero-elastic problems. This made me more convinced of my choice for aerospace.

Why do you think women should be more involved in the field?

Yes, for two reasons. First, without women, we miss half of our talent. And women have talent....Second, we want to have diverse teams. Different types of persons bring different perspectives to a problem.”

CASE STUDY 11

Hester Bijl

“Why do you think women should be more involved in the field?
Yes, for two reasons. First, without women, we miss half of our talent. And women have talent....Second, we want to have diverse teams. Different types of persons bring different perspectives to a problem.”
Which qualities do you think helped you to become successful?
- Drive/enthusiasm/energy
- Results oriented
- Love to work in a team

Do you think there is such a thing as men and women job?
Definitely not.

Do you think there are more obstacles/barriers for women to be successful in the aeronautic field than in other engineering fields?
No. The biggest obstacle may be themselves.

Why do you think women should choose this field of studies?
They should choose it if they like it.

Have you ever been or felt discriminated while studying at your Higher Education Institution for being a woman?
No.

Have you ever been or felt discriminated at work place for being a woman?
No. There are pros and cons being a woman in a male dominated engineering environment. A pro is that more people know you, as you are more of an exception. The con might be that people do not automatically think of you for the job, as they are used to work with men. This means you have to help them now and then by suggesting you think you can do it.

How would you describe the existing situation regarding female participation in scientific studies and the AI in your country/culture? Did you notice any relevant changes during the past years?
It is a pity that such a small number of women choose to follow these types of studies. But, the situation is gradually changing. We have seen increases in the percentage of women entering our faculty in the last few years.

Please, identify existing reasons and possible causes for the low female interest in scientific studies and participation in the AI particularly in your region/country/culture?
I don’t really know. Perhaps it is something inside our culture.

Are you aware about any promotional activity developed by public and/or private institution to stimulate female participation in science studies? Please, explain further.
I do know about VHTO (the Dutch National Expert Organisation on Girls/ Women and Science/ Technology), and have met its director, Cocky Booy.
Do you think that projects like IN2SAI can have a real impact on female studies choice on a long-term perspective? Why and how? What should we definitely keep in mind to be successful while addressing our main target group?

I believe in role models, not external campaigns. For external campaigns to be successful they should not be nagging about getting more women and emphasizing the problems that women face, but should be positive. They should show the challenges, and that success is possible. They should also stress the ability to address societal problems, which would be attractive to women. These positive messages can make a difference.

Are you aware of existing initiatives that aim to attract/engage female students in engineering?

There is a student society within the Aerospace Faculty at TU Delft that includes a committee that focuses on women's activities. The committee is called "Women With Wings".

Do you think that improvements and advances in Information and Communication Technologies (ICT) (e.g. e-work, work at home, better connectivity, etc.) have had a direct effect on an increment of women working in the aeronautical/aerospace industry?

I think it might help. It can provide flexibility, and the opportunity for a woman to combine her life at home with her job.

What would you suggest to be done to increase female participation in the aeronautical/aerospace industry?

Two things are needed within an organization. First, there is a need to be explicitly aware that there is a problem and a desire to do something about it. Second, there is a need for positive programs to address the problem. Within the Aerospace Faculty there is a program to stimulate female students to get funding for a Ph.D. There is also a TU Delft program (the Delft Technology Fellowship program) that is available only to highly qualified females. And the Dutch National Science Foundation has a program for women (Aspasia), which provides grants to help more female scientists progress to associate and full professorships. (I, myself received one of these grants.)

Finally, why do you think women should be more involved in the field?

Yes, for two reasons. First, without women, we miss half of our talent. And women have talent. In our faculty, the average female student performs better than the average male student.
They have higher grades, and finish their studies faster. (Perhaps this is due to self-selection – with only the best applying for admission.) Second, we want to have diverse teams. Different types of persons bring different perspectives to a problem. This applies not only to gender differences, but different nationalities. In our faculty, we have students from a large number of countries. Diversity is good.
Marja Eijkman

Name and Surname: Marja Eijkman

Name of the organization and position: NLR (Netherlands Aerospace Laboratory), Division Manager Air Transport (150 employees)

Experience in the field:
- Managing Director, PAUW (SME, Manufacturing and Service Industry)
- Manager Operations, Sun Test Systems (SME, high tech design and manufacturing industry)
- Head of Production, Fokker Aircraft
- Manager Logistics, Engineering and Marketing, Fokker Aircraft

University degree: MSc, Aerospace Engineering
CASE STUDY 12

Marja Eijkman

“A more equal participation of men and women increases the success and stimulates more balanced decisions in organisations...”

What is your current job and responsibilities?

- Turnover and financial results,
- Knowledge development
- Developing Strategy and Policy for the Division as well as on a corporate level
- Business development

What is your most important achievement up to date?

- Culture changes in organisations
- Restructuring in organisations, tasks, responsibilities and processes
- Extension of product portfolio
- Highly professionalized logistic processes

How did you decide to study aeronautic?

Motivated by ‘how things work’ and the high standard of Aerospace Engineering Master programme.

What was your first working experience in the field?

- Internship at Fokker Aircraft
- First job: Project Engineer – development of new factory

Which qualities do you think helped you to become successful?

