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/ ENEL AND SYMBOLA FOUNDATION PRESENT "100 ITALIAN ROBOTICS AND AUTOMATION STORIES": EXAMPLES OF ITALIAN EXCELLENCE
IN RESEARCH AND TECHNOLOGY

Enel and **Symbola** foundation present "100 Italian robotics and automation stories": examples of Italian excellence in research and technology

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· *The fourth Made in Italy Innovation Report tells 100 stories, ranging from the great centers of international excellence, to firms, and to the passion for robotics of the new generation*

· **Realacci** and Starace: *"100 experiences that demonstrate that Italy can meet any challenge, even the most technologically advanced, without forgetting the importance of research in creating an economy and society on a human scale"*

Rome, February 5th, 2020 - From domestic robots to space robots. 100 Italian stories from south to north that tell of technologies ready to improve people's lives: innovations applied to daily activities, healthcare, industry and research. It is the country described by Enel and the **Symbola** Foundation in the fourth report on Made in Italy innovation "100 Italian Robotics and Automation Stories". The study was presented today in Rome by the President of the **Symbola** Foundation, **Ermete Realacci**, and Enel CEO, Francesco Starace.

"The intuition and experience gained through our relationship with Enel confirm that if you look at Italy with different eyes you will discover things that others may not perceive," said **Ermete Realacci**, President of the **Symbola** Foundation. *"This is also true for robotics, which already contributes to major Made in Italy supply chains such as food products, fashion, wood products and furniture, and mechanical engineering. And it is taking on the challenges of the future, starting with the need to respond to the climate crisis, combining empathy and technology. The 100 experiences told in the Report demonstrate that if Italy works as best as it can, it can meet any challenge, thanks to its ability to forge a synthesis of functionality, beauty, and humanism, as a result of a culture that in the most advanced technological challenges does not neglect the search for an economy and a society on a human scale, as we affirm in the Assisi Manifesto."*

*"Together with **Symbola** we want to enhance Italy's precious heritage of excellence, shining light on success stories, which are often little known, and talent, which is not always recognized, but which contribute to progress through human-scale solutions,"* said **Francesco Starace**, Enel CEO. *"Technology and research are the pillars of the study, which brings together 100 virtuous examples of companies operating in the Italian robotics and automation sector: stories of researchers, academics and firms that have the ability to accelerate progress, once again underscoring the competitiveness and the excellence of the Italian system at the international level. We are convinced that Italy, with its excellence and skills, can be an example of sustainable growth on a global level, demonstrating, in accordance with the Assisi Manifesto, that it is possible to return the human dimension to the center of our economic model."*

Four internationally recognized innovators took part in representing Made in Italy excellence, including Cecilia Laschi, Full Professor of Industrial

Bioengineering at the BioRobotics Institute of the Sant'Anna School of Advanced Studies in Pisa, who was included in the 25 Women in Robotics, the annual RoboHub ranking, and is one of the pioneers in soft robotics, dedicated to the development of machines with soft and deformable surfaces, and creator of the "octopus robot". Francesco Visentin, researcher of the Centre for Micro-BioRobotics of the Italian Institute of Technology (IIT) in Pontedera who contributed to the realization of Plantoide, the robot that reproduces the behavior of plants, was also in attendance. Other stories were represented by Antonio Bicchi, President of I-RIM (Institute for Robotics and Intelligent Machines), a non-profit association created to integrate Italian research excellence with the business world and Gabriele Diamanti of ddp Studio, an architecture and design firm that was involved in the development of "Hannes", the robotic hand, in collaboration with the INAIL prosthesis center in Budrio and the Italian Institute of Technology. The device enables patients to recover 90% of their manual functionality, adapting to objects thanks to its dynamic adaptive grasp system.

The Report, prepared by the [Symbola](#) Foundation and Enel in collaboration with the UCIMU Foundation, which brings together Italian machine tool manufacturers, deepens our understanding of a sector of national excellence. Robots and automata are entering everyday life, increasingly present in household cleaning activities, in recreational activities or in care services. Worldwide, the market reached a value of 16.5 billion dollars, and 422 thousand units were delivered in 2018 alone, an increase of 6% compared with the previous year. Italian industry is ranked sixth by the total number of industrial robots installed (69,142 units in 2018), preceded by China, Japan, South Korea, the United States and Germany. As measured by number of scientific publications, with more than 10 thousand, Italy is also sixth in the world in robotic research, ahead of France, Canada, South Korea and Spain.

