

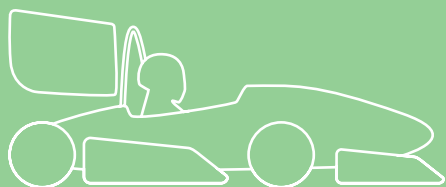
FSA TEAM / FSA PARTNERS / FORMULA STUDENT / PARTICIPATING TEAMS

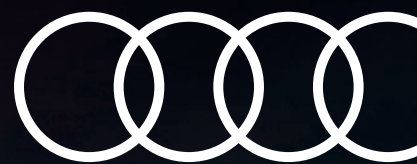
EVENT PROGRAM 2023



INTERNATIONAL DESIGN COMPETITION
RED BULL RING
SPIELBERG

23-28/07/2023





We are progress. With you.

Come by and visit us at our stand.



Audi RS e-tron GT: Combined electric power consumption in kWh/100 km (62.1 mi): 20.2–19.3 (NEFZ);
Combined CO₂ emissions in g/km (g/mi): 0. Information on fuel consumption and CO₂ emissions as well as
efficiency classes in ranges depending on the tires and alloy wheel rims used.

ATTENTION ALL TEAMS!

Dear friends of Formula Student Austria,

Already for the 15th time we are honored to welcome you to Austria's finest Formula Student Event!

A lot has changed since the first edition in 2009: The event moved to the then newly reopened Red Bull Ring in 2012 and grew almost three times in size over the years. Also, the cars changed a lot – 2010 saw the introduction of electric cars whose performance increased from season to season to levels never thought to be possible for an FS car. While wings were a scarcity in 2009, a few years later massive aero packages became the defining feature of almost all competing machinery. The level of craftsmanship and technology continues to amaze anew every year.

And surely, progress never stops – we saw the introduction of the CV Hybrid option last year and will see the first cars sporting the technology on track this year. Looking into the future we are staging the “Hydrogen Concept Challenge”, evaluate broadening the range of allowed drivetrains to include FCEV systems.

In this light it may be tempting to look on the IC engine as a relic of the past – indeed many saw the 2019 pivot of FSG to EV and autonomous only as the tombstone of FSC.

But as you can see and probably hear – they are alive and running on all cylinders (mostly one though). While the trend in roadcars may be pointing away from the ICE, building an FSC car is as exciting, rewarding and educational as ever. Formula Student is an engineering competition after all and the process matters as much (if not more) than the result or the subject.

Successfully fielding any FS car is a great way to gain and “show off” a great variety of skills to future employers such as our partners – their continued support is a reflection of the passion and effort you put into your project.

I personally worked on my last FS car in 2010 – but the excitement for engineering still gets me when I stroll through the pits – the “Formula Student Spirit” is contagious as it ever was.

That leaves me to say:

“Thank you” to all the volunteers,
“Good Luck & Have Fun” to all the teams,
...and “Keep on Racing” to everybody




Lukas Raschendorfer
& the FSA Team

IMPRINT

Publisher

FSA Bewerbungsorganisation
Stremayrgasse 16
8010 Graz

 fsaustria.at

Design

Juliane Freudenstein

Content

Christoph Hirt, Romana Močnik,
Lukas Raschendorfer

© 2023 Formula Student Austria

FOLLOW US



@FSAustria



@Formula Student Austria



FSAustria



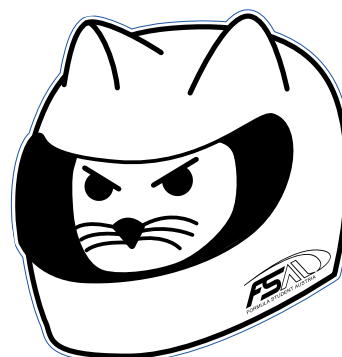
FSA Official (flickr)

Extern sources:

Flags from teampages: Image by ibrandify on Freepik

CONTENT

1	FSA Team	06
2	FSA Partners	14
3	Formula Student	22
4	Participating Teams	26



FSA TEAM

STEERING COMMITTEE



Responsibility
Event Manager

Christoph Hirt

Christoph Hirt, who took over the torch as event manager in 2016, is determined to expand FSA's leadership in the „small but mighty“ class of FSAE events. He hit the [FSAE] ground running during the formation of an FSE Team 2009 and joined FSA in 2013.



Responsibility
Dynamic Events

Alexander Rauch

After years of work as junior dynamics guy, Alexander advanced to Head of Dynamics for the 2019 Event. As FS Suspension team leader he knows how to push Formula Student cars to their limits.



Responsibility
**Dynamic Events,
Timing, IT**

Manuel Seeböck

After some years of E-scrutineering and work in the dynamics area, Manuel became joint Head of Dynamics in 2019. He also makes sure the timing and IT equipment don't act up.



Responsibility
**Rules,
International
Relations**

Lukas Raschendorfer

After multiple years as „Sparkie“ for both C&E FSAE cars, Lukas joined FSA and is now responsible for the rules and statics, a racecar engineer by day, a designer by night he also creates FSA's graphical designs and herds the lolcats.



Responsibility
**Head of
Scrutineering,
Rules**

Paul Mayr-Harting

Paul has been a member of the Formula Student community since 2012 and is an expert in the field of chassis. Therefore, he is predestined to be the chief scrutineer and the head of the SES.



Responsibility
**Head of
E-Scrutineering,
ESF**

Eugen Hoffelner

As an all-time pro in the FSE community, Eugen brings the necessary calmness to keep track of all the e-cars. During the day you can find him in the scrutineering or battery tent and in the evening he also likes to take a tour across the campsite.



Responsibility
**Head of Design,
Scoring**

Thomas Gerstorfer

As Head of Design Thomas knows how to bring students to their limits of knowledge. He is an expert on vehicle dynamics with a lot of experience not only in Formula Student but also in the automotive industry.



Responsibility
**Head of Media,
Partner Relations**

Romana Močnik

Romanas passion for Formula Student started in 2012 at the weasels. She's been now supporting FSA for a couple of years in the fields of Media which means Communications, Marketing & Social Media. Moreover she is a part of Partner Relations.



Responsibility
**Human Resources,
Organisation**

Carolin Reichelt

Her first step at FSA was directly in the business finals as judge. Caro is now together with Anika the mastermind behind the HR planning, knowing all the stories and being the fairy godmother of FSA.



Responsibility
**Human Resources,
Organisation**

Anika Kloker

With her years of experience in Formula Student, Anika has the FSA organization under control. Together with Caro she makes sure that the whole FSA doesn't get lost and that the event runs smoothly.



Responsibility
Organisation

Alexander Kinzer

Solving all kinds of small problems for FSAE Teams is his favorite activity. After collecting Formula Student experience in the pits since 2015, Alex is now available for all sorts of questions at the help desk of FSA.

Work #LikeABosch

Enjoy wearing different hats.

At Bosch, we shape the future with high-quality technologies and services to inspire people and improve their lives. Grow with us and explore countless new roles, positions and opportunities.

Apply now at www.bosch.at/karriere



BOSCH
Technik fürs Leben

FSA TEAM

SPECIAL FORCES



Franz Rabel
Responsibility
Head of Business



Sebastian Frager
Responsibility
Head of Cost



Sebastian Kern
Responsibility
Head of SES



Titus Meier-Kraut
Responsibility
Mechanical Scrutineering



Eva Stephan
Responsibility
SES Specialist



Michael Neuhauser
Responsibility
Website, IT



Steffen Schmitt
Responsibility
IAD Specialist



Romana Kunst
Responsibility
Partner Relations



Svenja Mayer
Responsibility
Partner Relations



Klemens Körner
Responsibility
Tents & Technics



Stefan Oechslein
Responsibility
Livestream & Brand Design



Juliane Freudenstein
Responsibility
Media & Brand Design



Paul Stechele
Responsibility
Logistics & Lifting

Focus on nanometers.



Seeing beyond



Engineering at ZEISS

57 billion transistors on a few square-centimeters of silicon – high-performance microchips conducting paths now only take measurements in nanometers thanks to ZEISS semiconductor manufacturing technology. That's because these increasingly powerful microchips are made using EUV lithography with ZEISS optics. Camila, a development engineer, tests the interaction between these optical components and is fascinated by these complex machines. "Our EUV systems consist of more than 35,000 individual parts and weigh 3.5 tons. Developing these systems as a team is awe-inspiring."

We need more people like Camila for these kinds of developments; we need you. Learn more about jobs at ZEISS: zeiss.com/engineering

FSA TEAM

AWESOME STAFF





FSA PARTNERS



AUDI

We are progress. With you.

Progress is part of our DNA. It's not just in our cars, but in us too. And in you. We make progress together. With inner drive. With the aspiration to become better and better. With attitude, with courage, with confidence. Because progress comes from the head – and the heart.



www.audi.com



AVL

AVL is one of the world's leading mobility technology companies for development, simulation and testing in the automotive industry, and beyond. From ideation phase to serial production, the company covers vehicle architectures and platform solutions including the impact of new propulsion systems and energy carriers. As a global technology provider, AVL's offerings range from simulation, virtualization and test automation for product development to ADAS/AD and vehicle software. The company combines state-of-the-art and highly scalable IT, software and technology solutions with its application know-how, thereby offering customers extensive tools in areas such as Big Data, Artificial Intelligence, Cybersecurity or Embedded Systems.



www.avl.com


BOSCH

Work #LikeABosch

At Bosch, we shape the future with high-quality technologies and services to inspire people and improve their lives. Grow with us and explore countless new roles, positions and opportunities. Apply now!



www.bosch.at/karriere


KTM

The KTM AG is a global manufacturer of Offroad and Street vehicles and a company of the PIERER Mobility AG. We produce a broad selection of premium brands including KTM, GASGAS and Husqvarna motorcycles.

Our employees are like our motorcycles: drive is what counts, not the model year, the mileage or the preferred terrain. We are looking for employees who are willing to work together, think together and live out our philosophy together. With or without experience. Because no matter who you are, what ultimately matters is what you are capable of!

Life is too short to work just anywhere - Make your passion to your profession! With us you can utilize and develop your talent to the full. We nurture your potential because we need the very best in every discipline.

Be part of our success story!



www.career.ktm.com



MAGNA

Magna is more than one of the world's largest suppliers in the automotive space. We are a mobility technology company with a global, entrepreneurial-minded team of 168,000 employees and an organizational structure designed to innovate like a startup. With 60+ years of expertise, and a systems approach to design, engineering and manufacturing that touches nearly every aspect of the vehicle, we are positioned to support advancing mobility in a transforming industry. Our global network includes 343 manufacturing operations and 88 product development, engineering and sales centers spanning 29 countries.

At Magna, you'll be able to follow your passions and shape your own career path, while helping to develop industry-leading automotive technologies. We can help you do it. We'll create a better future of mobility, together.

Forward. For all.



www.magnacareers.com



MUBEA CARBO TECH

Mubea Carbo Tech is known as high-end fiber reinforced plastic component supplier of the global Mubea Group when it comes to lightweight applications. Focused on Research & Development we manufacture composite components at the highest level for our global customers. Whether automotive industry, aviation, motorsports or in the field of industrial applications, Mubea Carbo Tech delivers the mobility of tomorrow. We offer our global customers a full service package beside some built-to-print applications. Starting with the Development, Design and the customized manufacturing technologies up to the finished component. We offer structural and hybrid components starting from prototypes up to a purpose built high volume production. For our Headquarter in Salzburg (Austria) and our production locations in the Czech Republic and Germany, we are steadily looking for employees who carry the **Carbo Tech DNA**: Commitment, team spirit and a strong pioneering spirit which are the foundation of our global success.



www.carbotech.at



Seeing beyond

ZEISS

ZEISS is technology. ZEISS is optics and innovation.

Our over 38,000 colleagues develop, manufacture and sell highly innovative products and solutions for our customers in a variety of business fields, generating revenue of over €8.8 billion. As one of the world's top technology companies, ZEISS has with a portfolio aligned with future growth areas like digitalization, healthcare and Smart Production, and a strong brand to boot, ZEISS is shaping the future far beyond the optics and optoelectronics industries.



www.zeiss.com/career



ITK ENGINEERING

ITK Engineering: Digital engineering at its best!

Anything goes, from embedded systems to cloud computing and artificial intelligence – ITK Engineering, a global tech company, draws on methods-driven expertise to provide platform-independent software and system development services. With around 1,300 employees, the company is an innovative force in digital engineering. Customers in sectors ranging from automotive, industrial, and railway engineering to medical systems, agricultural/ construction machinery, and motorsports count on us to instill intelligence in highly complex systems.

ITK Engineering is all about digital engineering. For years, we have been pointing the way at this crossroads where information technology and engineering meet. Rather than focusing narrowly on individual components, we keep our eye on the big-picture prize, the overall system.

Founded in 1994, ITK Engineering is headquartered in Rülzheim/ Karlsruhe with nine other locations. The company has been a wholly owned subsidiary of Robert Bosch GmbH since 2017.



www.itk-engineering.com



EDAG

Shaping the mobility and production solutions of the future

We are focussing on growth. New experiences. Make a change. Break new ground.