High ambitions and goals, perseverance, good communication skills, interest in people.

Do you think there is such a thing as men and women job?

No.

Do you think there are more obstacles/barriers for women to be successful in the aeronautic field than in other engineering fields?

No.

Why do you think women should choose this field of studies?

Being highly motivated in a high standard technical education and in aviation.
Have you ever been or felt discriminated while studying at your Higher Education Institution for being a woman? Have you ever been or felt discriminated at work place for being a woman?
No.

How would you describe the existing situation regarding female participation in scientific studies and the AI in your country/culture? Did you notice any relevant changes during the past years?
Number of women is relatively low compared to other countries. The number is slightly increasing over the years.

According to your experience, what is needed to enhance collaboration among academia and industry, so that academia can better address the needs of industry and both can contribute to better gender balance by increasing the participation of female students/workers?
Internships and graduation always to be performed in industry.

Do you think that projects like IN2SAI can have a real impact on female studies choice on a long-term perspective? Why and how? What should we definitely keep in mind to be successful while addressing our main target group?
Depends on the scope and contents of the project, I have too limited information to have an opinion

What could/should be done to raise awareness among the general community of the opportunities for female participation in scientific studies and AI?
More focus on female students in all external communications.

Do you think that improvements and advances in Information and Communication Technologies (ICT) (e.g. e-work, work at home, better connectivity, etc.) have had a direct effect on an increment of women working in the aeronautical/aerospace industry?
Only a small effect.

Finally, why do you think women should be more involved in the field?
A more equal participation of men and women increases the success and stimulates more balanced decisions in organisations.
PORTUGAL
Marcia Carvalho

Name and Surname: Marcia Carvalho

Name of the organization and position: LAUAK Portuguesa-Indústria Aeronáutica Lda. Head of welding unit

University degree: Degree in Environmental Engineering and post-graduation in Health and Safety at Work.
What is your current job and responsibilities?
At the current moment I’m head of welding unit. I’m responsible for the organization, management and optimization of the production. For instance, I’ve to make sure that a product is developed at least in the budgeted timeframe or try to optimize the development process in order to produce it faster, becoming more profitable to the company. Moreover, all the tasks that are related with production are of my responsibility, such as consumables, training of operational staff, in our specific case welders need to have specific certification which is provided by me and the French Welding Institute. I’ve a degree in Environmental Engineering and I’ve a post-graduation in Health and Safety at Work. I’d the opportunity to work in a Portuguese company, from Lisbon, in Noise and Acoustics, but always had a connection with the Polytechnic School Institute, where I’ve made several works in the field of noise measurement and assessment, among others, to the Portuguese Air Force. After that I’ve participated in the construction of the Air Force flight simulator to Sintra, named EPSLON where I’ve met LAUAK and got the opportunity and took the chance to work here. I’ve been working here for 4 and a half years.

How did you decide to study aeronautic?
I’ve always been fascinated by engineering, to touch, to do, to create and build something constructive, with some kind of value, for this reason I’ve decided to choose engineering, then, as I’ve always been passionate for the military field and aviation, I believe this was an opportunity that I couldn’t throw away. In this job I can conciliate both things, the construction and creation areas that I much appreciate and engineering as itself.

“I realize that especially women when they see that there are other women working and that they are not alone, they start thinking “I can do it as well!” , being aware that there are more women “from the minority” gives them a strength and impulse...”

Marcia Carvalho

CASE STUDY 13
What was your first working experience in the field?
I’ve worked for nine months in a noise company, where we worked in dimensioning acoustic accumulators for industries, but it was a small company, with a small number of working staff, that cannot be compared with the solid structure we have here.

Which qualities do you think helped you to become successful?
Mainly proactivity and the willingness to always want to learn and to know more. I believe these qualities together with the fact that I’m always observing and paying attention to everything, wanting to learn how things are done, have conducted me to where I am now and I expect to move even further. I always had the ambition to learn more and more.

Do you think there are more obstacles/barriers for women to be successful in the aeronautic field than in other engineering fields?
In terms of obstacles I do not think so, if we show how good we are, we can achieve anything, however I noticed that it is a bit more complicated to be taken seriously. Although for what I’ve been observing in this company, all the women that are working here have also shown to have “iron hand”. They are how we use to say “iron ladies”. It is extremely complicated to be between our boss that is a man and the 20 men that I’m coordinating. It´s not easy, they are always trying to discover our weaknesses.

Why do you think women should choose this field of studies?
I think that we as women are more methodical, more organized, complying with the rules. I believe that this is an area, like I use to say, is like studying mathematics, is rewarding. When we finish an exercise we immediately recognize if the exercise was correct or wrong. Here is more or less the same situation in the engineering field everything has a clear goal and as we are very organized we can easily achieve it. Therefore I believe if someone wants to do something in life where they can
easily see the product of their work, I believe that engineering is the right occupation.

**What is discrimination in employment and occupation in your eyes?**

Here in LAUAK we have the same opportunities; either as a man or women. In what concerns to the behaviour we can notice some differences, especially some constraints at the level of the leadership when they (men) want to say something to us, some less positive comments, maybe they (men) use to feel more inhibited in the way they speak to us, apart from that, we don’t feel any discrimination.

