EMBLEM
TECHNOLOGY TRANSFER

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EMBL-EBI Agri-Tech Partnership

Transforming Agri-Tech R&D with actionable insights

Request an introduction

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lovelyday12, https://stock.adobe.com/uk/614760784, stock.adobe.com

Seeking

Development partner, Commercial partner

About **EMBLEM Technology Transfer GMBH**

EMBLEM is the wholly owned commercial subsidiary and exclusive technology and knowledge transfer partner of the European Molecular Biology Laboratory (EMBL)

Background

EMBL's European Bioinformatics Institute (EMBL-EBI) is the home for big data in biology. We help scientists realise the potential of big data in biology, exploiting complex information to make discoveries that benefit humankind.

EMBL-EBI is leading the Agri-Tech Partnership (ATP)

The **ATP** tackles global food security challenges and transforms R&D by optimising the exploitation of big data.

The ATP generates, develops and builds versatile and bespoke data, data portals, computational tools and services to support commercial R&D-driven increase in sustainable food supply. We focus on relevant areas such as genetic crop improvement, protection, pest control, soil health and environmental safety.

A fit-for-purpose EMBL-EBI AgriData Platform will be the backbone of the ATP where data and associated information are being collated. It will be built in partnership with Agri-Tech domain experts and integrate EMBL-EBI data and other publicly available data worldwide. Bespoke instances for each partner will integrate- proprietary as well as prepublication data. Importantly, the platform includes computational tools to extract and interpret knowledge for real-world applications.

Tech Overview

EMBL-EBI's approach, and benefits to co-creating the data platform.

A stepwise method to building the AgriData Platform by first resolving issues with existing data, then developing tools to integrate, analyse and visualise the data.

DATA | requires FAIRification, curation annotation, and complementation with experiments to close gaps

TOOLS | include domain-specific ontologies, methods for comparative multi-omics, genotype to phenotype translation, pan genomics/diversity capture, data visualisation and secure data sharing

PLATFORM | will be open source, pre-competitive able to support secure data sharing

By collaborating with organisations internationally, a platform will be built that is able to transform real-world data into knowledge towards meeting sustainable intensification goals of growing more with less and to assist in the discovery of new methods for crop protection.

Figure 1: EMBL-EBI's modular approach

Benefits

Data resources, EMBL-EBI data resources are at your disposal, curated, maintained and supported by experts from EMBL-EBI.

Major crops, weeds, pests, disease pathogens, are represented in our “omics” data bases including:

- **ENSEMBL** for accurate, annotated genomes & variants
- **Expression Atlas** – gene and protein expression profiles across species and conditions. 1000s of high-quality manually curated data sets.
- **MGnify** – World’s largest repository of metagenomics data. Essential for analysis, visualization and discovery of data sets and assemblies
- **IntAct** – curated protein-protein interactions database including small chemical compounds and nucleic acid interactions

Expert domain knowledge can be integrated from our repositories including:

- **Europe PMC** – global science literature repository. It contains millions of full -text articles and abstracts and includes books and patents.
- **ChEMBL** – manually curated large-scale bioactive drug-like small molecule, target and chemical biology database.
- **MetaboLights** – curated knowledge of metabolite structures, spectra and biological roles. The first comprehensive repository of metabolomics studies
- **Reactome** – relational database of signaling and metabolic molecules and their relations organized into biological pathways and processes. Manually curated & peer reviewed

Figure 2: Integrating EMBL-EBI data with data from repositories from across the globe to enable actionable insights for high yielding, disease resistant and climate resilient agricultural production.

Applications

Industry members come together with EMBL-EBI, invited academics and key stakeholders in meetings and workshops to identify and agree on topics and implementation, including provision of resource.

Opportunity

The ATP is open to new partners who share its vision and philosophy.

EMBL-EBI’s projects:

- **Annotation of agricultural pest genomes**
- **Digital Soil Project** – looking for collaborators
- **Environmental Fate of Pesticides** – looking for collaborators

Appendix 1

Agri-Tech Partnership (ATP)

