

EVENT REPORT\*\*\*





# WORLD FINALS **AUSTIN TEXAS 2016**











It was great to be back in Austin hosting the F1 in Schools World Finals and yet again the students raised the level of innovation, creativity and engineering to create a fantastic highly competitive World Finals.

The teams were great fun to work with and a credit to their schools and teachers. The support the event receives from the F1 community shows that we truly are working with the engineers of the future and I look forward to seeing some of these youngsters in the F1 paddock working amongst the F1 teams. I congratulate all the students on their hard work and

I hope each and everyone one of them enjoyed the experience in Austin. Texas.

David Croft

Sky Sports F1 HD Commentator

The 2016 World Finals in Austin. Texas was another fantastic event and yet again the teams raised the level of competition to a significant high. The standard of work that the teams achieve is unbelievable with the intricate levels of engineering applied to their cars, seeing them breaking the boundaries with their superb innovations and their general passion for F1 in Schools is incredible.

It was a special event in the history of F1 in Schools, as we've never had 11 race runs under one second. It was only a year ago that the World Record ducked under a second and this year, it was broken twice, with four teams cracking the one second barrier.

Congratulations must go to Infinite Racing for becoming our 12th World Champions and for achieving such high marks across all

We are extremely proud to have the support of Bernie Ecclestone and Formula One Management and we value the help he gives us and for always finding time to present his trophy in the paddock which is a memorable experience for the students and

a real endorsement for F1 in Schools. The students worked tremendously hard to achieve their success, so it is great for them to have recognition from the man at the helm of Formula 1 and their time in the paddock has given them memories that will last a lifetime.

I must finally congratulate all the teams for showing such ingenuity and dedication to their involvement in the Challenge! I'm already looking forward to the 2017 World Finals.



### Gary Anderson

It was a pleasure to return to Austin, Texas to be the Chair of Judges at the 2016 World Finals.

The talent of the students at the World Finals is exceptional and this year was no disappointment. The level of entrepreneurism and engineering excellence exceeded all expectations and I have learnt to always expect the unexpected from these students.

New technologies and innovations have really pushed the competition to its limits. Alongside the intense competition, the camaraderie and sportsmanship between teams is something that can be truly admired.

This year the World Champions were made up of students from both the U.S.A and Germany. I think F1 could learn a few things from our judging process and our teams!

Well done to all the students who made it to the World Finals and congratulations to our new World Champions, Union Racing International on their incredible achievement.

Gary Anderson

Chair of Judges

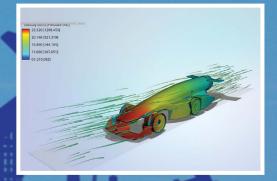


## THE COMPETITION \* WHAT'S IT ALL ABOUT



#### 1 - FORM AN F1 IN SCHOOLS™ TEAM

Manufacturing Engineer, Design Engineer, Graphic Designer and Resource Manager.....The team then



AUTODESK.

Dynamics software (CFD).



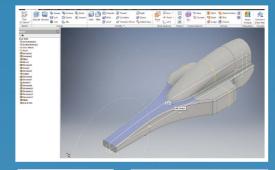
#### 2 - BUSINESS AND SPONSORSHIP PLAN

The team prepare a **business plan**, develop a budget collaborate with industry and create business links.



#### 5 - MAKE

Aerodynamics are **analysed** for drag coefficiency in a Using 3D CAM (Computer Aided Manufacture) software, Virtual Reality Wind Tunnel using Computational Fluid the team evaluates the most efficient machining strategy



#### 3 - DESIGN

AUTODESK

Using 3D CAD (Computer Aided Design) software, the team **designs** an F1 car of the future to the specification set by the International Rules Committee, just like in Formula 1.



#### 6 - TEST

Aerodynamics are **tested** in wind and smoke 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 co-efficiency.



#### 7 - PIT BOOTH



#### 10 - VERBAL PRESENTATION

Teams prepare a presentation to perform to a panel of judges covering all aspects of the challenge. This is presented within a set time limit (10 mins).



#### 8 - SCRUTINEERING

Cars are submitted to parc fermé where the



#### 11 - PORTFOLIOS JUDGING



#### 9 - ENGINEERING JUDGING



eams are judged on car speed, as well as supporting evidence of their design, verbal presentation and marketing display stand in "the pits".