**Have you ever been or felt discriminated while studying at your Higher Education Institution for being a woman?**

No, I don’t think so. But when we analyse the Universities, in the engineering courses, in a group of 40 persons only 10 are women. There is a higher connection among men, also because they are in a larger number. I don’t see it as discrimination, but as a group being bigger than the other. Thus, I believe it is a question of us (women) being in a smaller number, a minority.

**How would you describe the existing situation regarding female participation in scientific studies and the AI in your country/culture? Did you notice any relevant changes during the past years?**

I see it always with good eyes. Although we are in the 21st century there is still some kind of stereotype so it is important to get out of the box and show our abilities and competences. Even in terms of occupations, we use to see that there were courses and occupations for men and for women and now I’m pleased to see that this separation is vaguer and that is disappearing, everyone can choose and accomplish whatever they are pleased to do. At least this is my perception, as we still have some relations with the University, when I started studying engineering, in my University we had only one woman attending informatics engineering now we have more women participating, although is not yet 50/50, the number is increasing. More women are getting graduation in this field and they have chosen it because they like it and they believe that they can have a career on the field, despite it is labelled to be a man occupation or course. They feel that they can have the same or even better performance than men.
According to your experience, what is needed to enhance collaboration among academia and industry, so that academia can better address the needs of industry and both can contribute to better gender balance by increasing the participation of female students/workers?

The internships are really important. Although it is hard for us to accept it, when we leave the University, we don’t know how to do anything, the University only teaches us how to think, to have the common grounds and a good training that is extremely important to our future. The labour world is completely different from what we have learned in the University, it would be extremely important that teachers from Polytechnic could have some training on the business sector in order to be able to explain us for instance, “this is A+B but it is important because we are going to use it in this and that situation in the future...” It is really important for us to see the real implications of what we are studying. A connection with the business sector is fundamental, either as a curricular internship, or even during the training to have some interactivity with the companies being in touch with the real world and to realize where to apply what we have learned till the moment. I believe that is even more stimulating for our studies, instead of relying only in studying we could see the real applicability and effects of our studies.

Do you think that projects like IN2SAI can have a real impact on female studies choice on a long-term perspective? Why and how? What should we definitely keep in mind to be successful while addressing our main target group?

Yes, I agree. Here in our company we organize internships and visits in partnership with the employment and vocational training office, they have some technical vocational trainings and organize visits. I realize that especially women when they see that there are other women working and that they are not alone, they start thinking “I can do it as well!”, being aware that there are more women “from the minority” gives them a strength and impulse. And I’ve noticed that we have a lot of women that have apply to this company because they know that they are not alone. Passing this information to other people is extremely important and will increase the number of women participation in our side.
What could/should be done to raise awareness among the general community of the opportunities for female participation in scientific studies and AI?

Good question. I don’t know, nowadays I look to the society and get really depressed. I don’t consider myself as an “old” person, I have only 32 years old, but I observe 20 years old persons without any kind of ambition, it’s really hard for me, I’ve never thought to stay at home watching TV, playing videogames, I always wanted to do something of my life. I don’t know how to reach people nowadays, I believe that we use to have some life ambitions in the past and now...Of course it is my personal perspective, I’m a bit demotivated with the society, not everybody is like that.

That willingness has to come from the inner side, we can have all kind of initiatives, but if there is no interest or proactivity they will not be effective.

The main difficulty is to change mentalities and motivate persons and to stimulate them to leave the couch and start looking, then these initiatives, visits and activities are important and helpful to get to know other persons that are facing the same problems, the problem is to take them out of the couch.
Joana Palmeiro

Name and Surname: Joana Palmeiro

Name of the organization and position: TAP M&E (Maintenance & Engineering)

University degree: Master Degree in Aerospace Engineering
What is your current job and responsibilities?

My area of activity is power plant engineering in TAP M&E (Maintenance & Engineering) in Portugal. The main responsibility in my position is to ensure the implementation and execution of all actions and activities related with the assembling of the aircraft engine while the engine is at the maintenance and repair shop, where all engineering processes take place. This area comprises activities such as analysis of documentation including the control of modifications implemented in the engine, i.e. air-navigability and mobility of engines, and also management of documentation of remittances and acquisition/purchase of tools. In general my department is in charge of everything related with ATAs 70-79 of the engine. The department includes seven persons, two of which were recently hired, I am the only woman.

Can you briefly describe your path since your studies until you have achieved this position?

As far as my educational background is concerned, I have mainly studied in official schools. I attended a female military school from the 10th to 12th grades when I applied to the Air Force Academy. My application was refused so I attended the Instituto Superior Técnico (IST – of the University of Lisbon) to study aerospace engineering and carried out a Master’s degree in Aerospace engineering.

How did you decide to study aeronautic?

A friend of the family was a pilot in the Air Force. I remember our conversations when I was 15 years old; he always showed a lot of enthusiasm for that profession. Being a pilot in the Air Force he started through a military career like I intended to. In my case...
afterwards I moved to aerospacial engineering. Therefore, my motivation to study aeronautics came first from the enthusiasm about the field, but also from the enthusiasm and interest in mathematics, physics, new technologies and the development of new technologies in this area. This was the starting point for me to embark in the field of aeronautics.

