

APPLICATION STORY



INFINITI RED BULL RACING TEAM RELIES ON FLIR CAMERAS TO GATHER CRITICAL TEMPERATURE DATA

Formula One racing is probably the pinnacle of performance and speed in sports. And it's as much a development race as it is a race on track. Racing teams are always pushing the boundaries of technology in search of higher performance and reliability. This is no different with the Infiniti Red Bull Racing team, who recently called upon FLIR Systems to help them gather critical temperature data for a variety of trackside and factory activities.



The Infiniti Red Bull Racing team is using a variety of thermal imaging cameras and test & measurement equipment from FLIR.



In 2014 FLIR Systems was named an Innovation Partner with Infiniti Red Bull Racing. The famous racing team has since been working together with FLIR

to gather temperature data from its 2014 challenger, the RB10. In the partnership, FLIR is developing solutions using its world-class miniature thermal cameras, like the FLIR Lepton core, to provide the Infiniti Red Bull Racing team with unique insights into the thermal characteristics of their cars' components and operations. Managing car temperatures effectively is a key aspect of ensuring reliability.

Commenting on the collaboration, Christian Horner, Team Principal of Infiniti Red Bull Racing, said: "This year sees the most fundamental changes to Formula One in well over a decade. The team which is most efficient in gathering the relevant data, learning effectively and adapting

accordingly will be the one which triumphs in this season of transition. The insights which FLIR technology can give us will be critical to our understanding of the new car and could give us a key edge over our rivals." "Thermal imaging has become a vital tool for controlling temperature management and tyre performance. FLIR's considerable expertise in this area will be a crucial factor in making the technology work in the demanding environments experienced in modern Formula One racing."

FACTORY ACTIVITIES

But Infiniti Red Bull Racing is not only using thermal imaging on the trackside. The same drive for performance and reliability is felt at the Infiniti Red Bull Racing headquarters in Milton Keynes, UK. Also here, thermal imaging cameras from FLIR Systems help to monitor critical temperatures for the company's assets. To this end, the Infiniti Red Bull Racing team purchased a variety of thermal imaging cameras and test & measurement equipment.



The FLIR clamp meters are a key piece of equipment in the toolset of the Infiniti Red Bull Racing electrical & maintenance engineering team.

"As our partnership with FLIR has grown, we have taken advantage of FLIR's vast experience with electrical measuring equipment and thermal imaging technology to help us off track as well," says Alan Peasland, Head of Technical Partnerships. "So we have trackside technology, but we also have FLIR helping us in and around our factory."



The easy-to-use FLIR Ex handheld thermal imaging camera enables you to measure and visualize temperatures fast, wherever you are.

QUICK AND RELIABLE INSPECTIONS WITH FLIR CAMERAS

"The FLIR E4 & E8 cameras have vastly improved the way we perform electrical and IT maintenance and inspection activities," says Steven Geary, Maintenance Manager at Infiniti Red Bull Racing. "When inspecting large arrays of electrical switches and junction boxes at the factory, we are able to thermally look for hot-spots and problem areas when the live wiring is exposed. Being able to do this without physical contact has clearly improved the safety of our team. But it has also increased the speed and reliability with which we can perform this kind of maintenance activity, which results in less downtime in the factory."

"One of the really good features of the FLIR E-Series cameras is the MSX mode. It allows us to see really good detail underneath the actual image so we can see labeling, numbers of circuit breakers etc. in the actual thermal image."

ACCURATE TESTING & MEASURING WITH FLIR EQUIPMENT

Next to its existing range of Extech test & measurement equipment, FLIR Systems also launched a new line of test and measure-



Thermal imaging can also be used for great looking imagery. The FLIR T640 camera was recently used during a race event to get high resolution images for promotional purposes

ment products in 2014. These new T&M tools were engineered from the ground up to include world-class capabilities – advanced diagnostics, enhanced productivity, and increased connectivity. The Infiniti Red Bull Racing team also included a variety of these products in its maintenance toolkit.



The FLIR DM93 is an accurate and versatile tool that is used daily by the Infiniti Red Bull Racing electronics and site facilities departments.

The new **FLIR DM93** is a rugged digital multi-meter designed with advanced VFD filtering and shielding. The DM93 is now in use at both the Infiniti Red Bull Racing electronics and site facilities departments. "An extremely accurate and versatile tool that is now in daily use within our team," says Paul Everington, Head of Electronics at Infiniti Red Bull Racing. "With Bluetooth connectivity we'll soon be able to send test results remotely from the race track back to our headquarters in the UK via our mobile devices."

The Infiniti Red Bull Racing team is also using the **FLIR CM83** power clamp meter. Steven Geary, Maintenance Manager at Infiniti Red Bull Racing: "Precision and accuracy are a key factor in every area of our Formula One business. The clamp meters are now a key piece of equipment in the toolset for my Electrical and Maintenance

FLIR CEO ANDY TEICH ON THE PARTNERSHIP

"This partnership comes at an exciting time for FLIR," said Andy Teich, President and CEO of FLIR. "With the launch of our revolutionary Lepton thermal micro-camera, we see numerous applications for thermal technology in the racing world."

Also, as we are launching several new consumer oriented products with this technology, we look forward to the broad awareness this relationship will bring. We are thrilled to align the FLIR brand and technology with Infiniti Red Bull Racing."



The revolutionary Lepton thermal micro-camera

engineering team, and are offering an excellent level of quality and reliability."

The team also purchased the **FLIR VP52** voltage pen and is using it for electrical installation and fault finding within our multiple buildings on site. "The intelligent design of the voltage pen has been a big hit with all of my team," says Steven Geary. "We always keep one FLIR VP52 on us. It allows my electricians to check electrical circuitry very quickly before they're working on it, which means they are working very safely. It also has a very handy torch on it. When we are working in very confined switch panels, fuse boards, etc. it helps us out a great deal."

Concluding on the partnership, Alan Peasland says: "2014 has been a great year for the partnership between Infiniti Red Bull racing and FLIR. It has been really successful for us and we've been able to take advantage of a lot of technology, skill and support that FLIR can offer. We hope that continues and we look forward to a very strong and bright future together."

Watch the video

www.flir.com/motorsports

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