

E-Newsletter n°5

Skillman's State of art



SKILLMAN

Sector Skills Alliance
for Advanced Manufacturing
in the Transport Sector

skillman.eu

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SKILLMAN project's state of the art

The Report on the state of the art of the Skillman project is now available

The Report has been drafted by Renzo Salimbeni, Associated Senior Researcher and Manager of the 'Liasion Office Centro Ricerca Impresa', and aims to be a useful source to identify technical skill gaps.

The report also provide necessary information to the 'Observatory on Advanced Manufacturing for the Transport Sector'. On the basis of its technical indications a relevant pan-European curricula will be designed and validated.

The report also include a review of the worldwide emerging trends of research and development following the advancements achieved in robotics, lightweight materials, and wireless technologies. Its analysis aims to determine future competencies and skills requirements in automotive and avionics.

Finally the Report provide a track to translate the trends in technologies' advancement into a segmented set of basic background and skill needs for the employee qualification in the transport sector.

[Read full report here](#)

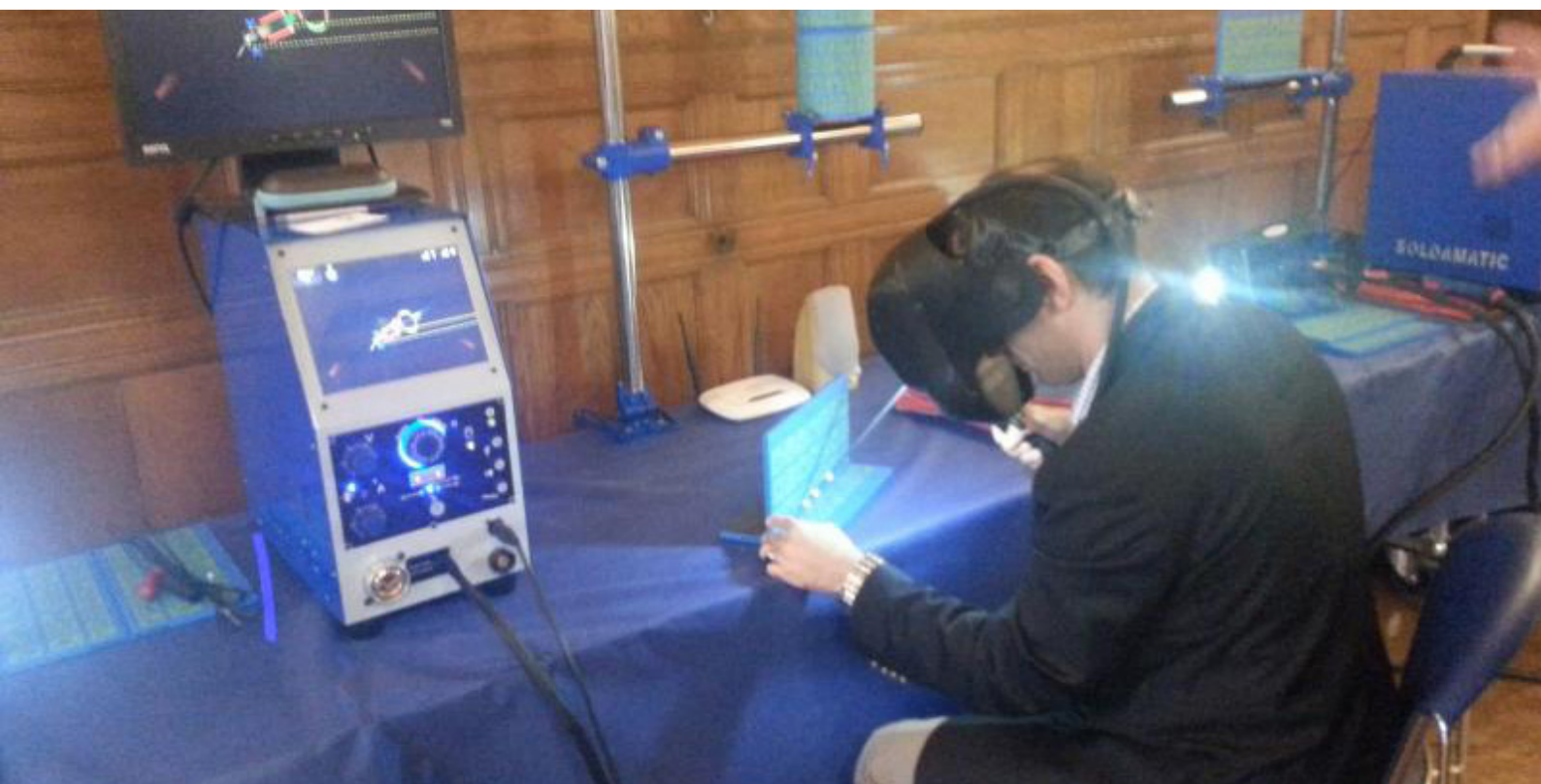
SKILLMAN at MASTERING THE FUTURE

International Encounters on Vocational Education and Training

The International Conference about Technical and Vocational Education and Training has been organized by The Deputy Ministry for Vocational Education and Training in Donostia-San Sebastián on the 15th and 16th of June 2016.

Mr Giovanni Crisonà participated in the event to represent the Skillman consortium. The objective of the conference was to analyse the Basque Technical and Vocational Education and Training System, as well as to analyse the changes that will take place as a consequence of the implementation of industry 4.0 in the manufacturing processes. Another important aim of the event was to receive from the European Commission a feedback on the policies and activities organized for the period 2016-2020. The main point of the conference were the following:

- Executive and Creative intelligence.
- Technological Evolution and social Change.
- Outcomes of the Vocational Education and Training System in the Basque Country.