What was your first working experience in the field?
My first working experience was an academic internship at TAP, promoted by a partnership between the (IST) Instituto Superior Tecnico and TAP Portugal. This academic internship in TAP was linked to my master degree related with flight data management so it was not only an academic internship but also a professional experience.

Which qualities do you think helped you to become successful?
In my opinion, the main qualities might be the persistency and dedication to the job, the hard work and effort not only at professional level but also during the academic internship. But also, the enthusiasm in this area and enjoying the job might have had influence in achieving this position. I think it is very important to have passion for what you are doing and I have that passion.

Do you think there is such a thing as men and women job?
Probably, the only limit that might exist between men and women in the Aeronautic Industry can be related with jobs that require major physical strength, because yes! there are jobs in the aeronautic field that require physical strength. So, I would say that those types of jobs could be more appealing for men than for women for that reason. However, despite this, I don’t think it is an obstacle or a barrier for women. In fact, from my experience of working in an engine shop I have direct contact with tasks that require physical efforts, our technicians are mostly men but there are also women. Thus, the tasks that require physical efforts could be more indicated for men than for women, for obvious reasons, but this is not absolute.

Do you think there are more obstacles/barriers for women to be successful in the aeronautic field than in other engineering fields?
Personally, as a woman, in my area within the aeronautic field I have never found any obstacles. I think
it is a matter of gaining respect and creating awareness that I, as a woman, can carry out the same functions like a man does.
I think that it also requires a little bit of luck with the people you work with and the level of dedication in the task carried out, but I don´t think we should see things as obstacles. However, in practical terms there exists a “war of the sexes” (to some extent or another) in any area of activity, but I do not think we should see any situation as having obstacles, instead certain areas might require more dedication or more work from women, but we shouldn´t see it as an obstacle.
Women in this area need to have a constant effort on gaining respect and make sure that our work is valued.

**Why do you think women should choose this field of studies?**
I think that women have a unique capacity for perceiving problems. This is a very dynamic field, thus our “sixth sense” (if it exists or not) gives us a special capacity for attention to detail, to practical sense of things or to the results to achieve. We can have a more practical perception for getting to the results or objectives. These qualities usually come naturally to women.

**What is discrimination in employment and occupation in your eyes?**
In my opinion, discrimination not only comprises differences in gender, but also tackles racial and religious differences and even intellectual differences or divergences in ideas, i.e. I can have an idea which is different from another person and be discriminated only because of having a different idea. Considering the professional landscape, I think sometimes there is discrimination to women concerning differences in salaries, career progression and opportunities, and distribution of projects. In addition, women have also the pressure of the pregnancy which can be a cause for discrimination for some women.

In my personal case, I have not suffered any discrimination during my professional career here at TAP, but I cannot say that discrimination does not exist in Portugal.

**Have you ever been or felt discriminated while studying at your Higher Education Institution for being a woman?**
In my opinion, discrimination not only comprises differences in gender, but also tackles racial and religious differences and even intellectual differences or divergences in ideas, i.e. I can have an idea which is
different from another person and be discriminated only because of having a different idea. Considering the professional landscape, I think sometimes there is discrimination to women concerning differences in salaries, career progression and opportunities, and distribution of projects. In addition, women have also the pressure of the pregnancy which can be a cause for discrimination for some women. 

In my personal case, I have not suffered any discrimination during my professional career here at TAP, but I cannot say that discrimination does not exist in Portugal.

How would you describe the existing situation regarding female participation in scientific studies and the AI in your country/culture? Did you notice any relevant changes during the past years?

Female participation has improved over the last years; nowadays there is an increment in female applications to aeronautic careers. In the academic year when I initiated aeroespacial engineering, there were approximately 60 vacancies with 6 girls, while in my last academic year there were slightly more women engaged in the engineering degree compared with when I entered. At least there are attempts to balance the number of women and men.

Please, identify existing reasons and possible causes for the low female interest in scientific studies and participation in the AI particularly in your region/country/culture?

I think that women have fewer predispositions towards engineering in general, independently of the area of engineering. I do not think this area is less considered, I think women have less interest for engineering in general. Many times the lack of interest leads to less predisposition to search for information. In my case, when I applied to the course I was curious and very keen to learn and know about the academic programme which I found to be quite appealing, then I realised that this was an area that I like. Sometimes, women themselves have no interest in this area because they do not search for information. When applying to a higher education degree sometimes information about certain subjects is not sought because there is no interest. Although the subject could be of interest, the name of the subject could be not very appealing or the subject could indicate a professional career completely different to the reality, what might mislead the potential student.
According to your experience, what is needed to enhance collaboration among academia and industry, so that academia can better address the needs of industry and both can contribute to better gender balance by increasing the participation of female students/workers?

I mainly speak about the Portuguese context because it is where I have experience. I think the development of initiatives in the context of social responsibility with the purpose of bringing together universities and companies will benefit from having more participation of women in this area of engineering.

In my case I carried out an academic internship resulting from the partnership established between TAP and the Instituto Superior T ecnico. This internship was very important to learn about TAP, how it worked, understand the responsibilities in this area to which I could eventually opt and to learn to what extent I could be interested in TAP as company or not. Therefore, I think the link between companies and universities is very important and I think the involvement of students in this type of initiatives should be implemented since the first year.

