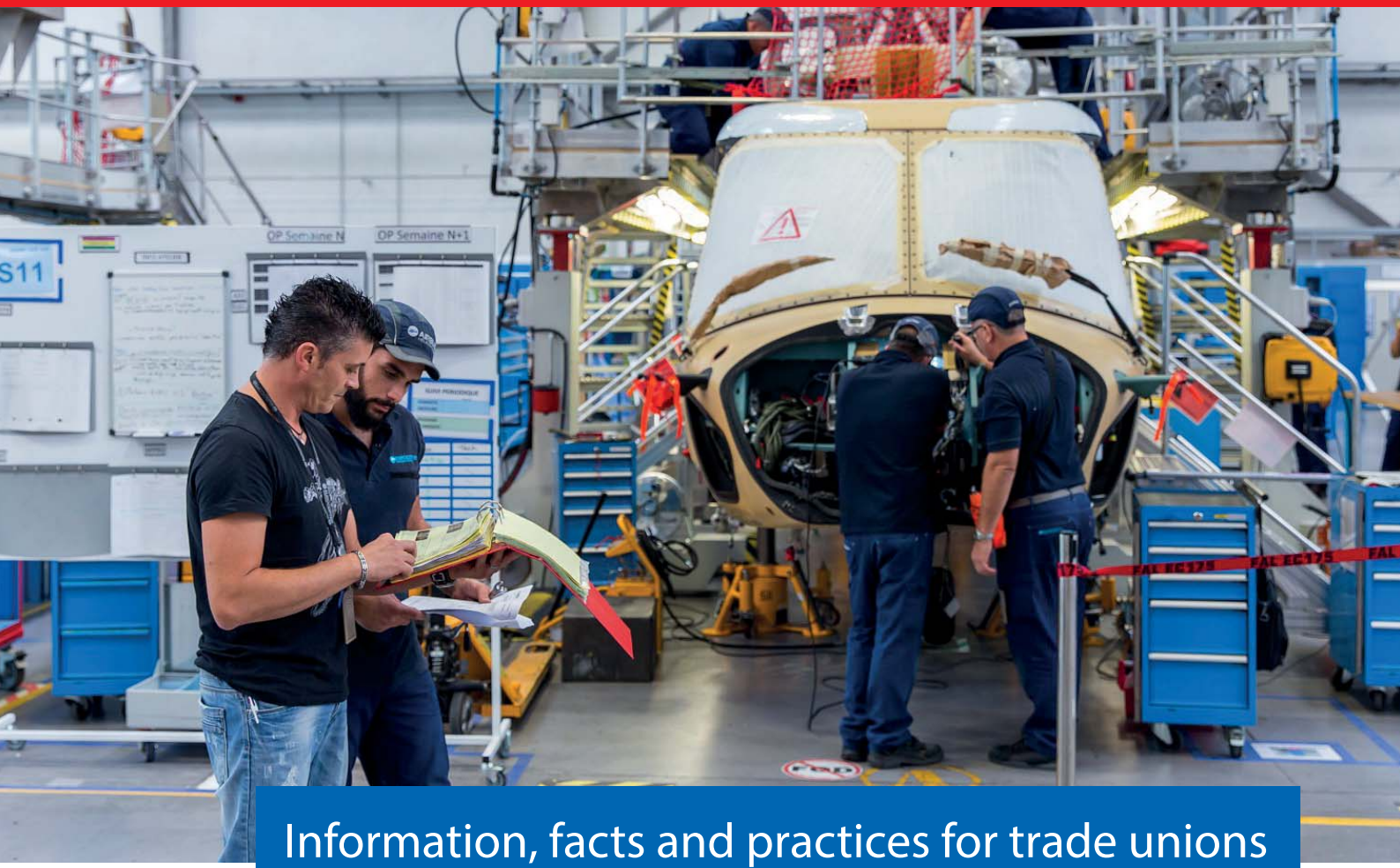
air project

CHANGE

Demographic change and employment in European aerospace industry

# Demographic change, personnel work and skilled employment in the European aerospace industry




## Information, facts and practices for trade unions and works councils

Oktober 2017

Europäische Kommission

Arbeit und Leben
Bielefeld e.V. DGB | VHS

IG Metall

**This documentation provides information on the demographic challenges facing the European aerospace industry and the activities of trade unions under the CHANGE project for sustainable personnel work, for healthy, ageappropriate and good working conditions and for securing skilled workforce.**

The measure was carried out in the period November 2015 – October 2017 under the project management of Arbeit und Leben Bielefeld e.V. (DGB/VHS). CHANGE was supported by the European Commission under the budget-line 04 03 01 05 (Information and training measures for workers' organisations)

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# CONTENT




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## „Demographics, personnel work and securing of skilled labour“

**Alongside the automotive industry, the aerospace industry is the flagship of Europe's economy. Yet even this exemplary European industry is suffering due to demographic change in society due to an „ageing" workforce and a creeping scarcity of skilled workers. Not a good situation, therefore, if competition from the US and Asia intensifies. The core question therefore is: what exactly does demographic development in this industry look like, how are companies prepared in terms of jobs and employment policy and what specific challenges arise for works councils and trade unions?**

The **air|CHANGE** project, financially supported by the European Union, focuses on an industry segment that is heavily dependent on a constantly renewable mix of knowledge, skills and experience as well as on highly qualified collaboration across various specialist disciplines as well as age and qualification groups in a huge European patchwork of locations. The situation throughout Europe is that the proportion of ageing people keeps growing, and competition for the cream of the crop is in full swing. Qualified and well-paid work as well as prospects of promotion in companies represent decisive advantages in competition.

### The European air|CHANGE project

Under the direction of Arbeit und Leben Bielefeld and with the IGM Management Board as a main project partner, since the beginning of 2016 eleven European trade unions from eight EU countries have been dealing with the subjects of "Demographics, personnel work and scarcity of skilled labour". Other participants include employee representatives from Airbus, GKN, Airbus Helicopters, Saab, Rolls-Royce, Safran, Telespazio (Leonardo) and Premium Aerotec. This means that the top 5 countries in the European aerospace industry, namely France, Germany, Great Britain, Spain and Italy are involved in this project, representing approximately 90% of direct employees within this sector.

***„It is the time to exchange experiences and to develop new perspectives. Even though a lot of the concepts and the solutions need to be developed on a national, or even regional level, we can still learn from each other and in that manner create the future of the aerospace industry in Europe together."***

*Jürgen Kerner, Executive member of the Managing Board of IG Metall | Germany*

The objective of this project cooperative venture was to advance the exchange of industry policy information and practices between the trade unions, to organise European collaboration, increase the influence of employee representative bodies in the interests of ensuring "good work" and to advance operational improvements with country-related initiatives.

***„The exchange of identified best practices is a good means to integrate innovative proposals at the European level but also in our own national discussions to improve the situation of actual and future workers of the French aerospace supply chain."***

*Franck Uhlig | FGMM-CFDT | Frankreich*

The topics of „Demographics, personnel work and securing skilled labour" have now been systematically analysed throughout Europe for the very first time. The questions raised included the following:

- How can suitable skilled employees be recruited, retained and developed?
- How must work be designed to ensure that healthy and competent ageing while in employment is possible?

The findings from 38 enterprises surveyed in 8 countries with a total of roughly 75,000 employees show that there is need for action in all countries: the discernible bottlenecks in recruiting junior employees are increasing, the need for qualification is growing and a creeping change is underway in jobs held by senior employees. After all, frequently only young employees are assigned to modern workplaces. There is no systematic know-how transfer between old and young. In addition, in many enterprises specific measures are lacking for senior employees; workplace design to promote employee health is the exception rather than the rule, even though the tendency towards age-critical strains has grown. Many feel growing pressure to meet deadlines and to perform, physical strain remains high and mental illnesses are increasing.

***„The core problem in companies isn't the demographic change and thus ageing in itself; much more important are poorly organised working conditions which prevent older workers from remaining in employment for longer and without obstacles. This in turn leads to a policy of healthy, competent ageing. In order to achieve this, companies are called upon to: remove age-barriers at work, promote a diverse, age-adjusted employment development and create a work organisation that corresponds to the needs of age and ageing."***

*Wolfgang Anlauft, managing director | ffw GmbH Nürnberg | Germany*

The conclusions of this survey clearly indicate that activities to secure skilled workers are more successful if companies design and organise their working conditions according to the principles of „good work". In competing for qualified labour, the successful enterprises will be the ones that do not only rely on short-term quantitative personnel recruitment from outside but those that also develop their personnel structures internally today and engage in sustainable human resources management. This will only succeed in cooperation with company and trade union representative bodies.

**In this connection, the CHANGE partners have cooperated in specific, feasible „projects" focusing on country aspects in operational and industry policy orientation at a European level. The spectrum of these activities ranges from operational recruiting and qualification models (UK, SE, ES, IT), measures relating to personnel and work organisation in a transition to „Labour 4.0" (FR, DE) all the way through to employee pay scale arrangements (PL, RO).**

***This project has helped us identify best practices, consider the changing needs of the aging workers and as a result – to respond to them in a bette rway.***

*Ian Waddell | Unite | United Kingdom*

Structural change in the aerospace industry needs to be anticipated and supported in labour policy terms by employee representatives. No matter whether the subjects are workplace design, securing skilled employees or Industry 4.0 – the findings of the project show that the interaction of operational interest policy and nationally oriented strategies are necessary to reinforce the influence of trade unions on employment oriented labour and industry segment policy.

***Thank you for this project, it gave us an opportunity to get a better analysis of the current situation and needs of our organization's efforts to change employment conditions and the development of our industry. And a good insight of the problems in, and efforts made in the aerospace industry in Europe.***

*Andreas Parkås | Verkstadsklubbens styrelse | IF Metall Union Board | GKN Aerospace Engine Systems Sweden*

**The level of demand for information, exchange of views and knowledge of industry development in the various countries remains very high. It is all the more important to continue the intensified exchange of views thanks to the project between trade unions in the European networks of industriAll Europa and the European works councils. CHANGE is a successful step that was taken in this direction.**

**All information under: www.air-change.eu**

**Key findings at a glance:**

- Systematic exchange of information and practices of company and trade union representatives at 5 European events with some 120 participants
- European Aerospace Map: National sector profiles for the aerospace industry in Europe
- Europe-wide survey on labour policy standards and future requirements in 38 enterprises
- Labour policy analyses for the identification of operational scope for action
- Trade union and operational best practice activities with country-specific focal points within enterprises and industry segments
- Information and public relations measures (flyers, website, newsletters)
- Documentation and announcement of best practices (skilled labour initiatives, qualification models, age management concepts)
- Information assistance and practical help for operational and trade union employee representative bodies

**We have documented the key information, facts and findings of the project in summary form in the present best practice report "Demographics, personnel work and securing skilled employees" in the aerospace industry.**

# DEMOGRAPHICS, PERSONNEL WORK AND SECURING SKILLED EMPLOYEES IN THE AEROSPACE INDUSTRY

**The forecast demand for skilled workers in the aerospace industry presents a tremendous challenge, particularly in light of demographic developments, and could become a serious hindrance to development. Workforces are becoming older, the training and qualifications requirements are increasing and workloads in many areas are climbing to levels worthy of concern.**

**One of the key questions regards the specific form that demographic developments in the European aerospace industry will take, along with the challenges that these will entail for trade union activities. Furthermore, how will the industry be able to successfully ensure that it has enough qualified personnel, and do so in a timely fashion? In order to be successful, trade unions and companies will need to launch new initiatives!**

**Successful personnel work within industrial enterprises these days needs to overcome 4 central challenges:**

**1.** the need for companies to deal with their **ageing workforce** and to organise and design work in such a manner as to ensure that competent and healthy ageing while in employment is possible

**2.** the **scarcity of skilled labour** and, therefore, a systematic approach regarding personnel recruitment, staff loyalty & retention as well as development of employee potential in order to resolve bottlenecks on the labour market at an early stage

**3. Digitisation and Work 4.0:** implementing technological changes within enterprises and along the value added chain of the product (supplier – own performance process – customer) and actively including people in this process of change for work content and the conditions of work organisation

**4. Internationalisation:** organising and designing work within international value added chains

All these changes began long ago and are already having an impact to a varying extent, depending on the country, industry segment, region and enterprise in question.

A glance at the development of age structures shows that the median age of the population of all 28 EU states increased in the period from 2004 to 2014.[1] At the same time – at least for Germany – the factors of physical, physiological and unfavourable mental stress and strain that militate against healthy and competent ageing while in employment have not improved significantly.[2]

It therefore is all the more urgent to introduce operational workflow design measures that pursue the following objectives for age-compatible work organisation and lead to the development of the employees' potential. Key factors in this context include the reduction of physical and mental strain and the extension of personality-boosting resources by designing workflows that encourage learning and good health.

**What is important in this context is the design**

- of ergonomic workplaces and conditions of the work environment
- of work-related tasks and working conditions of the work organisation that actually foster learning and ensure good health
- of social framework conditions that serve to reinforce resources that promote good health and personality development
- of shift plans and working times under ergonomic aspects to ensure humane structuring of work
- of work and performance conditions that sustainably secure future employability and the compatibility of work and private life
- of special dispensations for employees with disabilities and relief conditions for employees who have worked under severe strain for many years.

Successful measures for recruitment, loyalty & retention and development of skilled employees are heavily dependent on the situation prevailing on the labour market in the various countries, regions, industry segments and enterprises. A glance at the 28 EU countries illustrates the differing starting points for enterprises engaged in the aerospace industry. Whereas Malta, the Czech Republic, Germany and Great Britain had an unemployment rate below 5% in June 2016, in Spain and Greece the unemployment rate reached 20% and more in the same period. [3] However, substantial differences in terms of regions, industry segments and enterprises can also be found within the individual EU states. The starting point of personnel work therefore always has to be a differentiated analysis of the situation in the relevant enterprises in combination with the specific contextual factors involved.

**A policy of potential development – with an operational focus, but also flanked by regional initiatives – therefore needs to include various fields of action:**

**Personnel planning:**
Quantitative: replacements necessary (pension, time-out, fluctuation), personnel growth
Qualitative: changed requirement profiles
Time-related: when, profiles, previous history of vocational training or induction

**Personnel recruitment:**
Employer branding: what distinguishes us from the rest? How do we want to be perceived?
Own educational background: vocational training, dual studies, employment time
Cooperation: with schools, technical and training colleges, universities, advanced training institutions, social media
Target groups: unemployed, returnees, migrants, 30-plus (2nd chance)

**Integration of new employees:**
Intensive and continual specialist, social and cultural induction (coaching, seminars, employee interviews) throughout the induction period

**Personnel development:**
Design and organisation of activities: tasks intended to promote learning and qualification.
Development: horizontal (specialist level) or vertical development routes (promotion). General framework conditions: qualification, learning culture, educational period, employee development interviews

**Personnel loyalty & retention:**
Extending motivational factors: task organisation (plenty of variety, responsibility, successful execution, scope for action, appreciative feedback culture)
Maintaining/creating hygiene factors: ergonomics, appropriate remuneration, (planning) certainty, compatibility of work and private life

**Potential maintenance:**
Organisation of work: ergonomics, assigned task, work organisation, working time, learning and development, leadership and corporate culture
Avoiding work-related „early ageing" (health, learning, motivation): enrichment, rotation, development channels
Behaviour conducive to good health: instruction, seminars, co-operation in work organisation and design

**Protecting know-how:**
Persons: induction of new employees, coaching and mentoring
Organisation: shared knowledge within the team / enterprise / group by virtue of internal seminars, enrichment of information rounds, visiting other work areas, creating scope for informal workspaces
Systems: IT-supported information systems, documentation

Suitable flanking measures are necessary in this regard to leverage as yet untapped potential **at industry segment and regional level.**
Starting points in this regard could include the following:

- Qualification initiatives for occupational integration of hitherto unemployed persons
- Collective bargaining arrangements concerning basic and advanced vocational training
- Measures designed to extend regional infrastructures in the field of basic and advanced vocational training, studies


[1] Source: Eurostat (online data code, demo-pjynind)

[2] Source: Findings of representative surveys of gainfully employed persons conducted by BiBB/BAuA for 2005/2006 in comparison with 2012/2013

[3] Source: Eurostat: Unemployment rates, seasonally adjusted, June 2016

## Europa 2020 objective

**Governments of EU countries wish to increase the mobilisation of their labour force reserves: By 2020, 75% of the population between the ages of 20 and 64 should be working.**

**In particular, young people, older employees, less-skilled workers and migrants should be better integrated into the labour market.**

## Europa 2020: A strategy for intelligent, sustainable and integrated growth

„Integrative growth means using a high level of employment, investment in skills, fighting poverty, and modernising labour markets, general and vocational education and social protection systems in order to enable people to anticipate and deal with changes and secure social cohesion. [...] At issue is the ability to offer all people access and opportunities throughout the course of their lives.
Europe must make full use of its labour potential in order to be able to master the challenges entailed by an ageing population and increasingly fierce global competition. A policy of promoting equality between the sexes is necessary in order to increase the rate of participation in the labour force and contribute to growth and social cohesion."

*Source: European Commission, Europe 2020: A strategy for smart, sustainable and inclusive growth*

## EU campaign target: more and better workplaces

**Impetus for work-oriented employment policy from a trade union perspective:**

**1.** Increase in social productivity thanks to active policies for more and better employment and sustainable growth

**2.** Reorientation of "flexicurity" to reinforce employment and income security and development of integrative labour markets thanks to a better balance of flexibility and social security rather than interpreting flexicurity as deregulation.

**3.** Reinforcement of fairer work relations and improved equality of opportunity thanks to strong bargaining partners (i.e. management and labour representatives)

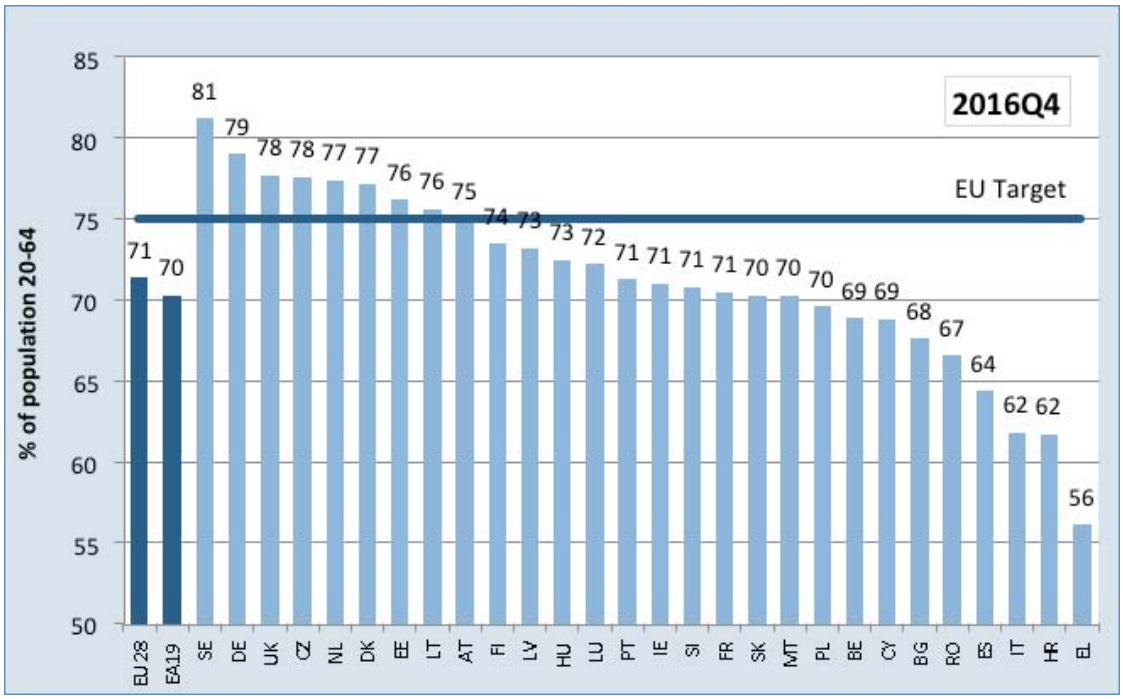
**4.** Prioritisation of employment compatible with gender/age and including new target parameters

**5.** Promotion of just and fair wage policies to secure stability in the European societal model

**6.** Securing the financing of the welfare state by means of increased tax funding in favour of lower incidental wage costs

**7.** Design and promotion of education as part of integrated societal and labour market policy

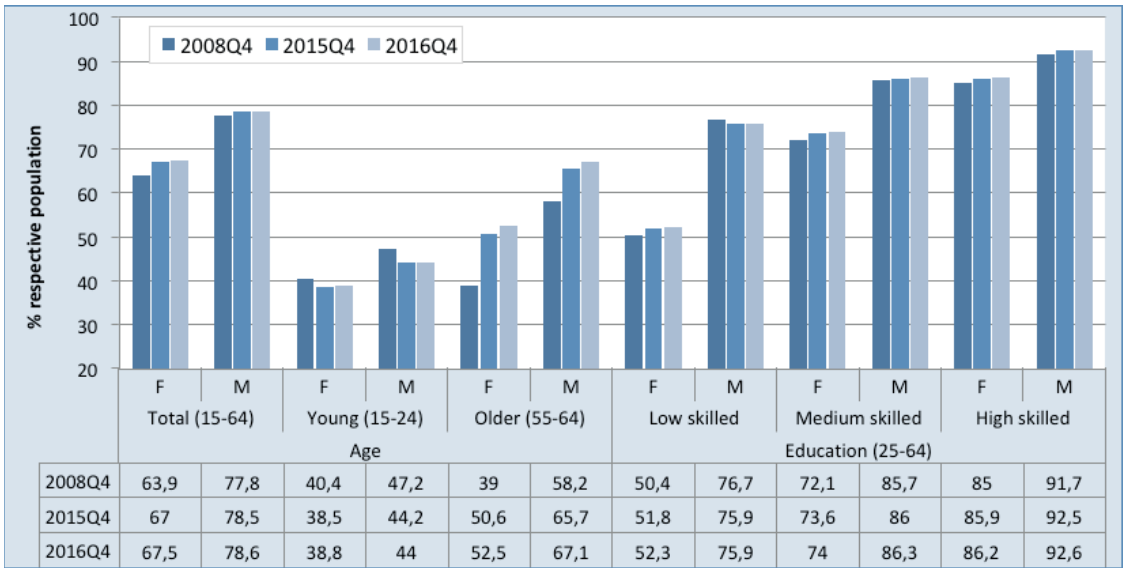
**Chart 1: Employment rate (20-64) in the EU Member States, 2016Q4**




EU Member States
AT: Austria
BE: Belgium
BG: Bulgaria
CY: Cyprus
CZ: Czech Republic
DE: Germany
DK: Denmark
EE: Estonia
EL: Greece
ES: Spain
FI: Finland
FR: France
HR: Croatia
HU: Hungary
IE: Ireland
IT: Italy
LT: Lithuania
LU: Luxembourg
LV: Latvia
MT: Malta
NL: The Netherlands
PL: Poland
PT: Portugal
RO: Romania
SE: Sweden
SI: Slovenia
SK: Slovakia
UK: United Kingdom

The EU employment rate for 20-64 year-olds has increased consistently for two and a half years now. At 71.2%, it is just above its 2008 level, but still remains 3.8 pp below the Europe 2020 target of 75% for people aged 20-64. Large disparities in employment rates remain, and many Member States are well below their target. In many Member States, employment rates have still some way to go to recover from the crisis. Employment rates in Member States range from 56% in Greece to 81% in Sweden.
*Notes: pp = percentage points*

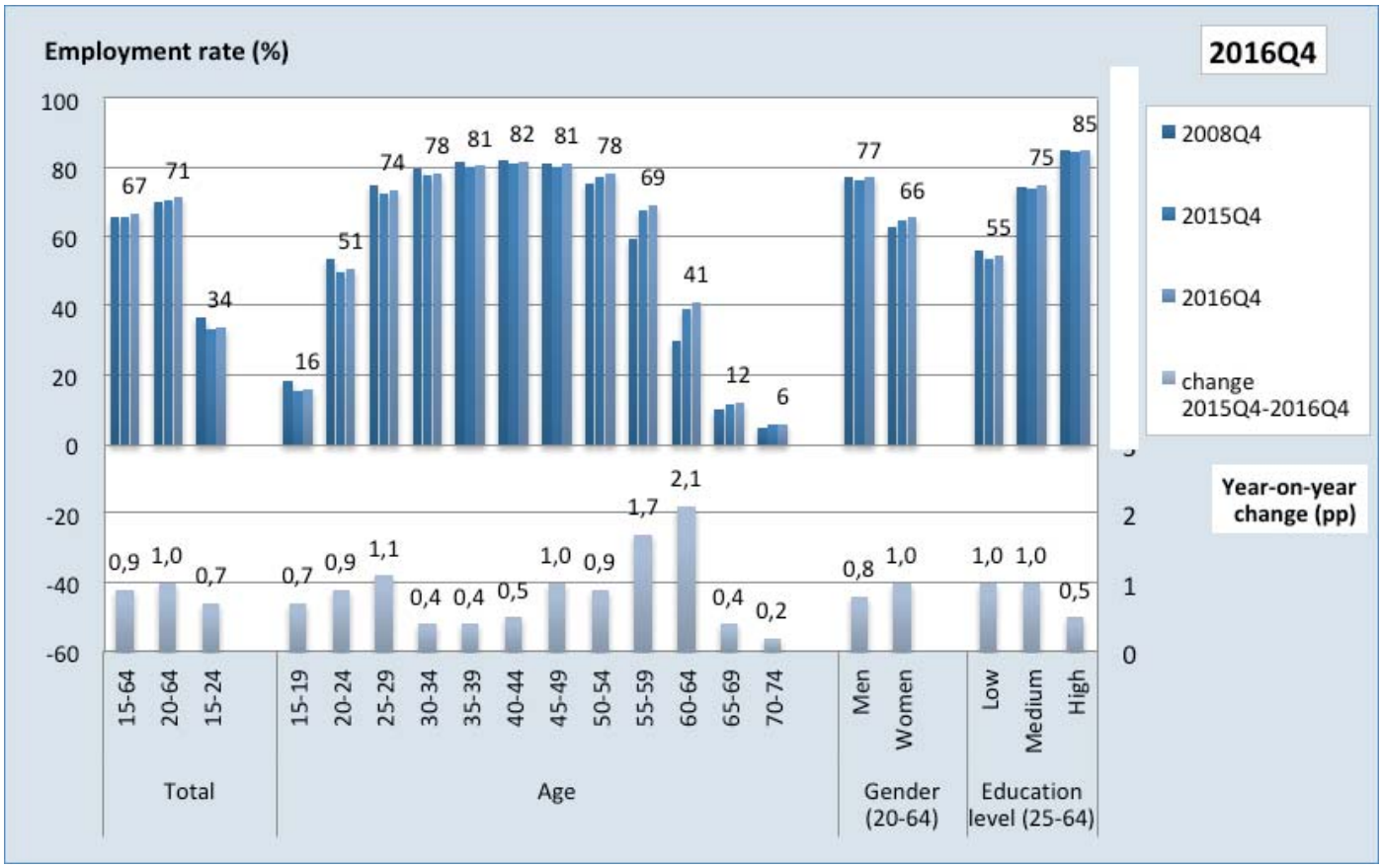
**Chart 2: Activity rate in the EU by gender, education and age, 2016Q4**




| | Age | | | | | | Education (25-64) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total (15-64) | | Young (15-24) | | Older (55-64) | | Low skilled | | Medium skilled | | High skilled | |
| | F | M | F | M | F | M | F | M | F | M | F | M |
| 2008Q4 | 63,9 | 77,8 | 40,4 | 47,2 | 39 | 58,2 | 50,4 | 76,7 | 72,1 | 85,7 | 85 | 91,7 |
| 2015Q4 | 67 | 78,5 | 38,5 | 44,2 | 50,6 | 65,7 | 51,8 | 75,9 | 73,6 | 86 | 85,9 | 92,5 |
| 2016Q4 | 67,5 | 78,6 | 38,8 | 44 | 52,5 | 67,1 | 52,3 | 75,9 | 74 | 86,3 | 86,2 | 92,6 |

**Important increases in the activity rate of those 55-64**
The increase in the activity rate of older workers, those aged between 55 and 64 years, is the main driver of the increase in activity rates across the EU. In the year to the fourth quarter of 2016 the activity rate of older workers increased by 1.7 pps with a stronger increase for women than for men in that age group (1.9 pps for women vs. 1.4 pps for men). Older workers have increased their activity rates in more than 11 pps since 2008. During the last year, the activity rate for youths slightly increased (by 0.1 pp) but is 3.1 pp lower than in the third quarter of 2008. All the groups by different skill level increased their participation in labour market at a similar pace. The gender gap in activity rates is getting narrower for all age groups, namely between the youth, 4.7 pps, 0.7 pps less than the year before.
*Notes: pp = percentage points*

**Chart 3: Employment rate in the EU by gender, education and age, 2016Q4**
*Notes: Age 15-64, by skills 25-64*

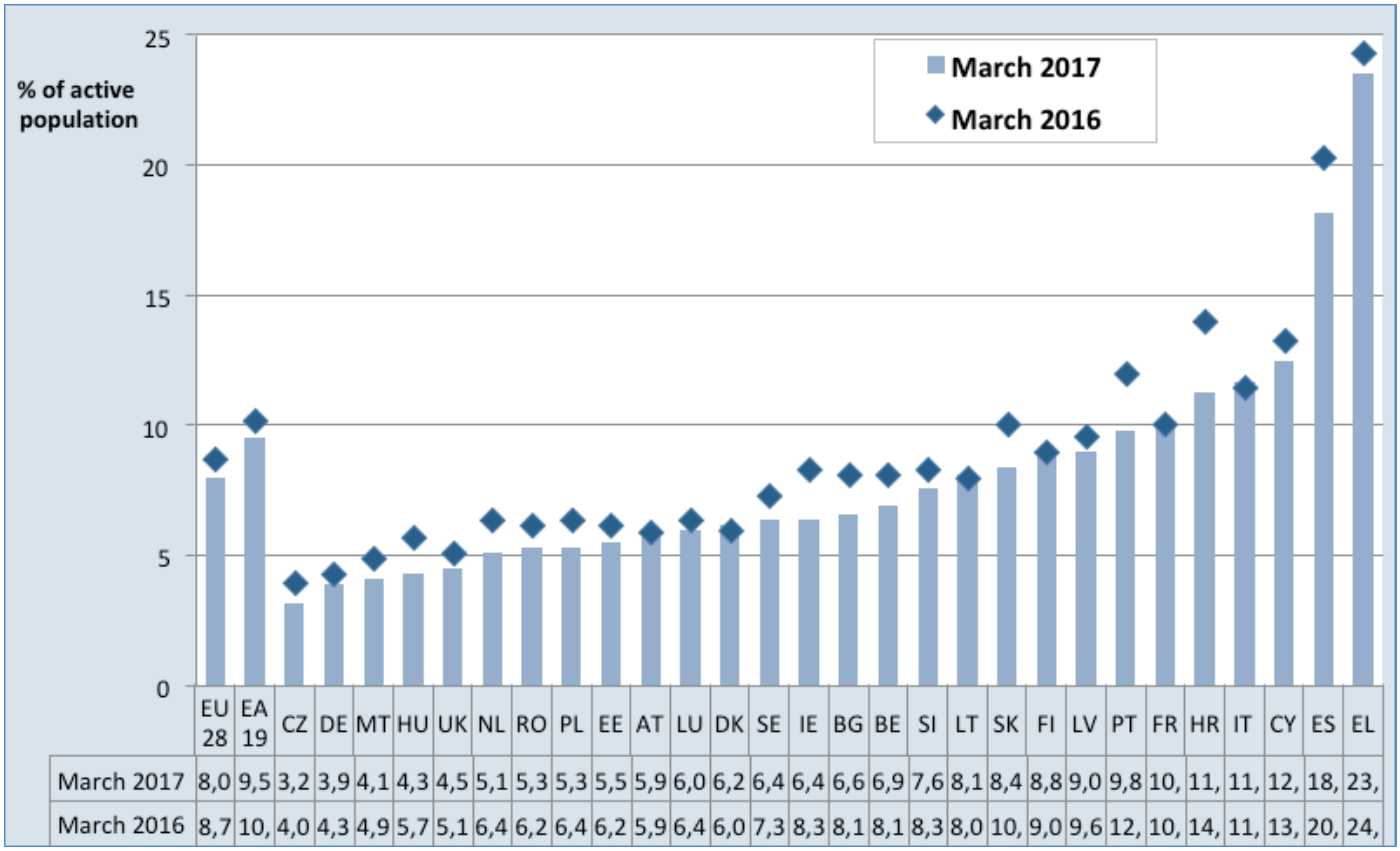



**Employment rate exceeds its previous peak, and Europe2020 target may be in reach**
The employment rate for 20-64 year-olds has increased consistently for three years. At 71.4% in the fourth quarter of 2016 it exceeded by 1,3 percentage points (pp) its 2008 level. The rate increased by 1 pp in a year to the fourth quarter of 2016, and if this yearly pace continues the Europe 2020 target of 75% may be reached.

**Employment rates recover in most Member States, but are far below 2008 level in many**
In the year to the fourth quarter of 2016, the employment rate for 20-64 year-olds increased in most Member States, except for Estonia and Romania. The largest increases were recorded in Hungary and Slovakia (by more than 2 pps). Despite the observed improvements, the employment rate in the fourth quarter of 2016 remained below the 2008 rate in half of the Member States, having dropped significantly (by 6 pps or more) in Cyprus and Greece. Hungary and Malta showed the most significant increases (around 10 pps) since 2008; after having had some of the lowest employment rates in the EU, they now have approached the EU average. Among the largest Member States, Germany, Poland and the UK saw a consistent increase in their employment rates, which contributed to the increase of the EU average employment rate and its recovery to the 2008 level.
In the fourth quarter of 2016, there was 25 pps difference between the highest employment rate of more than 80% in Sweden and the lowest employment rate of 57% in Greece.