Teams put the cars to their ultimate test by racing

COMPETE REGIONALLY, NATIONALLY AND INTERNATIONALLY AT THE WORLD FINALS FOR THE BERNIE ECCLESTONE WORLD CHAMPIONS TROPHY.

## **COMPETING TEAMS**

	TEAM NO.	TEAM NAME	COUNTRY	SCHOOL
<b>(*)</b>	TO1	Elixir Racing	Malaysia	SMK Sultanah Hajjah Kalsom
	T02	Enigma UK	United Kingdom	Robert May's School
<b>—</b>	T03	Fast Tech Crew	Germany	Alexander-von-Humboldt-Gymnasium
*	T04	FlashPoint	Canada	SATEC @ W.A. Porter C.I.
	T05	Hurricane Racing	Ireland	Marist College
×	T06	Kinetikos Racing	Scotland	Inveralmond Community High School
<u> </u>	T08	Estrella	Jordan	Al-Hasaad Al-Tarbawi Schools
_	T09	Endeavour	Germany	Gymnasium Unterrieden Sindelfingen, Karl-Friedrich-Gymnasium Mannheim, Kurfürst-Friedrich-Gymnasium Heidelberg
	T10	Team Mu Racing	USA	Wheeler High School
<u>©:</u>	T11	Galax	Singapore	River Valley High School
NIZ.	T12	Team ZERO	Australia	Barker College
	T13	Supermac's Racing	Ireland	St. Brigid's College,
*>	T14	SinoDraco & Forward	China	Beijing No.35 High School & Dazhong Technical School
<b>1</b>	T15	Inv1ctus	Portugal	Agrupamento de Escolas Padre Benjamim Salgado
*	T16	Doppler Racing	Vietnam	British International School HCMC
	T17	Airy Eagles	Austria	HTBLA Steyr & Vienna International School
	T18	Lobos Racing	Mexico	Colegio Cedros Norte
*>	T19	BLAZE	China	Shanghai Shixi High School
16	T20	Tachyon	Wales	Denbigh High School
	T22	RPD Racing	Romania	British School of Bucharest
	T23	S.T.E.A.M Team	Jordan	Al-Ridwan Schools
*>	T24	LeSports Chequered Flag Racing	China	Beijng No.5 Middle School
<u> </u>	T25	Blaze Racing Team	Cyprus	The English School Nicosia
	T26	Knight Hawks	United Arab Emirates	The Indian High School, Dubai

TEAM NO. TEAM NAME			COUNTRY	SCHOOL
ů	T27	Finkas	Peru	Markham College
***	T28	Infinitude	Australia	Brighton Secondary School & St Bede's College
	T30	Team United	United Kingdom	Kenton School
<b>₩</b> *	T31	Fast Payce	Australia	Engadine High School
<u>(:</u>	T32	Team Aeronauts	Singapore	Raffles Girls School (Secondary)
+	T33	Sixth Degree	England	The King's School, Chester
	T34	Impulse	United Arab Emirates	Repton School Dubai
	T35	Harlem United	USA	Harlem High School
	T36	INFINITE RACING	Greece	Mandoulides Schools
	T37	Aeolus Racing	Greece	Moraitis School and Arsakeio Tositseio School of Ekali
	T38	Taurus Racing	USA	Elizabethtown Area High School
<b>3</b>	T39	Panteras Racing	Mexico	Universidad Panamericana Preparatoria

I	NTERNA	TIONA	COLLABORATION	TEAMS	
		TEAM NO.	TEAM NAME	COUNTRY	SCHOOL
1		T07	UNITED WINGS	Mexico & USA	Colegio de Educación Profesional Técnica de Estado de Puebla - Plantel Puebla II & Wilson High School
	*)	T21	Cathay Racers	China & Hong Kong, China	The Experimental High School Attached to Beijing Normal University & Sha Tin College
		T29	Fusion Racing	Germany & United Kingdom	Pelizaeus Gymnasium Paderborn & Wilmington Grammar School for Boys





He gave a special Proclamation, recognising the importance of the event to the city, naming 16th October 2016 as F1 in Schools Day.

The World Finals teams were also welcomed by Edgar Ferrara, Sustainability Director, Circuit of the Americas and Matthew Bell, Global Strategic Partnerships Manager, Autodesk Education. Edgar and Matthew were the 'drivers' for the traditional F1 in Schools 'Flag Off' race with the COTA Director, taking a narrow win.

