

TEAM KPH CONSTRUCTION RACING

Enterprise Portfolio

Conor Casey, Emmet Glynn Johnston, and Asher
Grant

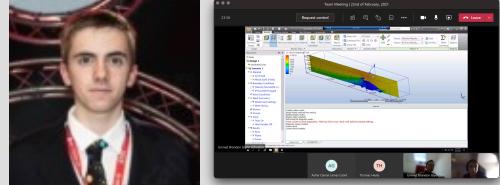


TEAM STRUCTURE

Mission Statement

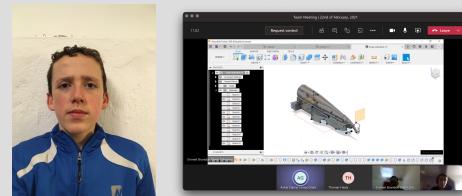
Team KPH Construction Racing is a committed and passionate team. It consists of three different people, each offering a unique skill set and a different perspective to the challenging problems we face in this endeavour, be it engineering or entrepreneurial related. Through this, we strive to create the best possible work that we can, and we hope to take valuable learning experiences from the process.

Team Members



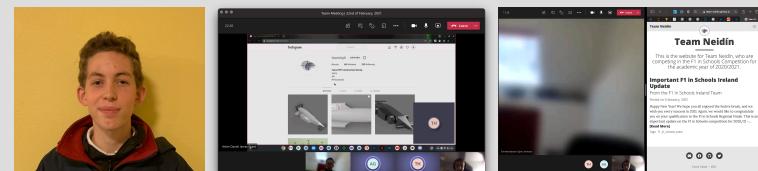
Conor Casey
Team Manager

Conor, in his role as team manager, took responsibility for the management of the team, defined team goals, objectives and aims, ensuring the cars was adequately prepared for the competition and defined a timeline that the team followed to ensure everything was ready for competition day. He was also accountable for the organisation of the team's financial resources through the upkeep of an orderly budget; which records the predicted and actual expenses and income generated, and appropriately allocating funds to certain areas of the project.



Emmet Glynn Johnston
Design and
Manufacturing Engineer

Emmet has always had a strong passion for engineering and design. He has a great interest in taking on metalworking projects at home that involve problem solving and creativity. His strengths in technical drawing as well as metalwork, suited him well to the role of designing and manufacturing a vehicle to compete with. Emmet in his role as design engineer oversees the creation, design, styling, and performance of the car. Similarly, in his duties as manufacturing engineer, he will advise the wider team with respect to the manufacturing requirements of the car.



Asher Grant
Marketing Manager and Graphic Designer

Asher has a passion for car aesthetics and engineering design. His strengths in sociability and technology are suitable for the task of managing online social media and talking to the general public. His aptitude in art makes him ideal for the role of graphic designer. In this position, Asher supervises the creation of the aesthetics of the car. This will be done in close collaboration with the design engineer to ensure that such aesthetics may not negatively impact the performance of the car. In his duties as marketing manager, he will create any necessary marketing materials required for the promotion of the team and undertake any related public relations tasks which align with the goals of the team.

PROJECT MANAGEMENT

Introduction

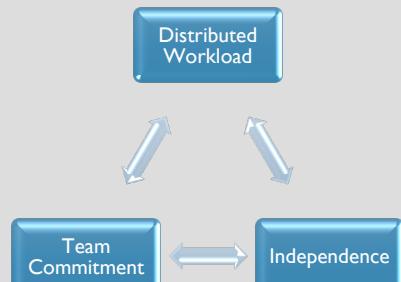
Project management is the method of directing the team's work towards achieving the targets and meeting the performance criteria at a specific time. The primary task in project management is to meet all project targets within the boundaries defined. The detail, in our case, was presented in various Microsoft Word documents. Time and budget were the primary constraints in our project.

People Management

Ensuring that each team member was satisfied with their workload and did not feel frustrated by the sheer quantity of that given workload was an essential consideration that demanded close monitoring and continuous assessment. If a team member was not pleased, our overall productivity diminished, which reduces the overall productivity of the team as a sense of apathy develops within the group.

Ensuring each team member contributed equally was of huge importance. If a team member was not adequately performing their duties as outlined and agreed upon, the remaining team members would become increasingly overworked and stressed with the task of having to compensate for the aforementioned team member's lack of commitment and dedication. This would be deeply unfair and should be avoided at all costs.

An emphasis was also placed on giving each team member a high degree of freedom and independence. Care was taken to define project goals and objectives but avoid any undue micromanagement.



