



Motorvehicle University of Emilia-Romagna: the hub of learning excellence for the automotive industry is created in Italy

Two brand new master's degree programs in Advanced Automotive Engineering and Advanced Automotive Electronic Engineering will train the most motivated and talented young people from Italy and the rest of the world.

The project, advocated by the Emilia-Romagna Region, stems from a collaboration among the Bologna, Ferrara, Modena & Reggio Emilia, and Parma Universities and the automotive companies based in the region and most prestigious worldwide:

Automobili Lamborghini, Dallara, Ducati, Ferrari, Haas F1 Team, Magneti Marelli, Maserati, and Toro Rosso.

A whole territory teams up in the name of research, innovation and technological development, with one goal: growth and employment.

#MOTORCALL4TALENT

Bologna, 20 March 2017 – Young talents from Italy and the rest of the world with a passion for innovation in two- and four-wheeled vehicles are invited by the leading international automotive brands to develop the future of the industry, through two brand new master's degree programs in a hub of learning excellence: **Motorvehicle University of Emilia-Romagna (MUNER)**.

The project, which is one of a kind in the Italian and foreign landscape, was strongly advocated by the **Emilia-Romagna Region**, a territory that leads European rankings on **innovation and standard of living**, which has developed a synergetic connection among universities, research institutions and manufacturers. The Motorvehicle University of Emilia-Romagna association, in fact, includes the universities that are synonymous with **advanced training - Università di Bologna, Università di Ferrara, Università di Modena e Reggio Emilia, Università di Parma** -, and the automakers that represent the **excellence** of Made in Italy in the world and are historically rooted in this territory: **Automobili Lamborghini, Dallara, Ducati, Ferrari, Haas, Magneti Marelli, Maserati, and Toro Rosso**.

*“Four universities, among the oldest in the world, and eight global leading automakers united to attract motivated and talented youth. This is a one-of-a-kind project in the national and international landscape; it confirms Emilia-Romagna not just as the European center of the new manufacturing, which is being reshaped globally through the cooperation between science, research and production, but also as a platform for advanced training with great added value,” says **Stefano Bonaccini, President of the Emilia-Romagna Region**. “The land of motors, with its extraordinary vocation to combine industrial design, perfection in handicraft products and the frontier of technological innovation, has decided to build a system. Working together is the answer to the complexity of globalization and the challenges it poses, especially for local territories; these may play a role in the new environment if they manage to become hubs of those innovations, also related to the training of human capital, that feed the integration of economies. And the*

network approach – the choice we made as regional administration with the Patto per il Lavoro, the employment agreement we undersigned with companies, unions, universities, and associations with the main goal of fostering development and creating jobs – is proving to be a winning one, with Emilia-Romagna ranking as the highest-growing region in Italy, at the level of Europe’s most advanced areas. An important project for the region, then, but also for the country, which must know how to leverage the value of its examples of excellence and create a network among them to overcome divisions and start to grow and compete jointly again.”

Through universities and automakers, the Motor Vehicle University of Emilia-Romagna hub aims at attracting to the region the best university students from all over the world with the goal of training and introducing into the corporate world **tomorrow’s engineers**, the professionals who will design **street and competition vehicles, sustainable propulsion systems and subsystems for smart features**, and production plants in keeping with **Smart Manufacturing**.

Features of the master’s degree programs

Two international and inter-university master’s degree programs, taught entirely in English, will start from the next academic year, 2017/2018: Advanced Automotive Engineering and Advanced Automotive Electronic Engineering.

The faculty will be selected, thanks to the collaboration of the Scientific Committee of the association, among university professors and experienced professionals, both Italian and foreign, through an **international call** aimed at ensuring the best technical and scientific skills and the highest teaching quality.

A maximum of 150 students will be admitted to the master’s degree programs each year: 120 for Advanced Automotive Engineering and 30 for Advanced Automotive Electronic Engineering. They will be selected after a careful evaluation of their achievements and a technical and motivational interview. Besides, the possession of adequate English language skills (level B2) will be verified.

The teaching, which will be fully imparted in English, will include both a theoretical part and laboratory activities carried out in the universities and in the **company labs** of corporate partners, so that students may develop high-level professional skills, in the spirit of the “learning by doing” approach. The mandatory internships will take place at the manufacturing partners’ facilities, while the dissertation activities, based on the “project work” format, will be carried out both inside academic and corporate research labs.

Advanced Automotive Engineering

The curriculum is structured as a common initial semester held at the Università di Modena e Reggio Emilia, followed by five specialized professionalizing paths at the Bologna, Ferrara and Parma universities.