**Employment rates improve across all population groups and particularly for older workers**
In the year to the fourth quarter of 2016, the EU employment rate increased for all population groups and most noticeably for people aged 55-59 (1.7 pps) and those aged 60-64 (2.1 pps). This encouraging trend observed over the past few years resulted in 10 pps increase in the employment rate of older workers since 2008. In the year to the fourth quarter of 2016, the employment rate of young people aged 25-29 also increased noticeably (1.1 pps). Still, their employment rate remained 1,6 pps lower than in 2008.
The increase in the employment rate during the year to the fourth quarter of 2016 was similar for both men and women. The rate for low- and medium-skilled people increased most. When compared to 2008, the employment rate in the fourth quarter of 2016 had increased for women (by 2.7 pps), but not for men (down by 0.3 pps).
*Notes: pp = percentage points*

**Chart 4: Unemployment rate in the EU Member States, March 2017 and March 2016**
*Notes: HU and EE data from November 2016, EL and UK data from October 2016*



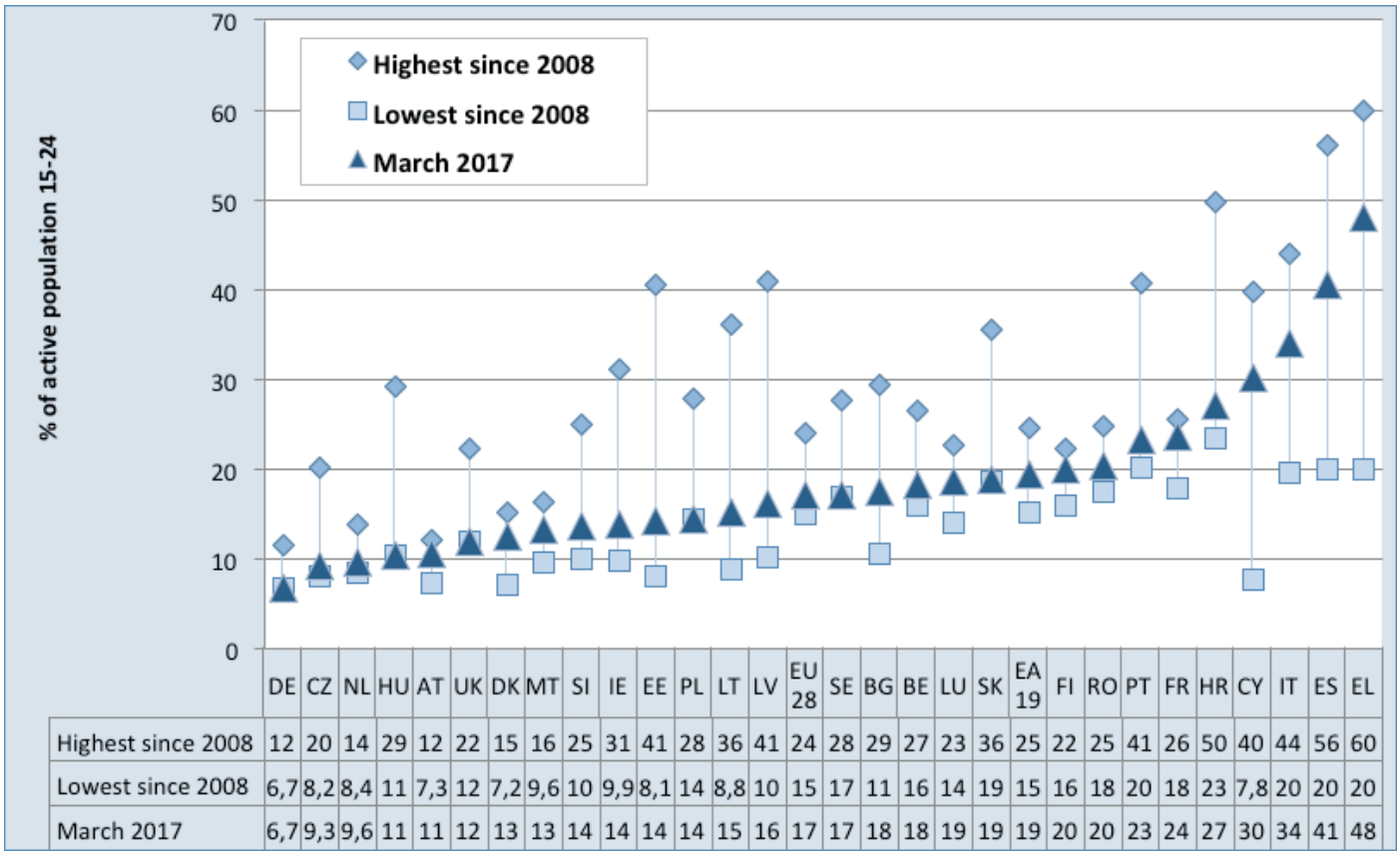

| | EU 28 | EA 19 | CZ | DE | MT | HU | UK | NL | RO | PL | EE | AT | LU | DK | SE | IE | BG | BE | SI | LT | SK | FI | LV | PT | FR | HR | IT | CY | ES | EL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| March 2017 | 8,0 | 9,5 | 3,2 | 3,9 | 4,1 | 4,3 | 4,5 | 5,1 | 5,3 | 5,3 | 5,5 | 5,9 | 6,0 | 6,2 | 6,4 | 6,4 | 6,6 | 6,9 | 7,6 | 8,1 | 8,4 | 8,8 | 9,0 | 9,8 | 10, | 11, | 11, | 12, | 18, | 23, |
| March 2016 | 8,7 | 10, | 4,0 | 4,3 | 4,9 | 5,7 | 5,1 | 6,4 | 6,2 | 6,4 | 6,2 | 5,9 | 6,4 | 6,0 | 7,3 | 8,3 | 8,1 | 8,1 | 8,3 | 8,0 | 10, | 9,0 | 9,6 | 12, | 10, | 14, | 11, | 13, | 20, | 24, |

**Stronger declines seen in Member States with high unemployment rates**

Compared with a year ago (March 2016 to March 2017), unemployment rates decreased in twenty-three Member States, and increased in Italy by 0.2 pp. Lithuania by 0.1 pp.and Denmark each by 0.2 pp. The largest reductions were registered in Croatia (by 2.7 pps down to 11.3%), Spain (by 2.1 pps down to 18.2%) and Portugal (by 2.2 pps down to 9.8%).

Large differences in unemployment rates remain among Member States. Notably with the Czech Republic (at 3.2%) and Germany (at 3.9%) also registering further year on year declines, brought their unemployment rates to below 4%. By comparison Greece (with 23.5%) is now the only Member State with an unemployment rate over 20%. Spain with the second largest unemployment rates trails a little further behind (18.2%).
*Notes: pp = percentage points*

**Chart 5: Youth unemployment rate in the EU Member States, March 2017 and highest/ lowest rates since 2008**




| | DE | CZ | NL | HU | AT | UK | DK | MT | SI | IE | EE | PL | LT | LV | EU 28 | SE | BG | BE | LU | SK | EA 19 | FI | RO | PT | FR | HR | CY | IT | ES | EL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Highest since 2008 | 12 | 20 | 14 | 29 | 12 | 22 | 15 | 16 | 25 | 31 | 41 | 28 | 36 | 41 | 24 | 28 | 29 | 27 | 23 | 36 | 25 | 22 | 25 | 41 | 26 | 50 | 40 | 44 | 56 | 60 |
| Lowest since 2008 | 6,7 | 8,2 | 8,4 | 11 | 7,3 | 12 | 7,2 | 9,6 | 10 | 9,9 | 8,1 | 14 | 8,8 | 10 | 15 | 17 | 11 | 16 | 14 | 19 | 15 | 16 | 18 | 20 | 18 | 23 | 7,8 | 20 | 20 | 20 |
| March 2017 | 6,7 | 9,3 | 9,6 | 11 | 11 | 12 | 13 | 13 | 14 | 14 | 14 | 14 | 15 | 16 | 17 | 17 | 18 | 18 | 19 | 19 | 19 | 20 | 20 | 23 | 24 | 27 | 30 | 34 | 41 | 48 |

**EU youth unemployment show moderate decline Member States**

In the year to December 2016, the youth unemployment rate (for those aged 15-24) for the EU declined by 0.9 pp and reached 18.6%. In the EA it declined by 0.9 pp and reached 20.9 %. These declines represent nearly 196 000 fewer unemployed people aged 15-24 in the EU, including 88 000 in the EA. At 4.2 million unemployed young people, including nearly 3 million in the EA, the level of youth unemployment remains markedly higher than its low in 2008.

In the year to December 2016, the unemployment rate among young people aged 15-24 fell in most Member States. However, seven Member States had year-on-year increases during this period, notably Estonia (3.6 pp), Denmark and Latvia (each 1.2 pp), Lithuania (0.7 pp) and Sweden (0.5 pp) and unchanged in three Member States. The youth unemployment rate fell considerably in Croatia (11.8 pps). Ireland (5 pps), Slovakia (4.8 pps) and Greece (4.6 pps) also registered strong declines.

Unemployment still affects over 40% of young active people aged 15 - 24 in Greece7 (44.2%), Spain (42.9%) and Italy (40.1%) and over 30% in Cyprus (32.8%). By contrast, youth unemployment rates are around or below 10% in Germany (6.5%), Netherlands (10.2%), Austria (10.5), and the Czech Republic (107%). All Member States registered youth unemployment rates below their recent peak values. Estonia and Croatia, have registered the strongest decreases in youth unemployment since their peak figures by 29.1 pps and 25.9 pps respectively. Other Member States also achieved notable declines, notably Lithuania (23.1 pps) and Latvia (22.5 pps). Greece, the country with the highest youth unemployment, has also registered an important decline.

However, and despite these improvements, Member States like Cyprus, Greece, Spain and Italy still have high levels of unemployed young people which must continue to be addressed.
*Notes: pp = percentage points*

*Source: European Commission, Employment and Social Developments in Europe, Quarterly Review Winter 2017*


## Demographic change, skilled workers and personnel work in the European aerospace industry

| COUNTRY | COMPANIES (involved) |
|---|---|
| Germany | 16 |
| Italy | 3 |
| France | 9 |
| Spain | 1 |
| Sweden | 2 |
| United Kingdom | 2 |
| Poland | 2 |
| Romania | 3 |
| TOTAL | 38 |

Key empirical impetus was generated in favour of content-related work in teams by a survey conducted of the enterprises participating in the project. Company and trade union representatives from 38 enterprises with a total of approx. 75,000 employees were canvassed in eight EU states.

**The survey had the following content-related focal points:**

**Part A: General section**
Focal points: employment development, organisational age structures, activities in the field of personnel work, characterisation of specific forms of employment (temporary work, works or service contracts, time limits)

**Part B: Personnel work and demographics (organisational working conditions)**
In each of 42 items, working conditions were queried for three central target groups (manufacturing, development/construction and administration) that are of relevance to healthy and competent ageing while in employment. The results allow conclusions to be drawn on the extent to which the design of the working conditions in these fields of activity is conducive to learning and good health.

**Part C: Measures within enterprises and the industry segment**
Questions were raised regarding existing measures at enterprise and industry segment levels. The measures in this context refer to the central design fields of age and ageing-compatible work (learning, health). Questions raised concern the extent and quality of organisational design measures (vocational and advanced training, heath management, etc.) but also relevant and additional regional and industry-related activities (such as collective bargaining on qualification, regional networks as well as cross-organisational initiatives for basic and advanced vocational training).

**Part D: Needs for action**
In a 4th section, questions are raised on organisational and regional needs for action.
The questions were selected in such a manner as to ensure the compilation of a systematic and comparative overview on the relevant operational and industry-related

- challenges,
- working conditions, and
- organisation and design measures (existing and necessary).

The preparation of the questionnaire was also used in order to develop a uniform understanding on the subject of personnel work and demographics. The evaluation in this context was made by enterprises, by enterprises and countries, and by enterprises and country clusters.
In addition, the enterprises were divided up into 3 regions:

- Southern Europe: France, Spain, Italy
- Eastern Europe: Romania, Poland
- Northern and Western Europe: Sweden, Germany, Great Britain

Accordingly, the evaluation results can be aggregated in a differentiated manner both by subject areas and under regional aspects.

**PLEASE NOTICE**
**The complete questionnaire is documented in the appendix.**
**All language versions (German, English, Spanish, French, Swedish, Romanian, Italian and Polish) are available for download on the project website www.air-change.eu.**

| No. | Company | Employees | Location | Country |
|---|---|---|---|---|
| 1 | Airbus Operation GmbH | 23.400 | Hamburg | DE |
| 2 | ZF-Luftfahrttechnik GmbH | 336 | Calden | DE |
| 3 | Premium AEROTEC | 400 | Bremen | DE |
| 4 | Rheinmetall Tech.Pub. GmbH | 205 | Bremen | DE |
| 5 | GOODRICH CONTROL | 144 | Neuss | DE |
| 6 | Airbus Defense and Space | 580 | Bremen | DE |
| 7 | Premium AEROTEC | 1.280 | Varel | DE |
| 8 | Broetje Automaiton GmbH | 480 | Rastede | DE |
| 9 | Rolls-Royce Deutschland | 2.631 | Blankenfelde-M. | DE |
| 10 | Labinal GmbH | 320 | Hamburg | DE |
| 11 | Recaro Aircraft Seating | 1.250 | Schwäbisch Hall | DE |
| 12 | PFW Aerospace GmbH | 1.374 | Hamburg | DE |
| 13 | Diehl Comfort Module | 875 | Hamburg | DE |
| 14 | RUAG Aerospace Structures | 632 | Gilching | DE |
| 15 | RUAG Aerospace Services GmbH | 390 | Wessling | DE |
| 16 | Diehl Aircabin GmbH | 1.577 | Laupheim | DE |
| 17 | Honeywell Aerospace | 134 | Toulouse | FR |
| 18 | Airbus Defence & Space SAS | 2.895 | Toulouse | FR |
| 19 | Airbus DS sas | 995 | Elancourt | FR |
| 20 | ZODIAC DATA SYSTEMS | 423 | | FR |
| 21 | MBDA France | 4.277 | Le Plessis Robinson | FR |
| 22 | ONERA | 1.921 | Chatillon | FR |
| 23 | RATIER-FIGEAC | 1.166 | | FR |
| 24 | THALES AVIONICS | 4.112 | Vendome | FR |
| 25 | SAFRAN NACELLES SAS | 2.156 | Gonfreville-l'Orcher | FR |
| 26 | SAAB | | | SE |
| 27 | GKN Aerospace Engine Systems | | Trollhättan | SE |
| 28 | S.C. AEROSTAR S.A. | 1.578 | Bacau | RO |
| 29 | Airbus Helicopters | 168 | Ghimbav | RO |
| 30 | Premium AEROTEC | 769 | Ghimbav | RO |
| 31 | PWR | 3.836 | Rzeszów | PL |
| 32 | PZI Mielec | 1.499 | Mielec | PL |
| 33 | Airbus Operations LTD | 4.600 | Flintsmile, Wales | UK |
| 34 | GKN Aerospace | 1.300 | Filton, Bristol | UK |
| 35 | E-GEOS S.p.A. | 255 | | IT |
| 36 | ThalesAleniaSpace | 2.164 | | IT |
| 37 | TELESPACIO S.p.A. | 990 | | IT |
| 38 | Airbus Group | 3.408 | Getafe, Madrid | ES |
| **GESAMT** | **74.520** | | | |

The objective of the survey was the systematic documentation of working and employment standards influenced in enterprises by demographic change.

To this end, a standardised questionnaire was developed and used. While the survey as such is not representative, it certainly is a key trend indicator.

The results of the survey yield conclusions that are comparable in Europe on the current organisational situation and, therefore, on the need for action to secure skilled workers and jobs.

**Primary topics of the survey:**

- Recruiting employees
- Qualification and work design conducive to learning
- Health promotion and age-compatible deployment of personnel
- Know-how transfer between young and old

## MAIN FINDINGS FROM SURVEY

In a pan-European survey, the topics „demography, human resources management and securing skilled workers" were systematically examined for the first time and evaluated in a comparison of countries.

The survey among 38 companies in eight countries confirms that there are mainly two core challenges for businesses:

- How do we ensure the recruiting, retention and development of suitable skilled labour?
- How do we ensure that work is structured in a way that allows for ageing with employees remaining healthy and competent while still enjoying employment?

More than 70 % of companies surveyed state that working conditions for the majority of production jobs are critical for ageing and older workers. The main factors are the three-shift rotation, physically strenuous work, limited scopes of action and increasing pressure in terms of deadlines and performance. Usually, the work structure does not foresee relief for older employees.

The survey results for training and work practices show a general lack of measures - with few exceptions - targeted particularly at employees in higher age brackets. For the other factors, the results vary greatly between the companies. In development, there is a higher share of work practices designed to promote learning than in production. About 30 or 40 percent of companies (in production and development, respectively) consistently plan work practices that promote learning. The other businesses do not make full use of their possibilities with regard to the tapping and development of existing potential. It seems, therefore, that the problems relating to the securing of qualified personnel often originate in the companies themselves.

## THE MOST IMPORTANT RESULTS BY REGION

The results were summarised by regions in the following charts. Values between 1 and 1.5 are highlighted in green and symbolise little need for action because the design of conditions is good or very good. Medium need for action arises where values are higher than 1.5 and lower than 2.5 (yellow highlighting). Greater need for action arises where the values exceed 2.5 (red highlighting).

### Recruiting employees (production & engineering)

| | Recruiting employees (production for groups of countries) | West & North (D, S, UK) | South (F, E, I) | East (Pl, Ro) |
|---|---|---|---|---|
| 1.1 | Shortage of skilled staff (current) | 2,10 | 2,20 | 2,40 |
| 1.2 | Shortage of skilled staff anticipated (future) | 2,40 | 2,10 | 2,80 |
| 1.3 | Older applicants recruited | 1,70 | 2,10 | 1,80 |
| 1.4 | Job advertisements also aimed at older applicants | 1,80 | 1,80 | 1,80 |
| 1.5 | We train young people and take over this | 1,40 | 2,20 | 1,80 |

green = good Conditions, yellow = partly/partly, red = critical Conditions

**Recruiting of skilled staff is current difficult and will get more difficult in the future.**

| | Recruiting employees (engineering for groups of countries) | West & North (D, S, UK) | South (F, E, I) | East (Pl, Ro) |
|---|---|---|---|---|
| 1.1 | Shortage of skilled staff (current) | 2,30 | 2,00 | 2,30 |
| 1.2 | Shortage of skilled staff anticipated (future) | 2,50 | 1,80 | 2,70 |
| 1.3 | Older applicants recruited | 1,80 | 2,20 | 1,70 |
| 1.4 | Job advertisements also aimed at older applicants | 1,90 | 1,80 | 1,70 |
| 1.5 | We train young people and take over this | 2,10 | 2,30 | 1,70 |

green = good Conditions, yellow = partly/partly, red = critical Conditions

**It is harder to get skilled staff in the area of engineering than in the production**

## Qualification and learning-conducive design of work (production)

| | Qualification and job design (production for groups of countries) | West & North (D, S, UK) | South (F, E, I) | East (Pl, Ro) |
|---|---|---|---|---|
| 2.1 | Complex work assignments present | 1,20 | 1,50 | 1,00 |
| 2.2 | Future qualification requirements are known | 1,80 | 2,10 | 1,20 |
| 2.3 | Current qualification requirements are known | 1,90 | 1,90 | 1,20 |
| 2.4 | Staff discussions regarding training and qualification | 1,70 | 1,50 | 1,40 |
| 2.5 | Opportunities of further training are present | 1,80 | 1,70 | 1,20 |
| 2.6 | Training on the job is possible | 2,10 | 1,70 | 1,20 |
| 2.7 | Work in groups | 1,40 | 1,20 | 1,00 |
| 2.8 | Change of work assignments occurring | 2,30 | 2,30 | 1,80 |
| 2.9 | Further training for older staff | 2,50 | 2,20 | 1,20 |
| 2.10 | Support for further training for older staff | 2,40 | 2,10 | 1,80 |
| 2.11 | Age-appropriate learning methods are in use | 2,20 | 2,50 | 2,20 |
| 2.12 | New technology familiar to both old and young | 1,40 | 1,50 | 1,40 |
| 2.13 | Deployment spectrum same for old and young | 1,40 | 1,70 | 2,40 |
| 2.14 | Workplaces with new technology also for older staff | 1,80 | 1,80 | 1,20 |
| 2.15 | No age limit for job placements | 1,10 | 2,20 | 1,40 |
| 2.16 | Sabbatical for further training/regeneration | 1,80 | 2,00 | 2,80 |

green = good Conditions, yellow = partly/partly, red = critical Conditions

| | Qualification and job design (engineering for groups of countries) | West & North (D, S, UK) | South (F, E, I) | East (Pl, Ro) |
|---|---|---|---|---|
| 2.1 | Complex work assignments present | 1,20 | 1,50 | 1,00 |
| 2.2 | Future qualification requirements are known | 1,80 | 2,10 | 1,00 |
| 2.3 | Current qualification requirements are known | 2,00 | 1,80 | 1,00 |
| 2.4 | Staff discussions regarding training and qualification | 1,40 | 1,30 | 1,30 |
| 2.5 | Opportunities of further training are present | 1,40 | 1,30 | 1,00 |
| 2.6 | Training on the job is possible | 1,70 | 1,60 | 1,00 |
| 2.7 | Work in groups | 1,50 | 1,30 | 1,00 |
| 2.8 | Change of work assignments occurring | 2,30 | 2,20 | 1,70 |
| 2.9 | Further training for older staff | 2,50 | 2,10 | 1,00 |
| 2.10 | Support for further training for older staff | 2,40 | 2,10 | 1,70 |
| 2.11 | Age-appropriate learning methods are in use | 2,20 | 2,50 | 2,00 |
| 2.12 | New technology familiar to both old and young | 1,20 | 1,30 | 1,30 |
| 2.13 | Deployment spectrum same for old and young | 1,40 | 1,60 | 2,00 |
| 2.14 | Workplaces with new technology also for older staff | 1,90 | 1,60 | 1,00 |
| 2.15 | No age limit for job placements | 1,00 | 1,80 | 1,00 |
| 2.16 | Sabbatical for further training/regeneration | 1,70 | 2,00 | 2,70 |

green = good Conditions, yellow = partly/partly, red = critical Conditions

**The job design supports learning in and near the job**

**Conditions for qualification are considered as good til partly/partly**

**Specific approaches to the qualification of older workers are scarce. There is only a little difference between the different groups of employees.**

**Results are similar between production and engineering**

**Eastern European companies are much better at assessing their situation than companies from the other two regions.**

## Health-promoting working conditions (production)

| | health promotion (production for groups of countries) | West & North (D, S, UK) | South (F, E, I) | East (Pl, Ro) |
|---|---|---|---|---|
| 3.1 | "Age-critical" workplaces are available | 2,20 | 2,20 | 2,40 |
| 3.2 | Shift work is in place (night or rotating shifts) | 2,60 | 2,70 | 2,60 |
| 3.3 | State of health of staff is known | 1,60 | 1,20 | 1,20 |
| 3.4 | Starting points for health promotion are known | 1,10 | 1,40 | 1,00 |
| 3.5 | Reduction of physical and psychological strain | 1,60 | 1,80 | 1,80 |
| 3.6 | Preserving health through preventive measures | 1,70 | 1,70 | 1,60 |
| 3.7 | Able to arrange own work | 2,40 | 2,40 | 2,00 |
| 3.8 | Limited time under severe working conditions | 2,50 | 2,10 | 1,60 |
| 3.9 | Workplaces available for older staff | 2,50 | 2,70 | 2,80 |
| 3.10 | Departure from shift work is possible | 2,20 | 1,40 | 2,50 |
| 3.11 | Shift work is organised to protect health of staff | 2,00 | 1,80 | 2,50 |

green = good Conditions, yellow = partly/partly, red = critical Conditions

## Health-promoting working conditions (engineering)

| | health promotion (engineering for groups of countries) | West & North (D, S, UK) | South (F, E, I) | East (Pl, Ro) |
|---|---|---|---|---|
| 3.1 | "Age-critical" workplaces are available | 1,20 | 1,40 | 1,70 |
| 3.2 | Shift work is in place (night or rotating shifts) | 1,00 | 1,80 | 2,00 |
| 3.3 | State of health of staff is known | 1,60 | 1,20 | 1,00 |
| 3.4 | Starting points for health promotion are known | 1,10 | 1,40 | 1,00 |
| 3.5 | Reduction of physical and psychological strain | 1,60 | 1,80 | 1,30 |
| 3.6 | Preserving health through preventive measures | 1,60 | 1,70 | 1,00 |
| 3.7 | Able to arrange own work | 2,30 | 2,30 | 2,00 |
| 3.8 | Limited time under severe working conditions | 2,50 | 2,50 | 2,00 |
| 3.9 | Workplaces available for older staff | 2,60 | 2,70 | 2,70 |
| 3.10 | Departure from shift work is possible | 2,60 | 1,00 | 2,30 |
| 3.11 | Shift work is organised to protect health of staff | 2,70 | 1,70 | 2,30 |

green = good Conditions, yellow = partly/partly, red = critical Conditions

**Workplace design to foster good health (in particular with regard to older employees) is rather rare**

**Instead, the tendency towards age-critical strains has grown: pressure to meet deadlines and performance targets is growing, in production, shift work including night shifts is the rule rather than the exception, scope for action in work processes is declining, and physical strains and mental illnesses are on the rise.**

**Working conditions in production are assessed as substantially more critical.**

**Enterprises from Eastern Europe assess the situation as considerably more favourable than enterprises in the two other regions.**

## Know-how Transfer (production & engineering)

| | Know-how Transfer (production for groups of countries) | West & North (D, S, UK) | South (F, E, I) | East (Pl, Ro) |
|---|---|---|---|---|
| 4.1 | Older employees have specific knowledge | 1,10 | 1,10 | 1,00 |
| 4.2 | Preparations for start of retirement made together | 1,90 | 2,20 | 2,00 |
| 4.3 | Preparations for start of retirement made individually | 1,70 | 1,80 | 2,00 |
| 4.4 | Mixed-age teams for exchange of knowledge | 2,20 | 2,20 | 1,00 |
| 4.5 | Systems for transfer of knowledge in place | 2,40 | 2,10 | 1,00 |

green = good Conditions, yellow = partly/partly, red = critical Conditions

| | Know-how Transfer (engineering for groups of countries) | West & North (D, S, UK) | South (F, E, I) | East (Pl, Ro) |
|---|---|---|---|---|
| 4.1 | Older employees have specific knowledge | 1,00 | 1,00 | 1,00 |
| 4.2 | Preparations for start of retirement made together | 2,00 | 2,00 | 1,70 |
| 4.3 | Preparations for start of retirement made individually | 1,70 | 1,70 | 2,00 |
| 4.4 | Mixed-age teams for exchange of knowledge | 2,20 | 2,30 | 1,00 |
| 4.5 | Systems for transfer of knowledge in place | 2,20 | 2,10 | 1,00 |

green = good Conditions, yellow = partly/partly, red = critical Conditions

**Conditions for successful and continual know-how transfer in the field of production and development / construction are described as good to medium.**

**Specific knowledge by older employees**

**Only a few teams with mixed age (except Eastern Europe)**

**No systematic exchange of knowledge**

**Similar results for production und engineering**

## Demographics and corporate culture (production & engineering)

| | Corporate Culture (production for groups of countries) | West & North (D, S, UK) | South (F, E, I) | East (Pl, Ro) |
|---|---|---|---|---|
| 5.1 | Elimination of prejudiced against older staff | 2,50 | 2,20 | 2,20 |
| 5.2 | Recognition and appreciation | 1,60 | 1,40 | 1,00 |
| 5.3 | Staff cooperation and own initiative | 1,70 | 2,20 | 1,20 |
| 5.4 | Management deals with ageing employees | 2,40 | 1,80 | 1,80 |
| 5.5 | Guidelines for a balanced personnel policy | 2,60 | 2,10 | 2,00 |

green = good Conditions, yellow = partly/partly, red = critical Conditions

| | Corporate Culture (engineering for groups of countries) | West & North (D, S, UK) | South (F, E, I) | East (Pl, Ro) |
|---|---|---|---|---|
| 5.1 | Elimination of prejudiced against older staff | 2,60 | 2,40 | 2,00 |
| 5.2 | Recognition and appreciation | 1,80 | 1,40 | 1,00 |
| 5.3 | Staff cooperation and own initiative | 1,80 | 2,00 | 1,30 |
| 5.4 | Management deals with ageing employees | 2,50 | 1,80 | 2,00 |
| 5.5 | Guidelines for a balanced personnel policy | 2,60 | 2,10 | 1,70 |

green = good Conditions, yellow = partly/partly, red = critical Conditions

**There is a certain body of prejudice concerning older employees' ability to perform.**

**There is a lack of commitment by management and managerial staff in favour of good collaboration between younger and older employees.**

**Again, the results fielded by Eastern European enterprises have turned out better.**

**Discussion of the results from the survey: Some conclusions by the British colleagues from UNITE**

*„Following the analysis for UK demographics and the results from the other EU countries it was clear to us, that the scope of our project needed to extended to encompass the synergies across a number of interlinked areas. Finally we have identified two major challenges to business in the European survey:*

- *How do we ensure the recruiting and retention and development of suitable skilled labour?*
- *How do we ensure that work is structured in a way that allows for ageing with employees remaining healthy and competent while still enjoying employment?"*

From: Air Project 2017 - UK Aerospace and Defence Industry | www.air-change.eu

## CONCLUSIONS AND RECOMMENDATIONS

The example of successful companies shows that they are better able to retain their skilled labour if working conditions are designed according to the "good work" principle. This helps maintain and develop the potential of employees, creating a sense of loyalty.
To this end, it is necessary to follow an integrated approach which covers various fields of action (planning, recruiting, development, loyalty, retaining, transfer of expertise) and simultaneously combines work(place) organisation and training programmes. The aim is to allow employees to grow older in their job, keeping up their health and skills/competence by enabling them to adjust their employment career accordingly, all the while strengthening the company's ability to perform and innovate.

**Main fields of action**


*This graphic shows the main fields of action of an integrated approach to retaining skilled labour. It is necessary to have activities for the recruitment of skilled employees and to develop the potential of current employees at the same time.*

*The best result will be achieved if work(place) organisation and training activities are combined.*

The trade union and management representatives perceive the need for action primarily in the context of securing skilled labour. In this context, all relevant organisational and design fields – planning, recruitment, integration, loyalty & retention, development, potential maintenance, know-how transfer are equally within the focus. The need in this context is to combine organisational, regional and industry-related activities with one another.
The need for action in terms of health-conducive design of working conditions likewise exists but is given a lower emphasis compared with organisational and regional measures to secure skilled labour.

### Needs for action in companies (by regions)

| | Needs for actions in companies | West & North (D, S, UK) | South (F, E, I) | East (Pl, Ro) |
|---|---|---|---|---|
| 1.1 | Staff planning | 2,60 | 2,90 | 2,60 |
| 1.2 | Training personnel | 2,40 | 3,00 | 2,80 |
| 1.3 | Recruiting personnel | 2,50 | 2,50 | 2,80 |
| 1.4 | Integrating new employees | 2,60 | 2,60 | 2,60 |
| 1.5 | Promoting employee loyalty | 2,60 | 2,60 | 2,00 |
| 1.6 | Training and developing employees | 2,60 | 2,80 | 2,60 |
| 1.7 | Avoiding physical and psychological strain | 2,20 | 2,90 | 2,40 |
| 1.8 | Knowledge sharing (know-how transfer, knowledge management) | 2,50 | 2,90 | 2,40 |
| 1.9 | Part-time work for training: paid release from duties for training | 2,20 | 2,20 | 2,00 |
| 2.1 | Ergonomics at the workplace | 2,60 | 2,00 | 2,40 |
| 2.2 | Varied work assignments | 2,50 | 1,80 | 2,40 |
| 2.3 | Opportunities for learning and development in work | 2,50 | 2,40 | 2,60 |
| 2.4 | Appropriate organisation of work load | 2,40 | 2,50 | 2,20 |
| 2.5 | Good plant work organisation | 2,50 | 2,60 | 1,80 |
| 2.6 | Ergonomic work structuring | 2,30 | 2,20 | 2,40 |
| 2.7 | Staff-oriented management | 2,30 | 2,40 | 2,40 |
| 2.8 | Co-determination and cooperation of employees | 2,50 | 2,60 | 2,40 |
| 2.9 | Compatibility of family and career | 2,40 | 2,40 | 2,40 |
| 2.10 | Special exemptions for older staff | 2,20 | 2,50 | 1,80 |
| 2.11 | Company integration management | 2,20 | 2,50 | 1,80 |

green = low level, yellow= medium level, red = high level

*„The central operational problem is not demographic change and thus ageing in itself; much more important are poorly organised working conditions which prevent older workers from remaining in employment for longer and without obstacles. This in turn leads to a policy of "healthy, competent ageing".*
*In order to achieve this, companies are called upon to: remove age-barriers at work, promote a diverse, age-adjusted employment development and create a work organisation that corresponds to the needs of age and ageing."*

Wolfgang Anlauft | ffw GmbH | Germany

## Facts and fields for action in companies

- Actions are necessary at all topics.
- The bottlenecks in recruiting young staff that can already be seen today will become worse (especially in research and development).
- The need for vocational training is growing, the work climate must become more learning-oriented and „learning on the job" will have to be strengthened.
- There is a gradual change in the workplace for older employees, as younger people are more frequently assigned to modern workplaces and machine.
- There is no systematic transfer of knowledge between young and old.
- In many companies there are no specific measures in place for older employees.
- Health-oriented workplace organisation (in particular with regard to older employees) is the exception.
- Age-relevant strain has tended to increase; we are seeing an increase in pressure due to deadlines and performance, less freedom of action in work processes, more physical strain and a resultant increase in psychological disorders.

Skilled labour cannot be retained without suitable action to organise work in a way that promotes learning and health while upskilling employees at the same time. Still, company surveys show that even these are not a sure-fire success. In order to initiate and organise these programmes in the best interest of employees there must be an active commitment of company-level and trade union representation.

Employee representatives at trade union and company level see a close connection between the idea of organising work in an age-appropriate way and following the principle of "good work", striving to allow the workforce to grow older while keeping up their health and skills. The idea is to reduce physical and emotional stress and enhance employees' chances of living a healthy life with regard to physical, mental and psychological well-being.

In future, the scope for action in the field of securing specialist labour will increasingly need to be designed in connection with changes of the kind that arise in particular through digitisation and concepts of Industry 4.0:

In this context, the following questions are of particular concern for company and cross-company representation of interests:

- What activities will fall by the wayside, what activities will change, and what new activities will emerge?
- What changes will arise for operational work organisation (in terms of scope of action, transparency, performance requirements, activities assigned)?
- What new requirements will arise with regard to company data protection, the use of meta data and access to company and cross-organisational data?
- How will basic and advanced vocational training systems need to be changed? How will access to basic and advanced vocational training be handled?
- How will working times be designed in future? (compatibility or removal of boundaries between work and leisure)
- What impacts will arise as far as the organisation and design of employment relations is concerned, i.e. crowdworking?