SKILLMAN's principles

Presented at 2ND INTERNATIONAL CONFERENCE ON LIFELONG LEARNING AND LEADERSHIP FOR ALL

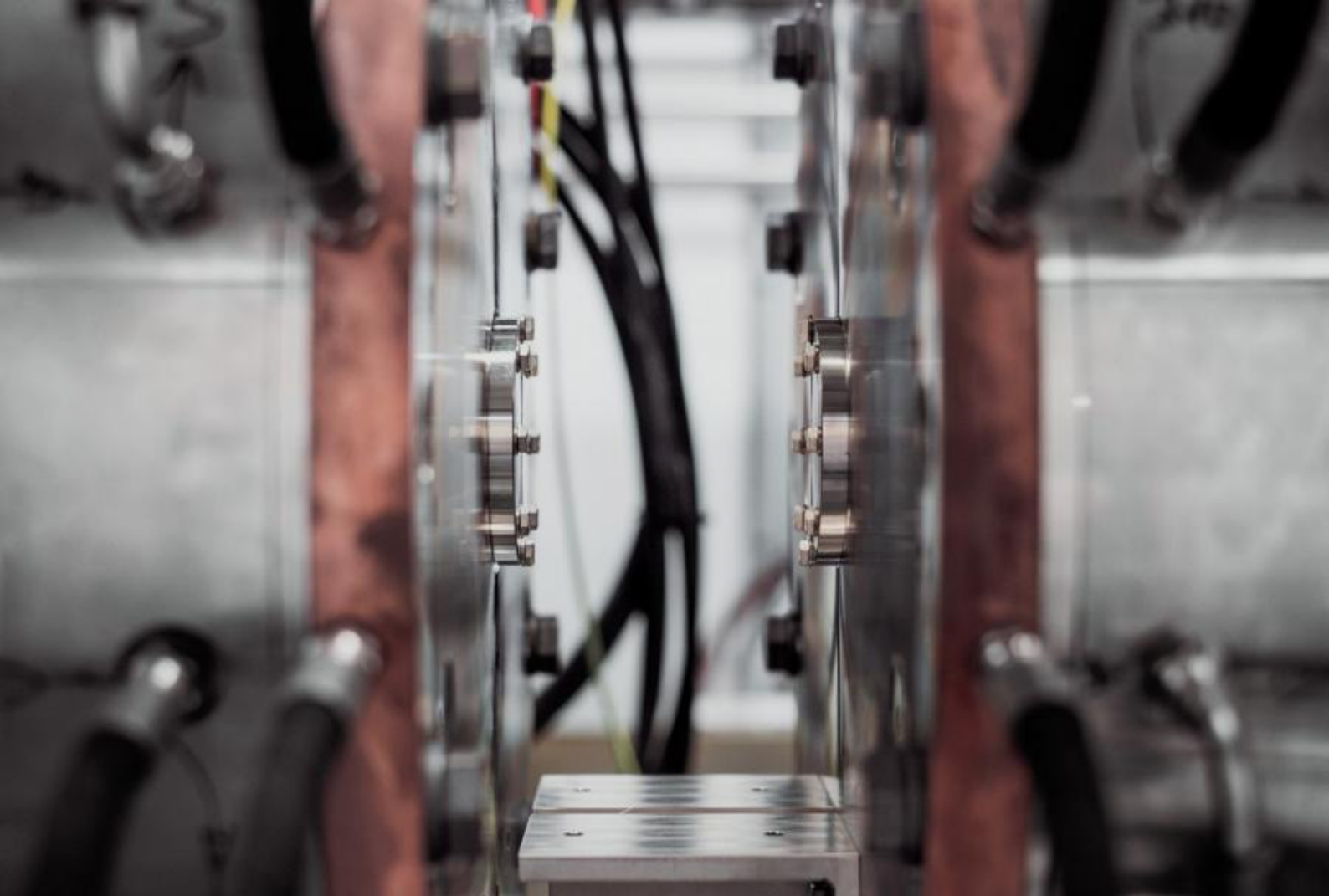
As a keynote speaker of the International Conference on Lifelong Learning and Leadership for all, Mr Giovanni Crisonà has presented the skillman.eu principles adopted to identify industrial training future needs and develop the new curricula in the advanced manufacturing sector.

The conference aimed to discuss and debate how the new generation can consistently grow and succeed in the Business, Economic and Education sectors by fully understanding and continually applying Lifelong Leadership concepts and perspectives. In addition, it focused on how to provide equal educational opportunities for citizens.

According to the growing interest of the European Union on Lifelong Education, the annual conference brings together every year scholars, researchers, educators, students, professionals and other groups interested in education to share their theoretical knowledge and present their works on lifelong learning, business, economics and leadership in organizations.

The participation in the event and the discussion that follows the presentation of the skillman.eu principles have been very important to set further collaborations with many of the universities represented at the conference.

