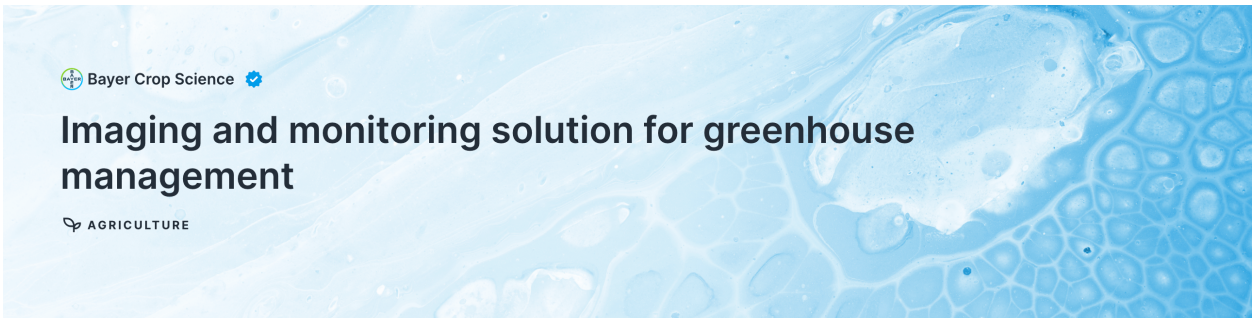

Background

Bayer Crop Science seeks partners from academic or corporate settings, with innovative solutions to enable real-time remote monitoring of greenhouse spaces. Specifically seeking an imaging system that is high level enough to take a digital snapshot of the greenhouse to make remote and data driven decisions about greenhouse management such as plant status, development, and occupancy. Ideally the system would be low resolution and low cost to be deployable at scale. In addition, it would allow personnel to quickly prioritize and identify spaces that need immediate attention based on an automated system for assessing overall greenhouse status.

What we're looking for

We are looking for an innovative, low-cost imaging and monitoring system for greenhouses. This system should enable real-time, remote observation of greenhouse conditions to assist in managing plant health, development, and space occupancy. The ideal solution should ultimately be equipped with automation features to evaluate the overall status of the plants in the greenhouse continuously, prioritizing areas that require immediate attention and providing alerts for critical situations.

Our must-have requirements are:

- Can be adapted to work in various greenhouse/glasshouse settings.
- A system that uses data driven decision-making to assess current plant state within a greenhouse.
- Must meet personnel safety and privacy requirements for the Bayer site(s).
- Data output needs to be part of an easily accessible and interpreted user interface. Data dashboards, for example.

Our nice-to-have requirements are:

- Requires minimal custom design/layout of the plants in the greenhouse.
- A low-cost system using lower resolution cameras.
- Minimal changes to greenhouse structure.
- Data output automatically prioritizes critical greenhouse and plant state situations and alerts users.

What's out of scope:

- Proprietary and extremely high-resolution current commercially available options.

Acceptable technology readiness levels (TRL): Levels 3-9

1. Basic principles observed
2. Concept development
3. Experimental proof of concept
4. Validated in lab conditions
5. Validated in relevant environment
6. Demonstrated in relevant environment
7. Regulatory approval
8. Product in production
9. Product in market

What we can offer you

Eligible partnership models:

- **Sponsored research**
- **Co-development**
- **Equity investment**
- **Acquisition**
- **Supply/purchase**
- **Licensing**
- **Material transfer**

Benefits:

Sponsored Research

Up to $100,000 for a proof-of-concept, with additional potential funding for further development.

Expertise

To aid any potential project, we can offer expertise in plant growth and care and in controlled environment systems.

Facilities and Services

Utilizing Bayer greenhouse facilities to test ideas and solutions.

Who we are

Bayer’s vision of #HealthForAll, #HungerForNone drives our need to strengthen innovation capabilities in all areas of agriculture. We know we can’t accomplish this alone, so we're always interested to hear about novel, early-stage scientific innovations that can contribute to feeding the world without starving the planet. You have our commitment to take a look, match with our R&D priorities and provide you timely feedback.

Reviewers

Phil Taylor
Director of Open Innovation & Outreach

Dan Ruzicka
Innovation Sourcing Lead - Biotech Breeding

Please contact the University of South Florida Technology Transfer office representative for submission – Karla Schramm at kschramm@usf.edu