



FIA Formula 1
World Championship™

EVENT REPORT 2020(21)

 in Schools
WORLD FINALS


WORLD FINALS

aramco

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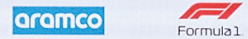
2nd PLACE

SUPPORTED BY



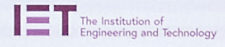
WORLD CHAMPIONS

SUPPORTED BY



3rd PLACE

SUPPORTED BY



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F1INSCHOOLS.COM @F1INSCHOOLSHQ #F1SWF

PUSH YOUR LIMITS

2

1

3





Andrew Denford
 Founder and chairman of
 The F1® in Schools STEM Challenge

After such a difficult year for all our student teams, we were delighted to host the Aramco F1 in Schools World Finals at our HQ at Denford Limited, in the UK. As a live-streamed event, in partnership with Zoom, it was a first for us all, and from the feedback we received, it was amazing – with full interaction between the teams and judges! As title partner, Aramco's support helped us to showcase the very best talent from 43 teams from all around the world. We were again delighted to receive amazing involvement from all the Formula 1® teams, with stunning trophies and goodie bags. To round off the event, Stefano Domenicali, CEO of Formula 1®, and Fahad Dhubaib, Head of Global Communications from Aramco, crowned Britannia Red our 2020(21) World Champions. Fingers crossed that we can return to a live event in 2022!



David Croft,
 Awards Show Host
 Sky Sports F1® HD Commentator

I was delighted when I heard that the F1® in Schools World Finals was going to go ahead, even though I had to watch the racing from afar in Azerbaijan, where I was commentating for the Formula 1® race. Luckily, the schedule allowed me to make it back to the UK to host the Awards Show and see the excitement that even a virtual event can bring. The competing students have done their countries proud once again, even after one of the toughest years to compete in this truly amazing competition. The world of Formula 1® is proud of you and I can't wait to see some of you in the Formula 1® paddock in the near future.



Amin H Nasser,
 President & CEO, Aramco,
 Sponsor

Aramco's title sponsorship of the F1® in Schools World Finals events is an extension of our long history of investing in engaging programmes that inspire young people to follow exciting career paths in science, technology, engineering and mathematics, recognising the ever-increasing necessity to embed such skills and foster innovation and creativity. The sponsorship introduces the company to some of the most talented STEM students from around the world, and provides a platform for Aramco to showcase the Company's innovations and ambitions.



Gary Anderson,
 Chair of Judges

Considering the extraordinary year we have had and the disruption to education we have seen, I was overwhelmed by the energy and calibre of this year's cohort of World Finalists. I was delighted to once again be the Chair of Judges to see this year through to completion. The teams deserve the biggest congratulations for their engineering excellence and creative designs. The rules have been pushed and new ideas developed. This made the competition a pleasure to preside over. Well done to all the teams. You will go far, and to our winning team, Britannia Red, you deserve to be standing on the winners' podium.

The Competition

1 - FORM AN F1® IN SCHOOLS TEAM



A team is formed of 3-6 students, who decide on a team name and job roles, and then follow a systematic engineering design process to manufacture and race their cars, making sure that they comply with a comprehensive set of technical regulations. Teams register for the regional final events, hopefully progressing to national finals, from where podium winners take a place on the world stage at the World Finals.

2 - PROJECT MANAGEMENT AND ENTERPRISE



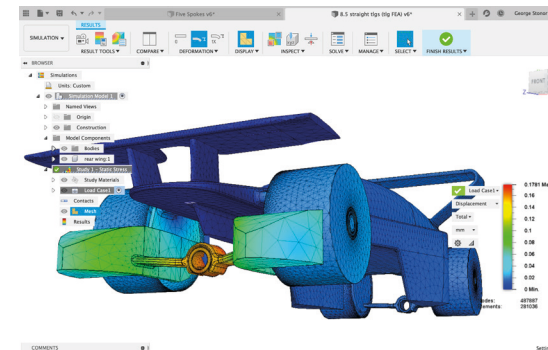
The teams prepare a project management and business plan, develop a budget and raise sponsorship. Teams are encouraged to collaborate with industry and create business links. New for this year's World Finals is a dedicated project management score card with 90 points available - assessed by project management professionals from the Project Management Institute Educational Foundation, based on the evidence in the Project Management and Enterprise portfolio, alongside a Zoom meeting with the teams.

3 - DESIGN AND ENGINEERING



Using 3D CAD (Computer Aided Design) software, such as Autodesk Fusion 360, the team designs a Formula 1® car of the future to the specification set by the International Rules Committee, just like in Formula 1®. Teams then present their design work and creations to a panel of judges.

4 - ANALYSE



Aerodynamics are analysed for drag coefficient in a virtual reality wind tunnel using computational fluid dynamics (CFD) software.