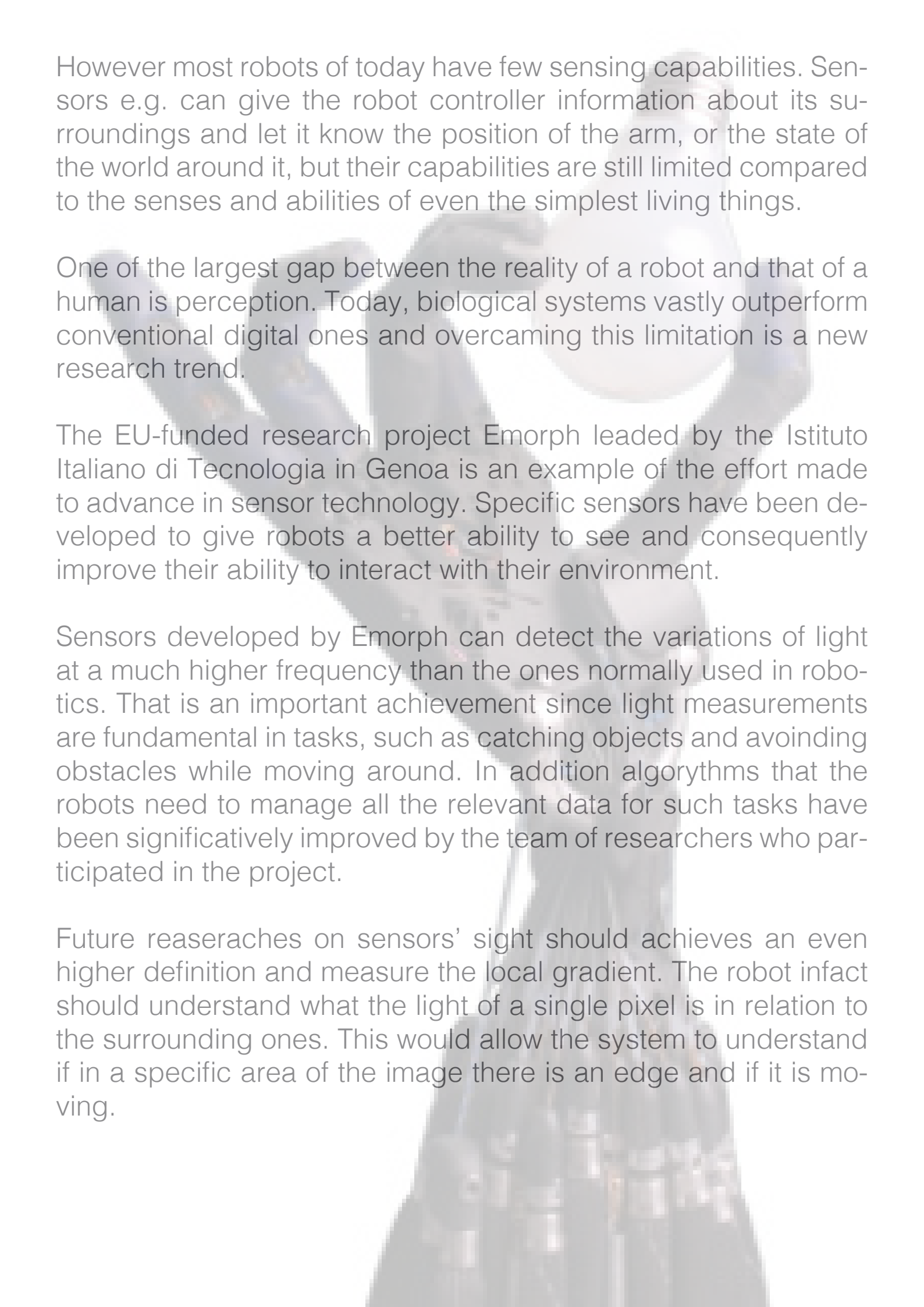
For more information: www.iclel.com



Improving Robots' sensing capability is a new research trend

Robots can be designed and programmed to get specific information that is beyond what our five senses can tell us. For instance, a robot sensor might “see” in the dark, detect tiny amounts of invisible radiation or measure movement that is too small or fast for the human eye to see.

Specialized softwares based on color segmentation, thermal image processing, dynamic object classification, etc. also go beyond processing two-dimensional images. Different types of sensor data, as video images and laser range data, allow to create complete, three-dimensional models of the Robot's environment making possible to develop vehicle autonomy systems or assist operators of vehicles.



However most robots of today have few sensing capabilities. Sensors e.g. can give the robot controller information about its surroundings and let it know the position of the arm, or the state of the world around it, but their capabilities are still limited compared to the senses and abilities of even the simplest living things.

One of the largest gap between the reality of a robot and that of a human is perception. Today, biological systems vastly outperform conventional digital ones and overcoming this limitation is a new research trend.