Our 360° engineering competence for vehicles and production solutions and our independence make us an acknowledged engineering partner throughout the entire development process: from strategy development through the concept phase and series production to production planning and optimisation. We are in an ideal position to further expand our role as the world's largest independent engineering partner.

Our segments:

- Vehicle development
- Electrics/Electronics
- Production solutions
- Software & digitalization

Together, we are innovative, develop new technologies and set trends in engineering. We help one another with professional and personal challenges. Success is celebrated as a team. Join us on our way to a digital future.



www.edag.com



PIA AUTOMATION

Creating efficiency - achieving significantly more efficiency with clever and creative solutions. This is the guiding principle of the PIA Automation companies that have joined forces in the PIA Group. PIA stands for the best mechanical engineering quality and is growing expansively worldwide. With a know-how that has been continuously expanded over decades and more than 8,500 realized projects, the company is today one of the world's leading automation specialists. At 12 interconnected locations in Europe, North America and Asia, the PIA Group offers automation concepts that make high-quality products available to everyone. The automation of manufacturing processes is one of the keys to the challenges of our time.

PIA's goal is to increase the economic performance of production in every single customer project - with the least possible use of costly resources. With openness to new, creative solutions, PIA strengthens the production processes of increasingly complex products, increases sustainability and makes a significant contribution to value creation. In-house Industrie 4.0 solutions offer customers decisive advantages in the digitalization and networking of production.



www.piagroup.com

SCHAEFFLER

SCHAEFFLER

As a leading global supplier to the automotive and industrial sectors, the Schaeffler Group has been driving forward groundbreaking inventions and developments in the fields of motion and mobility for over 75 years. With innovative technologies, products, and services for electric mobility, CO₂-efficient drives, chassis solutions, Industry 4.0, digitalization, and renewable energies, the company is a reliable partner for making motion and mobility more efficient, intelligent, and sustainable – over the entire life cycle. The technology company manufactures high-precision components and systems for powertrain and chassis applications as well as rolling and plain bearing solutions for a large number of industrial applications.

Our employees are our most valuable asset. Together we make motion safer, cleaner and smarter. We see the challenges of the future as opportunities, which is why – as an automotive and industrial supplier – we want to be pioneers in all aspects of our work. In doing so, we rely on an innovative, open and trusting work environment.



www.schaeffler.de



THYSSENKRUPP

thyssenkrupp Presta is one of the most successful manufacturers of steering systems worldwide and a technical leader in the field of Cold Forging.

More than 11.000 employees are working for thyssenkrupp Presta in 21 manufacturing and development sites located around the world. Thereof more than 2500 employees are working at the company's headquarter in Eschen, Principality of Liechtenstein. More than 20 million steering systems are developed and manufactured every year.



www.thyssenkrupp.com



KLIMA ENERGIE FONDS

As a vital instrument of the „integrated national energy and climate plan“ (NEKP), the climate and energy fund works towards achieving the objectives of domestic climate policy in Austria and developing a sustainable energy system. With funding programmes for research, development and market penetration, it enables broad-based solutions that mitigate climate change and preserve the natural habitat. The Climate and Energy Fund receives funding from the Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK) and supports projects for the innovative transformation of the energy and mobility system for a fossil-free future. Sustainability and efficiency are important cornerstones of all measures. The Climate and Energy Fund law formulates three target areas on which the sponsorship strategy of the climate fund is orientated.

- Research and development in the area of sustainable energy technologies and climate research,
- Boosting projects in the area of public local and regional transport, environmentally friendly goods transport and mobility management projects and
- Boosting projects for supporting the market penetration of sustainable energy technologies relevant to the climate.



www.klimafonds.gv.at

Mercedes-Benz G GmbH

MERCEDES-BENZ-G**Mercedes-Benz G GmbH – The most exciting combination of precision and emotion:**

As the only automotive OEM (Original Equipment Manufacturer) in Austria, we are responsible for and control all relevant processes related to the G-Class at our Graz location, from development and controlling to production with our production partner Magna. In doing so, we combine the close-knit culture of a medium-sized company with the professionalism and global expertise of our parent company, Mercedes-Benz AG. We do this with great passion and a lot of personal freedom. Our exceptional team spirit and willingness to go the extra mile enable us to further expand our technology leadership in the off-road sector and set new standards in off-road vehicle construction. Become part of the best off-road vehicle in the world!


www.mercedes-benz-g.at

Internationales Wiener Motorensymposium

INTERNATIONALES WIENER MOTORENSYMPIUM

The International Vienna Motor Symposium takes place annually and is one of the worldwide leading events of this kind. At the International Vienna Motor Symposium, more than 1,000 decision-makers from the most important enterprises of the worldwide automotive engineering industry meet. The three-day programme offers a variety of ground-breaking lectures and allows sufficient time for exchange of opinions and networking. This top-level lecture programme is accompanied by an exhibition at which leading automotive and component companies present latest technologies and developments. The lectures of the International Vienna Motor Symposium can be ordered from the Austrian Society of Automotive Engineers (ÖVK) (<https://wiener-motorensymposium.at/en/conference-documents/>, info@oevk.at). Next year's 45th International Vienna Motor Symposium will take place from 24 to 26 April 2024 in the Hofburg Conference Centre Vienna.


www.wiener-motorensymposium.at

FORMULA STUDENT

SCOPE & HISTORY

Formula SAE Rule A1.1: Competition Objective

„The Formula SAE® Series competitions challenge teams of university undergraduate and graduate students to conceive, design, fabricate, develop and compete with small, formula style, vehicles.“

The roots of formula student lie in 1970s Texas, as a variant to the already existing Mini Baja (competition for lawnmower-powered offroad vehicles). The idea resonated well and after a few establishing years, Formula SAE was introduced as a design competition with a very open ruleset and also much more „race“ appeal since the cars were allowed to have engines with significant power compared to the spec'd single cylinders in Baja. The event quickly picked up momentum, and in 1998 it made the jump over the big pond when Formula Student UK was the first non-US competition to be held. Soon other followed and today there are eight official competitions all over the World:

- Formula SAE Michigan
- Formula SAE Lincoln
- Formula SAE Australasia
- Formula Student Austria
- Formula SAE Brazil
- Formula Student Germany
- Formula SAE Italy
- Formula Student (UK)

Additionally, there are a whole lot of unofficial events held around the globe, e.g. in India, the Netherlands, Hungary, the Czech Republic and many more.

So what is it all about? Formula Student is an Engineering Design competition that should teach engineering students some real-world skills relevant to the automotive and other industries. To successfully compete, a team has to delve into research, design, manufacturing, testing, developing, marketing, management and finances - this favors or even requires the formation of multi-disciplinary teams. This and the fact that Formula Student is as much a project management exercise as it is an engineering challenge, it teaches the competitors a valuable and industry-appreciated combination of soft- and hard skills.

FSA Winners 2022

Combustion

1. Rennteam Uni Stuttgart
2. Arrabona Racing Team
3. FSUPV Team

Electric

1. GreenTeam Uni Stuttgart
2. e-ognition Hamburg
3. DHBW Engineering Stuttgart



The vehicle itself is governed by a set of internationally agreed upon rules. The rules have grown pretty complex over the years (the rule book is now larger than the one for F1), so here are the defining characteristics:

Vehicle

- Open-Wheel, Open-Cockpit, Formula-style body
- four wheels
- aerodynamic devices are limited in size

C - Powertrain

- 20mm Air restrictor (19mm for E85)
- turbo/supercharging is allowed

E-Powertrain

- any number of motors and driven wheels
- 80kw peak system power

As originally intended, Formula Student has become a major source of highly qualified graduates in the engineering world, focused but not limited to the automotive sector. Even in the highest classes of professional motorsports, FS team jackets and memorabilia can be seen everywhere. The unique combination of engineering and project management skills required to complete and run an FS car makes it a great preparation for real-world projects. This is recognized by many businesses, making it an ideal stepping stone from academics into an interesting rewarding job.



FORMULA STUDENT

DISCIPLINES



Acceleration

The first of the so-called Dynamic Disciplines is the Acceleration. The car has to accelerate from a standstill and cover a distance of 75 meters as quickly as possible. Due to a high power to weight ratio, FSAE cars can do this in well below four seconds with terminal speeds of well over 100 kph, outrunning almost all road-going sportscars. Each team can have two drivers, each of them doing two runs.

Skid Pad

In the Skid Pad event the lateral ability of the car is tested on a figure-eight course. After entering the course, the driver has to go round the right circle (right turn) twice, then round the left circle (left turn) twice - the time for the second lap of each circle is used to determine the score. Again, each team has 4 runs split among two drivers.



Autocross

The Autocross track is a handling course consisting of turns, hairpins, straights and slaloms and is roughly 1000 meters long. Each car enters the track on its own and will do a single "hot lap" of the course. The track is marked using small traffic cones which will, when hit, result in a two-second penalty. Each team has two runs for each of their two drivers.



Endurance & Efficiency

The Endurance race takes part on a closed autocross course over a distance of 22 km. At half-time a driver change is performed and the car has to perform a hot re-start. This event is driven with multiple cars on the course but overtakes are performed in special two-lane overtaking zones. The fuel/energy consumption as well as the lap times during the Endurance are used to calculate the Efficiency score.

Engineering Design

The most important one of the Statics is the Engineering Design Event. During the judging the team has to present their car to a group of automotive and racing experts. These judges will check if the design goals have been met, if the team members understand their design and if it has been executed well.



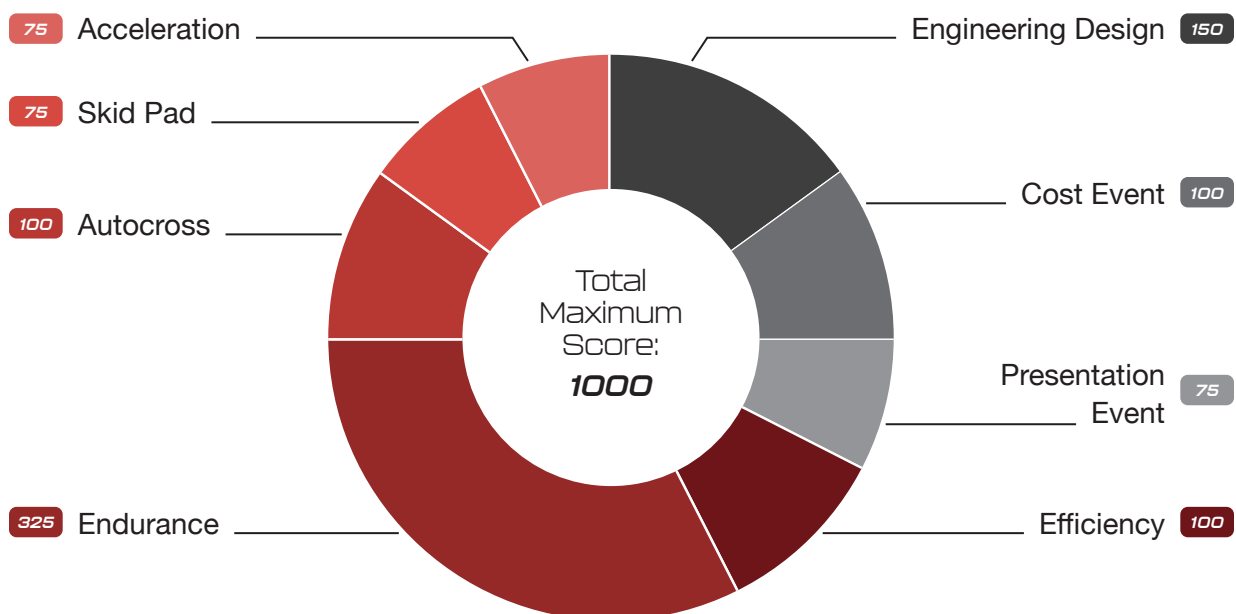
Cost Event

For the Cost Event, the teams have to submit a detailed Bill of materials up front. At the event, its correctness and completeness checked and the team is presented with an additional cost-related task.



Presentation Event

During the Presentation Event, the teams have to present a business plan for selling their design to fictional investors.