Appendix 2

Figure 1: EMBL-EBI's modular approach

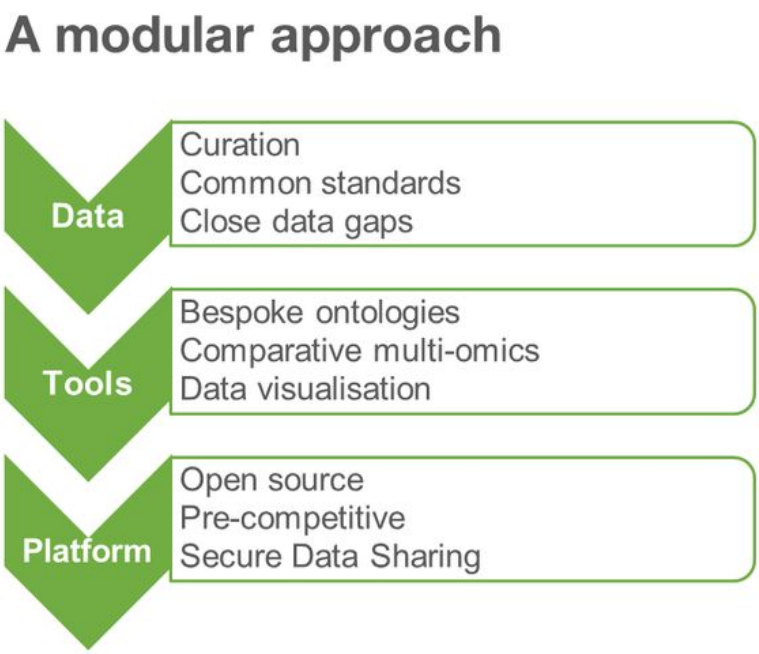
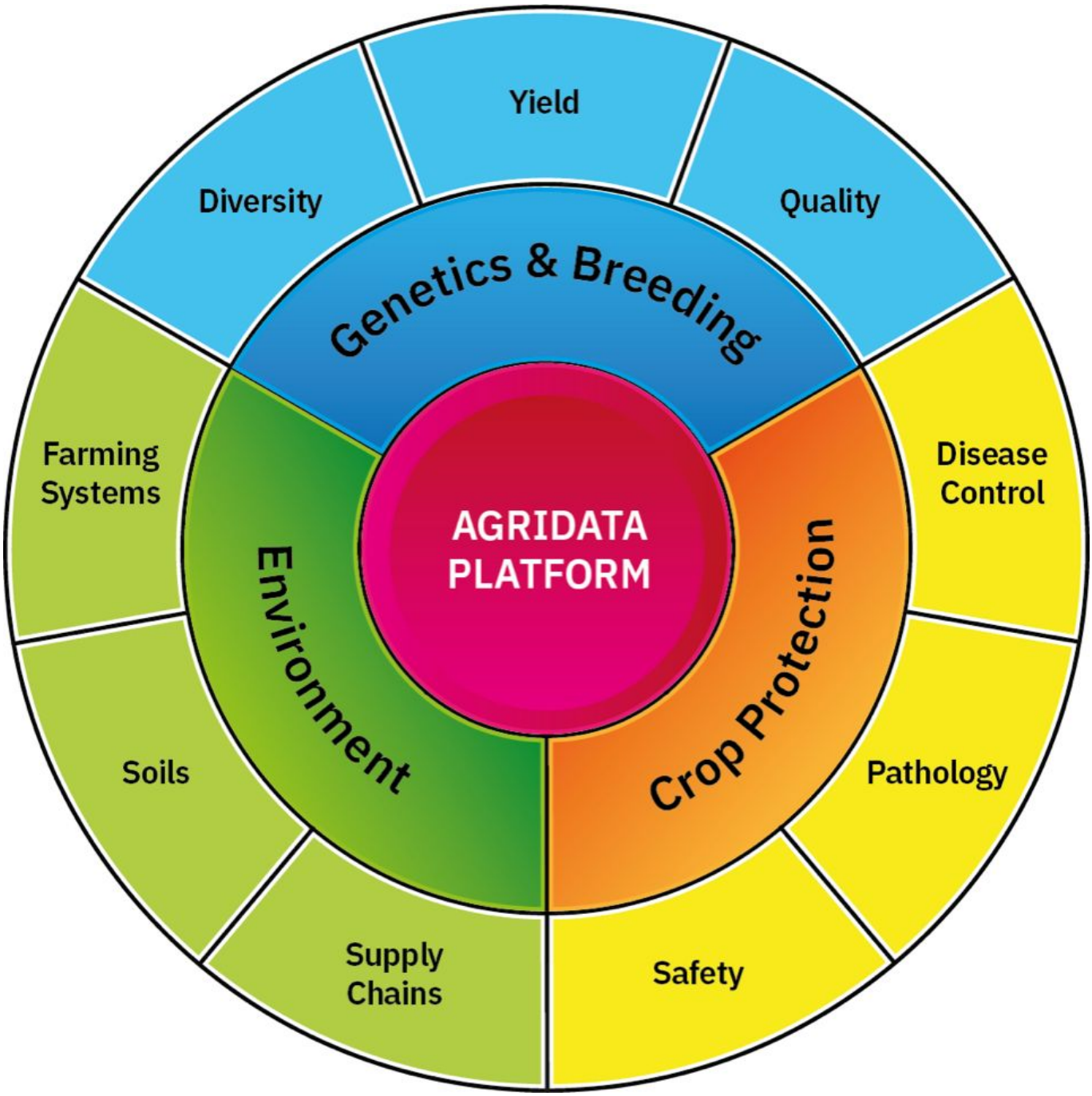


Figure 2: Integrating EMBL-EBI data with data from repositories from across the globe to enable actionable insights for high yielding, disease resistant and climate resilient agricultural production.



Learn more about this opportunity

About Inpart

Scientific collaborations should solve real-world problems and bring a positive impact to society. That's why we facilitate and accelerate the bench-to-bedside journey by connecting the right partners from industry and academia.

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