IAgrE Landwards Conference 2016

Wednesday 16th November 2016
The Rural Food Academy, Harper Adams University, Newport, Shropshire

Ag Eng Innovation: Concepts to Cash

Turning ideas into profit: the engineers' survival guide …

Conference Officers

IAgrE President	Rob Merrall
Conference Convenor	Rob Merrall
Conference Secretary	Sarah McLeod
Chief Executive & Secretary	Alastair Taylor
Press & Communications Officer	Marion King
Editor Landwards Journal	Chris Biddle

Contact details:
IAgrE
The Bullock Building (53)
University Way
Cranfield
Bedford MK43 0GH
Tel 01234 750876 email: secretary@iagre.org

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Conference Programme
Morning session

0930 - 1000	Arrival and Registration
1000 - 1010	**Introduction to Conference and the IAgrE - Dr Robert Merrall – President IAgrE**
1015 - 1045	**Session 1 – The Agricultural Engineering Precision Innovation Centre (Agri-EPI)** **David Ross - The Agri-EPI centre** An update on the Agri-EPI Centre. Aspiration, Activity and Opportunities. Developing new links and a report on progress made over the first 6 months
1045 – 1115	**Session 2 – The relationship between business, research and innovation** **Dr Mark Moore - Agricultural Development Manager for Africa at AGCO** **Experiences from the Future Farm Project** How do companies within the agricultural supply and value chain work together to realise the market potential of Agri-Tech? What challenges will we be facing as we deal with the roll out of new technologies? How will these technologies be delivered to end users (farmers) to ensure Agri-Tech, and its stakeholders, are successful?
1115 - 1145	**Session 3 - The Copyright/Intellectual Property Challenge – Dynamic Solutions** **Gary Townley - Intellectual Property Office** Explain the technicalities and legal essentials of Intellectual property and copyright. Ideas on how to future proof the innovation. New approaches to dealing with copyright and intellectual property right in a world of public/private partnership funding.
1145 – 1215	**Session 4 – Avoiding Obstacles to Economic Exploitation – Opportunities for Research Funding** **Callum Murray and Team – Innovate UK** An overview of the research focus and grant opportunities.

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Conference Programme
Afternoon session

1215- 1330	Lunch and Networking
1330 - 1445	**Session 5 – Lessons and Pitfalls in Innovation – Four Engineers, Four Stories, Discussion, Insightful Questioning (Andy Newbold)** **Chair – Andy Newbold – Farm Smart Events - www.farm-smart.co.uk** **Toby Mottram – Founder and Chief Engineer – eCow - www.ecow.co.uk** **Brian Knight – CEO and Chief Engineer – Knight Farm Machinery - www.knight-ltd.co.uk** **Rob Morrison – Product Support Manager – Fullwood - www.fullwood.com** **Richard Robinson – Founder – Autoguide - www.autoguideequipment.co.uk** From ideas to production. Understanding, anticipating and dealing with to copyright challenges.
1445 - 1545	**Session 6 – Case Studies in Innovation – Three "out there" Innovations** **Beef Monitor** Dr Andrew Edwards from the Scottish firm David Ritchie (Implements) Ltd will talk about the technology involved with their "Beef Monitor" project. **Big Bale Transtacker & Controlled Traffic Farming** Alex Baylis from Big Bale South and Kit Franklin and Jonathon Gill from Harper Adams will talk about the Transtacker system for handling big bales. **AUTOPIC** Stephen Pattenden from AUTOPIC and Richard Green from Harper Adams University will talk about the robotic harvesting of strawberries
1545- 1600	**Conference Summary and Close - Alastair Taylor – IAgrE CEO**
1600 - 1700	**Refreshments, networking and an opportunity to view innovations** Building new networks - an opportunity to talk to the experts and dig into the detail of innovations discussed earlier
1700 - 1745	**My experience as an innovator and robotics engineer – lessons learned, hints and tips for the would be business entrepreneur** **Rich Walker – Managing Director – Shadow Robot Company**

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IAgrE President 2016-18
Dr Robert Merrall MIAgrE

Dr Robert Merrall heads up Merralls Consulting Ltd, focussing on agri-tech innovation and commercialisation.

Rob is well-known in the agri-tech sector, having spent his early career in agricultural engineering research at Cranfield University at Silsoe before working for 5 years with the Renault Group, heading up marketing and technical training for their UK agricultural operation. Since then, Rob has been a director of the Royal Agricultural Society of England and two major UK farm machinery dealerships, and has a thorough understanding of the practical issues in distribution to the rural sector.