**The employee representatives are well advised to do their homework on these topics and to develop positions of their own and play an active role in designing working conditions in company and cross-organisational initiatives from an early stage.**

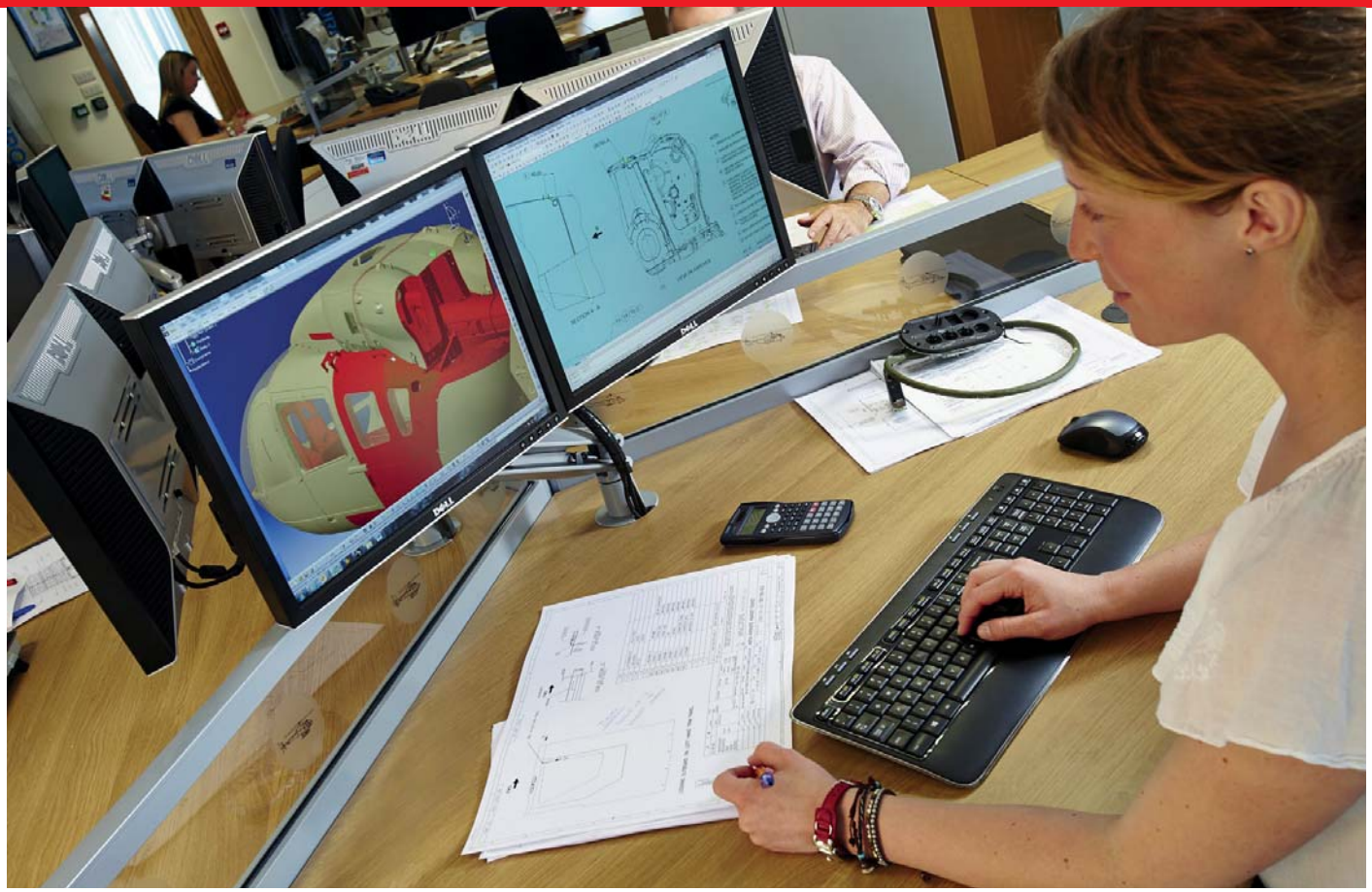
**European projects may be helpful in order to spread the basis of findings at grass-roots level, to exchange reflected experiences, to learn from pioneers in companies, regions and industry segments and to encourage independent initiative in the relevant context.**

## Conclusions from the survey by the Swedish colleagues of IF Metall

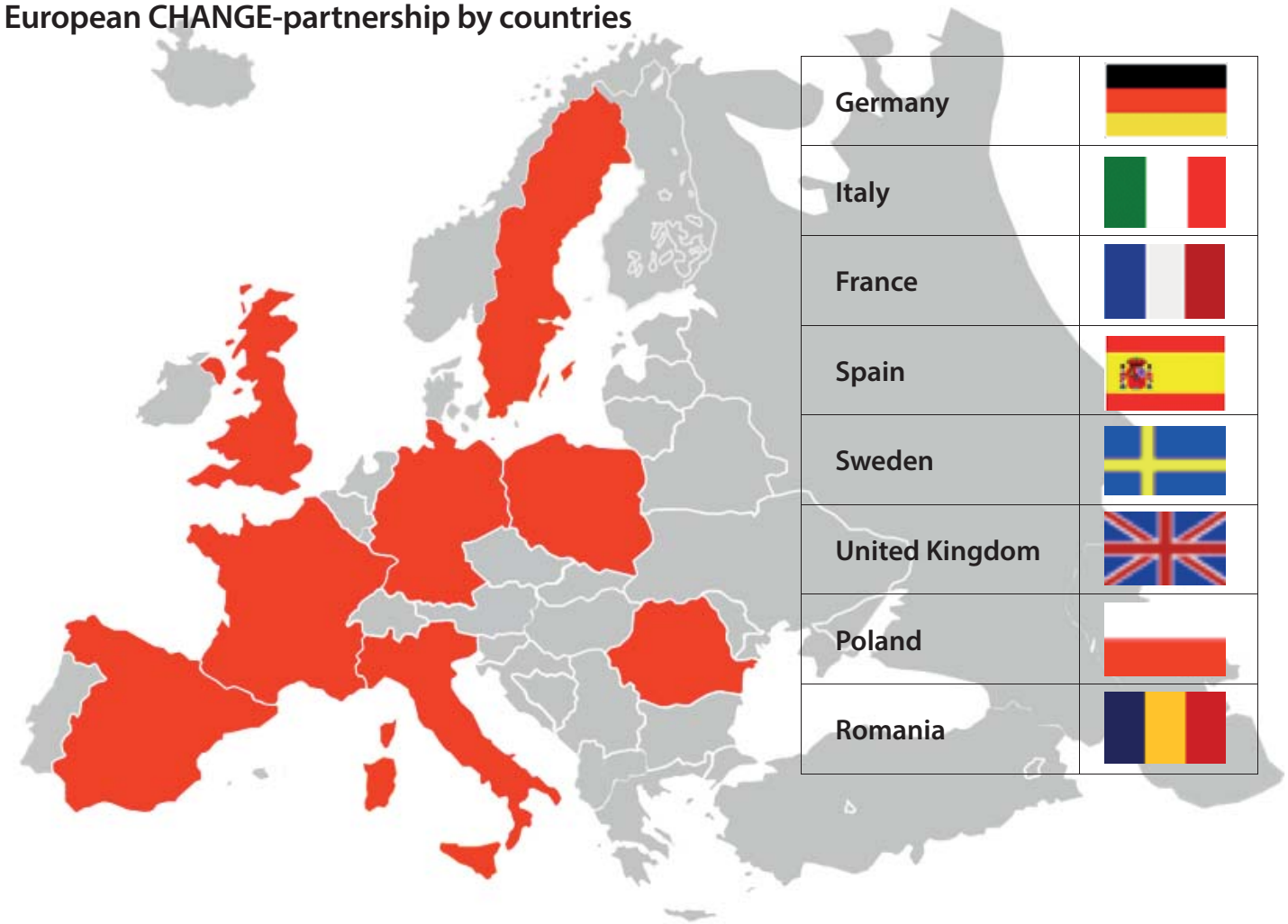
***„The survey concerns the areas of staff recruitment, qualifications and job development, health promotion, knowledge transfer and business culture. The questionnaire was answered by SAAB and GKN Aerospace and covers workers and officials. The responses show that companies have an age structure where a large part of those employees will retire within a period of 5-10 years which are not fully matched by recruitments. At the same time, there is a requirement for increased productivity, so the need for staff do not follow the development of the company, but it is also about to cover the internal movement within these companies. Good recruitment opportunities create internal mobility within companies which gives our members better opportunities for skills development throughout their working lives.***

***The survey responses show that companies in the aerospace industry have difficulty recruiting skilled workers and that it will become more difficult to recruit in the future. The industry has generally difficult to attract younger talents, the reasons for this are different depending on which country we are. In Sweden, we see that young people are seeking theoretical programs rather than vocational programs, if the development continue as projected then in 2025 there will be missing 26 700 employees in the manufacturing industry. If we look at the internal educational opportunities, both SAAB and GKN has developed system for training of personnel, where we know that the current structure with the certification requirements in the aviation industry requires that staff maintains a high level of expertise in their field. In addition, these two companies own schools that offer vocational training for high school students.***
***The answers that our sister organizations presented shows a similar situation within European industry."***

From: SWEDISH AEROSPACE AND DEFENSE INDUSTRY – AIR PROJECT 2017 | www.air-change.eu



## European CHANGE-partnership by countries



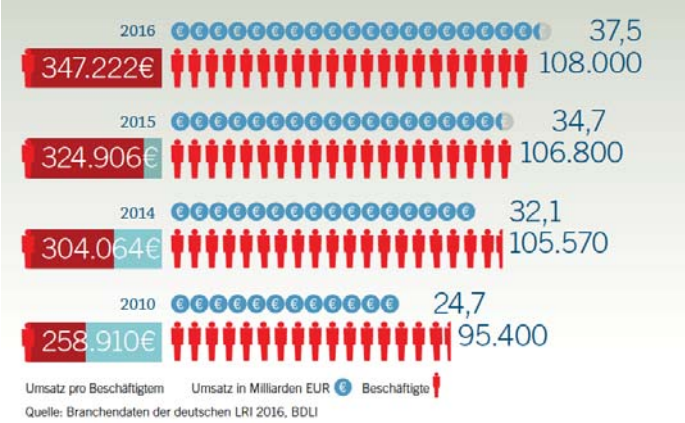
| | |
|---|---|
| Germany | |
| Italy | |
| France | |
| Spain | |
| Sweden | |
| United Kingdom | |
| Poland | |
| Romania | |

**The German aerospace industry has enjoyed an ongoing success over the last two decades. Since the mid-90's, industry revenues have more than quadrupled – to over EUR 37 billion in 2016. During the same period, the sector has recorded annual average growth of more than seven percent. Employing a workforce of over 108 thousand the aerospace sector spent around 11 percent of 2016 turnover (EUR 4 billion) on R&D – making it one of the country's most innovative industries.**

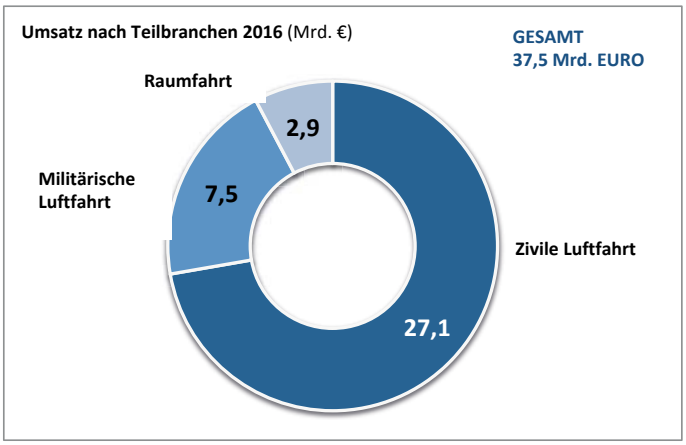

With a further surge in revenue by eight per cent, to 37.5 billion euros, the German aerospace industry reached an all-time high in 2016. For 2017 the industry expects further revenue growth of 2.5 per cent and a 9.3 increase in earnings.

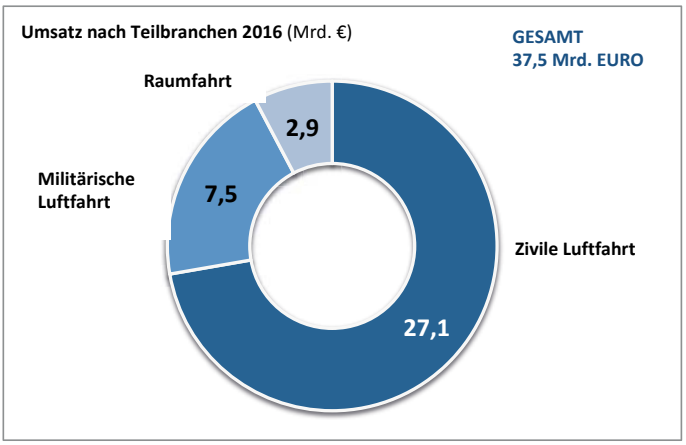
The increase in employment turned out substantially lower in 2016 than sales revenue growth, up by only one per cent, to a current total of 108,000 employees. This trend has been observed since 2013. Nevertheless, it is noteworthy that never before were so many workers employed in the industry segment as in the year 2016.

**Aerospace industry: growth and efficiency**
With renewed sales growth of eight percent to 37.5 billion euros, the German aerospace industry climbed to an all-time high in 2016.



Based on these successful growth statistics, the development of the aerospace industry in Germany appears to be out-standing. There is a great deal to suggest that the industry currently is "sailing in safe waters". Growth of the industry con-tinues unabated. This also applies to all sub-branches/segments.




Source: Bundesverband der Deutschen Luft- und Raumfahrtindustrie e.V. (BDLI), BRANCHENDATEN DER DEUTSCHEN LUFT- UND RAUMFAHRT-INDUSTRIE 2016

Civil aviation remains the biggest single segment of the indus-try. Rising contract awards and delivery figures on a global sca-le led to 7% sales revenue growth, to reach 27.1 billion euros. Just over 75,000 persons are employed in this segment. Military aviation recorded a sales revenue plus of 8%. Turnover increased to 7.5 billion euros. The number of employees was up by 3%, to 23,800. In the aerospace industry, turnover was up by 17.3% year-on-year, to 2.9 billion euros; the num-ber of employees rose by 5.7%, to 8,900..

This efficiency enhancement is attributable above all to per-formance optimizations and cost reductions. Thanks to various measures, such as outsourcing programmes and farm-outs or optimized production workflows in industrial manufacturing, sales per employee from the year 2010 to 2016 were boosted by 88,312 euros, or 34.1 per cent.

Despite the overall positive track record, some risks remain – either home-grown by the industry itself or due to the global environment becoming increasingly complex.

## Situation of civil aviation industry in Germany

The civil aviation industry in Germany again managed to boost its order intake and also delivered more aircraft, which led to the surge in sales indicated above. The main factors for the forecast market growth are rapidly growing passenger vol-umes and the increasing need to replace old and low-efficient aircraft. This substantial demand further opens up supply chains and sees a continued shift from regional to global sourcing.

The image of the civil aviation industry is characterised and shaped by Airbus. Even though the number of orders placed with Airbus declined to 731 aircraft in 2016 (2015: 1,080 con-tract awards), the value still exceeds the number of deliveries, amounting to 688 aircraft. Accordingly, the order portfolio in-creased slightly, to 6,874 aircraft. This corresponds to a calcu-la-ted figure for capacity utilisation of the production locations of approximately ten years.

In the long run, it is assumed that growth in passenger aviation will continue in principle. In emerging market countries such as China, India or Brazil, growing prosperity will also cause the need for mobility to continue rising. There is a general con-sensus on this at Airbus, Boeing and Embraer. Accordingly, worldwide passenger aviation traffic from 2016 to 2036 is forecast to grow by 4.4 per cent, as predicted by Airbus in its recently published Global Market Forecast (GMF). In this report, Airbus forecasts the delivery of a total of 34,899 new aircraft for over 100 passengers as well as of freight aircraft with a capacity exceeding ten tonnes of weight and an order volume of 5,300 billion US dollars in the period from 2016 to 2036. Boeing, in its current outlook until 2035, perceives demand for as many as 38,660 aircraft with over 100 seats and an order volume of 5,900 billion US dollars.

Other manufacturers are also active on this market, making an effort to acquire a greater share of sales and earnings. Competitors from China, Japan and Russia, but also Brazil and Canada, have intensified their development activities. They are shortly due to roll out aircraft with over 100 seats on the market. China is in the process of testing the first me-dium-haul aircraft Comac C-919. Russia and China have decided to jointly roll out a long-range jet aircraft on the market between 2025 and 2028. In addition, minor startup en-terprises are entering the market with niche products. The US enterprise BOOM, which is developing a supersonic aircraft with 55 seats, is a case in point. And, with its Falcon rockets, the aeronautic enterprise Space-X has already proved that such possibilities also exist for newcomers today.

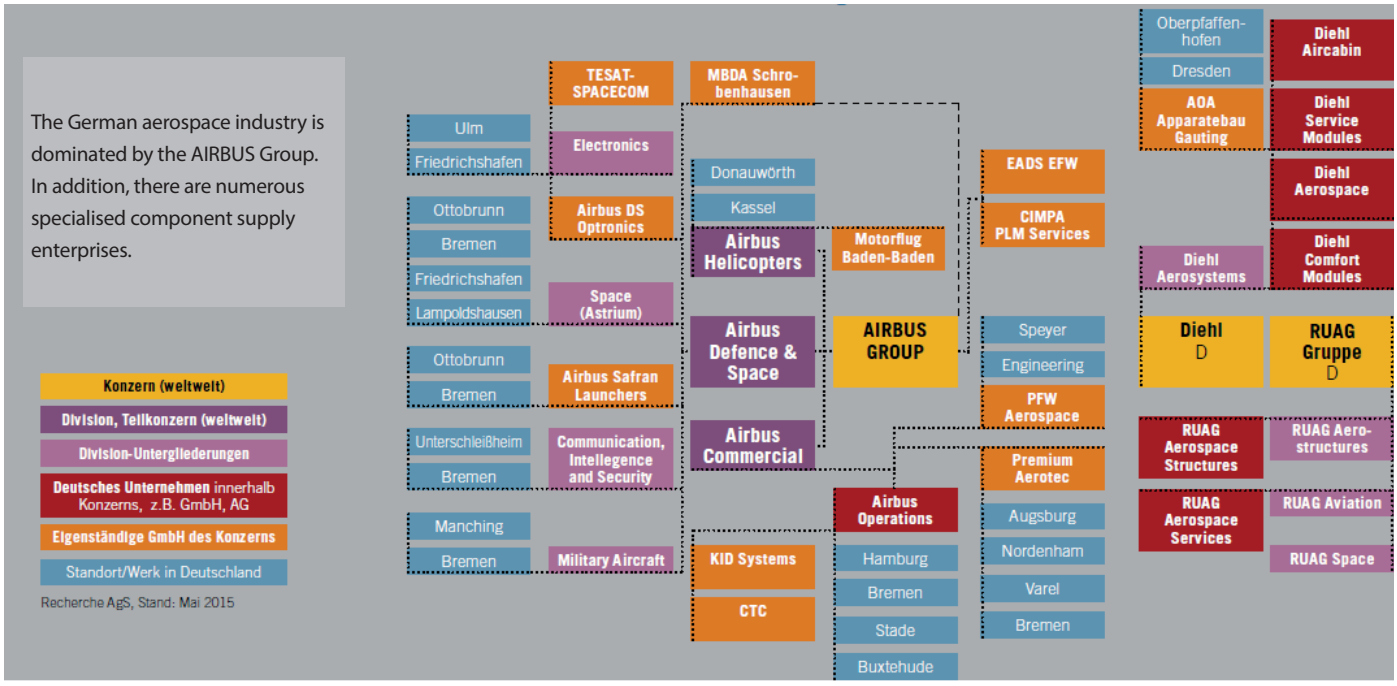
It is important for Airbus and the entire industry in Europe to respond to these develop-ments as they unfold and to remain innovative with their enterprises. This applies both to digitalisation of the companies (Industry 4.0) and with regard to future-proof and sus-tainable aircraft with low fuel consumption and noise emissions. The relevant objectives of European policymakers and industry have already been defined with Horizon 2020, Clean Sky and Flightpath 2050 – the task at hand now is to implement them consistently.

Problems in the field of civil aviation have been encountered by Airbus and, therefore, the entire industry segment, with the mega-liner A380. Sales are not meeting the expec-tations assumed at the time the programme was developed. The production rate is to be reduced to less than one aircraft per month – an extremely low value. Airbus continues to adhere to the programme with a modified version: the A380plus, which is to use less fuel and carry more passengers. Evidently, there appear to be problems with the struc-ture of component suppliers for the new Airbus programmes A320neo, A350 and A330neo. For instance, production problems and bottlenecks in supply keep occurring for the latest generation of engines. In some cases aircraft cannot be delivered on schedule.

In 2016, Airbus Helicopters managed to extend its leading position with a share of 47% of the civil and quasi-state markets worldwide. Nevertheless, the helicopter segment like-wise faces problems. The reasons include unfavourable macroeconomic trends in the gas and oil industry. However, new military programmes are also lacking in Europe. At pre-sent the helicopter segment is living on its order backlog. Nevertheless, subsidies totalling 377 million euros were at least approved for the joint Franco-German project X6 of Air-bus in June 2017.

Source: IG Metall Vorstand Frankfurt, air| report 2017

## Corporate structure of the aviation and space travel industry in Germany (May 2015 / excerpt)



| Sales of the German Aerospace industry by manufacturer group 2015 (in million €) | | | | | |
|---|---|---|---|---|---|
| **Aerospace systems** | **Engines** | **Equipment** | **Material technologies & Components** | **Total** | **Change** |
| 20,693<br>**60%** | 5,348<br>**15%** | 7,555<br>22% | 1,069<br>**3%** | **34,665** | **8%** |
| **Number of employees working in the German Aerospace by manufacturer group 2015** | | | | | |
| 54,663<br>**51%** | 12,687<br>**12%** | 35,548<br>**33%** | 3,924<br>**4%** | 106,822 | **1%** |

Source: BDLI, Key figures of the German aerospace industry 2015

| Number of employees by size of companies (2015) | | |
|---|---|---|
| **Size of companies** | **Employees (number)** | **Employees (% of total)** |
| **1 – 50** | 2,135 | 2% |
| **51 – 250** | 7,925 | 7% |
| **251 – 500** | 11,816 | 11% |
| **501 – 2,000** | 15,826 | 15% |
| **➔ 2,000** | 69,120 | 65% |
| **Total** | **106,822** | **100%** |

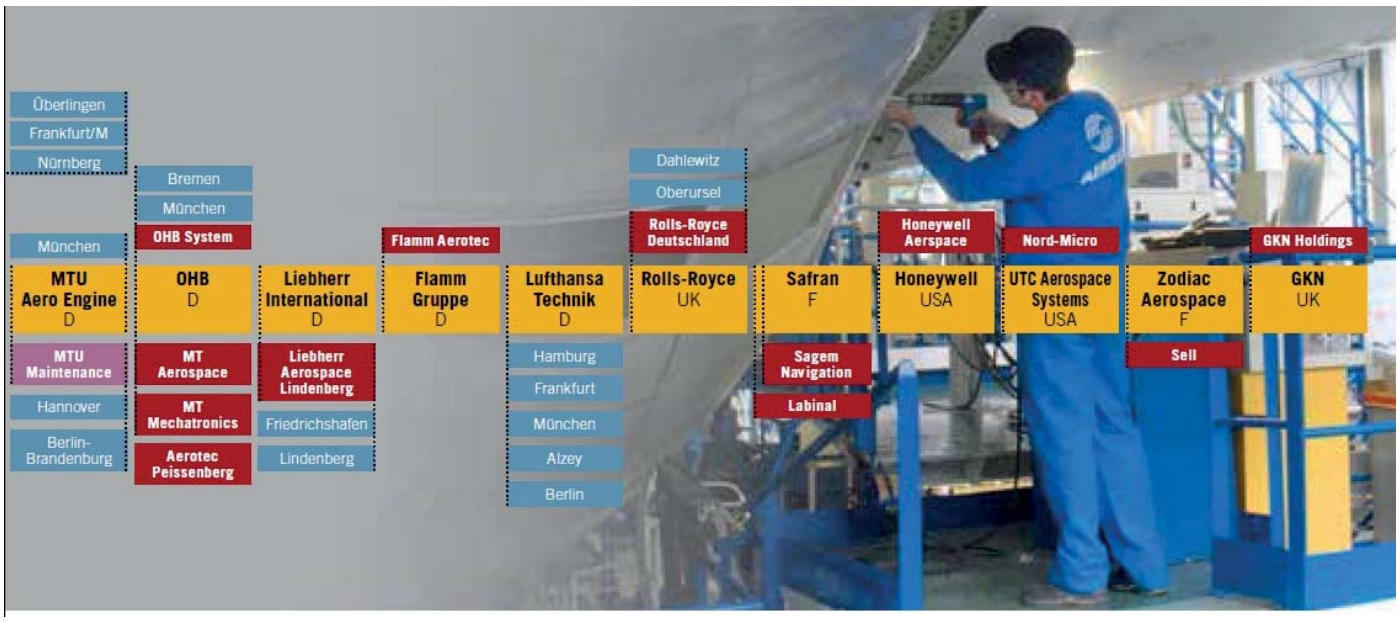
## Supplier to the aviation industry

The aviation industry comprises over 2,300 operations spread nationwide in Germany, with regional focal points in North Germany (especially around the Airbus factories) and South Germany. The component supplier environment is particularly well-developed in manufacturing. The value added chain ranges from development (engineering) and assembly work all the way through to various materials processing methods. In Germany, the focus is on manufacturing production.

In addition to the big Tier 1 suppliers operating with a global reach, the component supplier industry has small to medium-scale and frequently very specialised component suppliers. Over 90 per cent of component suppliers have fewer than 250 employees. Almost 140 companies supply Airbus, a veritable giant. The Diehl Group and Premium Aerotec follow at a consid-erable distance. The key customers of the component suppliers, apart from the aviation industry, are engaged in mechanical engineering, the automotive sector as well as pharmaceutical / medical technology.

Operators in the aviation component supply industry therefore are highly significant both for the German aviation industry as well as in macroeconomic terms. According to the German industry association BDLI, in 2015 the civil aviation component supply industry generated EUR 10.6 billion in sales revenues.

As a global aerospace hub, Germany is home to leading players from all civil and defense aviation market segments. In 2016, more than 1,700 passenger aircraft were manufactured worldwide. Companies from Germany were involved in the produc-tion of all of these aircraft, meaning that German technology can be found in all passenger aircraft built today. Around 300 aircraft were finished in Germany – this is equivalent to 17 percent of total international aircraft production.



## Aerospace industry undergoing constant change

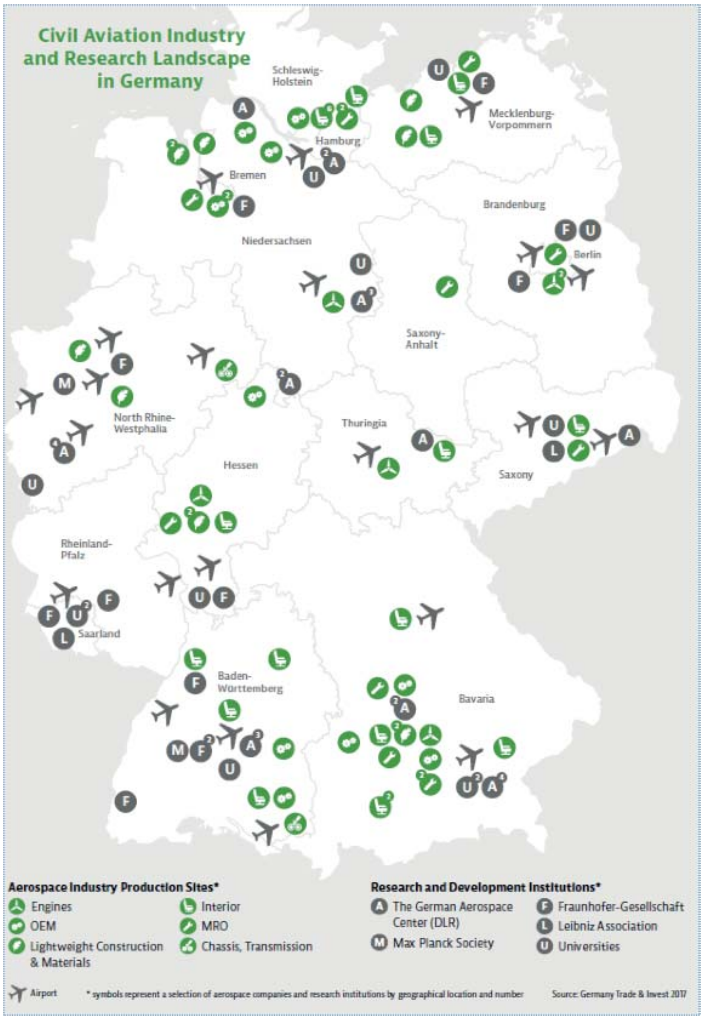
The structure of the German aerospace industry continues to change. The company „Airbus DS Electronics and Border Security GmbH" comprising the defence electronics industry segment that was only established early in 2016 was renamed to trade as „Hensoldt" in 2017, with 74.9 per cent of its shares being sold to the financial investor KKR. Changes are also once again emerging in the Airbus Group: „The merger of the Airbus Group with Airbus has paved the way for an overhaul of our corporate structure; it will simplify corporate control, eliminate duplicated structures and support additional efficiency gains," wrote Thomas Enders, CEO of the Airbus Group, in a press release.

The merger of the companies that are involved with the development and construction of the Ariana 5 / Ariane 6 also continues. After „AirbusSafranLaunchers" had been established, the enterprise most recently took over „Arianespace" (rocket operator / marketer of Ariane). The new enterprise, which meanwhile has seven subsidiaries and a workforce of around 9,000, employees is now trading as the „Ariane Group", with locations throughout Europe.

## Networks and clusters

Germany is home to leading players from all fields of activity – from equip-ment manufacturers, material and component suppliers all the way through to engine producers and entire system integrators. The high concentra-tion of aerospace manufacturing and assembly – as well as R&D, design, recy-cling and supply – enable enterprises to successfully extend their activities across the entire value added chain. Particular location-based strengths include the interior of aircraft as well as aerospace energy efficiency (including lightweight construction and develop-ment of new materials.

Industry stakeholders can be found in a number of regional aerospace clusters such as bavAIRia e. V., HAMBURG AVIA-TION e.V. and Hessen Luftfahrt. The country's particular strength in the development and manufacture of lightweight construction solutions is also illustrated by the existence of spe-cial clusters in this field. Lightweight clusters of relevance to aerospace so-lu-tions are concerned in particular with carbon materials, such as CFKValley Stade or Carbon Composites e. V. which, in turn, have various groups of players at their regional branches (e.g. Carbon Composites East or Carbon Composites South-West).




Source: GTAI, Fact Sheet | The Aerospace Industry in Germany | ISSUE 2017/2018

## DEMOGRAPHIC CHANGE IN EMPLOYMENT

### Main findings from the 2017 Works Council Survey *

Works councils of 62 companies with a total of 73,104 employees took part in the Works Council Survey conducted by the German trade union IG Metall in 2017. This corresponds to approximately 68% coverage of all employees in the industry segment. Some 90% of the participating opera-tions are part of a group.
Below are some of the key industry trends and findings for employment and securing skilled labour and future corporate success.

**➔ Employment growing but no uniform tendency discernible**

Employment increased by 4.9 per cent from 2015 to 2017, to 63,049 employees. However, engineers and technicians are benefiting neither from the very high order portfolio nor from increasing expenditure on research & development. Their share has been in decline for two years now and currently reflects the lowest value since 2013. In this year's survey, 31.1 per cent of the respondents are engineers or technicians. In 2015, 41 per cent of the employees canvassed still were graduates in engineering or technology, down by 25 per cent!

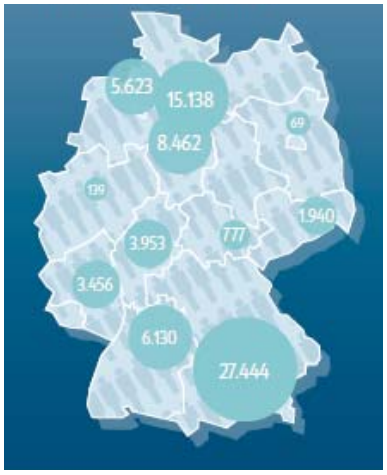
**➔ Employment forecast predominantly positive**

The works councils predominantly assess the development of employment as positive. Over 40.0 per cent anticipate employment growth until the end of 2018. On the other hand, 12.3 per cent of works council members indicate that employment will probably decline in their companies.

**➔ Declining share of engineering employees**

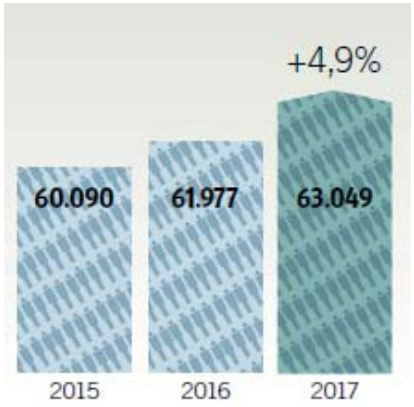
The share of employees engaged in the field of engineering is likewise down year-on-year. In 2017 they represent 28.3 per cent of all employees; in 2016, the share still came to 30.4 per cent. Most employees are engaged in production (45.7 per cent) and in the segment of „Administration and centralised services" (26 per cent).

*) Konzeption, Durchführung und Auswertung der Umfrage wurde von der Agentur für Struktur- und Personalentwicklung GmbH (AgS) im Auftrag der IG Metall durchgeführt und im air|report 2017 dokumentiert.




**Involved employees by regions**

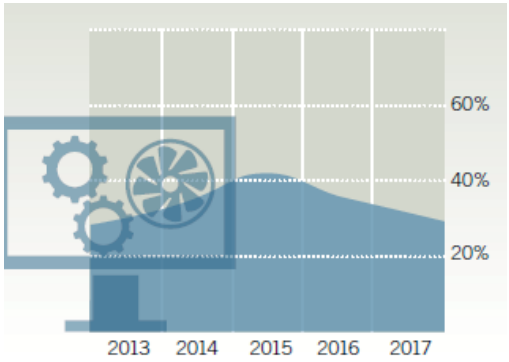
**Employment development: positive trend**




***64.3%***
*of the companies have built up employment from 2015-2017*

***30.9%***
*have also reduced jobs in the last two years.*

**Share of engineers and technicians: falling numbers**




*The share of engineers and technicians fell by **25%** from 2015 to 2017.*

### ➔ Resurgence in temporary work

Whereas in 2015 it was possible to report that the share of temporary workers had been continually declining, a trend reversal is now discernible. Since the year 2015, the share of temporary work has continually increased, amounting to 11.7 per cent at present. An increasing number of temporary workers are amongst the new recruitments again this year. While their share declined from 57.0 to 20.8 per cent in the years from 2013 to 2016, it has now already returned to 34.4 per cent.
Most temporary workers are engaged in production. The share of temporary workers in engineering has substantially declined since 2014, from 41.6 per cent to as little as 11.0 per cent today.

