

## Rinstrum Provides Scales for the Bridgestone World Solar Car Challenge



*World Solar Challenge Trophy 2017*

Best of luck to all solar racing teams competing in the 2017 World Solar Challenge, now in its 30<sup>th</sup> year. Rinstrum is proud to continue its sponsorship of the event this year, providing weighing equipment for the scrutineering stations, where battery weight, vehicle weight and balance and passenger ballast are checked.

All drivers and passengers in the race need to carry ballast with them so their combined weight is higher than or equal to 80kg. Using technology originally developed for medical weighing coupled with R320 instrumentation, scrutineers have a portable and accurate weighing system. Scrutineers weigh all drivers and passengers at the start of the event and conduct spot checks during the race to ensure ballast bags have not been tampered with, and that drivers and passengers have not mysteriously lost a significant amount of weight.



*Contestant being weighed by scrutineers, with R320 in the foreground*

These scales use four 75kg planar beam loadcells to provide 300%-overload-protected 200kg scales that can be deployed accurately on any flat surface including carpet. Rubber loadcell mounts provide shock resistance. Overall, the technology allows for extremely low-profile rugged scales that are ideal for a wide range of medical and industrial applications.

The vehicle weighing system incorporates individual T610 electronics into each wheel scale. An R423 running Lua is used to maintain an RS485 communications interface to the four digital scales, to control the operator interface, and to generate the printed tickets – one for the team and a copy for the scrutineers. The T610 is a fully functioning R320 indicator sans display and keyboard and its small size is ideal for multi-channel digital weighing applications.



*Rinstrum Instruments at work – Loadcell, Indicator and Print-out*

Vehicles are weighed as part of static scrutineering to confirm tyre loadings and overall vehicle balance ahead of dynamic scrutineering where the cars are put through their paces at the Hidden Valley race track.



*Four loadcells laid out for weighing cars*

These high-tech experimental vehicles then compete in a 3000km open road race from Darwin to Adelaide reaching

speeds in excess of 120 km/hour and covering up to 700km per day using solar power and power recovered from kinetic energy. These odd-looking cars are “arguably the most energy efficient vehicles” ([World Solar Challenge website](http://www.worldsolarchallenge.org)). Making sure the cars are safe and the competition is fair is critical to the ongoing success of this great competition and Rinstrum is proud to be a part of it.



*All shapes and sizes – A few solar cars getting ready for their 3000km race.*

Follow the progress of the racers taking part in Solar Challenge at <https://www.worldsolarchallenge.org/dashboard/map>