5 - MAKE



Using 3D CAM (Computer Aided Manufacture) software, the team evaluates the most efficient machining strategy to make the car, and then manufactures it using a CNC machine, such as a Denford CNC router.

6 - TEST



Aerodynamics are tested in air trace visualisation tunnels. Aerodynamics is a major focus for all teams involved in the world of Formula 1® and can make the difference to a winning team. Students can fine tune designs to optimise speed and drag coefficient.

7 - PIT BOOTH



Teams put together an informative display showcasing their work through all stages of the competition, also incorporating their team identity. For the 2020(21) World Finals, the pit displays were presented to the judges as a 3D video render.

8 - SCRUTINEERING



Cars are submitted to parc fermé where the judges scrutinize every dimension to check they comply with the Rules and Regulations. Cars were couriered to the F1® in Schools HQ two weeks before the event, where they were scrutinised by an experienced panel of judges overseen by Gary Anderson, the Chair of Judges.

9 - ENGINEERING JUDGING



Engineering judging was assessed via Zoom between the judges and the teams. The judges questioned the teams on how their car was manufactured and why particular designs were chosen.

10 - VERBAL PRESENTATION



This year, teams prepared a video presentation for the judges to assess, which covered all aspects of the challenge. The video format enabled the teams to introduce editing and graphics to impress the judges.

11 - PORTFOLIOS JUDGING



The teams put together two 10-page A3 portfolios documenting their project. The judges assessed these offline and then via Zoom calls with the teams.

12 - RACE



Finally, teams put the cars to their ultimate test by racing them over a 20m measured distance with the F1® in Schools elevated track and F1® in Schools race system.

PUSH YOUR LIMITS



The Teams



Brayden Taylor Joshua Kan Lachlan Vos Lachlan George Mitchell Phipps Hayden Richards

T01

Celestial
Australia

Pacific Hills Christian School & Magdalene Catholic College



Soar Racing Vivacity Racing

T02

Dark Matter
Australia

Gold Coast Christian College



Wesley College

T03

Nebula
Australia

Wesley College

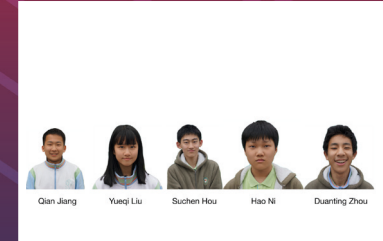


Experimental High School Affiliated to Beijing Normal University

T04

NightGlow
China

Experimental High School Affiliated to Beijing Normal University



Qian Jiang Yueqi Liu Suchen Hou Hao Ni Duanling Zhou

T05

Pharos
China

Shanghai Pinghe Bilingual School



VELIONNE RACING

T06

Velionne Racing
China and Malaysia

Shanghai Pinghe School & Sultanah Hajjah Kaisom Secondary School



KON SHIHUEI ILLUT ANIS ALIHA NIJK NADIVAN VISHVARETHI ZU ESEN MIRZA HUSVATI

T07

Fabulous9
Malaysia

SMK Dato' Undang Musa Al-haj



KERIS RACING POWERED BY MYCEB

T08

Keris Racing
Malaysia

Sekolah Menengah Kebangsaan Seksyen 9, Shah Alam



RAYA RACERS

T09

Raya Racers
Malaysia

Sultan Abdul Hamid College & Madrasah Idrisiah K. Kangsar



RIMAU RACING POWERED BY MYCEB ENGINEERED BY SUPREME FINTECH

T10

RIMAU RACING
Malaysia

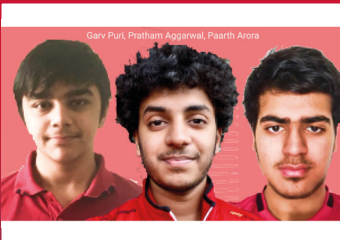
Sekolah Menengah Kebangsaan Seksyen 9, Shah Alam




T11
Hanuman
Thailand
The American School of Bangkok




T12
Persist Racing
Thailand
The American School of Bangkok



T13
Grand Dash Racing
India
The British School, New Delhi



T14
Team Blaze
India
The British School, New Delhi



T15
Hyper Bolt
India
Lotus Valley International School



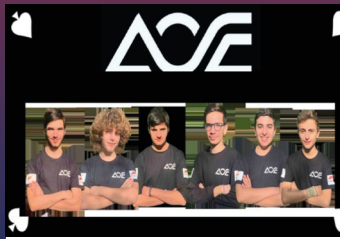
T16
Delta X-15
UAE
GEMS World Academy Dubai



T17
Zenith
UAE
Hartland International School



T18
BOLT
Cyprus
The English School of Nicosia



T19
ACE
Cyprus
The English School of Nicosia



T20
Hyperion Racing
Greece
Erasmios Greek and German School & Anatolia college




T21
Olympian Racing
Greece
Arsakeia Tositseia Schools of Ekali & 2nd Lyceum of Alimos



