



Press release

FORMULA SAE ITALY: YESTERDAY MARKED THE END OF THE STATIC EVENTS. THIS MORNING, THE RANKINGS AND FINALISTS FOR THE BUSINESS PRESENTATION EVENT, DESIGN EVENT AND COST EVENT WERE RELEASED

Tomorrow at the closing ceremony at 8:30 pm, the winners of the static tests will be announced. The Italian teams have performed well overall

Varano de' Melegari, 15th July 2023 - The static events for Formula SAE Italy ended yesterday. This morning, the rankings for all participating classes (1C for internal combustion cars, 1E for electric vehicles, 1D for driverless cars and Class 3 for prototype-free car design) were published for the Business Presentation Event, Design Event and Cost Event.

The podium positions for the winners and finalists have yet to be revealed, but they are listed randomly within their respective rankings. The winners of the static tests will be announced at the Closing Ceremony tomorrow at 8:30 pm.

During the **Business Presentation event**, student competitors are tasked with presenting a simulation of their proposed car to a potential investor audience. The teams must create a marketable vehicle and deliver a comprehensive business plan to convince the audience to invest in their project. This includes analysing the customer and the market, determining marketing and communication channels, conducting economic-financial analyses such as return on investment and break-even point, and submitting a specific investment request to the jury. This year, the jury is divided into 4 commissions.

For the 2023 edition, the regulation structure remains unchanged from 2021, a three-stage elimination-based division used in Formula Student Austria. However, the weighting of Stage 1 has decreased by 5 points, while Stage 3 has increased by 5 points, as agreed with Formula Student Austria. Additionally, the criteria for Stage 3 have been modified to make them more objective.

The first phase, called the "Racing Elevator Pitch", requires teams to present a 30-second video that captures the jury's attention for the subsequent in-depth examination of their proposed business idea. Meanwhile, the second phase, the "Business Pitch," is a condensed version of the Business Plan presentation focusing on financial issues. Both of these steps were conducted online over the past few months.

Teams that advance to phase 3 will face a 10-minute presentation of their Business Plan, which includes a specific Deep Dive Topic. The Jury Coordinators decide on the topic, and the teams are given advance notice to encourage innovative and creative solutions on critical issues in the automotive market. A question-and-answer session follows this phase. The overall assessment includes delivery, i.e., exhibition performance, and visual aids, i.e., the visual tools used, along

Italian Association of the Automotive Industry



with the ability to answer questions. The maximum score for this test is 75 out of the total 1,000 points of the competition.

This year, numerous Italian teams performed admirably. In the finals, the skill level of each group was nearly identical, and all three teams could have been declared the victors.

The automotive industry has undergone significant changes in the previous five years, reflected in some of the business plan proposals presented. One team aimed to recover engines, engine components, and car parts to reduce waste and expenses.

In Class 1C, the team finalists are **UniBo Motorsport** from the University of Bologna, **Race Up Combustion** from the University of Padua and **Bimasakti Racing Team** from the University of Gadjah Mada, an Indonesian team competing in the event for the first time.

In the Driverless Class, the finalists are **Squadra Corse Driverless PoliTO** from the Politecnico di Torino, **MoRe Modena Racing Driverless** from the Universities of Modena and Reggio Emilia and **UniNa Corse - Squadra Corse** from the University of Naples Federico II.

In the 1E Class (electric cars), the **Dynamis PRC team** from the Politecnico di Milano reached the final along with the **E-team Squadra Corse** from the University of Pisa and the **ISC FS Racing Team** from the Pontifical University ICAI-Comillas.

In Class 3 (presentation of the car project only), the finalists are the **Salento Racing E-Team** from the University of Salento, the **AAM Driverless Racing Team** from the Arab Academy for Science, Technology and Maritime Transport and the Sapienza University of Rome with the **Sapienza Corse** team. It is hoped that these teams will attend next year's event with the prototype car to see what they have achieved.

The **Design Event** is a significant challenge for students and it carries a maximum score of 150 points out of 1,000. The jury of automotive experts, divided into nine commissions (four for Class 1E, three for Class 1C, and two for Class 1D), rewards the engineering work behind the car. This competition is a heartfelt test that rewards top designers.

This year, the event's regulations are consistent with other European events. This allows teams to participate in several events in Europe without making any changes to the technical documentation or the car.

