

OCTOBER 23

Edinburgh Napier
UNIVERSITY



FORMULA STUDENT
TEAM NAPIER

SPONSORSHIP
PROSPECTUS
23-24



WELCOME

“Since competing in our first Formula Student (FS) competition in 2023, the team has not slowed down, with the results we obtained at the competition and the new team standing at over 80 members. We are more dedicated than ever to bettering ourselves and innovating on what we have for the FS competition 2024. The team would not have been able to achieve this feat if not for the devoted demanding work of all our team members, the support from Napier University, and our sponsors.

The team is currently working towards designing NV2, our second revision of a single-seater race car, improving it with the lessons we have learned, and the knowledge gained from our first car, NV1. Our driverless department is continuing to refine and develop the autonomous software that got them 4th place in their first year of competing, also adding new hardware to optimize perception and pathfinding. To support the team we have our Finance, PR & Marketing, Operations, and Business Departments that have grown and brought in fresh innovative ideas that the team needed, connecting us more to our University and Local community. No matter how our members are involved in Formula Student Team Napier (FSTN), it develops core skills and gives access to industry-standard software that will help in a professional career path they take.

In this prospectus, we will introduce you to the FS competition and explore how we are working to meet the event requirements and the goals we aim to achieve. Each year we are looking to improve on what we have done previously. As an infant team, we are passionate about inspiring the next generation of students to take on the challenge so that FSTN can continue to build on its success. Our long-term goal is to marry up our FS-AI and FS team to design and build our own autonomous vehicle to take to competition, pushing the boundaries of what is technically possible. Ultimately, we hope to become a fierce competitor in the Formula Student UK competition.

We are delighted to invite you to join us in our journey towards the Formula Student competition at Silverstone in 2024. Do not hesitate to contact us if you have any questions, we are always happy to chat!”

Patrick Horne, Team Principal



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ABOUT US

EDINBURGH NAPIER UNIVERSITY

Edinburgh Napier University is the award-winning university at which our team members study and we are delighted that they are continuing to support us!

From day one, Edinburgh Napier University has been fully supportive of our project, providing us with space to work in, and the freedom to 'have a go'. With this kind of backing, it is no surprise that ENU has been steadily climbing the rankings in many of the University league tables. This is in addition to receiving a wide variety of awards, demonstrating the University's dedication to its students! Edinburgh Napier University consists of three campuses located around Edinburgh: Merchiston, Craiglockhart, & Sighthill. Our workshop facilities are located in Merchiston Campus, where we design, manufacture and assemble our car.

**#1
MODERN
UNIVERSITY
IN SCOTLAND
THE WORLD UNIVERSITY
RANKINGS 2023**

**WINNER OF
THE QUEEN'S
ANNIVERSARY
PRIZE FOR WORK IN
TIMBER ENGINEERING,
SUSTAINABLE
CONSTRUCTION AND
WOOD SCIENCE.
QAP 2009 & 2015**

**OUR ENERGY &
ENVIRONMENTAL
ENGINEERING COURSE
WAS THE FIRST IN
SCOTLAND TO FOCUS
SPECIFICALLY ON
ENERGY, RENEWABLES
AND CARBON
ACCOUNTING**



ABOUT US

FORMULA STUDENT TEAM NAPIER

FSTN is a Formula Student team operating out of a variety of Edinburgh Napier University's different schools including the engineering school, the business school and the school of creative arts. As a new team, we are eager to build a car that can take on the challenge of competing in Silverstone against over 100 other University teams in the Formula Student

Our main objective is to design and construct a formula-style race car to compete in IMechE's Formula Student competition. With over 100 other university teams participating, we are eager to take on the challenge and showcase our skills and expertise.

Since our founding in December 2021, we have been working diligently to develop a robust team and infrastructure, whilst collaborating with the university to overcome logistical challenges that our new team faces. Our team is made up of over 80 students split into five departments: Technical, Driverless, Finance, Operations and PR & Marketing. We have a brilliant student led Management team that effectively oversees these departments in order to ensure they function smoothly.

FSTN consists of students from all years of study, bringing a diverse range of skills and expertise to the team. We are determined to make FSTN a prosperous multi-year endeavour and are focused on imparting our extensive knowledge and skills to the next generation of students to ensure they are capable of working within a team and creating and developing a car.