For the 39 teams the competition was finally on and during that day the teams faced various judging activities including verbal presentations, pit display and portfolio a engineering judging and on-track time-trial racing, where the outright d of each car is tested on the 20m track.





## COMPETITION DAY ONE CONTINUED

INFINITUDE FROM AUSTRALIA SET A NEW WORLD RECORD

An impressive race time of 0.916 seconds more than two hundredth of a seconds faster than the second quickest team.

The opening day of this year's competition saw race times tumbling as the day progressed, with four teams posting sub-one second times. Australian team, Fast Payce, were the first to challenge the World Record of 0.977 seconds set by USA team, Union Racing International, last year with a time just 1 thousandth of a second wide with 0.978 seconds. Later in the day Infinitude Racing from Greece were overwhelmed when they claimed a new World Record with a run of 0.942 seconds. However, their jubilation was short-lived, with the team holding the record for less than an hour before Infinitude blasted their car down the track and produced an unbeatable new World Record time.

16 year old Nicole Kascak, Team

Manager of Infinitude, said of taking the
F1 in Schools World Record, "We hoped
to break the record, but certainly didn't
expect to do it by that much. The car
had not been tested properly with the

Correct bearings and everything else, so we had no clue how we'd do or where we would end up. I think our catamaran design style and our innovative extended canister housing which no one has done before are the two key factors that have given us the edge."

TOP RACE TIMES

TOP RACE TIMES

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Andrew Denford, Founder and Chairman, F1 in Schools, said of the racing action, "It was a very special day in the history of F1 in Schools, as we've never had 11 race runs under one second. It was only a year ago that the World Record ducked under a second and this year, it was broken twice, with four teams cracking the one second barrier. I thought the honours were with Greece, but then Australia pipped them to the record. Well done to the Aussies!"

## DAY THREE \* COMPETITION DAY TWO

The second day of judging with the added pressure of the reaction racing, which see's each team select their team member with the fastest reactions to launch their car down the track, a very competitive part of the event!

Teams participate in a range of judging activities over the 3 days of competition at the World Finals.

The Australia and England teams also took part in the F1 in Schools Traditional Ashes style race off with England taking home the mini 'ashes' trophy this year!



Design Engineering





## DAY FOUR \* RANDSTAD WILLIAMS ENGINEERING ACADEMY ASSESSMENT CENTRE

The Academy officially began in September 2015 and the first intake of eleven students have now completed their first year, with eight students successfully making it through to Year Two which kicks off on 1st November.

The Randstad Williams Engineering Academy is as an extra-curricular e-learning and vocational skills programme, however to be eligible to apply, students must have made it through to that year's F1 in Schools World Finals and be aged between 16 and 18 when enrolling. The Academy is open to candidates from all over the globe and up to ten students are selected to join the academy each year.

This is a staged programme that sees Williams support the students until the completion of their university studies. The curriculum includes motorsport engineering themed learning via an e-learning portal. It also includes a variety of work placements and mentoring opportunities with senior Williams engineers.

This is the first time a Formula One team has created an Academy for school age students that is designed to identify and mentor future engineering stars of the sport. This Academy forms a key part of Williams' and Randstad's commitment to encouraging the study of STEM subjects in schools and attracting more people into engineering related careers.



ENGINEERING ACADEMY

## DAY FOUR \* KNOCKOUT COMPETITION

# The final day of competition featured the popular Knockout Racing Competition.

After four rounds of tense racing, it was two teams from Greece that won through to the finals. The two teams, Aeolous Racing from Athens and Infinite Racing from Thessaloniki, beat the grid of F1 in Schools World Finals to take place in the final round, battling for the Knockout Competition Winners Trophy supported by Haas F1, which was held at the start of the Awards Celebration Gala Dinner the following day.

The Knockout Racing is the final phase of the F1 in Schools World Finals and the favourite to win the racing was the team that has set the fastest track time, Infinitude from Australia. However the car proved to be struggling with the pressure of the competition and when the final

four races were run without LERS, the teams from Greece proved the quickest of the field.

Charalampos Kalfas from Infinite Racing said of their success, "When we were using the LERS we didn't think we could win, but without it, we knew that there was a chance. We're very proud to be in the final and whatever the result, we know that Greece will win."

Emmanouil Vlassis from Aeolous Racing added, "We are a team, we worked hard, we prepared hard for the reaction time. We raced quick in our Nationals and we're from Greece, so even if we don't win, we will be happy for Greece to win."