### ➔ Significant increase in number of works contracts

In addition to temporary workers, employees subject to works contracts represent an ever-growing group of employees that partly carries out activities from their own value added chain. In this year's survey, the quota of works agreements amounts to 18.6 per cent. Compared to the previous year (14 per cent), it therefore is substantially higher. Even if more and more works council members need to deal with works contracts, in most cases there is little they can accomplish. Only 17 per cent of all operations have a company agreement that governs works agreements. Only every fourth works council member is already engaged before works contracts are awarded.

### ➔ An industry segment still dominated by men

The relatively low proportion of the workforce accounted for by women remains typical for the aerospace industry. Evidently 16.6 per cent of all employees are female; in the group of technicians and engineers, the share is as low as 10.1 per cent. While the female share of the workforce in companies has been rising slightly for years, women make up only one fifth of new recruitments this year. The situation is similar amongst apprentices or trainees, where 22.0 per cent are female. Employment of women remains a key topic for the industry.

### ➔ Older employees predominantly working full-time

The workforces of companies in the aerospace industry do not have disproportionate number of old people. Most employees on record are below 45 years of age (average age: 43.2 years). Nevertheless, seven per cent of employees are older than 60 and will be leaving the gainfully employed market in the near future. 87.1 per cent of them work full-time.

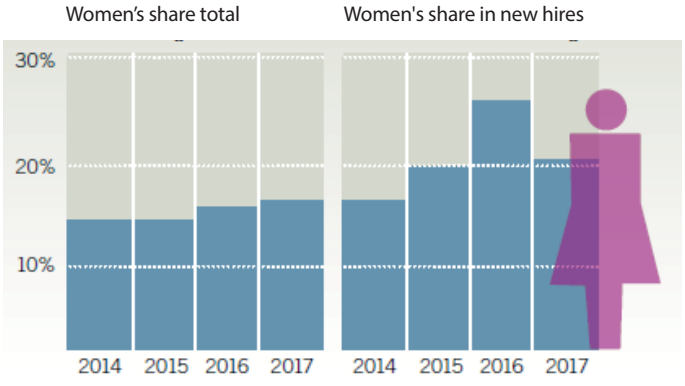
### ➔ Vocational training: both positive and negative aspects

Despite the much-lamented scarcity of skilled labour, not only is the industry neglecting strategic personnel planning but vocational training as well. The low vocational training quota in the aerospace industry continues to decline slightly. In this year's survey it amounts to 3.7 per cent and is down slightly for the second year in succession. In comparison with the wind industry (3.9 per cent), the shipyard industry (7.1 per cent) and mechanical engineering (5.9 per cent), the aerospace industry has the lowest vocational training quota.
What is typical for the industry is the high proportion of dual students, which amounts to 26.5 per cent of all trainees. Accordingly, it has not changed substantially compared with the previous year (27.0 per cent). It is conspicuous, however, that the proportion of dual-mode students is significantly higher than average - in five operations at over 30 per cent.

### ➔ Aerospace industry attractive to young people

Young people find the industry attractive. Operations receive an average of 18 applications per vocational training position. While this value is down slightly year-on-year (20 applications), it is still higher than that of the wind industry where ten school-leavers apply for one vocational training position.

**Women's share of employees: men dominate**




**Trainee ratio: tendency falling**


*Despite the deficient skills shortage, the industry is neglecting the training. The low training rate in the aerospace industry, which has been low for years, continues to decline slightly.*

*It is **3.7%** in this year's survey.*

### ➔ Number of vocational training positions up slightly

The number of vocational training positions will increase slightly in future. For instance 35.2 per cent of operations an-nounced plans to expand their offerings. In over half of all companies, the number of vocational training positions will pre-sumably remain constant, while 13 per cent plan to lower them.

### ➔ Very high takeover after completion of training

On completion of vocational training, as a rule the companies offer qualified persons a professional career, with 97.4 per cent being taken on in 2016. This corresponds to another slight rise (2015: 96.5 per cent; 2014: 92.5 per cent; 2013: 93 per cent). In terms of the number of trainees taken on, the aerospace industry is above average compared with other industry segments.

### ➔ Work students and interns: immense potential

In addition to apprentices, work students and interns have huge potential to become future skilled employees. The 49 companies that provided information on this have 918 work students on their payroll. This corresponds to a share of 1.5 per cent of the total number of employees in these companies. Moreover, a total of 804 interns are engaged in 45 companies. They account for an average of 1.2 per cent of the workforces.

### ➔ Staff recruitment: growing problems

For the first time, most operations in this year's survey indicate that they have difficulties in filling vacant positions with adequate personnel: this was indicated by 53.6 per cent of the works council members canvassed. In the previous year this was said by "only" 48.1 per cent. It is especially problematic for smaller operations to fill vacant positions. In contrast, the large corporations within the aerospace industry tend to have fewer difficulties.

It is hard to find suitable staff particularly in the development areas. This is surprising because skilled employees with professional experience in engineering within an aerospace enterprise should really be available on the labour market. After all, the proportion of engineers and technicians has declined and the number of temporary workers in the field of engineering has decreased significantly. Moreover, IT outfits but also classic production facilities find it difficult to fill positions (mechanics, lathe operators, commissioners, etc.).

### ➔ Difficulties greatest for space operations

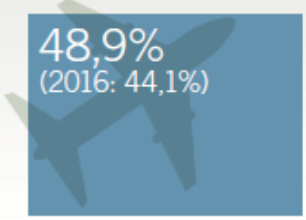
Space industry companies, in which the proportion of engineers is particularly high, report especially severe recruitment problems. Of the space companies participating 83.3 per cent indicated that they had difficulties filling positions, whereas in the aviation industry it was "only" 48.9 per cent.
From the works councils' perspective, recruitment is so difficult because there are not enough applicants on the market who have the necessary qualifications. They say that there frequently is immense regional competition with other enter-prises, and specialists sought often opt for businesses or industry segments that paid higher remuneration.

### ➔ Strategic personnel planning is still the exception

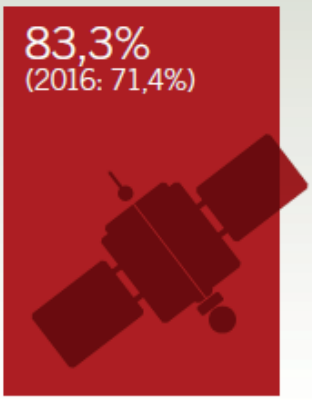
In view of the recruitment problems existing for years now, it is not readily understandable that only few businesses actual-ly have strategic personnel planning in place. Only 17.9 per cent of respondents indicated that personnel planning within their companies was strategic and geared to the needs of the future, while 62.5 per cent explicitly negated any such plan-ning activities in their companies.

**Recruitment: growing problems**

*Recruitment problems complain mainly the companies in the space industry, where the proportion of employees in engineering is traditionally particularly high.*




*Aviation industry*




*Space industry*

## Urgent need for action

**The aerospace industry needs a clear strategy to combat the dearth of skilled employees. It will need to boost its attractiveness, reinforce vocational training, identify changed professional and qualification needs at an early stage, create qualification offerings for employees and adjust vocational training and study courses accordingly. Without strategic personnel planning, the problem will become increasingly worse!**

## Conclusions and persepctives: Bring the industry forward – and promote employment

**„In economic terms, the success story of the aerospace industry continues unabated in 2017. All in all, busi-nesses have full capacity utilisation and the works council members assess the development of the order intake as positive. Employment is being reinforced, with a respectable plus of 4.9 per cent being recorded in the past two years. And investments in research and development reached a record level of 11.1 per cent, compared with 8.5 per cent in 2016.**

**The findings of the 2017 works council survey once again confirm, however, that the businesses are doing far too little to secure their requirements for skilled employees.**

**On the one hand, 53.6 per cent of businesses are already having difficulties to fill positions today. On the other, most businesses continue to ignore strategic personnel planning. Only 17.9 per cent have anything to show in this context.**

**At the same time, the already meagre vocational training quota continues to decline – to 3.7 per cent in 2017, which is grossly negligent as far as the future of the industry is concerned. For comparison purposes, in mechanical engineering, the vocational training quota amounts to 5.9 per cent, and in the shipyards it is as high as 7.1 per cent.**

**If we now additionally consider the challenges of digitalisation and demographic change, then it becomes clear that the industry needs to finally evaluate the status of work correctly. Designing the "work of the future" is of decisive im-portance to the prospects of the aerospace industry.**

**For this reason, I believe that we, the trade union IG Metall, need to do our homework. The employee representatives in the businesses should insist on the work of the future being shaped in a spirit of mutual partnership between the various stakeholders. We now urgently need to change course in order to design and shape digitalisation and demographic change in the interests of the employees.**

**„We now urgently need to change course in order to design and shape digitalisation and demographic change in the interests of the employees."**

### It is necessary

- **to establish a long-term personnel development strategy between the two sides of industry, namely management and employers on the one hand, and trade unions and employers on the other**
- **to advance the non-technical elements of digitalisation: to further develop workplaces and work organisation**
- **to win over young skilled personnel: to substantially increase the number of vocational training positions and to allow employees to participate in this process**
- **to boost the attractiveness of workplaces: to reduce the level of strain, introduce working time models geared to different phases of life of em-ployees, to extend the number of jobs suitable for older staff members, and to advance preventive medicine**
- **to lift the level of qualifications: to offer qualification programmes for all employees, and to secure the know-how of older employees."**

Jürgen Kerner
Management Board member and Chief Treasurer of the trade union IG Metall | DE

## SKILLED EMPLOYEE INITIATIVE OF THE IG METALL

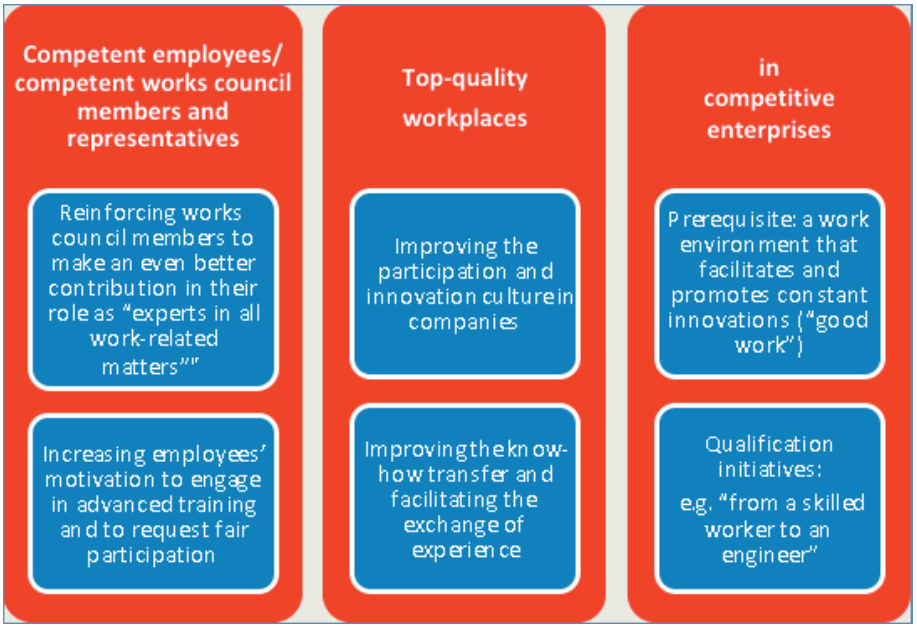
### Works council activities to reinforce the level of personnel development and advanced training

Pressure to take action with regard to personnel and labour policy is immense in the businesses. Demographic challenges for companies – such as faster ageing of the workforces, recruitment problems of performance consolidation require measures that duly take aging and older employees into consideration at work and in the businesses. At this stage there still is no nationwide scarcity of skilled employees in Germany. In order to ensure that they will not be lacking in future either, businesses will need to take preventive action and already begin qualifying their employees today.

**The skilled labour initiative of the IG Metall has supported works council members to launch systematic personnel relationship management in companies. The benefit is that works council members are aware of operational work-flows and they have the necessary specialist and practical know-how. Twelve businesses with some 39,000 employees from the aerospace industry took part in this initiative. A full project cycle was executed – from a needs analysis and specific measures for advanced training and know-how transfer all the way through to a final assessment.**

The **fundamental idea of the project** consisted in launching an initiative in the businesses and companies in this industry to facilitate a three-pronged ap-proach: competent employees in top-quality workplaces in competitive enter-prises.

A **substantial objective of the specialist labour initiative** was to alert works council members and empower them to take the initiative and proactively inter-vene in personnel and advanced training measures in companies and to reinforce their advisory and creative skills.





***„The assurance of skilled personal has a lot to do with knowledge transfer. The specialists are getting out of the company over one night and the knowledge transfer has not taken place. The pool of qualifications and experienced knowledge, which is in the hands of the workers, should be secured."***

Thomas Kalkbrenner (IGM Management Board Frankfurt) presents the Workers' initiative for aerospace by IG Metall on the second CHANGE-workshop in Toulouse | France

## Making advanced vocational training future-proof

The digitalisation of industrial production is bound to change the world of work considerably: the buzzword "Industry 4.0" means that the forthcoming technological surge in innovations will radically change workflow organisation, means of production and business processes. Accustomed workflows will be turned upside down, and new competence profiles will evolve. This poses huge challenges to works council members in the aerospace industry. The task at hand is to en-sure that the forthcoming radical changes will be organised in a humanly just and future-proof fashion. For this reason, in particular continual qualification will become increasingly important for employees in order to maintain and secure their employability.

The aerospace industry needs to remain innovative, efficient and competitive. This will only work with qualified and motivated skilled employees. More time and money for advanced training are mission-critical factors in this regard. To-day, more than ever before, works council members need to identify the challenges arising from an organisational and employee perspective.

The task at hand is to initiate further training measures while being able to provide competent support and advice for the employees during the process. It is therefore important for the works council in its activities to have access to sound expert knowledge, methods and instruments that can also be well integrated into everyday operations.

The specialist labour initiative shows how good, structured works council activities and systematic advanced training are able to successfully promote strategic personnel development.

## IMPLEMENTATION OF PROJECT

**1. Step: Win recognition and overview**

- The participating councils were familiarised with the fact that qualified workers are developing and producing technologically advanced products every day.
- This know-how should be secured in every company and location. Therefore, the winning, the development and the safeguarding of workforce are important themes.
- To become an overview: Questions about qualification and training and how these topics can be systematically forwarded

**2. Step: Survey and Analysis**

- Collection of themes and documentation of requirements

**3. Step: Becoming able to work – the main priorities**

- e.g. qualification concepts and trainings for workers, competence management, strategic personal planning, demo-graphic and knowledge management, councils for further education

**4. Step: Work and learn together**

- Work on themes and qualification in Workshops
- Work on themes with company councils on field in three mini-projects
- Providing and review of specialised literature („Help for Self-help")

**5. Step: Summary of the participants**

- Workers' Council is now seen as competent advising partner on training issues
- Training is not made by chance anymore – Workers' Council keeps an eye on it (codetermination)
- Employees understand better the point of having collective agreements and the work of the Workers' Councils
- The pressure on the employers grows – Workers' Councils are now more active
- Project work is validated as positive work form also for the Workers' Councils' activities
- More confident Workers' Councils and trainings on professional expertise
- Successful pairing: Workers' Councils participants with each other (exempted, not exempted employees)
- Participants in the project groups remain discussion partners for Workers' Council in work fields

## OPERATIONAL ROAD MAP FOR ADVANCED TRAINING
## As a central instrument for personnel planning and development

| Field of action | Description | Activity | Instruments (selection) |
|---|---|---|---|
| **Needs analysis** | Operational needs for training are determined on a long-term basis. Both operational requirements and individual educational needs will be taken into account. The interests of employees are given equal treatment (equality of opportunity). A prerequisite is communication between those departments that identify the needs and those that organise advanced training. | • Analyse the age structure<br>• Establish what competences exist<br>• Analyse future tasks and activities<br>• Canvass employees and supervisors<br>• Carry out actual-target comparison (competences) | • Age structure analyses<br>• Surveys<br>• Work atmosphere review<br>• Workplace /work process analyses<br>• Personnel development talks<br>• Target-actual comparative anal-yses |
| **Planning advanced training** | Advanced training measures are prepared and planned with the specific needs of the enterprise and employees in mind. The employees' experience and skills are included in the planning activities. | • Conduct qualification interview<br>• Prepare a qualification plan<br>• Formulate learning objectives and motives<br>• Study and clarify prerequisites for advanced training<br>• Prepare training sessions<br>• Select advanced training formats<br>• Select suitable trainers | • Target and content catalogues<br>• Needs profiles<br>• Implementation plans<br>• Offer descriptions<br>• Format comparison<br>• Questioning participants (about prior experience and know-how)<br>• Talks with lecturers |
| **Carry out advanced training** | Advanced training sessions are carried out in line with the needs of the participants (formats, content, methods, learning results). Appropriate practical exercise times during advanced training sessions and know-how transfer to the workplaces are included in planned activities. | • Select methods<br>• Make learning material available<br>• Check learning content and methods for practical relevance<br>• Exchanging experience in learning groups<br>• Prepare the transfer to the workplace | • Preliminary information to participants<br>• Practical relevance of the content to be taught<br>• Learning exchange groups<br>• Transfer tasks |
| **Transfer knowledge** | Knowledge, expertise and skills can be applied in the workplace and in professional practice. Experience and implementation in the workplace is reflected and documented. | • Reflection on results and experiences<br>• Review and assist with implementation in the workplace<br>• Conduct implementation talks<br>• Give and accept feedback | • Implementation plans / transfer sheets<br>• Mentoring and learning sponsor-ships, forums<br>• Workplace observation<br>• Reviewing work specimens |
| **Evaluate advanced training** | Quality, success (benefit) and effectiveness of training measures is assessed and controlled. The results of the evaluation are known to the corporate management, the functional departments involved and the employees. | • Select forms and objects of evaluation<br>• Raise result and satisfaction<br>• Evaluate learning achievement and transfer<br>• Make changes for advanced training and personnel planning | • Feedback sheets (social media)<br>• Subsequent questions on content, implementation success stories and problems<br>• Feedback talks |

## This is what the employees have to say on advanced training:

**45 per cent** would like to develop their careers. However, they lack the money to take a break from work to do so.

**57 per cent** of all employees complain that their company does not offer sufficient opportunities for their professional development. The most frequent critics are young people below the age of 35, semi-skilled workers, shift workers and skilled workers.

**47 per cent** of all men and women in the companies say that the pressure of work leaves them no time for career development.

**70 per cent** of all employees under the age of 35 say that they will have to undergo training for their work in future.

**93 per cent** regard it as important to be able to participate in training within the company so that they will remain healthy and efficient until they retire.

*Source: Employee survey 2013*

AIRBUS

## STRATEGIC PERSONNEL PLANNING – AN INITIATIVE FROM THE GROUP WORK'S COUNCIL AT AIRBUS

**Strategic personnel planning at Airbus is indispensable, in order to secure know-how, jobs and work quality over the long term. When it comes to safeguarding the future, it is also important that the requirement for key qualifi cations be determined.**

**As a result, measures need to be taken today for the long term. What will companies be producing in ten years? What new developments will there be? What qualifi cations need to be established and strengthened, in order to secure jobs and locations both in Germany and in Europe over the long term?**

The most serious effects of demographic change on the development of training and employment can already be seen today. That is why employee representatives at Airbus in Hamburg started an initiative for strategic personnel planning. The model links economic and strategic company goals with the associated requirements for training and employment. The result is concrete analyses and plans of action that will now be further refi ned within companies.

### The elements of the Airbus initiative at a glance:

#### Clarification of company strategy (management requirements)

**Technology:** How should production/development be carried out in future?
**Programmes:** What products should be produced/developed in future?
**Cadence:** What quantities should be produced?
**Professions:** What qualifi cations will be required in future?

#### Analysis of demographic and personnel development

**Personnel:** What personnel do I have, and what development is to be expected?
**Professions:** What skills/qualifi cations are present in the individual plants?

#### Proactive design (plans of action)

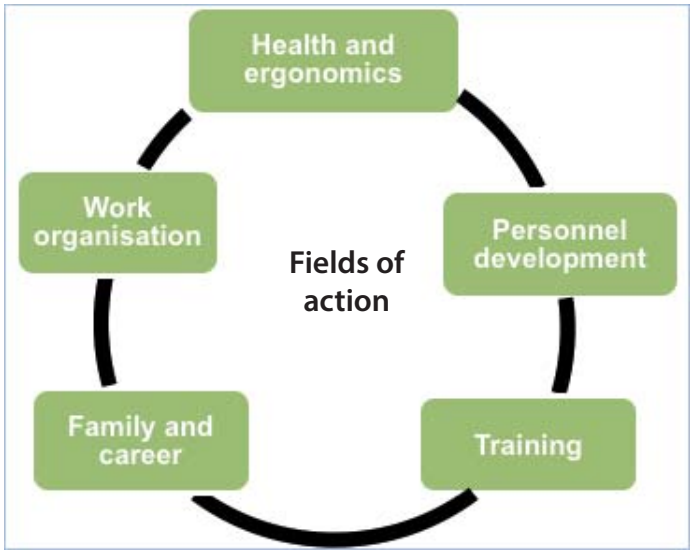
**Education:** Develop training/qualifi cation plans for new technologies, familiarisation plans for new employees, determine whether enough employees are being trained, and if training is in the right professions.
**Recruiting:** Analysing requirements early on, observing the labour market, securing candidates in a timely fashion.
**Mobility:** Transferring employees amongst locations when necessary. Why not transfer work as well?

#### Scope for action in demographic change for the Airbus Work's Council

**Focus on retaining the ability to work and personal well-being**

- Health & ergonomics
- Lifelong learning
- Compatibility of work and family life
- Working time and shift models geared to different phases of life

#### Improvement in mixed-age cooperation



## Instruments: Demographics-check with Airbus


- Does the project take account of the future age structure of the workforce?
- Does the project take account of the immense significance of recruiting junior staff?
- Will the project have any impacts on securing skilled labour?
- Will the project have any impacts on fairer gender-based filling of positions?


- Will the project have any impacts on the educational and voca-tional training conditions of apprentices and dual-mode students?
- Will the project have any impacts on the opportunities of employ-ees for qualification and advanced training throug-hout their work-ing lives?


- Will the project have any impacts on promoting health and preventing illness in the workplace / in the company?
- Will the project have any impacts on the situation of employees with disabilities as far as the need for barrier-free buildings is con-cerned?
- Does the project take account of the special needs and strains of employees engaged in shift work?

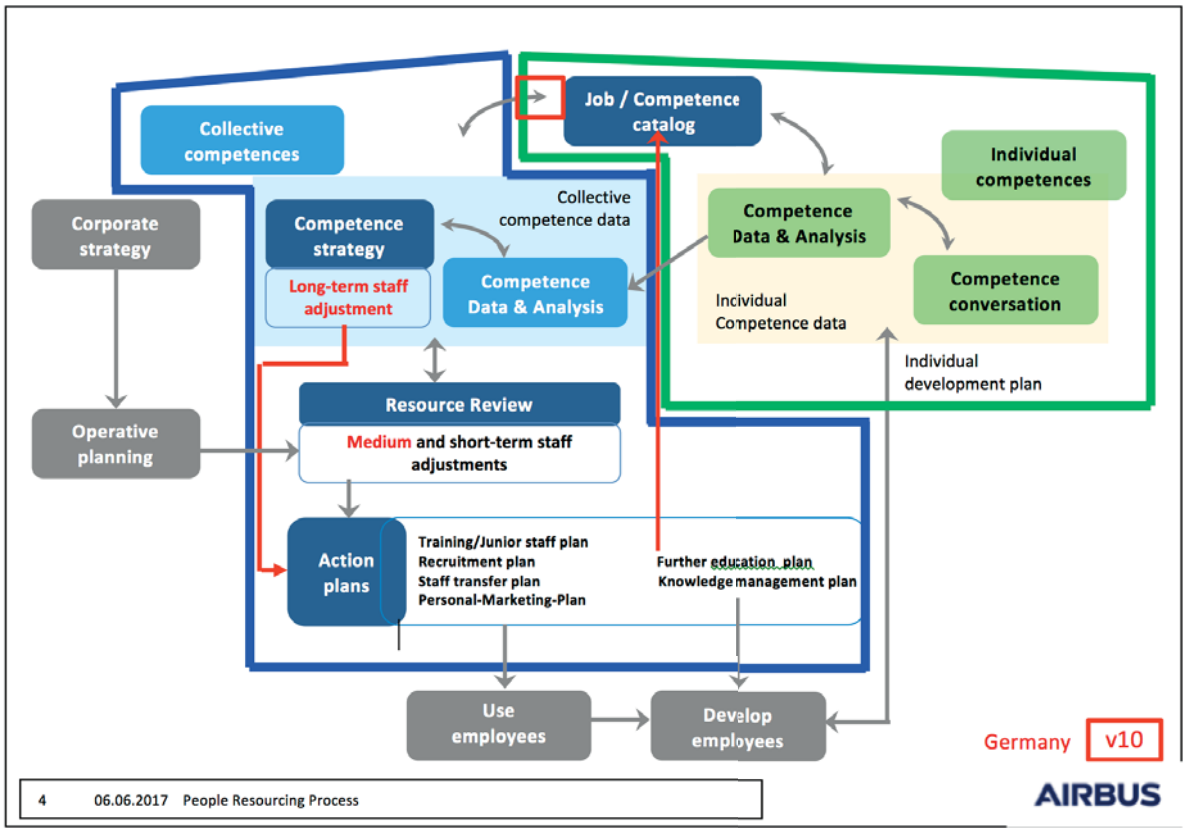

- Will the project have any impacts on child and family-friend-liness at Airbus?
- Will the project have any impacts on the compatibility of work and family life?
- Will the project have any impacts on the situation of nursing staff?
- Is the project expected to have impacts on a culture of longer working life?

## Model for action: Strategic personnel planning

**Objectives:**
- Strategic personnel planning as the foundation of qualitative and quantitative resource planning
- Identical and fully harmonised processes in all divisions/companies within the Group
- Stepwise further development of the process

### Corporate strategy
The basis for strategic personnel planning is the long-term orientation of the company.
Decisions on future technologies, products and skills result in the corresponding requirements for re-sources and investments over the coming years.

### Operational planning
The quantitative requirements in each of the compe-tences needed will be estimated on the basis of the workload planning from the ongoing programmes and the new programmes or new businesses. Business strategy and orders provide the assumptions when making projection for the operational planning.
Operational planning provides the quantitative basis for the strategic personnel planning.




### Collective competences

The collective competenc-es determined will be allo-cated to a catalogue of jobs/competences.

The catalogue of compe-tences depicts individual job profiles and is part of the individual competence

### Individual competence

Using the competence / job catalogue, the individ-ual competence is de-signed and individual de-velopment supported.

Individual competence is analysed and further de-veloped on a regular basis (e.g. in competence talks)

### Plan of action

Changes to the competence / job catalogue derived from the competence strategy or resource review are discussed as actions within the scope of the plan of action.

Topics include the following:
- Redeployment / Mobility
- Recruitment
- Training/ Knowledge management/ Development
- Vocational training quotas
- New vocational training occupations

These requirements are coordinated with the (existing) employees/skills to generate options for action.

## Strategic personnel planning

### Securing jobs at Airbus

„Works council members who competently take care of strategic personnel planning and ensure that employers act in conformity with prevailing law want to secure jobs on a permanent basis," said Holger Junge, Works Council member at Airbus Operations Hamburg.

By means of strategic personnel planning, the employer must ensure that it also has the personnel with the necessary competences on board for the technologies of the future.

„It begins with seemingly trivial things, such as the 3D printers in Varel: How is work changing? What professions and qualifications are necessary?" asks Holger Junge. „And furthermore: with whom do we want to develop a new aircraft again in five to ten years' time?"

Airbus still has a relatively young workforce, but strategic personnel planning must begin at an early stage. With their initiative, the works council members want to reinforce the prospects of Germany as a location.

Holger Junge, Jürgen Kerner, Brigitte Heinicke from IGM |DE

### Groupwide company agreement at Airbus

**A groupwide company agreement on „strategic competence and personnel planning" has been in place now since Sep-tember 2016. It is based on Section 92 of the [German] Workplace Labour Relations Act. A project team comprising an equal number of employee and employer representatives will submit specific milestones by mid-2017.**
**A simulation is intended to illustrate for the following one to five years how the workforce structure will change in quan-titative and qualitative terms. An analysis will be conducted each year to determine excess and shortfalls in capacity utili-sation in the individual fields of expertise. This will give rise to the personnel planning activities for the coming year and a plan of action that finally governs the necessary measures and responsibilities in order to fill any existing gaps.**
**The competence strategy takes account of a period of five to ten years, with capacity and personnel planning being expected to cover up to five years.**

air|connect
Netzwerk Luft- und Raumfahrt-Industrie der IG Metall

**The group of participating works council members and representatives has continually grown during this time, and work has further developed in concrete terms.**

The continual works council surveys, the industry report, regular networking sessions and seminars are permanent fixtures of the annual programme today. The industry policy dialogue "Round Table" stands for successful cooperation in a spirit of mutual partnership with the federal government, the federal states, businesses, the scientific community, works council members and the trade union IG Metall. The future-related topics of the industry are jointly discussed and planned by this body. The aerospace industry now has a single voice.

The aim of the air|connect network is to maintain and extend industrial value added chains, innovation and jobs in Germany. In a nutshell, the focus is on good work in the aerospace industry. And the network is successful.

Frank Bergmann, the industry officer of the trade union IG Metall for the aerospace industry: "The last several years have shown how valuable the collaboration is in the air|connect industry network. We have widespread solidarity amongst the colleagues of all operating units and enterprises. We speak with a single voice and this is what makes us strong. The network is a key instrument to master the future of the industry. Considering the current changes in the component supplier environment, but also the impacts of Industry 4.0, concerted action will enable us to retain better control and to actively shape and design the future."

The challenges will not become any fewer. Digitalisation, internationalisation and also the strategic decisions of key enterprises in the industry are changing the entire aerospace industry at ever increasing speed. air|connect provides the opportunity to strategically master the numerous challenges facing employees, works council members and the trade union IG Metall alike. Long-running subjects such as securing skilled employees, consolidation of work, work-life blending as well as temporary labour and works contracts remain highly topical.

In order to cope with the numerous tasks, the steering committee of air|connect has been extended. Works council members of Airbus and of the component supplier companies in the aerospace industry are part of the strategic body, in addition to sector representatives of the trade union IG Metall..


***The last several years have shown just how valua-ble the level of cooperation is in the air|connect industry network. We have widespread solidarity amongst the colleagues of all operating units and enterprises.***

Frank Bergmann, Trade Union officer from IG Metall

# AEROSPACE AND DEFENSE INDUSTRY IN SPAIN

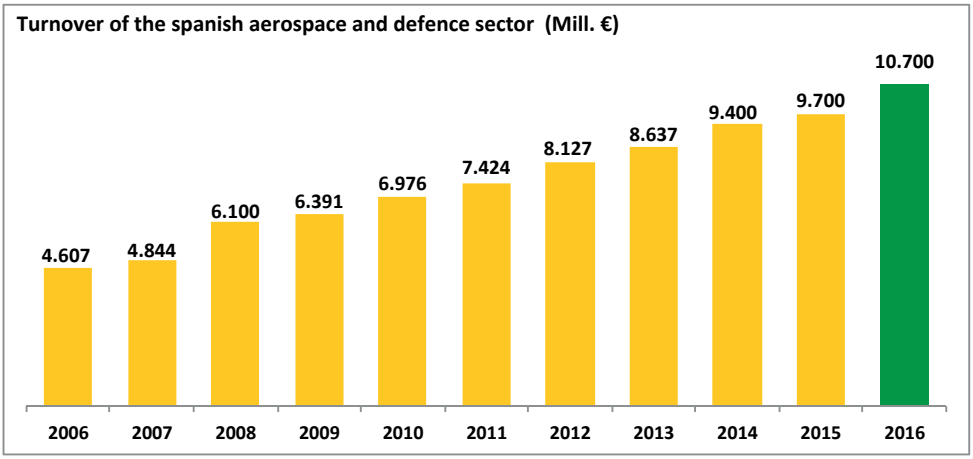
**Spain has a highly advanced aerospace industry, currently ranked 5th in Europe in terms of turnover and 8th in the world. The companies in the Spanish Association of Technical Defense, Aeronautics and Space Companies (TEDAE) posted revenues of over 10.7 billion euros in 2016, up 10.2% over the previous year. In total, the three sectors employed over 55,800 highly-qualified staff in 2016.**

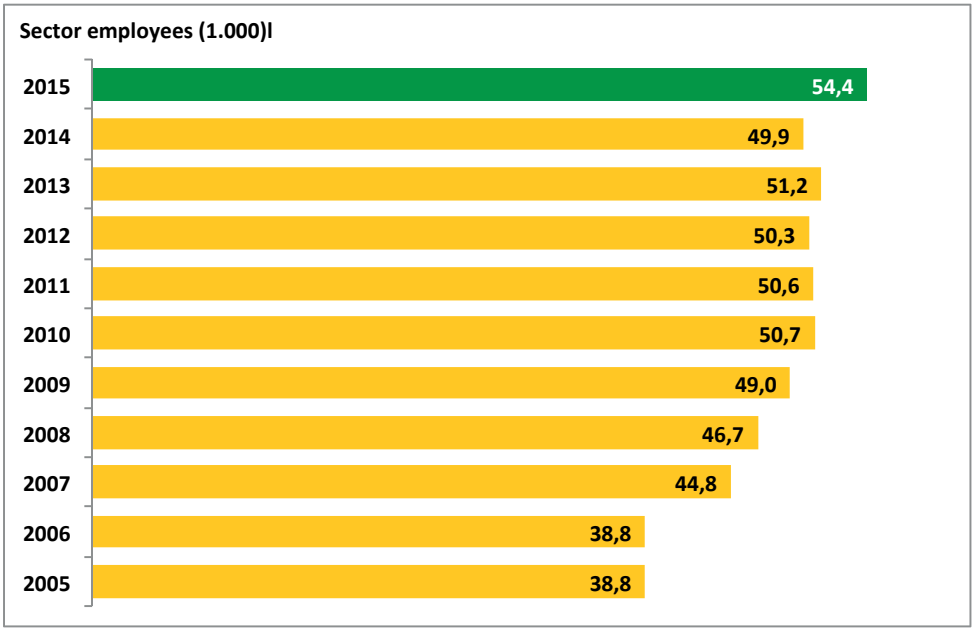
The aerospace and defense sector represents 1% of Spain's GDP and 6% of its industrial GDP, and shows that the activity in these industrial sectors contributed 29.4 million euros daily to the Spanish economy. The aerospace industry grew three times faster (10.2%) than the national total (3.2%). 83% of the products and services in these industries went for export. 53% of the total corresponded to the civil market, and the remaining 47% to defense and security.

