



VIENNA 2018



A digital era for transport

solutions for society, economy and environment

THE FUTURE OF AVIATION: TRENDS, SKILLS AND TRAINING

Linda, Napoletano, Deep Blue, Italy

Hosted and organised by:

*Austrian Ministry
for Transport,
Innovation and Technology*



austriatech

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00\Sources



ACROSS



Knowledge Alliance In Air Transport



Advisory Council for Aviation Research and Innovation in Europe



01\Future trends: Vision for future transportation system in 2030



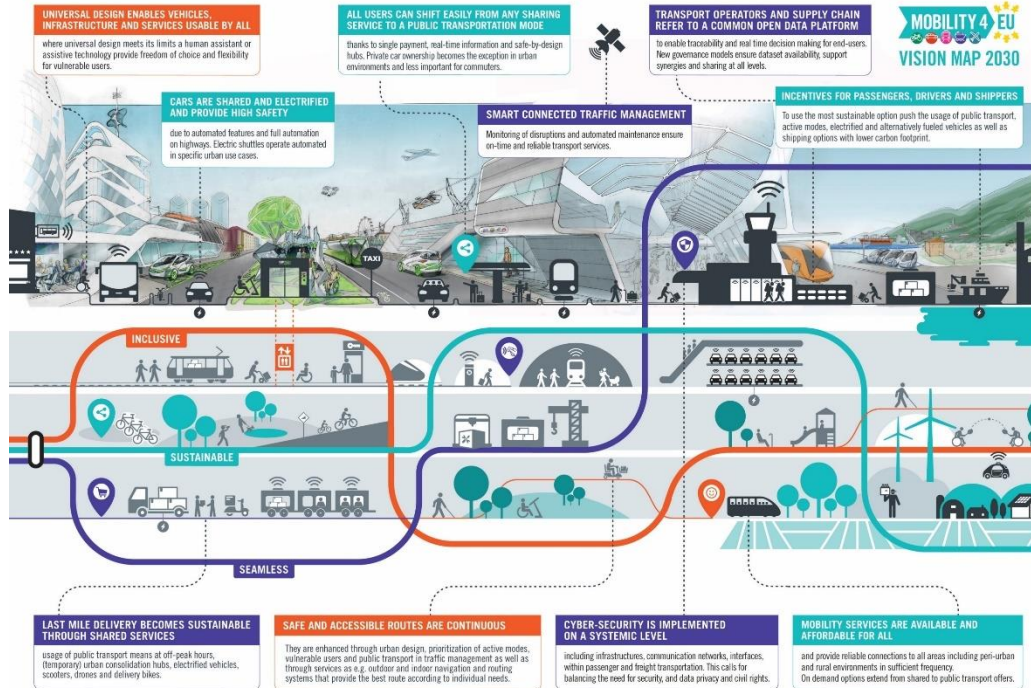
THE AMOUNT OF AUTOMATION WILL INCREASE FOR ALL ROLES

DIGITAL ANALYTICS WILL IMPROVE AIRLINE AND AIRPORT OPERATIONS

DIGITAL DESIGN AND 3D PRINTING WILL CHANGE HOW PLANES ARE MADE

SUSTAINABLE FLYING WILL BE A REQUIREMENT

19.12.2018



SUSTAINABLE FLYING WILL BE A REQUIREMENT

SECURITY PROCESSING TIME WILL SHORTEN

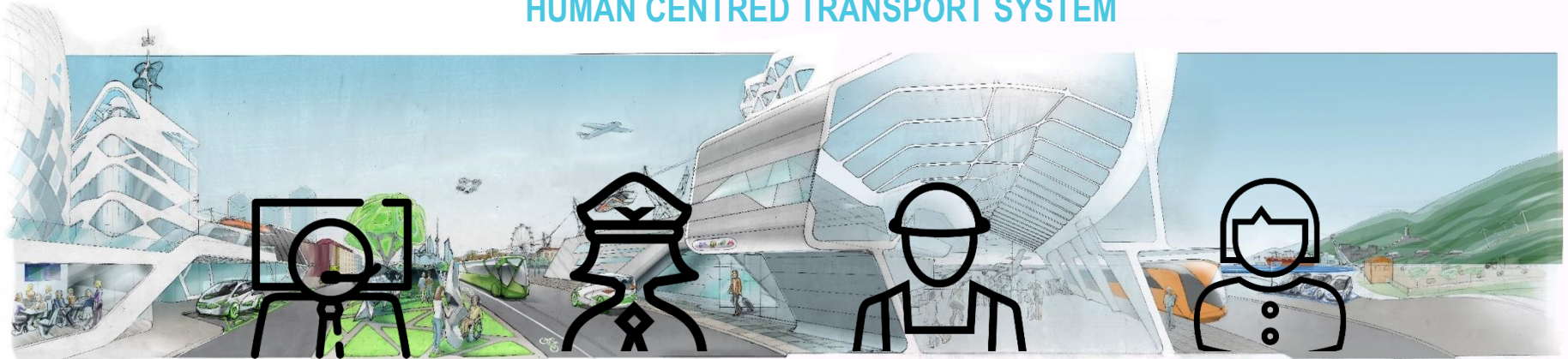
D2D WILL BE A SEAMLESS EXPERIENCE

UAVS WILL BE POPULATING OUR URBAN AREAS WITH A HIGH NUMBER OF APPLICATIONS