Since 2010, Rob has run his own independent consultancy, Merralls Consulting Ltd. Talking about the business he now runs with partner Victoria Cooper, Rob commented "Frequently my input is in project monitoring (delivering funder assurance), but often we act in an advisory, business development or project management capacity for commercial clients. These include local, national and multi-national organisations and we can really help businesses overcome strategic and operational challenges and short-term gaps in capacity."

Rob and Vickie run the business from their family home at Sherwood Farm in the Vale of Evesham.

"Commercialising innovation is always challenging, particularly so in agriculture. I wanted to do something pro-active to help novel ideas reach a wider audience. The objective of this event is to help ideas become a working reality.

As engineers we need to get better at business, and this is a focussed effort at helping members with bright ideas to allow those ideas to flourish, and flourish sustainably and profitably.

As the Institution of Agricultural Engineers, we are very fortunate to have secured input for this conference from a number of like-minded individuals who share my passion for this, and we look forward to a day of shared experiences and valuable information from key organisations and stakeholders. There will be speakers from the Intellectual Property Office, Innovate UK, the Agri-EPI Centre, AGCO, Farm Smart Events, eCow, Knight Farm Machinery, Fullwood, Autoguide as well as speakers from a range of companies and organisations with new products and services.

This will be an opportunity for members to share their experiences with our participants and speakers and my hope is that everyone involved will enjoy a day dedicated to networking and shared experience that will encourage and inspire."

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Dave Ross, BSc(Hons) PDip, AMIMechE, AIAgrE, FRAgS
Chief Executive The AgriEPI Centre

A trained engineer, Dave started his career in the defence technology sector, managing large projects and then moved to agricultural engineering and technology in 1990, taking the opportunity of moving back to his roots, being brought up on a mixed/dairy farm. He has continued to work as a Senior Research Engineer within SRUC Research Division, originally focusing on crop monitoring and handling and post-harvest quality. More recently he has focused on livestock technologies He has been involved in the research and development of a number of novel and patented developments across the agricultural production sectors.

He investigated and developed automatic handling, grading and disease control methodologies, and crop monitoring/pest control techniques. More recently he has developed novel processes and products in the meat quality and animal monitoring sector, leading to commercial products, and separately, projects relating to greenhouse gas emissions in agriculture, including designing the award winning Greencow facility. A recent focus is on the exploitation of emerging technologies for precision agriculture applications. Much of the work has been communicated through journals, conferences, grower/producer meetings and the farming press. He currently leads a number of large (>£1M) external grant projects in the area of new technologies for agriculture and the food supply chain, and has recently been appointed CEO of Agri-EPI Ltd, one of the new Centres of Agricultural Innovation.

Agri-EPI Centre Ltd – Aspiration, Activity and Opportunities

Overview/Introduction

The new Agricultural Engineering Precision Innovation (Agri-EPI) Centre has been established as one of the 4 new Centres of Agricultural Innovation by the UK Government to help provide engineering and precision agriculture solutions for the Agri-Food industry.

The aspiration is, by bringing together leading organisations in all sections of the supply chain and academic expertise, it will become a world-leading centre for excellence in engineering and precision agriculture to benefit the livestock, arable, aquaculture and horticulture sectors.

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Why is Precision Agriculture and Engineering important?

Agriculture is faced with significant challenges, most notably to feed a rapidly growing world population, in a sustainable manner. There is a strong need for R&D to help address these challenges, and particularly the development of new Agricultural-Technology (Agri-Tech).

Precision farming and engineering is one of the fastest growing Agri-Tech subsectors, and is already worth over £1 billion to the UK economy. It is a key "enabling technology" supporting the UK Agri-Food industry, which from agriculture to final retailing and catering, is estimated to contribute £96 billion and employ 3.8 million people.

The global market for Precision Agriculture is also a multi-billion pound market, and growing rapidly - and Agri-EPI has the ambition to help the UK link with International organisations to stimulate the process of supplying technology to satisfy this market.

Industry Challenges and Technology Solutions

With 70 commercial partners, Agri-EPI is being assembled to help address the Agri-Food industry to boost profitability and sustainability by addressing key challenges such as:

- Understanding variation in performance in crop and livestock production systems – to help farmers understand how to boost productivity
- Optimising input use, e.g. fertilisers or animal feed, to boost profitability and provide environmental benefits
- Improving product quality, by providing technology to understand key production characteristics, e.g. when produce is ready to be harvested
- Combatting pest and disease challenges e.g. new technology to detect crop pests, or predict livestock disease challenges.

The investment in Agri-EPI is focused on assembly of Innovation and Incubation Hubs with specialist equipment, as well as UK wide "satellite" instrumented farm network. The opportunity focus will be on research development and analysis, of a broad range of engineering and precision agriculture related technologies. The Centre's aspiration is to foster innovation, and assist partners in creation of new exploitable technology and systems solutions through project activity and other interactions.