Intra Team Communication

Due to the COVID-19 pandemic and the resulting inability of regular in-person team meetings to take place, a detailed and comprehensive intra-team online communication plan was needed to ensure functioning and effective team collaboration. Microsoft Teams was chosen as the primary method of team communication online. Email was also maintained as a means of communication throughout the duration of this project.

Time Management

Time management is critical for the successful and timely completion of any given project. This was especially true in our case, as Conor and Emmet are currently in examination years (Leaving Certificate and Junior Certificate respectively). Hence, to avoid any unnecessary stress, a timeline was created by the team. A degree of flexibility was incorporated into the schedule as unforeseen events and circumstances may have occurred which could have inhibited the progression of the project.

Conor ensured the team was closely following the outlined timeline, and hitting the key milestones as originally envisioned as much as possible. In line with this objective, he stayed in regular communication with each team member. A shared calendar on Microsoft Office 365 was also created, so, each team member knew the deadlines they must hit to complete the project in a timely and orderly fashion.



RISK MANAGEMENT

Risk Analysis

Risk Analysis is a key project management practice to ensure that the least number of surprises occur while the project is underway. In order to manage any associated risks related to the project, we used a risk matrix. The risk matrix is a matrix that is used during risk evaluation to describe the degree of risk by considering the probability against the severity of the risk's consequence. The team used the following risk matrix template to evaluate the risk of any proposed plan of action:

		SCALE OF SEVERITY		
		ACCEPTABLE	TOLERABLE	GENERALLY UNACCEPTABLE
SCALE OF LIKELIHOOD	NOT LIKELY	LOW	MEDIUM	MEDIUM
	POSSIBLE	LOW	MEDIUM	HIGH
	PROBABLE	MEDIUM	HIGH	HIGH

Contingency Planning

A contingency plan, or “Plan B”, is necessary in the unfortunate event that the main timeline and plan doesn’t unfold as expected. Contingency planning is done when it is apparent that there is potential risks that exist which can sideline the project. Without having a plan in place, the chances of the project being successfully completed decreases significantly. The uses of such plans is widespread and applies in any business venture.

Our contingency plan was devised to respond to a negative event, or a series of negative events that could impede the successful completion of the project. A single contingency plan was eventually activated, with the other negative events thankfully not occurring. The plan in question was:

- A third wave, resulting in a prolonged period of school closure.

Other plans included, but were not limited to:

- Unexpected personal circumstances for a team member, which may hinder their ability to perform their duties.
- Cash flow problems, resulting in an inability to buy components.
- Time management issues, resulting in the non-completion of various aspects of the project.

The screenshot shows a Trello board titled "Contingency Plan". The board has a header with "Last seen", "Invite / 1", "Activity", and "+ Add to board" buttons. Below the header is a search bar and filter options. The main board area has columns for "Plans in development", "Inspector", "Status", "How can we prepare?", "Probability", and "How do we handle...". There are three cards under the "Plans in development" column, all labeled "Completed plans":

- COVID-19 Pandemic: Inspector (person icon), Status (Done), How can we prepare? (Ensure online communicati...), Probability (7), How do we handle... (Hold regular online ...).
- Run Out of Funds: Inspector (person icon), Status (Done), How can we prepare? (Create an accurate and detail...), Probability (1), How do we handle... (Ask the school to c...).
- Unexpected Person: Inspector (person icon), Status (Done), How can we prepare? (Ensure team members com...), Probability (4), How do we handle... (Try to distribute the...).

FINANCE

Key Considerations

Due to the COVID-19 Pandemic, many businesses have closed, and some are struggling to get by. Due to these financial constraints, we knew raising funds was going to be a challenging task in comparison to a normal year. This was a key consideration in our financial planning.

The uncertainty surrounding Brexit, the possibility of a no deal scenario, and the imposition of custom duties were a deep concern. As such, we needed to appropriately plan for such an eventuality.

These key considerations and concerns led to a conservative approach to budgeting. This approach, which minimizes unnecessary spending as much as possible, was adopted as a risk prevention measure in order to ensure the uncertainty brought by the two aforementioned factors was minimized.

