

Lessons from the Land: *Autonomous Farming and Future Skills*



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Upskilling the Workforce: CPD and Professional Accreditation

“You reap what you sow”

Contents ...

- ❖ All about the Institution of Agricultural Engineers.
- ❖ Engineering, past present and future.
- ❖ Future Skills and Knowledge.
- ❖ Multi-disciplinary, specialist, systems integration.
- ❖ Regulated occupations.
- ❖ Professionalism.
- ❖ Driving the professionalism and CPD agenda.
- ❖ Conclusions.

Institution of Agricultural Engineers

- ❖ The Institution of Agricultural Engineers (IAgrE) is a professional membership organisation with grades for all those working, or with an interest in, engineering, science and technology within agriculture and the environment.
- ❖ A registered charity working for the public benefit.
- ❖ IAgrE brings together academics, practitioners and industry to share knowledge and promote professionalism in the advancement and application of technology in the landbased sector.
- ❖ www.iagre.org

One of the oldest professions ...

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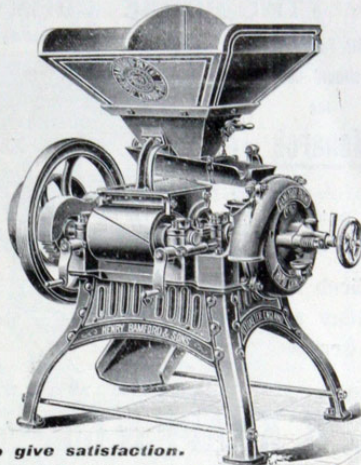
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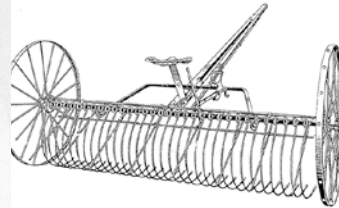
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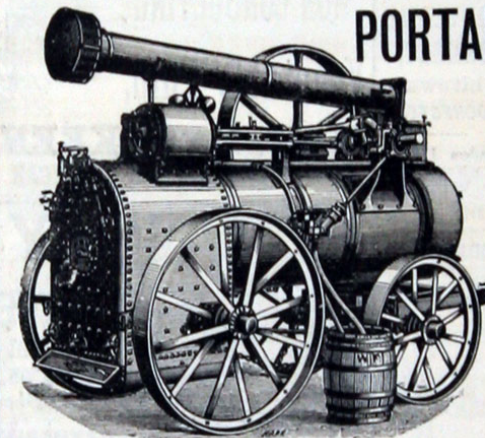
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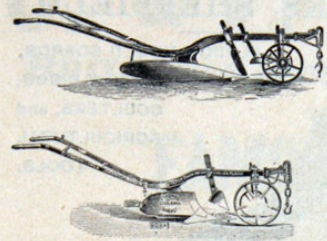
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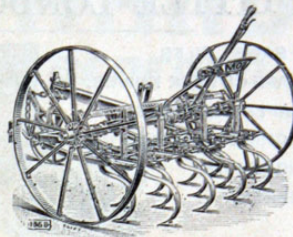


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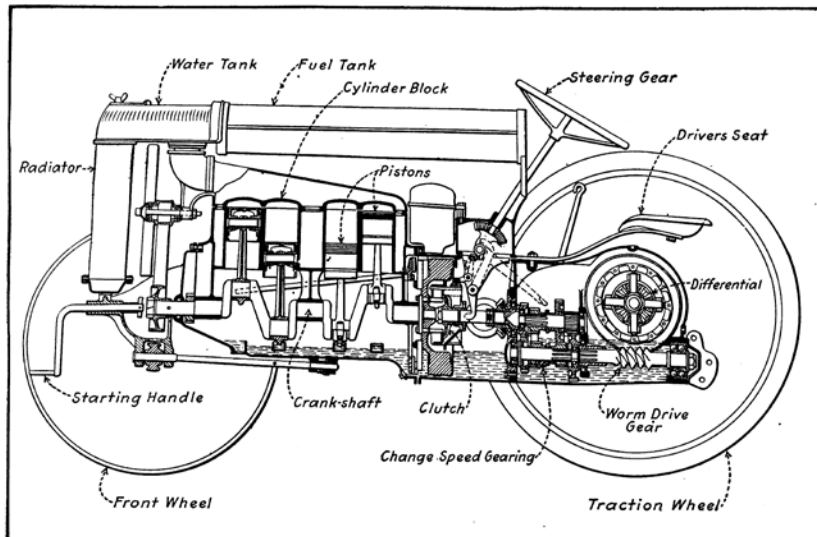


