

Pact for Skills
Aerospace and Defence
ASD Proposal

10 Nov 2020

Pact for Skills – Skills Pact for Aerospace and Defence

October 2020

The Challenge

ASD and the Top leaders of European Aerospace & Defence Industry have confirmed on 16th of October their full engagement to the European Pact for Skills plan for their relative eco-systems highlighting the crucial need to collectively address our unprecedented challenges: COVID crisis; climate neutrality; Competitive environment (Fast digitalization, Industry 4.0); Demographic (aging staff); low attractiveness to young talents and to women.

The Ambition

ASD top executives call for the creation of a Pact for Skills in Aerospace & Defence in close cooperation with universities and VET organisations, regional clusters and partnerships to act upon the following engagement.

Our ambition is to collectively ensure a continuous and sustainable supply of skills with equality and diversity for around 600,000 employees¹ in major actors and their whole supply chain to reach our ecosystem sustainable growth, considering : The Carbon Neutrality, The Industry 4.0, The Digital Transformation, The European Aerospace and Defence Programmes.

The Proposal

We propose to develop and run concrete solutions on three main axes: **(1) The Skills Forecasting** with the objective to anticipate all main skills gaps we will need to address on time collectively, considering Industry Skills needs and EU demographic skills forecasts for next five to ten years. **(2) The Up-Skilling/Re-skilling Programmes** set-up with the objective to develop and implement solutions allowing to up-skill and re-skill of around 200,000 employees (30% of current workforce) in EU the next 5 years (by 2026) in emerging & transforming jobs. **(3) The Talents development and engagement** to elaborate partnerships programs to boost attraction, development and retention of talents, considering we will need 300,000 people in the next ten years (by 2030) to join our industry.

The Commitment and the Key Performance Indicators

The partnership will ensure sectoral cooperation based on commitment of all stakeholders involved including Social Partners representatives, well-established and functioning anticipation system, and systematic recognition and mutual recognition of skills and qualifications acquired across the EU. The goal is to reskill 6% of the workforce each year to reach the target of 200.000 and upskill 300.000 talents to enter the sector in the next 10 years. This would represent an estimated budget of €1 Billion based on an average cost per individual of 2,000 €.

Additional KPIs will be defined including number of stakeholders involved, geographic coverage in engagement with national, regional and local authorities, number of graduates and trained individuals and of new incumbents, areas of the ecosystem covered, equality and diversity, number of competences in the ESCO database etc.

ASD will contribute in particular to ensure common Aerospace Industry orientations and actions are at the focus setting up the different activities and to ensure the full Industry eco-systems, key partners and observers have access and knowledge about it.

⁽¹⁾ Figures are extrapolated from ASD database

Organizations engaged on Pact of Skills Aerospace and Defence

Industry

Airbus

Saab AB

Leonardo S.p.a.

Hensoldt Group

Safran Group

Navantia

Sensus Septima

Aero Vodochody Aerospace

Associations, regional clusters and partnerships.

ASD Europe – European Aerospace & Defence Industry Association

Assets+

European Aerospace Cluster Partnership

Aviation Valley

CenSec

European Welding Federation

Education and Vocational Education and Training

University of Pisa

University of Aalborg

Rzeszow University of Technology

Charles III University of Madrid

Polytechnic University of Madrid

University of Seville

University of Nice

Belgium Royal Military Academy

Aerocampus Aquitaine

Social partners:

IndustriAll

We had initial positive exchanges with **CEEMET** who agreed in principle on this initiative but could not sign this document due to the very short notice.

Date 30 October 2020

ASD Working Group proposal for Pact for Skills Aerospace and Defence

ASD Body in Charge

Chairman: Mr Jean-Hugues Rodriguez (AIRBUS)

ASD Point of Contact

Mr Jan Pie
Secretary General of ASD Europe
European Aerospace & Defence Industry Association

Ms Stefania Mortelliti

Expectation

Elaborate a proposal from Aerospace and Defence Industry representatives in support to EU Commission decision on Pact of Skills eco-systems selection from 2021-2025

Date and Final Signature

Document main chapters:

Introduction
Executive Summary
Background
Analysis
Concerns and Proposals

Appendices

1. Initial One Pager
2. Targeted Workforce

Introduction

ASD would like to share its observations and recommendations in response to EU Commission Pact for Skills Aerospace and Defence initiative.