The aeronautics companies established in Spain stand out in several fields, such as military transport and special mission aircraft, low pressure turbines, maintenance, repair and operation (MRO) activities, air-refueling aircraft and aerostructures in mixed materials and management systems for air traffic.
In recent years there has been ongoing interest within the industry in products related to composite tape-laying machines and fiber placement systems with computerized numerical control. Other products in demand include components for aeronautical software programming, avionics, ground support equipment, and extruded metal products and plastics.

Growth opportunities are expected to exist due to the need to replace less efficient aircraft with eco-efficient jets as well as the growth in domestic and international air travel demand. Lightweight aircraft constructed using new materials and composites can improve fuel efficiency. Much of the current effort of airplane producers and their component suppliers to reduce fuel consumption and emissions is concentrated in the area of these lightweight materials. Environmentally -friendly aircraft also involve innovative technology in the area of power and fuel management, "smart wings", cockpit advances and independent energy sources for equipment

## FACTS AND FIGURES



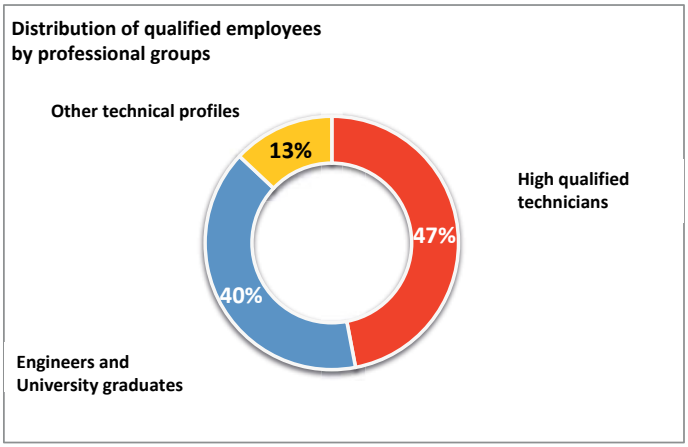



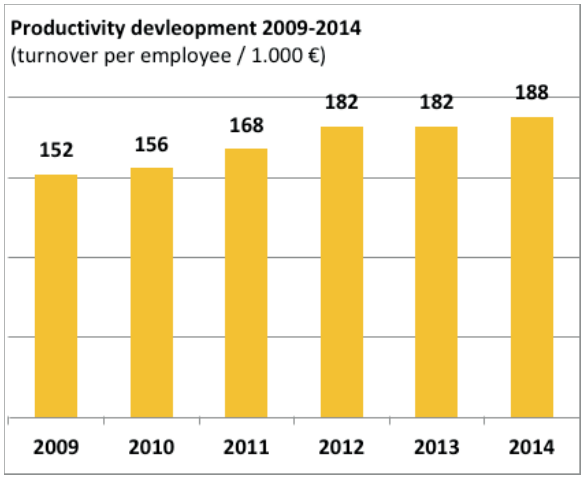

- The Spanish Aeronautics industry is a world leader in several fields: composite aero structures, low pressure turbine engines, Air Traffic Management systems, Military Transport Aircraft, etc.

- The Spanish Space industry takes part in important contracts of high added value, in qualification of flight equipment and ground segment, and development of satellite systems. Moreover, Spain has satellite services operators.

- The annual turnover of the aerospace and defense industry in year 2016 was € 10,700 million.

- The aerospace and defense industry employs more than 54,400 people in Spain (year 2015).

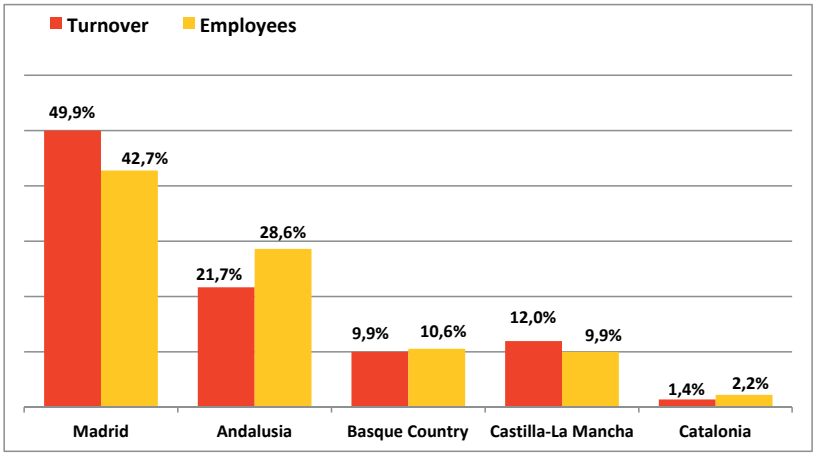



Source: InvestInSpain, Business opportunities in aerospace, Madrid 2016

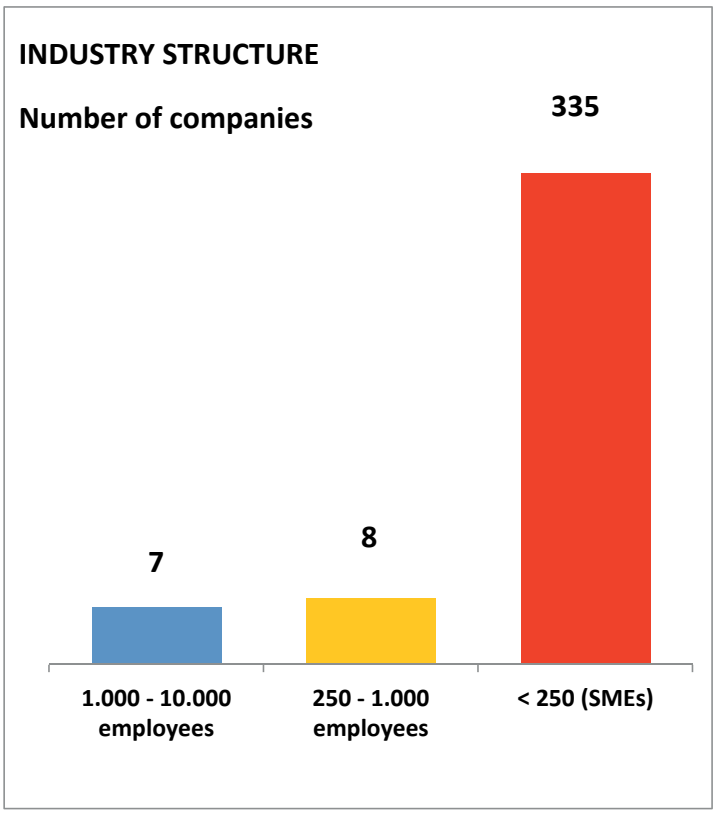
## Aerospace clusters in Spain (2015)

Among the supporting facilities to the aeronautical industry, there are in Spain five clusters situated in the regions of Madrid, Andalusia, Countries Basque, Castilla-La Mancha and Catalonia.




## Main players

The Spanish aerospace sector has companies covering the whole industry chain: prime contractors, OEMs, Tier 1, auxiliary industry and maintenance centers:



| AIRBUS | FACILITIES | PRODUCTION |
|---|---|---|
| **AIRBUS**<br>more than 3,250 employees | Illescas, Toledo (Castilla-La Mancha) | • Excellence Center for Composite Materials<br>• Fuselage sections, parts of the landing gear and stabilizer components for all the Airbus aircraft.<br>• Key parts of the A380 programs<br>• Production of the section 19 of the A350 XWB aircraft |
| | Getafe, Madrid | • A380: the 525-seat double-decker's huge horizontal tail plane was designed here and undergoes its initial assembly in Getafe.<br>• Getafe is also responsible for this section's lateral boxes and A380's main landing gear doors, dorsal fin, rear fuselage portion and fuselage tail cone<br>• Assembly and testing of the horizontal tail planes for families A350 XWB, A330 and A320. |
| | Puerto Real, Cádiz (Andalusia) | • A380: Final assembly and testing of the A380's horizontal tail plane.<br>• Production of parts for the A350 XWB and the A330 |
| **AIRBUS DEFENCE AND SPACE**<br>7,700 employees | Sevilla (Andalusia) | • Final assembly line, simulation and training center for the military transport airlift A400M.<br>• Final assembly line for the light and medium-sized tactical aircraft CN235s and C295s |
| | Getafe, Madrid | • Final assembly of Eurofighters for Spain and production of starboard wing for all the Eurofighter aircraft.<br>• Maintenance and overhaul of high-performance military aircraft, trainers, transporters and maritime patrol aircraft.<br>• Transformation of A330 civil aircraft into MRTT (Multi Role Tanker Transport). |
| **AIRBUS HELICOPTERS ESPANA**<br>more than 500 employees in Spain | Centers in Albacete (Castilla-La Mancha) and Getafe (Madrid) | • Design and development of avionics system and fuselage parts, flight testing and certification and final assembly of the helicopters Tiger and NH90 and assembly for the EC135s intended for the Spanish market. |

Sources:
THE AERONAUTICAL AND SPACE INDUSTRY IN SPAIN
http://www.inadvance.eu/en/news-2/208-the-aeronautical-and-space-industry-in-spain

Spain - Aerospace and Defense (01/2017)
https://www.export.gov/article?id=Spain-Aerospace-and-Defense

The defense, aeronautics and space industry grows over 10% (30/06/2017)
http://www.investinspain.org/invest/en/press-room/Business/news/NEW2017721963_EN_US.html

## IMPLEMTENTATION OF EMPLOYEES' QUALIFICATION PLAN AT ITP

**Industria de Turbo Propulsores (ITP)**

Until the late 1980s, no major Spanish company focused on the design and production of aeronautic engines and turbines. It was to address this deficit that SENER, in partnership with Rolls Royce, founded ITP. Within only about 15 years, the company became a top world producer of low-pressure turbines in aeronautic engines— the turbines that move the fans within the engines. The company has grown into one of the largest aerospace companies in Spain, focusing on innovations in engine design, manufacture, and repair.

ITP is currently the ninth largest aircraft engine and components company in the world by revenue. Ranking among the top one hundred companies in the aerospace industry, the company has production centres in Spain, United Kingdom, Mexico, United States, Malta and India with over 3,300 employees.

ITP includes among its activities the design, research and development, manufacturing and casting, assembly and testing of aeronautical engines. It also provides MRO services for a wide range of engines for regional airlines, business aviation, helicopters, industrial and defence applications.

CHANGE-Project Group at ITP in Madrid (Sep. 2016)

**In 2016, Rolls-Royce Holdings plc purchased the outstanding 53.1% shareholding from SENER.**

**„In 2016, ITP recorded a growth of 9% in its workforce, mainly driven by the growth of commercial aviation programmes.The company currently has more than 3,300 employees, among them more than 1,000 engineers.**

**On the other hand, it is worth noting that in 2016 the deployment of the 'ITP 2020' Strategic Plan was carried out in all of the company's work centres. The main objective of 'ITP 2020's' deployment was to explain the company's strategy for the next five years to its professionals; in order to accomplish this, a participatory method based on teamwork was chosen.**

**In addition, throughout 2016, ITP continued to work on attracting, assessing, training and developing talent as the core of its human resources activities. One noteworthy achievement was the implementation of a new application aimed at remodelling the process for attracting, recruiting, hiring and integrating (onboarding) employees from outside the company, as well as promoting the development of ITP employees interested in new career opportunities."**

Source: ITP, Annual Report 2016

**Rolls-Royce is allowed to take over ITP**

BRUSSELS - Rolls-Royce is allowed to take over the Spanish engine manufacturer ITP. The European Commission granted the authorization on Wednesday.
Both companies are together with the German manufacturer MTU in the consortium EPI, which produces the engines for the A400M military transport.
The EU Commission had initially expressed concern that Rolls-Royce could gain too much influence with the takeover in the consortium. She pointed out that the A400M is competing with the Transporter Lockheed Martin C-130J, equipped with Rolls Royce engines.
However, the UK-manufacturer has committed itself to the EU Commission to circumvent conflicts of interest by observing internal rules, the EU Commission said. It concluded that the merger would not create any competition concerns when the commitments were respected.

© dpa | 19.04.2017 21:14

**With the 100% takeover of ITP by Rolls Royce in 2016 and the associated uncertainty for the ITP location in Madrid (Alcala), the Spanish trade union CCOO has launched its own program to qualify ITP workers .**

**From the employees' perspective, the best transition strategy for the continuation of the productivity and the preservation of the work places would be the initiation of qualification programme.**

**The measures were aimed at**

- improving the professional qualifications and the labor market mobility of the employees
- to invest in future qualifications for employees at all levels of employment
- and to combine operational and public finance

**Types of training courses offered nowadays**

- languages
- Masters
- Vocational training courses
- Quality
- Welding processes
- Etc…

Aids to facilitate training courses outside the Company (Individual training permit)

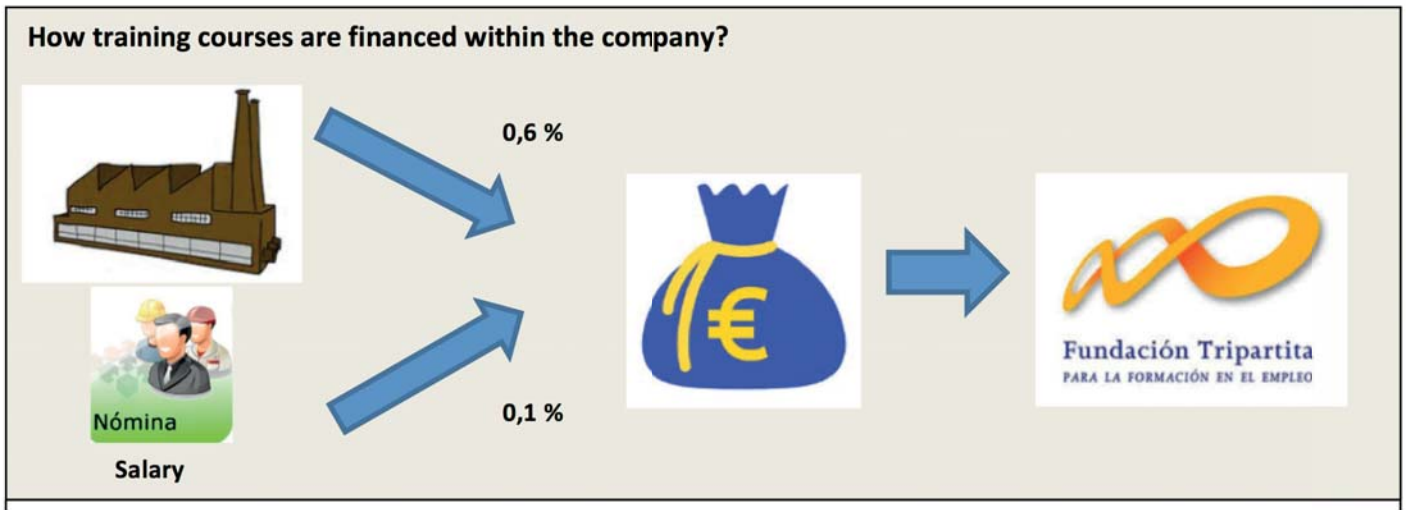
| PROJECT PLAN | |
|---|---|
| **Core Activities** | **To be able to channel the training needs of our staff and to adapt the training plan of the company so that these needs can be considered** |
| **Why** | In most cases, there is no consultation referring to the training needs when these training plans are made |
| **Objectives** | Inclusion of the aforementioned training needs in the training plan |
| **Approach** | 1. Through negotiations with the HR department |
| | 2. Draw up a plan for the consultation of employees in order to collect data about their needs |
| **Step 1**<br>Sep 2016 | Meetings with HR department |
| Step 2<br>Dec 2016 | Consultation of staff in order to collect data about their needs |
| Step 3<br>Jan 2017 | Drawing up a training plan in order to include the personal needs |
| Interim Results<br>Jul 2017 | 1. To be able to include the needs in the training plan<br>2. To be able to evaluate its application afterwards |

***„The subsidized courses can be for people in active (with work) or people who are in situation of unemployment. There are a wide range of possibilities such as: languages, masters, professional training courses, professional training courses, quality, etc. etc. ...***

***Then there are facilities to study or train outside the company, as the Individual Training Permit (PIF) which gives you 200 hours a year to attend official training, in those 200 hours do not deduct anything from salary and the company receives from that bag generated the cost that the worker does not attend to work those hours. Although this tool is very little known."***

CCOO | ITP

CHANGE-Workshop in Toulouse (FR) Feb. 2017




In Spain company training is financed by the fees paid by the company and the workers.
The company contributes monthly 0.6% of the contribution base of the worker The worker 0.1% of its contribution base.
A money exchange is generated with 0.7% of the contribution base of the company, and that money is managed by the tripartite foundation (foundation formed by government, businessmen and unions), which fulfilling some requirements can be used money for courses 100% subsidized for the worker, it is free.

*CHANGE-Workshop in Madrid (ES) Sep 2016*

## Acquisition of know-how for the measures for the qualification and training needs of the employees at ITP

***„It is important to make the requirements of the employees for further education, their right. It is also acceptable to invest some time in this, but we have to pursue the main goal. We are not talking only about the needs and the requirements of the companies, but also about the training needs of the employees.***
***6% Training budget would be saved and managed by companies, groups of companies and trade unions. When the trade unions use something, it is mostly for general measures. The financial tools can be used also inside the companies. The resources should be used in such a matter that the employees could benefit from it.***
***We have asked about the wishes of the workers. What was not there earlier? 50% of the qualification wishes came from the employees. The service wanted new machines and courses on the usage and maintenance of these new machines. Other employees wanted to get familiar with the SAP-Module "Lager". In total, there were 300 reports from workers. They were different, depending on the age of the workers. The younger wanted to get familiar with more work positions in the company.***
***Why are we doing this? Because it is the right thing to invest time in further education and training. When older people are about to get retirement, the younger can take this knowledge. The qualification takes place already one year. We are developing a system for evaluation of the courses, so that we could keep record of what has been done."***

Francisco Cuesta | CCOO / ITP | Spain


**France is the only country together with the United States to have a comprehensive industry with the range of skills needed to design and build an aircraft or satellite. In addition to the prime contractors, the French aerospace industry has a supply chain covering all the areas of expertise required to equip a civilian or defence programme from start to finish.**

The total non-consolidated aerospace and defense aerospace revenue in 2016 was €60.4 billion which amounted to a 4.1% increase from 2015. The French civil aerospace industry comprised a huge proportion of that total with reported revenue of €47.1 billion (GIFAS – $52.15 billion) in 2016. The aerospace and defense aerospace industry exported approximately 86% of its consolidated turnover, a new record. The civil sector accounted for 78% of revenues and 69% of orders. Orders in 2016 totaled €50.4 billion in the civil sector, which was only a slight decrease from the previous year. These strong results benefitted not just the primary contractors, but the supply chain including SMEs; sales turnover for French supply chain companies was up +4.7% in 2016.

The global demand for new aircraft production in the next 20 years is estimated to be about 32,600 aircraft. This ramp-up in civil aircraft production will affect nearly every sector of the industry. For the best-selling Airbus A320 airplane, production rates will increase to 60 aircraft per month in 2019 from its current monthly production rate of 46. The Airbus A350 airplane will be produced at a rate of 120 per year in 2018. The increase in demand will not only be for more airplanes, but for an even more fuel-efficient aircraft, promising that this will be a continued strong and innovative industry for years to come. By March 2017, there was a backlog of 6,744 Airbus aircraft, or the equivalent of about 10 years of production. Airbus hit a new delivery record in 2016 by completing 688 aircraft, and the company also recorded 730 net orders in the year. This sector comes in stark contrast to the business aircraft and heavy helicopter sectors which continue to experience a decrease in business.

These rates of production drive employment and job creation, making aerospace one of the most dynamic sectors of the French economy. This is also driving investment, which has led to such advancements as the introduction of new technologies in robotization, new methods of collaborative work, and digital sharing platforms.

There are five aircraft manufacturers that account for most the French market: Airbus (large commercial aircraft), Airbus Helicopters (formerly Eurocopter, light-to-heavy helicopters), Dassault Falcon Jet (high-end business jets), ATR (passenger and cargo turboprop aircraft for regional transport), and Daher (SOCATA light aircraft and business turboprops). Except for Daher, these manufacturers are owned either in part or entirely by the same parent company, Airbus Group. Founded in 2000 and called EADS until 2014, this consortium dominates the civil aviation market in France.

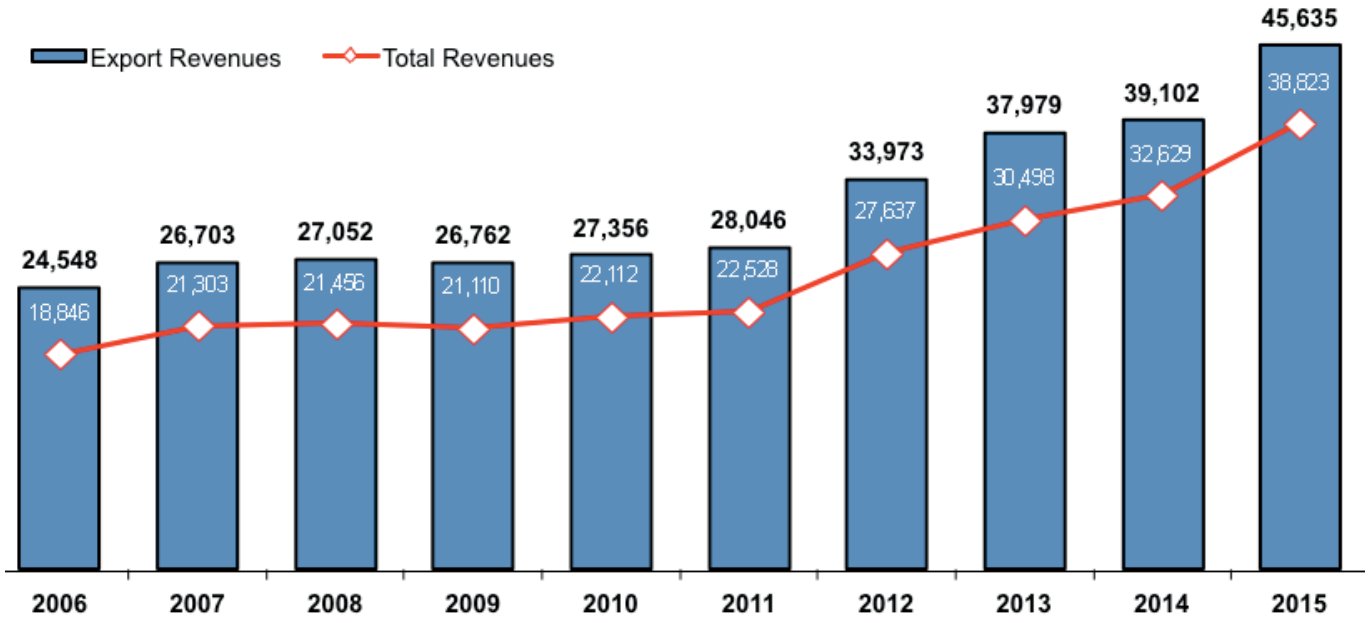
Selling to these aircraft manufacturers entails undergoing a vendor/product qualification and assessment process. In 2017, the Safran Group announced its plan to purchase the Zodiac Group. Both firms separately were among Europe's major equipment suppliers. Working through one of their many North American
entities is a way to make the process of vendor/product qualification and assessment easier. Other major players include Thales, Liebherr Aerospace, Daher Group, Latécoère, Stelia Aerospace, AFI E&M, Sabena Technics, etc. (this list is very extensive).

The large export market is due to sustained interest in Dassault Falcon Jet, Airbus Helicopters, and Airbus commercial aircraft. These companies have products that have successfully captured global market share. Airbus, however, continues to decrease its number of overall suppliers as it prefers to work directly with a handful of major tier 1 partners and in turn refers all other potential suppliers to its supply chain at the appropriate level.

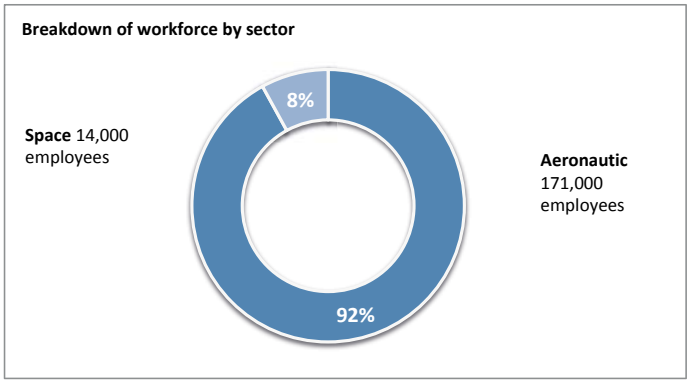
Due to the proximity of Airbus, Dassault, Airbus Helicopters, and other aircraft manufacturers, France has a long-established and sophisticated aircraft supplier network. The French government encourages prime contractors to support local SMEs to maintain jobs and technical know-how in France. Though France would like to maintain a local source of labor and products, aerospace is a truly globalized industry. While major assembly lines are maintained in France, there are some additional parts that come from the world, meaning that these major aerospace companies operate many international sourcing offices. It is important to keep in mind that beyond French-made aircraft, French equipment suppliers are also working globally (on Bombardier, Embraer, Suhkhoi, Avic, Agusta Bell aircraft, etc.).

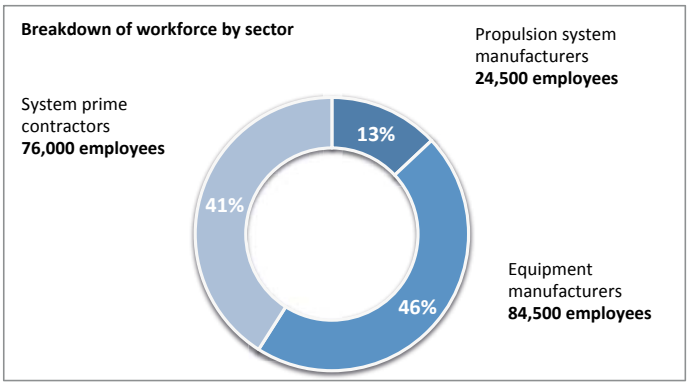
*Source: https://www.export.gov/apex/article2?id=France-Civil-Aircrafts-and-Parts*

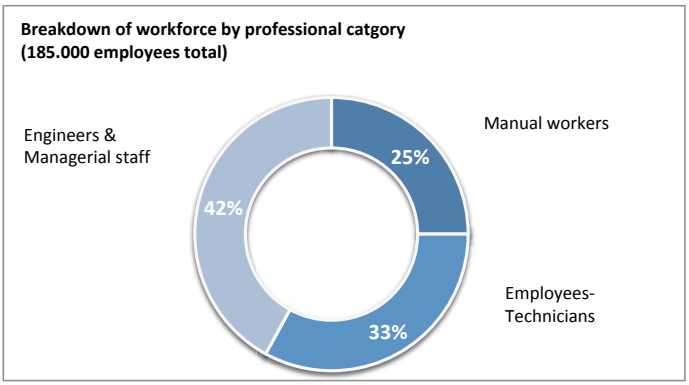
**Aerospace Trade Revenues and Export Revenues**
*(€ million, consolidated, before adjustment for inflation)*

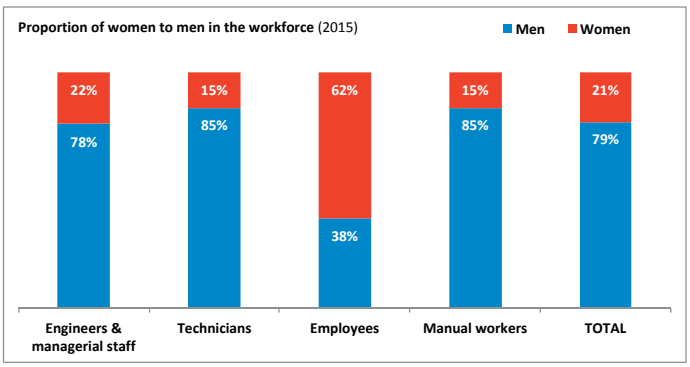


## FACTS AND FIGURES




*France_gifas_rapport_annuel_2015_a4_0616_v15_numbers.pdf*

## SECTOR EVOLUTION

### 2015

Bénéficiant d'une bonne conjoncture, les entreprises adhérentes au GIFAS ont recruté environ **11 000 personnes en 2015** (42% d'ingénieurs et cadres, 26% d'employés techniciens agent de maîtrise et 32% d'ouvriers qualifiés). 25% des recrutements ont concerné les jeunes diplômés.

L'effectif aéronautique, spatial, de défense et de sécurité de ces entreprises représentait ainsi **185 000 personnes** en France au 31/12/15.

Sur les 5 dernières années, **26 000 emplois ont été créés en France** (soit une progression de 16% des effectifs), **plus de 60 000 personnes ont été recrutées.**

L'emploi de l'ensemble de la filière est estimé à plus de **350 000** en France en incluant les sous-traitants non adhérents au GIFAS.

### 2016

Pour 2016, un volume significatif d'embauches de l'ordre de **10 000** sera maintenu dans le périmètre des entreprises membres du GIFAS. Le secteur poursuivra son effort de formation d'alternants.

La priorité actuelle est d'assurer la montée en compétence technique des jeunes élèves et apprentis dans les métiers de la **Production**.

Il s'agit d'un enjeu majeur pour la filière car des difficultés persistent dans le tissu des PME et équipementiers pour **attirer, former et intégrer des professionnels dans leurs ateliers.**

*GIFAS = Groupement des Industries Françaises Aéronautiques et Spatiales*

## EMPLOYMENT & RECRUITMENT

### French Aerospace Industry Struggling With Recruitment

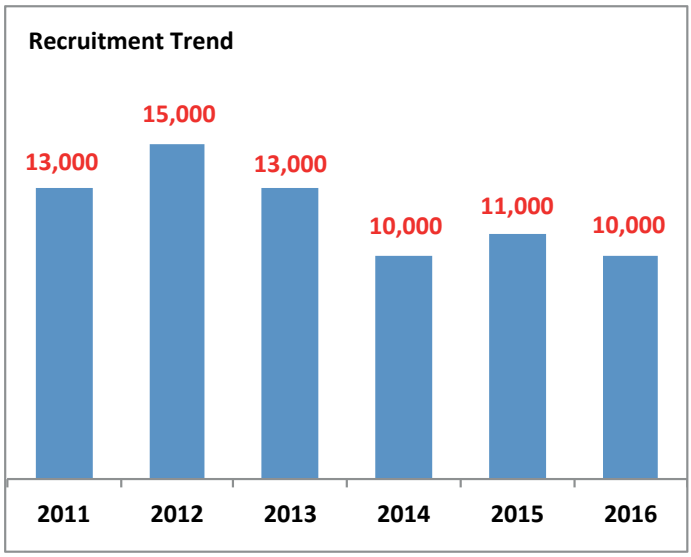
At a time when orderbooks are filled for the next few years in a country dogged by unemployment, the French aerospace industry is struggling to fathom why it can't hire enough young men and women for its production lines. The sector can arguably be seen as attractive, with high salaries, long-term viability and state-of-the-art factories. Yet many positions remain open for a long time.

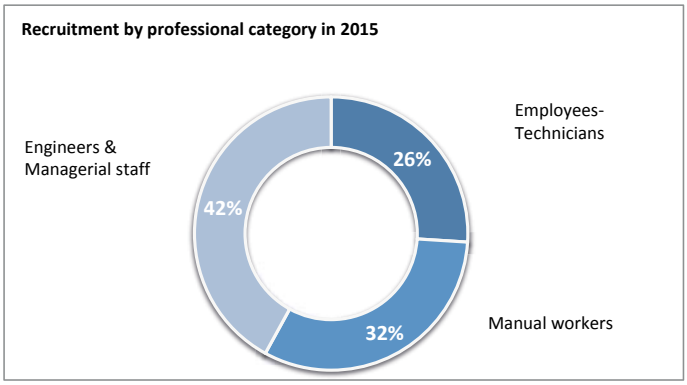
France's unemployment rate for the 15-24 age bracket is close to 24% (excluding students). The skills that manufacturing requires are evolving fast, which means a young worker can expect tasks to be new and different from those of older-generation workers. Moreover, the monthly salaries they can expect to earn – €2,200-3,300 ($2,400-3,600) – is higher than the French national average. (…)

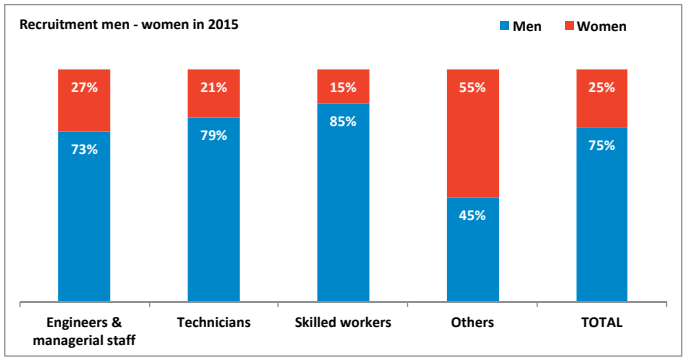
For a recent training session in Normandy, 12 people expressed an interest but only eight actually showed up. Eventually, three went through the course and applied for (and received) a job. The other five chose to pursue further studies instead. A common view is that subcontractors are most feeling the pinch—but even large corporations are having trouble hiring. "Despite our famous programs, we have the same recruitment problems, in production jobs, as small companies," says Philippe Boulan, Safran University's director. It is feared the shortfall will worsen, due to an unfavorable population pyramid. "In some job categories, 40% will retire over the next 10 years," says Jerome Ivanoff, Air France Industries' human resources (HR) director. Positions where recruitment have consistently proved tricky include welders, fitters, cutters and lathe operators.