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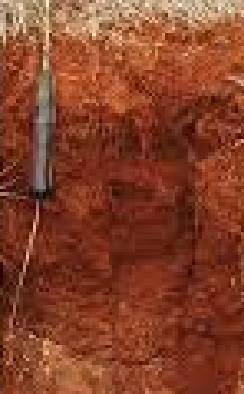
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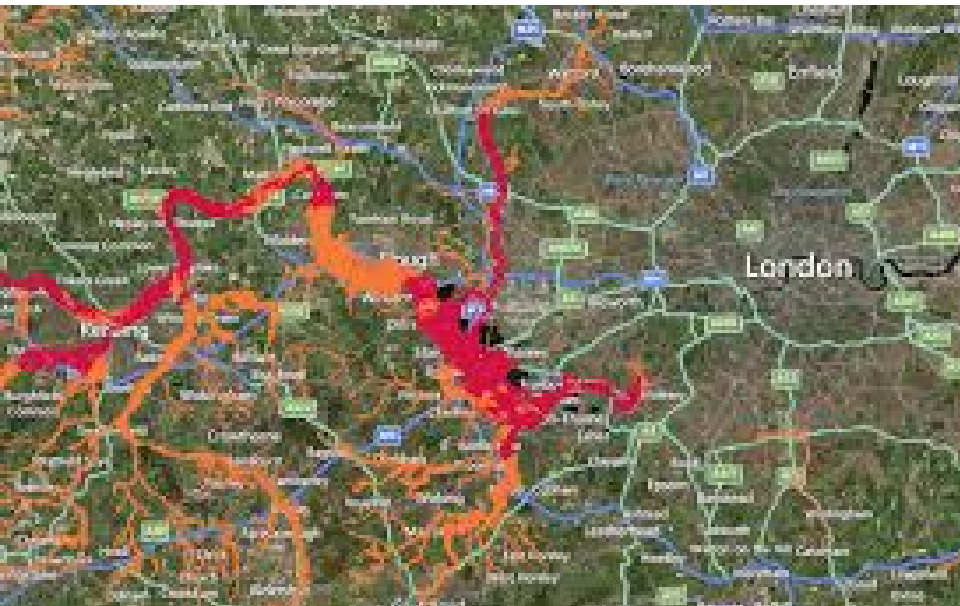
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Agricultural Engineers get involved with all of this



Agricultural Engineers are different!

- ❖ We need to understand how machinery and technology integrates with plants, animals and the land.
- ❖ Some people say that an Agricultural Engineer is 25% a scientist – **is it the same for other engineering disciplines?**
- ❖ Indeed many chemists, biologists and environmentalists are found working in all aspects of engineering.
- ❖ **Its not just about tractors and combine harvesters!**
- ❖ What about the future?
- ❖ ***Multi-disciplinary or Specialist?***



Future Skills and Knowledge

- ❖ Have a look at this short video

<https://www.youtube.com/watch?v=qvt2ohWQTEo>

- ❖ Now think forward 5 to 10 years and ask yourself this question ...
 - **What skills and knowledge will the Engineer need in the future?**
- ❖ Now consider these points ...
 - **How many of these will be the same as today?**
 - **How are you going to keep up to date in this very fast moving world?**

There will always be a need for a multi-skilled Technician ...