T22
Prismatic
Greece
Ekpaideftiki Anagenissi & 3rd General High School of Serres



T23
Team SquareQ
France
INSA Centre Val de Loire



T24
Nine Degrees Racing
Germany/ Ireland
Aue-Geest-Gymnasium Harsefeld & St. Muredach's College



T25
BRT OLIBAEZA
Spain
IES Santissima Trinidad



T26
Electron
England

Saint Olave's Grammar School



T27
Team IQ
England

North London Collegiate School



T28
Apollo Racing
Ireland

Sutton Park School



T29
Feabhas Racing
Ireland

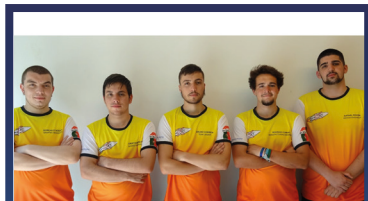
Marist College



Left to right: Alana Whelan, Cian Breheny, Claire LeBranch, Robert McGonigle, Andrea Conner.

T30
Quintolux
Ireland

St Brigid's College, Loughrea



Gonçalo Sousa Cristiano Araújo Bruno Correia Rodrigo Cunha Rafael Sousa

T31
Rockt
Portugal

Escola Secundária de Ponte de Lima



T32
Genesis
Scotland

Linlithgow Academy



T33
Britannia Red
England

Robert May's School



T34
Brazilian Six
Brazil

Colégio Vértice



T35
SESI/SENAI SC SPARK
Brazil

Escola S - SESI/SENAI Criciúma SC

PUSH YOUR LIMITS

The Teams



T26
Team Tachyon
Brazil
FourC Bilingual Academy



T37
ZENNA
Greece and Brazil
SESI Jardim da Penha & Moraitis School



T38
Cyclone Racing
USA
Brentwood Borough School District



T40
Girls Tonaltech Racing
Mexico
Preparatoria de Tonalá



T41
Sastalkej
Mexico
Universidad Autónoma de Campeche



T42
Skull Bulls Racing
Mexico
Conalep 2



T43
Alpha1 Racing
USA
British International School Chicago
- South Loop



T44
Element
Mexico
Colegio de Bachilleres del Estado de
Sonora



Opening Ceremony

The Opening Show, hosted by Tom Deacon, welcomed the 43 teams from 18 countries competing at the Aramco F1® in Schools World Finals 2020(21).

The UK Prime Minister, Boris Johnson, commenced the proceedings with a message of support to the World Finalists.

Andrew Denford co-hosted with Tom Deacon to introduce these amazing messages of support and said that he was 'indebted to the Prime Minister for taking the time to show his support for F1® in Schools', adding 'It is an honour for us to be recognised for the work that we do to instil a passion for STEM, and we couldn't do this without Formula 1®, the Formula 1® teams and our partners.'

