

Lenovo

UNIVERSITY OF WOLVERHAMPTON RACING

ThinkRevolutionist

WINNING RECORDS IN RACING INNOVATION

Industry



Motorsport
Engineering
Education



Systems



ThinkPad P70 Series
ThinkStation P300 Series
ThinkStation P500 Series
ThinkStation P900 Series



Challenges



Fast-Paced Design
Large Simulation Dataset



THE ONLY UNIVERSITY TEAM TO COMPETE IN THE FORMULA 3 CHAMPIONSHIPS



3
COMPLETE SEASONS

7
WINS



16
PODIUM FINISHES

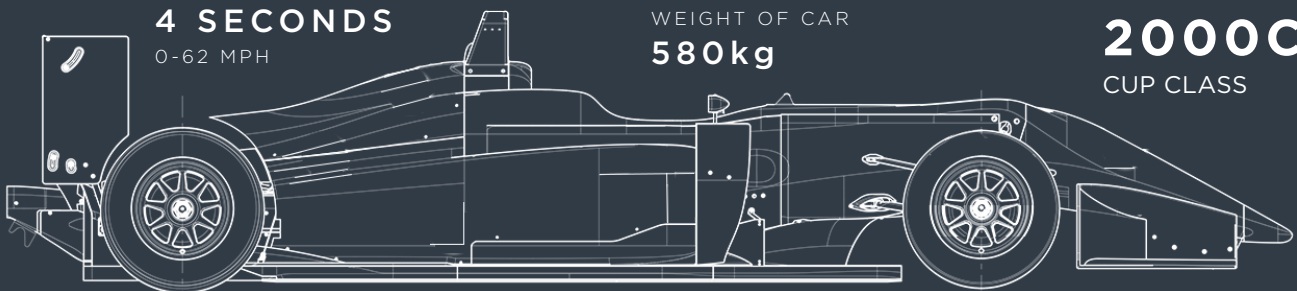


37
TEAM
MEMBERS

4 SECONDS
0-62 MPH

WEIGHT OF CAR
580kg

2000CC
CUP CLASS



WHEELS
13x6 SOLID ALUMINIUM

LENGTH
4351mm

WIDTH
1845mm

HEIGHT
945mm

WHEELBASE
2800mm

MAX POWER
177kW



2nd out of 27
IN 2017 FORMULA 3 CUP



£10million
THE UNIVERSITY INVESTED
ON ENGINEERING FACILITIES



60kg
WEIGHT
SAVING
FROM 1ST
TO 3RD
YEAR



TO DEVELOP THE BEST VEHICLE PERFORMANCE OF A FORMULA 3 CAR TAKES SIGNIFICANT COMPUTATIONAL POWER, CFD (COMPUTATIONAL FLUID DYNAMICS) ALLOWS US TO SIMULATE THE AIRFLOWS THAT NEED OPTIMISING TO WIN. HOWEVER RUNNING THESE SIMULATIONS IS TIME CONSUMING, ESPECIALLY WHEN TIME IS SHORT TRACKSIDE. WE RELY ON LENOVO WORKSTATIONS TO DELIVER FAST & RELIABLE EXECUTION OF OUR SIMULATION TOOLS TO GIVE US THE BEST RESULTS POSSIBLE IN OUR QUEST TO BE THE BEST!

- DAVID TUCKER, UWR TEAM PRINCIPAL & FOUNDER





WITH ALL THE SOFTWARES WE USE, WHETHER IT'S HIGH-END STUFF OR LOW-END STUFF, WE ALWAYS NEED THE COMPUTER TO BE RUNNING OPTIMALLY, SO WE USE LENOVO PERFORMANCE TUNER AS A WAY TO OPTIMIZE OUR PERFORMANCE TASKING, SO WE ALWAYS GET THE BEST OF WHAT WE ARE DOING.

- MATTHEW FENTON, UWR CHIEF RACE ENGINEER



UWR TAKES A DATA-DRIVEN APPROACH TO AUTOMOBILE DESIGN AND RACING

Before switching to Lenovo, UWR hadn't standardized their workstations, and maintenance and reliability issues were slowing them down. Given the program's varied workloads and fast pace, every workstation in every lab was required to run every application so students could maintain a continuous work flow wherever they were.

Now, UWR has equipped its labs with ThinkStations — gaining reliability, scalability, and world-class graphics and compute performance. With a failure rate of less than a quarter of a percent, the systems have integrated seamlessly into the program's work, keeping up with everything from heavy data analysis to component design and printing and that performance and reliability continues on the track with mobile analytics and real-time adjustments to shave off even a tenth of a second and make the podium.



DESIGN



PRINT



SIMULATIONS



DATA ANALYSIS



DATA COLLECTION

UNIVERSITY OF WOLVERHAMPTON RACING WORKSTATIONS



ThinkStation P300 Series

UWR uses the ThinkStation® P300 Series workstations to operate their 3D metal printer, bringing components to life; and scan them.



ThinkStation P500 Series

ThinkStation® P500 Series workstations are used to run programs like MATLAB® Simulink® and the Lotus Suspension Analysis SHARK module to allow students to experiment in simulation before committing to a design.



ThinkPad P70 Series

On the trackside, UWR is powered by ThinkPad P70 Series mobile workstations to handle the data collection and analysis on-the-go.

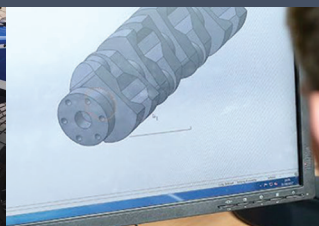


ThinkStation P900 Series

Using SOLIDWORKS, ANSYS® and Geomagic on the ThinkStation® P900 Series workstations, UWR built their own auto components, combining techniques and materials in ways that are completely new to the race track.



UWR relies on the Lenovo Performance Tuner to ensure all applications are fully optimized to utilize the full power of their Lenovo Workstations.



ThinkStation
ThinkPad

THINKREvolution

Find out more about Lenovo Workstations,
please visit www.thinkworkstations.com



NVIDIA
QUADRO

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