The program aims at providing knowledge and skills related to the design of high-performance street and competition two- and four-wheeled motorvehicles. Advanced automotive engineers will acquire skills in the areas of the design and development of the main subsystems and parts related to: combustion, hybrid and electric motor propellers; energy storage and conversion solutions; “cold” architecture of two- and four-wheeled street and competition vehicles; production systems with typical features of the new manufacturing 4.0 environment (manufacturing robotics, supply chain design and management, big data, etc.).

The training will follow five professionalizing paths, assigned based on students’ ranking positions and stated interests: “Advanced Powertrain” (25 people max in Bologna + 25 people max in Modena), “Advanced Motorcycle Engineering” (25 people max in Bologna), “Advanced Sportscar Manufacturing” (25 people max in Bologna), “High-Performance Car Design” (25 people max in Modena), “Racing Car Design” (25 people max in Modena, second year in Parma).

Advanced Automotive Electronic Engineering

The first year of the program will take place at the Università di Bologna; subsequently, the second one will take place at the Università di Modena e Reggio Emilia.

The inter-university master's degree program in Advanced Automotive Electronic Engineering aims at training electronic engineers with a professional profile oriented towards the design, development and production of the main subsystems that compose two- and four-wheeled street vehicles – with a special focus on the premium and motorsports market segments – and towards the development and management of the relative technological and productive processes. The specialization will transmit in particular professional skills in the field of information engineering, building the ability to design and engineer the most advanced electronic, IT and connectivity systems for the automotive industry.

Automotive electronic engineers, in fact, design and develop the subsystems that acquire and manage information, ensuring that vehicles are equipped with the smart features that will increasingly provide differentiation in the future of the industry, connecting with other disciplines in the field of Information and Communication Technologies (telecommunications, IT and automation).

For enrollment and further information, please visit www.motorvehicleuniversity.com

MUNER



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Università di Bologna

The University of Bologna has ancient origins: founded in 1088, it is considered the oldest University in the western world. It has over 80,000 students and 215 degree programs, 70 of which are international degree programs, in its 5 Campuses: Bologna, Cesena, Forlì, Ravenna and Rimini. It has 11 Schools, 33 Departments, 43 PhD programmes, 37 Specialisation Schools, 65 Professional master's programs of first and second level and an average of 11,000 research products per year. The University of Bologna is the first university in Italy for the number of exchange students both outgoing and incoming.

Università di Ferrara

The University of Ferrara is a very old, strong, structured and well-established institution. What distinguishes Ferrara most is the visible interpenetration between City and University: an authentic university campus. The University of Ferrara always occupies high positions in the main rankings regarding teaching activity and research. This is due to the quality of the many services dedicated to our main stakeholders – students – and the numerous research activities conducted every day in different scientific domains and disciplines. It can boast many well-established ties with educational and scientific institutions and other organisations around the world, as well as numerous international partnerships with foreign universities and bodies which enable students and researchers to pursue their activities in Ferrara or abroad with the same opportunities. A specific organisation oversees relations with businesses, provides patenting support and aids in the creation and subsequent development of spin-offs and start-ups.

Università di Modena e Reggio Emilia

Unimore is one of the oldest Universities in Europe. It has a very strong approach towards innovation in many scientific and technological fields, which has led to very good relationships between enterprises and institutions.

This enviable standing is extremely beneficial, with Unimore's graduates having the best performance in the labour market one year after their degree. Moreover, Unimore is the first University to obtain the Ministry Quality Certification.

The University of Parma

The University of Parma is a State University conducting didactic and research activities at a national level. The University of Parma currently boasts about 25,000 students and 1,800 teaching and staff workers.

The University offers a rich course catalogue of more than 80 degree courses, including First Cycle, Second Cycle and Single Cycle degree courses, as well as Postgraduate Schools, Specialisation Courses and Master Programmes. Such activities are coordinated by 9 Departments: Department of Chemistry, Life Sciences and Environmental Sustainability; Department of Economics and Management; Department of Engineering and Architecture; Department of Humanities, Social Sciences and Cultural Industries; Department of Law, Politics and International Studies; Department of Mathematical, Physical and Computer Sciences; Department of Medicine and Surgery; Department of Veterinary Science; Food and Drug Department.

AUTOMOBILI LAMBORGHINI S.p.A.