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Dr Mark Moore, FIAgrE
Agricultural Development Manager, AGCO Ltd, Africa & Middle East

Mark joined Massey Ferguson in 1990 as a technical training instructor from Cranfield University, where he obtained a 1st Class Honour's degree.

In 1991 Mark assumed responsibility for developing the MF yield-mapping programme, which evolved into precision farming in the mid 1990's. At the same time he started a part time PhD. entitled: The accuracy of yield maps and their subsequent use in crop management, which he completed in 1997.

During the past 25 years Mark has been responsible for developing the application of technology in agriculture. He has worked with many farmers across numerous farming sectors all over the world, to deliver and install technology systems that increase the efficiency of food production.

In 2012 Mark joined the AGCO Africa team and currently focus on the Future Farm project, which brings modern agricultural practices and technology to Africa through a range of practical demonstrations and educational programs. The project is supported by stakeholders within the agricultural supply chain, who collaborate together to ensure useable and supportable agricultural solutions are developed and delivered to farmers.

Experiences from the Future Farm Project

How do companies within the agricultural supply and value chain work together to realise the market potential of Agri-Tech? What challenges will we be facing as we deal with the roll out of new technologies? How will these technologies be delivered to end users (farmers) to ensure Agri-Tech, and its stakeholders, are successful?

Abstract

There is a great deal of agricultural technology available to farmers which can be used to implement new farming practices and increase the efficiency of food production. By employing technology the result should be higher yields, increased profits and reduced impact on the environment. However, technology can also increase the management time, putting the benefits of technology out of reach of many farmers. This is not necessarily the fault of the technology, but rather a lack of integration into farming systems and support networks.

Generally, farmers are poor systems integrators because their focus is on running a farming business to produce food. They are reluctant to spend time sorting out a multitude of incompatibility and integration issues. These issues are often compounded by a lack of local support that the farmer can access to ensure the smooth operation of technology. Therefore, in addition to concentrating on the technical development of technology, there are two fundamental questions that should be asked when planning a development programme:

1. How will customer access and obtain the value from technology?
2. Who does the customer call when he needs help?

Vertically integrated systems are likely to be the most successful in terms of adoption. The entire system tends to be "owned" by a single organisation, which simplifies its development, as well as the distribution and support of technology, as responsibility clearly lies with a single party. This in turn builds confidence, meaning the farmer is more likely to obtain value from using technology.

Probably one of the best early examples of vertically integrated technology is the Ferguson System that was developed by Harry Ferguson in the 1940's. The Ferguson System required a new range implements to enable framers to realise the benefits of the tractors weight transfer system. These implements were also developed and supplied by Harry Ferguson and enabled farmers to obtain value from the Ferguson System. The result was a revolution in the way mechanisation was applied to agriculture.

A more recent example of a successfully vertically integrated system is Auto-Guide. The Auto-Guide automatic guidance system is fully integrated into the machine, which simplifies its operation enable the farmer to obtain value from it without increasing management time. The result is a highly effective practical system that can decrease inputs costs and their impact on the environment.

Horizontally integrated systems are more complex because they bring technology together to form new farming practices. While the technology they employ can be proven, they require a number of different organisations and sectors to come together to integrate technology into a system. A lack of systems integration tends to cause technical issues, which the farmer normally has to sort out at a local level.

Precision Farming is an example of a horizontally integrated system that has had limited success. This is not due to poor technology, on the contrary, most of the technology employed by precision farming is mature, for example, Massey Ferguson introduced the first commercial yield mapping systems in 1991 and it is well proven technology.

The main issue is lack of systems integration. No one organisation owns the system because Precision Farming requires a diverse range of different organisations to come together to develop a seamless system, which can then be delivered to the farmer in a "turnkey" package. Machinery companies, farm input suppliers, farm software providers, and local agronomists all contribute to the precision farming systems, and lack of integration at company level means the farmer becomes the systems integrator.

To address this AGCO has developed the Future Farm project. This programme looks at 3 elements of systems like precision farming:

1. Integration and value proposition – confirm that different elements of systems work together, and value proposition is obtainable.
2. Education and training – farmers, farm operators and support technicians are educated and trained on the system, rather than individual parts.
3. Distribution and support – ensuring farmers have local access to products and services, and technical and agronomic support if issues are encountered.

To achieve the above, a group of industry partners have formed a working group within the AGCO Future Farm programme. The ethos the Future Farm working group is "if we cannot make it work, how can we expect a farmer to make it work".

Each partner contributes their technology and knowledge to a number of projects that focus on transitioning individual technology into systems, which are then applied in real life on AGCO Future Farm. Any issues relating to the lack of systems integration are discussed in an open forum, and actions are agreed to evolve the technology so smooth integration can be achieved. During the process the value proposition is developed further, and the process to obtain value is captured.