Categories of Spending

Our costs can be broken down into several different and distinct categories:

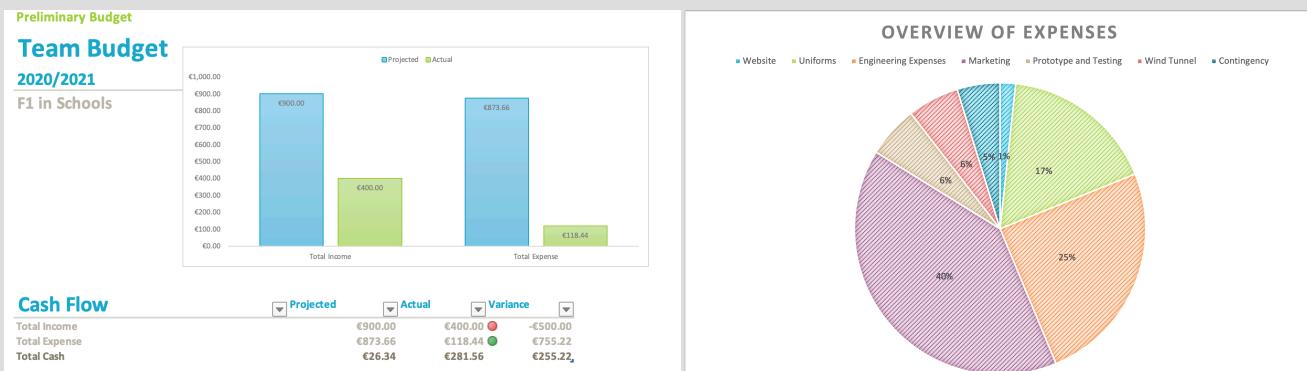
- Material resources
- Capital expenditures.
- Marketing expenses.
- Contingency reserves.

Material resource expenses were all of the costs for items that the team needed to perform the project work, including software, equipment, or other materials. Capital expenditures consisted of any equipment needed to complete the project, such as computational fluid dynamics software. Contingency reserves were set aside to allow for flexibility and to reduce risks of budget overruns. In our case, 10% of the budget was allocated for this purpose and this aligns with our previously detailed contingency planning and risk analysis. The need for a relatively high contingency reserve was due to the concerns outlined with respect to the COVID-19 pandemic, and the custom duties that could potentially be imposed as a result of a hard Brexit.

Budgeting

As Iryna Viter says, “a project without a budget is like a car without a fuel”, and this perfectly encapsulated our opinion on the creation of an accurate and detailed budget. Funding in our circumstance was essential to get the project started. Our budget incorporated the combined costs of all activities, tasks, and milestones that the project fulfilled for its successful and timely completion. The importance of this cannot be understated. The numbers outlined in the budget informed potential sponsors how much money was needed for the project to meet its expectations. Our well-planned budget also provided the basis for cost and expenses control. It also gave us an insight into how the project was progressing and if any changes to the plan created were necessary.

Our process for the creation of the budget was a bottom-up estimation. Bottom-up estimation is one of the best ways to prepare a project budget. It anticipates estimating individual parts of the project, such as tasks, milestones, or phases and totalling them to get project cost. The disadvantage with this approach, however, was that because it's very granular, we suffered from inflation affecting the cost of our estimates. This meant that the anticipated expenses were overestimated.



SPONSORSHIP

Key Considerations

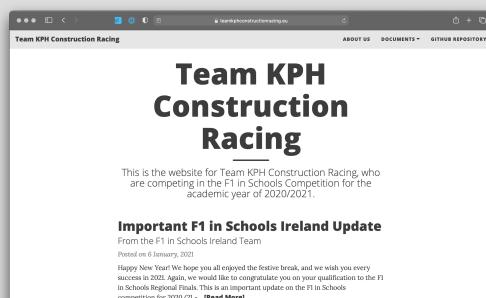
Due to the COVID-19 pandemic and the financial constraints that many businesses are experiencing during this difficult period of our history, we felt strongly that all sponsors, regardless of the level of their financial contribution would receive all of the resulting returns on investment on an equal footing. We believed firmly that any contribution in this difficult time was appreciated greatly and this is reflected in our sponsorship arrangements. This resulted in a lack of a clear sponsor tier structure, often seen in many teams.

We did, however, create a title sponsor spot for a sponsor who went beyond the call of duty. The benefit they received as a result was strictly limited to the naming rights to the team.

Return on Investment

For contributing financially to the team, each business was offered a package, tailored to the needs of that particular business. This package generally consisted of promotion through our various social media channels, a dedicated page on our website, promotion of their brand during team media events, and the inclusion of your brand on all team merchandise.

While we believe we offered a significant return on investment, for some, their investment in the project was a philanthropical venture. For example, our title sponsor, KPH Construction, are always looking for new people to take up trades in their industry and they welcomed any chance to help out where they could. They also hoped that we would consider them as a possible employer in the future.