As we prepare to embark on a new academic year, we are eager to expand our team and create opportunities for new students to get involved. We have created a development program for new engineering students to join the team and quickly get involved. Our team also competes in a separate class of Formula Student called FS-AI allowing computing students to contribute towards development of a driverless car and lay the groundwork for the future of AI technology. When competing at Silverstone in 2023, our Driverless team secured a 4th place finish in their first year competing, a true testament to all their hard work!



ABOUT THE COMPETITION

Formula Student, known in North America as FSAE, is one of the biggest educational engineering competitions, with over 600 teams competing from more than 20 countries. The challenge: to design, build and race a custom Formula-style car.

Formula Student offers students a valuable opportunity to acquire practical engineering experience, while also developing essential soft skills such as project management, teamwork, communication, business planning, and marketing. This combination of technical interpersonal skills makes Formula Student a highly regarded program for students pursuing a career in engineering, whether in the field of motorsport or other industries. It is considered the gold standard for preparing students to succeed in their future engineering endeavours.

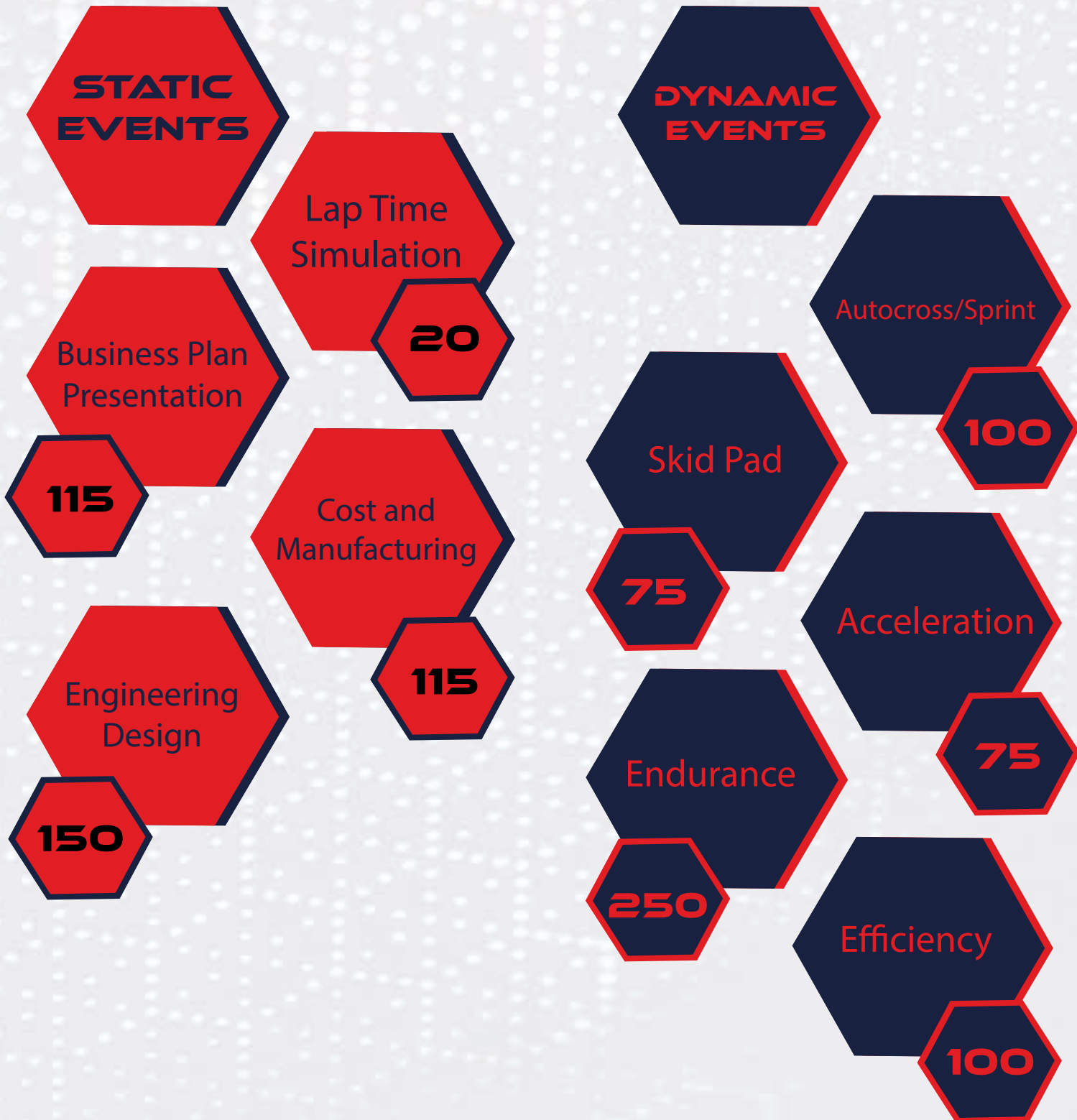
In the UK, the competition is organised by the Institute of Mechanical Engineers (IMechE). Since Formula Student's inception in the UK in 1998, there are now over 100 university teams who compete annually at Silverstone. As it is unsafe to allow inexperienced drivers to race against each other, the competition instead takes place as a series of static and dynamic events, following rigorous scrutineering to check if the car is safe to drive. Teams can score points for each event, with the winner of the competition being the team with the highest number of points scored.