The projects on the Future Farm form the basis of the education and training programmes. Farmers, farm operators and support technicians are trained on systems and their application in agriculture. The partners jointly develop and deliver these training programmes to enable capacity building at a local level.

Finally, partners work together to develop the distribution and support of technology and new farming practices. This may involve an alignment of distributors where say, a machinery dealer may offer other products and services, such as fertiliser and agronomic support.

By addressing the issues that prevent farmers from obtaining value from technology and new farming practices, the AGCO Future Farm programme is gaining a lot of recognition with the agricultural industry. It is very much a team effort as success depends on partner contribution. Incompatibility issues are being discovered and rectified, enabling the seamless delivery of turnkey technology solutions to farmers.

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Gary Townley
Business Outreach Manager, Intellectual Property Office

Gary has been working in the field of Intellectual Property for over 30 years, and has been helping businesses develop and protect their creativity using IP. A member of the Chartered Institute of Marketing and with diplomas in both Business and IP, Gary joined the Business Outreach and Education team in 1999 and regularly provides Intellectual Property training at workshops, seminars and conferences.

How does Intellectual Property affect me?

Every business owns IP, it could be the name you have chosen to trade under (trade mark), the look of the products you sell (Designs). It could be the technology of a new invention (Patent) or just your marketing material and website (Copyright). Gary will explain what IP protects, the costs and how to file.

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Calum Murray
Programme Leader – AgriFood, Innovate UK

Calum is Programme Leader with Innovate UK with responsibility for Agriculture and Food. He represents Innovate UK on the Programme Coordination Group of the Global Food Security initiative and is a member of the LEAF advisory board.

He was a member of the X-Whitehall working group developing the "UK Strategy for Agricultural Technologies" and currently sits on the implementation board for this initiative.

Calum studied agriculture at Aberdeen University. He started his career with ADAS in England in 1982 as a technical and farm business adviser before joining SAC (now SRUC) in a similar capacity.

In 1995 he was appointed by Bank of Scotland as national agricultural specialist based in Edinburgh becoming their Regional Director of the joint venture NFU Mutual Finance in 2006.

Calum joined Innovate UK in Feb 2010.

Innovate UK is the National Innovation Agency

It is Innovate UK's vision to help the UK economy grow head and shoulders above other nations by inspiring and supporting pioneering UK businesses to create the industries of the future. But of course Strategic innovation doesn't just happen. It happens as a consequence of coordinated collaboration between business, government and research. This is where Innovate UK comes in, we connect the players and provide funding. Calum will focus on how best to access this support in the context of the AgriFood sector.

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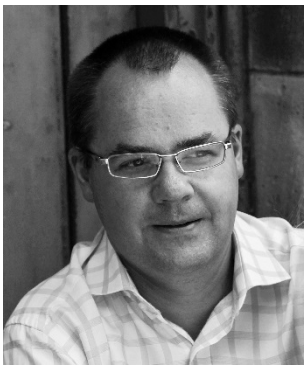
Four Engineers, Four Stories, Discussion & Questions



Chair – Andy Newbold CEng MIAgrE

Andy is a Chartered Agricultural Engineer with a short attention span. To counter this he is involved in an engineering safety consultancy business focussed on machinery compliance, he acts as an expert witness for patent infringements and machinery failures, organises technical exhibitions and conferences for farmers and publishes Tillage magazine, focussed on best practice crop establishment. In his spare time he tries to keep up with his three kids and collect diecast models.

Brian Knight MIAgrE

Brian formed Knight Farm Machinery in 1984 to build and market specialist crop sprayers from designs developed on the Knight family farm. These machines incorporate a number of unique design features quickly adopted by other manufacturers worldwide. Patenting and licencing have become an important part of the business and today Knight licence crop sprayer designs and patents to a number of international companies clearly illustrating how a small company can influence world markets with good IP.

Rob Morrison

Over the last 30 years Rob has been involved in many aspects of engineering from automating product test lines at a secure communications supplier to manging a technical support team delivering global support for a global company.

His current position as Product Manager at Fullwood Ltd brings together the skills acquired in communication, technical support, business management and engineering design which enables him to guide the direction of products offered to customers and to maximise sales opportunities.

Outside his working life Rob heavily involved with the Royal Air Force Air Training Corps. Within this organisation he holds several positions including Squadron Chairman, Sector Chairman and Deputy Wing Chairman for the Wales and West regions. Recently Rob has been invited to sit on the Regional Air Council, helping to set the policies that will shape the next generation of recruits.