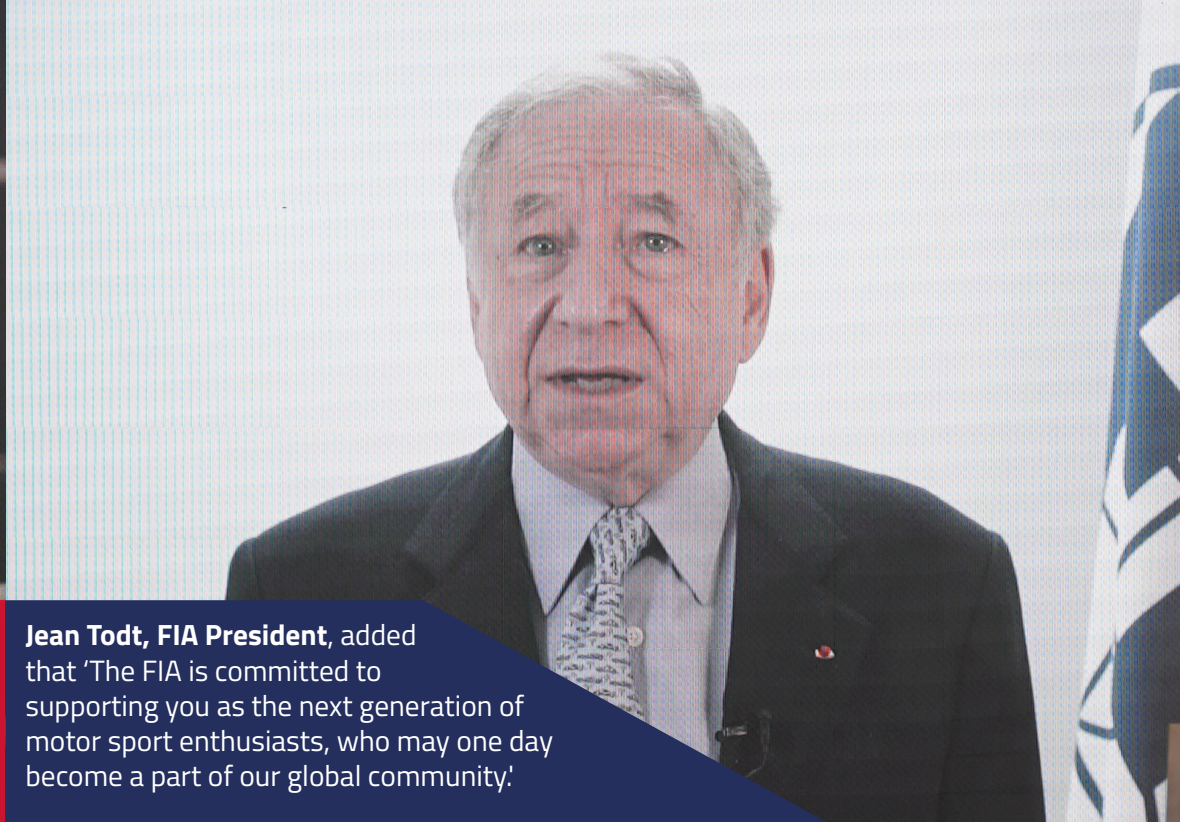
'Science, technology, engineering and maths, the STEM subjects, will be key components in steering us through the great challenges the world faces today and tomorrow. It is fantastic to see that so many young people from all corners of the globe share that passion, that interest in pushing engineering and technology. The demand for STEM skills is growing. Here in the UK, we are encouraging more students into STEM education and training at all stages from primary school to higher education. In taking part in F1® in Schools you are rising to this challenge and equipping yourselves with the skills needed for work, and what better way to learn than through the invigorating stimulation of competition. I wish all of the teams the best of luck and my congratulations to the eventual winner.'

- Boris Johnson





Formula 1® President & CEO, Stefano Domenicali, then congratulated the students on their achievement of reaching the World Finals.



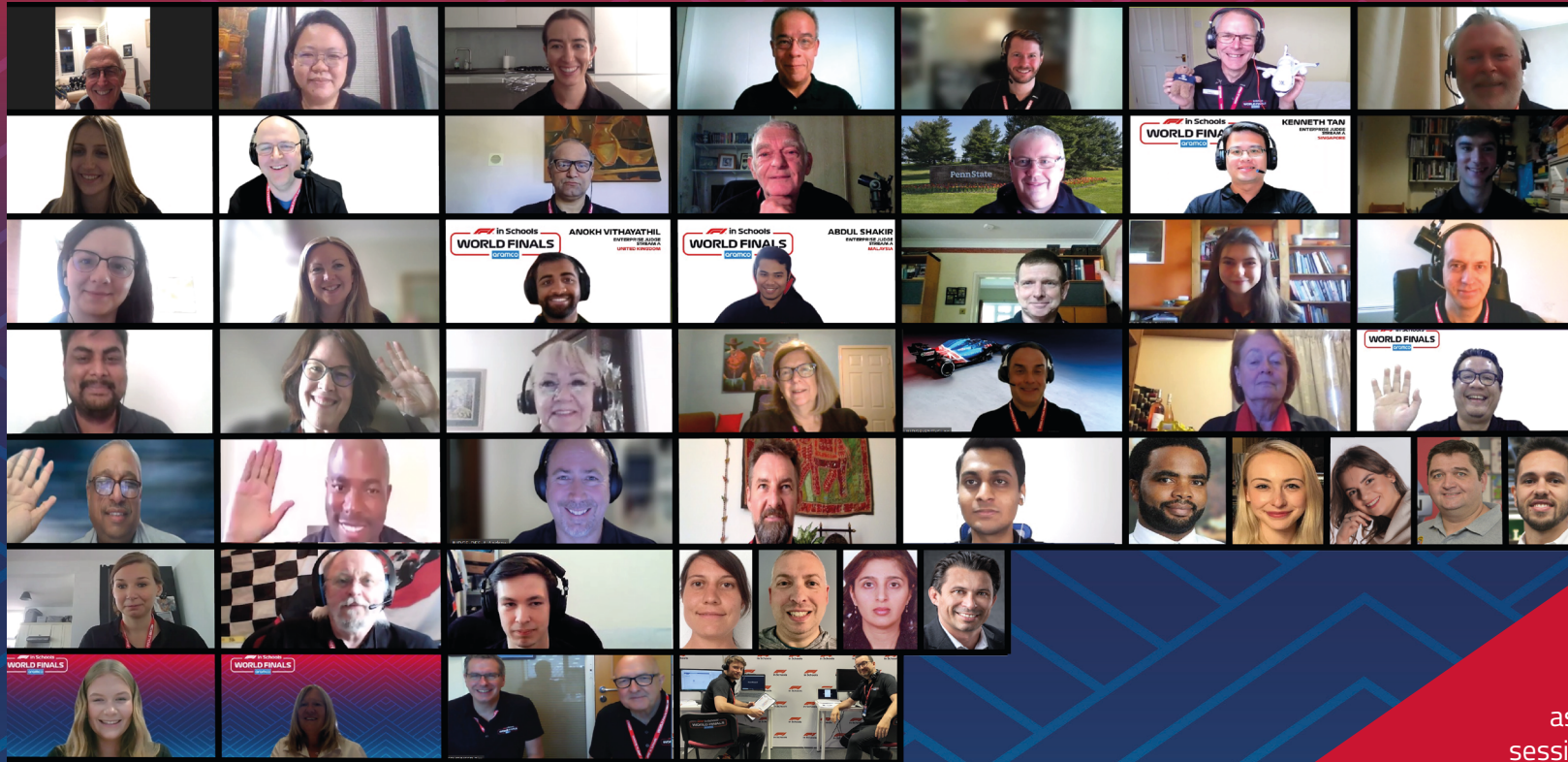
Jean Todt, FIA President, added that 'The FIA is committed to supporting you as the next generation of motor sport enthusiasts, who may one day become a part of our global community!'