As far as industry is concerned, the Italian robotics sector comprises 104 thousand companies, which have grown by 10% in five years, with a total of 429 thousand employees. Milan leads the ranking with about 12 thousand companies and 110 thousand employees, followed by Rome with 11 thousand enterprises and 63 thousand employees, Naples with 5 thousand enterprises and 13 thousand employees, Turin with 5 thousand enterprises and 25 thousand employees and, divided between Brescia, Padua, Bari, Bologna, Florence, Monza, Brianza, Bergamo and Salerno

approximately 2 thousand enterprises.

Italian robotics is also going into space: a range of Italian technologies are used in NASA's InSight robotic probe, which landed on Mars in 2018, and in those that in 2020 will be used in the ExoMars mission for the study of Martian terrain, such as the LARRI (Laser Retro-Reflector for InSight) reflective hemisphere that will give the position of the lander on the surface of Mars, which was developed by the National Institute of Nuclear Physics with the support of the Italian Space Agency.

100 ITALIAN ROBOTICS & AUTOMATION STORIES

AEROSPACE: Argotec | ASI - Agenzia Spaziale Italiana | IIS Sansi Leonardi Volta | Istituto d'Istruzione Superiore Avogadro | Leonardo | Università del Salento | AGRICULTURE: Demur | Università degli Studi Roma Tre | AUTOMATION: Alumotion | AutomationWare | BM Group Polytec | BNP | Bonfiglioli | CMA ROBOTICS | COMAU | Cosberg | Danieli Telerobot Labs | Datalogic | Egicon | Fameccanica | Gaiotto Automation | IMA | Inventio | IUVO | Loccioni | Prima Industrie | qrobotics | Roboticom | Robox | Smart Robots | Springa | STMicroelectronics | Tiesse Robot | Vision Device | AUTOMOTIVE: Italdesign | Roboteco Italargon | POPULAR SCIENCE: Fondazione Mondo Digitale | I-RIM | OFpassION | Scuola di Robotica | SIRI - Associazione Italiana di Robotica e Automazione | UCIMU-SISTEMI PER PRODURRE |

DOMOTICS: Zucchetti Centro Sistemi | EDUTAINMENT AND SPORT: Maker Faire Rome | Makr Shkr | Robotech | Sapienza Università di Roma | Stripes Cooperativa Sociale | Università degli Studi di Milano Bicocca | LOGISTICS: Elettric80 | Rollon | Scaglia INDEVA | TactileRobots | Università degli Studi della Campania Luigi Vanvitelli | Università degli Studi di Roma Tor Vergata | Yape | NURSING/CARE: Mediate | Università degli Studi di Genova | RESEARCH: Centro Ricerche E. Piaggio - Università di Pisa | CNR | Co-Robotics | ENEA | IIT | Politecnico di Bari | Politecnico di Torino | Scuola Superiore Sant'Anna | Università degli Studi della Basilicata | Università degli Studi di Cassino e del Lazio Meridionale | Università degli Studi di

Catania | Università degli Studi di Modena e Reggio Emilia | Università degli Studi di Napoli Federico II | Università degli Studi di Padova | Università degli Studi di Pavia | Università degli Studi di Salerno | Università degli Studi di Sassari | Università degli Studi di Siena | Università Politecnica delle Marche | HEALTH: ABzero | BionIT Labs | ddp studio | Elastico Disegno | Era Endoscopy | Inail | Khymeia | Masmec | Medical Microinstruments | Movendo Technology | Politecnico di Milano | Prensilia | Università Campus Bio-Medico di Roma | Università degli Studi di Brescia | Università degli Studi di Torino | Università degli Studi di Verona | ValueBiotech | Wearable Robotics | SECURITY: Aslatech | MDM Team | NuZoo Robotics | Università degli Studi di Firenze | Università di Bologna Alma Mater Studiorum

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