The ASSETS+ initiative elaborates very interesting proposals which have been considered as input for the Pact for Skills exercise.

Executive Summary

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ASD top executives call for the creation of a Pact for Skills in Aerospace & Defence in close cooperation with universities and VET organisations, regional clusters and partnerships to act upon the following engagement.

Our ambition is to collectively ensure a continuous and sustainable supply of skills with equality and diversity for around 600,000 employees¹ in major actors and their whole supply chain to reach our ecosystem sustainable growth, considering : The Carbon Neutrality, The Industry 4.0, The Digital Transformation, The European Aerospace and Defence Programmes.

We propose to develop and run concrete solutions on three main axes:

1. The **Skills Forecasting** with the objective to anticipate all main skills gaps we will need to address on time collectively, considering Industry Skills needs and EU demographic skills forecasts for next five to ten years.
2. The **Up-Skilling/Re-skilling Programmes** set-up with the objective to develop and implement solutions allowing to up-skill and re-skill of around 200,000 employees (30% of current workforce) in EU the next 5 years (by 2026) in emerging & transforming jobs.
3. The **Talents development and engagement** to elaborate partnerships programs to boost attraction, development and retention of talents, considering we will need 300,000 people in the next ten years (by 2030) to join our industry.

The partnership will ensure sectoral cooperation based on commitment of all stakeholders involved including Social Partners representatives, well-established and functioning anticipation system, and systematic recognition and mutual recognition of skills and qualifications acquired across the EU. The goal is to reskill 6% of the workforce each year to reach the target of 200.000 and upskill 300.000 talents to enter the sector in the next 10 years. This would represent an estimated budget of €1 Billion based on an average cost per individual of 2,000 €.

Additional KPIs will be defined including number of stakeholders involved, geographic coverage in engagement with national, regional and local authorities, number of graduates and trained individuals and of new incumbents, areas of the ecosystem covered, equality and diversity, number of competences in the ESCO database etc.

ASD will contribute in particular to ensure common Aerospace Industry orientations and actions are at the focus setting up the different activities and to ensure the full Industry eco-systems, key partners and observers have access and knowledge about it.

Background

The Aerospace and Defence eco-system is currently facing some unprecedented challenges:

- The COVID crisis: Economical, Health and Social aspects
- The growth and fast ramp-up to anticipate: Industry 4.0 and Digitalization
- New market expectations in term of Carbon Neutral products and production

In order to remain a world leading European Industry for Aerospace, Defence and Space, it will be crucial to build on our strong collective background, on our agility and on our capability to invest efficiently in preparing required skills for our Research & Development, our Design, our production and for our support and services capabilities. This should allow our sector to achieve important targets associated with Carbon Neutrality, Digitalization and European programs (EuroDrone, FCAS...).

The Pact for Skills at European Level will provide the means to focus our energy and investments in common skills orientations and in massive and scalable up-skilling/ re-skilling means supporting the full industry supply chain from small suppliers to customers and their relative employment market. The only way to address such challenges at the pace needed is through coordinated effort.

The Pact for Skills offers:

1. **a neutral space (managed by the European Commission) where companies can meet and build upskilling and reskilling partnerships with each other and other relevant stakeholders.** Identification and anticipation of future skills needs, development of training programmes, guidance and validation of skills (to name a few) are horizontal issues. They are not limited to one company but to the whole value chain or ecosystem. Combining resources, working on these issues together and building synergies is economically rational. It saves money and gives better results.

Building partnerships that offer upskilling and reskilling to employees in the value chain will expand the talent pool, as more people will get the right training and improve their skills.
2. **a platform where CEOs and their companies can present themselves as credible business leaders focused on human capital through affiliation to a European Commission game-changing initiative.** Employees and customers are more socially aware and have higher expectations regarding HR standards in companies. Joining the Pact will allow them to display their pro-human approach, scale up their impact ensure visibility and recognition of their actions.
3. **a clear and efficient access to the information on relevant EU funding instruments and programmes in support of upskilling and reskilling** ('one-stop-shop', including description of the fund, volume, key eligible criteria, procedures, examples of implemented projects on the Pact webpage). There will be an unprecedented volume of EU funds dedicated to skills which will be distributed mostly at national and regional level through various institutions. In the Pact, we will gather information on all those funds in one place. It will be a significant support for companies to understand where and how they can apply.
4. **offer guidance to large-scale partnerships** to assess which parts of their upskilling/reskilling activities could be funded from different relevant EU funds and suggest tools (e.g. Europass, Skills Panorama), which could support implementation of specific actions of the partnership.
5. **facilitate the exchange between the large-scale partnership and national/regional authorities from different Member States about financial support to foster synergy.**
6. **knowledge hub** focused on building upskilling and reskilling partnerships but also on different aspects of developing human capital. It will be a set of tools, instruments and methods, free of charge, tested by companies.