You can find out more about Formula Student on the official website, linked here:

<https://www.imeche.org/events/formula-student>



POINTS ALLOCATIONS



OUR ROADMAP

Being a newly formed team, we are ambitious but also pragmatic in our goals and vision.

SHORT TERM GOALS



NOW - JUL 2024

- Surpass results obtained at the 2023 Competition
- Design MV2 for the new completion
- Improve on the FS-AI system and implement new sensors
- Expand the teams diversity in knowledge and numbers
- Foster steady growth of each department
- Placement
 - Technical top 20 finish / FS-AI top 3 finish / Sim top 20 finish

NOW - 5 YEARS

- Move over to a sustainable powertrain for Technical
- Research into the ADS-DT for future competition entry
- Placement
 - Technical top 10 finish / FS-AI 1st place finish / Sim top 15 finish
- Establish sponsorships to reduce the University's allocated budget for the team over time
- Place within the top 15 teams for dynamic events

MID TERM GOALS



LONG TERM GOALS

5 YEARS+

- Obtain a podium finish in dynamic events for both Technical and FS-AI
- Obtain top 5 finish for the technical and FS-AI in concurrent years
- Merge technical and AI to build our own ADS-DT
- Produce more R&D oppurtunities



WHAT WE'RE WORKING ON

Since our founding in December 2021, we have been dedicated to building a team that can successfully construct a car. To achieve this goal, we have established several key departments essential to the project's success.

Technical Department

Silverstone '23 saw the first version of our combustion vehicle NV1, which was entered into the concept class. Building on the wealth of knowledge gained from the competition and the foundation provided by Roberto, our founding Chief Engineer, the team has set about redesigning with the intent of entering NV2 into the FS class for Silverstone '24. The technical department has grown to double its previous size and morale remains high within the technical team. The dedication of the new and returning members who are from a variety of subject areas and experienced backgrounds provides a diverse and healthy environment for creative excellence that will continue to produce dividends in the years to come.

With the NV2 chassis beginning manufacturing, structural design reaching completion and a rolling chassis within reaching distance the technical team has now turned their eyes to refining the suspension systems and integrating a new, high performance engine system management tailor made for the competition. This ensures great handling and reliable performance to propel them through a design challenge never seen before at Edinburgh Napier University.



Driverless Department

The Driverless department are competing in the Dynamic Driving Task (DDT) category of the FS-AI Driverless competition, using an existing vehicle called the 'ADS-DV' to focus on the software systems before moving towards building their own fully autonomous car to race in the ADS challenge in the years to come. The team have made significant progress in developing their system, which consists of four main components: Perception, Mapping and Localisation, Path Planning and Vehicle Control, where they are continuously optimising and improving their software. Our team has an exciting road ahead of us with a curious and passionate team ready to tackle the challenge.