Amin H. Nasser, President & CEO of Aramco, then officially declared the event open, adding that 'the partnership introduces the company to some of the most talented STEM students from around the world and provides a platform for Aramco to showcase the company's innovations and ambitions.'

Following the official proceedings and a comprehensive explanation of the competition, it was time for the students to join the show via Zoom. Over the remainder of the Opening Show, every team met Tom Deacon, host and race commentator and said hello to their fellow competitors from around the globe for the first time.

International Judging Team



The 50+ international judging team coordinated the judging via Zoom. Following individual assessments, a series of moderation sessions took place, and then during the competition days, the judges met all 43 teams on Zoom. This gave the competition judges a crucial opportunity to meet and speak to the teams in person, and gave the teams a chance to make a good impression in addition to what was achieved through their project work. Over the course of three competition days, 583 scheduled judging sessions were successfully conducted through 12 structured Zoom calls, giving 52 judges and 227 students a thorough and rigorous experience comparable to an in-person competition.



Virtual Racing via Zoom

All teams were able to attend their racing via Zoom - from school, or individually from home, depending on the COVID-19 restrictions within their countries. Our event host was able to interact with the teams from within the event studio as they watched their cars on the track. The studio output formed the 23+ hours of live event show which were livestreamed.



Tom Deacon,
Host and racing commentator

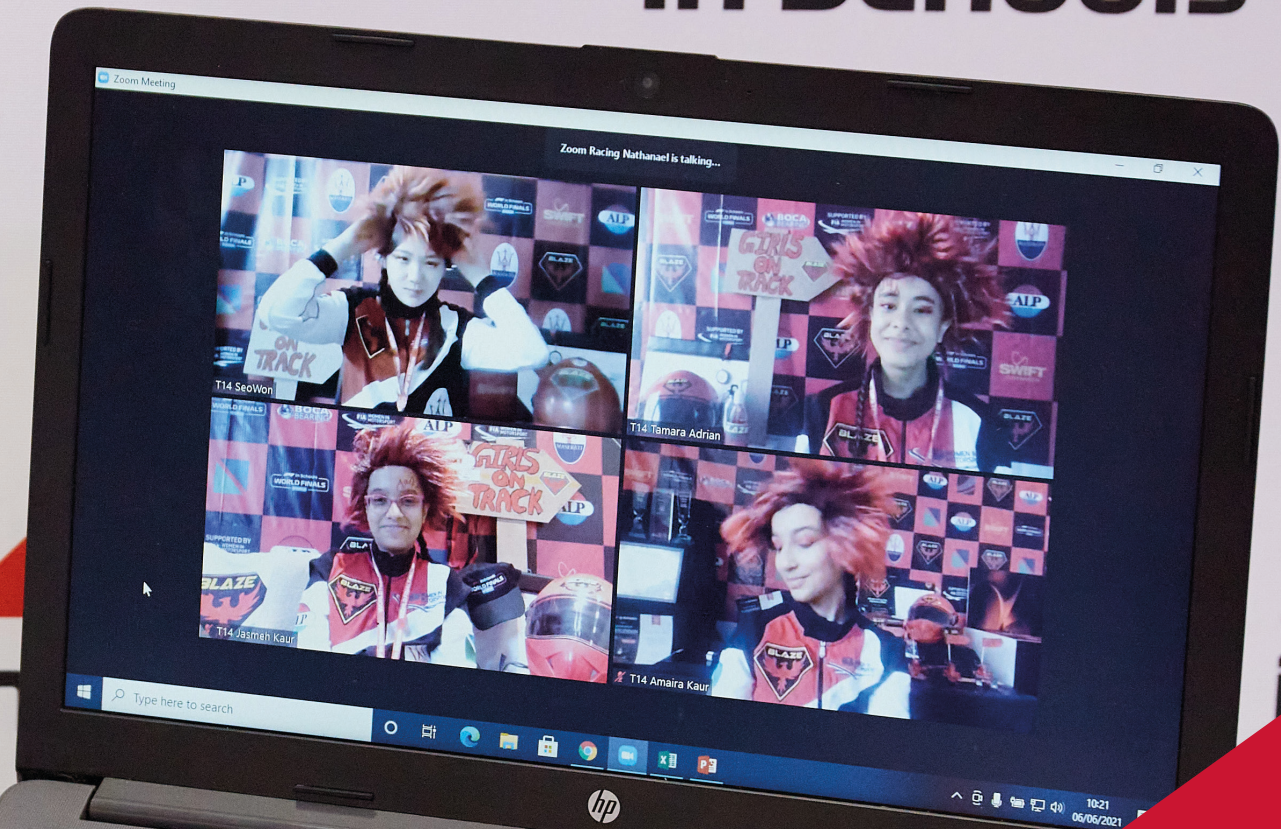
I have hosted the F1® in Schools UK National Finals for the last few years and was delighted to have the opportunity to take on the responsibility for this year's World Finals. I had the amazing Amy Martin to help me understand the racing from an ex-competitor's point of view. The teams joining the competition via Zoom made the show, and it really felt like we were all in the room together - the atmosphere was electric. Congratulations to all the teams: you all have bright futures ahead of you.