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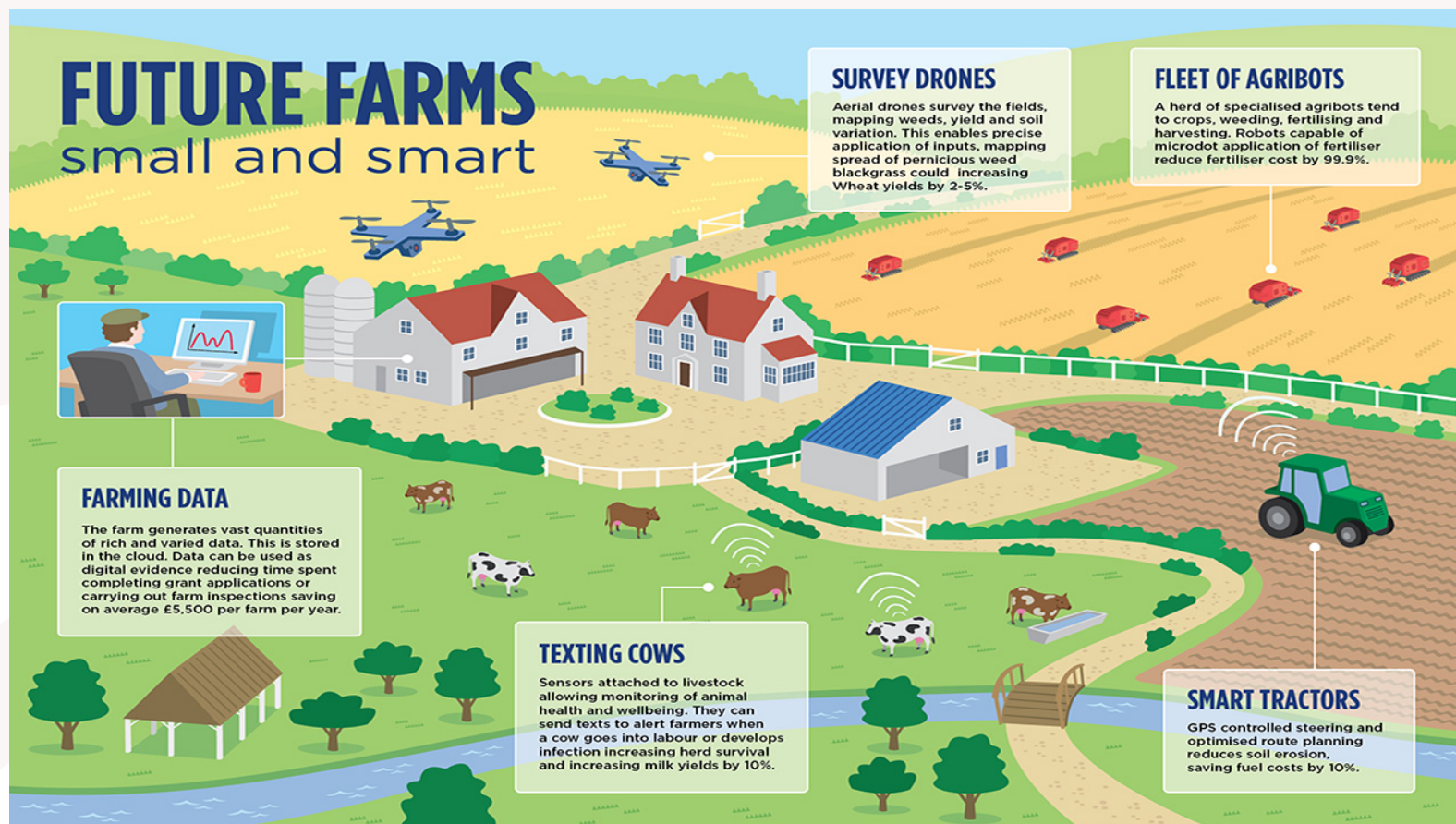
But is the future more like this?



But is the future more like this?