Finance Department

The Finance department has now placed the groundwork for the financial system that will be used by our team in future years. They have worked with Edinburgh Napier University's Procurement team to further utilise the purchasing system for the team, ensuring to work within the team's budget. The Finance department has also been working closely with our partners in order to create a productive and mutually beneficial relationship. They would be delighted to assist you with any questions you may have.





Operations Department

The Operations department are responsible for looking after the logistics of the team, from planning team socials, organising merch, getting the team to the start line, and everything in-between. Over the last year the department has organised both internal and external team events, including the very First Scottish Formula Student Teams' Ceilidh, which took place in early 2023 with 6 other teams. They also worked extremely hard to ensure the team was ready and prepared for our first competition at Silverstone where we camped and cooked all our meals. The Operations department is constantly striving to develop new event ideas for the team so that all our members can thrive.

PR & Marketing Department

The recruitment year began with a strong start in the PR & Marketing department with over 10 new members joining our team. They helped introduce our new podcast "Talking Shift with FSTN", and created several new roles within the department, such as marketing, public relations, social media, graphic design and website development. The team has begun creating online content and has garnered a lot of interest through multiple platforms including TikTok. We are proud to present our fantastic sponsors with bespoke posts on social media. Additionally, all of our sponsors have their own segment on our website (on our "Partners" page!). For example, we are very grateful to have previously worked



Management

In addition to our departments, our management team members have been incredibly important to get us off of the ground. They have been responsible for creating a strong team dynamic and ensuring everyone - regardless of experience - is able to contribute to the development of the team. In addition, the management have set the direction of the project by making key decisions and outlining important deadlines and time frames. They are also the main line of communication with the university staff members, who graciously support the team in many different aspects such as manufacturing support, procurement, health & safety and finance.



WHAT WE'VE BEEN UP TO

Winning Awards!

In January 2023, our previous Team Principal Lucas Touw won Bright Network's nationally recognised President of the year 2022 Award. It was judged and presented by EY, who recognised his unmatched dedication and leadership.

In March, our team collectively won our university's Society of the Year Award 2023! In addition, two of our first year engineers, James Rendall and Marcel Woroniecki, won the ENSA Outstanding 1st Year Contribution Award for their efforts designing next year's chassis.



Creating Our Car

As a new team with no experience in car design, it took several months of research and development to design a chassis that will provide a good foundation for the team in the years to come. With the chassis now complete and our engine mounted, the focus now turns to finishing manufacture of the remaining components, assembly and testing.

ADS-DV in Edinburgh

Our driverless team has been working hard since starting development in August 2022, creating complex autonomous systems in order to control the ADS-DV. In March of this year, an ADS-DV was brought to George Heriot's School in Edinburgh for the Northern Universities to use for testing. Despite being hit with multiple unexpected setbacks outside of our control, our team was grateful to have had the opportunity to be onboarded with using the ADS-DV by our neighbouring teams EUFS and UGRacing. We look forward to having the opportunity to use the vehicle for testing again over the coming months.





Developing our Team

Early on, our team identified transfer of knowledge to be one of the greatest challenges we would face. As a student-led team, each year we have a new generation of members and leaders - a unique challenge for any university team, compared to industry. We have therefore started implementing strategies in order to help the team and its students continue to improve upon our foundation year and keep that knowledge consistent. One of these is our development programme with our newest engineers, who compete in the FS Concept Class.

Growing our Community

We may be a new team, but that hasn't stopped us getting involved in our local and wider reaching community. We hosted the first Scottish Formula Student Teams' Ceilidh where 6 other teams joined us for a memorable and fun night of dancing and getting to know each other. We have also attended many of our university's open days and events, where we have engaged with our local community, informing them about the progress of the project that we are all incredibly passionate about.



Silverstone 2023

In July 2023, the team went down to the British Grand Prix track, Silverstone, to compete in our first ever competition as a team. Our driverless team came in 4th overall out of a total of 19 teams, which was an incredible achievement, especially for a first year team! Our technical department got a lot of very useful feedback from not only the judges but other teams who were willing to help out a new team like us. Overall, it was an incredible experience for everyone who attended and helped us form greater connections and friendships both within and without the team.