The EU-funded research project Emorph leaded by the Istituto Italiano di Tecnologia in Genoa is an example of the effort made to advance in sensor technology. Specific sensors have been developed to give robots a better ability to see and consequently improve their ability to interact with their environment.

Sensors developed by Emorph can detect the variations of light at a much higher frequency than the ones normally used in robotics. That is an important achievement since light measurements are fundamental in tasks, such as catching objects and avoiding obstacles while moving around. In addition algorithms that the robots need to manage all the relevant data for such tasks have been significantly improved by the team of researchers who participated in the project.

Future reaseraches on sensors' sight should achieves an even higher definition and measure the local gradient. The robot infact should understand what the light of a single pixel is in relation to the surrounding ones. This would allow the system to understand if in a specific area of the image there is an edge and if it is moving.

The New Skills Agenda for Europe

Launched by the European Commission

New Skills Agenda for Europe has been launched in an high-level event organised by the European Commission to boost human capital, employability and competitiveness.

To represent the Skillman consortium, Mr Giovanni Crisonà participated in the highly interactive event and enjoyed the opportunities to network and build partnerships for skills.

The actions of the New Skills Agenda focus on improving the quality and relevance of skills formation, making skills and qualifications more visible and comparable, as well as improving skills intelligence and information for better career choices.

The commitment of Europe in this issue unfortunately faces a number of challenges as e.g.:

- an unacceptably high proportion of Europeans still struggling with reading and writing,
- a 30% of higher education graduates working in jobs which do not need a university qualification,
- too few people with the preparation, mind-sets and competences to set up their own businesses or look for new opportunities.

For this reason the Commission adopted a new and comprehensive Skills Agenda for Europe on 10 June 2016 in which ten actions have been proposed to help equip people with better skills. The launch event gathered an audience from a wide spectrum of employment and education stakeholders and featured high-level speakers from European and international institutions.

SKILLMAN Workshop at DK ReferNET meeting

An interested crowd followed the SKILLMAN workshop in connection with a DK ReferNET meeting 18th of August 2016

The Danish ReferNET is coordinated by The Danish National Center for Vocational Education . The Center has the responsibility to gather, analyze and disseminate information about VET in Denmark in relation to ReferNET/CEDEFOP.

The feedback group/ advisory board around Danish ReferNET reflects the VET stakeholders:

- The Apprenticeship Committee of Metal Industry,
- The Capital Region of Denmark,
- The confederation of Danish Employers (DA),
- Confederation of Danish Industry,
- The Danish Confederation of Trade Unions,
- The Danish Federation of Small and Medium Sized Enterprises,
- The Danish School of Education,
- EfVET,
- Employees Organization,
- Federation of Teachers (Business Colleges),
- Ministry for Children,
- Education and Gender Equality,
- Ministry of Higher Education and Science,
- National Center for Vocational Education,
- National Federation of Local Trade Councils,
- Representation from different VET colleges,
- Secretariate for local trade Councils/ Building and Construction.



New trends in the air sector

Interview with Yasser Hannan - experienced in the air sector and teacher in the TEC schools

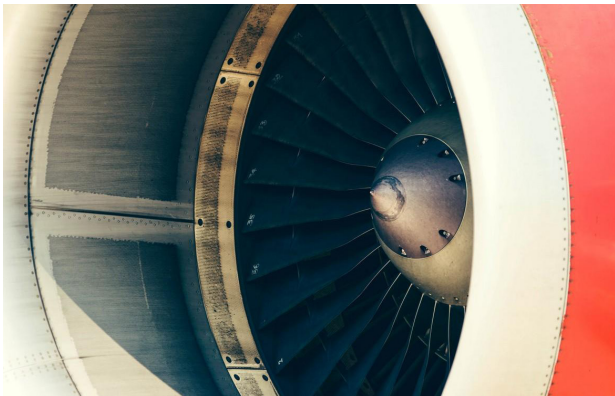
Dear Yasser,

We know that you are experienced in the air sector and that you are teacher in the TEC school. We are very interested in the background of the contributors to Skillman, therefore we would like to know more about your professional history and experience. It would be very kind if you could answer the following questions.

