Prema Racing upgrades driving simulator with Cruden Panthera software

Cruden's Panthera software suite transforms team's existing driving simulator hardware to enable more complex race car set-up and development work

AMSTERDAM - Cruden has enhanced the realism of Prema Racing's existing driving simulator by upgrading it with the open-architecture Panthera simulator software suite. The project has involved integrating the team's hardware and setting up the Cruden Simulink Vehicle Model (CSVM). The upgrade package is becoming a popular offer to race teams who want to progress to professional simulator software, without the investment in completely new simulator hardware.

Engineers at Prema Racing, one of Europe's most successful motor racing teams, analyse data generated by the simulator to help optimise car set-ups, as well as to build the experience of young drivers in F4, F3 and F2.

Guillaume Capietto, technical director of Prema Racing, said: "Our previous simulator was reasonably good for driver training and track learning, but it wasn't realistic enough to be used for car development or setup optimisation and was not really open to development by our own engineers. But the hardware we had was good, so we decided to make better use of its capabilities with new software.

"Panthera will give us better platform cueing to improve driver immersion; better performing and more efficient image rendering and a higher display frequency; better control of steering force feedback and belt-tensioner cueing; more realistic car and tyre models; and better correlation between simulation and real-driving. Our aim is to have a multibody car model which allows us to measure and improve our understanding of setup changes, and to develop our tyre model in order to assess data on tyre preparation, thermal behaviour and wear."

Cruden approached the project by first evaluating the existing simulator motion system, the pedal box, IO modules, the seat belt-loader, XAP steering wheel and the projection system, at Prema's premises near Vicenza, Italy. This simulator was subsequently equipped with Cruden Simulink Vehicle Model (CSVM), instances of which will be used to model each type of car raced by Prema, and Cruden's Panthera software suite, which centralises the control of simulator components including motion and control loading, visuals, vehicle dynamics and audio. Panthera was integrated with the existing motion platform, steering wheel, belt loader and pedal box.

CSVM is a true multi-body vehicle model created in MATLAB Simulink. With support from a Cruden senior vehicle dynamist, the Prema engineers are now working on adapting CSVM to match the new 2018 F2 car. Panthera is stand-alone open-architecture software with a flexible and modular setup, for use with any existing or new simulator and with all vehicle models. Interfaces between Panthera's modules are open, to avoid users being tied to a single supplier for all simulator components whilst maintaining the lowest achievable latencies and highest possible bandwidth and image quality.

Maarten van Donselaar, Cruden's CEO, commented: "Panthera software can significantly reduce the time and cost of driver training, race preparation and vehicle development. Our work with Prema Racing shows that Panthera can be adopted to improve existing simulators which might otherwise seem outmoded, saving racing teams the cost of investing in new simulator hardware, until they are ready to take the next step in their simulator programme. When that time comes, and they want to develop areas such as vibration systems, projection and improved motion, their systems will be future-proof."

Prema Racing drivers Juri Vips, Marcus Armstrong and Charles Leclerc won the 2017 ADAC Formula 4, Italian Formula 4 and FIA Formula 2 Championships respectively, and Prema won the ADAC F4 Team Championship in 2017, was runner up in Formula 2 and was the highest-scoring team in the 2017 FIA European Formula 3 Championship. In recent years, Ferrari, Honda, Mercedes-Benz, Red Bull Racing, Renault F1, and Toyota have all trusted Prema Racing to help their junior drivers graduate to Formula One or the World Endurance Championship.

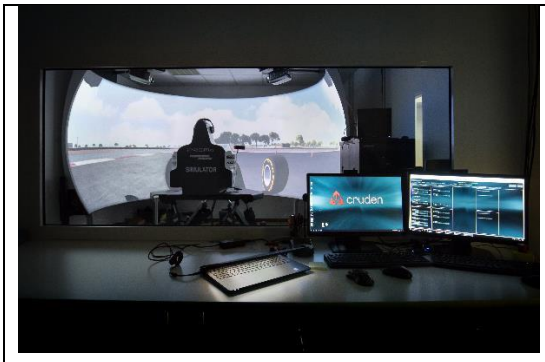
About Cruden

Cruden is the world's leading designer and manufacturer of professional, open architecture HIL/DIL driving simulators, simulator components and software. Cruden was formed in 2004 and today serves the automotive, motorsport and marine industries. The company's complete simulator packages interface with any customer vehicle model and include on- and off-board projection systems. Cruden also produces vehicle, road/track and tire models in-house. The company launched its open architecture Panthera software suite in 2015. www.cruden.com

Press enquiries

Claire Dumbreck, Unit 4, Manor Farm Offices, Fenny Compton, Warwickshire, UK, CV47 2YY. +44 (0)1295 770602 / +44 (0) 7768 773857. c.dumbreck@cruden.com

Images



Prema Racing has upgraded its driving simulator with Cruden Panthera software.

 SIMULATOR cruden	