



## *Tow Wizard Product Outline*

**Tow Wizard** is a proposed tow ball sensor system with an in car display to indicate trailer gross weight and other towing parameters. Designed for sale to the everyday boat or caravan owner it will allow drivers to tow safer, save time and petrol by tackling the *cause not the symptoms* of instability. The dash mounted display will intelligently display appropriate information to avoid overburdening the driver. The multi-integrated sensor tow ball forms the heart of the system and provides the means to safety diagnostics, nose weight, and the all important caravan gross weight. The latter being an often overlooked legal requirement. Studies of a prototype sensor design as well as the new techniques for dynamic calculations have been the subject of a DTi Smart feasibility award.

A car and caravan is an inherently unstable combination and any outfit will lapse into instability above a certain road speed or under certain wind conditions which can lead to the one or both vehicles overturning. Recommendations by the Caravan Club and others, to reduce the likelihood of problems are in the main very successful, when followed. It is however difficult to implement these and great scope for misinterpretation and simply getting it wrong exists. **Tow Wizard** will provide user friendly instrumentation to ease this burden, by for example displaying the much talked of nose weight percentage and caravan/car weight ratio. The system can also incorporate additional safety monitoring features.

This sensor system will be the first product ever to offer information to the driver whilst towing a trailer on the road. The patented technology replaces the age old technique of using hand applied mechanical measuring devices to the trailer before hitching up, as well as removing the need to drive to a weigh bridge to check legality. Market research has shown strong support for the concept by the public<sup>1</sup>, and has helped with pricing and market forecast.

Features available are:-

- **Nose weight** or % of caravan weight indication, with opportunity for adjustment whilst hitched
- Trailer **gross weight** or % of tow car available whilst towing
- **Dynamic** nose weight available whilst towing
- Trailer **brake condition** indication whilst towing
- Trailer **tyre pressure** imbalance warning at speed
- **Stability** indication whilst towing
- Drag indication, providing choices for **fuel savings**
- Ability to detect payload movement inside caravan during journey

The European Caravan Market alone is in excess of 2 million tourers, whilst in the UK over 500,000 are in use. The product has good potential as a DIY fitment, as well as through the route of conventional towbar fitting centres. Extensive consumer market research of this concept has identified a **UK market** size of **£25 to £40 million** for caravanning; additional market sectors in boat trailers and commercial are also available.

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<sup>1</sup> Market research data showed over 90% had purchase interest; 25% had intent to buy at unit price up to £250