Founded in 1963, Automobili Lamborghini is headquartered in Sant'Agata Bolognese (Bologna) and it is the car brand that manufactures one of the most coveted super sports cars in the world. The Lamborghini Huracán, which made its world debut at the Geneva Motor Show in 2014, the Huracán Spyder and the RWD version of 2015 are the successors to the iconic Gallardo, and with their innovative technology and exceptional performance, they redefine the driving experience for luxury super sports cars. The Aventador S represents a new benchmark in the world of V12 luxury super sports cars. With 135 dealerships throughout the world, in half a century Automobili Lamborghini has created a continuous series of dream cars, including the 350 GT, Miura, Espada, Countach, Diablo, Murciélago, as well as limited editions including the Reventón, Sesto Elemento, Veneno and the Centenario.

Dallara Automobili, the pursuit of excellence

Dallara was founded by its current president, Giampaolo Dallara in 1972. After working for Ferrari, Maserati, Lamborghini, and De Tomaso, Dallara wanted to continue pursuing his dream of working in the world of racecars. He established "Dallara Automobili da Competizione" in his hometown of Varano de Melegari, Parma, Italy. Since its establishment, Dallara has become world renowned for its specialty in designing, manufacturing, and developing racecars. The company's success can be credited to its achievements in Formula 3, first in Italy then around the world, its acclaim with American IndyCars, its

consultancy for major manufacturers, and its continued focus on technology and innovation. Dallara prides itself in searching for the highest standards of quality, performance, safety, and customer support.

Ducati Motor Holding S.p.A. - A Sole Shareholder Company - A Company subject to the Management and Coordination activities of AUDI AG

Founded in 1926, since 1946 Ducati has been manufacturing sport-inspired motorcycles characterised by high-performance Desmodromic engines, innovative design and cutting-edge technology. With its factory located in Bologna's Borgo Panigale district, in 2016 Ducati celebrates 90 years since it was founded. The model range covers several market segments with the following families: Diavel, Hypermotard, Monster, Multistrada, Superbike and SuperSport. In 2015 Ducati presented the Ducati Scrambler: a new brand made of bikes, accessories and apparel that provide the last word in creativity and self-expression. These authentic icons representing what the world knows as "Made in Italy", together with an extensive range of associated accessories and technical and lifestyle apparel, are distributed in 90 countries globally. Breaking all records for the company, in 2016 Ducati delivered to customers 55,413 bikes to customers. Ducati competes in both the World Superbike and MotoGP World Championships. In Superbike, Ducati has won 17 Manufacturers' titles and 14 Riders' titles. Ducati has been competing in MotoGP since 2003, winning both the Manufacturers' and Riders' titles in 2007.

Ferrari

Ferrari is among the world's leading luxury brands focused on the design, engineering, production and sale of the world's most recognizable luxury performance sports cars.

Ferrari brand symbolizes exclusivity, innovation, state-of-the-art sporting performance and Italian design. Its history and the image enjoyed by its cars are closely associated with its Formula 1 racing team, Scuderia Ferrari, the most successful team in Formula 1 history. From the inaugural year of Formula 1 in 1950 through the present, Scuderia Ferrari has won 224 Grand Prix races, 16 Constructor World titles and 15 Drivers' World titles. Ferrari designs, engineers and produces its cars in Maranello, Italy, and sells them in over 60 markets worldwide.

Haas F1 Team

Haas F1 Team debuted in the FIA Formula One World Championship in 2016, becoming the first American Formula One team since 1986. Founded by industrialist Gene Haas, Haas F1 Team is based in the United States on the same Kannapolis, North Carolina, campus as his championship-winning NASCAR team, Stewart-Haas Racing. Haas is the founder of Haas Automation, the largest CNC machine tool builder in North America, and he is chairman of Haas F1 Team.

About Haas Automation

Haas Automation, Inc., is America's leading builder of CNC machine tools. Founded by Gene Haas in 1983, Haas Automation manufactures a complete line of vertical and horizontal machining centers, turning centers and rotary tables and indexers. All Haas products are built in the company's 102,000 square-meter (1.1 million square-foot) manufacturing facility in Oxnard, California, and distributed through a worldwide network of Haas Factory Outlets that provides the industry's best sales, service and support while offering unparalleled cost-to-performance value. For more information, please visit us on the Web at www.HaasCNC.com, on Facebook at www.Facebook.com/HaasAutomationInc, on Twitter @Haas_Automation and on Instagram @Haas_Automation.