PARTICIPATING TEAMS

#	University	Team
1	Universität Stuttgart	Rennteam Uni Stuttgart
10	FH Campus Wien	Os.Car Racing Team
12	Technische Hochschule Lübeck	Seagulls Luebeck
13	University of Thessaly	Centaurus Racing Team
21	AGH University of Science and Technology	AGH Racing
22	Politecnico di Bari	Poliba Corse
23	Fachhochschule Stralsund	Baltic Racing
26	Fachhochschule Dortmund	FH-Dortmund Race-Ing.
27	Università degli Studi di Roma Tor Vergata	Scuderia Tor Vergata
33	University Carlos III of Madrid	MAD Formula Team
34	Czech Technical University in Prague	CTU CarTech
49	Hochschule Niederrhein	HSNR Racing
51	University of Rijeka	Riteh Racing Team
70	Fachhochschule Coburg	CAT-Racing
71	Fachhochschule Aachen	Aixtreme Racing
78	TAMK University of Applied Sciences	Tampere Formula Student
79	Széchenyi István University	Arrabona Racing Team
95	Universitat Politècnica de València	FSUPV Team
97	Manipal Academy of Higher Education	Formula Manipal
98	The University of Akron	Zips Racing
99	Hochschule Karlsruhe - Technik und Wirtschaft	High Speed Karlsruhe
E07	Leopold-Franzens-Universität Innsbruck	Campus Tirol Motorsport
E11	Aristotle University of Thessaloniki	Aristotle University Racing Team Electric
E12	Fachhochschule für Wirtschaft und Technik	Deefholt Dynamics e.V.
E13	Fachhochschule München	munichMotorsport
E14	Budapest University of Technology and Economics	BME Formula Racing Team (FSE)
E16	Hochschule für angewandte Wissenschaft und Kunst Hildesheim/Holzminde/Göttingen	Blue Flash Mobility Concepts
E19	HES-SO Valais-Wallis	Valais Wallis Racing Team

E23	Fachhochschule Joanneum Graz	Joanneum Racing Graz
E24	Tallinn TU UAS	FS Team Tallinn Electric
E25	National Technical University of Athens	Prom Racing
E26	Universität Stuttgart	GreenTeam Uni Stuttgart
E30	Instituto Superior de Engenharia de Lisboa	ISEL Formula Student
E31	Technical University of Munich	TUfast Racing Team e-Technology
E33	ETH Zürich	AMZ Racing Team
E34	Technische Hochschule Ingolstadt	Schanzer Racing Electric e.V.
E41	Technische Universität Wien	TU Wien Racing
E43	Fachhochschule Konstanz	Bodensee Racing Team
E44	Deggendorf Institute of Technology	Fast Forest
E45	Hochschule Bonn-Rhein-Sieg	BRS Motorsport
E53	Technische Universität Graz	TU Graz Racing Team
E58	Universität Paderborn	UPBracing Team E e.V.
E59	Technische Universität Dresden	Elbflorace
E63	Norwegian University of Science and Technology	Revolve NTNU
E69	Duale Hochschule Baden-Württemberg - Mannheim	CURE
E70	Hochschule für Angewandte Wissenschaften Hamburg	HAWKS Racing e.V.
E76	Technische Universität Bergakademie Freiberg	Racetech Racing Team e.V.
E77	Duale Hochschule Baden-Württemberg Stuttgart	DHBW Engineering Stuttgart
E78	Technische Universität Hamburg	e-gnition Hamburg
E79	Hochschule Pforzheim	Rennschmiede Pforzheim e.V.
E88	Alma Mater Studiorum - Università di Bologna	UniBo Motorsport Electric
E90	Politecnico di Milano	Dynamis PRC
E91	Slovak University of Technology in Bratislava	STUBA Green Team
E94	Hochschule Esslingen	Rennstall Esslingen
E96	Westfälische Hochschule Zwickau	WHZ Racing Team
E98	Helsinki Metropolia University of Applied Sciences	Metropolia Motorsport
E99	Rheinisch-Westfälische Technische Hochschule Aachen	Ecurie Aix Formula Student Team RWTH Aachen e.V.

Please note: This list is dated 01/07/2023



Forward. For all.

Dream big. With us. And join our team.

The roads of tomorrow will be shaped by those who can envision it. In the right environment, your ideas can turn into industry-changing automotive technologies and improve the lives of people around the world. We can help you do it. We'll create the future of mobility, together. **Forward. For all.**

We are hiring.

Apply today, scan our Career Opportunities for all available positions or visit **magnacareers.com**





#1

Universität Stuttgart
Rennteam Uni Stuttgart

Who are we? The Rennteam Uni Stuttgart was founded in 2005 and has since built up an impressive history in Formula Student. We now have 27 overall wins from 67 event participations and hold numerous world records such as the world points record for a single event in the combustion class, the most Endurance finishes in a row (9) and the most points in a season.

What are we planning to do this season? Not only our performance on the track, but also our innovation has made the Uni Stuttgart racing team a household name in Formula Student. For the first time, we will be using a hybrid drive to take full advantage of the powered-ground effect. We also implemented a new tire size in our suspension, a new brake system and other new technical features. With these innovations, we hope to have a significant advantage in the current season.

This summer we will be competing against the other teams at events in Croatia, Austria, Hungary and Germany. We are looking forward to unforgettable memories, new friends, exciting events and a great cooperation with all Formula Student teams!

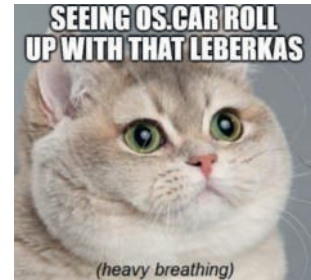




#10

FH Campus Wien

Os.Car Racing Team



After taking a year of absence, Os.Car is back.

This year, our CR-122h, truly an iron pig of a car, will take to Spielberg and Barcelona to corner its thick booty around some cones. With more curves than the Monaco GP, it is truly a sight to behold. Careful not to stare, it will stare back. And maybe run you over if you don't get off the track, where's your dynamics vest you heathen?

The last two years, Os.Car Racing Team has gone through a lot. As doing a complete team rebuild and starting back up from a mere 4 team members wasn't hard enough, a switch from CV to EV surely was. Some may call it overambitious, and they would be correct. Even though we tried our very hardest to electrify Os.Car, we ended up short of our goals. However, with an unbroken will (and a little more than 4 team members) we are back at the racetracks this season with our trusted PC40 engine combusting away. Because E-Motors are just too tempting to not to play around with, we will bring our first hybrid racecar to tracks near you next season. Feels good to be back, see you at Spielberg!

Technical Data	
Battery	140s4p LiIon-LV
Motor	Emrax 228HV Honda PC40
Fuel	Beer, Leberkas and Schokolade
Suspension	Suspended after pushing the rods
Aero	Is there, has space for stickers
Driver	1
Pedals	2
Dimensions	3, duh
Wheels	4
Weight	Couldn't get him to step on a scale





#12

Technische Hochschule Lübeck
Seagulls Luebeck



SEAGULLS LUEBECK

We, the Seagulls Luebeck are a young Formula Student team from northern Germany. With nearly 50 Seagulls next to our fellow workshop-leader Bolle our team keeps growing.

With this years car we present the SG04. Taking our last car and working out all the vulnerabilities, we were able to create a new milestone for the Seagulls and are celebrating our five years anniversary. With a new aero-design, tighter frame, optimized oil pan and many more improvements, we are ready to go on track.

Taking on the journey we are happy to be part of Formula Student Austria for the fourth time in a row. See you on track, hope you like the brake-light-view.



TECHNICAL DATA

Engine	(2-) 4 cylinder Kawasaki 636C
ECU	literally a black box
Wheels	13"-gang
Electronic Gadgets	the brightest brake light
Suspension	second one
Fuel	RON 98
Wings	More stable than last year
Differential	turns
Max. Power	Rarri
Dimension	3m x 1,29m x 1,15m
Weight	lightweight, baby
Frame Type	steel frame, actually painted
Best Feature	most 3D printed parts were created 3 days before the roll out





#13

University of Thessaly

Centaurus Racing Team

The Team ?

#Underequipped but Overconfident

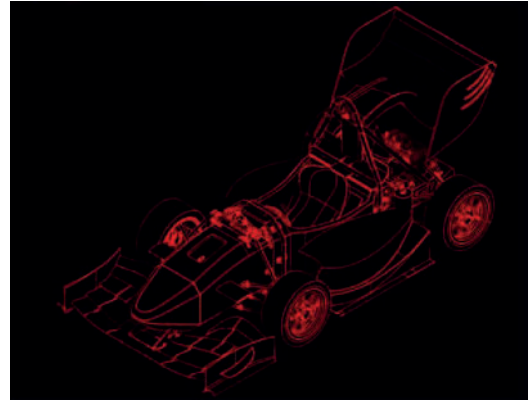
Members with special skills.

The most talented of all is Coco.

Coco can construct the whole car alone but

Prefers not to do it in order to give the happiness

Of building a car to every member.



The Car?

#Always Dangerous

A moving rocket.

Not because its fast, but because it can possibly blow up.

Having 20 CENTAUR-Power and 1000 N Downforce (20% Power to Downforce Ratio) the result is mind-blowing.



21

AGH University of Science and Technology*AGH Racing*

Team AGH Racing was found in 2012 in Cracow by students who followed their passion and were eager for creating something extraordinary in a FS area.



We are the first team in Poland who achieved such success as building the driverless vehicle.

It is relevant to mention that currently our squad consists of over 120 people who gather in order to work and succeed in that field of study.



Our most significant victories and fulfilled goals were:

1stBPP
Czech Republic '22**4th**Trackdrive
Czech Republic '22**1st**Design
Australasia '20**3rd**Acceleration
Michigan '19

and more what you can read about on AGH Racing's website.



22

Politecnico di Bari

Poliba Corse



We are Poliba Corse, the Formula Student team of the Polytechnic of Bari, Italy. Since 2006, we design and build single-seaters to compete in FSAE events all over Europe. Year after year, we always look for new technical solutions, seeking innovation and prioritizing teamwork. Ahead of this season, we have made substantial dynamic developments as well as redesigned chassis and aerodynamics. Having acquired some race experience last year, in 2023 we compete with more ambitious goals. See you on track!





23

Fachhochschule Stralsund*Baltic Racing*

Easter Bunny costume not approved by cats...



...but the memes
we've found on
Instagram are.



Englisch

When the judge
measures the ground
clearance and the
dipstick doesn't even
fit under the car.



This team didn't
bother to submit a team-
page, so the FSA media eats
team created one for them.

You're welcome!



26

Fachhochschule Dortmund
FH-Dortmund Race-Ing.



RHINO TWO

WEIGHT WITH 68KG

DRIVER (FR/RR): 93/140

SUSPENSION:

DOUBLE UNEQUAL LENGTH

A-ARM, PULL ROD

ACTUATED HORIZONTALLY

TYRES (FR/RR):

HOOSIER FSAE, 205X470 R13

WHEELS (FR/RR):

OZ MAGNESIUM 7X13,

OFFSET 30MM

ENGINE: HONDA, PC35, 4

CYLINDER, IN-LINE, INCLINED

31° FROM VERTICAL

BORE / STROKE / CYLINDERS /

DISPLACEMENT: 67MM /

42,5MM / 4 / 599,4 CC

COMPRESSION RATIO: 12,0:1

FUEL SYSTEM: MODIFIED

MULTIPOINT FUEL INJECTION

FUEL: 95/98 OCTAN DRIVE TYPE:

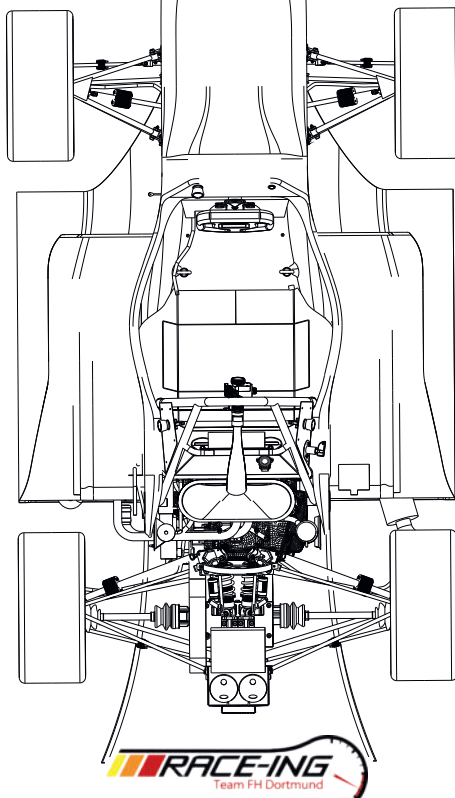
CHAIN DRIVE NORM: 428,

HONDA ORIGINAL GEARBOX

DIFFERENTIAL: DREXLER

F-STUDENT SLIP DIFFERENTIAL,

MAX. TORQUE 1200NM



PRELOAD: 10NM

COOLING: SIDE POD

MOUNTED RADIATOR WITH

ECU REGULATED FAN SPEED

BRAKE SYSTEM: TILTON 78

20,64MM BORE F&R,

ADJUSTABLE BREAK BALANCE

WITH PROP. VALVE & BIAS BAR,

ISR BRAKES, 2X25MM DIA.

OPPOSING PISTON, FIXED

MOUNTED

ELECTRONICS: ECU MASTER

EMU BLACK;

DASH: CANCHECKED MFD28;

NEWLY DEVELOPED, CUSTOM

2.4GHZ WIFI TELEMTRY

DRIVE TYPE: CHAIN DRIVE

NORM: 428, HONDA ORIGINAL

GEARBOX

DIFFERENTIAL: DREXLER F-

STUDENT SLIP DIFFERENTIAL,

MAX. TORQUE 1200NM,

PRELOAD: 10NM

COOLING: SIDE POD

MOUNTED RADIATOR WITH

ECU

THE RACE-ING. TEAM OF UAS DORTMUND IS A GROUP OF ENGAGED STUDENTS OF DIFFERENT FIELDS OF STUDY. BESIDE OUR STUDY WE DEVELOP RACECARS TO TAKE PART IN THE FORMULA STUDENT COMPETITION. THE PROJECT SHOULD GIVE US THE POSSIBILITY TO APPLY THEORETICAL KNOWLEDGE FROM THE STUDIES PRACTICALLY. WE SET OURSELVES THE TARGET TO PRODUCE A RACECAR WITH HIGH RACING-PERFORMANCE AND DURABILITY. WE WISH ALL PARTICIPANTS, OFFICIALS, VISITORS AND ALL RED SHIRTS AN AMAZING AND ABOVE ALL AN ACCIDENT FREE COMPETITION.