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Professor Toby Mottram FREng FIAgrE

Toby Mottram is the founder of eCow and a prominent figure in the UK agricultural engineering sector holding the position of Douglas Bomford Trust Professor of Farm Mechanisation at the Royal Agricultural University, Cirencester, where he teaches wireless sensor data capture and analysis in farm situations. During his career he has co- invented robotic milking, developed cow breath sampling, in-line milk progesterone analysis and in 2003 the rumen telemetry bolus. He has over 50 refereed publications and 20 patents.

After Silsoe Research Institute closed in 2005 he continued development of the pH bolus eventually producing a commercially viable product which he has sold worldwide through eCow since 2011. The eCow eBolus provides continuous accurate data from within a cow's rumen to aid farmers and researchers improve dairy cow management. In 2015 he was appointed BBSRC/Royal Society of Edinburgh Enterprise Fellow charged to develop a new business Milkalyser that will revolutionise dairy cow fertility. Since 2014 he has begun to develop ideas to integrate and digitise farm animal health data from multiple sources and cofounded Animal Disease Tracking Ltd. He was recently elected a Fellow of the Royal Academy of Engineering.

Richard Robinson CEng HonFIAgrE

A farmer`s son with a love of some livestock but nearly all machinery I began work in our Industry as the first Engineering Trainee with New Holland in Aylesbury. Work around the world followed, but after eight years a move to Watveare Overseas followed and forty years ago what is now Autoguide Equipment was formed.

At Autoguide we try to make equipment not available elsewhere, or at least offer unique solutions, so we have developed a number of ideas which could be patented. Some examples include: The Autoguide Hookless Pick Up Hitch, Vibrating Post Drivers, Variable Speed Auger Drives, Rotary Percussion Auger Drives, Soil Aerators, Screw Pile Installers and innovative Screw Piles.

The company now being run by our younger son Robert, allows me time to concentrate on new (interesting) developments!

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Three "out there" Innovations – Case Studies

Beef Monitor – Dr Andrew R Edwards

Andrew, originally from Lancashire, lives with his family in the rural outskirts of St Andrews in Fife where they enjoy spending time outside in the beautiful countryside. Andrew graduated from the University of Durham with a first-class honours degree and PhD in Organofluorine chemistry to take up a career in the pharmaceutical industry. During 10 years in the industry Andrew's roles changed from bench chemist to operations management and ultimately into business development. Since then business development, sales and marketing roles have taken Andrew across various market sectors including pigments and flexible packaging. Currently he is Sales and Marketing Director for David Ritchie (Implements) Ltd, an engineering firm designing and manufacturing equipment the oil and gas, agricultural and transport industries with a reputation for innovation and quality.

Beef Monitor takes the concept of precision farming into the beef industry. A collaborative Innovate UK project has developed and commercialised a method of monitoring the average daily weight gain of finishing cattle without the need of labour intensive manual weighing, and hopes to take it further with the introduction of 3D imaging to measure the confirmation of cattle before slaughter. Significant gains in efficiency can be made by monitoring the progress of the finishing cattle regularly, and there is even the potential to spot and deal with health issues at an early stage.

Big Bale Transtacker & Controlled Traffic Farming – Alex Baylis

Alex Baylis attended Harper Adams University where he studied 'Agriculture & Mechanisation' and upon graduating in 2012, subsequently re-joined Big Bale Co. (South) Ltd. in Hampshire. Having already spent his university placement year working there as a mechanic, he returned to the company to take up a full time role within the business in July 2012 and has remained there ever since.

Four years on, Alex now manages the Big Bale Transtacker project which is operated as a subsidiary division of Big Bale Co. (South) Ltd. and is also the project manager for the Innovate UK project that he is working on alongside the 'National Centre For Precision Farming' and Harper Adams University.

Established in 1983, Big Bale Co. (South) Ltd. are now the UK's largest suppliers of agricultural baling equipment, specialising solely on the Massey Ferguson large square baler range. From their premises in Hampshire, they now offer new, second-hand and hire balers to a range of customers from across the UK and abroad, as well as offering a full service and parts back up throughout the year.

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In 2009, the decision was made to expand the product range and so they acquired the intellectual property rights to the then Walton Eclipse, which under Big Bale Co. (South) Ltd. soon became the Big Bale Transtacker.