Analysis

Understanding of Aerospace and Defence market challenges from 2020 to 2025:

Aeronautics

- Strong impact of Covid-19 on the civil business. The crisis will be deeper and longer than previous scenarios suggested. Air traffic will probably not recover from 2019 levels before 2024-2025.
- We will focus on stimulating investment in sustainable aviation (technology, infrastructure) despite the ongoing crisis, to maximize opportunities stemming from the recovery. Particularly in domestic/regional aviation (e.g. electrification, alternative fuels etc.).
- Companies across our sector in Europe have committed to various targets & ambitions in relation to achieving carbon-neutral status over the coming years.

Defence

- Although the Defence sector is less impacted than Commercial - 75% of revenues come from European countries, all new major programs and deliveries have suffered delays and slowdowns, affecting the economic results of the sector. The COVID-19 crisis has also introduced changes in the future scenarios that need to be taken into consideration.
- The main challenges for the sector will be in the short term to face the impact on the economics and in the medium term to prepare the next generation of defence programs which will include the development of new technologies required for the future capabilities.
- Our priorities will be also to support Europe in its quest for technological sovereignty and strategic autonomy through structuring skills and common defence projects for these new capabilities.

Space

- Similar situation as Defence for the global landscape.
- The challenge will be for Europe to remain a leading continent in space with fast-changing technologies (communication, high resolution and permanent observation satellites, very precise navigation for autonomous mobile transportation). The second challenge is to embark on new business model (Space X as an example).
- ASD and associated partners are key partners of the EC in addressing these challenges and remaining at the forefront of technology development.

We consider three main axes on which we will engage actions for concrete outcomes and performances, with an eye, on innovation so to continuously drive the generation of new skills:

1. The **Skills Forecaster Group** will build a common understanding of major future skills need in support to Industry strategy. It will also define skills availability in the European Employment market based on demographic analysis considering and revisiting EU Qualifications, frameworks and grants.
2. The set-up of effective **Up-Skilling/Re-skilling solutions** building on existing solutions and on innovative solutions allowing agile, collaborative, significant and scalable up-skilling/ re-skilling of industry workforces and of relative employment market. These solutions will need to be created and deployed at the pace of the industry growth. They should be easily accessible to all active talents in term of cost and user experience (digital learning will be a key enabler). They should be accessible from major organisations to the whole supply chain and the associated employment market.
3. The implementation **Talents Development and Engagement** programs shared by all partners from apprenticeship, PhD contest to sectorial talent mobility.

Main KPIs monitored to ensure performance and realization of Pact for Skills:

- Number of people accessing upskilling/reskilling solutions
- Number of people accessing transforming and emerging jobs
- Number of people moving from declining activities to emerging jobs
- Anticipated skill gaps recovered on time for Industry ramp-up and transformation needs
- Employment offers at level of forecasted demand avoiding re-skilling programs not adapted to demand (re-skilled resources not employable)
- Level of investment required for solutions implemented

Forecasted ambitions on these KPIs would be (to be confirmed by the Skills Forecaster group)

- Considering Aerospace & Defence eco-system has around 600.000 employees in EU
- Based on assumption that 30% of jobs will be emerging jobs in next 5 years
 - Around 200.000 employees will have to be up-skilled/ re-skilled in organization
- Considering ageing staff around 50% of staffing replacement (attrition) or job creations in next 10 years
 - We anticipate need to on-board 300,000 employees which should be already skilled according job evolutions
 - We anticipate risks due to low attractiveness to young talents and to women.
- Considering post-crisis ramp-up should occur in 2024/2025,
 - We have 3 to 4 years to create solutions and deploy them on a large scale (when relevant)
- Considering volume and speed of transformations anticipated
 - Equality and diversity principle will have to be formalized and will drive our plans and solutions.
 - We will promote high quality solutions of realized in limited time from 1 to 6 months,
 - Those solutions will be easily accessible for an average cost from free to 300 € for scalable/ significant beginners qualifying solutions. It will be adjusted for practitioners to advanced solutions.
 - The time of application for users should be limited and applied at pace of end-users.