27

Università degli Studi di Roma Tor Vergata
Scuderia Tor Vergata

SCUDERIA TOR VERGATA

Scuderia Tor Vergata is the Formula Student team from the University of Rome Tor Vergata. Over the years Scuderia has welcomed hundreds of students united by both a passion and a common purpose: sharing and applying the technical and theoretical knowledge during their studies into the design and manufacturing of a prototype.

This year is for us the dawn of a new era, we did a lot of changes, starting from the organization to the technical updates on the car. We developed a new dashboard and a new BSPD and optimized the telemetry wireless transmission. Moreover, this year's prototype features a brand-new nose and much more that you could see only by visiting our box.

This is our first year in FSA and we're delighted to be part of it, especially because we want to pet the famous cats and we've been told about the endless flow of beer. Also, since we will not make it to the endurance event, we are already training to be competitive in the spare tire throwing.

Get ready Spielberg, we're coming for you!

LEAKED DATA

Engine	KTM 690 LC4
ECU	Got it!
Wheels	Hoosier LC0 10"
Electronic gadgets	Self-developed dashboard and BSPD, light-weight wiring
Suspension	Front: pull-rod Rear: push-rod
Fuel	Dinosaur essence
Wings	Given by RedBull
Differential	Drexler formula student
Drexler formula student	227 CP (catpower)
Weight	47 cats
Frame type	tubular
Driver	Fernando Alfonso
Best feature	Wonderful stickers, fantastic people and the best food of the campsite





#33
University Carlos III of Madrid
MAD Formula Team

Technical Data			
Engine	Often out	Coollest Feature	Definitely not the cooling system
Drivers	Still too fat	Suspension	On all fours
Tyres	More expensive than ever	Frame	Stiffer when you touch it
Fuel	Getting cheaper	Dimensions	Hopefully within the aero boxes
Brakes	For cowards	Max Power	12V, any more than that will blow fuses
Wings	Pretty, but useless	Performance	Better than last year

A new year brings new opportunities. Mostly, to repeat our past mistakes. One more year running, we've had our share of fires, accidents, wacky designs, cars hitting sponsors (yes, it happened again), and designs lost in the local directory of our computers.

After a difficult year for all of us, we here at MAD Formula Team will, once again, face the consequences of our own actions. Whether we rise to the challenge or fall to the deepest pits of engine rebuilding at 3AM, cold pizza boxes on the floor and the warm embrace of our beds but the faintest of memories, is up to us.





34

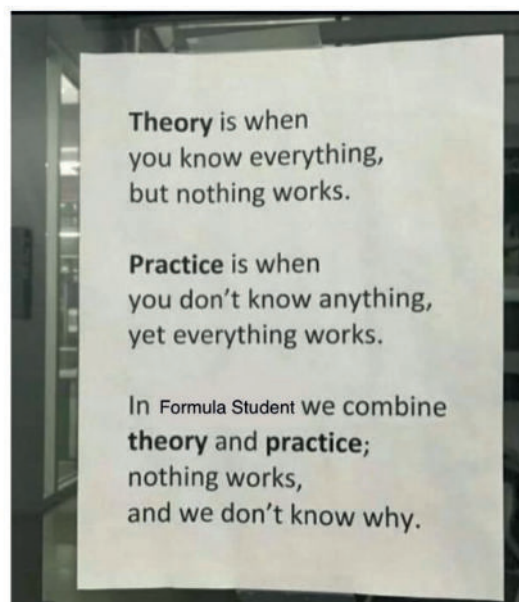
Czech Technical University in Prague
CTU CarTech



15th monopost of the CTU CarTech team has several fundamental improvements:

- 2nd generation of the hybrid powertrain with new planetary gearbox
- Casted aluminium/magnesium parts
- New monocoque shortened by 60 mm
- Electronically adjustable anti-roll
- Custom LV battery, removed alternator
- 3rd generation of CFRP wheels
- Aero pack many minor adjustments

What is Formula Student?





49

Hochschule Niederrhein
HSNR Racing



Founded in 2012, HSNR Racing represents the UAS Niederrhein from Krefeld Germany. We are proud to present our latest racecar, the RS-23C. While developing the RS-23C, we set ourselves some main goals. Reliability, light weight and great performance are just the tip of the iceberg. We are confident to improve results at FSA in 2018 and 2019 from our previous participations. The team has learned a lot since then and is ready to give it our all.

The Team itself consist mainly from mechanical engineers and electrical engineers. But there are also computer science students, chemical, designer, engineers and business students working in the Team, providing a great platform of knowledge. Despite the different majors, we all share the same passion and ambition to build racecars and compare ourselves to different teams from all over the world. We are happy to participate at FSA this year and we are eager to see how the RS-23C will perform during the event.

#Fortynine!

Technical Data

Engine:	KTM 500 EXC-F 2019
Frame Type:	Tubular space Frame
ECU:	Syvecs S12
Fuel:	ROZ 98
Wheels:	10x7, 1pc Magnesium Rims with Hoosier R20
Suspension:	Double Wishbone push-rod
Aerodynamics:	Self-Designed and manufactured carbon composite
Electrical-Aids:	Clutch-By-Wire, Drive-By-Wire, Shift-By-Wire, Gear Cut/Blip, Launch Control
CAN:	3 separate (1Mbit/s)

HSNR Racing
UAS Niederrhein
Krefeld

Person who invented
Hochschul
Bestellungsvorgänge
Satan:





51

University of Rijeka*Riteh Racing Team*

This team didn't
bother to submit a team-
page, so the FSA media eats
team created one for them.

You're welcome!

Life is better at the beach in Rijeka...

WORKING SATURDAY! 🛠️

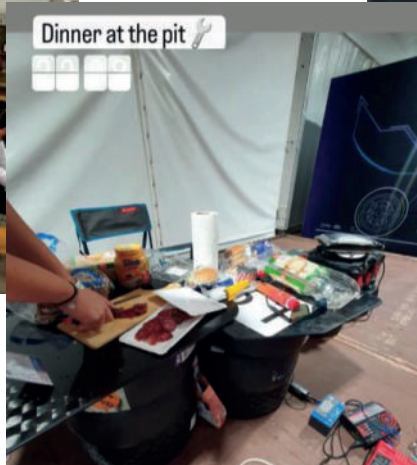
or at the race track...



Marketing finally got the
office 🖥️



Dinner at the pit 🍴



Riteh Racing Team

🏁 Formula Student Team Croatia

🏠 University of Rijeka

▪ Facebook

▪ TikTok

👤 MURPHY

www.linkedin.com/in/riteh-racing-team





70

Fachhochschule Coburg
CAT-Racing



The **Schneeleopard** is a beautiful big CAT-car found on the hill of our University. It has a white fur with black spots that help it blend into the race-track environment.

Our 15th car is excellent at driving, with a big wing for balance. It lives alone and is very good at hunting it's prey, such as other FS car, judges and scrutineers.

Design:	checkered flag
Engine:	Yamaha YZF-RAWR6
Tires:	2 smooth 4 snow
Rims:	rims? - we don't do that here
Weight:	ca. 4 snow leopards
Fuel:	Öttinger helles
Suspension:	new fancy shit
Sound:	yes (purring)
special features:	lunch control

Checklist for event:

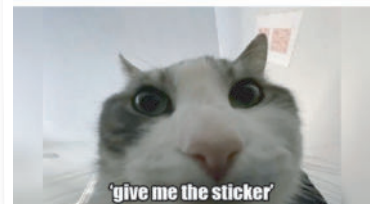
- listen to Coburger Marsch every morning
- eat Schaschlik cooked in curry-ketchup (min. 4 times)
- building car while on trailer



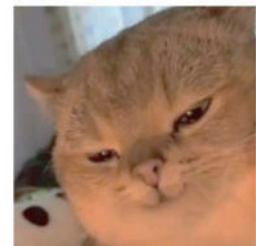
Driver at egress: *jumps on sidetray*
the mechanic:



the scrutineer after 0.001s:



The Team: We sure hope this was
the last deregistration warning
FSG:





71

Fachhochschule Aachen
Aixtreme Racing

We are Aixtreme Racing, the Formula Student team of the University of Applied Sciences Aachen.

We developed the **FS23** as a reliable and driver friendly combustion race car. Our team currently consists of 45 team members which are divided into six different assemblies (powertrain, structure, electronics, suspension, statics and organization).



Based on the designs of the previous vehicle, all systems and components were revised in their function to support the goals of the FS23. Over 280 components developed in-house have been implemented in the past years. The FS23 is the sixth vehicle, which consists of a monocoque and a welded rear frame. At the same time, we always build three vehicles from the same original models. This makes the FS23 the last of its generation.



An excellent example of the further development of components is our steering wheel. It enables the intended user-friendliness. It was redesigned, constructed and 3D printed as a prototype. After it has been tested and evaluated by our drivers, changes have been noted and revised. The manufactured CFRP steering wheel was then bonded with all milled parts and the necessary electronics.

Engine 600ccm Yamaha RJ09

ECU Cosworth Antares 8

Wheels 205/470 R13

Wings No wings no worries.

Suspension KW Competition 3A

Frame type Hybrid (CFK Mono & steel tube)

Any questions?

info.aixtremeracing@fh-aachen.de





78

TAMK University of Applied Sciences

Tampere Formula Student

We are Tampere Formula Student from Finland, and like the unstoppable quiz force that we are, we once again got into FSA!

Unfortunately, due to (expected) setbacks and insurmountable hardships, the big upgrade plans for our (turbo)sauna were delayed. But hey, at least we got the CFRP chassis done this year...



Figure 1: Moped Hemppa.



Our favourite thing about FSA is the calm and predictable Australian mountain weather. This time we also hope to finally see the kangaroos.

More or Less Technical Data			
Engine	External combustion engine with intake air heater	Differential	analysis is a decision-making technique that examines the benefits and costs associated with each of two options and compares the net results of the two.
Tyres	(not) Black (nor) round (nor) Pirelli	Frame type	Stereocoque
Gadgets	15kW seat warmer	Team fleet	3x god-tier 2.2l Ford Transit
Suspension	Bridge	F*cked around	Found out
Fuel	Greener than electricity	Number of fish slippers	More than 2
Wings	Manufactured under the influence of HP2002	Our Passion	Graphic design



79

Széchenyi István University
Arrabona Racing Team



Technical Data			
Engine	SZEngine 23	Differential	Locked and loaded
ECU	MAXXX ECU	Max. power	94 882 catpower
Wheels	Sticky as hell	Dimensions	1550 WB/ 1200 Track
Electronic Gadgets	RGB shift indicator	Weight	x kg, depends on the cook
Suspension	Did pull ups, now push ups	Frame type	The F1 like, not the monkey bars
Fuel	RON100 espresso	Driver	Likes donuts
Wings	We got them from RedBull	Best Feature	Everything

Arrabona Racing Team was established in 2014 and since it's foundation the team represents the University of Győr as the most successful Hungarian combustion engine team in Formula Student. This year we are competing at FSA, FS East and FSAA with 50 passionate team members and a unique engine, supplied by SZEngine. ART has already participated in Austria last year and the team absolutely loved the location and the whole competition. After coming home with the overall 2nd place our goal is to be the first at FSA. With hundreds of working hours the team has created a new suspension, monocoque, fascinating new aerodynamics, new power-train systems with an even more refined engine. ART looks forward to meet and compete with the whole FS community this summer!





95

Universitat Politècnica de València
FSUPV Team



FSUPV TEAM
— VALENCIA —

We, the **FSUPV Team** are the Formula Student team of the Polytechnic University of Valencia. A team made up of 35 students united by their passion to face new challenges and spirit of self-improvement to keep evolving every year.



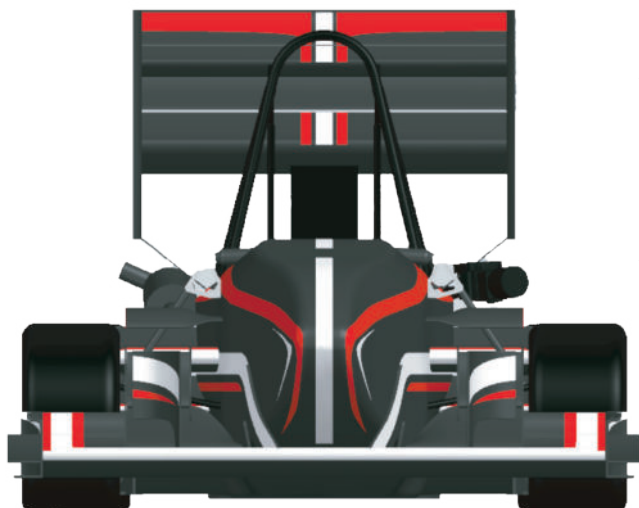
ALGUIEN TIENE UN IBUPROFENO?