In 2012, Big Bale Co. (South) Ltd. then re-structured the Big Bale Transtacker division and brought all of the design and project management 'in-house' and so the complete product lifecycle was being controlled from within the company itself, negating the reliance on out sourced parties. This expansion has subsequently developed their relationship with Harper Adams University, with the company now taking on a placement student on an annual basis as well as both Alex Baylis and Thomas Bradbury being Harper Adams alumni that have since taken up graduate roles within the company upon their graduation. Phone: 01489 896 346 Website: www.bigbale.co.uk

AUTOPIC – Stephen Pattenden

Stephen Pattenden was originally a farmer but then gained an Open University degree in IT and Systems followed by an MSc in Flexible Manufacturing and Robotics. He then worked for GEC Computers production engineering, managing IT and following up an innovative method of automatic meter reading as inventor and project manager. Subsequently he gained an MBA specialising in innovation and creativity. For the last 15 years he has been MD of Telemetry Associates Limited a consultancy specialising in data to the and from the Smart Home. He is currently project managing a number of projects linked to the home, energy management, care and wellbeing and agriculture.

The AUTOPIC project, which has just completed, carried out R&D in the area of autonomous and robotic strawberry picking. As the project has shown, this is not a trivial task. Human pickers have both a high motor capabilities and the ability to determine accurately and reliable those strawberries which are ripe and those that are not and those that have defects. They can easily reach out and pick berries that are occluded by leaves and other strawberries and detect berries that are not uniformly ripe and leave them for another day.

To build machines and intelligence to the same capability requires a vehicle that can traverse the rows of berries, systems to identify where every berry is in 3D space and then instruct the robotic arm to reach out and pick each one. The project discovered that these are anything but a trivial problems despite applying some considerable experience, brain power and technology. It is really quite easy to make jam.

At the end of the project many objectives were met but many challenges remain. The project has identified these challenges in some detail and we know many of the tasks that now need to be carried out.

The presentation looks at the problems and some of the questions we now need to solve before the industry beats a path to our door. It will outline the economic challenges facing growers and the cost benefit challenge facing any potential solution.

There are major worries in horticulture that Brexit will remove the highly capable labour that they have and there will be a pressing need for autonomous solutions. But the economics are such that we could easily be 5 years out before such systems can successfully challenge the human picker. If there are no human pickers after Brexit, we may not have a soft fruit industry in the UK unless the R&D work on projects such as AUTOPIC can be accelerated.

The Institution of Agricultural Engineers' Alumni Innovation Event

Welcome to the IAgrE Innovations event

Please take time to view the three "out there" innovations who presented at our Conference earlier today and find out what the process has been to get their innovative projects into production.

Meet our Guest Speaker:

Rich Walker

Managing Director at Shadow Robot Company

Rich has spent years working in robotics, and now leads the team at Shadow who are developing new robots and new applications for robotics.

He is active in developing and implementing European (FP7 and now Horizon 2020) and Innovate UK projects and always happy to discuss possible projects and proposal ideas.

Rich is on the Innovate UK "Robotics and Autonomous Systems" SIG Advisory Board, as well as several EPSRC robotics advisory boards and management committees, so if you have strong opinions about what the industry is doing right or wrong about robotics in the UK, then please get in touch.

He is also one of the three SME Directors of the EuRobotics association, helping shape the robotics roadmaps there and trying to make sure European robotics does some of the right things!

Outside windowless rooms with powerpoint presentations, Rich like to find new ways we can apply next-generation robotics technology and thinking of how to solve real-world problems. Even if someone else does it!

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Delegate Feedback Form

We would like to thank you for attending our Conference today:

Ag Eng Innovation: Concepts to Cash
Turning ideas into profit: the engineers' survival guide …

To assist us in maintaining or improving the quality and content of our events, the organising committee would be grateful if you could spend a few minutes to provide feedback on the points listed below by rating the event from 1 (poor) to 5 (excellent).

Any additional comments that you may like to make, or suggestions for future topics, can be added in the space provided below.

*Member/non-Member *please delete as appropriate

Please circle below as appropriate 1 = Poor to 5 = Excellent

1.	Did the conference meet your expectations?	1	2	3	4	5
2.	Level of technical content	1	2	3	4	5
3.	Quality of presentation (inc. audio/visual aids)	1	2	3	4	5
4.	Did the Conference increase your knowledge of the subject?	1	2	3	4	5
5.	Question & Answer and interaction	1	2	3	4	5
6.	Suitability of venue (inc. location, amenities etc.)	1	2	3	4	5

Additional Comments:

On completion please leave at the desk on your way out or return by email to: conferences@iagre.org

Or mail to: Sarah McLeod, Conference Secretary
Institution of Agricultural Engineers
The Bullock Building
University Way
Cranfield
Bedfordshire
MK43 0GH

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IAgrE

Are you a Member of IAgrE?

If not then we are looking for people in our industry just like you.

Agricultural Engineering is a very diverse profession and we have members representing every aspect of the industry, which makes IAgrE such an exciting Institution.

We run Conferences, Technical Talks, Branch Meetings and visits as well as the IAgrE National Young Engineers' Competition. We ensure our members are represented across the industry and that their interests are at the forefront of government policy.