Initiatives such as visits of students to companies, like the ones organised under the frame of IN2SAI project, are important. During my internship I wondered about: what can I do? what are my responsibilities? what is my work about? How is the career progression, etc.? For me, the first contact with the professional context was effectively during the academic internship, it was very valuable to better understand the labour market in this area.

Are you aware about any promotional activity developed by public and/or private institution to stimulate female participation in science studies? Please, explain further.

I do not think there are specific initiatives to stimulate the participation of women in science studies, instead there are initiatives to promote engineering in the general sense.

The establishment of internship projects between the Instituto Superior Tecnico (IST) and TAP will tend to increase and not only with the IST, but also with other Universities. This type of initiatives will also contribute to demystify the aeronautical engineering even for women. As there are more and more women taking aeronautic engineering, if they also participate in the projects between companies and universities, these initiatives
will be also known for having female participation contributing so for the overall promotion of women in the aeronautic sector. Initiatives that stimulate the interest of young females, when they have to select the area of study, are very relevant.

Do you think that projects like IN2SAI can have a real impact on female studies choice on a long-term perspective? Why and how? What should we definitely keep in mind to be successful while addressing our main target group?

Yes, I think the initiatives promoted through projects like In2Sai create awareness about the aeronautic field and increase interest to this area, so
they eventually will influence the decision of young females when choosing their future career paths. This type of projects can contribute to provide information that sometimes women will not seek, but if this information is easily available to them, their interest in the subject might rise. I think that initiatives such as IN2SAI project can create awareness about topics that women might do not know that exist, or know that exist unconsciously, but women will not look for answers. These types of initiatives that provide information demystifying engineering and specifically the aeronautic engineering are quite relevant.

What would you suggest to be done to increase female participation in the aeronautical/aerospace industry? Do you have any other comments or inputs?

The only thing that I could add from my personal experience is that this is an area under significant transformations and continuous learning, so it is very enriching that we work in this area, because it provides opportunities and different type of experiences such as contact suppliers. These opportunities and experiences stimulate the passion for this industry and give also the possibility of participating in international meetings, share knowledge and experiences.

In my opinion this is an inspiring area at intellectual, professional and personal levels, so it provides numerous opportunities in comparison with other areas.”
SPAIN
Elisa Sugrañez Nevado

Name and Surname: Elisa Sugrañez Nevado

Name of the organization and position: Technical Aerospace Institute (INTA)

Experience in the field: 29 years

University degree: Degree in Aerospace Engineering
What is your current job and responsibilities?
Responsible for landing gear test.

What is your most important achievement up to date?
In technical position, I was in charge of the development of tests at national and international for aircraft landing gear in my organization.

How did you decide to study aeronautic?
I always feel passion and have been interesting for the Aeronautical environment, not only on Airplane manufacturing companies, also in Airline’s Companies and on Airport’s Control. I studied the Aeronautical University degree with my brother.

What was your first working experience in the field?
Data gathered from spacecraft. I feel engaged in the field from my first working experience, it was really interesting. It opened to me another field for investigation inside my Company. I feel really proud of the years I spent in this work.

Which qualities do you think helped you to become successful?
I was willing to learn everyday.

Do you think there is such a thing as men and women job?
No, I don't think so.

Do you think there are more obstacles/barriers for women to be successful in the aeronautic field than in other engineering fields?
Yes, I think it’s more difficult to arrive to the Aeronautical World, because historically it has been a world of men, and the women should demonstrate everyday they’re the best, with associated bigger effort than the men.

Why do you think women should choose this field of studies?
Because it can offer a lot of...
opportunities to choose; technical, research, management or a combination of both.

Have you ever been or felt discriminated while studying at your Higher Education Institution for being a woman? Have you ever been or felt discriminated at work place for being a woman?

No, I don’t feel discrimination on my work place, although is a not an easy environment, you should be the best, everyday demonstrating something.

» What is discrimination in employment and occupation in your eyes?
Lack of opportunities is from my point of view a discrimination.

How did you overcome gender prejudice at education and/or work placement?
By conviction, I never feel different for being a woman. I can do everything I want to do.

How would you describe the existing situation regarding female participation in scientific studies and the AI in your country/culture? Did you notice any relevant changes during the past years?
The situation has changed, to be women in the University is not an exception, now the number of the girls in University on scientific studies is increasing significantly every day.

Please, identify existing reasons and possible causes for the low female interest in scientific studies and participation in the AI particularly in your region/country/culture?
Stereotypes are introduced in the children from early ages. The school doesn’t help to break them.

According to your experience, what is needed to enhance collaboration among academia and industry, so that academia can better address the needs of industry and both can contribute to better gender balance by increasing the participation of female students/workers?
The industry should open his doors to the students (early ages), so they can visit their facilities to become interesting in the science life. Besides it can offer opportunities, as scholarships.