PARACETAMOL ME SIRVE

FSUPV-10

The team's **10th prototype** has been build on a strong philosophy based on setting self-challenging season goals that demand an efficient team and resources management to make the most out of the car. Embracing the challenge of starting a hybrid system concept while keeping track performance, our main goal for the season is to be Top 1 in every competition.



Technical Data

Engine 2005 Honda CBR 600 RR

ECU Link ECU 64 XtremeX

Wheels 8x10", 2 CF rim parts + Al wheel centre / 9x10", 2 CF rim parts + Al wheel centre

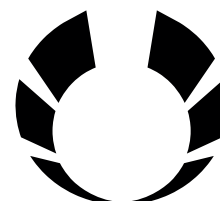
Fuel E85

Differential Adjustable Limited Slip Differential 75W140 - Drive 40° Decel 50° 30-35Nm

Max. Power 11400 rpm

Weight 205 kg

Frame type Monocoque





97

Manipal Academy of Higher Education

Formula Manipal

FORMULA MANIPAL

15 YEARS OF FM.

ON
CHAIN, SPROCKET
KITS, BELTS & PULLEY

FM 23

HONDA CBR 600RR	HOOSIER 18X7.5 10 KEIZER ALUMINIUM 10 INCH RIMS	MOTEC M400 ECU
MAX POWER 79BHP @ 12500RPM	DREXLER LIMITED SLIP DIFFERENTIAL	TUBULAR SPACE FRAME CHASSIS



98

The University of Akron

Zips Racing



"Figure 69, ZR22
(aka Slutty Silvia)"



Zips Racing is a part of The University of Akron, AKA where LeBron James is from. But LeBron isn't the only thing of greatness born from Akron, they also got Zips Racing. Established in 1989, the team has been known for tomfoolery, jorts, and raunchy man tanks. The team is made up of 35 undergraduate students and to join the team every member must first manually machine every bolt for the car before being a true Zippy Racer.

Engine	Yamaha WR420F
Electronics	Wires do wire things
Fuel	Tears of the powertrain bois
Sus	Don't pullrod out
Aero	DRS go brrrrr
Tires	Gooders
Chassis	Stiff half coque
Dash	Can put cat memes on = good
Wheels	6575 - 6571 = how many
Exhaust	Barely legal
Best Feature	Transported overseas by bald eagles



99

Hochschule Karlsruhe - Technik und Wirtschaft
High Speed Karlsruhe



**LAST
YEAR
@FSA**



THE F-117



Counting approx. 90 brain cells from different fields of study, we are developing and building a hybrid formula student car this season.

As every year, our aerodynamic package has some really nice improvements which brings more downforce. More than 90% of our vehicle parts are made in-house. Some of them were manufactured multiple times. We are ver



Engine	Unreal
Power	45kw +- 5
Aerodynmaics	More static downforce than ever before; Thicc as f*ck
Suspension	Experimental dynamic camber setup
Electronics	More than ever before
Speed	High Speed
Fuel	Hybrid Fuel
Weight	~14kg without chassis, electronics, suspension and powertrain
Drivers	Some rookies, hopefully they won't crash the car again... marshals watch out
Best Feature	Media guys who made this document
Worst Feature	Powertrain destroying batteries
Wheels	Tires are the same, rims are new (maybe), I can't rhyme, that's true
Tires	Between Delft and Stuttgart
Chassis	Not done yet
Jack	A 6year old block of wood

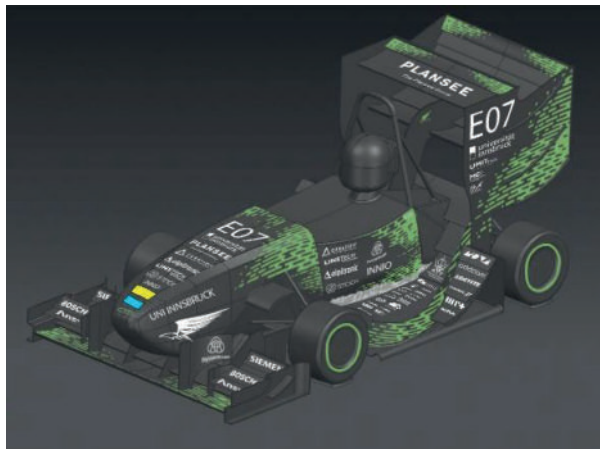




#E07

Leopold-Franzens-Universität Innsbruck Campus Tirol Motorsport

We're back baby – with new team members and, of course, a new car: the ct5. The newest incarnation of our legendary electro-series celebrates and embraces our first little jubilee: the fifth built car. Our technical departments made a few little improvements you will all find very exciting. We built the same car again, except for: new front suspension, new accumulator concept, new pedals, new wiring harness (very nice cable management), new uprights, we ditched our LV accumulator, new telemetry, added front wheel speed sensors, changed inverter packaging concept, new steering wheel, new chassis concept, new impact



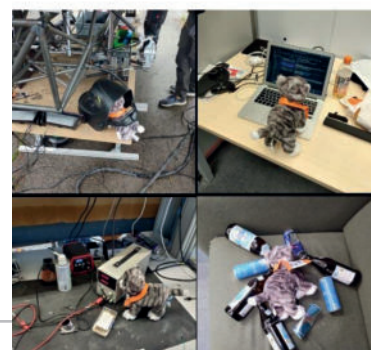
attenuator, different firewall concept, complete new seat, new aero concept, new anti-roll bar in front, modification in rear suspension, dual rate anti-roll bar in the rear, new planetary gearbox
....

And of course, the most important thing that happened to us and changed everything about the life in the workshop – which you will all agree is very exciting. We've got ourselves a third allen key set and a beer sponsor.

Technical Data			
Powertrain	One Hamster per Wheel	Wiring	Sure, why not?
Tires	White Walls haven't arrived yet	Driver	In coma
Aero	Enough	Efficiency	420%
Suspension	Can't fail twice (again)	Mass	Must be around the weight of a baby elephant
Chassis	Contains Red Bull cans and beer bottles	Dimension	Approx. 6 dishwashers
Fuel	Nuclear		



Me, building a car, be like...

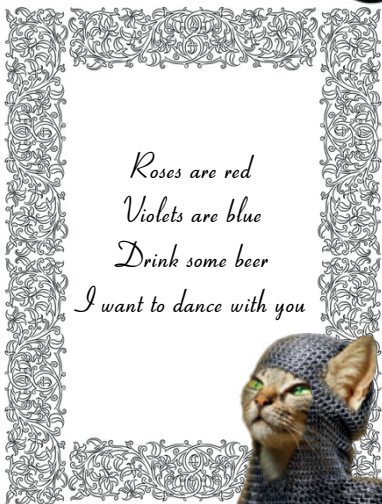




E11
Aristotle University of Thessaloniki
Aristotle University Racing Team Electric



ARISTURTLE



Your composite guys after forgetting the resin's bucket open

Technical Data	
Engine	Make car go vroom vroom
Suspension	Whatever alumni said
Wings	They exist
Weight	Less than the souvlaki eaten during construction
Max. power	Turtle power
Frame type	Cat-luminum monocat
Best feature	Befriending cones



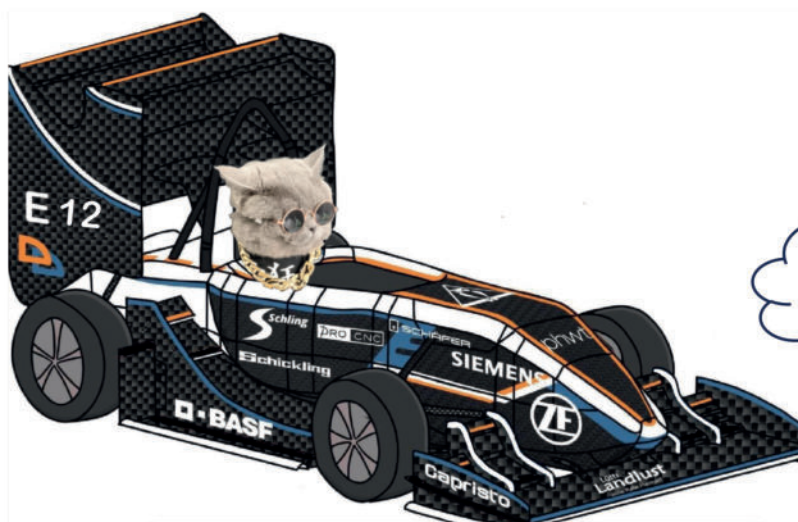


E12

Fachhochschule für Wirtschaft und Technik
Deefholt Dynamics e.V.



We are Deefholt Dynamics, the racing team of the PHWT from Diepholz. We've been part of the FS-Community since 2006. The special thing about us: our car is built by a first-year team within only six months, every year. This season, 40 students joined the project with one goal: To build a competitive car one step at a time as fast as no one else can. Year after year. Big changes were made this season regarding our car. Among other things, the shape of the monocoque was optimised in terms of weight and dimensions, and now we are changing from the wide "two-seater" to a narrower "one-seater". Weight savings are also possible in the process. In addition, we can put our endurance to the test this season with new accumulators!



ENOAM
#SEXY



E13

Fachhochschule München
munichMotorsport

munich motorsport



munichmotorsport - the best team in town. We take adventures very serious.

We have adjusted our vehicle performance to match our beer performance: better, faster, and with more „hops“ in the engine!

Get to know our car

Electrics: a lot of cables, plugs and bugs

Engine: powered by our imagination

Suspension: always hard

Frame type: doublecoque

Weight: 4 barrels of beer

VCU: self-controlled

Best feature: Slit

Max power: unsure

Wheels: yes, four

Driver: exchangeable

Aero: gives us wings

Deadlines? We treat them like elusive unicorns - always charming to talk about, but rarely seen in reality!



Complete this page

Get your sticker
at our team tent!

Complete this page

Get your sticker
at our team tent!

Complete this page

Get your sticker
at our team tent!



E14

Budapest University of Technology and Economics
BME Formula Racing Team (FSE)



BME Formula Racing Team is the pioneer of the Hungarian FS teams. At the beginning, we made cars powered by gasoline, but in 2011 we were the first team in the country to switch to the more innovative electric category.

Since then we've been quite comfy in there, achieving several podium places **both in static and dynamic events**, highlighting our most recent success that we are very proud of - the **FSG podium position from 2022** with our EVDV car.

Unfortunately we cannot use those great features here that we have with the driverless system such as **pneumatic leakages**, but at least we will be cautious and leave every autonomous system in the car, including the innovatively **flexible steering actuator**, handicapping ourselves with some extra kilograms to give some advantage to our competitors.

BASIC DATA	
Mass	188 kg
Acceleration	0-100 km/h in 2,7 seconds - EV 0-100 km/h in 2,4 seconds - DV
Top Speed	115 km/h with fix gear ratio
MOTORS	
Type	4 pcs AMK DD5-14
Max. RPM	21 500 1/min
Max. performance	35 kW (per motor)
Max. torque	21 Nm (per motor)
Motor controller	AMK KW26 FSE
Cooling system	extremely efficient heat exchanger splashing coolant directly on transistors
ACCUMULATORS	
Type	self-developed: 288 LIPO cells (3,7 V/6600 mAh) unique management system
Nominal voltage	600 V
Capacity	7,03 kWh. Or whatever remained at the end of last season
CHASSIS	
Type	self-designed carbon composite monocoque with steel and aluminium roll bars
Impact attenuator	aluminium honeycomb
DRIVETRAIN	
Type	all wheel drive, almost cycloidal drive planetary gearbox assembled into the hub (1,5 stage)
Gear ratio	1:13,7
Wheel torque	288 Nm
Torque distribution	electronically controlled torque vectoring
SUSPENSION	
Type	double wishbone suspension with composite rods
Wheel size	16"
Brake system	two hydraulic circuits with integrated brake actuator, parameterized regenerative braking
AUTONOMOUS SYSTEM	
Sensors	Basler camera with 3,2 MP resolution Ouster OS-1 32 Lidar
Software	Cone detection with YOLOv5 neural network FastSLAM 2.0 localisation and mapping Delaunay-triangulation based trajectory planning Combined Stanley + Pure pursuit control
Actuators	Steering actuator with self-designed gears Brake master cylinder with integrated actuator



E16

**Hochschule für angewandte Wissenschaft und Kunst
Hildesheim/Holzminden/Göttingen**

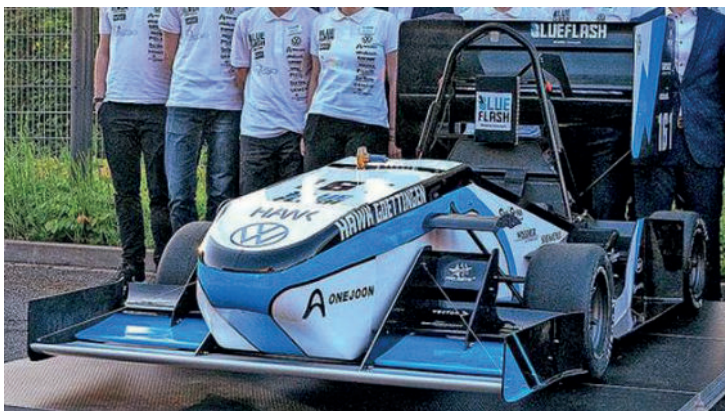
Blue Flash Mobility Concepts



+

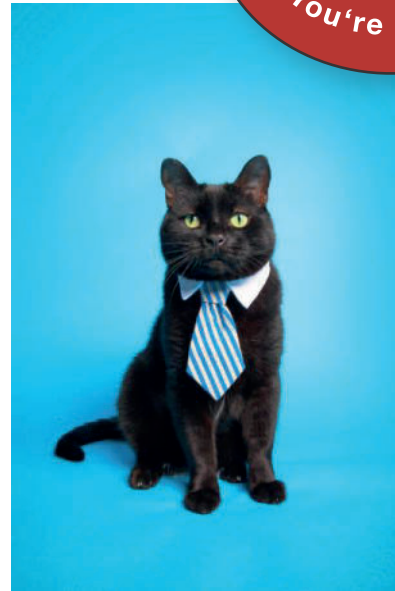


=



This team didn't bother to submit a team-page, so the FSA media eats team created one for them.