- ❖ More individual specialists who bring their particular expertise to the operating table?
- ❖ These specialists “wheeled in” only when needed?
- ❖ One individual in charge of the whole process – the theatre manager?
- ❖ How will we orchestrate all of these people being in the right place at the right time?
- ❖ How will we integrate the systems?

But is the future more like this?



Taking the big view ...



1. Understand computer hardware, software, and networking
2. Enjoy both analytical and hands-on work to solve problems
3. Communicate well with customers and other engineers
4. Bring a focused attitude to work with a strong attention to detail

Regulated occupations?

- ❖ Would you let an unregulated veterinary surgeon loose on your pet dog? **NO!**
- ❖ Would you fly in an aircraft with an unqualified pilot? **NO!**
- ❖ Would you let an unregulated accountant check over your end of year figures? **PROBABLY NOT!**
- ❖ Would you let an unqualified engineer fit some new brake pads on your car? **UNFORTUNATELY YES!**
- ❖ How so? Why? What is the sin in expecting a certain level of training, CPD, competence and regulation?



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Professionalism

❖ *What is a profession?*

1. An occupation, such as law, medicine, or engineering, that requires considerable training and specialised study.

❖ *What is professionalism?*

1. Professional character, spirit, or methods.
2. The standing, practice, or methods of a professional, as distinguished from an amateur.

Professional Registration - Benefits

- ❖ Improved career prospects and employability.
- ❖ Higher earning potential.
- ❖ Demonstration of a professional attitude valued by employers and customers.
- ❖ Enhanced status leading to higher self-esteem.
- ❖ International recognition of competence and commitment.
- ❖ Evidence of expertise.
- ❖ Greater influence within your own organisation and industry.

Often quite intangible and hard to sell though!

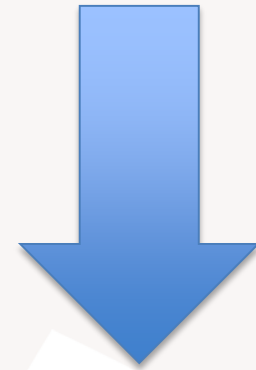
One approach to driving the agenda ...

- ❖ Parloursafe is a CPD and registration scheme for those people working with the technology used to milk cows.



The need for upskilling is high.

- ❖ Technicians register on the scheme
- ❖ They progress through tiers as they are trained and assessed
 - ❖ Tier 1 – Registration Phase
 - ❖ Tier 2 – Intermediate Technician (Generalist)
 - ❖ Tier 3 – Advanced Technician
 - ❖ Tier 4 – Master Technician (Specialist)
- ❖ Curriculum and content set by industry leader
- ❖ Evidence of CPD is needed to maintain registration
- ❖ Training mapped to Engineering Competence Standards



Down to a price or up to a standard?

- ❖ Some employers view it as a burden which stands in the way of business
- ❖ Some customers simply don't care – they just want the job doing (and now!)
- ❖ Some trade bodies and associations view this as regulation and “red tape”
- ❖ Some partners view it as an additional cost (when in fact it should be seen as an investment)

Yet many sectors have schemes similar to this ...

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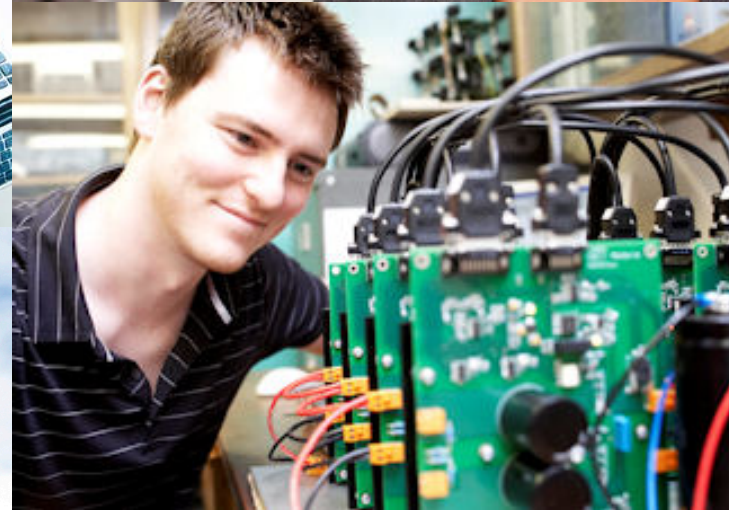
At its best ...