French society in general tends to value university degrees more than professional training. The stagnating apprentice population for all trades is still 100,000 short of the long-set goal of 500,000. Much of the French public perceives factories as outmoded. Closing production sites have outnumbered new ones for years, although the recent trend has slightly reversed that. Another factor may be ineffective promotion. Too many acronyms are still used when talking to outsiders. A brochure targeted at French youth describes aerospace jobs in very technical terms – if not jargon. (...) Trying to innovate and solve the conundrum, Safran is about to break ground – jointly with training organizations and other companies – for an €8 million technological training platform. It will not only serve for training: The engine and system manufacturer also sees it as a showcase for the latest – and the future – in factory equipment. The hope is it will also help squelch misperceptions about working conditions. Operations are scheduled to begin in September 2017. (…)

*Source: http://aviationweek.com (17.10.2016)*



## Share of employees by region (2015)

Normandie: **9,250**

Ile de France: **51,800**

Pays de la Loire: **9,250**

Centre Val de Loire: **5,550**

Aquitaine-Limousin |Poitou-Charentes: **25,900**

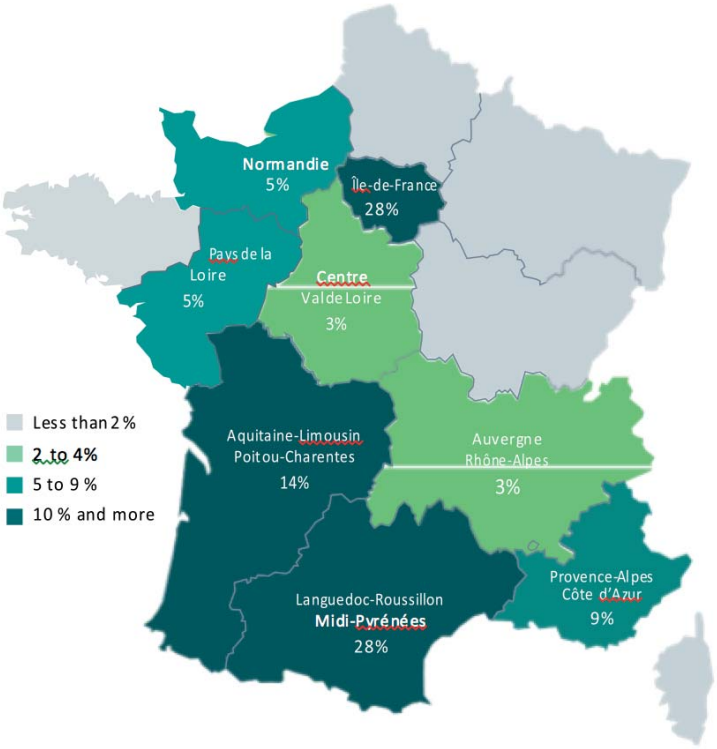
Auvergne |Rhone Alpes: **5,550**

Languedoc-Roussillon |Midi-Pyrenees: **51,800**

Provence-Alpes |Cote d'Azur: **16,650**

Other Regions: **9,250**

**TOTAL: 185,000**




## REGIONAL CLUSTER THE AEROSPACE VALLEY

The Aerospace Valley is the most important European aerospace cluster, particularly in terms of employment: including the related SMEs and around 8500 researchers, the total workforce amounts to some 132,500 people (124,000 industrial employees). These numbers constitute around one third of the total French aerospace workforce, and the scientists carrying out R&D activities in this area represent 45% of French national R&D potential in the aerospace sector. At present, the activities of the cluster encompass the regions of Languedoc-Roussillon-Midi-Pyrénées and Aquitaine-Limousin-Poitou-Charentes in the southwest of France.

Nowadays the whole cluster consists of 853 members 38 organised into seven different bodies, or Collèges, according to their nature: SMEs, industry leaders, training organizations, research centres, economic development organizations, public and regional bodies, trade Organizations and related partners.

The cluster extends to the entirety of the value chain and covers a wide range of applications: structures, materials and processes, energy and electro-mechanical systems, air transport safety and security, navigation telecommunications and observation, critical systems engineering, electronic systems integration, and execution platforms, man-machine Interface, maintenance repair & Overhaul (MRO), and highly complex systems design and integration. The most relevant segment is represented by Prime operators and System Integrators. A huge galaxy of 504 SMEs orbits around an elite of Original Equipment Manufacturers (OEMs), such as Dassault-Aviation, Stelia Aerospace, Thales Alenia Space, SAFRAN, Turbomeca, and the world's leading aircraft manufacturer Airbus (together with its Defence and Space unit).

## INDUSTRY OF THE FUTURE (DIGITAL 4.0)

**Industry 4.0, Digitalisation, Intenet of things – the future of economy has a lot of new terminology. Even on a national basis are used different terms: Industry 4.0 (DE), Smart Industry (NL), Catapults (UK) and Industrie du Futur (FR). What all the initiatives have in common is the technological basis: highly efficient, future-oriented network infrastructure, which has to process the huge amount of data fast and effective.**

The industrial production methods change fundamentally. In the serial production, the digitally controlled machines and robots are the standard for long now, although until now they were not connected with one another. That will change in Industry 4.0. In the connected production of the future, the machines will "communicate with one another". They exchange data by themselves, manage their work automatically and because of that are more flexibly usable. Based on the data from the machines and on the data from sensors and the actors, the companies improve their processes or adapt them fast.

Trough digitalisation and interconnection the production processes become always better integrated. In the company, the data flow connects the separate processes vertical: up-to-date information for materials, processes and procedures from all departments, no matter if development, production, management, service or sales, are available all the time. In the horizontal value-creation chain, the companies connect their data to this of their suppliers, partners and clients. Through the whole value-creation chain, the activities can be coordinated globally. In the digital economy the working profiles and the qualification need will also change: the old borders between production,


*Franck Uhlig (CFDT, FR)*

management, services and research will disappear. The departments of services and research will grow. Therefore, it could be said that the employment structures, the work systems and the work itself will enormously change in the next years

**Evolution of competences**
In many cases, the employees will not work any more on the produced part but on the machine which conceives/designs it

**Robot in action**

## New jobs & new competences for the aerospace, defence and security industry

**Industry of the Future: Trends and Developments**

| Market level | Technological level | |
|---|---|---|
| • Political and economic uncertainties<br>• Increased competition – new competitors<br>• Real capacity for customers (airline companies,…) to generate profits and so to buy products and services<br>• Customer marketing ≠ product marketing<br>• Global solution with associated services<br>• Acceleration of the launching to market | • Big data / cloud computing /Industrial Internet of things (IIOT) …<br>• New materials / new assembling methods<br>• Security / Safety<br>• Predictive maintenance<br>• use of cobots (collaborative robots)<br>• direct interaction with workers<br>• qualitative and quantitative impacts on jobs | **COBOTS**<br>**Principle:** association in real-time of the robotic capabilities (strength, precision, repetition,…) and skills of a human being (Know-how, analysis, decision)<br><br>**Interests**: improvements of working conditions<br>Decrease of the direct exposure to dangerous environments<br>Improvement of the human productivity (By allowing him to dedicate itself in high value-added tasks)<br>**Example:** hand musculoskeletal disorders reduced thanks to automatic fastening |

| Organizational level | Environmental level | Societal level |
|---|---|---|
| • Connected factory (at the heart of its industrial eco-system)<br>• Horizontal/vertical integration of production processes<br>• Collaborative concepts :<br>– Collaborative innovation / open innovation / crowd sourcing<br>– Manufacturing as a service (MaaS)<br>– New space organization<br>by customer or by activity rather than by skills<br>Supplier teams more integrated with the customer teams<br>Lean management / Value stream mapping (VSM)<br>– Digitalization / new computing solutions<br>– Common training sessions with suppliers/other companies of the same geographical area | • Eco design<br>• Circular economy<br>• Economy of service functionality<br>• Jet fuel and carbon price evolutions<br>• Noise around airports<br>• Greenhouse gases emissions<br>• Problem of the dismantling of planes (recycling) | • Corporate Social Responsability policy (CSR)<br>• New stake-holders (citizens, NGO,…) |

| New skills needed | | |
|---|---|---|
| • Design<br>• Advanced automatic device<br>• Multisensory perception | • Signal and image processing<br>• Artificial intelligence<br>• Applied mathematics | • Embedded hardware and software architectures<br>• Computer programming<br>• Equipment installation and maintenance |
| • Necessity to develop transversal and multidisciplinary training courses (integrating engineering sciences, life sciences, design, psychology and sociology)<br>• Multidisciplinary knowledge and collaborative work | | |

## Future of the work in the digital economy

*„**In the market** can be found stronger competition, new offers, new clients such as the flying societies with lower profit, client marketing and product marketing. The market tendencies develop faster than ever.*

***From a technological point of view,** the Big Data, Cloud Computing and the Internet of things can already be found, but are not in progress. The developments take place in new sectors as the robots problematic instead of sectors, where the investments will grow from 1,6 Mio. up to 2.6 Mio from 2015 to 2019. The goal is to put the robots in partnership with people.*

***From organisational point of view,** the companies become more and more connected, an industrial ecosystem coordinated with a lot of actors. Production processes go horizontal and vertical. A lot of positions change, there are open innovations with Crowd Sourcing and external actors. What follows, is the reorganisation of the employees according to the client-type and no more regarding the company's departments. The lean management defines the employees. The connected company observes the training needs with special attention – and so does also the question about the temporary workers.*

***The environmental aspect** wins over the waste economy with a conceptual change of the meaning, it is better to offer a service than a product. The noise pollution at airports, the fuel gas emissions and the problems with recycling are part of the priorities of the day.*

***In social perspective,** we are talking about Corporate Social Responsibility – the shared social responsibility. How do we react to new technologies and their consequences? The answers must be given by all employers and stakeholders.*

*The robot skills should be combined with the skills of people. The positive in this is that working conditions can be improved in this matter (noise, heat, treats). This can lead to the development of more value creating tasks and to less load for the employees. However, exists also the risk of concentration of the work. New competencies are easily identified, e.g. design, multisensory, simulation, architecture of materials, installation and maintenance. Strong influence on the work content have the cross-sector competencies for integrated fields – also psychological aspects should be taken in consideration – that are part of multi functioning teams. The risks of Cyber-Security should however not be overseen."*

## THE NEW FACE OF INDUSTRY IN FRANCE

**The French government initiated a strategic review with 34 sector-based initiatives to define France's industrial policy priorities.**

### ELECTRIC PLANES AND NEXT-GENERATION AIRCRAFT

We want to build a France of industrial supremacy in aerospace. The French aerospace sector, structured around major global players and a network of skilled mid-size companies and SMEs, occupies a leading position worldwide. French aircraft and helicopters are benchmarks in all countries. The preservation of these competitive advantages, derived from a successful cooperation between industry and the government dating back several decades, is a key challenge. This initiative builds on the priorities identified by the Council for Research in Civil Aerospace, including the implementation of new production methods, research on quieter and more fuel-efficient aircraft, and the development of more efficient piloting systems. While improving working conditions in production facilities through the use of new processes and technologies, the sector will build new generations of aircraft, helicopters and engines boasting innovative, safe and reliable solutions making them cheaper, quieter, more fuel-efficient and cleaner. Work will need to focus on the development of several prototypes, including E-Fan, the fully electric two-seater trainer, A30X, successor to the A320, Falcon5X, successor to the Falcon 2000, and the X4 and X6 helicopters, successors to the Dauphin and Super Puma respectively.

### INDUSTRIAL PLANT OF THE FUTURE

We want to anchor the third industrial revolution in France. With fewer than 35,000 production robots operating in France, compared with more than 150,000 in Germany and around 65,000 in Italy, France has a lower rate of industrial employment compared with its competitors and needs to close the gap. To regain its place in the global battle, enhance its competitiveness, attract more manufacturing and maintain industrial employment, France faces the dual challenge of modernizing its manufacturing facilities while designing and developing the production processes of the future. The industrial plant of the future will need to be more environmentally friendly, using production methods that consume fewer resources and generate less waste. It will need to be smarter, using increasingly sophisticated production methods that redefine the human-machine interface. It will need to be more flexible, able to produce goods that are more attuned to market needs, moving from custom-built to mass-market goods. It will also need to be better integrated, connected to the very core of local communities and geographically close to its stakeholders (customers, subcontractors and suppliers), helping revitalize networks and local economies. The "Industrial Plant of the Future" initiative will enable France to rise to the challenge of rapid prototyping, the convergence of social networks, corporate hyperconnectivity, human-machine interfaces, robotics, augmented reality, digital technology, 3D printing, artificial intelligence and design.

*Source: www.redressement-productif.gouv.fr*

## RECRUITMENT AND SKILLED LABOUR INITIATIVES AT SAFRAN

SAFRAN is an international supplier with approx. 48,000 employees in Europe. From the point of view of employee representatives, problems related to employment and skilled labour needed to be faced immediately. Indeed, since 2012 it was known that around 40% of jobs would have to be filled on a 5 years-period due to retirements. This situation will go on in the next years though decreasing slightly.

Reacting to this change in employment organisation, the Unions represented at the European Works Council (EWC) concluded two anticipatory agreements under the umbrella of the European federation of the unions of industries, IndustriALL Europe:

**2013 – 2015 ➔ European framework agreement for professional integration of young people**

**2016 – 2017 ➔ Renegotiation of the agreement**

**2015 – 2018 ➔ European framework agreement on skills and career path development.**
*This agreement is an extension of the previous agreement*

***Corinne Schievene***
*CFDT | EBR SAFRAN | FR*

### European framework agreement for professional integration of young people

**COMMITMENTS**

| | | |
|---|---|---|
| Anticipate changes to professions and ensure the professional development of staff through a shared approach | Develop and secure the career paths of the Group's staff, so they can grow in their current positions and have opportunities to further their careers throughout their working lives | Encourage professional mobility as an opportunity for staff to develop new skills and an effective response to the Group's growing needs for skills |

### European framework agreement for developing skills and career paths

**ENGAGEMENTS**

**Contribute to the vocational training of young people:**

- improve the supply of vocational training: rotating, trainees, research students.
- develop relationships and partnerships with schools and universities in Europe.

**Ensure development and renewal capacity of the skills of the group:**

- recruit consistently qualified youth and pay special attention to young people trained within the Group (E-talent)
- accompany recruited young people by the development of attractive training (V.I.E.*) and the development of skills

** Volunteer for International Experience*

**Promote diversity and equality of opportunity:**

- Feminization of recruitment
- Promoting the insertion of low-skilled and remote employment young people
- Fight against exclusion: disability

**Safran, a world leader for propulsion**

- World No. 1 for civilian aircraft engines carrying over 100 passengers (in partnership with GE within CFM International)
- World No. 1 for turboshaft engines for helicopters
- World No. 2 for cryogenic and solid propulsion rocket Engines
- European No. 1 for plasma propulsion
- World No. 1 for landing brakes, wheels and carbon brakes

**KEY FACTS**

- Safran is an international high-technology group and tier-1 supplier of systems and equipment in its core markets of Aerospace, Defense and Security
- Logged sales of 17.4 billion euros in 2015
- World population: 70,087employees
- EWC agreement perimeter: 48,337 employees (48,980 in Europe) among which 85% in France
- 15 countries: France, Germany, Great-Britain, Belgium, Spain, Finland, Ireland, Italy, Netherlands, Poland, Portugal, Czech Republic, Romania, Switzerland, Slovakia


**2017**

In France, the two aircraft manufacturers Safran and Zodiac join together to the world's number three. Safran mainly builds engines, also together with General Electric in the joint venture CFM. Zodiac offers among others cabins or seats for airplanes.

Both companies together will have 92,000 employees with an annual turnover of more than € 20 billion annual turnover.

## Renegotiation of the European agreement for professional integration of young people

### Initial issues

- Renew the pyramid of ages to deal with very strong retirements forecast (40% over 5 years)
- Keep the jobs and anticipate the renewal skills and jobs.
- Unemployment of young people in Europe which remains high.
- Promote and federate the initiatives in each country.
- Support social dialogue between management and staff representatives.
- Involve employees in helping a young man in training.

### Conrete results

- 6 000 young people received in 2015 (in a context of overall high level of recruitment)
- 33,5% of the young people trained were hired after their training (31.12.2015)
- A significant involvement of in-house employees Annually, 1 employee in 6 hosts a young in training
- A rate of feminization of our recruitments of the order of 25% for traditionally more male activities
- The insertion of young people through vocational training = major HR axis for Safran à Guide of best practices
- Integration of Safran in the program of the „European Alliance for learning for the development of apprentices-hips in Europe".

### Conrete commitments

**Strengthening of measures for apprenticeship**

- 5% of work-students and trainees
- Better support and following of young people during their training:
  - Set up a monitoring system
  - Systematic interview with HR (help to simulation of job interview and introduction to e-Talent *).

## AGREEMENT ON THE DEVELOPMENT OF SKILLS AND CAREER PATH

**SCOPES OF THE AGREEMENT**

**Anticipate the jobs evolution and** ensure the professional development of the employees by a shared approach.

**Develop and secure the career paths** of the employees of the Group.

**Encourage professional mobility** as a skill development opportunity.

## APPRAISAL AND REPORT 2015

- The e.Talent *(Safran recruiting platform)* tool is deployed in all countries of Europe.
- The dynamic for a career path management is being implemented Safran mobility charter in Germany, Belgium, France and United- Kingdom.
- The project is being deployed.
- The Experts sector is deployed in several countries as Germany, Belgium, France, Netherlands and United Kingdom.

However, there is a certain heterogeneity in the practices of development interviews, of mobility and meetings management meetings like 'balance/perspectives'.

## ASSESSMENT ON GOOD PRACTICES

- All entities use INSITE SAFRAN and e.Talent to give visibility on the jobs and vacancies in the group.
- All European entities use the development interview to talk about mobility and training needs.
- Many companies use the practice of mentoring to support the integration of a new hire.

There is however a certain heterogeneity in development interviews, in mobility and meetings management practices like 'balance sheets/perspective'.

## TARGETS 2017

- Continue to **support of the companies** in the appropriation of this new agreement.
- Continue the **deployment of the training Passport** in France and in the European subsidiaries.
- Expand the **sharing of training actions**.
- Maintain a **high level of training.**
- Encourage to **develop the development interviews for all employees** with the deployment of TWIST *(Online development interview form)* on the European area.

# AEROSPACE AND DEFENCE INDUSTRY IN ITALY

**With a workforce of more than 50,000 people and an annual turnover in the region of $17.6 billion, the Italian aerospace and defence industry is the 7th largest in the world and the 4th largest in Europe. The aerospace and defence industry is Italy's largest manufacturing sector in the field of hightech integrated systems and the most significant in terms of innovation and advanced technology. The aeronautical sector alone represents on average 8 10% of Italy's trade balance and constitutes more than 2% of total exports. With a network of over 600 small and medium enterprises (SMEs) as well as large key players, the industry is considered to be of great strategic importance to all**

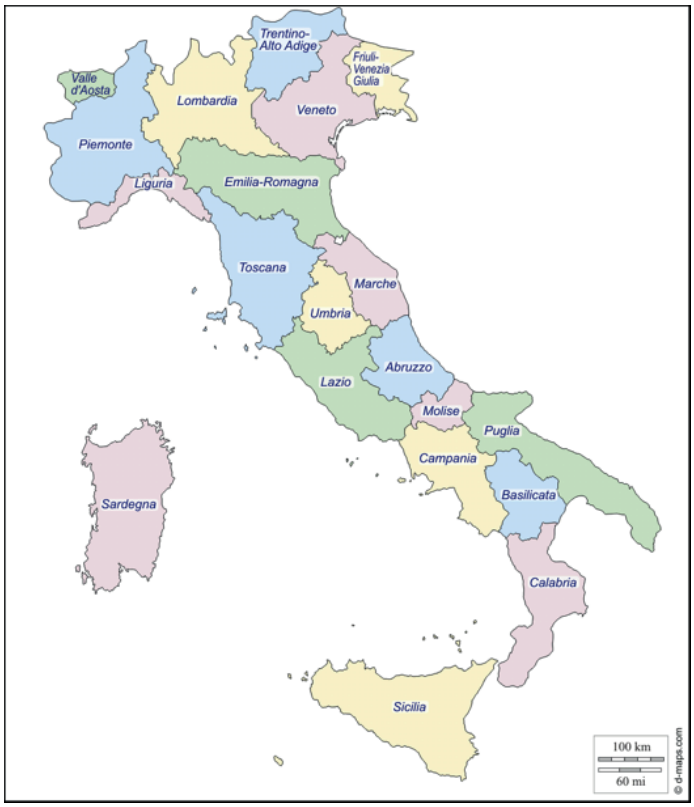
Among the large players and SME network there are competences across the entire aeronautics value chain and in every aspect of space activity, from components and services to data collection and handling. Italy was the third country in the world to launch a satellite with the San Marco 1 mission in 1964 and, today, is one of the largest contributors to many European Space Agency (ESA) projects, playing a key role in both the International Space Station (ISS) and the ExoMars project.

In particular, Italy is a major global player and retains leading edge and niche technology in the production of: commercial and military helicopters, fixed wing military aircraft (transporters and jet trainers), business jets, regional turbofan aircraft, Unmanned Aerial Vehicles (UAV), the design and assembly of parts (aluminium, titanium and composites), avionics systems, metallurgy, naval and aircraft propulsion, mechanics, electromechanics, electronics, software radars and air traffic control systems. Italy also has key capabilities in space and satellite systems, space propulsion and launchers.

Italian industry policy in this sector will continue to focus on strengthening its stake in the civil market, particularly since Italy has traditionally been oriented towards the defence sector which has now been significantly impacted by global defence budget cuts and constraints. Alenia Aermacchi's partnership with Russia's Sukhoi and its joint venture with Airbus for the ATR turboprops are but two examples of Italy's goal to become an important player in the civil aviation market.

Over the last several years Italy's aerospace sector has undergone significant restructuring with the creation and reorganisation of regional clusters which have streamlined the aerospace industry supply chain in line with the activities and expertise of Italy's research centres and universities. Today there are 6 main regional aerospace industry clusters in the Campania, Puglia, Lazio, Lombardy and Piedmont regions.

## REGIONAL CLUSTER




The Italian aerospace and defence industry is made up of a small number of large groups and some 600 smalltomedium sized enterprises that are located in 11 main aerospace districts, of which the six key regions are Lombardy, Lazio, Piedmont, Campania, Apulia and Umbria.

Each region lends itself to particular capabilities according to its history and the presence of major players within particular fields. Piedmont and Lombardy have particularly extensive capabilities, although Lombardy is best known for helicopters due to the presence of AgustaWestland (now merged into Leonardo's helicopter division). The region also boasts the capacity to produce an aircraft from inception to delivery. At 15.000 and 15.800 employees respectively, these two regions represent the largest workforce by region dedicated to the aerospace industry.

Piedmont alone covers the entire value chain, with prime companies including Avio Aero, Leonardo, UTC and Avio SpA.

Lazio has a particularly strong space segment, while Apulia and Campania are more focused on aerostructures.

Although Italy's SME-based network is unusual in the aeronautics sector, the structure has allowed for the growth of companies with very specialized offerings across the entire value chain. This structured network represents a key industry component which is characterized by a highly skilled workforce offering niche capabilities and highly specialized technologies. Historically Italy's SMEs have been dependent on domestic orders, but more recently they are increasing their efforts to encompass a more global outlook.

| **Region** (Cluster) | **Companies** | thereof **SMEs** | **Employees** | **Turnover** | **Export** |
|---|---|---|---|---|---|
| **Lazio** | **250** | | **30.000** | € 5,0 billion | |
| **Lombardy** | **220** | 194 | **15.800** | € 4,5 billion | € 1,9 billion |
| **Piedmont** | **400** | 400 | **14.800** | € 3,9 billion | € 1,3 billion |
| **Campania** | **170** | 161 | **10.000** | | |
| **Apulia** | **32** | 32 | **5.198** | | |
| **Umbria** | **28** | 25 | **2.900** | € 400 million | € 176 million |

## LEONARDO – A MAIN PLAYER IN ITALY

The Leonardo S.p.A. (formerly Finmeccanica S.p.A., from April 2016 onwards: Leonardo-Finmeccanica-S.p.A.) is an Italian technology enterprise. Since the 1990s, the former state holding Finmeccanica has been controlling almost all Italian defence, aeronautics and space companies.

On January 1, 2016, the helicopter manufacturer AgustaWestland, the aircraft construction company Alenia Aermacchi, the defence and electronics company Selex ES as well as the defence company Oto Melara and Whitehead Alenia Sistemi Subacquei entered the so-called "One Company" with the old holding name Finmeccanica. As of January 1, 2017, then the designation of the former state holding was omitted and the name was changed in Leonardo.
Leonardo develops and produces airplanes, helicopters, satellites, rockets and aerospace components, communications and information technology, armored vehicles, torpedoes, and ship guns.

Following substantial rationalization measures, the company currently (2017) employs around 47,156 employees in 14 countries with a total turnover of € 12.9 billion (2015).

Leonardo is owned by the US company DRS Technologies. The satellite company Telespazio is owned with two-thirds by Leonardo and Avion de Transport Régional (together with Airbus Group), in space technology company Thales Alenia Space Leonardo is involved with one-third and in the European armaments firm MBDA (with BAE Systems and Airbus Group) to a quarter.


**FINMECCANICA GROUP**
(since April 2016 Leonardo S.p.A.)

In 2016 Finmeccanica was the 4th largest aerospace and defence group in the world and the 2nd largest in Europe. Finmeccanica group was a major player in helicopters (AgustaWestlnd), commercial, military and regional aircraft (Alenia Aermachi), defence electronics (Selex ES), radars, space and satellite systems (DRS Technologies), avionics, turbines and Air Traffic Control (ATC).

In 2014, Finmeccanica generated revenues of $21.09 billion and orders totaling $22.6 billion. The group accounted for 54.380 employees and controls, or had shares in, more than 328 companies. The Group's strategy consisted in expanding into emerging markets such as Russia and Brazil and reducing its dependency on more traditional markets such as Europe and the United States.

*Source: Germany Trade & Invest (22.07.2015); The Canadian Trade Commissioner Service (August 2015); Global business reports, ITALY AEROSPACE 2016; https://de.wikipedia.org/wiki/Leonardo_S.p.A. (17.08.2017)*

## IMPLEMTENTATION OF THE INTEGRATIVE AGREEMENT AT TELESPAZIO

Telespazio, a joint venture between Leonardo (67%) and Thales (33%), is one of Europe's leaders and one of the world's main players in satellite solutions and services. The company has its headquarters in Rome, Italy, and is supported by a staff of approximately 2.500 people. It relies on an international network of space centres and teleports and operates worldwide through many subsidiaries . Telespazio is a multinational company with a consolidated presence in Europe and an important presence also in Brazil, Argentina and USA.

### Project Plan

**February, 2nd 2016**
Signature 2° level agreement
**Trade Unions - Leonardo**

**May, 2016**
**Start negotiation of 2° level**

**December, 22 2016**
**Signature 2° level agreement**

**February, 1st 2017**
**Start New 2° level**

| Core Activities | Ensuring the generational change (turn over) |
|---|---|
| **Why** | The recently implemented reform of the pension system freezed the employee turnover, which is at the moment the only instrument to generate jobs. A company can only growth economically if there are new employment opportunities that favour at least the recruiting of the next generation of workers. |
| **Objectives** | Unblocking, at least in part, the turnover and opening up new opportunities for the future generations in becoming qualified employees. |
| **Approach** | One Company agreement. To apply the already concluded contract Leonardo/Finmeccanica, by spurring the company to a more effective resource allocation. |
| **Step 1** | Analysis of the needs |
| **Step 2** | Implementation of the agreement |
| **Goal** | First application phase of the agreement and monitoring the progress. |

**New national collective labor agreement**
January,1st. 2017

**Time mgt instruments**

**Training mgt instruments**

## INTEGRATIVE AGREEMENT

**between Leonardo/Finmeccanica and Fim Cisl Fiom Cgil e Uilm Uil (signed on 2 february 2016**

### Fund of support of income and professional retraining (extract, Part 1)

Over a period of validity of this supplementary 2nd level agreement, the feasibility of a company fund will be assessed as per § 26-40 of the Legislative Decree 148 of 2015, which pursues the aim of promoting the conversion and the upgrading of skills and to realize policies in support of income and employment in the context of company restructuring / reorganization processes.

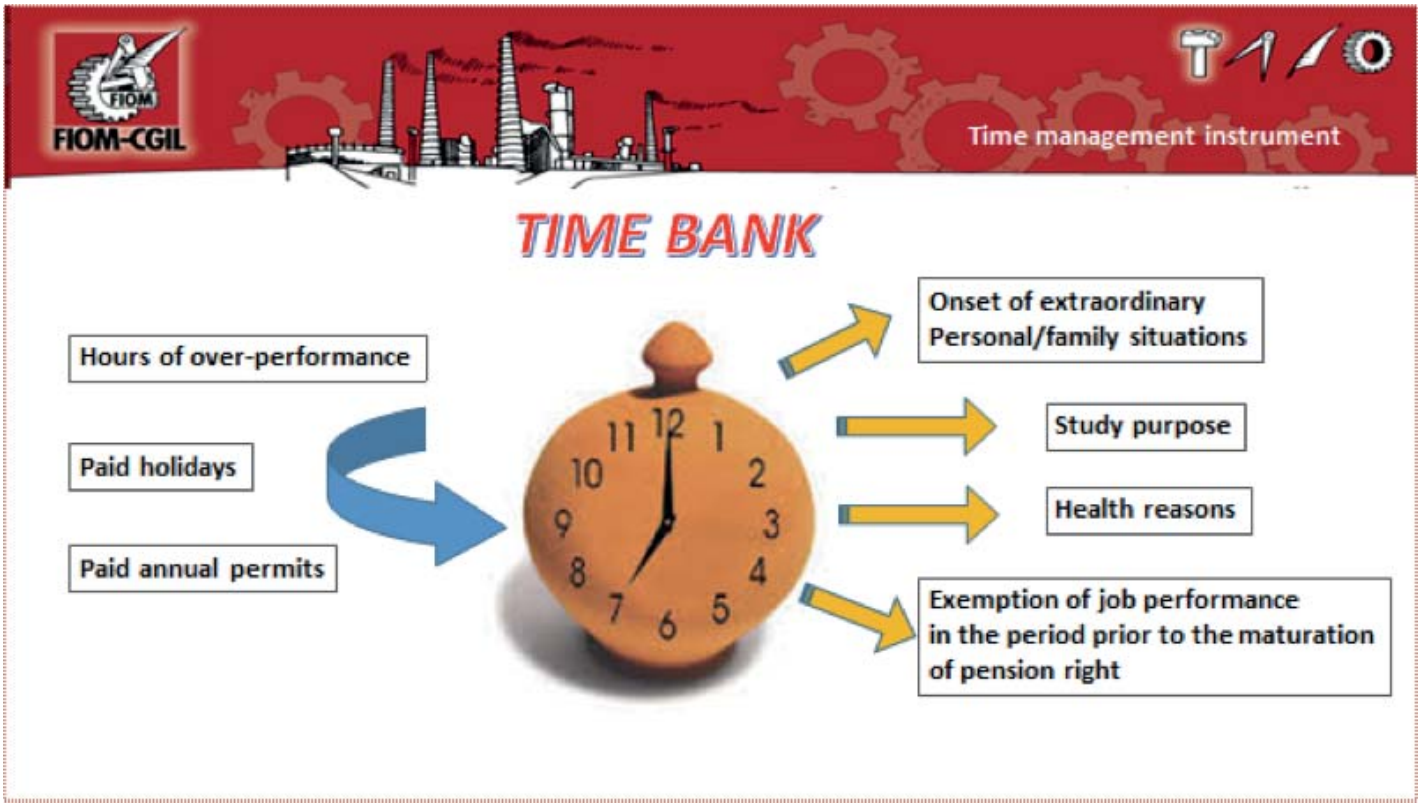
In this context solutions will be also explored in order to introduce "generational alternating paths", encouraging measures of accompanying pension supported also by the use of part-time contracts for workers entitled to a retirement pension, as introduced Article 1, paragraph 284, of the so called "Stability Law" for the year 2016.

Prior study of the different legal issues, social security and fiscal aspects by the Working Group on Welfare, to be completed by the 3rd quarter of 2016, the Parties agree on whether to institute a Bank of time in which to bring together - on an individual and voluntary basis - the hours of over- performance, paid holidays and paid annual permits; this in order to allow individual workers - according with productive and organizational needs - the use of the number of hours set aside on special individual accounts as a recovery in the following cases.

### Training packages for young people (extract, Part 2)

One Company recognizes the central importance of actions aimed to strengthening collaboration between the school and the world of work in the belief that the company is a place of continuing learning that allows young people to be given more and better opportunities to have practical experiences and understand the "professional life" and corporate culture with the aim of preparing them for the real world of work.

With this aim the One Company promotes interventions (internships, lectures, tutoring) to the entire educational sector activating Alternating School Work paths, Technical Training Specialist (ITS) and participation of University course and Master that are in the interest of the company's business, aimed at combining, on the one hand, the need of generational turnover and on the other the need to support active aging of senior workers through successful strategies of job retention in old age, involving them as teachers / tutors to support the necessary transfer of skills to young people who are part of the company.



## Training management instruments

### Professional retraining

- **Training promoted by the company**
- **Training up to 32 Hours/year on the employee's initiative**

## Knowledge improvement for Junior Employers

**For young workers, the One Company provides insertion training with the aim of:**

- promote the sense of identity and belonging to One Company
- improve technical and professional skills through specific training and knowledge sharing
- create and support cross professional, cross business and cross geographies and cross customers network
- contribute to the definition of a personal developing plan


## Restarted negotiations with the management

"During this last period we had a change in Leonardo's top management, as the CEO changed, stopping all the ongoing contractual activities.
The meetings restarted on June in Leonardo and, consequently, in Telespazio. We are now going to deal with Telespazio in order to reach an agreement on the following matters:

- Training
- Smartworking
- Time bank
- Health Insurance

That is why we did not achieve yet any significant further upgrades to be presented to the AIR-CHANGE work group. Actually, we will keep you updated on the results of our negotiation, with particular attention to the solutions more compliant to the scope of the project (i.e. Time bank and Training).
We hope to dispose in a suitable time lapse of a set of data that may contribute to the success of the project.

We catch the occasion to inform that we asked to Telespazio the setup of the European Works Council, as foreseen by EU Council Directive 94/45/EC of 22 September 1994."

*The Italian colleagues from FIOM-CGIL in CHANGE-project*

# POLISH AEROSPACE AND DEFENSE INDUSTRY

Poland has a 100-year history of aerospace and a tradition of aerospace industry dating back more than 80 years. Strong scientific, academic and engineering centres were of key importance to the development of this sector. After the period of transformation in Poland, increased international business cooperation and direct foreign investments contributed to its further development. Currently, the Polish aviation industry has a rich export offer of advanced aviation products.
There are over 200 aerospace and aerospace-related companies with annual sales of EUR 1,3 bln, and over 30 thousand employees in total operating in Poland. The majority of these are small and medium-sized enterprises (SMEs), companies with foreign capital, and a small group of enterprises with minority state shareholding. Around 80% of aerospace plants are located in the south-eastern Poland in one of four aviation clusters. Operating plants are specialized in the production of aircraft (agricultural, training, executive), helicopters, gliders, subassemblies (aluminium, composite, GRFP) and accessories. 90% of aviation production is exported to: USA, Italy, Canada, China, Ukraine, Australia, UK, France, Germany.

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**Selected companies operating in the aerospace sector**

| Companies | Employees | Companies | Employees |
|---|---|---|---|
| „Pratt & Whitney Rzeszów | **4000** | PZL „Warszawa Okęcie", Airbus Defence and Space Company | **850** |
| WSK „PZL - Świdnik" / Augusta Westland | **2900** | HS Wrocław | **500** |
| Pratt & Whitney Kalisz | **1400** | Avio Aero (Bielsko-Biała) | **400** |
| Polskie Zakłady Lotnicze, Sikorsky a Lockheed Martin Company (Mielec) | **2100** | UTC Areospace Systems (Goodrich, Krosno) | **400** |
| GE EDC Poland (Warsaw) | **1000** | Safran Transmission Systems Poland (Sędziszów Małopolski) | **400** |
| Thoni Alutec (Stalowa Wola) | **1200** | MTU Aero Engines Polska (Rzeszów) | **270** |
| WSK PZL Kalisz | **600** | Hamilton Sundstrand Poland (Rzeszów) | **250** |

## AVIATION CLUSTERS

Polish aviation industry is mainly organized in few industry clusters' from which Aviation Valley (region of Rzeszów) is the largest. The Aviation Valley Association was started on April 11, 2003, as a non-profit organization, as a means to furthering the rapid development and growth of the aerospace industry in southeastern Poland.