You're welcome!



Cats are convinced by the color choice.





E19

HES-SO Valais-Wallis

Valais Wallis Racing Team



Introducing Valais Wallis Racing Team (VRT)

We are thrilled to present the Valais Wallis Racing Team (VRT), a dynamic and innovative Formula Student team that brings together the expertise of two collaborating schools. With a shared passion for engineering and racing cars, we have joined forces to participate to our first Formula Student competition.

At the core of our team is the Haute Ecole d'Ingénierie (HEI), responsible for the technical aspects of our car. Comprising students from various disciplines such as mechanical engineering, computer science, and more, the HEI team meticulously designs, builds, and optimizes the performance of our Formula Student vehicle.

Complementing the HEI team is the Business Team Academy, a division of the Haute Ecole de Gestion (HEG), which focuses on the business, marketing, and communication aspects of our racing endeavor. Drawing from the HEG's specialized program in management, our business team brings a strategic vision to the project. They develop comprehensive marketing strategies, forge valuable partnerships, and effectively communicate our team's achievements, both on and off the track.

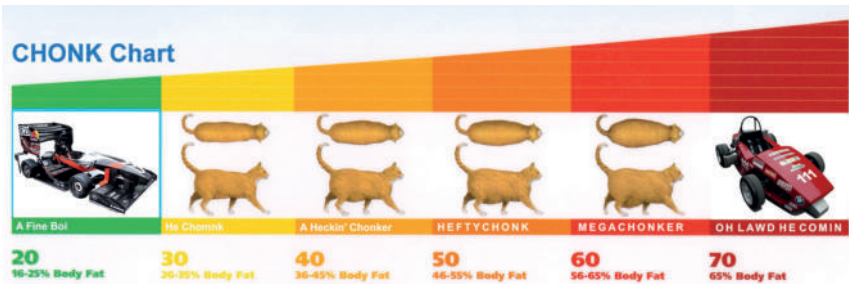
With 27 passionate participants, VRT is a collaborative melting pot of talent, ideas, and expertise. Each team member contributes their unique skills, knowledge, and enthusiasm to create a cohesive and driven unit. We believe in the power of teamwork and foster an environment that encourages creativity, problem-solving, and personal growth.

While this is our inaugural year in the Formula Student competition, we embrace the challenge that comes with being newcomers. Our journey to the competition has been one of relentless determination, where every member of VRT has had the opportunity to create something extraordinary. We have united our skills and resources to overcome obstacles and deliver a functional racing car that embodies our shared values of innovation, efficiency, and performance.



E23

Fachhochschule Joanneum Graz
Joanneum Racing Graz



After a memorable first electric season and, most importantly, an unforgettable karaoke performance of everyone's favorite Austro-pop

classic "I am from Austria" at the FSA award ceremony, the Weasels are returning to their home competition at the Red Bull Ring – and they are hungrier for success than ever before. Using the lessons learned from their first season in the EV class, once again came up with a sophisticated overall concept for the newest member to their JRG family, the JR23.



**JOANNEUM
RACING
GRAZ**

from their the Weasels sophisticated newest

Vehicle Data

Motors: PURRmanent magnet synchronous motors – ~3804.37 cp (catpower) each
ECU: MeowLaren Applied VCU-500
Max. Power: ~8695.65 cp
Accumulator: "Nie wieder Öl in der Batterie"
Wheels: 4
Dimensions: WB 3.07 cl, TR 2.48 cl (catlength)
Weight: a fine boi weighing 36.67 cw (catweight)
Suspension: double fishbone
Frame type: CFRP (cat fur reinforced plastic) monocoque
Fuel: Electricity... and catfeine
Driver: at least one more than driverless
Wings: SIUUUUUUUUU
Best feature: Perry 🐾

*1 cp = 0,0092 kW, 1 cl = 0.5 m, 1 cw = 4.5 kg

The aerodynamics have been improved, the cooling concept was revised, and its complexity reduced. The electronics have also been completely improved, and the in-house developed SiC inverter is entering its third generation. Also, this year's team has managed to independently develop the entire battery for the first time.

And of course:

We made sure to not lose oil on the track this year 🤪

See you on track, cheers – the Weasels





E24

Tallinn TU UAS

FS Team Tallinn Electric



Formula Student Team Tallinn proudly represents Estonia as the country's one and only team. On our 16th car-building journey, we're excited to introduce our latest creation – an innovative electric car with driverless integration. Last year, we had one of the best performing cars ever, but minor reliability problems cost us important points.

This year, we've taken a different approach, constructing the car entirely around a new aerodynamics concept. Every aspect has been designed to optimize tire potential while maintaining a good drivability, allowing our drivers to extract maximum performance. To ensure reliability, some systems have undergone robustness cure. With this new concept, we're determined to secure the top spot and seek redemption for last year's setback.

Technical Data

Engine	AMK x4
Tires	Black round Hoosier
Electronic Gadgets	Working (mostly)
Suspension	Long and stiff
Wings	FEST22 x2
Fuel	Kotlet
Frame	Big black with curves
Best Feature	New data logger housing





E25

National Technical University of Athens*Prom Racing***Technical data: Phoenix**

Powertrain	1 motor is better than 4... not:(Suspension	Enough stiff to cope with the bumps on track
Wheels	4	Fuel	Melasta
Aero	#OnlyFANS	Cooling	Greek Raki
Accumulator	Enough capacity for the 1st stint of endurance	Driver	The PEUGEOT guy
Electronic Gadgets	Free Wi-Fi	Best Feature	Inverter can be used to cook gyros



WHEN YOU REALISE...

THAT P23'S ROLLOUT
IS IN 1 MONTH

The phoenix is an immortal bird associated with Greek mythology (with analogs in many cultures such as Egyptian and Persian) that cyclically regenerates or is otherwise born again. A phoenix obtains new life by rising from the ashes of its predecessor. Some legends say it dies in a show of flames and combustion.





E26

Universität Stuttgart

GreenTeam Uni Stuttgart

The GreenTeam Uni Stuttgart e.V. was founded in 2009 by alumni of the Rennteam with the intention to build a race car without any power limitations. Currently it consists of 48 members.

Since its founding, the GreenTeam has established itself as one of the top teams in Formula Student competition, achieving numerous successes. With its recent success, a new world record was set for acceleration from 0 to 100 km/h in 1.461 s.

This year, in addition to optimizing individual components, the team has focused on the driverless system in the E0711-13, in order to not only maintain its position at the top of the world ranking, but also transfer its previous successes to the DV Cup.



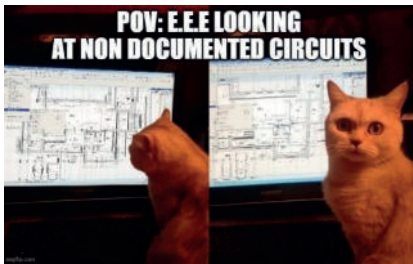
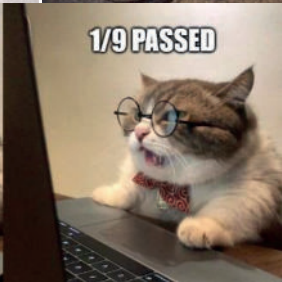
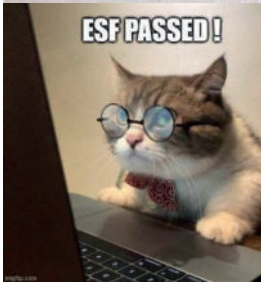


E30
Instituto Superior de Engenharia de Lisboa
ISEL Formula Student



IFS also known as ISEL Formula Student is a formula student team from ISEL (Instituto Superior de Engenharia de Lisboa) in Lisbon, Portugal. The team was founded in 2013 by a couple of friends with a passion for cars and created our teams first car, the IFS01 (I know clever naming). Now, after many hours of slave work and money, our current car is the

IFS03(tradition keeps going) and ready for FSA.



i swear the bspd worked fine this morning

Technical Data			
Engine	EV PD130	Differential	Driver doesn't need it
ECU	Paraplegic	Max Power	17K Duck Power
Wheels	Stolen from Wizard of OZ	Dimensions	7 cats sized ducks
Eletronic Gadgets	Still counting	Weight	40kg Stripped
Suspension	Soft bricks	Frame type	Metal Sticks
Fuel	E.E.E Department tears	Driver	Local Firmino Enjoyer
Wing	Double it and give it to the next person	Best Feature	Weight is down force





E31

Technical University of Munich

TUfast Racing Team e-Technology

About us:

TUfast Racing Team, hailing from the Technical University of Munich (TUM), is a Formula Student team with a remarkable 21-year history. Over the years, they have built numerous combustion, electric and driverless cars. Their latest creation, the xb023, represents their third vehicle incorporating both manual and fully autonomous driving.

Behind this impressive project stands a dedicated team of 80 members. These individuals have tirelessly conceptualized, planned, manufactured, and tested the xb023. Two primary objectives guided the design process: ensuring software reliability and enhancing performance through active aerodynamics. The active aerodynamics system of the xb023 encompasses advancements such as the refined aero fans concept and the electrically actuated DRS.

If you're curious and wish to learn more, don't hesitate to visit our pit and engage in conversation with our team members.



TU
fast
RACING TEAM

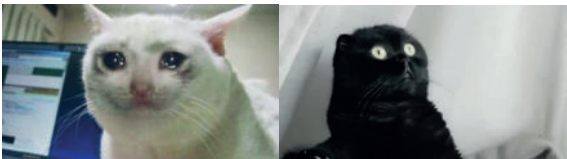


E33
ETH Zürich
AMZ Racing Team



The AMZ Racing team was founded in 2006 by students of ETH Zürich, and has been developing electric Formula Student racing cars since 2010.

For this season, the AMZ Racing team built their sixteenth car, *castor*. *castor* is powered by completely self-developed power electronics and motors. Being the second AMZ car with the autonomous system integrated from the beginning, it is a step forward in terms of packaging, performance, reliability, and maintainability, featuring a full aerodynamic kit, CFRP sandwich structure monocoque, and our mode decoupled hydraulic suspension system.



EV watching DV work with the car

DV seeing EV code



Chassis module, 2023 colorized



Technical Data			
Motor	2 more than last year	Differential	New phone who dis?
ECU	Internet router	Max. Power	Yes
Wheels	Pumped round rubbery stuff	Dimensions	Hopefully legal
Electronics	Burnt fuses and shiny LEDs	Weight	Hefty
Suspension	Some oily and leaky stuff	Frame Type	Hopefully still a “mono”coque by July
Aerodynamics	Powered by Dyson(maybe)	Fuel	Mate, Möwe and Raclette #Herzinfarkt



E34

Technische Hochschule Ingolstadt
Schanzer Racing Electric e.V.



SCHANZER
RACING ELECTRIC

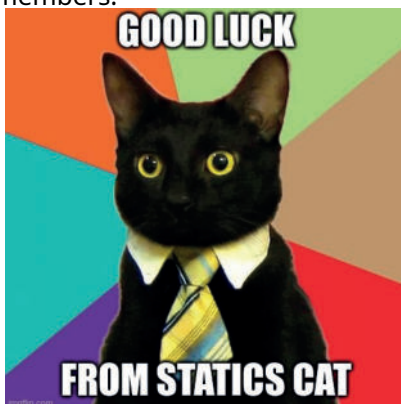


Guess who's back!

We couldn't let this wonderful event slide with our 10th car, the **SRe23!**

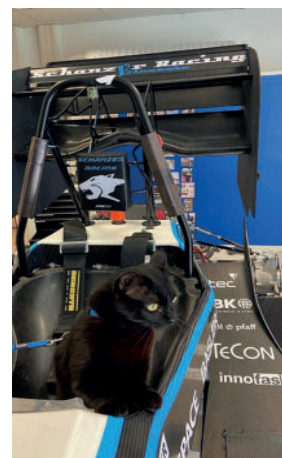
Look →

We are proudly representing our university and city Ingolstadt with a car designed and built by a team of 60 members.