Interview with Yasser Hannan

May we ask where you got all your professional experience?

I have Ph.D. Engineering Science diploma, Speciality: Air-transport operation, from Ukraine, National Aviation University in Kiev in 1999. 2000-2013 I worked as teacher (academic staff) in the Aeronautical Engineering Dept., Mechanical engineering faculty, University of Aleppo – Syria. During my

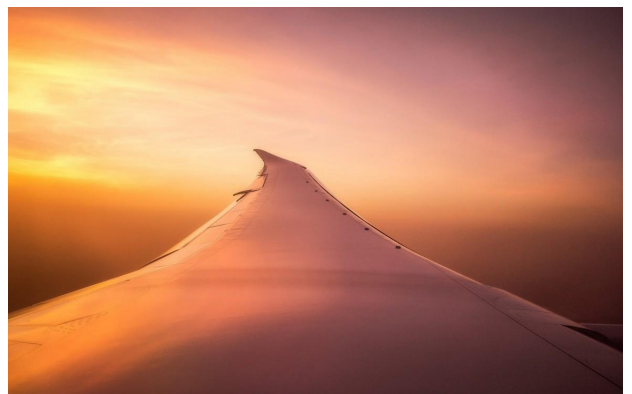


work at university, I taught different disciplines in the area: Aircraft maintenance – Air-transport operation – Safety & Reliability engineering. And I supervised the graduating projects (thesis) for fifth year students- engineers. In 2004 I completed the course for 3 months on”

Development of aircraft maintenance methods” in Ukraine, at National Aviation University in Kiev.

We heard that you worked and lived in different countries. Which of them has influenced your professional experience the most, and why?

In Ukraine I studied as post-graduate researcher to get Ph.D. Engineering. During my research I got a good experience in the air-transport operation area. Ukraine has a good experience in aviation technology and manufacturing for a long time. I worked in Syria, at University of Aleppo, Aeronautical Engineering Dept., Mechanical engineering faculty. During my work at university in our department, I participated in supervising of many seminars and research for Engineers and masters about different engineering area: Aircraft structures, Composites, Maintenance program (MSG – RCM), human factor, NDT,....



How did you come to Skillman? What is your main commitment to the project?

I am connected to the Skillman project through the Danish partner TEC, participating together with Thomas Nørup who is accountable manager in TEC Aviation department. It's very interesting to be involved in an European/international project like SKILLMAN, where it is obvious that



competences and knowledge cross borders in the profession and make one mobile in a career. I have a good background in Composite materials, and Now I am working with the curriculum design (Specific thematic: Composite and lightweight materials) in WP4 together with the partner Metropol

University, and I have written reports about Vocational Education Training in Europe, and Composite materials in the advanced manufacturing to WP1.

What do you expect from Skillman? How will the Air-transport sector benefit by Skillman?

In Air-transport sector, the training and educational market is strictly regulated by the provisions and regulations by organisations EACA, ICAO, CAA. The development in aviation technologies, and the trends in airplane fleet growth have and will continue to drive demand for more qualified aviation personnel, and many aviation businesses are struggling to attract and retain qualified personnel. The aviation industry is seeking solutions to address the challenges of building a highly-skilled workforce to support the rapid growth. The main challenges in aviation personnel training are: train methods, attracting new talent and talent resources, and talent retaining methods. The Sector Skill Alliance for Advanced Manufacturing in the Transport Sector can contribute in the development of requirements for training programs quality and qualifications of aviation personnel by providing state of the art solutions to competencies and skills needs for curriculum development (project thematic- Composite materials, robotics, wireless and industry) which embed the use of e-learning and ICT, and these solutions can be used for creating the best educational and training programs possible for aviation personnel to match the skills needed in the industry market as well as personal competences.



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