Concerns and Proposals

1. Main Elements of Business Positive Growth opportunities and challenges considered:

a. Carbon Neutral Product and Manufacture

With the ultimate objective of driving and accelerating a transition of the air transport system towards climate neutrality, our foremost ambition as a Manufacturing Industry is to bring the first climate-neutral product to the market by the mid of the next decade.

b. Industry 4.0

The digital transformation of the entire product life cycle by ensuring digital continuity in the way the product is designed, industrialised, operated including the services offered in response to customers' expectations. This will facilitate the potential use of robotics for operations and data processing activities.

c. Aerospace & Defence European programs

These programs will boost the development of new knowledge and skills specific to the Aerospace and Defence disciplines. For the EuroDrone example: the four European states – Germany, France, Italy and Spain - and Industrial partners - are jointly developing the European MALE RPAS (Medium-Altitude Long-Endurance Remotely Piloted Aircraft System). Its characteristics will include mission modularity for operational superiority in intelligence, surveillance, target acquisition and reconnaissance (ISTAR), both wide area and in-theatre.

d. Transversal skills to ramp up digital transformation

i. Information Technologies

The acceleration of the digitalization of activities drives industries to build in short time core competences such as IT Architecture, Development, DevOps Readiness, Test & Integration, Technology Specialist. The COVID crisis forced many companies to halt external recruitment and to stop the majority of subcontracting. Consequently, they will need to rapidly invest in IT workforce upskilling on a large scale. The EU Pact for Skills could help the Aerospace & Defence eco-system increase access to advanced Learning Digital platforms and/or share with companies existing solutions on the European market.

ii. Cybersecurity

Aerospace & Defence companies have seen an increasing proportion of cyber-attacks with most of their business operations moving to the virtual space. Companies require more and more innovative “out of the box” training in cybersecurity skills. The European Commission could incentivize the take-up of new cybersecurity training practices across Europe, such as cyber-ranges.

iii. Data Analysts/AI

The growing ‘Big Data’ potential and needs requires a transformation in terms of competencies, to be pushed across the group. It opens capabilities for new services such as SKYWISE, aviation’s open data platform.

2. The Skills Forecaster Group

Expected outcomes:

- Report on **up-skilling and re-skilling programs** for sustainability of the Aerospace & Defence industry
- Bringing the **outside in** and ensuring a sense check in terms of Competence & Workforce, especially in a post-Covid context
- Building scenarios to allow post-COVID workforce simulations

Expectations toward European Commission:

- Secure neutral and consistent initial data set (not specific to each partner): Demographic evolution within Europe, projection of evolution of jobs overall
- Link with other Pact for Skills orientations when relevant: Link all Pact for Skills common perspectives (ex: Data Analysts or AI cases)

KPIs :

- Maturity and robustness (data driven) of identified skills gaps (Quantity and Quality)
- No more fire fighting in addressing massive skills gaps

a. Three main elements

- Skills forecasting system
- Demographic analysis in Europe (quantitative & qualitative in term of skills)
- EU Qualifications, frameworks and grants

b. Skills forecasting system

- Adopting cutting edge technology (AI and Big Data) to capitalize on available data and implement skill analysis and forecasting systems at company, regional, European level.