02\The changing nature of work



HUMAN CENTRED TRANSPORT SYSTEM



1

**TRAINING &
EDUCATION**

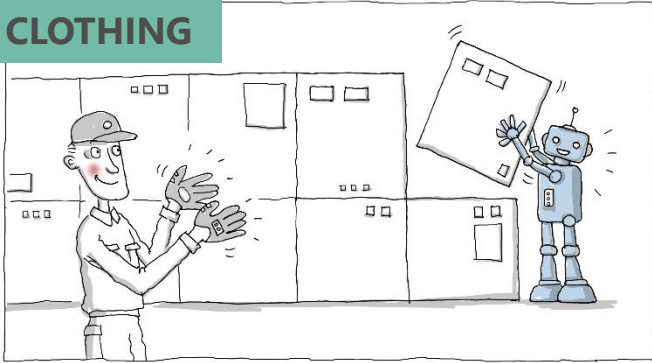
2

**JOBS & WORKING
PRACTICES**

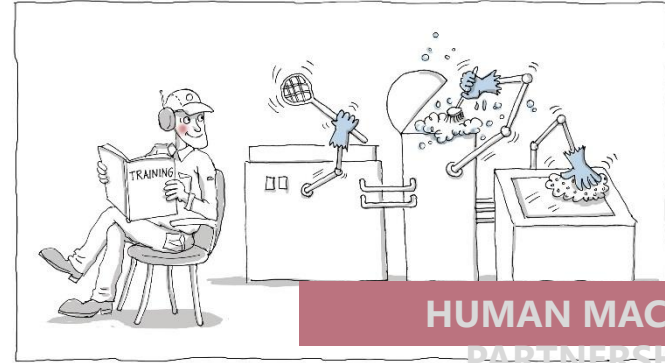
02\The changing nature of work



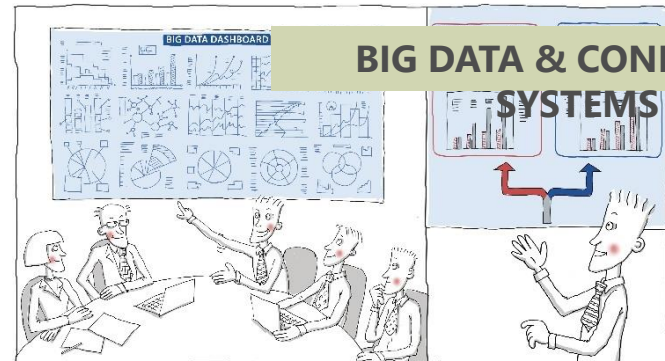
SMART CLOTHING



AUGMENTED REALITY



HUMAN MACHINE PARTNERSHIP



BIG DATA & CONNECTED SYSTEMS

02\The changing nature of work

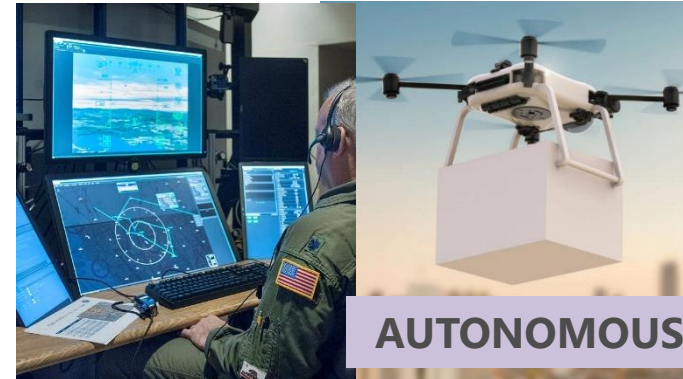


HUMANS AS DIGITAL CONDUCTORS

in real time:

- Electroencephalography
- Electrooculography
- Electrocardiography
- Body Posture
- Galvanic Skin Response

ScreenShot appletto - Controllo operativo: analisi screenshot di uno Display - Milano

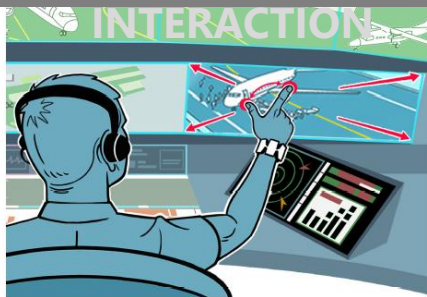


02\The changing nature of work

**AUGMENTED
REALITY**

**BIG DATA & CONNECTED
SYSTEMS**

**MULTI SENSORY
INTERACTION**







03\Key skills and competences

BY 2030, 14% OF THE GLOBAL WORKFORCE MAY NEED TO SWITCH OCCUPATIONAL CATEGORIES AS DIGITIZATION, AUTOMATION, AND ADVANCES IN ARTIFICIAL INTELLIGENCE DISRUPT THE WORLD OF WORK.