Join the Institution of Agricultural Engineers and enjoy all the benefits of networking across our fascinating and innovative industry.

Membership starts from £46 per annum and Students join for FREE (DBT Trust Sponsored)

To find out more contact Alison, our Membership Secretary membership@iagre.org or visit iagre.org to see how you can get involved.

Intellectual Property Office

IAgrE

Think business potential - Think IP

Once you have an idea that puts you ahead of the pack, imitations and rip-offs could follow, unless you take steps to protect your originality. Intellectual Property gives you the basis for securing the commercial rights to what makes you unique. In a world where ideas can easily be transmitted and reproduced at minimal cost, IP stops anyone else using your brainwaves and gives you a proper chance to profit from them. But it doesn't just apply to radical breakthroughs in thinking. IP offers legal protection for all sorts of information and techniques that you use to run your business. It is an everyday commercial and financial issue.

IP can assist you in almost every aspect of your business development and competitive strategy, from product development to marketing. It may also play an important factor when considering exporting or expanding your business abroad.

YOUR GOOD NAME – THINK TRADE MARKS

Trade Marks are in many ways the face of your business; they allow your customers to distinguish your products and services from your competitors. They are often the single most valuable marketing tool a company will have whatever its size. Registration of the mark gives an immediate right to stop someone else using the same, or similar, mark on their similar goods and services.

BREAKTHROUGHS – THINK PATENTS

When it comes to novel products and processes, patent protection is what is required. You could rely on keeping the information confidential to protect your product but without a patent you would lack the right to stop others from making, selling or importing the product or process you have developed.

Patents cover such diverse subjects as agriculture, medicines, games, paints, electronics, and photography: anything in fact from a small detail in an electric switch, to a new form of transport like the first hovercraft.

OFF THE SHELF – THINK DESIGNS

Shape, decoration, pattern, texture and colour are usually the reasons why consumers pick your goods from the shelf as opposed to others.
The outward shape and appearance of products of all kinds are protectable by either a design right or a registered design. The appearance of this outward aspect may be crucial for the market success or failure of a product, whatever its other attributes. Design right is an automatic right without the need for registration, however, a registered design right will offer stronger protection.

FIRST TO MARKET – THINK COPYRIGHT

When speed to market counts, copyright may well be your preferred option. It arises automatically so you do not have to fill in any forms or pay any fees to protect this right. Most businesses own copyright in some form. Although they may not be directly involved in making money from their copyright, businesses print brochures, publish advertisements and own websites that contain copyright protected materials.

Intellectual Property Office

IAgrE

THE FULL IP PICTURE

An alternative to IP protection could be to build a wall of secrecy, keeping a tight lid on how you make your goods and other sensitive business information. The problem is, if the secret leaks out, you often have nowhere to go for protection. More often than not, you will use a combination of IP rights to protect your goods at each point on the cycle of development, production and distribution. Taken together, they will give you significant legal and commercial clout.

If you notice anyone infringing your rights, take legal advice. For smaller companies, rather than pursuing costly legal actions, it is usually better to reach a negotiated solution. So before going through, possibly unnecessary, legal channels with anyone copying your goods, think about asking for a licensing fee instead. They could end up paying you royalties for years to come.

FREE ON LINE RESOURCES

The Intellectual Property Office is the Government agency responsible for granting patents, registering trade marks and designs, and leading on policy for all IP, including copyright, in the United Kingdom.
We offer a number of useful on-line resources for business including;

IP Equip - This e-learning tool helps businesses and business advisors understand the main areas of intellectual property rights, trade marks, patents, copyright and designs. IP Equip contains 4 short modules and uses case studies to show why intellectual property is important.

IP Health check – do you know how IP can be used in your business? Have you thought about what intellectual assets you own and how to protect or exploit them? Take our IP Health check which will help you answer these questions and show you what to do to unlock your business potential or protect your ideas. This free tool is simple to use and will signpost you to sources of help and advice as well as starting you on the road to making the most of your intellectual assets in the most cost-effective way for your business. www.ipo.gov.uk

Licensing – many small businesses own intellectual property which they, or their employees, have created or designed. Some of this technology could be licensed to other businesses or academic institutions, bringing in a license fee. Licensing IP is important to all sorts of businesses – not just those that are in the technology sectors. It can be a business that invents or creates a product, the designers that configure or refine a product's appearance, to the packaging and marketing of literature.

The process of negotiating a licence can be daunting, so the Intellectual Property Office has developed a simple check list and on-line film which will help you understand the concepts of licensing and how to set-up a licensing agreement.
https://www.gov.uk/guidance/licensing-intellectual-property

Regular updates – keep up to date on all the latest developments in IP by using our subscription service. You'll be the first to know of any new support for businesses launched by the Intellectual Property Office, details of the latest IP events across the UK and any changes in IP law that might affect you.
https://public.govdelivery.com/accounts/UKIPO/subscriber/new

NEED MORE HELP?

