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## TECHNOLOGY: FRIEND OR FOE?

### Creating problems leading to risk-taking

Those of you close to the subject of Health and Safety will be aware that there were over 30 fatalities across the agricultural industry in 2017. This is an appalling statistic by any measure but even more so to realise that although farming only employs about 1.5% of the working population, it contributes to 20% of all work-related deaths.

IAgrE is a partner in the National Farmers Union led Farm Safety Partnership. This brings together a variety of industry players with a view to working collaboratively to focus on a number of key health and safety issues. At a recent meeting it was agreed that the challenges of child safety, falling from heights, machinery, and animals should be top priorities. Who wouldn't agree with that?

It was an interesting meeting with some inspiring people and many good ideas. I was left wondering if technology is the solution or part of the problem.

Take child safety for example. Someone made the very valid comment "you wouldn't let children loose in a factory would you?" A fair comment and obvious; but as another retorted, "yes, but most children don't actually live in the factory". This is also true. I well remember as a child growing up on the family farm in Lincolnshire, my mother (now aged 91 and still going strong) making it very clear what the boundaries were and I can recall being reeled in when I over stepped the mark. Clearly my mother truly cared for my health, safety and welfare as the majority of good mothers do (she still does by the way!).

This left me wondering if there was a technological solution. A simple sensor with a Bluetooth connection to a mobile phone. Add to this some GPS co-ordinates and hey presto, you have a way of alerting mum, via a mobile phone alert that "Young One" has gone off-piste. All of this is possible now. A few of you will have some sort of health and fitness sensor which measures your steps, tells you where you are and send you alerts to say that you have met your target. Why don't we utilise this technology to clip some sort of badge to the child which provides all the necessary alerts. The same technology might be adapted to alert a machine operator when the sensor wearer (who might be anyone vulnerable – young or old, even a farm visitor) is within say 20 metres of the machine. What's not to like about a technological solution to a problem like this.

At the other end of the health and safety challenge is operators failing to safely stop a machine before making an adjustment or dealing with a blockage. The Safe Stop campaign is well established and acts as a useful reminder of the importance of stopping the engine, removing the key and engaging the hand brake. Too many people are run over or crushed when vehicles roll away - often by their own tractor! With the correct

mind-set, any good operator will know that it is plain common sense to apply the Safe Stop approach.

However, one farmer made the point that when he gets off the seat of his ride-on lawn mower, a pressure switch cuts out the engine, but on tractors, such safety systems are not available. "In any case" he added, "with all the complex GPS and control systems, if I stop the engine, it often takes 10 minutes for the systems to re-boot". Has technology created a problem which leads to operators taking risks?

I was surprised by the latter point and asked a technical specialist from a large manufacturer if this was true – especially the point about the time taken for GPS and control systems to re-boot. He confirmed that it does take time for things to reboot and that the way these are wired means that all power is lost when the key is turned off. We joked about the days when you could leave the ignition on and stop the engine by pulling a red knob! At the same time he made the point that leaving the GPS and control systems live was also a health and safety risk and that with the use of electric motors and the like, a machine is still armed and dangerous. His point was that Health and Safety is about a mind-set and those people who truly understand its importance should accept that a few minutes delay is much better than the alternative.

My lasting thought is that we Agricultural Engineers have an important role in promoting health and safety. Good technology has a role to play but in some cases technology might have a potential negative impact but more than anything, the right attitude is the most vital component.

#### FOOTNOTE

IAgrE supports innovation and is trying to encourage engineering students to think about 'safety' at the start of their careers by offering a prize for the best projects demonstrating a safety (or health) improvement. As Alan Plom MIAgrE and member of the Farm Safety Partnership Board said at the meeting: "Some of the simplest ideas could have a major impact, eg finding ways to clean machinery safely whilst under power. We need more Colleges and the Universities to encourage their students to enter this annual competition."