Day 1 Racing

The first day of racing saw all 43 teams race four times on the competition track. Joining the action via Zoom, the teams were interviewed by Tom Deacon, who was joined by previous World Finals competitor, Amy Martin, who gave her expert opinion on the cars. Also joining the pundit team were members of Unity Racing, a previous World Finals team, who analysed the teams' cars. At the end of the day, Prismatic from Greece held the top track time of 1.014 seconds.



™ in Schools



Meanwhile, in the virtual world of Zoom, the judges assessed the teams' work. This was facilitated by more alumni in control of the Zoom hub. It was early starts and late finishes for this team to connect the 17 time zones between eastern Australia and western Mexico.

Day 2 Racing

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The competition continued on the second day with more judging sessions and racing. Day 2 is traditionally reaction racing, which would normally involve the teams triggering the race starts. The Race Reaction Portal, presented by the IET, solved this dilemma. It enabled teams to register reaction times in advance which were then loaded onto the start gate prior to each race.

Another thrilling day of racing took place, with Prismatic from Greece holding their top place and track time of 1.014.

FASTEST CARS

1	PRISMATIC	GREECE	1.014	
2	QUINTOLUX	IRELAND	1.026	+0.012
3	TEAM IQ	ENGLAND	1.031	+0.017
4	NINE DEGREES	GERMANY & IRELAND	1.032	+0.018
5	CELESTIAL	AUSTRALIA	1.033	+0.019
6	TEAM TACHYON	BRAZIL	1.035	+0.021
7	CYCLONE RACING	UNITED STATES	1.042	+0.028
8	NEBULA	AUSTRALIA	1.046	+0.032
9	BOLT	CYPRUS	1.047	+0.033
10	SPARK BRAZIL	BRAZIL	1.051	+0.037
11	ELEMENT	MEXICO	1.051	+0.037
12	BRITANNIA RED	UNITED KINGDOM	1.052	+0.038
13	ZENNA	BRAZIL & GREECE	1.055	+0.041
14	OLYMPIAN RACING	GREECE	1.059	+0.045
15	HYPERION	GREECE	1.061	+0.047
16	NIGHTGLOW	CHINA	1.065	+0.051
16	DELTA X-15	UNITED ARAB EMIRATES	1.065	+0.051
18	VELIONNE	CHINA & MALAYSIA	1.067	+0.053
18	SASTALKEJ	MEXICO	1.067	+0.053
20	GENESIS	SCOTLAND	1.068	+0.054
21	FEABHAS RACING	IRELAND	1.069	+0.055
22	DARK MATTER	AUSTRALIA	1.072	+0.058