"Tech spec"	
Max Power	Schanzer POWER
Dimensions	Space ship
Weight	Blue whale
Frame type	Bathtub
Wings	Yes, but mainly static downforce
Driver	Racepanther →
Best feature	Attacks with carbon splinters

Please feel free to come around with some beverages and snackies.





#E41

Technische Universität Wien
TU Wien Racing

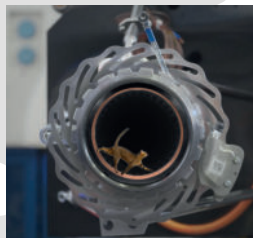


WE ARE ONE - FOR YVONNE

At TU Wien Racing, more than 90 students from all kinds of backgrounds work tirelessly to construct a car from scratch. Almost all parts are built in house, from the rims to the steering wheel.

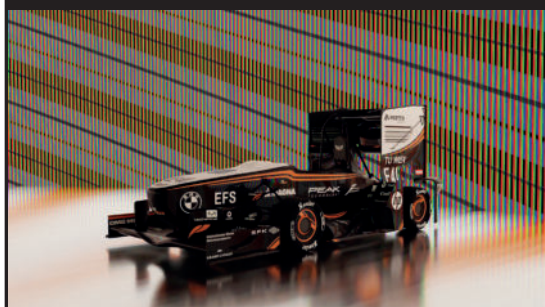
After our fantastic 2022 season, our most successful year yet, we are very much looking forward to this year's events.

NEW MOTOR CONCEPT



Technical Data

Monocoque weight	22,5 kg (or about 5,5 cats)
Rims	4
Broken rims	Hopefully none
Aero	Yes
Accumulator	Waterproof (probably)
Transmission	1,5 stage planetary gear
Wheel bearings	Less chipping than last year
Fuel	Wieselburger beer
Power Distribution Box	Causes PTSD
Brakes	Only for cones, cats and dodos



NEW FEATURES

- STORM-ADJUSTABLE AERO
- DODO ON REAR WING TO INCREASE DODOWNFORCE
- SEXY LOOKS



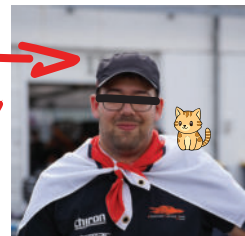
#E43

Fachhochschule Konstanz
Bodensee Racing Team

ILTIS 23E - We don't burn fuel, we burn money!

Technical „Features“

- 🚗 Drive(r)less: NEIN
- 🚗 4 Wheel Drive (Drivetrain could not explain why not 3?)
- 🚗 Highly innovative Steel Frame
- 🚗 Wings are purely cosmetic (and barely functional)
- 🚗 10" Toy Wheels (Toys "R" Us, Please contact us! :())
- 🚗 We got the Heisenberg der Elektrotechnik.
- 🚗 Uprights 3D Printed out of ~~Aluminium~~ **PLA**

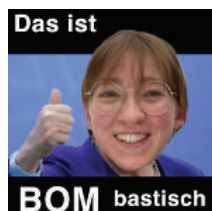


THE RESPONSIBLE TEAM

ALL REALLY REALLY
BEAUTIFUL!

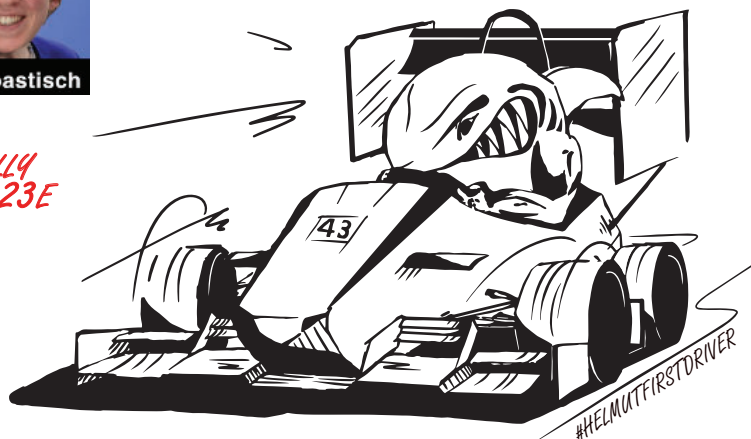


Untergewicht	Idealgewicht	Übergewicht	Fettleibigkeit
CAD	Rollout	Testing	Event



SERVICE ANNOUNCEMENT:
GET YOUR OWN DOPPELKEKS
FROM OUR DKB* MORITZ H.
Limited Number of Doppelkekses available!

AND FINALLY
THE ILTIS 23E





E44

Deggendorf Institute of Technology*Fast Forest*

#saugaud - not just a word you hear us shout after a successful discipline, but also our motivation! The second time in our team's history, we are building a race car, that has a fully integrated DV system. Besides the integration of our autonomous system, we are focusing on an improved manufacturing process to enhance our reliability. At the end of the season, we want to be proud of our achievements and have a car, that we can say is "saugaud"!



fast-forest.de



E45

Hochschule Bonn-Rhein-Sieg

BRS Motorsport

FSA – EDTP – BRS Motorsport 2023

BRS Motorsport is the Formula Student team of the Hochschule Bonn Rhein-Sieg. Founded in 2007, currently over 60 students share the passion for designing, developing and manufacturing an even more spectacular prototype every year. CFRP monocoque, All-wheel drive, 10" wheels, an all new suspension kinematic, aero package and new planetary gear, creating over 1200 NM on the wheel are just some of the technical highlights of our G23e. Since we visited FSA 2018 the last time, we're excited to be back!





E53

Technische Universität Graz

TU Graz Racing Team

Expectations of Austria:

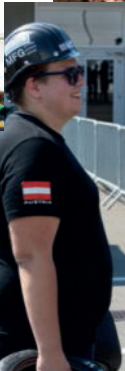


I AM GOING TO AUSTRIA FOR FIVE MONTHS



I WILL FINALLY GET TO SEE KANGAROOS

Reality...



the sound of music:



This team didn't bother to submit a team-page, so the FSA media eats team created one for them.

You're welcome!



E58

Universität Paderborn

UPBracing Team E e.V.

The UPBracing Team

We are 80 students with the same goal: Learn and win.

In the team's third ever electric racecar, we will be using cylindrical cells inside our accumulator for the first time.

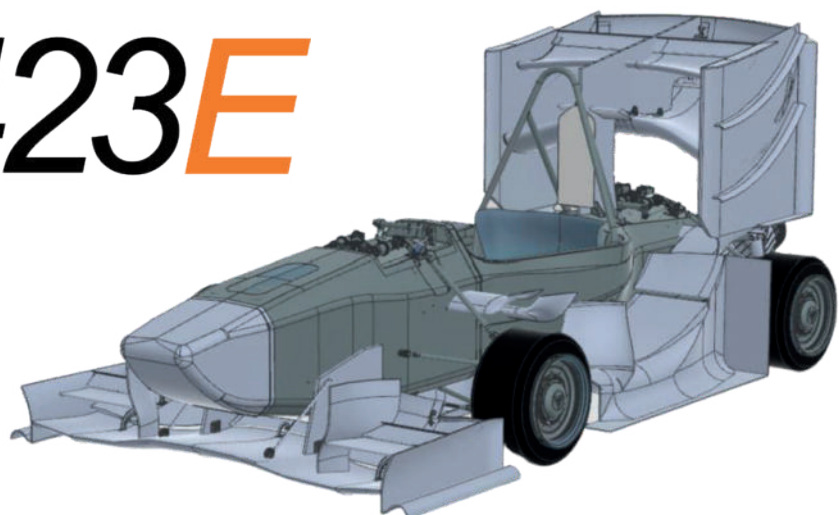
By using a lighter CFRP layup, we are able to save considerable weight in the monocoque. Furthermore, we are enormously proud of our Aerodynamics package, which sets us apart from all other teams.

Our wheel-hub integrated drivetrain, together with solid suspension kinematics, grant us massive dynamic potential, which we hope to show off.

We are looking forward to see the other teams and cars on the events!

Be excited for our PX423E!

PX423E





E59

Technische Universität Dresden*Elbflorace*

We are Elbflorace, the Formula Student Team from TU Dresden. Since our trade mark isn't exactly building reliable cars, we tried to change that. Because unlike cats our Rearwing didn't land on its paws back in 2018... on multiple occasions. And in 2021 our front wheels were tired of pointing in the same direction, so a flying screw blocking one of our gearboxes helped to get a little more toe out at the front besides ripping off the wishbones.

So we focused on a long testing phase which is always key for a reliable and well set-up car. We wrapped our new components around our old monocoque geometry, for which we got mocked by our alumni for building the same car again. But that was just a superficial point of view.

Thanks to our new active suspension you'll see us scraping the ground with our hydraulic low-rider. A new packaging and bleeding system make our hydraulic decoupled spring-damper-system 10" Hoosiers sitting on 3D-printed hub and upright make us drippin' and grippin' in the asphalt. A completely renewed aerodynamic package besides acting as a better shelf, is making our tires stick harder to the ground than a cat with its claws to your sweater. Although switching back to an aircooled accumulator is making us piss our pants before rain test in FSA, the servicability is vastly improved around the car. A strong Cost Report team getting a headache from learning all the abbreviations the electrical system has to offer and a Business Plan team trying to get the BEP right, we feel very well prepared for the Static Events.

With our gearboxes roaring like a tiger, our team moral flying higher than our service hatch in 2019 and a BMW-kidney-themed stripey livery giving us 3 tenth extra we are ready to take on the challenge to reach the Top 3 in FS Austria 2023.

The FSA media ~~cats~~
team would probably
have done a better
job here.

SORRY!



E63

Norwegian University of Science and Technology
Revolve NTNU

LYRA

Weight: 164 kg

Simulated downforce: 867 N

Center of mass: 267 mm above ground

Driving modes: EV-DV merged

Mechanical

The aerodynamic package is designed to maximize the performance both in turns and straights. This year, we designed our very own steering rack. To validate this year's new concepts, we have implemented a new sensor system that will utilize a pitot probe measuring the wind velocity and a set of strain gauges measuring downforce.

Electrical

Introducing the descendant of our in-house developed 2019-version inverter, the I21 is smaller, lighter, and can be assembled and disassembled quicker than its predecessor. The accumulator utilizes phase changing material for cooling, and our microcontroller-based PCU (Power Control Unit) circuit board makes us more energy efficient.

Software

Our in-house developed 2017-version data

An entirely new data storage solution - SKN- centralises all the team's data and accommodates customisable data exportation. Also, integrating our Torque vectoring software with the autonomous systems opens a new world for driverless performance.





#E69

Duale Hochschule Baden-Württemberg - Mannheim

CURE



aerodynamics: less than in simulation

frame: heavy metal and bullet proof -
welded steel frame

mass: 45 (fat) cats - 235 kg

control systems: yes a lot - TC & TV

suspension: no(t much) collisions - decoupled roll
heave system, CFRP-wishbones

drivetrain: the same as every year - 2x EMRAX 208
CFR - driveshaft

accumulator: high voltage box - 7,05 kWh

electronics: lots of unused sensors

**What's wrong,
here's a night
and nobody is
working**

- Raymond Mays



When your brake disc
looks like a disc spring
after endurance



POV: The frame
weighs 5kg more
because of SES



Head of production looking at
reamer in drill driver



E70

Hochschule für Angewandte Wissenschaften Hamburg
HAWKS Racing e.V.

ABOUT US

We are HAWKS, the real 69ers!
-No matter what others might have told you!



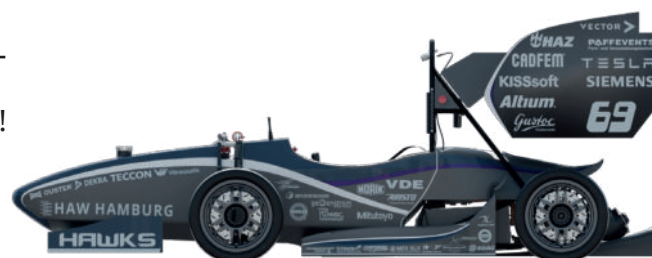
THIS SEASON

After successfully making the switch from the combustion class to an electric car last season, this season we are focusing on optimizing our electric concept.

But we have not only optimized ourselves in technical terms; this year we are competing with a true beauty: Nayra! Her name means: „the eye“ or „the seeing one“, as she is the first car in our history that will also compete in Driverless disciplines at an event. She stands for an optimistic view into the future, no matter what obstacles and difficulties lie ahead - and she also looks damn sexy by the way!



