

STEALING SECONDS FROM RAIN DROPS

You can't change the weather, but you can predict it. And every year at Le Mans, Audi is right at the forefront of meteorological science.

Le Mans' changeable weather has always been an extra challenge for drivers, teams and spectators. As veteran fans will tell you, from sunburned or sodden experience, June in France can bring both scaring heat and torrential downpours, sometimes even together on the same weekend.

The way the team reacts to the changing weather is another of those critical variables that can win or lose a race. Making the right call on when to switch between treadless dry-weather slick tyres and grooved wets can save seconds. But getting it wrong can easily cost minutes, or even cause a crash as a car runs out of grip on a sodden track.

Which is why, every year, Audi brings its own private weather service. RaceMet Radar Systems is one of the best close-range forecasting outfits in the world. Led by a former pilot, David Morton, it's responsible for preparing the detailed meteorological reports that the team's strategists rely on throughout the race weekend.

RaceMet's advanced radar system can accurately predict rain within a 45-minute 'time radius' of the circuit. Using it, the team can estimate both when a shower is likely to start and end, and also how heavy (on a scale from zero to 10) it's likely to be. Reports will even say which parts of the track are likely to be affected; it can be raining at one end of the eight-mile circuit and completely dry at the other.

The reports are accurate to within one minute, and they arrive continuously. 'It might be a sporadic shower, level one, sector A, from 13.04 to 13.09,' says Howden Haynes. 'We can judge whether the car comes into the pit, and decide what to do from there.'

And these reports proved decisive at the 2008 race. Tom Kristensen was leading in the No.2 Audi R10 TDI on the Sunday afternoon, with just over an hour of the race remaining. The sky was grey but the track was dry and he was running on slicks. But then reports came in from RaceMet, over the team's Skype network, that the weather was changing and rain was on the way.

Haynes warned Kristensen over the radio but the Danish star disagreed, protesting that, apart from some damp patches around the Dunlop Bridge, the track was completely dry.

After nearly 23 hours of racing, and with victory within reach, it was make or break time: should the car stay on slicks or switch to the part-treaded intermediate tyres?

With RaceMet broadcasting warnings of more rain, the team decided to order a pre-empive pit stop. Kristensen's car was sent back into the fight, and onto what was still a mostly dry track, shod with intermediates.

Minutes later, the reports were vindicated as it began to rain – hard. French driver Nicholas Minassian's Peugeot, trying for the lead and running on slicks, spun out. Kristensen remained in front. And Audi, with the help of the guys from RaceMet, secured a brilliant victory.

'Those are the kind of calls that can win or lose a race,' says Haynes. 'They are the most stressful to make but have the biggest rewards if you get them right.'