- Observatories to complement technology with vision and analysis, involving relevant stakeholders. Reporting on up-skilling and re-skilling programs for sustainability of the Aerospace & Defence industry
- Bringing the outside in and ensuring sense checks in terms of competence & workforce, especially in a post-Covid context
- KPIs:
 - % technologies of interest
 - % knowledge areas of interest
- c. Demographic analysis in Europe (quantitative & qualitative in term of skills)
 - Building scenarios to allow post-COVID workforce simulations on market capabilities and demographics (quantitative and qualitative view for the future)
 - Anticipate and promote recommendations based on potential gap analysis between forecast needs (demand) from Industry and forecast capabilities (offer)
 - KPIs
 - % coverage of Demographic analysis: Countries, Skills
- d. EU Qualifications, frameworks and grants
 - Defining a common skill framework for standardized taxonomy. Propose qualification schemes and provide grants and funding to support these across different EU countries.
 - KPIs
 - % skills gap improved
 - % knowledge areas of interest
 - Areas impacted

3. Up-Skilling/Re-skilling revolution

We need solutions **applicable to all EU**

The solution should:

- Support **scalable and massive** upskilling/ reskilling for our supply chain employees and for the EU employment market
- Establish duration and cost applicable to all talents (employees, students, unemployed people)
- Solutions should not add costs to institutions or industry supply chain

The duration should facilitate **fast upskilling and re-skilling of large numbers of people:**

- Agility and Modularity
- Short and focus

Digitalisation of the learning offer is a must including distant tutoring (facilitated & recorded), bite-sized self-led learning, and MOOCs plus other technology-led learning solutions

New Learning orientations on top of all existing models:

- **Massive and scalable solutions:** Basic competences (Data Analyst, AI...). Learning Format: **Digital** - Level of learners: **Beginner**
- **Collaborative and practical solutions:** mainly in support to re-skilling. Learning Format: **Hybrid** - Level of learners: **Practitioner**
- **Focus solutions for experienced people:** Complex set of competences. Learning Format: **Facilitated (in person/virtual)** - Level of learners: **Advanced**

a. Seven main elements

- Intercompany Training Centres / Network / on-line collaboration space
- Common online Training / learning resources
- European MOOCs
- Master Programmes
- Apprentices in the Industry (Including SMEs)
- Knowledge Transfer from big Companies to SMEs (including Suppliers)
- Active Ageing
- Adapted Learning programs and path for Beginners, Practitioners and Advanced

b. Intercompany Training Centres / Network

- Joint efforts to deploy high end training & learning resources by big players, orienting the training/resources to the hands-on application of academic competencies, bridging the gap.
- Link with skill taxonomy and qualification scheme.
- KPIs:
 - NON-RECURRING
 - # involved incumbent / universities / another providers
 - RECURRING
 - #of trained new grads
 - #reskilled professionals
 - N° of people registered in these solutions / consuming learning resources

c. Common online Training

- Setting-up a common mechanism and quality assurance, to deploy online content in coherence with the skill taxonomy, qualifications and grants defined.
- Platform for all networks (industry, students' future employees, suppliers, customer).
- Automated pre-assessment and associated programme entry guidelines.
- Theoretical part accessible 24/7 to all anywhere by PC/ Mobile/ VR headset.
- Collaborative platform for trainers/trainees: sharing experiences on the learning content 24/7 anywhere.
- Tutored projects on partners environment with professional tutors.
- Access to self-led learning via bite-size learning resources (targeting specific skills/elements of skills) on digital platform available 24/7
- Certificates recognized by all partners.
- KPIs:
 - n° people accessing training and using the platform/s
 - n° solutions proposed

d. European MOOCs

- Large companies to support SMEs in acquiring critical competencies to sustain their business and grow digitally and sustainably by means of university courses co-designed and co-delivered by main industries and universities.
- Build European capabilities in training
- KPIs:
 - n° people accessing training and using the platform/s
 - n° solutions proposed

e. Master Programmes

- Specific expertise for the Aerospace, Defence and Naval sector.
- KPIs:
 - N° graduates
 - n° of people registered
 - n° of students who become employees

f. Knowledge Transfer from large companies to SMEs (including suppliers)