## DAY FOUR \* AUTODESK PRESSURE CHALLENGE







It was with great pleasure that Autodesk, working alongside F1 in Schools, were able to offer the World Finalists' the chance to showcase their CAD design skills with a Fusion Pressure Challenge at the World Finals in Austin, Texas. The challenge was given to the teams on the morning of Tuesday 18th October before the teams carried out the challenge at their team pit areas.

There were some great prizes up for grabs as the top 3 winning teams each received an Up Mini 2 3D Printer. The winning team won the prestigious World Finals Pressure Challenge trophy, plus each member of the winning team received a Quadcopter Drone.





## F1 VS F1 IN SCHOOLS

Infinite Racing's achievement of winning the Knockout Competition brought with it a very special opportunity – to race a McLaren Racing F1 in Schools car.

Two graduate engineers at the championship winning Formula 1 team, Chris Lark and Alexi Nicholas, had taken on the tough challenge of designing and making an F1 in Schools car, as well as their own Launch Energy Recovery System (LERS).

The car was designed by the graduate engineers to fit around the LERS device, with Alexi and Chris designing the LERS device before the car, knowing how important LERS was to overall performance and the track time.

The graduate engineers visited a UK school to test their car, but only on a 10 metre track, so at the World Finals it was the first time that they had run their prototype on a full-scale 20 metre F1 in Schools track.





## 2ND PLACE AND 3RD PLACE





#### Endeavour

Gymnasium Unterrieden Sindelfingen, Karl-Friedrich-Gymnasium Mannheim, Kurfürst-Friedrich-Gymnasium Heidelberg, Germany





### Infinitude Racing

Brighton Secondary School & St Bede's College, Australia



# WORLD CHAMPIONS

Supported by







### Infinite Racing

Mandoulides Schools, Greece



The F1 in Schools World Finals 2016 was won by a student team from Thessaloniki, Greece, with Infinite Racing from Mandoulides School, taking the World Champions crown and lifting the famous Bernie Ecclestone World Champions trophy, the first team from Greece to be on the World Finals podium. The team won an impressive haul of trophies, taking the Pressure Challenge Award, the Knockout Competition Award and Team Website Award. The World Champions win coveted City University London and UCL Engineering scholarships.

Stelios Mavromatis from Infinite Racing said of being crowned World Champions, "It was an amazing night. We were very surprised to be Champions, we did everything we could and hoped for a good position, but we really didn't expect to win. Our secret to success was the teamwork and our manufacturing which was excellent, it was good solid engineering and getting the best results from every team member is the key to our win. We are just amazed to be Champions, it's been such a lifetime experience, we are all thrilled with our achievements."















Pressure Challenge Award supported by Autodesk

INFINITE RACING Mandoulides Schools - Greece



Women in Motorsport Award

supported by The FIA Women in Motorsport Commission

Denbigh High School - Wales



Team Website Award supported by Fantastic Media

INFINITE RACING Mandoulides Schools - Greece



Image of the Week Award supported by Sutton Images

**Fast Tech Crew** 

Alexander-von-Humboldt-Gymnasium - Germany



Knockout Competition Winners supported by Haas F1 Team

**INFINITE RACING** Mandoulides Schools - Greece













**Enterprise Portfolio Award** supported by F1 in Schools

**Eniama UK** Robert May's School - UK

Social Media Award

supported by ID PR & Marketing

IRELLI

Verbal Presentation Award

supported by Pirelli

**Tachvon** 

Denbigh High School - Wales

WILLIAMSRACING

Best Engineered Car Award

supported by Williams Racing

Toro-Rosso

Kinetikos Racing

supported by Scuderia Toro Rosso

Inveralment Community High School - Scotland

Pit Display Award

Knight Hawks he Indian High School, Dubai -













supported by Mo



Chair of Judges Recognition of Achievement

supported by Red Bull Racing

**Harlem United** Harlem High School - USA





**Outstanding Sportsmanship Award** supported by Sahara Force India Formula One Team

HTBLA Stevr & Vienna International School - Austria



Team Identity Award supported by Scuderia Ferrari

Kinetikos Racing

Inveralment Community High School - Scotland



Fastest Car Award

supported by Mercedes AMG Petronas Formula One Team

Infinitude

Brighton Secondary School & St Bede's College - Australia





Team Sponsorship and Marketing Award supported by Manor Racing

Universidad Panamericana Preparatoria - Mexico

Tachyon

Denbigh High School - Wales

Scrutineering Award

supported by F1 in Schools

St. Brigid's College - Ireland

Innovative Thinking Award

Panteras Racing

supported by Renault Sport F1 Team

RENAULT

SPORT

Supermac's Racing



Sauber F1 Team

est Newcomer Award rted by Sauber F1 Team





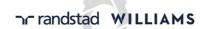
The Best International Collaboration Team Award supported by Shell