Magneti Marelli

Magneti Marelli designs and produces advanced systems and components for the automotive industry. With 86 production units, 12 R&D centres and 30 application centres in 19 countries, approximately 40,500 employees and a turnover of 7.9 billion Euro in 2016, the group supplies all the major carmakers in Europe, North and South America and the Far East. The business areas include Electronic Systems, Lighting, Powertrain, Suspension and Shock absorbing Systems, Exhaust Systems, Aftermarket Parts & Services, Plastic Components and Modules, Motorsport. Magneti Marelli is part of FCA.

Maserati

Maserati: cars that are immediately recognizable for their extraordinary personality.

Their style, technology and innate exclusivity – guaranteed to appeal to even the most discerning tastes – have made them an industry benchmark. The brand's ambassadors are the Levante (Maserati's first ever SUV), the flagship Quattroporte with GranSport and GranLusso versions, the Ghibli luxury sedan and the GranTurismo and GranCabrio sports cars. With the option of gasoline and diesel engines, rear or all-wheel drive, the finest materials and outstanding engineering, this is the brand's most comprehensive offering yet.

A tradition of successful cars, each of them redefining the concept of the Italian sports car and setting new standards in style, performance, luxury and safety.

Scuderia

Toro

Rosso

Scuderia Toro Rosso has been competing in the Formula 1 World Championship since 2006. The team was created with a view to form and give wings to the stars of the future coming through the ranks of the Red Bull Junior Driver Programme. The team's driver line-up is the perfect synthesis of that goal, as we go into battle with two very young and very high-skilled drivers, Carlos Sainz and Daniil Kvyat. When the team was first established it operated partly as a satellite to Red Bull Racing, running a car designed mainly by Red Bull Technology. However, since 2010, Scuderia Toro Rosso has run completely independently, doing all the car design and manufacturing work in-house in Faenza. This necessitated a major expansion programme for the factory. The Italian side of the operation is supported by the team's wind tunnel facility in Bicester, England. Team Principal Franz Tost has been at the helm since 2005, while the technical side is managed by Technical Director James Key. Currently the team has one win and one pole position to its name, both courtesy of Sebastian Vettel, who produced the fairytale result at the team's home race, the Italian Grand Prix in Monza, back in 2008. Since the team's debut up until now, Scuderia Toro Rosso has improved year after year and is now a clear rival for the rest of the top mid-field teams. The aim still remains the same: to add as many points as possible to the team's tally each race and become a fixed top contender in the Constructors' Championship.

APPENDIX 1

The professionalizing paths of the master's degree program in Advanced Automotive Engineering

High-Performance Car Design

Aims at training engineers able to comprehend, set up and design the "cold" architecture of high-performance street vehicles, through the study of the main principles of **design**, vehicle constructions, vehicle dynamics and NVH, behavior of materials, mechanic technology, aerodynamics, thermo-fluid dynamics, automatic controls, electronics and sensors.

Advanced Powertrain

Offered both in Modena and Bologna to ensure the highest quality of lab experiences for students, including the participation in the initiatives of Formula Sae, and the best capitalization of the resources available on the rich regional territory, it aims at training engineers able to design and take part in the engineering of **traditional and innovative propulsion systems**, with a particular focus on their optimization, on the control and solution of environmental and energy issues. The teaching content ranges from the study of internal combustion engines, electric propulsion systems, the electromechanic energy conversion and storage solutions, and the main technologies for the design and production of motor propellers, including the study of the most advanced control and calibration techniques.

Racing Car Design

This path is focused on the development of the **“cold” architecture of racing cars** through the study of content related to the setup of the vehicle, structural calculations with light, composite and 3D-printed materials, aerodynamics and vehicle dynamics. It relies on the close collaboration of **Dallara Automobili Spa**, which will open its experimental labs to students.

Advanced Motorcycle Engineering

Developed in close collaboration with **Ducati Motor Holding Spa**, it aims at providing in-depth knowledge of the various aspects related to the design and development of a high-tech two-wheeled street and competition vehicles. The teaching, albeit preserving a mechanics foundation, offers typical electronic engineering and industrial design contents, related to design, vibration mechanics, mechanic technology, two-wheeled vehicle dynamics, the design of endothermic motor propellers and the development of driver assistance systems.

Advanced Sportscar Manufacturing

Aims at training engineers able to plan, develop, control and **manage production systems for the automotive industry**. The main areas of competence covered by the program include: process engineering, the design of industrial plants and systems, production management and optimization, automation technologies and solutions, the digital technologies of Manufacturing 4.0 and the management of quality control processes.

A different learning opportunity is provided by the **Specialized Master’s Degree in Advanced Automotive Electronic Engineering**, aimed at training experts in the design and engineering of the most advanced **electronic, IT, and connectivity systems** for the automotive industry.