Title Sponsor



KPH Construction is the main and title sponsor of our team. This company is an innovative and dynamic contractor who are one of the foremost providers of construction services in Ireland. From refined classic opulence through to cutting edge contemporary, they create stunning buildings that number among the most exclusive. Their clients demand perfection, and they deliver accordingly.

They work with leading Architects and Designers, faithfully interpreting their creative visions down to the last detail, to deliver a service that is without equal.

Presenting Sponsors



Holbein Carpentry & Joinery is one of our presenting sponsors. They are based in the picturesque town of Kenmare, South Kerry. They create bespoke products, tailored to meet design specifications.



MHL Consulting Engineers is another one of our presenting sponsors. Enjoying considerable success since its establishment two decades ago, the company has gained a reputation for specialising in the fields of Road Design, Traffic & Transportation Engineering, and more.

BRAND IDENTITY

Team Name

During the initial stages of the project, the team was referred to as, "Team Neidín". As we progressed through the competition and began to coalesce sponsor support for the project, we offered the naming rights of the team to our title sponsor, which on one hand provided a clear return on investment for the company concerned, but it would also begin to build an underlying brand identity. In the end, KPH Construction agreed to become the title sponsor in February of 2021, and as such, captured the naming rights to the team.

Colour Scheme

An important element we felt in establishing a consistent, and recognisable brand identity from the public's perspective was to establish a colour scheme, which was both distinguishable and recognised the underlying values of the team. As such, great care was taken in this regard, and in the end, we decided a colour scheme of prominently grey, blue, white and black was most appropriate. These colours were chosen to match the common colour palettes present in our sponsors logo designs. There were also other underlying reasons for our choice: grey represents our deep commitment to the project, white represents purity of intention of our team, blue represents the trust in each team member places in one another, and black represents a sense of elegance that we hope to achieve in our design. These values were core to the team's successful collaboration throughout the academic year.

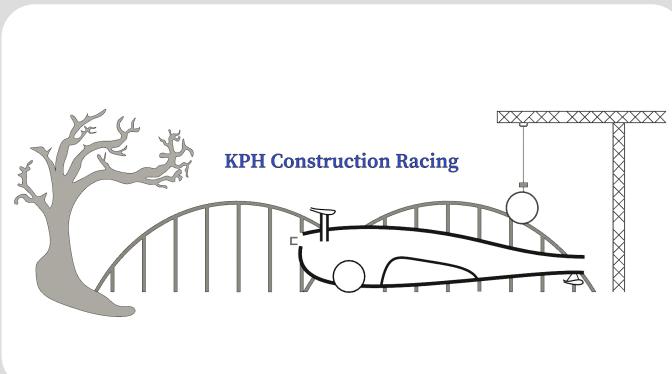
Grey

White

Black

Blue

Development of Logo



Following the establishment of a team name, and a distinct colour palette, the formation of a logo was the next most logical step in developing our brand. The logo would come to represent the ideas of our team, and what we hope to achieve. The bridge represents our locality, but it is also a symbol of unity as we hope to bridge the scientific literacy gap between rural and urban Ireland. The tree

represents our sponsor, Holbein Carpentry & Joinery, and the growth we made in the last few months. The crane represents MHL Consulting Engineers and the better and improved Formula One car that we built. All of these aspects contribute to a distinct, and memorable representation of our team and our goals.

Uniform



An important way of creating a clear brand identity we believed was creating a uniform that represented the entire team. The purpose of the uniform is to make us clearly distinguishable from other teams. It also created a sense of team unity and team spirit, and fundamentally, enhanced our cooperation in many areas. Our jumper bears the team logo and the logo of our title sponsor, KPH Construction on the front. It also bears the logos of our two secondary sponsors, Holbein Carpentry & Joinery and MHL Consulting Engineers on the back. Our school's name is placed on the arms of the hoodie

CREATIVE MARKETING

Target Audience

Our target audience is rural communities in Ireland. We hope to promote STEM subjects in these communities. STEM subjects are crucial in the modern world in which we live. They permeate all parts of rural life, and by promoting these subjects; it will support innovation in rural Ireland, which is suffering from a brain drain to large urban areas.

Agriculture is a major part of Ireland's culture, and by targeting these communities; it will help advance and further develop the agricultural community in these areas. We think supporting these communities will be beneficial as they are often overlooked by the nation.

Social Media

Our 3 primary social media platforms for publicly promoting our project was Instagram, Facebook and Twitter. This enabled us to reach out to many people locally and internationally, who were interested in our team. We have many local social media groups, which we requested to follow our pages. This resulted in our page being shared and put the word out to our closely knit community as to the developments in our project. Good, consistent interaction with the public not only gained us the support of the public but it also was a contributing factor in finding support from a sponsor.