The jury evaluates the cars based on three classic categories: suspension, chassis, and engine. Additionally, they assess the team's technical management model and award points for creativity and innovation in the design.

The finals are highly anticipated, with judges interacting with students in the pits and selecting three teams from Class 1C and 1E to participate. This is when the best cars are showcased to the public, allowing the judges to observe and compare them up close.

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In this edition of the Design event, the general technical level denotes that the event is at the beginning of the season, with many cars coming to the track for the first time. There is a noticeable difference in skill level between established university teams with a long history and those from newer universities. However, more recent teams are quickly catching up to the top teams as they adopt new technologies like electric powertrains, mechatronic integration, ADAS systems, and driverless technology. This technology helps level the playing field and allows younger teams to become more creative. Even though it may take some time, the newer teams are making significant strides towards closing the technical gap with the more experienced teams. The more experienced teams, on the other hand, can only partially rely on their experience to stay ahead.

The team **Dynamis PRC** from Politecnico di Milano (Class 1 E) demonstrated their excellence as the top Italian team. They had an impressive integration of the autonomous driving system into their car. The finalists in Class 1E, including the **WHZ Racing Team** from Zwickau University of Applied Sciences and **FS Team Tallinn**, all performed well and were very close in terms of points. The Tallinn team presented a car with great attention to design detail and excellent organisation of the team's work, although there were no particular innovations.

In Class 1C of Formula SAE Italy, both **Race UP Combustion** from the University of Padua and **MoRe Modena Racing Combustion** from the University of Modena and Reggio Emilia impressed with their traditional car designs and made it to the finals.

This year, non-plug-in hybrid engines were allowed in Class 1C, but attendance could have been better as only a few attempts were seen, and none were functional. However, plans were submitted, and more participants are expected to join next year. The **CULS Prague Formula Racing Team** from the Czech University of Life Sciences in Prague integrated a hybrid system and made it to the finals, but it still needs to be functional.

In Class 3, the **Sapienza Corse team** from Rome's La Sapienza University presented an interesting hybrid car project that may be realised. The other two finalists were the **Polimarche Racing Team** from the Università Politecnica delle Marche and the **AAM Driverless Racing Team** from the Arab Academy for Science, Technology and Maritime Transport.

In Class 1D, the Design Event holds a higher value of 200 points compared to the other classes, which carry a weight of 150 points. Points are granted based on the development of an autonomous system instead of vehicle design. The level of competition has increased as compared to the previous year. However, when it comes to autonomous driving, there is a tendency for teams to present standard solutions with slight modifications.

Additionally, there has been a positive increase in the number of Italian teams participating, with the University of Naples showing significant progress compared to the previous edition. Simultaneously, the Polytechnic of Turin and the Universities of Modena and Reggio Emilia have presented two innovative projects.

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The finalists of the competition were impressive in their ways. **Global Formula Racing** from Oregon State University stood out for its exceptional organisational skills. They constructed two cars, one in Germany and one in the United States, and efficiently shared both machines' design, calibration, and overall management. Another noteworthy finalist was **eForce FEE Prague Formula** from the Czech Technical University in Prague. They demonstrated excellent care in managing the vehicle aspects and algorithm management. Finally, **MoRe Modena Racing Driverless** from the University of Modena and Reggio Emilia also made it to the finals.

Finally, the **Cost Event** is a crucial part of the competition, worth 100 points out of 1,000. The event was renewed in 2019 and is now based on the FSG regulations, focusing on the analysis of cost reports prepared by the teams. Unlike before, the cost reports are no longer based on tables of standard costs but on the costing processes used by the teams. The event includes a challenge on a fictional topic related to the car produced by the team, designed to assess the team's technical and economic skills with a multidisciplinary approach. The challenge is unique for all teams and simulates using a car on a roller coaster. The students are required to estimate the costs and methods of necessary adaptation.

The Cost Event test is similar to an economics dissertation on the car but focuses on critical technical and production aspects. Teams prepare their spreadsheets and explain their methodology, highlighting verifiable and reliable sources from which they have obtained essential data. Cost understanding is one of the primary evaluation categories, assessed by examining a document prepared by the teams before the event (cost explanation file) or through a question-and-answer process during face-to-face interviews. The event covers topics that are relevant today, such as the environmental impact of the vehicle and its production and disposal, make-or-buy decisions, estimating the differences between prototype and mass production, and essential elements of resource planning and risk management.

