

**From:** [RST](#)  
**To:** [RST](#)  
**Subject:** FW: Ways to improve road safety in Tasmania: submission by Professor emeritus Dr Marcus Ramsay Wigan  
**Date:** Wednesday, 18 August 2021 2:33:40 PM

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**From:** [REDACTED]  
**Sent:** Wednesday, 18 August 2021 12:53 PM  
**To:** David Pearce <[david.pearce@parliament.tas.gov.au](mailto:david.pearce@parliament.tas.gov.au)>  
**Subject:** Ways to improve road safety in Tasmania: submission by Professor emeritus Dr Marcus Ramsay Wigan

The introduction of helmets for motorcycles and bicycles and seat belts for cars made a major difference to road safety. I would be grateful if you would place this brief submission in front of your Committee reviewing road safety in Tasmania, and I would be pleased to respond to any of their questions.

The development of ITS has added much to cars, with AEB, 360 degree cameras, pedestrian sensors and automatic headway control and other ITS initiative.

Motorcycles are benefiting a little from these developments, but there is a refined new development that has the potential to make a major difference to motorcycle riders.

This development is the 'air vest'. This is a slim jacket which has a gas pressure cartridge to blow it up into a protecting layer when triggered by an accident or crash event, and thereby protect the torso (and for some vests also the shoulders) of the riders by spreading and absorbing the impacts very considerably.

Such vests have been built for equestrians, cyclists and motorcyclists over recent years.

Initially the gas bottle was triggered by a lanyard. The research on how effective these are has led to very few publications, but the suggestions are that they do offer some benefits. Equestrians are more interested in horses rolling on them, and cyclists on separation from their steeds. at low speeds

The relevance to this inquiry is that there has been approaching ten years of AI algorithm development to permit the gas bottles to be triggered by appropriate events, not just when a lanyard is pulled-or not.

The potential will be immediately obvious if one watches MotoGP riders fall off at 250-300km/h: and walk away.

There is now enough algorithm development to permit specific ones for road use, for bicycles and for race situations: all carefully tuned to each circumstance and not requiring the crude tug

of a lanyard to operate.

The most quoted report on air vests is based almost entirely on lanyard operated vests, and do not represent the most recent development-and the vests now available on the market: only a single example of an early algorithm standalone vest was included. It is no longer the a historical issue based on the limited results of the performance of pre2018 equipment (all but one event lanyard activated it must be noted): we are now in 2021 and development has been substantial

As an example Alpine Star have been working for 8 years on this type of vest and very recently started to market two vests: one for road use and one for race use. The triggerring algoritoms are now based in both cases on a huge number of calibration events: this was not the case for the paper ususally cited (2018).

Tasmania is part of the MotoCap initiative created by and still largely involving by Dr Liz de Rome, and it would be valuable to have MotoCap assess via testing the available airvests and report on the strengths and weaknesses of each: this process adds very considerable value to the EU standards that these tests pass, as these standards are heavily infuenced(as is the usual case in the early stages of availability) of new products. The independent MotoCap process also provides information and credibility that will substantially increase the takeup of these vests.

There have been too many cases of mislead use of EU standards compliance of one item in a large range of items in Australia....and MotoCap has corrected the misleading outcomes by highly respected local testing and ratings.It is important that any new and prmising safety equipment for motorycles be promoted with the highest level of locally ensured confidence, and we are fortunate to have this opportunity through MotoCAP. This will of course require funding, but is clearly a way in which both safety of riders-and a clear message that the government really cares- can be secured.

Why is it worth while?

Several reasons: the level of performance of the race tuned airvests has reached a quite remakable level, and the road tuned algorithms are far less well known but should offer similar benefits.

Also the most vulnerable riders tend to be the older ones, and many have embedded medical devices (pacemakers, insulin injectors) which require assessment and advice that MotoCap could and should add: if this is not done the manufacturers blanket general legal safety catchall of stating such devices are not for people with such embedded devices will remain unquestioned. untested, and continue to debar the most beneficial users (elders) from access and use of this major advance, as I have already determined.

Professor Emeritus Dr Marcus Wigan MA, DPhil(Oxon), FInsP, FACS, SMIEE,FICE,FAITPM has 60 years of motorcycle experience: has been an expert advisor to two Federal parliaments, Chaired two Standards Committees for helmets and eye protection, and was appointed Emeritus Member fo the US National Academies TRB Motorcycle Committee after 18 years active international contributions. He has published on motorcycle transport, capacity and ownership

and contributed substantially to motorcycle safety, traffic and transport issues with major reports that continue to be cited and used 20 years later, clarifying that his contributions are enduring utility to many.. He was the sole independent expert on the Minister's Motorcycle Advisory Council in Victoria, and accepted the appointment as Patron of the Motorcycle Riders Association. His direct experience includes holding an International motorcycle GP (FIA) Licence and both racing in one world championship round and several TT races as well as in Australia. He has 64 years on road riding without a single crash..

Motorcycles are a small part of his broad multispeciality contributions, and both the motorcycle contributions and also in many others can be found via Google or simply [www.mwigan.com](http://www.mwigan.com). He is resident in Victoria [REDACTED]

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