With the change in work environment and tasks expected to be carried out by workers, the **skills/knowledge** required will also **change**.

These **new skill** sets will not replace the existing ones. Rather, they will be required in **addition to the skills** that are important in the current scenario.

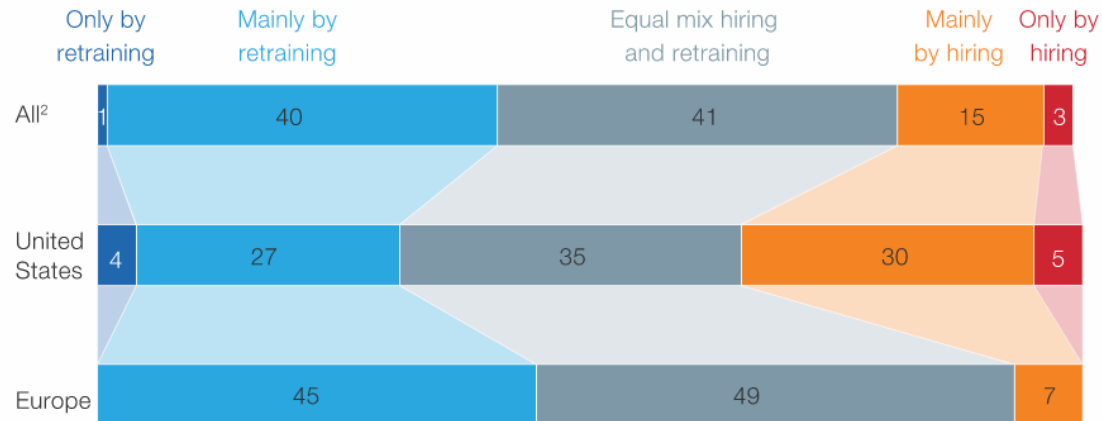
 <h3>1. Knowledge about ICT</h3> <ul style="list-style-type: none">> Basic Information Technology knowledge> Ability to use and interact with computers and smart machines like robots, tablets etc.> Understanding machine to machine communication, IT security & data protection	 <h3>2. Ability to work with data</h3> <ul style="list-style-type: none">> Ability to process and analyze data and information obtained from machines> Understanding visual data output & making decisions> Basic statistical knowledge
 <h3>3. Technical know-how</h3> <ul style="list-style-type: none">> Inter-disciplinary & generic knowledge about technology> Specialized knowledge about manufacturing activities and processes in place> Technical know-how of machines to carry out maintenance related activities	 <h3>4. Personal Skills</h3> <ul style="list-style-type: none">> Adaptability & ability to change> Decision making> Working in team> Communication skills> Mindset change for lifelong learning

03\Key skills and competences



How can your organization best resolve its potential skills gaps related to automation and/or digitization over the next five years?

Private-sector organizations with >\$100 million annual revenue¹ who view the skills gap as a top-10 priority, % of respondents



¹Total n=197, or “Do not expect skills gaps” responses.

²All includes rest of world.

Note: All analysis filters out “Don’t know” responses from data set. Figures may not sum to 100 percent, because of rounding.

End of 2017
More than 1,500 respondents from business, the public sector, and not for profits across regions, industries, and sectors.

04\Challenges for the industry

COMPANIES WILL NOT ONLY FACE CHALLENGES IN FINDING SKILLED EMPLOYEES BUT ALSO RELATED TO THEIR EXISTING WORKFORCE AND SKILL DEVELOPMENT PROGRAMMES



UP-SKILLING

assembly line worker involved in manually fitting a part will be required to operate a robot or other tools.



RE-SKILLING from the operations to the control.



GRACEFULLY ACCOMMODATING multiple generations and different cultures within the same working context.



MINDSET CHANGE manage the change and facilitate smooth transition to advanced processes and practices.

LIASE WITH EDUCATIONAL INSTITUTIONS TO DEVELOP A MODERN AND EVOLUTIONARY COMPETENCY FRAMEWORK FOR THE SECTOR

04\Challenges for educational institutions



**COMPETENCY BASED
TRAINING +
KNOWLEDGE AND
SKILLS**



**TEAMWORK AND
SOFT SKILLS**



AR AND VR FOR TRAINING

**ALIGN LEARNING OUTCOMES TO TIMELY RESPOND TO THE NEW
NEEDS OF A FASTLY EVOLVING LABOUR MARKET**

04\Challenges for millennials





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& RESEARCH