The Cost Jury comprises around thirty members divided into five commissions, who visit each team directly at its pits. This year's edition also featured an international jury from four continents, including an Indian, two Croatian, a Brazilian, a North American, and a Pakistani judge. The fiercest competition was in the electric car class, where many teams scored high, leading to a confrontation within the jury during the calibration to validate the judgments made during the inspections by the respective commissions.

Italian teams have made significant progress in recent years and are using this event as a training school to improve their level of preparation. Some teams were surprised by the leap in quality compared to previous years, while others confirmed their excellent status already shown in previous editions.

The winners of the Class 1C competition are **UniBo Motorsport** from the University of Bologna, **Race UP Combustion** from the University of Padua, and the **CULS Prague Formula Racing Team** from the Czech University of Life Sciences in Prague. In Class 1E, the finalists are the **Race UP Electric team** from the University of Padua, the **TU Darmstadt Racing Team e.V.** from the TU

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Darmstadt, and the **E-Agle Trento Racing Team** from the University of Trento. The finalists for Class 3 are the **AAM Driverless Racing Team** from the Arab Academy for Science, Technology, and Maritime Transport, the **Polimarche Racing Team** from the Università Politecnica delle Marche, and **Sapienza Corse** from the Sapienza University of Rome. Lastly, in Class 1D, the top performers were the **Firenze Race Team** from the University of Florence, **UniNa Corse** from the University of Naples Federico II, and **Global Formula Racing** from Oregon State University.

It is important to mention that Formula SAE Italy is both a competition and an educational event. Thus, the feedback session for the static events holds significant value for the young participants. The judging committees have assessed numerous teams and held personal interviews with those who asked for it today, from 9:30 am to 12:45 pm. The purpose of these interviews was to provide constructive feedback that the teams could use to enhance their proposals for the next competition. Teams have consistently demonstrated their capability to implement feedback and improve their recommendations year after year.

All further information can be found on the initiative's website (www.formula-ata.it/), where you can find the complete programme (www.formula-ata.it/official-schedule/), the list of participants (www.formula-ata.it/registered-teams/) and all event details.

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ANFIA - Italian Association of the Automotive Industry

Born in March 1912, over these one hundred years, ANFIA mission has always been to represent the interests of its associate members and ensure effective communication between the Italian motor vehicle industries on the one hand, and the Public Administration and Italian political bodies on the other, with regard to all technical, economic, fiscal, legal, statistical and quality-related issues referred to the automotive sector.

The Association is structured in three product-based Groups, each one chaired by a President.

Components: motor vehicle parts and components manufacturers; *Car Design & Engineering:* companies working in the sector of design, engineering and style of motor vehicles and/or parts and components for the automotive sector; *Motor vehicles:* motor vehicles manufacturers in general, including trucks, trailers, camper vans, special means of transport.

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The Automotive Production Chain in Italy

5,528 companies

273,600 employees (direct and indirect), the 7,3% of the employees in the Italian manufacturing sector

86.2 billion Euros of turnover, which means 9,9% of the Italian manufacturing sector turnover and of 5.2% of the Italian GDP

76.3 billion Euros of tax levy of motorization

Formula SAE Italy

Formula SAE was established in 1981 on the initiative of the Society of Automotive Engineers (SAE) and requires the participating students to design and build a prototype single-seater racing car destined for eventual sale. They must follow specific technical and financial constraints as if a company in the automotive sector commissioned it for a non-professional user. During the event, the teams of students take part in static tests - Design, Business Presentations and Cost Events - and dynamic tests on the track (Acceleration, Skid Pad, Autocross, Endurance; for Class 1D, the Endurance has been replaced by the Trackdrive).

The event aims to focus not on the competition itself, but the skills acquired by the young people in terms of engineering knowledge, commitment, organisation and adherence to deadlines, design coordination and product presentation. Thus, the competition is an educational event in which young people can learn teamwork dynamics, with strict rules and deadlines that must be respected and be put to the test in the actual construction and design phases of a prototype and with all the difficulties that this entails.

Formula SAE arrived in Italy in 2005, organized by ATA (Associazione Tecnica dell'Autoveicolo). After 12 editions, since 2017, with the acquisition of ATA by ANFIA, the organization of the event passed to ANFIA, which organized 4 editions at "R. Paletti" Racing Track of Varano de' Melegari (Parma).

<https://www.formula-ata.it/>

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