The Intellectual Property Office has a dedicated enquiry unit who can help you with your queries on IP. Just give them a call or e-mail them;
Tel.**0300 300 2000** email: information@ipo.gov.uk website www.ipo.gov.uk

IAgrE Landwards Conference 2016

Delegates & Speakers

Alex	Baylis		Big Bale Transtacker
Chris	Biddle	FIAgrE	Editor Landwards Journal
Robert	Borland	CEng MIAgrE	Caterpillar
Thomas	Bradbury		Big Bale Transtacker
William	Bradshaw		Harper Adams University
Alex	Brawn	CEng MIAgrE	Kawasaki
Paul	Caunce		Publisher, Agri Machinery News
James	Child	AIAgrE	J & S Vicary
Parmjit	Chima		Harper Adams University
David	Clare	AMIAgrE	Harper Adams University
Michael	Colman		Big Bale Co (South)
Vickie	Cooper	AIAgrE	Merralls Consulting
Simon	Cooper	IEng CEnv MIAgrE	Harper Adams University
Nicholas	Corker	AIAgrE	Centre for Ecology & Hydrology
Robert	Davies		Harper Adams University
Kris	Dummet		Harper Adams University
Andrew	Edwards		Ritchie UK
John	Fox	HonFIAgrE	
Kit	Franklin	AMIAgrE	Harper Adams University
Anthony	Furness	CEng MIAgrE	IAgrE IoT Special Interest Group
David	Gillingham	AIAgrE	
Richard	Godwin	FREng, CEnv, HonFIAgrE	Harper Adams University
Thom	Graham		Grimme UK Ltd
Daniel	Griffiths	AMIAgrE	Grimme UK Ltd
Callum	Harvey		KTN
Kayleigh	Holden		AEA
Douglas	Hyslop		Harper Adams University
Mark	Kibblewhite	CEnv FIAgrE	AgriTechnology Action
Marion	King		IAgrE Communications Officer
Brian	Knight	MIAgrE	Knight Farm Machinery
Chris	Lakey		Fullwood Ltd
David	Llewellyn		Harper Adams University
Jonathan	Lodge		City Farm Systems
Jim	Loynes	CEng MIAgrE	Harper Adams University
Ben	Magri	AIAgrE	Syngenta
Howard	Marshall		Howard Marshall Engineering
Jack	Mavin		J & S Vicary

Sarah	McLeod		IAgrE Conference Secretary
Robert	Merrall	MIAgrE	IAgrE President, Merralls Consulting
Ian	Moorcroft		Harper Adams University
Ian	Moore	MIAgrE	Whale Tankers Ltd
Mark	Moore	FIAgrE	AGCO Ltd
Jim	Morton		Syngenta
Toby	Mottram	FIAgrE	eCow
Calum	Murray		Innovate UK
Andy	Newbold	CEng MIAgrE	Farm Smart Events
Lisa	Page		BPE Solicitors LLP
Stephen	Pattenden		AUTOPIC
Sven	Peets	AIAgrE	Harper Adams University
David	Preece	MIAgrE	Howard Marshall Engineering
Benjamin	Record		Tara
Jane	Rickson	CEnv FIAgrE	Cranfield Soil & Agrifood Institute
Brian	Robinson	CEng MIAgrE	
Richard	Robinson	HonFIAgrE	Autoguide Equipment
David	Ross		CEO AgriEPI Centre
Angela	Simkins		Farm 491, RAU
Alex	Skittery		JCB
Richard	Smalley	FIAgrE	
Tom	Spinney		Harper Adams University
Kevin	Stott	PreProf	Newcastle University
Tom	Sutton		Harper Adams University
Alastair	Taylor	CEng CEnv MIAgrE	IAgrE Chief Executive
Leon	Terry	FIAgrE	Agri-Food, Cranfield University
James	Thomas		Syngenta
Reuben	Thomas		Teagle Ltd
Dave	Tinker	CEng Cenv FIAgrE	EurAgEng
Gary	Townley		IPO
Chris	Vicary	AIAgrE	J & S Vicary
Rich	Walker		Shadow Robot Company
Toby	Waine	AMIAgrE	Cranfield University
Sam	Wane		Harper Adams University
Mingfeng	Wang		Harper Adams University
David	White	CEng FIAgrE	Harper Adams University
Mike	Whiting	MIAgrE	NewMac
Emma	Wilcox		SocEnv
Duncan	Wilson	CEng MIAgrE	Teagle Ltd