HAWKS RACING



ABOUT OUR CAR

Frame Construction:	Hybrid monocoque with tubular rear frame
Wheelbase (mm):	1600
Track (front in mm):	1200
Track (rear in mm):	1200
Tyres (front / rear):	205x96 R13 Continental C-20
Number of motors:	1
Motor location:	center rear
Max motor power:	109 kW
Motor Type:	Emrax 228 MV LC
Max system voltage:	540V
Accumulator capacity:	7,01 kWh

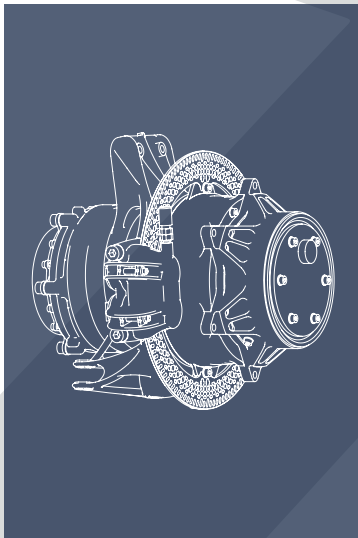
69



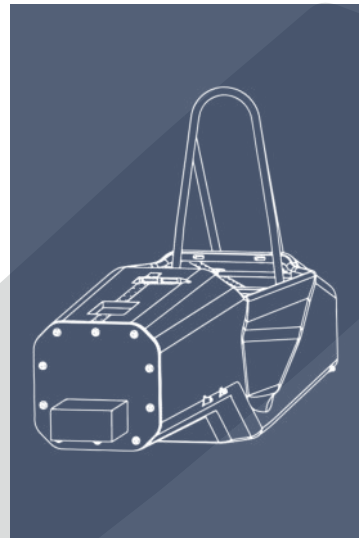
#E76

Technische Universität Bergakademie Freiberg*Racetech Racing Team e.V.*

Racetech Racing Team was founded in 2005. We will compete with our 14th car this year. After an era of rear-wheel drive cars, the RT14's key design changes are the switch to all-wheel drive and an increased focus on aerodynamics. This resulted in big changes throughout the car's layout and components, which we are proud to show off at this year's events. The RT14PHX will take on the competition in Austria and Germany. We are looking forward to meeting you in the pits!

**Technical highlights:**

- Hybrid carbon aluminium monocoque
- All-wheel-drive with self developed motors
- $c_L \cdot A = -6,03 \text{ m}^2$
Efficiency = 3,4





#E77

Duale Hochschule Baden-Württemberg Stuttgart
DHBW Engineering Stuttgart

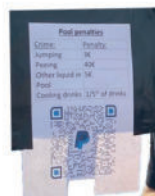
HERE COMES THE
REAL STUTTGART

After a third place last year, we brought three cats.

We also brought a faster new car and a pool. We hope the firemen are as generous as last year.

You are welcome to join our pool party, but please respect our penalty rules for the sake of water quality!

We need the right amount of BOOSTER to make our Vehicle Dynamics Control work in the sweet spot. So please don't go to the nearest supermarket and buy all the boosters you can.



YOU CAN RECOGNIZE THE
TEAM BY THE YELLOW STRIPE



ENGINEERING
Stuttgart



#E78

Technische Universität Hamburg
e-gnition Hamburg



EGN23



OUR NEWEST CAT PROPELLED CAR PURRS TO LIFE. ABOUT 60 CATYEARS WORTH OF CAT SLAVE LABOUR BUILD THIS RACING MACHINE. WITH SPECIAL FEATURES LIKE AUTOMATIC CONE HUNTING AND ABOUT 318 CAT POWER FROM OUR 4 PURRING MOTORS. WITH THREE PAIRS GATEYES POWERING OUR DOGLESS SYSTEM WE ARE CONFIDENT THAT WE WOULD WIN ANY MOUSE HUNTING COMPETITIONS.

CAN YOU FIND ALL 23 CATS?



E79

Hochschule Pforzheim

Rennschmiede Pforzheim e.V.



RENNSCHMIEDE PFORZHEIM

Behind our vision is a young, committed and motivated team of around 70 students from the faculties of business and law, technology and design at Pforzheim University. Together, we are pursuing the goal of turning our dream of a competitive racing car into reality.

Our overall team is elementarily divided into the technical and the organizational teams. The 12 respective „subteams“ are led by a team leader and report to the four-member executive board.

Inspired by the gold town of Pforzheim, we have been naming our racing cars after precious gems since 2017. The sixth gem and third all-electric race car - the RSP 23 - will set new standards.

14 years, 10 race cars, 19 events.

We have already achieved that as Rennschmiede Pforzheim. The perfect moment to present our anniversary race car RSP23 Amethyst and to participate in the Formula Student events.





#E88

Alma Mater Studiorum - Università di Bologna*UniBo Motorsport Electric*

This team didn't
bother to submit a team-
page, so the FSA media eats
team created one for them.

You're welcome!



Bologna



Bolognese





#E90

Politecnico di Milano

Dynamis PRC

Our Story

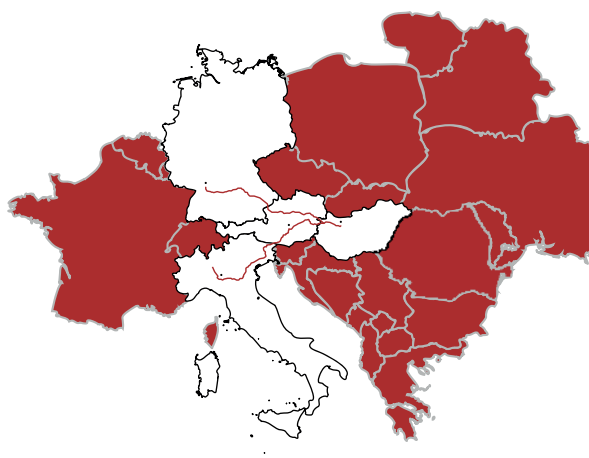
Dynamis PRC, after 15 years of combustion prototypes, switched to the EV category in 2021.

The team is now at his 3rd year in the electric category and in its second in the driverless one.

This year car, the DP14, is an evolution of the 2022 prototype that aims at resolving the weaknesses of its predecessor. A lot of effort has been put on the low voltage system, on the control system, on the handling and improvements have been done to improve the reliability of the car.

For this season the team has decided to push the limit and is going to four races: FS ATA, FSA, FS EAST and FSG.

This year road map



Season 2022 Results

FSG
2nd overall DV
14th overall EV

FSEAST
2nd overall DV
7th overall EV

FSATA
8th overall



Contact Us

<https://www.dynamisprc.com>



scan to see our
instagram page



E91

Slovak University of Technology in Bratislava
STUBA Green Team

Easy Formula recipe

For the advanced

Ingredients

100 gr anxiety
65 rolls of carbon fibres
App. 200 m of cabling
4 wheels

1 tsp brake cleaner extract
200 gr love (ideally grandma's love)
½ tbsp patience
200 gr sleep deprivation
App. 8-10 hair-losses



Directions

1. Heat the oven to 120 °C
2. Combine anxiety, sleep deprivation, carbon fibres, hair-loss and brake cleaner, mix thoroughly using a mixer....or not
3. Once combined, add cabling and wheels, mix it again with the grandma's love and a pinch of patience
4. Take a scoop of dough, spread it across the workshop,
5. make sure it has enough tires!
6. Bake for 10-12 months until the edge is crispy
7. Let cool for at least 22 rounds on racing track (if possible)
8. Enjoy! (Or at least participate...)





#E94

Hochschule Esslingen
Rennstall Esslingen



New Season, New Beginnings..

After 15 successful years competing in the combustion class of Formula Student, we have embarked on a new journey as a dedicated electric team. However, our story doesn't begin from scratch. Thanks to the years of experience in the electric vehicle (EV) class of our sister team, E.Stall, we have had the incredible opportunity to merge the manpower and knowledge of both teams and create a collaborative project, resulting in a remarkable electric vehicle ready to hit the track!

TEC SPECS

Engine	2x 790 KV Impellers
ECU	Bosch MS4
Wheels	5
Electronic Gadgets	yes
Suspension	Collision detected
Fuel	E 85
Wings	Ergonomic Workbench
Differential	AI Machine Learning
Max Power	194 PS
Dimensions	SUV
Weight	Isn't everything
Frame	Swiss Cheese
Drive	≥ 1.2 permille
Best Feature	Tinder on Dashboard





#E96

Westsächsische Hochschule Zwickau

WHZ Racing Team



@Whzracingteam_fse



E98

Helsinki Metropolia University of Applied Sciences

Metropolia Motorsport

We are one of the most northern Formula Student team in the world, and only Finnish team competing in electric series. Metropolia Motorsport has founded in 2000 and our first vehicle to participate in an official competition was launched in 2002. Our Team joined FSE class and manufactured our first electric Formula Student vehicle in 2013.

For this season we decided to take a bigger development leap by designing and manufacturing our first monocoque made out of carbon fiber. Alongside with the new chassis we implemented new accumulator, decoupled suspension with heave and roll elements, redesigned aero package and second version of 4WD powertrain to our newest vehicle HPF023.

The FSA media eats team would probably have done a better job here.

SORRY!



E99

Rheinisch-Westfälische Technische Hochschule Aachen
Ecurie Aix Formula Student Team RWTH Aachen e.V.



THE TEAM

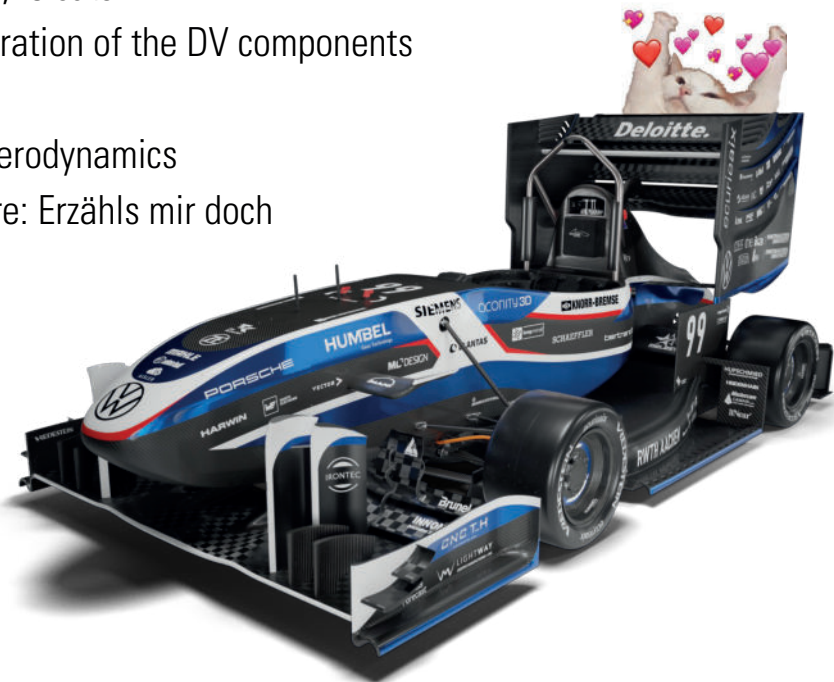
In 1999 some students of the RWTH Aachen had the idea to found a Formula Student Team. With the eac01 (ecurie aix car 1), Ecurie Aix was one of the first German teams to participate in Formula Student in 2002.

Last year the team introduced the eac01, which was the first vehicle that can drive not only with a driver, but also without one. This season, the ~70 team members put together an evolution vehicle, the eac02, that draws on developments from last year's vehicle.

THE CAR

The highlights of our eac02:

- Weight: 33,45 cats
- Good integration of the DV components
- CFRP rims
- Updated Aerodynamics
- Best feature: Erzähls mir doch



PREPARE YOURSELF

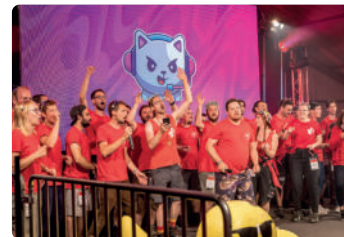
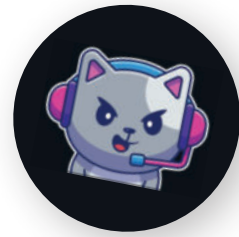
FOR FSA KARAOKE

FSA Karaoke Rules

- K 1:** The point of karaoke is not to find the best singer but to have fun!
Good singers are helpful but not an obligation.
- K 2:** Registrations will only be accepted if the car number and at least one full name and optionally band name are mentioned.
Example: #1 Max Mustermann and Friends „Karaoke Crew“
- K 3:** You are not allowed to sign up anyone
who doesn't know about it or doesn't want to sing.
- K 4:** Each song will be sung only once. The first to sign up is the first to go.
Rule: First come, first serve!
- K 5:** A karaoke group may consist of a maximum of 5 people on stage.
The rest of the team may support from the auditorium.
- K 6:** Only come on stage when you are called upon!
- K 7:** Aids such as outfits or instruments for performance are allowed unless
they are dangerous.
- K 8:** You are not allowed to sing while smoking or with a drink in the hand.
No drinks allowed on stage!

**Check out the
song selection here:**







LIFE IS TOO
SHORT TO
WORK JUST
ANYWHERE

NO SPEED LIMIT

BUT A FULL THROTTLE CAREER, NOT JUST A JOB - BUT YOUR PASSION

As an employer, we not only challenge, but also provide targeted support. Because no matter what awaits you around the next corner: As an employer, we support you and get you ready for the next adventure. As a young talent, you have the chance to gain a solid position in a wide variety of areas, from research and development to motorsport. **Take a look at our vacancies and apply now!**

BE PART OF A SUCCESS
STORY AND APPLY NOW AT
JOBS.KTM.COM