- Large companies to support SMEs in acquiring critical competencies to sustain their business and grow digitally and sustainably. By means of university courses, co-designed and co-delivered by main industries and universities. Possible follow-up through partnerships. In addition; shorter courses & self-led learning through provision of high-quality learning resources.
- Collaborative and practical solutions (mainly in support of re-skilling) Practical solutions in open access maximising usage of simulation AR/VR/MR
- FABLAB concept adapted to learning.
- Distant tutoring embedded.
- KPIs:
 - #involved suppliers

g. Active Ageing

- Active ageing initiatives and tools aimed at facilitating the older population to gain digital skills. (flexibility, e.g. reverse mentoring, vouchers)
- KPIs:
 - %over 40 years old included

h. Adapted Learning programs and path

a) Beginners

- Massive and scalable solutions (Basic competences: Data Analyst, AI...)
- Learning format: Digital
- Models
 - Certificates recognized by all partners
 - Automated pre-assessment
 - Theoretical part accessible 24/7 to all anywhere by PC/ Mobile/ VR headset
 - Collaborative for trainers/trainees: sharing experiences 24/7 anywhere
 - Tutored projects on partners environment with professional tutors
- Conditions:
 - Duration for trainees from 14 hours to 300 hours fully digital at their pace + 4 to 80 hours of tutored practical learning
 - Accessible to all EU citizens
 - Digital learning for free and maximum 300€ for services added

b) Practitioners

- Collaborative and practical solutions (mainly in support to re-skilling)
Learning Format: Hybrid
- Model:
 - All capabilities used for beginners adding:
 - Practical solutions in open access maximizing usage of simulation AR/VR/MR

- FABLAB concept adapted for distant collaborative learning with distant tutoring
- Conditions
 - Duration for trainees from 35 hours to 150 hours fully digital at their pace + 30 to 120 hours of tutored practical programme
 - Accessible to Professional environments
 - Maximum 2000 € per programme

c) Advanced

- Focus solutions for experienced people (Complex set of competences: MBSE...)
- Learning Format: Facilitated Learning
- Model
 - Criteria for nominative selection of candidates per partners
 - Face to face or distance learning classes with digital means including AR/VR
 - Interconnection between classes
 - Tutored practices in partners environment (Apprentice models)
- Conditions:
 - Duration for trainees from 14 hours to 50 hours of collaborative learning
 - Accessible to nominated candidates by Pact for Skills partners
 - Maximum 5000 € per programme

4. Talents development and engagement opportunities

Expected outcomes:

- The capability to develop and retain talents in the Aerospace and Defence Industry
- High level of collaboration between European partners for a new approach in sharing talents

a. Three main elements

- Apprentices in the Industry (Including SMEs)
- PhD Contests
- Sectoral Talent Mobility

b. Apprentices in the Industry (Including SMEs)

- Have opportunities for apprenticeships in the industry linked to the skills forecast.
- Pursue companies' commitments under the European Alliance for Apprenticeships.
- EAfA unites governments and key stakeholders with the aim of strengthening the quality, supply and overall image of apprenticeships across Europe, while also promoting the mobility of apprentices. These aims are promoted through national commitments and voluntary pledges from stakeholders".
- KPIs:
 - n° of apprenticeships
 - n° of takeover

c. PhD Contests

- Example:
- 30 universities, 30 funded PhDs (3 ml€), 3 years, 300 engaged university team members, developing technologies and capabilities aligned with industrial needs and EDF.
- Annual regional contests - after 3 years grand finale at European level

- Gain visibility of the Industry in the Universities
- Get knowledge of cutting-edge technology
- Benefit from and European network with the best ideas (benefit from Universities, Industry, Europe/ Regions)
- KPIs:
 - # funded PhDs

d. Sectoral Talent Mobility

- As part of the Development career, have a pool of talent candidates.
- KPIs:
 - N° of people in mobility

5. Anticipated key actions to develop and enrich current proposal:

- The ASD Pact for Skills Working group (3 sub-group one per axes).
- Forum each semester to share reflections
- Organise exchange with key actors (education representative, Digital Learning platform players, forecaster companies...)
- Secure connection with national and regional/ local authorities and with Social Partners representative (European and National level) to ensure adhesion to the EU Agenda for Skills and engagement at the speed of European Commission Pact for Skills progress
- ASD will contribute in particular to ensure common Aerospace Industry orientations and actions are the focus of the different activities and to ensure the full industry eco-systems, key partners and observers are fully engaged.

Appendix 1: Initial One Pager

What are the main expectations of our sector from joining the Pact for Skills at European level?

