



The word cloud infographic summarising the frequency of the topics discussed during the STFC Newton Agri-Tech Fund briefing meeting

The STFC Newton Agri-Tech Fund Briefing Meeting Summary – 9th September 2014

Workshop Summary

As part of the STFC Newton Agri-Tech Fund a one day briefing meeting was held at the Rutherford Appleton Laboratory in Harwell 9th September 2014. This workshop, delivered by STFC delivery partners, brought together academic and industrial researchers with key stakeholders to deliver information about the Newton Agri-Tech fund as well as to identify the key challenges associated with working on this programme.

Attended by 45 participants, the workshop was a combination of high level programme information presentations and short, targeted presentations from the key stakeholder. The session of talks was followed by a facilitated breakout discussion. Ultimately the workshop achieved the following key outcomes:

- It created a forum to bring together both science providers with end-users, to allow both networking and sharing of perspectives. The inclusion of partners from industry was highly beneficial in this respect.
- It was truly inter-disciplinary platform, bringing together individuals from different science disciplines (e.g. remote sensing, modelling, data providers) and fields of interest (e.g. plant health, commercial horticulture and homeland security).
- It facilitated an open discussion around the subject of the research and operational challenges of working with China.
- It provided information to the participants on the STFC Newton Agri-Tech Fund and provided and discussed the aims and objectives of this fund.

The workshop structure –

The workshop structure, **see Annex 1 ‘Workshop Programme’**, was a combination of short, targeted presentations and facilitated breakout sessions. The majority of the talks were programmatic related, focusing on the Newton fund, the proposed stakeholder engagement process and an outline objective of the 5 year fund. There was a 90 minute section dedicated to user and stakeholder introductions. This gave an opportunity for the attendees to introduce themselves and highlight how the Newton fund would be relevant to their work. This stakeholder review covered the breadth of technologies, requirements and needs that spanned academic modelling (such as talks presented by Lisa Emberson from York university and Andy Channillor from Leeds University) modelling platform providers (Vince Gillingham, from agSpace and Stephanie Race from Crop Performance Ltd), seed and agrichemical businesses (e.g. Les May from Syngenta) and plant health government organisations (e.g. Shaun Hobbs, CABI) and remote sensing data providers. The afternoon was dedicated to a breakout session where the participants were split into 4 groups, each lead by an experienced facilitator. The Knowledge Cafe concept was used: participants presented their ideas about one area and then the groups rotated. This allowed everyone to comment on each of the questions posed and to see and debate what other groups had discussed. At the end of the process, the main outcome from the breakout session were summarised. The breakout session focused on four areas and a problem/solution analysis was carried out to identify the key barriers and opportunities in this area in the short and longer-term.

Workshop Participants

The workshop brought together 45 individuals; see Annex 3 ‘Workshop Participants List’, representing regulators, stakeholders and researchers. This diverse group included policy makers (e.g UKTI, Forestry Commission), data providers, stakeholders (e.g. FERA, Syngenta, CABI) and industry (e.g. agSpace, Magellium, crop performanceLtd. Etc.) Alongside academic researchers from Leeds, Leicester, and York University.). These groups, research institutes and government science

- Identify The Key Players In China: The partners in the government, in the cooperatives and individual growers (Large or small), in industry and academia should be identified as a matter of urgency to understand the Chinese perspective on this programme.
- Need To Develop A Thematic Based Programme: For maximum impact, a thematic based program should be developed. This could focus on things such as: Diseases, Pests, Crop Yield Prediction etc.
- Understand The Socio- Economic Aspects Of The Programme: Who the programme aims to target, what the aims of the programme are to be and how the impact will be measured should be outlined very early on. This includes methods to ensure affordability, routes to commercialisation and understanding the benefices of the programme.
- Be Multidisciplinary: It was suggested that the programme should be highly multidisciplinary bringing together modelling and remote sensing experts with other areas such as social sciences, statisticians and experimentalists.
- Early Identification Of Trade And Resource Restrictions: Understand where the differences are with UK/China working methods and practices to highlight risks and avoid programmatic problems in the future. Pesticides and weed control were used as examples.
- Translation Of Projects: What are the best methods to translate the results of the program to real impact case studies. Ideas of engage TSB/UKTI from the outset were suggested.
- Low Administration Burden: It was noted that to maximise impact of the projects that the administration burden should be kept to a minimum.
- IP Management Plan: A method to ensure that Intellectual property is maintained should be adopted early on in the programme.
- Project Group Sizes Should Be Manageable: There should be a concerted effort to balance between large consortium projects and small focus groups.
- Understand And Advertise The Time Frame: This should encompass the programmatic time frames as well as the expected times to impact.
- Identify The Existing Research Capability In China And The UK: What is the current state of the art in technology and modelling capabilities in the UK and in China.

3. Research



Figure 3. The word cloud infographic summarising the frequency of the topics discussed during the research breakout session

- The discussion produced a list of research challenges. These topics included:
 - **Water quality**
 - **Animal health**
 - **Social science usability**
 - **Predicting hail storms**
 - **Weather modification**
 - **Matching crops to climate (Water, Heat stress, Plant breeding, Biotech)**
 - **Combing data and models (assimilation)**
 - **Data fusion**
 - **Pattern recognition.**
 - **Sentinel 2 data coming online**
 - **Big data challenge**
 - **Hyperspectral imaging**
 - **High spatial, Spectral and Temporal resolution Imaging**
- Understanding the market place and the potential benefits that could be returned to the UK from technology development.

- **Numerical Modelling, interpretation, analysis**
 - **Climate change research**
 - **Collection and interpretation of data across the electromagnetic spectrum from Lidar, radar data, thermal UV and spectral.**
 - **Cross-disciplinary research base (including social / behavioural science)**
 - **Data assimilation with models**
 - **Data fusion**
 - **The development of detectors and sensors**
 - **Weather and seasonal forecasting**
 - **Autonomous robotics**
 - **Interaction of farming practices with flood risk modelling and management**
 - **Practical applications of HPC including provision of access**
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- The UK has significant strengths in the coordination and management of large scale international programmes
 - The UK has a recognised international scientific reputation based on excellence and high impact publications
 - The UK is a world leader in Insurance products and financial services
 - The UK has strengths in the business innovations sector: Translating scientific technology and knowledge into commercial products and services

Annex 1: Workshop Programme

- 10:00 Registration and Coffee
- 10:30 Introduction and welcome - Richard Holdaway
- 10:50 Programme overview and focus - Hugh Mortimer/Andy Shaw
- 11:10 2-minute stakeholder profiles - All
- 12:30 Lunch and Networking
- 13:30 Introduction to Network Plus - Katharine Hollinshead
- 13:50 Agri-Tech issues and Challenges - Geoff McBride
- 14:10 Coffee Break
- 14:30 Breakout Session – Problems, Gaps/Barriers and Solutions - All
- 15:30 Summary, way forward and wrap up
- 16:00 End

Annex 2: Discussion Groups

The key drivers for stakeholders (problems and solutions) – for regulators, industry, NGOs

Group	Subject	Facilitator
1	China	Hugh Mortimer
2	Programmatics	Andy Shaw
3	Research	Geoff McBride
4	UK	Jon Styles

Annex 3: Workshop Participants List

Name	Company	Email
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The STFC Newton Agri-Tech Fund
Briefing Meeting

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