- ❖ Better trained technicians who do a better job, with fewer errors and more job satisfaction.
- ❖ Better profitability for employers with more loyal employees who feel valued and supported.
- ❖ Fewer warranty claims, more reliability, less chance of legal challenges, greater public confidence.
- ❖ Customers who feel more confident with the service they receive and are likely to come back for more.

Yet many people still view this as regulation ...



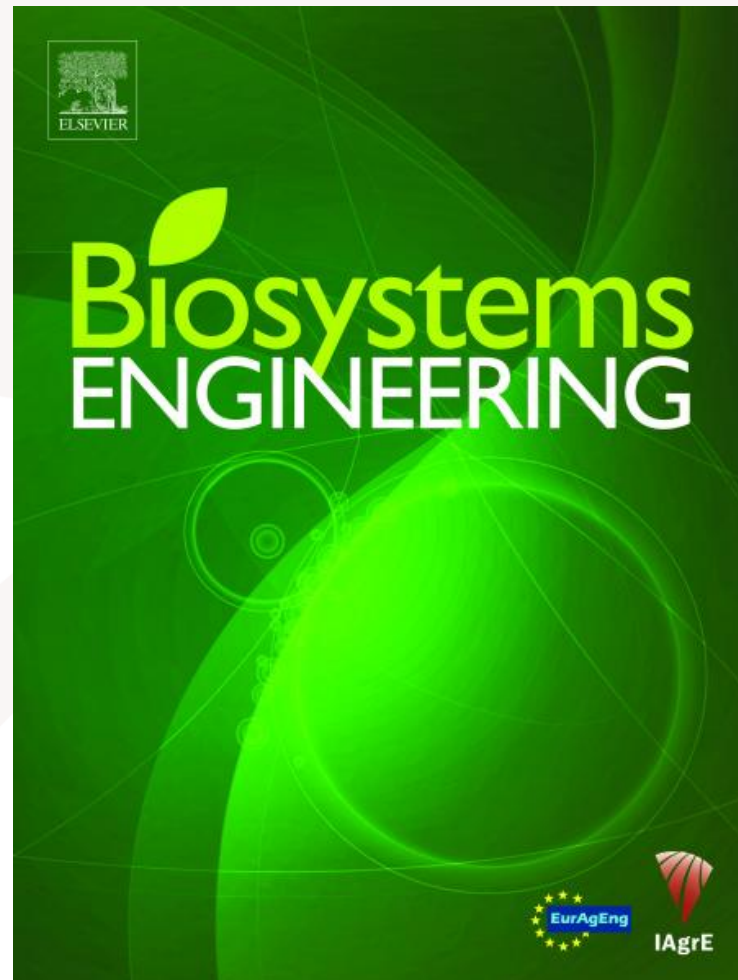
Its all about people!



And technologies of the future ...



Knowledge is King ...



Conclusions ...

- ❖ *65% of children entering primary school today will end up working in jobs that don't yet exist (World Economic Forum)*
- ❖ *Innovation is moving at a scarily fast pace (Bill Gates)*
- ❖ In a fast moving world, with so much change, just consider:
 - **How will you keep up to date with new technologies?**
 - **IAgrE (with its 80 year history) brings consistency and stability in a turbulent world. Many people join up for that reason.**
- ❖ *The role of the Professional Engineering Institution (PEI) and Learned Society has probably never been more vital!*

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SUPPORTING YOUR PROFESSIONAL LIFE ...

Questions ...

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The Institution of Agricultural Engineers

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- professional network
- professional standing
- professional knowledge

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If you would like to find out more please contact:

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