This region currently represents 158 companies, 90% of Polish aerospace industry output and over 24,000 experienced and dedicated employees.


# PROJECT ACTIVITY

## Equal standards with collective agreement – Prerequisites for fair competitiveness

**ACTIVITY | AIM**
Conclusion of National Intra-companies Collective Agreement including provision regarding skill and competence upgrade

**PARTIAL PROJECT GOALS**
- To equal employment standards in aviation branch of Poland,
- To create the same competition environment,
- Stop qualified employees emigration/ migration

**PROJECT GROUP OF RECIPIENTS**
- First group of project recipients are three biggest aviation companies in Poland where "Solidarność" union organizations are established. Those companies owned by foreign investors are as follows:
  – Pratt&Whitney Rzeszów |Canada |US
  – PZL Mielec |Sikorsky | US and
  – PZL Swidnik |Leonardo Helicopter /ITALY
- Each of these companies has separate local collective agreement.

**CHALLENGES**
- Basic challenge of the project will be persuasion of Employers to the organizing and staring negotiations and analysis of prepared draft of National Intra-companies Collective Agreement
- Creation of common provision in National Intra-companies Collective Agreement could appear due to fact that each company have specific individual collective agreement provisions that differ from each other,
- Pratt& Whitney Rzeszow belong to the UTC Corporation that possesses other non-unionized aviation divisions. There could appear resistance to engage into National Intra-companies Collective Agreement due to concern that it would force them to necessity of applying higher standards of working and payment conditions in non-unionized businesses and create additions expenses.

***„In our sector there are different standards in the companies. We want to remove this. To make that happen, we need an intra-company, national agreement with the same conditions and standards for all companies. We need a tariff or legal framework in order to prevent dumping and to secure competitiveness."***

*Pawel Kawalec | Pratt&Whitney Rzeszów S.A. | NSZZ Solidarność*

**OPERATION**

- Elaboration of draft of National Intra-companies Collective Agreement content among union representatives that would include common general provisions,
- Submissions of National Intra-companies Collective Agreement draft to the management of selected aviation companies,
- Starting information meeting with management of selected aviation companies explain goal of the project,
- Submission of request to the management of selected aviation companies to organize ,
- Review of legal possibility to implement by law possibility of legal enforcement to organize employers. Union will play active role in New Labor Law Codification Commission which is going to elaborate and implement new law in terms of individual and collective terms of working conditions.

**INTERIM RESULT**

**The principle obstacle for negotiation is the absence of a national employers' association in aviation industry. National Intra-companies Collective Agreement needs a negotiating social partner on the employer's side and cannot be concluded with non- organized Employers. We will undertake political pressure for founding of an employer's' branch association as a national partner for negotiation.**


*Representatives from NSZZ „Solidarnosc": Marian Kokoszka, Bogdan Szozda, Roman Jakim, Pawel Kawalec (from left to right)*

***„In Poland we have a joint representation with the employers and the government. Our goals in this negotiations are:***

1. ***to set standards,***
2. ***to create an environment of real competition between the companies and***
3. ***to prevent the occurrence of an emigration wave of young talents."***

*Marian Kokoszka | NSZZ Solidarność*

**INCENTIVE FOR EMPLOYEES**

- Employees covered by National Intra-companies Collective Agreement getting additional security provision umbrella in the area of working and payment conditions.
- With time it will encourage employees from other smaller non-unionized business units ( i.e MTU, Safran ) to organize union structure in order to join to National Intra-companies Collective Agreement.

**EFFECTS FOR UNIONS**

- From a trade union point of view the basic value is that Employers stared to think and discus about benefits or disadvantages of entrance into the Agreement.
- Discussion about National Intra-companies Collective Agreement in Aviation Sector started discussion about possibility of conclusion such agreements in other Metalwork's Union sections.
- Union will be address new proposals in collective working terms area with solutions that could enhance employers to organize and take active part in creation new National Collective Agreements.

**PERSPECTIVES**

Unions are going to remind the employers about the necessity to conclude National Intra-companies Collective Agreement and will put pressure through all dialog processes and negotiation channels. Unions also have own representative in New Labor Law Codification Commission which is going to elaborate and implement new law in terms of individual and collective terms of working conditions.

**Romania's aerospace market is a mixture of civil and military. Romania is developing an aircraft parts manufacturing and MRO industry. Companies such as Aerostar currently work in the civil sector producing landing gear and wing assemblies and providing MRO services.**

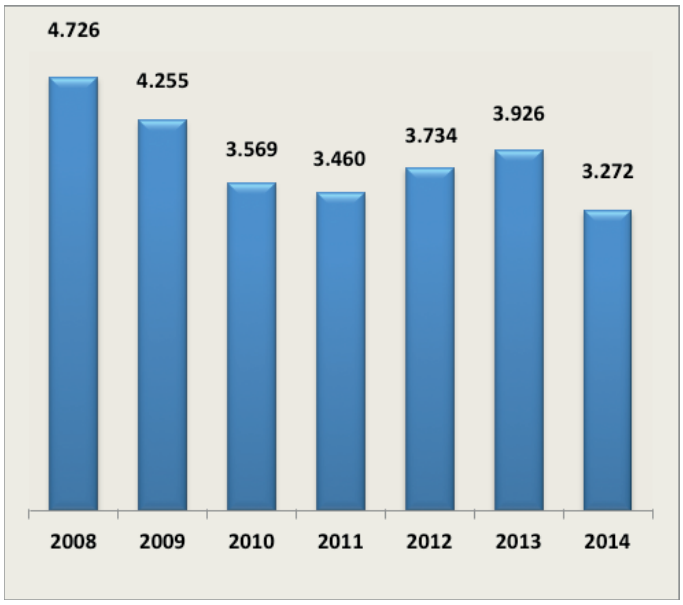
The Aerospace & Defense (A&D) sector is made up of several medium to large enterprises across a diverse range of specialty and technical businesses that form part of the critical supply chain to the prime companies and assembly operations. The Romanian Ministry of Defense (MoD) allotted more than 35% of the total defense budget to major procurement and modernization programs, which cover: armored vehicles on wheels and tracks, missile systems and rockets, radars for low and medium altitude, C4I systems, and trucks.

The key Romanian aerospace and defense players are: Aerostar SA Bacau (aircraft and parts manufacturer, which created a joint venture with Stork Fokker Aesp to produce mechanical aircraft components); IAR SA Brasov (Puma helicopter MRO, which in 2002 created a joint venture with Eurocopter (France) to maintain and repair the PUMA, a troop carrier and a tactical support helicopter; Romaero SA (a Bucharest-based aircraft company, assigned by the Romanian government); and IAR S.A. BRAŞOV (troop carrier and a tactical support helicopter; company has manufactured and delivered more than 160 Puma helicopters, of which 57 helicopters have been exported to France, Pakistan, UAE; 104 off delivered to the Ministry of National Defense).

Civil Helicopter market: The major players are Airbus Helicopter, Augusta Westland, Bell Helicopter, and Robinson. The Romanian market is an acquisition cost driven market, traditionally tied with Airbus Helicopter. Issues facing acquisition of helicopters include: lack of financial resources, absence of medium helicopter capabilities, as well as certification of new types and models.
State-owned Helicopter market: Both the Ministry of Interior, Aviation Inspectorate, and the Ministry of Defense participate in this sector. The first structure's fleet is composed of a few remaining Mi-17 and a fleet of exclusive Airbus helicopters. The second agency needs to replace the older Allouette 3 models used for cadet training and similar missions for light helicopters, and Puma models, close to the end of their lifecycle.

*Source: http://2016.export.gov/industry/aerospace/aerospaceresourceguide/romania088815.asp*

**Evolution of employees in manufactoring**



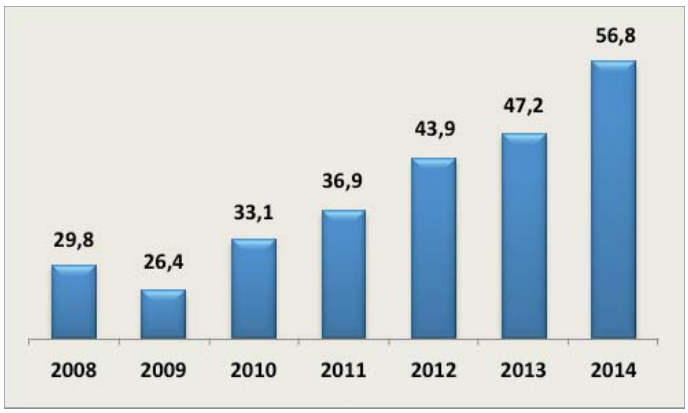

**Number of employees decreased during the crisis, but new investments is bound to boost new hires and further expansion**

- Employment in manufacturing of aircrafts and spacecraft sector decreased with more than 1260 persons between 2008-2011.
- The new commands and exports performance increased the demand after 2011.
- However, in 2014, the total number of employees was 3200, but there were important spillover effects on other components and equipment sectors
- More than 3000 employees were hired at Aerostar Bacau, IAR Brasov and Romaero SA.
- Companies like Airbus Helicopters and Premium Aerotec have made new investments that spur new hirings and disposable income.

**The main products manufactured in Romania are:**

- Aircrafts, helicopters
- Gliders and motor gliders
- Aircraft engines
- Helicopter power plants, dynamic assemblies for helicopters, actuators and servo valves
- Landing gears, brakes, hydro-pneumatically accessories and equipment
- Electrical/electronic equipment
- Parts, components and subassemblies for the these products

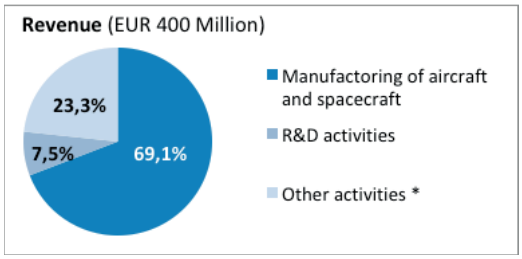
**Labor productivity ('000 EUR / employee)**

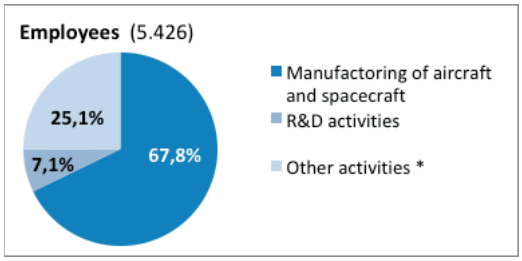



**Net margin and labor productivity in aerospace manufacturing sector constantly increased after the crisis**

- Comparatively with 2008 labor productivity increased by more than 90% in 2014.
- An aggregate growth rate places labor productivity at 11.3% per year, which is likely to keep accelerating considering the new investments entering the country.
- The main drivers of this good performance was both increasing turnover and declining number of employees.
- In the same period, net profit margin significantly increased, from 4,7% in 2008 to 12% in 2014, mainly driven by export demand.
- Despite a short term slump in employees, the top companies have begun intensive hiring processes to cope with demand, implying a definite potential for further investors too.

*Source: investromania (may 2016)*





*Other related activities covers: Repair and maintenance of aircraft and spacecraft, engineering activities and related technical consultancy, manufacture of communication equipment, manufacture of textile articles, contracting activities, on a temporary basis, staff, wholesale of textiles, manufacture of metal structures and parts of structures, aluminum production, activities to develop custom software. general mechanics operations, manufacture of electronic (modules), wholesale of metals and metal ores, publishing of other software.*

**AEROSTAR S.A.** – Construction and repair of aircraft, Manufacturing of armament and ammunition. AEROSTAR S.A is a leading Romanian aerospace and defense company. It has a good reputation in the fields like: military aircrafts and engines maintenance, repairs and upgrades, production of light aircraft, of hydraulic equipment for aviation and piston engines, as well as the production of electronics and other specialized equipment.

Main partners of Aerostar Bacau are Boeing (USA) and Airbus (EU)

| 2015 | Aerostar Bacau |
|---|---|
| Turnover ['000 EUR] | 76.582 |
| Net profit ['000 EUR] | 11.76 |
| No. of employees | 2.012 |
| Exports ['000 EUR] | 58.968 |

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**The major aim of the Romanian metal trade union in the CHANGE project is to establish a company agreement with the following elements:**

- Systematic personnel planning (exits and admissions)
- Transfer of experiences and knowledge (between old and young)
- Better binding for young people with attractive jobs (also as an incentive to secure jobs and know-how in Romania and to prevent labor migration to other European countries)

**Status / Result**

- Company-based analyzes (demography check) were carried out and evaluated.
- The draft of an company agreement has been drawn up.
- Consultations / negotiations with the employer have not yet taken place because of the lack of openness on the part of the management.

*„The European project CHANGE is important, because it offers a clear image of the situation of the work force in Europe. Also the results of this project can offer a solution for problem of the aging work force in my company but also in most of the aviation companies in Romania."*

*Robert Enoui |Airbus Helicopters Romania)*

**Selected companies operating in the aerospace sector**

| Company | Products | Employees (temporary workers) | Union Members | Mean age (years) | Profit 2014 (1000 RON) | Needs and requirements |
|---|---|---|---|---|---|---|
| **S.C. Aerostar S.A.** (Bacau) | (civil and defense) Supplier for Boeing, Airbus, Fokker and Bombardier | **1.900** (170) | **1.350 + 90** | **46** | 19.744 | **younger employees** |
| **S.C. ROMAERO S.A.** (Bucharest) | (civil and defense) Supplier for Boeing, Airbus, Fokker and Bombardier | **889** (0) | **800** | **45** | - 45.030 | **technology upgrading & young employees** |
| **S.C. Premium Aerotec S.R.L.** (Brasov / Ghimbav) | (civil) Supplier for Airbus | **780** (90) | **240** | **38** | 40.920 | |
| **S.C. Turbomecanica S.A.** (Bucharest) | (civil and defense) Supplier IAR and Avioane | **420** (100) | **250 + 50** | **50** | - 3.544 | **technology upgrading & young employees** |
| **S.C. Avioane S.A.** Craiova (Ghercesti) | (defense) military airplane | **300** (2) | **299** | **55** | - 9.163 | **technology upgrading & young employees** |
| **S.C. Aeroteh S.A.** (Bucharest) | (military) Supplier for IAR, Airbus | **115** (8) | **56** | **47** | 13.513 | **young employees** |
| **S.C. Universal Alloy Corporation S.R.L.** Baia Mare (Dumbravita) | (civil) Supplier for Airbus | **631** | **0** | | 30.524 | |
| **S.C. IAR S.A.** Brasov (Ghimbav) | (defense) military helicopters maintenance | **315** (0) | **250** | **54** | 5.713 | **technology upgrading & young employees** |
| **S.C. Airbus Helicopters Romania S.A.** Brasov (Ghimbav) | (civil) civil/military helicopters maintenance | **163** (4) | **10 + 90** | **54** | 13.960 | **young employees** |
| **S.C. Motorstar S.R.L.** (Bacau) | (civil) Supplier for ELMET | **86** (0) | **80** | **52** | 587 | |

*Source: FSLI-Metal (2016)*

# SWEDISH AEROSPACE AND DEFENSE INDUSTRY

Sweden has a strong and competitive aerospace and defense industry which is more research intensive than most other industries. The technological breakthroughs and innovations in the aerospace research has had extensive positive externalities effects, that is to say that the technology developed in the aviation industry are used in and by other industries.

Swedish aerospace industry consists of two major companies SAAB AB and GKN Aerospace, as well as several smaller companies as RUAG, OHB Singapore, ÅAC Microtec etc. Swedish aviation industry directly employs 17.000 people, many in highly skilled jobs as engineers, technicians, aircraft mechanic, etc. Through their supply chain support the airline industry an additional 7.000 jobs. Many of these jobs are in other manufacturing sectors, including companies that produce navigation and steering equipment. In addition, we compete on competencies with other high-tech industries that are in need of the same competencies. Additional 4.000 jobs are supported by consumption of the employees in the aviation industry and the companies that supply the aerospace industry.

Long-term skills supply are vital to Sweden's high-tech industry's innovation and supply competitiveness.

## CHALLENGES FOR THE FUTURE

**The responses from the CHANGE-survey show that companies (like GKN and Saab) have an age structure where a large part of those employees will retire within a period of 5-10 years which are not fully matched by recruitments. Companies in the aerospace industry have difficulty recruiting skilled workers and that it will become more difficult to recruit in the future. The industry has generally difficult to attract younger talents. In Sweden, we see that young people are seeking theoretical programs rather than vocational programs; if the development continue as projected then in 2025 there will be missing 26.700 employees in the manufacturing industry. Good recruitment opportunities creates internal mobility within companies which gives our members better opportunities for skills development throughout their working lives.**

From: SWEDISH AEROSPACE AND DEFENSE INDUSTRY - AIR PROJECT 2017 | www.air-change.eu


**Two major companies in Sweden**

GKN Aeropspace Sweden with HQ in Trollhätten is a first tier supplier to the global aviation industry. The business is focused on military, civil and space markets. Civil: GKN is an active partner with all major OEMs, like General Electric, Pratt & Whitney, Rolls-Royce and Snecma, contributing with technology- & product development and production of sub-systems and components to mid-size and big turbofans. GKN is represented in more than 90% of the operating civil fleet of airplanes above 90 pax. In space, GKN design, developes and produces sub-systems to the rocket-engines used by ESA's Ariane 5 for launching commercial satellites.
GKN aerospace in numbers. 17,9500 employees in more than 55 manufacturing locations in 14 countries.

Source: Swedish Security and Defence Industry Association, Facts 2013–2014

Saab offers world-leading solutions, products and services for military defense and security. New technology is continuously developed, adapted and improved to meet customers' changing needs in over 100 countries. The most important markets are Europe, Asia and North America. Saab has about 14.000 employees and annual sales in 2012 were approximately SEK 24 billion, of which around 25 per cent was related to research and development.

Source: Swedish Security and Defence Industry Association, Facts 2013–2014

## Chances for low skilled, unemployed and disadvantaged young people

### Background of the Swedish Initiative

**PROBLEM**
As a hole we have a relatively low unemployment rate in Sweden, but there is a discrepancy between the supply and demand of the "right" competencies. For now we have a shortage of skilled workers, but at the same time we have some groups in our society where the unemployment rate is high.

- Immigrants and young adults with low or incomplete education is overrepresented in unemployment.
- Vocational and technical programs in high school having problems attracting students.
- Industry work is not a high status employment.
- If you have the right interest but the wrong education it can be hard get a job or training in the industry.

**OBJECTIVE**
IF Metall has an agreement, on Vocational introduction employment (VI) with, among others, the Association of Swedish Industries and The Swedish Association of Industrial Employers.

The aim is to use this agreement in the aerospace industry. This will help to secure the industry's future skills supply and give young people an effective start on their careers by providing them with training and guidance. The goal of VI-employment is to reduce the time of unemployment. The individuals receives fixed-term employment requiring that they supplement and/or validate their knowledge in practical and theoretical areas.

It is a national agreement, but it needs to be made in to a local agreement at each factory, where the local parties adapt it to their own needs and conditions.

**TOOLS AND GOOD EXAMPLES**
There are some projects and previous knowledge that we can learn from. The examples of similar work that we know of is surrounding vocational training in, mostly, the automotive industry. That means that we have the tools, we just have to adapt them to our businesses.
Some of the things, already in use, that we can take advantage of:

- Existing agreements
- Methods for validation
- Knowledge of how to recruit
- Good examples of training and education.
- Good cooperation between the community, employers and trade unions.
- Governmental help and backing.

Companies in the aerospace industry is particularly appropriate because it already produced finished structures to educate in their own quality system in welding/brazing, calibration, mechanical expertise, management and manufacturing, etc. Much learning is already held in the workplace. Saab and GKN have their own schools.

**PROFIT**

- The opportunity to make demands on the educational level
- We can avoid agency labor
- We will have a greater impact on employment.
- Provides participants with major opportunities for further employment or increased employability.
- The company is hiring at a lower cost and they get a bigger group to find employees.
- Can mean a more loyal workforce
- We can better find a category of employees we might otherwise miss.


***„We want to start a project, which takes care of young workers. According to their capacities, they should be integrated, so that they could be trained in practice in the company. As a lot of employees are to be retired, the elderly should be replaced by the young. Because of the long production circles, one should stay longer in the company to gain experience."***
*Conny Holm | Saab | IF Metall | SE*

## PROJEKT PLAN

**OVERALL ACTIVITY | AIM**

**Industrial Works Academy**
Utilizing the collective agreement to combine employment with training for young unemployed

**PROBLEM**
The availability of qualified production staff does not meet demands. This is well known to the industry partners, the school system and politicians.
Some of the key points is that:

- It is of low status to work in industry.
- Workers have little or no development at work.
- Opportunities to study decreases as you get older.

**ATTRACT YOUNG PEOPLE TO THE INDUSTRY**
The biggest challenge will be continuing to attract young people to the industry. And there are no shortcuts.

- Manufacturing companies must open up and show what they do, what opportunities and careers they can offer.
- Show that many manufacturing jobs are skilled and complex and required a lot of knowledge.

In the Academy, industry can collaborate and work to develop the industry's appeal.
Influencing opinions and decisions will be an essential task for the Industrial works academy.

**TRAINING EMPLOYEES**

Industrial Works Academy can help in training during employment. They should be able to join courses on topics such as:

- materials science
- Programming
- Quality assurance
- Technical English.

The content of individual courses will be characterized by the needs of the worker and the company.

**BENEFITS FOR THE INDUSTRY**

A general and continuous competence upgrade is an obvious advantages for the companies. It provides, among other things:

- Broader recruitment base.
- Lower thresholds to quickly work with new technology.
- Better conditions to take action and invest in the long term.

**EMPLOYEE BENEFITS**

When employees build their knowledge it makes for:

- More variation in their assignments .
- More possibilities for employment.
- More secure jobs.
- Larger employment market.
- Better wages.

**A SIGNAL TO THE COMMUNITY**

The Industrial Workers Academy want to send a signal to
students and teachers, to immigrants who seek education and work, and to the whole community that:

- Industry jobs are changing and Industrial work requires continuous training.
- Industrial work is interesting and have high status.
- Industrial workers are high in demand.
- It pays to invest in vocational education and industrial training.
- For industrial companies that rely on access to the right skills, this is a great country for expanding and locating industries.
- Stronger Swedish industry means more jobs and a need for more skilled workers


PDF-Format, 6 pages, English

The complete country air reports are available for download under:
**www.air-change.eu/index.php?id=62**

# AEROSPACE INDUSTRY IN UNITED KINGDOM

The U.K. has both civil and military aerospace industry and an important space sector. Current employment numbers are: 109,000 direct employees and 120,000 indirect jobs (i.e. in the supply chain). By value this is 50% civilian aerospace and 50% military aerospace. In 2013, the government listed 634 enterprises as being in the aerospace industry, and total turnover was £24.7 billion in that year.

75% of the revenues of the industry are from export sales. On the civil side, much of this is attributable to sales of Airbus aircraft and Rolls-Royce engines. Also important are Bombardier, with wings for the new C Series produced in Belfast, and Agusta Westland in the rotary market. The U.K. Supply chain supports those OEMs above and are also significant suppliers for Boeing, Lockheed Martin, Northrop Grumman and other USA companies. The industry is present in every region of the U.K. but the most

**Selected companies operating in the aerospace sector**

| OEMs | Important suppliers | | Top 5 companies (by employment numbers) |
|---|---|---|---|
| Rolls-Royce<br>Airbus<br>BAE Systems<br>Bombardier<br>Agusta Westland<br>MBDA | GKN<br>Selex ES<br>Thales<br>GE<br>UTAS<br>Raytheon<br>Spirit | Aerosystems<br>Eaton Aerospace<br>Martin Baker<br>Marshalls<br>Honeywell<br>Safran | BAE Systems \| 34.800<br>Rolls-Royce \|24.000<br>Airbus \| 15.000<br>Bombardier \| 6.000<br>GKN \|3.000 |

**Development of employment**

The civil aerospace business has been growing in recent years, but even so there has been restructuring, with redundancies announced at Rolls-Royce and Bombardier. Despite this, there is strong recruitment of apprentices, with an estimated 3.300 people currently being trained, and graduates. Many of the large companies operate with a core workforce of permanent workers, but supplement this with a "complementary workforce" of temporary or agency workers. Often this is at around 10% of the level of permanent workers.

**Economic situation of suppliers and OEMs**

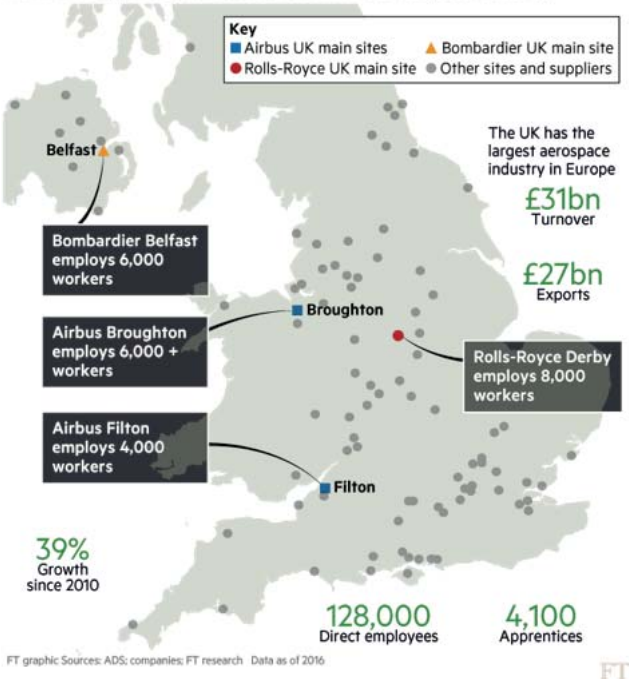
In recent years the government has backed an Aerospace Growth Partnership (AGP), pledging £1.6bn of public money, matched by the industry, for research and development activities. There is an ongoing debate about the support OEMs should now give to supply chain companies in the UK as a result. The AGP has funded an Aerospace Technology Institute that is carrying out R&D for the industry. However, this is currently dominated by projects for the OEMs.

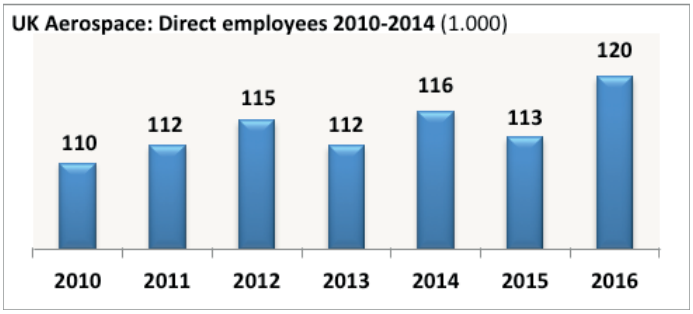
There is a work stream of the AGP aimed at supply chain development, where big companies send experts into the supplier to examine their work practices, production methods and management capabilities. The aim is to improve quality, efficiency and price to make the UK supply chain more competitive. Meanwhile, we have uncovered behaviour where the big companies are forcing their suppliers to offshore work in order to win contracts. Unite has exposed and challenged this behaviour.

**Internationalisation of the value chain**

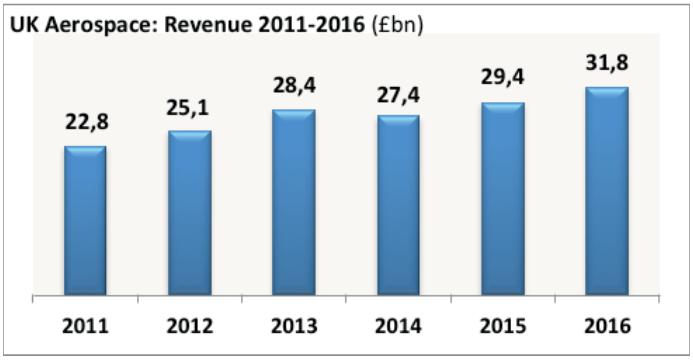
There is clear evidence that the demands of international customers for work packages in return for ordering aircraft is resulting in the offshoring of the value chain. OEMs have conceded assembly lines in some countries, and are forcing their suppliers to send work to low cost economies, partly on the grounds of cost, and partly to satisfy the demand for aerospace work.

Main UK suppliers/manufacturers in the aerospace industry




- 120.000 directly employed by UK Aerospace industry
- UK Aerospace industry provides skilled jobs across in every region of the UK
- 3.800 apprentices and trainees in 2016
- 68% of companies employ apprentices or trainees
- 31.000 British R&D jobs depend on the UK Aerospace industry
- £41.600 average salary in UK Aerospace industry



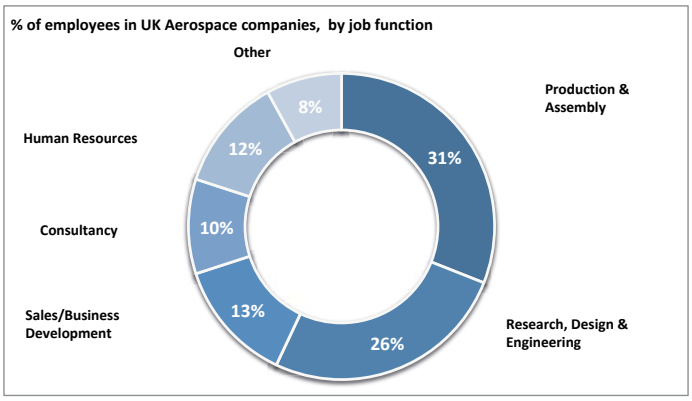

- UK Aerospace sector grew by 8% in 2016
- The turnover in 2016 is 31,8£bn; 27,7£bn comes from export
- 90% of final demand in Aerospace comes from exports
- Nearly two thirds of UK companies expecting growth greater than 10%.

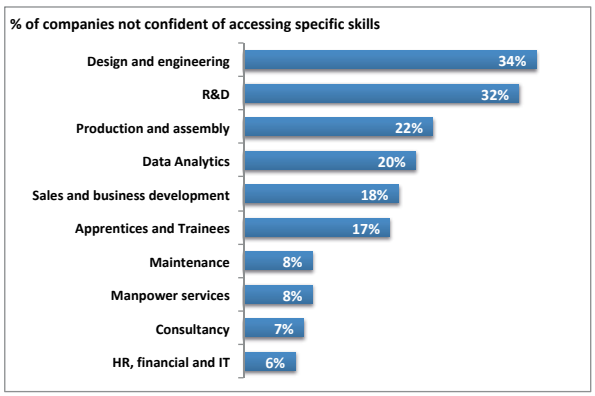
# SECTOR PROFILE AEROSPACE

**Structural changes in the Sector**

Most companies in the aerospace industry are dealing with an ageing workforce, with an average age of engineers currently at 54. The U.K. has a particularly bad demographic problem due to the downturn in manufacturing that occurred in the 1980's and early 1990's when apprenticeships were abandoned across the economy. This has led to a generational gap across manufacturing and there is a noticeable lack of 35-50 year old workers in the industry. This has led to arguments that the skills gap in the UK leads to offshoring of work.

The U.K. Government is introducing an Apprenticeship Levy which will tax big firms to pay for apprenticeship schemes, but the details are far from clear at the moment. There is a lack of a national framework for qualifications for apprentices which will only get worse as the government fragments and devolves responsibility to employers.




*Source for all statistics and figures: ADS/ComRes Survey 2017*

# PROJECT ACTIVITY

## Recruitment and retention of workers!

### CHALLENGE

- Adapt employees & workplace for the onset of the 4th Industrial revolution/ Industry 4.0.
- Satisfying projected need for 10,000 additional worker per year to meet demand.
- Retain & Retrain older workers.
- Recruit new workers with skills for the future, e.g. ALM (additive layer manufacturing & COBOT's)

### AIM

- Create an environment that helps to retain Employees including new recruits.
- Rebalance the Age Demographic.
- Build Trust in Older Workers around job security.
- Build Trust in Younger Workers around Terms & Conditions.

### ROLLS ROYCE ACTIONS

- Mapping the demographics of workforce.
- Overlay current skills against future skills.
- Gap analysis of skill needs.
- Develop policies & practices to enable retention of workers including younger and older workers, allowing headroom to prepare for Industry 4.0.
- Flexible working.
- Part time working.
- Pool of banked workers
- Growing challenge from BRIC countries.
- Adapt employees & workplace for the onset of the 4th Industrial revolution/ Industry 4.0.
- Satisfying projected need for 10,000 additional worker per year to meet demand.
- Retain & Retrain older workers.
- Recruit new workers with skills for the future, e.g. ALM (additive layer manufacturing & COBOT's)

**Unite** is the major union in aerospace and the industry is well organised, with good union density and strong workplace representation. We have developed an organising model to try and improve our organisation in the supply chain as we are currently best organised in the OEMs and Tier 1 suppliers. Our organisation weakens further down the supply chain.

**Unite** has a seat on the Board of the Aerospace Growth Partnership and we regularly meet government ministers, MPs and MEPs to raise the concerns and aspirations of the workforce.

Most of the big companies have active European Works Councils and many have UK Councils for information and consultation.

**INTERIM RESULTS**

- Realisation amount Senior RR management that appropriate recruitment (by appropriate recruitment we mean appropriately qualified, not over qualified) is an Issue, work has begun to ensure Apprentice and Graduate recruitment is conducted from socially & economically diverse area.
- Changes have already been implemented in recruitment policies.
- Changes have already taken place to alter the Final salary pension for older workers to increase flexibility and value of pensions.
- Negotiations are ongoing to improve pension provision for newer/younger workers to boost fund value & flexibility
- Job security and therefore trust has been focused on, as a result significant investment has recently been announced, £80 -100m will be invested into a new XL Test facility.
- Other investment of over £70m has already been secured to improve manufacturing, assembly & overhaul facilities.
- A 'no compulsory redundancy' clause has been agreed until the end of 2022.
- An agreement has been reached to involve the Union in Strategic workforce planning including skills for the future.
- The main facility is being transformed over the next 5 yrs.