**Fusion Racing** 

Pelizaeus Gymnasium Paderborn & Wilmington Grammar School for Boys - Germany & United Kingdom



## RANDSTAD WILLIAMS ENGINEERING ACADEMY WINNERS



ENGINEERING ACADEMY

# Williams and Randstad announced the nine students selected to join the Randstad Williams Engineering Academy's "Class of 2016" - the second intake of students to join this innovative scheme that sees Williams and Randstad mentor

students from across the world as they bid to secure a career as a Formula One engineer.

Following a series of written submissions and group exercises that were overseen by a joint Williams and Randstad assessment panel, the students chosen for the Randstad Williams Engineering Academy demonstrated the passion, commitment and raw skills needed to join this exclusive programme. The students were informed of their selection during the F1 in Schools World Finals Awards Celebration Gala Dinner, with Williams' Chief Technical Officer Pat Symonds, and Randstad's Chief Innovation Officer in the US, Graig Paglieri, making the announcement.

Speaking about this year's selection process Pat Symonds said; "We have been extremely impressed by the calibre of the students who joined us last year. Their passion has been infectious and their progress over the past 12 months, both personally and academically, has been remarkable. It has really validated the decision to set up the Academy and our chosen selection mechanism. The students we have assessed and selected this week in Texas look equally promising. I'm confident we have some future engineering stars on our hands and with the help of Randstad we

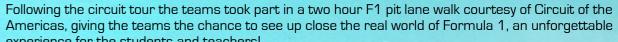
are committed to nurturing their talent in the years ahead." Graig Paglieri, Chief Innovation Officer at Randstad US said; "We are very pleased to partner with Williams in the Randstad Williams Engineering Academy. In the assessment team, we were impressed by the drive and competencies of this new group of students in 2016. Promoting education and career opportunities in STEM profiles is crucial in a labour market where technical skills are in high demand. The Randstad Williams Engineering Academy provides a wonderful platform to engage with these talented youngsters early-on, and support them in building their future."

## VISIT TO CIRCUIT OF THE AMERICAS AND F1 PIT LANE WALK



After all their hard work the students were rewarded with a trip to Circuit of the Americas, they enjoyed an exclusive coach tour of the circuit led by the official F1 safety car, stopping at the famous 'turn one' for a group photograph with the main pit straight in background.







## BERNIE ECCLESTONE PRESENTS THE BERNIE ECCLESTONE WORLD CHAMPIONS TROPHY

Infinite Racing, were given a day to remember when Formula 1<sup>™</sup> boss, Bernie Ecclestone, presented the F1 in Schools<sup>™</sup> Bernie Ecclestone World Champions trophy to the team of five 16 and 17 year olds from Mandoulides Schools, Thessaloniki.

Meeting Mr.Ecclestone in the paddock at the FORMULA 1 UNITED STATES GRAND PRIX, the team were thrilled when the F1™ boss gave his time to meet with them in the FOM hospitality suite. He showed great interest in their world-beating scale model F1 race car and gave the Infinite Racing team members advice on how to start a career in Formula 1.

Stelios Mavromatis from Infinite Racing said after the meeting, "We are so excited by this experience, we are quite overawed by all the attention that we are being given, with this very special presentation. We've also met so many drivers and lead engineers who have all congratulated us on our achievements. It's been an unbelievable day."

Founder and Chairman Andrew Denford said of the trophy presentation to Infinite Racing by Mr. Ecclestone, "We're very proud to have the support of Bernie and Formula One Management and we value the help he gives us and for always finding tine to present his trophy in the paddock which is a memorable experience for the students and a real endorsement for F1 in Schools."

He added, "The students worked tremendously hard to achieve their success, so it is great for them to have recognition from the man at the helm of Formula 1."





## WINNING TEAMS VISIT THE FORMULA 1 PADDOCK



Circuit of the Americas gifted tickets for the 2016 FORMULA ONE UNITED STATES GRAND PRIX to all of the world finalists', an amazing experience for the teams.























McLAREN HONDA





















f1inschools.com