23	TEAM BLAZE	INDIA	1.076	+0.062
23	GTRACING	MEXICO	1.076	+0.062
25	APOLLO RACING	IRELAND	1.077	+0.063
26	SQUAREQ	FRANCE	1.080	+0.066
26	ELECTRON	ENGLAND	1.080	+0.066
28	RIMAU RACING	MALAYSIA	1.081	+0.067
29	FAB9	MALAYSIA	1.083	+0.069
30	ROCKET	PORTUGAL	1.090	+0.076
31	BRAZILIAN SIX	BRAZIL	1.095	+0.081
32	KERIS RACING	MALAYSIA	1.100	+0.086
33	ALPHA1	UNITED STATES	1.114	+0.100
34	GRAND DASH	INDIA	1.122	+0.108
35	HANUMAN	THAILAND	1.158	+0.144
36	PHAROS	CHINA	1.171	+0.157
37	ACE	CYPRUS	1.180	+0.166
38	ZENITH	UNITED ARAB EMIRATES	1.199	+0.185
38	SKULL BULLS RT	MEXICO	1.199	+0.185
40	RAYA	MALAYSIA	1.203	+0.189
41	BRT OLIBAEZA	SPAIN	1.211	+0.197
42	HYPERBOLT	INDIA	1.239	+0.225
43	PERSIST RACING	THAILAND	1.496	+0.482

Times are provisional until all judging is complete

DAY 3

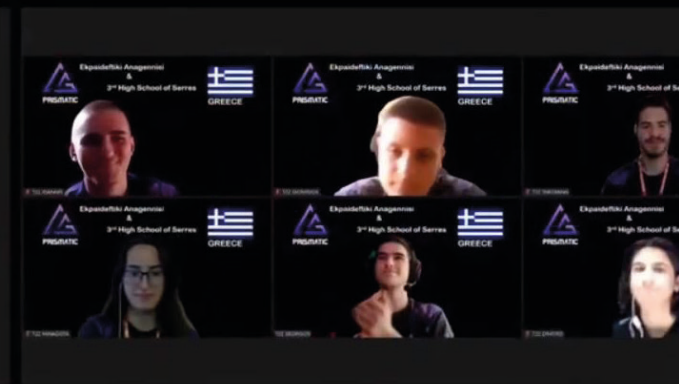
Knockout racing and judges' feedback



	CAR
LANE 1: PRISMATIC	B
LANE 2: QUINTOLUX	B

The Knockout Racing proved again to be one of the highlights of the event, and with reactions pre-loaded onto the gates, it was left to the teams to watch how their cars performed via Zoom and the event livestream. The tense race finale saw Quintolux, from Ireland, crowned Knockout Champions.

Away from the racetrack, the teams met once more with the judges via Zoom to receive constructive feedback on each of the assessed areas.



	CAR	REACTION	TRACK	TOTAL
LANE 1: PRISMATIC	B	0.203	1.047	1.250
LANE 2: QUINTOLUX	B	0.130	1.046	1.176

F1™ in Schools WORLD FINALS

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The Awards

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DENFORD

WORLD CHAMPIONS
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3rd PLACE
SUPPORTED BY
IET The Institution of Engineering and Technology

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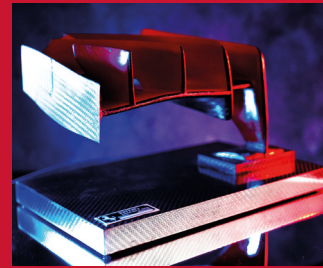
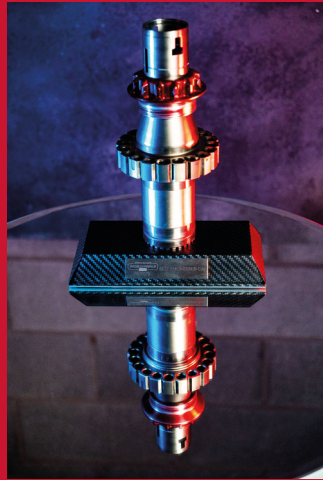
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The Zoom-powered Awards Show, with online attendance by the teams, teachers, dignitaries and key Formula 1® paddock personnel, celebrated the achievements of the F1® in Schools World Finalists, with the future engineers and professionals of the Formula 1® industry having worked tirelessly in pursuit of the ultimate prize: to be crowned World Champion and win valuable University scholarships from UCL Engineering, London.



Messages of congratulations from Formula 1® drivers were well received by all the students, with 20 awards being presented during the event.

Formula 1® President & CEO, Stefano Domenicali, announced Britannia Red as the new World Champions, saying: 'Formula 1® is really believing in this project in its entirety. It's been a great moment to share this intensity, and when I saw all the boys and girls really so excited about what they are doing, it reminds us of who we are, and this responsibility needs to be shared with the world; and I will do this at the next Grand Prix.'

