

Agricultural Technologies Precision Farming / Agri-Tech

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Rationale

- The demand for food is predicted to increase 50% by 2030 and 100% by 2050.
 - Europe needs to produce more food by increasing crop yield, efficiency, resilience and sustainability of the food chain.
 - Technology adoption is increasing in all agri-sectors
 - Seed producers, farmers, distribution, supermarkets are utilising multiple technologies including GPS, optical imaging, computer vision, spectroscopy.

- The precision farming community require technology, measurement and metrology support.
 - Large volumes data recorded and compared over growing seasons and years, metrology is key to success.
 - Avoid investment in unsuitable solutions (IR sweetness sorting in apples for example)
 - Maximise EU technical capability and deliver assistance in EU agri-future.

Activities and Actors



- Network proposed by NPL to create NMI community in growing precision farming sector and support measurement and metrology needs.
- Network NMI community with agri-experts: plant scientists to supermarket retailers.
 - European agri projects: EPPN, EMPHASIS, PhenoNet etc...
 - Growers, machinery, distribution, retailers etc....
- Develop metrology awareness and NMI capability in European agri-industry
- UK: NPL, 2 agri-epicentres, > 5 universities, seed growers, farmers, distributors, supermarkets
- EU: Every member has significant agri-industries and supply chains

Outputs



- Coordinated metrology response to agri-science and agri-business needs with in Europe.
- Identify priority areas where metrology provides step changes in crop growth, development, management or harvesting.
 - Identified areas: Phenotyping, sensor networks, satellite remote sensing, imaging, spectroscopy, communication systems, data security & processing
- Measurement services and support targeted at the precision farming sector
- Future capability strategy to support EU precision farming and food business.

Impact

- EU NMI future coordinated strategy
- Governmental support for investment in each country
- Support for one of largest and most critical sectors across all EU countries
 - Future food security
 - Reduced environmental impact
 - World leading equipment and services global export, China/US/Brazil....
- Food security in Europe and globally.