Do you think that projects like IN2SAI can have a real impact on female studies choice on a long-term perspective? Why and how? What should we definitely keep in mind to be successful while addressing our main target group?
I have not too much details of IN2SAI project, but any kind of initiative is welcome and sure will benefit a lot. Building step by step.
What could/should be done to raise awareness among the general community of the opportunities for female participation in scientific studies and AI?
The School and the University are key for developing the interest of the women and be visible to the men that the women has to be in the Scientific Community. Diversity is the best way to be success in any field of the world.

Do you think that improvements and advances in Information and Communication Technologies (ICT) (e.g. e-work, work at home, better connectivity, etc.) have had a direct effect on an increment of women working in the aeronautical/aerospace industry?
No, I don’t think so.

What would you suggest to be done to increase female participation in the aeronautical/aerospace industry?
Communication in the school, visiting laboratories.

Finally, why do you think women should be more involved in the field?
Diversity is the only way to success in any field of the life, and the Scientific world is not an exception.
Rebeca Calvo Aguilar

Name and Surname of the interviewee:
Rebeca Calvo Aguilar

Name of the organization and position:
Airbus Group. HEAD OFF PROJECT CONTROLLING/PROPOSALS (ENGINEERING CONTROLLING SPAIN)

Experience in the field:
Aeronautics, Project Management

University degree:
Senior Aeronautical Engineer
What is your current job and responsibilities?
Head of Department. Responsible for Engineering Projects controlling, in Airbus Military Aircraft Division.

How did you decide to study aeronautic?
When I was a girl always was attracted by planes and spaceships. When getting older, I really wonder about how they flight, and other aeronautical researches. Then, when it was time to go to the university and start my studies, the decision was obvious.

What was your first working experience in the field?
Working as aerodynamic designer for ITP (Industria de Turbopropulsores). It helped me to realise about the wide options of this career.

» Did this experience made you more convinced in the choice of the career?
Yes, I had the opportunity to work in the USA, what was really an extraordinary experience.

Which qualities do you think helped you to become successful?
Open mind, proactiveness, team spirit.

Do you think there is such a thing as men and women job?
I believe diversity is the best environment for working.

Do you think there are more obstacles/barriers for women to be successful in the aeronautic field than in other engineering fields?
Aeronautic field is also related with defence. This defence field is a bit more restrictive than other engineering areas.

Why do you think women should choose this field of studies?
To be honest, I believe anyone (men or women) should choose this field of studies if they are interested in the field, but knowing that they will have to work hard. Being a women is an extra challenge...”
field, but knowing that they will have to work hard. Being a women is an extra challenge.

Have you ever been or felt discriminated while studying at your Higher Education Institution for being a woman?
Not when studying.

Have you ever been or felt discriminated at work place for being a woman?
Yes.
» What is discrimination in employment and occupation¹ in your eyes?
An example. When asking for a promotion, the interviewer asked me about how I would organize my family, when travelling abroad (I have 3 children). Finally the promotion was given to a man with 4 children, and I assume he was not asked about family organization.

How did you overcome gender prejudice at education and/or work placement?
Working harder.

How would you describe the existing situation regarding female participation in scientific studies and the AI in your country/culture? Did you notice any relevant changes during the past years?
I believe the situation is improving day by day. More ladies are entering my company, and also being promoted.

Please, identify existing reasons and possible causes for the low female interest in scientific studies and participation in the AI particularly in your region/country/culture?
I believe the technical activities do not have enough visibility for women, or they are not perceived as a possible choice.

According to your experience, what is needed to enhance collaboration among academia and industry, so that academia can better address the needs of industry and both can contribute to better gender balance by increasing the participation of female students/workers?
Firstly I would promote AI in the schools, giving visibility of the different possibilities for this career. Once in the path, I would support the choice during the studies and first labour years, by mentoring young women.

¹ «Any distinction, exclusion or preference made on the basis of race, colour, sex, religion, political opinion, national extraction, social origin, which has the effect of nullifying or impairing equality of opportunity and treatment in employment and occupation» (art. 1 ILO Convention No.111).
Are you aware about any promotional activity developed by public and/or private institution to stimulate female participation in science studies? Please, explain further. Airbus Group makes this kind of promotion in other countries, by visiting schools. We are analyzing the possibility to introduce it.

Do you think that projects like IN2SAI can have a real impact on female studies choice on a long-term perspective? Why and how? What should we definitely keep in mind to be successful while addressing our main target group? Yes, I believe any initiative promoting this studies and the perspective for women, will increase the number of women in this career.

What could/should be done to raise awareness among the general community of the opportunities for female participation in scientific studies and AI? As stated before, promoting the studies by giving visibility before they choice their university studies.

Are you aware of existing initiatives that aim to attract/engage female students in engineering? As stated before, I know the initiatives carried on in Airbus Group.

Do you think that improvements and advances in Information and Communication Technologies (ICT) (e.g. e-work, work at home, better connectivity, etc.) have had a direct effect on an increment of women working in the aeronautical/aerospace industry? Yes, for sure.

Finally, why do you think women should be more involved in the field? Diversity would increase performance results. The benefits are quite obvious.
EUROCONTROL
Tinatin Jokhadze

Name and Surname: Tinatin Jokhadze

Name of the organization and position: Georgian Air Navigation (Sakaeronavigatsia)

Experience in the field: 6 years

University degree: Master's degree in International Relations
CASE STUDY 17

Tinatin Jokhadze

“...academia should get rid of prejudices and give girls a chance to be what they want to be, and what profession they want to choose and what path they want to pursue...”