Once we were accepted to compete in the competition, we commenced weekly posts and updates regarding our project to spark interest in our team and build up followers. We firmly believed in the principles of open-source design, and by implementing this in our social media strategy, we believed it created transparency throughout the various phases of the competition and this resulted in a more engaged follower base..



Press

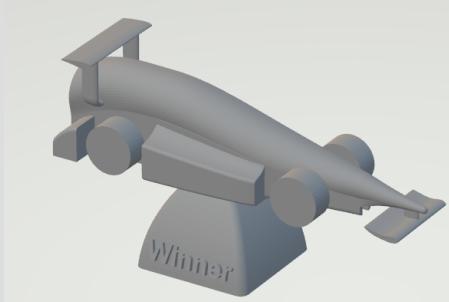
Kerry Students' Fast and Furious F1 Brain Challenge – February 25th, 2021

By Admin - 25th February 2021

[Share on Facebook](#) [Tweet on Twitter](#) [G+](#) [P](#)



Virtual Events



Due to the nature of our target audience, which is composed of people who may have limited to no access to stable and reliable broadband, and as such, may be not as tech savvy in comparison to the urban population, we felt it was vital to mount a comprehensive traditional media strategy to raise awareness of our project. We contacted numerous press organisations, and we have featured in a handful of them. These include:

- Radio Kerry
- Kenmare News

Originally, we envisioned carrying out several different fundraising activities in our school, from selling raffle tickets to doing a bake sale. The goal of this was to raise awareness of the project, but also, to provide much needed funds. Due to the third surge of COVID-19 and the introduction of new variants into the community, however, it was not possible to arrange any sort of in-person fundraising or promotional events. As such, we held a virtual quiz as a promotional event for the team over Microsoft Teams. The winner of the quiz received a custom-made, 3D printed trophy based on our car design at the time.

PIT DISPLAY

Work in this area has not progressed enough.

Preliminary work has begun; however, such work is at a stage where it would be inappropriate to include it in this version of the enterprise portfolio.

ENTERPRISE EVALUATION

Team Structure

In our initial team set-up and preparation, we sought to provide ourselves with a strong starting point with the work we were about to undertake. We used the expertise of each team member to achieve a high-quality result. As the project progressed, however, we ran into a few issues.

- The relatively small size of the team meant each team member had a huge breath of responsibilities to undertake. This resulted in a great deal of stress in the initial stages of the project, due to poor time management. However, stricter timetabling and planning ultimately relieved this pressure and improved the general wellbeing of the team.

Project Management and Risk Analysis

Due to the COVID-19 pandemic, a huge amount of uncertainty was created in many of the key aspects of the competition that required completion. This resulted in:

- A huge deal of stress in many respects. Team members were worried the competition would be cancelled, their work would have been pointless, and that they wouldn't be able to complete the project in a timely manner. However, after the creation of a contingency, some of these fears were rectified.

Finance and Sponsorship

A huge amount of responsibility was placed on the team due to the large amounts of money required for competing in this competition and due to the fact that this money was not our own. This resulted in

- A huge amount of worry in relation to ensuring that the funds provided by the sponsors were handled correctly and properly. However, after consulting with the business teacher in our school, we were able to define and execute a strategy in relation to handling of these funds in a proper and secure manner.

Brand Identity and Marketing

In many ways, creating a recognisable, distinct, and memorable brand and creating associated marketing material for said brand was probably one of the more challenging aspects of the enterprise portion of this competition:

- The development of the logo for the team initially proved challenging due to the broad range of opinions on the subject. However, after sitting down as a whole team and defining our common objectives, we were able to reach an agreement.
- Due to school closures after the Christmas period, we were deeply worried of the impact that this could have on the promotional opportunities. As a result, we increased our presence on social media and set out to hold virtual events such as quizzes for promoting the work of the team.

Pit Display

Work in this area has not progressed enough. Preliminary work has begun; however, such work is at a stage where it would be inappropriate to include it in this version of the enterprise portfolio.

Conclusion

Over the last number of months, the team has faced an extraordinary number of challenges and solved them along the way. We have gained an incredible amount of experience and learnt a great deal about how to collaborate and work together in a team, how to successfully manage the identity of a brand, and how to create a reasonable and thought-out budget. We may not have been successful every single time, we believe we produced a standard of work that we can be proud of. If we are ultimately successful in the national final, that would be fantastic, however, if we aren't, it was worth it nonetheless.