***„If the experience and the know-how of the older colleagues doesn't get transferred to the new employees, we have a 'ticking time bomb'. When the company choses only the best candidates out of 150 application, it becomes more difficult to keep them in the future. The bounding is created over qualitative activities and trough structured and interrelated career paths, and it is not only based on the salary."***
*Mahf Khan |Rolls Royce |Unite*

***„There are some uncontrolled risks regarding to the bounding of the employees. One proposal is to keep employees "frozen" on the same position for 2-3 years, when these qualifications and skills are required at this position. With that approach the individual career paths would be better regulated and adjusted to the company needs."***
*Marc Porter |Rolls Royce |Unite*

***„This project has helped us identify best practices, consider the changing needs of the aging workers and as a result - to respond to them in a better way."***
*Ian Waddell | Unite*


*Final project meeting in Rzeszów (PL) July 2017*

# OUTLOOK: UK aerospace industry after Brexit

For many UK aerospace companies, business has never been better; the order backlogs at Boeing and Airbus offer the best part of a decade's work and production levels are accelerating to record levels. Last year, the UK aerospace sector grew 6.5 per cent to £31bn, 87 per cent of which was exported. Aerospace has seen average annual growth of close to 10 per cent between 2011 and 2015, outpacing the wider manufacturing industry, according to ADS, the industry lobby group.

But uncertainty over the terms and conditions of Brexit has raised questions about the next generation of aircraft programmes, with other countries lining up to challenge some of the UK's key positions. Within the next year Boeing is expected to decide on the launch of its next new aircraft, likely to be a single-aisle, mid-range passenger jet. Airbus will have to respond and a new era of aircraft innovation will begin.

The UK is already falling behind its continental European rivals on key aerospace infrastructure, such as test beds for engines and aircraft structures, that support the development of high-value design and cutting-edge technology. Airbus, one of the UK's biggest employers in the sector, will face pressure to bring jobs back to France, Germany and Spain, its original stakeholder countries, say several suppliers. "We are very worried about the impact of Brexit on the whole Airbus discussion," says one.

The UK plays a leading role in wing technology, one of the most critical and lucrative parts of aircraft manufacture, and work that other countries are keen to grab. Britain's position weakened during the shift from aluminium to lighter composite materials. While UK companies designed and manufactured virtually the entire wing for Airbus's superjumbo, the A380, the top and bottom skins of the wing for the newer A350 went to Spain and Germany, both keen to accelerate development of their aerospace sectors. "In the UK that is particularly important because we do not manufacture a whole aircraft any more," says Malcolm Scott, corporate development director of the ATI.

Many companies are worried that their competitiveness will be dulled by restricted access to their employees in continental Europe. About a quarter of Rolls-Royce's workforce is in the EU outside the UK, and like many aerospace companies these workers are often transferred at short notice to deal with temporary production challenges. "Free movement is a big issue for us," said one senior executive.

Some foreign companies are rethinking investment into the UK, say industry bodies. Concerns are also mounting over the UK's membership of the European Aviation Safety Agency, which certifies aircraft, engines and their components. If the UK opts to create its own regulatory regime, and UK suppliers still have to seek certification from Easa, costs would rise. Finally there are worries that the decision to go it alone could lead to big non-tariff penalties such as costly delays at borders if the UK withdraws from the customs union.

*Source: Financial Times, UK aerospace industry fears loss of leading edge after Brexit (extracts), January 4, 2017*
*https://www.ft.com/content/77e6e934-c571-11e6-8f29-9445cac8966f*

## EUROPEAN SURVEY

### Questionnaire „Demographic change, skilled workers and personnel work in the European aerospace industry"

**Part A) Company conditions**

**Part B) Measures taken in the company and/or in the sector**

**Part C) Importance for the actors' work**

**Part D) Need for action on company and sector levels**

*The questionnaire is available in follow languages: DE, EN, FR, IT, PL, SE, RO, ES*
*for downloading under: www.air-change.eu*

## EUORPEAN SURVEY

**Questionnaire "Demogrphic change, skilled workers and personnel work in the European aerospace industry"**

### A. Company and contact person

| | | | |
|---|---|---|---|
| **Name of company** | | **Contact person** | |
| **Country** | | **E-mail** | |
| **Address** | | **Phone** | |

| | | | | |
|---|---|---|---|---|
| **The company is …** | ☐ | **independent** | ☐ | **part of a group** |
| | **Please indicate name of group** | | | |
| **The company is …** | ☐ | **an OEM** | ☐ | **a supplier** |
| | **and produces:** | | | |

### B. Employment development 2016

**1. What is the employee headcount on 1 March 2016?**

| **Formal employment** | | **Total** | **Men** | **Women** | **Precarious employment** | **Total** | **Men** | **Women** |
|---|---|---|---|---|---|---|---|---|
| **Permanent staff** | | | | | **Fixed-term work** | | | |
| *Thereof:* | **Production** | | | | **Temporary work** | | | |
| *Thereof:* | **Administration** | | | | **Work contracts** | | | |
| *Thereof:* | **Development / construction** | | | | **Other** | | | |

**2. What further development in employment can be expected for 2016/2017?**

| | | | | |
|---|---|---|---|---|
| **Permanent staff** | ☐ | likely reduction of | | **jobs** |
| | ☐ | no changes | | |
| | ☐ | likely increase by | | **jobs** |
| **Fixed-term work** | ☐ | likely reduction of | | **jobs** |
| | ☐ | no changes | | |
| | ☐ | likely increase by | | **jobs** |
| **Temporary work** | ☐ | likely reduction of | | **jobs** |
| | ☐ | no changes | | |
| | ☐ | likely increase by | | **jobs** |
| **Work contracts** | ☐ | likely reduction of | | **jobs** |
| | ☐ | no changes | | |
| | ☐ | likely increase by | | **jobs** |

**3. Development of younger workers and securing skilled personnel: What types of training/education does the company offer?**

| Type of training | Yes | No | Number | | |
|---|---|---|---|---|---|
| | | | *male* | *female* | ***total*** |
| Dual system (company/school) | ☐ | ☐ | | | |
| Trainees | ☐ | ☐ | | | |
| Entirely at the company | ☐ | ☐ | | | |
| Entirely at vocational schools | ☐ | ☐ | | | |
| School with internship/traineeship | ☐ | ☐ | | | |
| Different learning centres (training alliance) | ☐ | ☐ | | | |
| Integrated degree programme (university/company) | ☐ | ☐ | | | |

## C. Age and qualification structure

**1. Current age structure: How are employees divided among age groups?**

| Age pattern of employees | | | What is the average age of the employees? |
|---|---|---|---|
| **15 to 24 years** | **25 to 34 years** | **35 to 44 years** | |
| | | | |
| **45 to 54 years** | **55 to 59 years** | **60 years and older** | |
| | | | **years** |

**2. How many employees in the age group "60 years and older" work full-time and how many part-time?**

| Employees "60 years and older" | | |
|---|---|---|
| **Total** | **full-time** | **part-time** |
| | | |

**3. What concrete measures and instruments as part of a strategic personnel policy are implemented at the company to secure the future need for skilled workers?**

*(please mark, if in place)?*

***Please indicate, if workers' representation is/will be involved?***

| Instrument | in place | | Workers' representation involved? | | |
|---|---|---|---|---|---|
| | YES | NO | Yes | No | Unknown |
| Regular determination of demand for skilled workers | ☐ | ☐ | | | |
| Qualification demand analysis | ☐ | ☐ | | | |
| Corporate qualification programmes | ☐ | ☐ | | | |
| Inter-company qualification programmes | ☐ | ☐ | | | |
| Personnel and organisation development programmes | ☐ | ☐ | | | |
| Support programmes for school-leavers | ☐ | ☐ | | | |
| Retention programmes for former apprentices/trainees who begin university studies | ☐ | ☐ | | | |
| Recruitment programmes for skilled workers (from abroad) | ☐ | ☐ | | | |
| Skilled labour initiatives (at schools, universities, labour market) | ☐ | ☐ | | | |
| Strategic cooperation with schools or universities to promote young talents | ☐ | ☐ | | | |

| "Personnel work and demography"<br>**Part A) Company conditions** | | On a scale from 1 to 5, whereas **1** = fully accurate and **5** = not at all accurate, please rate the statements of the employees in each employment category.<br>Please answer each question separately for the employees in each employment category (production, development/construction, administration). | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Employment category* | **Production** | | | | | **Development / construction** | | | | | **Admnistration** | | | | |
| | | **1** | **2** | **3** | **4** | **5** | **1** | **2** | **3** | **4** | **5** | **1** | **2** | **3** | **4** | **5** |
| | | *fully accurate* | *largely accurate* | *partly accurate* | *largely inaccurate* | *not at all accurate* | *fully accurate* | *largely accurate* | *partly accurate* | *largely inaccurate* | *not at all accurate* | *fully accurate* | *largely accurate* | *partly accurate* | *largely inaccurate* | *not at all accurate* |
| **1** | **Acquisition of employees** | | | | | | | | | | | | | | | |
| **1.1** | It is increasingly difficult to find junior employees on the labour market. | | | | | | | | | | | | | | | |
| **1.2** | It is to be expected that the demographic changes in our regional labour market will lead in future to difficulties in recruiting new employees. | | | | | | | | | | | | | | | |
| **1.3** | We also hire older applicants in our company. | | | | | | | | | | | | | | | |
| **1.4** | We always word job postings in a way that also address older skilled personnel. | | | | | | | | | | | | | | | |
| **1.5** | We train regularly and usually take on our apprentices/trainees. | | | | | | | | | | | | | | | |
| **2** | **Qualification and learning-conducive work environment** | | | | | | | | | | | | | | | |
| **2.1** | We usually have complete work tasks that require a longer training period and expertise coming from experience. | | | | | | | | | | | | | | | |
| **2.2** | We have sufficient information on future qualification requirements at the company. | | | | | | | | | | | | | | | |
| **2.3** | We have sufficient information on necessary employee qualification needs. | | | | | | | | | | | | | | | |
| **2.4** | There are regular employee performance reviews with each member of the entire workforce in order to determine qualification needs and to discuss further career development. | | | | | | | | | | | | | | | |
| **2.5** | At our company we offer training opportunities to our employees so that they can further develop their qualifications. | | | | | | | | | | | | | | | |
| **2.6** | We shape our work tasks and group tasks in a way that facilitates on-the-job training. | | | | | | | | | | | | | | | |
| **2.7** | The employees at our company mostly work in groups or teams. | | | | | | | | | | | | | | | |

| "Personnel work and demography"<br>**Part A) Company conditions** | | On a scale from 1 to 5, whereas **1** = fully accurate and **5** = not at all accurate, please rate the statements of the employees in each employment category.<br>Please answer each question separately for the employees in each employment category (production, development/construction, administration). | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Employment category* | | **Production** | | | | | **Development / construction** | | | | | **Admnistration** | | | | |
| | | **1** | **2** | **3** | **4** | **5** | **1** | **2** | **3** | **4** | **5** | **1** | **2** | **3** | **4** | **5** |
| | | *fully accurate* | *largely accurate* | *partly accurate* | *largely inaccurate* | *not at all accurate* | *fully accurate* | *largely accurate* | *partly accurate* | *largely inaccurate* | *not at all accurate* | *fully accurate* | *largely accurate* | *partly accurate* | *largely inaccurate* | *not at all accurate* |
| **2.8** | We see to it that our employees change their work tasks and workplace every now and then so they also train their ability to learn. | | | | | | | | | | | | | | | |
| **2.9** | We regularly check if the older employees participate in internal further training measures as often as the younger employees. | | | | | | | | | | | | | | | |
| **2.10** | We actively endorse the participation of older employees in further training. | | | | | | | | | | | | | | | |
| **2.11** | For our internal further training measures we use age-appropriate and adult-compatible learning methods. | | | | | | | | | | | | | | | |
| **2.12** | Middle-aged and older employees work as competently with new technologies as their younger colleagues. | | | | | | | | | | | | | | | |
| **2.13** | The older employees' range of work is as large as that of the younger ones. | | | | | | | | | | | | | | | |
| **2.14** | We promote and watch that older and younger employees work equally often at workstations where new techniques and developments play a role. | | | | | | | | | | | | | | | |
| **2.15** | There are no age limits when we fill vacancies internally within our company. | | | | | | | | | | | | | | | |
| **2.16** | We make it possible for our employees to take a sabbatical in order to educate themselves further or to regenerate. | | | | | | | | | | | | | | | |
| **3** | **Promoting health and age-appropriate personnel deployment** | | | | | | | | | | | | | | | |
| **3.1** | Certain workstations or work areas at our company are "age critical" (e.g. physically demanding work, clocked work, highly stressful work environments) | | | | | | | | | | | | | | | |
| **3.2** | Work is partially done in shifts (rotating shifts, night shifts) | | | | | | | | | | | | | | | |
| **3.3** | We have sufficient information on the physical condition of the workforce. | | | | | | | | | | | | | | | |
| **3.4** | Possible approaches to promote health at the workplace are known to us. | | | | | | | | | | | | | | | |
| **3.5** | We take concrete steps to reduce physical and psychological work load. | | | | | | | | | | | | | | | |

| "Personnel work and demography"<br>**Part A) Company conditions** | | On a scale from 1 to 5, whereas **1** = fully accurate and **5** = not at all accurate, please rate the statements of the employees in each employment category.<br>Please answer each question separately for the employees in each employment category (production, development/construction, administration). | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Employment category* | **Production** | | | | | **Development / construction** | | | | | **Admnistration** | | | | |
| | | **1** | **2** | **3** | **4** | **5** | **1** | **2** | **3** | **4** | **5** | **1** | **2** | **3** | **4** | **5** |
| | | *fully accurate* | *largely accurate* | *partly accurate* | *largely inaccurate* | *not at all accurate* | *fully accurate* | *largely accurate* | *partly accurate* | *largely inaccurate* | *not at all accurate* | *fully accurate* | *largely accurate* | *partly accurate* | *largely inaccurate* | *not at all accurate* |
| **3.6** | We take preventive measures to promote the employees' good health (e.g. workplace with ergonomic layout, holding health workshops, back pain prevention training). | | | | | | | | | | | | | | | |
| **3.7** | We shape work routines and work assignments so that older employees can organise their work themselves and in this way largely determine their own work rhythm. | | | | | | | | | | | | | | | |
| **3.8** | We see to it that employees remain in age-critical work areas for a "limited period of time" and offer them the opportunity to change to work stations that are less demanding. | | | | | | | | | | | | | | | |
| **3.9** | We define age-appropriate workplaces and use them specifically for older employees. | | | | | | | | | | | | | | | |
| **3.10** | We make it possible for older employees to stop working shifts after having done so for many years. | | | | | | | | | | | | | | | |
| **3.11** | If this is not practicable, we shape shiftwork in a way that protects their health insofar as possible (planning of shift sequences, location, time and distribution of working time according to health criteria). | | | | | | | | | | | | | | | |
| **4** | **Transfer of know-how** | | | | | | | | | | | | | | | |
| **4.1** | Our older employees have specific (experienced-based) know-how that is essential to maintain operational work processes. | | | | | | | | | | | | | | | |
| **4.2** | Together with the employees close to retirement we discuss in good time when and how they want to retire. | | | | | | | | | | | | | | | |
| **4.3** | We offer to older employees - depending on their own and company interests - different retirement models (e.g. work until standard retirement age, part-time). | | | | | | | | | | | | | | | |
| **4.4** | We purposely set up aged-mixed teams in order to promote the transfer of know-how among the different generations. | | | | | | | | | | | | | | | |

| "Personnel work and demography"<br>**Part A) Company conditions** | | On a scale from 1 to 5, whereas **1** = fully accurate and **5** = not at all accurate, please rate the statements of the employees in each employment category.<br>Please answer each question separately for the employees in each employment category (production, development/construction, administration). | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Employment category* | **Production** | | | | | **Development / construction** | | | | | **Admnistration** | | | | |
| | | **1** | **2** | **3** | **4** | **5** | **1** | **2** | **3** | **4** | **5** | **1** | **2** | **3** | **4** | **5** |
| | | *fully accurate* | *largely accurate* | *partly accurate* | *largely inaccurate* | *not at all accurate* | *fully accurate* | *largely accurate* | *partly accurate* | *largely inaccurate* | *not at all accurate* | *fully accurate* | *largely accurate* | *partly accurate* | *largely inaccurate* | *not at all accurate* |
| **4.5** | We maintain specific systems of knowledge transfer among the generations: e.g. temporary supervision of younger colleagues by older colleagues (sponsors, mentors, coaches), long-term cooperation of younger and older colleagues (tandem, age-mixed project teams, etc.) | | | | | | | | | | | | | | | |
| **5** | **Company culture** | | | | | | | | | | | | | | | |
| **5.1** | We have strategies to combat prejudices claiming older employees are generally less productive. | | | | | | | | | | | | | | | |
| **5.2** | We make sure that older and younger employees alike feel appreciated and valued for their work. | | | | | | | | | | | | | | | |
| **5.3** | We see to it that a cooperative managerial style is pursued at our company and that the employees are involved in important questions that affect their work and develop initiative. | | | | | | | | | | | | | | | |
| **5.4** | Our managers and employee representatives have already knowledgeably dealt with the topic of "age and ageing staff". | | | | | | | | | | | | | | | |
| **5.5** | We have developed company guidelines for a well-balanced personnel policy. | | | | | | | | | | | | | | | |

| "Personnel work and demography"<br>**Part B) Measures taken in the company or in the sector**<br>**Do the following measures exist in your company or in companies in your sector?** | | | | If such measures exist, how do you rate their quality on a scale of **1** = very good to **5** = very bad | | | | |
|---|---|---|---|---|---|---|---|---|
| **1. Company measures** | | **Yes** | **No** | **1** = very good | **2** = good | **3** = partly good/partly bad | **4** = bad | **5** = very bad |
| **1.1** | Analysis of working conditions and their effect on the employees' health (physical and psychological risk assessment) | | | | | | | |
| **1.2** | Systematic reintegration programme for staff after a long illness | | | | | | | |
| **1.3** | Company measures to promote health (behaviour) | | | | | | | |
| **1.4** | Measures for shaping working conditions that promote health (conditions) | | | | | | | |
| **1.5** | Specific measures taking into account the workload of older employees or of employees whose abilities have changed | | | | | | | |
| **1.6** | Age structure analyses | | | | | | | |
| **1.7** | Personnel requirement analysis (quantitative and qualitative) | | | | | | | |
| **1.8** | Vocational training of new employees | | | | | | | |
| **1.9** | Offers for company-internal and external qualification | | | | | | | |
| **1.10** | Work assignments where employees can contribute and further develop their qualifications | | | | | | | |
| **1.11** | Transfer of know-how and knowledge management between company and external institutions (e.g. universities) | | | | | | | |
| **1.12** | Transfer of know-how and knowledge management in the company | | | | | | | |
| **1.13** | Managerial development focusing on "employee-oriented leadership" | | | | | | | |
| **1.14** | Measures to better reconcile work and family life | | | | | | | |
| **2. Policies taken at company level or above** | | **Yes** | **No** | **1** = very good | **2** = good | **3** = partly good/partly bad | **4** = bad | **5** = very bad |
| **2.1** | Collective labour agreements or company agreements on securing skilled personnel and qualification | | | | | | | |
| **2.2** | Collective labour agreements or company agreements for age-appropriate working conditions / for working conditions adjusted to ageing personnel | | | | | | | |
| **2.3** | Collective labour agreements or company agreements with special rules for older employees (e.g. partial retirement, working conditions relief) | | | | | | | |
| **2.4** | Qualification measures for works council members / workforce representatives on the topic of "personnel work and demography" | | | | | | | |
| **2.5** | Regional networks of companies, possibly involving outside actors where necessary (e.g. trade unions, business associations, health insurance companies, employment agencies, universities etc.) | | | | | | | |

"Personnel work and demography"
**Part C) Importance for the actors' work**

| | How strong is the commitment of the following organisations or groups of people to the topic "demography and personnel work" | very strong | strong | moderate | weak | very weak |
|---|---|---|---|---|---|---|
| 1. | Importance for the work of the trade union | | | | | |
| 2. | Importance of the topic to the business associations | | | | | |
| 3. | Importance of the topic for the work of regional actors (municipality, employment agencies, social insurance agencies, etc.) | | | | | |
| 4. | Importance of the topic for the work of workforce representatives | | | | | |
| 5. | Importance of the topic for the work of the management | | | | | |
| 6. | Importance of the topic to the employees | | | | | |

"Personnel work and demography"
**Part D) Need for action on the company and sector levels**

| | How do you assess the need for action for your company or the companies of your sector? | nonexistent | small | moderate | large | very large |
|---|---|---|---|---|---|---|
| **1.** | **Securing skilled workers** | | | | | |
| **1.1** | Personnel planning (quantitative and qualitative) | | | | | |
| **1.2** | Personnel training | | | | | |
| **1.3** | Personnel recruitment | | | | | |
| **1.4** | Integration of new colleagues | | | | | |
| **1.5** | Retention of employees | | | | | |
| **1.6** | Qualification and development of employees | | | | | |
| **1.7** | Prevention of premature physical and psychological deterioration | | | | | |
| **1.8** | Sharing knowledge (transfer of know-how, knowledge management) | | | | | |
| **2.** | **Ageing at the workplace while staying healthy and competent** (ageing-appropriate work structures) | | | | | |
| **2.1** | Workplace and work environment with ergonomic layout | | | | | |
| **2.2** | Variation in work assignments | | | | | |
| **2.3** | Opportunities to learn and develop further at work | | | | | |
| **2.4** | Appropriate workload | | | | | |
| **2.5** | Work structures well organized for operation | | | | | |
| **2.6** | Ergonomic work structures | | | | | |
| **2.7** | Employee-oriented leadership | | | | | |
| **2.8** | Employee participation and involvement | | | | | |
| **2.9** | Compatibility of family and work | | | | | |

"Personnel work and demography"
**Part D) Need for action on the company and sector levels**

| | How do you assess the need for action for your company or the companies of your sector? | nonexistent | small | moderate | large | very large |
|---|---|---|---|---|---|---|
| **3.** | **Offers for specific target groups** (age-appropriate work structures) | | | | | |
| 3.1 | for ageing employees: such as early retirement, relief through working time arrangements, working conditions that promote health | | | | | |
| 3.2 | for employees whose abilities have changed, such as reintegration programmes into company | | | | | |
| 3.3 | **Part-time education and sabbatical:** paid leave for qualification | | | | | |
| 3.4 | **Compatibility of family and work:** leave to care for family members, part-time jobs, provision of childcare, home office | | | | | |

## Specific tool and form for evaluation (each company / by regions)

| | Needs for actions in companies | West & North (D, S, UK) | South (F, E, I) | East (Pl, Ro) |
|---|---|---|---|---|
| 1.1 | Staff planning | 2,60 | 2,90 | 2,60 |
| 1.2 | Training personnel | 2,40 | 3,00 | 2,80 |
| 1.3 | Recruiting personnel | 2,50 | 2,50 | 2,80 |
| 1.4 | Integrating new employees | 2,60 | 2,60 | 2,60 |
| 1.5 | Promoting employee loyalty | 2,60 | 2,60 | 2,00 |
| 1.6 | Training and developing employees | 2,60 | 2,80 | 2,60 |
| 1.7 | Avoiding physical and psychological strain | 2,20 | 2,90 | 2,40 |
| 1.8 | Knowledge sharing (know-how transfer, knowledge management) | 2,50 | 2,90 | 2,40 |
| 1.9 | Part-time work for training: paid release from duties for training | 2,20 | 2,20 | 2,00 |
| 2.1 | Ergonomics at the workplace | 2,60 | 2,00 | 2,40 |
| 2.2 | Varied work assignments | 2,50 | 1,80 | 2,40 |
| 2.3 | Opportunities for learning and development in work | 2,50 | 2,40 | 2,60 |
| 2.4 | Appropriate organisation of work load | 2,40 | 2,50 | 2,20 |
| 2.5 | Good plant work organisation | 2,50 | 2,60 | 1,80 |
| 2.6 | Ergonomic work structuring | 2,30 | 2,20 | 2,40 |
| 2.7 | Staff-oriented management | 2,30 | 2,40 | 2,40 |
| 2.8 | Co-determination and cooperation of employees | 2,50 | 2,60 | 2,40 |
| 2.9 | Compatibility of family and career | 2,40 | 2,40 | 2,40 |
| 2.10 | Special exemptions for older staff | 2,20 | 2,50 | 1,80 |
| 2.11 | Company integration management | 2,20 | 2,50 | 1,80 |

green = low level, yellow= medium level, red = high level


# EUROPEAN SOCIAL PARTNERS' AUTONOMOUS FRAMEWORK AGREEMENT ON ACTIVE AGEING AND AN INTER-GENERATIONAL APPROACH

8 March 2017

## AIMS

**With this autonomous agreement, European social partners establish a general actionoriented frame-work, aiming at:**

- **Increasing the awareness and understanding of employers, workers and their representa-tives of the challenges and opportunities deriving from demographic change;**
- **Providing employers, workers and their representatives at all levels with practical ap-proaches and/or measures to promote and manage active ageing in an effective manner;**
- **Ensuring and maintaining a healthy, safe and productive working environment;**
- **Fostering innovative life-cycle approaches with productive and quality jobs to enable peo-ple to remain in work until legal retirement age;**
- **Facilitating exchanges, mutual cooperation and fostering concrete actions to transfer knowledge and experience between generations at the workplace.**

**Peter Scherrer** (Deputy General Secretary ETUC)

## Introduction to the European social partners' autonomous framework agreement on active ageing and inter-generational approach

Thanks to the development of health care, better health and safety conditions at work and the general improvement of living standard, the average age of people living in Europe is increasing. This develop-ment has also affected the daily work situation of employees. We want people to stay healthy and safe at their work place, and we want to ensure that they continue to be after they retire. At the same time the ETUC wants to make sure that the transfer of knowledge is well organised – this is important for people as they get older, as well as for young people just starting their career. They must have the same possibilities to enter the job market as previous generations and they need well qualified supervisors to get trained on their job. For these reasons, we sought to anchor the topic of active ageing and inter-generational transition in the work programme of the EU Social Partners.

In the fifth EU Social Partners Work Programme 2015 – 2017 the European social partners committed themselves to negotiate an agreement on active ageing and inter-generational approach, in the frame-work of Article 155 (2) TFEU. In response to demographic and active ageing challenges, they have pledged that "measures need to be implemented, where necessary at national, sectoral and company levels, to make it easier for older workers to actively participate and stay in the labour market". In paral-lel, they believed that it is also important for "other measures to be taken in order to ease inter-generational transitions in the context of high youth unemployment".

After long and tough negotiations with the employers we were able to sign the autonomous agreement in March 2017 – which in fact was the first agreement we reached in the EU cross-industry social dia-logue since 2010 (Framework agreement on inclusive labour markets). As a matter of fact, the social dialogue on the European level is in a very difficult situation, as the employers refuse to engage in new debates and negotiations. Even after the declaration "for a new start for the Social Dialogue" signed by the European Commission, the Council, the employer's organisations and the ETUC in June 2016, things have not changed. The European Social Dialogue is stuck due to the employers. Therefore, this autono-mous agreement is an important signal for the European Social Dialogue: Results can be achieved!

From my point of view the most important achievements of the agreement are:

- European Social Partners establish a general action-oriented framework with concrete aims.
- The Social partners' tools, measures and actions identified cover: strategic assessments of work-force demography, health and safety at the workplace, skills and competence management, work organisation and inter-generational approach.
- Social partners are clearly committed to act together: actions are not optional.
- The collective approach, including the role of workers' representatives, is clearly addressed and much more present than the individual one.
- We managed to improve the implementation of the agreement.

To facilitate the implementation of the autonomous agreement the ETUC and employers set up a trans-lation fund, to ensure that the agreement can be translated in all EU languages. Furthermore, the social partners agreed to give joint presentations on the agreement to ensure the dissemination amongst their affiliates. Now it is up to us as the social partners at all levels to deliver concrete results and implement actively the agreement on active ageing and inter-generational approach. The ETUC wants to ensure through this agreement that working people can enjoy a long and healthy life for decades after working. This is in general interest of a fair society.

*Brussels, October 2017*

# DOCUMENTATION (2): EUROPEAN AGREEMENT

## INTRODUCTION

In response to the challenges deriving from demographic change, the European social partners, Busnes-sEurope, UEAPME, CEEP and the ETUC (and the liaison committee EUROCADRES/CEC), agreed in the con-text of their 2015-2017 Work Programme to negotiate an autonomous framework agreement on active ageing and an inter-generational approach.

The European social partners note that measures need to be implemented, where necessary at national, sectoral and/or company levels, to make it easier for older workers to actively participate and stay in the labour market until the legal retirement age, and at the same time make sure that measures are taken in order to ease inter-generational transitions in the context of high youth unemployment.

Such measures should be aimed at significantly improving the ability of workers of all ages to stay in the labour market, healthy and active until the legal retirement age, as well as strengthening a culture of re-sponsibility, commitment, respect and dignity in all workplaces where all workers are valued as important irrespective of age.

This framework agreement constitutes the contribution of the social partners to the EU policies (including non-discrimination legislation) and actions which have already been developed to support active ageing and the intergenerational approach. This agreement therefore aims to build upon and enhance the existing measures and approaches that are in place in different con-texts across Europe. It outlines tools/measures to be taken into account by social partners and/or HR managers in the context of national demographic and labour market realities, and in accordance with national practices and procedures specific to mana-ge-ment and labour.

The framework agreement is based on the principle that ensuring active ageing and the intergenerational approach requires a shared commitment on the part of employers, workers and their representatives.

The social partners are aware of the fact that successfully addressing the challenges deriving from demo-graphic change does not depend exclusively on their action. EU and national public authorities and other actors have responsibilities in terms of ensuring that there is a framework which encourages and promotes active ageing and the inter-generational approach.

## TOOLS, MEASURES AND ACTIONS

**(1) Strategic assessments of workforce demography**

**(2) Health and safety at the workplace**

**(3) Skills and competence management**

**(4) Work organisation for healthy and productive working lives**

**(5) Inter-generational approach**

# DOCUMENTATION (2): EUROPEAN AGREEMENT

## (1) Strategic assessments of workforce demography

We recognise the added value of strategic assessments of workforce demography, carried out and periodically updated at the appropriate levels, in accordance with national practices and procedures.
Such assessments should take advantage of already existing activities. They could lead to develop tools more tailored and adapted to the needs of workers and enterprises.

### These strategic assessments could amongst others include:

- **Current and projected age pyramid, including gender aspects;**
- **Skills, qualifications and experience;**
- **Working conditions;**
- **Job specific health and safety considerations in particular for arduous occupations;**
- **Developments linked to digitalisation and innovation.**

These strategic assessments would help to provide a basis for employers, workers and/or their rep-resentatives, in accordance with national practices and procedures, to evaluate risks and opportuni-ties and take necessary actions to adapt to changing demographics.
Trade Unions have also an important role to disseminate information on effective tools within their membership, including based on practice in other European countries, and to transfer the necessary know-how on how to use them.

## (2) Health and safety at the workplace

Trade Unions and workers' representatives at the appropriate levels aim to promote and facilitate action at the workplace based on proper information, identifying for instance the tasks which are particularly physically and/or mentally demanding. This should be done to anticipate, prevent and assess risks for health and safety at the workplace, in accordance with the EU framework directive on health and safety at work (89/391/EEC). This should indicate whether practicable adjustments to the working environment are necessary to prevent or reduce identified excessive physical or mental demands on workers to allow them to be safe and healthy while at work until the legal retirement age.

### Tools/measures to support health and safety at the workplace could amongst others include:

- **Adjustment of work processes and workplaces;**
- **Re-distribution/allocation of tasks to workers;**
- **Effective prevention strategies and risk assessment, taking into account existing legislative obligations, including training of all workers on health and safety rules at the workplace;**
- **Voluntary health promotion including, for example awareness raising actions;**
- **Knowledge-building of management at the appropriate levels in order to address challenges and possible solutions in this field;**
- **Health and safety measures taking account of the physical and psychological health of workers;**
- **Review of health and safety measures between management and health and safety representatives, in accordance with existing legislative requirements.**

## (3) Skills and competence management

The approach should be to support skills development and lifelong learning, thus, fostering workers' employability and maximizing the enterprises' human capital in terms of competences and know-how.

Workers' representatives and the employers have a role to facilitate a fair access for workers, regard-less of age, to a sufficiently broad offer of training, according to national practices and procedures, whilst all workers should be encouraged to participate in this training.

### Tools/measures to support skills and competences management could amongst others include:

- **Awareness-raising towards management and workers' representatives of skills needs in an age perspective;**
- **Training for workers of all ages, aiming to maintain and further develop necessary knowledge and competence throughout their careers to remain at work until legal retirement age;**
- **Facilitate and support personal career development and mobility;**
- **Motivate and increase participation in training to ensure up-to-date skills in particular digital skills;**
- **Embedding age management into broader skills development;**
- **Identifying formal and informal competences that workers have acquired in the course of their working life.**

## (4) Work organisation for healthy and productive working lives

The social partners at the appropriate levels aim to support and encourage enterprises to adapt work organisation, in accordance with the needs of enterprises and workers. The purpose is to foster healthy and productive working lives in a life course perspective.

Social partners and/or management should facilitate, promote and encourage implementation of adaptable work organisation over the life course. This should be done collectively and/or individually, in accordance with the social dialogue practices at the workplace.

Social partners in enterprises have a role in identifying possible improvements in terms of task alloca-tion, and to maintain and improve health and safety at work and productivity of the Workers.

### Tools/measures to support skills and competences management could amongst others include:

- **Fostering the capacity of both young and older workers to better anticipate and adapt to changes in work organisation, to maximise the potential of human resources;**
- **Working arrangements, including with regard to working time;**
- **Adapting allocation of tasks between workers;**
- **Providing necessary means to managers on age related issues;**
- **Fighting stereotypes related to age, for example by establishing mixed-aged teams;**
- **Transition measures for older workers towards the end of their working life;**
- **Recruitment of new staff**

## (5) Inter-generational approach

The social partners at the appropriate levels aim to achieve a working environment which enables workers of all generations and ages to work together to enhance cooperation and inter-generational solidarity. One means to achieve this is mutual transfer of knowledge and experience between differ-ent age groups of workers.
All workers should be valued according to their abilities, skills and knowledge, irrespective of age, avoiding stereotyping and overcoming barriers between age groups, where they exist.

### Tools/measures to achieve inter-generational solidarity could amongst others include:

**Fostering the capacity of both young and older workers to better anticipate and adapt to changes in work**

- **Distributing tasks according to ability/skills/knowledge;**
- **Tutoring/mentoring/coaching schemes to welcome and introduce younger workers to their working environment, including paths to allow them to fulfil their potential;**
- **Knowledge/skills transfer programmes, both younger towards older workers and older to-wards younger workers, including IT and digital skills, transversal skills, customer relations skills, as appropriate;**
- **The creation of knowledge banks to capture specific know how and professional intelligence**
- **developed in-house and pass it on to newcomers;**
- **Awareness-raising on the importance of being age positive and promotion of age diversity including considering different possibilities regarding the balance between ages within teams;**
- **Collaboration with education institutions or public employment services to ease transitions into and within the labour market.**

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