WORLD CHAMPIONS #1



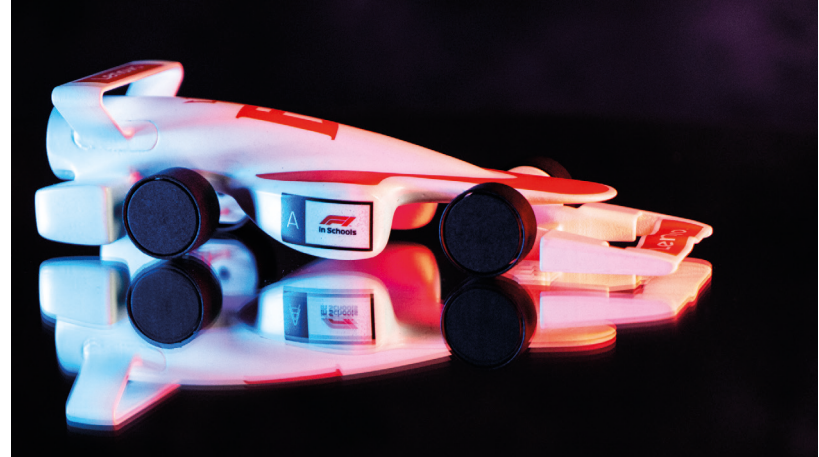
Britannia Red UNITED KINGDOM

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Robert May's School

Amelia Doward, 16
Callum Green, 16
Zachary Taylor, 17
Edward Hodgson, 17
Caolmhe Thomas, 16
Abigail Bessant, 16



'It's always been our aim to be World Champions. We've been a team for 3 years and we've been working hard towards it, but I don't think we ever envisaged this happening. There were so many strong teams this year, we really didn't expect it. We've put in thousands of hours of work for this, we've lost all of our social life and maybe we can have some sleep now, but it was so worth it.' - Amelia Doward



Britannia Red impressed the judges with the quality of their work. The team excelled in many areas of the competition, with a superbly designed and engineered car, an engaging, professional presentation, and they showed innovation and a depth of STEM understanding far beyond their years.

The team also collected the Best Engineered Car and Verbal Presentation Awards.

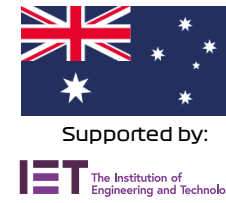
#2



**Quintolux
IRELAND**
Supported by:
St Brigid's College, Loughrea



#3



**Nebula
AUSTRALIA**
Supported by:
Wesley College



Fastest Car Award



Supported by:

Quintolux
Ireland



Sponsorship & Marketing Award



Supported by:

Brazilian Six
Brazil



Identity Award



Supported by:

Nine Degrees Racing
Germany & Ireland



Verbal Presentation



Supported by:

Britannia Red
United Kingdom



Innovative Thinking Award



Supported by:

Grand Dash Racing
India



Research & Development Award



Rohan, Kaylan, Nathan, Moosa, Kavin, Virujan

Supported by:

Electron
England



Sustainability Award



Supported by:

Zenith
United Arab Emirates



Best Engineered Car



Supported by:

Britannia Red
United Kingdom

WILLIAMS
RACING

Best International Collaboration

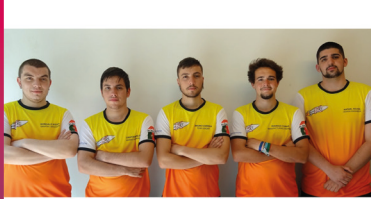


Supported by:

Nine Degrees Racing
Ireland & Germany



Scrutineering Award



Gonçalo Sousa Cristiano Araújo Bruno Correia Rodrigo Cunha Rafael Sousa



Supported by:

Rockt
Portugal



Pit Display Award



Team Blaze
India



Supported by:



Digital Media Award



Olympian Racing
Greece



Supported by:



Chair of Judges Recognition of Achievement Award



Velionne Racing
China and Malaysia



Supported by:



Best Newcomer Award



Team SquareQ
France



Supported by:



FIA Women in Motorsport



Girls Tonaltech Racing
Mexico



Supported by:



Best Application of Project Management



Team Blaze
India



Supported by:



Knock out Competition Winners



Quintolux
Ireland



Supported by:





F1 in Schools WORLD FINALS



F1® in Schools is proud to deliver such an exciting initiative, which attracts so many females to take part in the competition. We continue to work with and support the FIA Women in Motorsport Commission to show that motorsport is open to women in all its aspects, whether as competitors, officials, team managers, engineers or mechanics. It's important that we continue to promote the place of women in motorsport and encourage the next generation of young women to see and take up the opportunities available to them.

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FIA WOMEN IN MOTORSPORT AWARD

F1 in Schools WORLD FINALS aramco

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GIRLS TONALTECH RACING MEXICO

SUP

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PUSH YOUR LIMITS

World Champions Trophy Presentation



In October 2021, the new World Champions, Britannia Red, were presented with the Aramco F1® in Schools 2020(21) World Champions Trophy by Stefano Domenicali, Formula 1® President and CEO, at the Formula 1 HQ in London UK.



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