TEAM COMMITTEE



Patrick Horne
Team Principal



Lee Beaver
Co-Driverless
Lead



Cameron Davidson
Sponsorship Manager &
Wellbeing Officer



Matthew Skilling
Co-Driverless
Lead



Harrison Brown
Technical Lead



Georgia Miller
PR & Marketing
Lead



Matthew Odonnell
Sim Racing Lead



Keir Bailey
Operations Lead

EXPERIENCES

Maria Bahn

Head of Path Planning, Driverless Department

"I joined the team in September 2022 and today I hold the responsibility of Path Planning Lead. I work towards delivering an impactful solution for our Driverless Car alongside a group of likeminded friends, with whom I share similar ambitions of making our mark at Silverstone 2024."



Teriza Parley

Marketing Lead, PR & Marketing Department

"Becoming the Marketing Lead provided me with a lot of opportunities to express my creative freedom in and outside the team. The team has helped me build my confidence in my abilities and in general. Having the opportunity to work with incredible people has encouraged me to find my full potential."



Julia Swietochowska

Head of Vehicle Control, Driverless Department

"In the team I hold the position of Head of Vehicle Control. That means that my responsibility is to deliver successful solutions for controlling the Driverless Car. I get to work on that alongside other very talented individuals, who now I get to call my friends. For me, the most gratifying part of being on the team is the feeling of belonging to something great."



WHY SPONSOR US?

Sponsoring Formula Student Team Napier provides a chance to invest in the future of engineering. Our team is comprised of talented and dedicated Edinburgh Napier University students, who are passionate about pushing the boundaries of technology and design. Through sponsorship you can help us continue to grow and develop our team. You will be assisting us in reaching our goal of competing in the Formula Student competition and supporting the next generation of engineers!

We are grateful for any type of support you and your business can provide us, be that through financial support, material donations, or providing services such as manufacturing, transportation or advice. Our team will work with you directly to cultivate a tailored partnership arrangement that will be to your satisfaction.

We hope you consider supporting our team and joining us on our journey towards a shared success.

WHAT WE CAN OFFER:

We can offer the following benefits as standard to all our sponsors:



Social Media Promotion

All our partners logo's are displayed on our website. We will also advertise your brand across our social media platforms to thank you for your support.



Event Invitations

Every partner will receive invitations to our exclusive team events, such as our car launch, testing days, and university open days.



Car Branding

We will proudly display all our partners' logos on our car as the centrepiece of our team. This will culminate at the Formula Student competition in Silverstone, where your brand will be widely broadcast.

Depending on the level of support, we are also able to offer these additional benefits:



Additional Social Media Promotion

We are able to work with you directly on tailored social media posts. An example of this might be some of our team members visiting your facilities and making some posts about this for both audiences.



Student Engagement

We are also able to provide direct access to our students, who are some of Edinburgh Napier University's most talented students coming from a wide range of academic backgrounds. This is ideal if you are looking to network and recruit students for graduate roles.



Apparel Branding

There are opportunities for your logo to be on our team kit and merchandise. Our team will be wearing these throughout the year, as well as to the competition in Silverstone.



Our Car, your event

For our most dedicated partners, there is the opportunity for us to take our car (once built!) to your business offices or event, to highlight your crucial support of the team.

FACULTY ADVISORS

We are incredibly grateful to have the support of our Faculty Advisors, who look to ensure our success through their guidance and technical expertise.



Dr Savvas Papadopoulos
Electrical Advisor



Mr Norman Harris
Mechanical Advisor



Mr Babis Koniaris
Computing Advisor



Szymon Szatkowski
Advisor



Gonzales Delgado
Advisor

CONTACT DETAILS

Whether you are interested in partnering with us, learning more about what we do, or just have a technical question, we'd be delighted to hear from you! Please feel free to send us an email with your inquiry, and we'll get back to you as soon as we can.

If you would like to stay up to date with our latest activities, we encourage you to check out our social media channels or our website. We're keen to continue building these platforms and developing our community through our content.

Thank you for taking the time to read our prospectus. We appreciate your interest in our project and hope to have the opportunity to connect with you soon. We look forward to hearing from you!



@FSTeamNapier



FormulaStudent@napier.ac.uk

FORMULA STUDENT TEAM NAPIER



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