



Australian Plant Phenomics Facility



phenoSMART®

An Australia-wide science gateway
enabling users to manage, visualise and
analyse plant phenotyping data.

plantphenomics.org.au

The Australian Plant Phenomics Facility has three nodes strategically located at



We are proudly supported by



Developing a new paradigm for plant phenomics analytics



PHENOSMART®

Solving three key challenges

- Access – global, equal and fair access to phenotyping analytical capabilities.
- Sharing and collaboration – data visualisation and analytical capabilities can be shared with the community, fostering collaboration.
- Impact – providing a missing link between the development of phenotyping tools and their widespread use in research and industry.

The phenoSMART® science gateway provides on-demand access via the internet to tailored applications, services and resources for managing, analysing and visualising plant phenotyping data.

The phenoSMART® science gateway - www.plantphenomics.org.au/data - provides access to tailored software applications (Apps) through which information can be extracted from raw plant phenotyping data. App services are powered by a cyber infrastructure (digital technology, computational resources and communications) that is seamlessly integrated into the gateway.

The power of phenoSMART® science gateway Apps

Apps are being designed and built to plug-and-play with commercial phenotyping systems such as the phenoMobile® Lite field phenotyping vehicle. Users are able to upload data from Light Detection and Ranging (LiDAR) or the GreenSeeker Crop Sensing sensors on board phenoMobile® Lite and access algorithms for accurate and reproducible calculation of plant height, biomass and fractional cover. Data can also be downloaded for graphing and presentation.

The phenoSN® data visualisation tools App enables users to manage and visualise data from sensor networks such as the ArduCrop field canopy temperature sensor network.

Further Apps are being developed that offer modular data analysis and visualisation tools suitable for analysing and visualising common data formats from generic hardware platforms.

For example, phenoAIR™ data visualisation and analysis tools offer automated end-to-end photogrammetry solutions for aerial phenotyping data for systems such as phenoAIR™ pod and commercial drones.

Contact us to learn more or to discuss designing and building your own App.

Who is the phenoSMART® science gateway for?

- Customers seeking end-to-end data analysis and visualisation tools to integrate phenotyping work-flows or as a stand-alone solution.
- Plant phenomics specialists seeking a host for their data visualisation and analysis capabilities.
- Commercial partners looking to directly leverage services for third-party applications.

Access

Services are provided through Apps on a per App subscription basis. Users will pay only for the services and duration required. Subscription to services can be contracted alone or as part of the rental service for phenotyping equipment.

Expertise at the High Resolution Plant Phenomics Centre (HRPPC)

The HRPPC combines expertise in plant science and engineering to develop end-to-end modular plant phenotyping capability for the controlled environment and in the field.

The phenoSMART® science gateway is a product under development. The capabilities and functionalities described in this document reflect both current and future capabilities.

Discover more: plantphenomics.org.au

Australian Plant Phenomics Facility High Resolution Plant Phenomics Centre

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