The Aerospace and Defence sector is currently combining few unprecedented challenges:

- The COVID crisis: Economical, Health and Social aspects
- The growth and fast ramp-up to anticipate: Industry 4.0 and Digitalization
- New market expectations in term of Carbon Neutral products and production

In order to remain a world leading European Industry for Aerospace, Defence and Space, it will be crucial to build on our strong collective background, on our agility and on our capability to invest efficiently in preparing required skills for our R&T, our Design, our production and for our support and services capabilities. This should allow our sector to achieve important targets such associated with Carbon Neutrality, Digitalization and European programs (EuroDrone, FCAS...).

The Pact for Skills at European Level will provide the means to focus our energy and investments in common skills orientations and in massive and scalable up-skilling/ re-skilling means supporting the full industry supply chain from small suppliers to customers and their relative employment market. The only way to address such challenge at the pace needed is through coordinated efforts.

What are the actions you consider critical in order to ensure that appropriate agenda for skilling in the aerospace & defence sector is set up?

We consider three main axes on which we will engage actions for concrete outcomes and performances, with an eye, on innovation so to continuously drive the generation of new skills:

4. The **Skills Forecaster Group** will build a common understanding of major future skills needs in support of Industry strategy. It will also define skills availability in European Employment market based on demographic analysis considering and revisiting EU Qualifications, frameworks and grants.
5. The set-up of effective **Up-Skilling/Re-skilling solutions** building on existing solutions and on innovative solutions allowing agile, collaborative, massive and scalable up-skilling/ re-skilling of industry workforces and of relative employment market. These solutions will need to be created and deployed at the p of the industry growth. They should be easily accessible to all active talents in term of cost and user experience (digital learning will be a key enabler).
6. The implementation **Talents development and engagement** programs shared by all partners from apprenticeship, PhD Contest to Sectorial Talent mobility.

How would your sector engage and contribute to developing comprehensive commitments under the Pact for Skills?

We consider that what is at stake is the survival positive growth of our Industry which is a crucial part of the of European economy and growth. Our Engagement will take the form of a clear action plan engaging all Pact for Skills Aerospace and Defence contributors with formal KPI to measure the added value of all dedicated investments. The companies are committed to implement solutions agreed, and to continuously review needs and solutions for the future.

One of our specific commitments as ASD is to ensure, within the definition of the roadmap, a broader geographical footprint with the inclusion of SME and mid-size company perspectives.

Pack of Skills Aerospace and Defence High level Roundtable 16 October

Mr Guillaume Faury	CEO of Airbus
Mr Thierry Baril	Chief Human Resources Officer of Airbus Group
Mr Micael Johansson	President and CEO of Saab AB
Mr Alessandro Profumo	CEO of Leonardo S.p.a.
Mr Thomas Müller	CEO of Hensoldt Group
Mr Philippe Petitcolin	CEO of Safran Group
Mr Stéphane Dubois	Chief Human Resources Officer of Safran Group
Ms Belén Guarda	President and Chairwoman of Navantia
Mr Villiko Nurmoja	Co-founder and CEO of Sensus Septima
Mr Dieter John	CEO of Aero Vodochody Aerospace

Associations, SME and regional representatives

Mr Jan Pie	Secretary General of ASD Europe – European Aerospace & Defence Industry Association
Mr Robert Weist	Acting Manager International Affairs, European Aerospace Cluster Partnership

Education and VET

Dr Dorota Stadnicka	Associate Professor, Rzeszow University of Technology
Ms Rute Ferraz	Chief Executive of European Welding Federation
Mr Benoit Consolini	Training Director of Aerocampus Aquitaine

Social partners

Mr Luc Triangle	Secretary General of IndustriALL
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Appendix 2: Targeted Workforce (Pre-COVID view)

Company name	Company workforce employed	Supply Chain employed
ASD assumptions	597,000 in the EU (892,000 in Europe) ¹	
Airbus	~90,000 in EU, 135,000 World Wide	Under investigation
Rolls-Royce	42,700 in UE (Feb 2020 - Post COVID) – 55,000 worldwide	Estimated 25,000
Safran	~54,000 in EU ~94,000 Worldwide	Not Disclosed (depends on Supply Chain's scope and Definition)
Electronica	~1,000 in EU	

Overall ASD employed workforce

Civil Aeronautics: 405,000

Military Aeronautics: 160,000

Land & Naval: 280,000

Space: 47,400

Total: 892,400

¹ Figures are extrapolated from ASD database

¹ ASD figures.