What is your current job and responsibilities?
I am network and system administrator. My responsibilities include managing Linux servers and network infrastructure for Georgian Air Navigation.

What is your most important achievement up to date?
Changing my profession radically and quitting my high salary job at the age of 25, because I was not interested in it.

How did you decide to study aeronautic?
It was my boyfriend who was interested in aviation.

What was your first working experience in the field?
Two months after I was appointed at the position of Network administrator I had to face a serious case. I learned a lot, but also I realised the huge responsibility that would be lied upon me.

Which qualities do you think helped you to become successful?
My determination to change everything drastically when everyone including my family and friends were looking at me sceptically.

Do you think there is such a thing as men and women job?
No. There only are jobs which a person is not willing to do due to prejudices.

Do you think there are more obstacles/barriers for women to be successful in the aeronautic field than in other engineering fields?
In my country all the engineering fields are considered masculine. Even driving a car is considered "a man's job".

Why do you think women should choose this field of studies?
Because it's awesome.
Have you ever been or felt discriminated while studying at your Higher Education Institution for being a woman?
No. But I was barred from admission at another university simply because I was woman on high heels. There were 20 slots, only 18 applicants, applying for Information Technology faculty. I went through testing process and eventually at the interview I was told to come back in September to apply for management or MBA or something like that.

How did you overcome gender prejudice at education and/or work placement?
I did not overcome anything. I had no problems with prejudices after all. But my colleagues, when they realised I can do the job, now are looking at me like a man, which is both funny and disturbing.

Have you ever been or felt discriminated at work place for being a woman?
Not in my current job. But I was really laughed at when I had an interview at another place (Ministry of Education of Georgia, by the way). I was actually told I had mistaken a room.

What is discrimination in employment and occupation in your eyes?
Looking down as if a woman can't do something just because she is a women and a blonde. Getting underpaid. Not assigned important tasks. Fired when they get pregnant. In my country a woman has very little chance to get hired if she is newlywed or has small children, and almost no chance at all if she is pregnant.

How would you describe the existing situation regarding female participation in scientific studies and the AI in your country/culture? Did you notice any relevant changes during the past years?
There is definitely a good trend in women participation in engineering, scientific fields and politics.

Please, identify existing reasons and possible causes for the low female interest in scientific studies and participation in the AI particularly in your region/country/culture?
The women are not encouraged to pursue any scientific career at all. In some regions girls are not encouraged to even finish the secondary school. And the girls are afraid they can't find a husband if they get too intelligent. Hopefully these are minor cases, and new generation coming is more self-aware and educated.
According to your experience, what is needed to enhance collaboration among academia and industry, so that academia can better address the needs of industry and both can contribute to better gender balance by increasing the participation of female students/workers?

First of all academia should get rid of prejudices and give girls a chance to be what they want to be, and what profession they want to choose and what path they want to pursue.

Do you think that projects like IN2SAI can have a real impact on female studies choice on a long-term perspective? Why and how? What should we definitely keep in mind to be successful while addressing our main target group?

It will have positive impact on raising awareness and self-esteem among women in the first place.

What could/should be done to raise awareness among the general community of the opportunities for female participation in scientific studies and AI?

Maybe inviting successful women into TV shows and programmes.

Are you aware of existing initiatives that aim to attract/engage female students in engineering?

Not aware of such initiatives.

Do you think that improvements and advances in Information and Communication Technologies (ICT) (e.g. e-work, work at home, better connectivity, etc.) have had a direct effect on an increment of women working in the aeronautical/aerospace industry?

Maybe. The information is more available now. Women see other women making success in many fields considered "masculine" till now.

What would you suggest to be done to increase female participation in the aeronautical/aerospace industry?

Taking interested individuals to ANSPs, Airports, and various simulators to show them what this field is.

Finally, why do you think women should be more involved in the field?

Because if they are interested, they should not be barred only because of their gender.
Christine Most

Name and Surname:
Christine Most

Name of the organization and position:
EUROCONTROL, trainings manager

Experience in the field:
18 yrs, 8 yrs in EUROCONTROL

University degree:
Master – air traffic management, BA – mathematics and physics
CASE STUDY 18

Christine Most

“There are no difference in men and women studies. It is important to promote a non-gender profile of jobs. Men and women have different ways to do their jobs, there are men who are more feminine and women who are more masculine in the way they do their job. It is important not to stereotype…”

What is your current job and responsibilities?
- Deliver ATM courses in EU regulation, Surveillance and Communications Techniques
- Lecture in Universities
- Knowledge of EU ATM regulation, ATM Master Plan, Performance Scheme, NEXT Gen, Single European Sky ATM Research (SESAR), European Institutions, EASA. Lecturing and teaching Skills.

What is your most important achievement up to date?
Mobility and growth. I have managed to grow professionally and get promoted, have the jobs that were deserved, without any acquaintances, any help.

What was your first working experience in the field?
In Germany, after graduating at 23 years. In Germany I had more opportunities but it was more difficult, new language (even though I spoke it well), culture, country. But the opportunities were better than they were in France, since in Germany they delegate a lot of responsibility and people have the opportunity to study more on the job. They don’t care whether you are too young or not – but make you work and overtake big responsibilities (project management). In France companies wouldn’t take me seriously due to young age and thought I know little and not ready for responsible job.

How did you decide to study aeronautic?
Parents has pushed me to study the science. While I wanted to study languages, but they thought that I wouldn’t be able to find a job with that professions. Growing as a family with mostly women (2 daughters and a mother), the women have to be strong.
Which qualities do you think helped you to become successful?
Flexibility, adaptable, hardworking, strong analytical skills.

Do you think there is such a thing as men and women job?
No. there is a men and women way to do the job but there are no men and women jobs. They do jobs differently.

Do you think there are more obstacles/barriers for women to be successful in the aeronautic field than in other engineering fields?
Different skills and understanding between men and women. Men have a different level of IQ, so women have to be more flexible and adaptable. Men and Women have different roles in the society which are programmed by the nature.

Why do you think women should choose this field of studies?
There are no difference in men and women studies. It is important to promote a non-gender profile of job. Men and women have different ways to do their jobs, there are men who are more feminine and women who are more masculine in the way they do their job. It is important not to stereotype. Roles of men and women are different, gender should be seen more as a scale. Example – two lines, pink and blue, that start with a dark tone of the colour and continue towards pale and each person decides where he/she wants to be.

Have you ever been or felt discriminated while studying at your Higher Education Institution for being a woman?
No, but university is more a personal thing. Women do as good as men in the University, study, do exams. There are no differentiation.

Have you ever been or felt discriminated at work place for being a woman?
All the time. Women are more bullied by the audience, are seen in a different light. Women have to prove they are competent and try twice as much to be successful. Job is different from the University, there are more interpersonal skills involved. You always have to struggle to position yourself. Theory: men always see women in 2 ways: a mother and a sexual object. If you are a sexual object, they don’t take you seriously. If you are a mother they have more fear and respect but for them the image of mother is an ugly, fat women. And if you don’t fit in a these category, they seem to be lost in defining you.
How did you overcome gender prejudice at education and/or work placement?
Take it with humour. I don’t want to be ugly as they imagine mothers (mother of 2 kids). I am learning to be flexible. Talking to other female colleagues help, the is an untold support network of female workers. It is good to have such practice as in France – where government appoints a certain number of quotes – places that each company should distribute to women, thus the network can grow. Men don’t understand the difficulty in being a woman in this job.

How would you describe the existing situation regarding female participation in scientific studies and the AI in your country/culture? Did you notice any relevant changes during the past years?
No changes were noticed, still very few women in the field. The only new effort of a French government - assigning to companies a certain quota for female job places.

Please, identify existing reasons and possible causes for the low female interest in scientific studies and participation in the AI particularly in your region/country/culture?
I don’t think it is about the interest of the women in the field. It has more to do with the sociology and role of women and men. In Germany, for example it is not seen well if the women who have children also works full time. In France, the women goes back to work after 3 months. It more about the gender stereotypes and pressure of the society around them rather than a personal choice. Mothers for the most part in Germany, for example, won’t go for a full time job. Thus it is difficult to have a very responsible job.

According to your experience, what is needed to enhance collaboration among academia and industry, so that academia can better address the needs of industry and both can contribute to better gender balance by increasing the participation of female students/workers?
I think it’s not about University. It’s more about the school. All the raising awareness and informing should start in school, where students of 13-16 years old are still not sure about their choice of a carrier path. IDEA: It would be great to have someone who explains you the full profile of your future job, before you go into the university, describing everything from responsibilities to working hours and salary.
Are you aware about any promotional activity developed by public and/or private institution to stimulate female participation in science studies? Please, explain further.

No, not much is done in the field.

Do you think that projects like IN2SAI can have a real impact on female studies choice on a long-term perspective? Why and how? What should we definitely keep in mind to be successful while addressing our main target group?

Yes, it helps a lot. Since the efforts are multiangle.

What could/should be done to raise awareness among the general community of the opportunities for female participation in scientific studies and AI?

More visibility actions like videos, movies, social media, etc.

Do you think that improvements and advances in Information and Communication Technologies (ICT) (e.g. e-work, work at home, better connectivity, etc.) have had a direct effect on an increment of women working in the aeronautical/aerospace industry?

Yes, it helps a lot overall, since many working mothers prefer to work at home. They have the possibility of still keeping the job.

What would you suggest to be done to increase female participation in the aeronautical/aerospace industry?

More awareness, stop stereotyping on men and female type of jobs. Make clear to kids that they can do anything they want, without stereotyping. Going beyond the gender.

Finally, why do you think women should be more involved in the field?

Going beyond the gender.

Additional comments.

Christine balances well work and private life, as it is a choice of every person – what he/she wants to achieve and how to manage the time. Her children are thankful for the efforts.
SPECIAL THANKS:

To all the female professionals in aeronautics that have participated in the interviews and in the creation of this report. Your example will be inspiring young girls to undertake a scientific career path!

To the organisations that allowed their staff to be interviewed.

To the partners of the IN2SAI project that conducted the interviews.

To the EUROCONTROL for kindly agreeing to interview their female staff.

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