

Providing a turnkey pipeline for Agtech research

Solis Agrosiences and other resources in the St. Louis ecosystem

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April 17, 2024

St. Louis is home to many large Agrifood institutions/corporations



CROP SCIENCE

\$16.5 Billion in Revenue



WORLD LEADING RESEARCH

Largest Independent Plant Science Research Center



SPECIALTY CHEMICALS

Nutrition and Health Division in STL



WORLD'S SECOND LARGEST PET FOOD CO.

\$11.2 Billion in Revenue



WORLD'S LARGEST BREWER

\$55 Billion in Revenue



GLOBAL FOOD-NUTRITION CO.

\$5.9B in Revenue



GLOBAL AGRIBUSINESS & FOOD

\$45 Billion in Revenue



GLOBAL ANALYTICAL LEADER

\$7B in Revenue



ANIMAL HEALTH & NUTRITION

\$1.2B in Revenue



FIRST PUBLICLY SUPPORTED INSTITUTION OF HIGHER ED.

Established in the Louisiana Purchase:
70,000 students



Missouri Department of Agriculture

\$88B AG-FOOD INDUSTRY; 100K FARMS



5th LARGEST SEED PRODUCER

\$1B in Revenue

St. Louis also has a vibrant startup ecosystem

- Startups are key to future Ag Innovation
- St. Louis stands out in enabling startup success in an undercapitalized market

1/2

Ag investment/innovation comes from startups vs corporations

3x

More patents from Ag startups than corporations

Ag Startups in Region

1

2013

22

2023

Key components enabling St. Louis to thrive as an innovation ecosystem

St. Louis Network of Collaborators



INVENTIONS

Danforth Center
 Washington University
 University of Missouri
 St. Louis University
 Bayer
 KWS
 Millipore
Startups



TALENT

1000+ Plant Science
 PhDs



COMMERCIALIZATION/ BUSINESS SUPPORT

Bayer
 Bunge
 BioSTL
 Danforth Technology Company
 CATALST
 EAGIC
 Greater St. Louis
 Small Biz Development Corp
 T-REX
 World Trade Center



FUNDING

Advantage Capital
 Arch Grants
 Bayer Grants4Ag
 BioGenerator Ventures
 Bunge Ventures
 Capital Innovators
 Cultivation Capital
 Helix Fund
 Hermann Companies
 Leaps by Bayer
 Lewis & Clark AgriFood
 Lagomaj Capital
 Missouri Technology Corp
 Rabo Agrifinance
 Tech Accel
 Yield Lab
 Wells Fargo IN² Innovation



ACCESS TO MARKET

\$88 Billion MO Industry
 Within 500-mile radius:

- 50% US ag production
- 80% US corn & soy

National HQs:

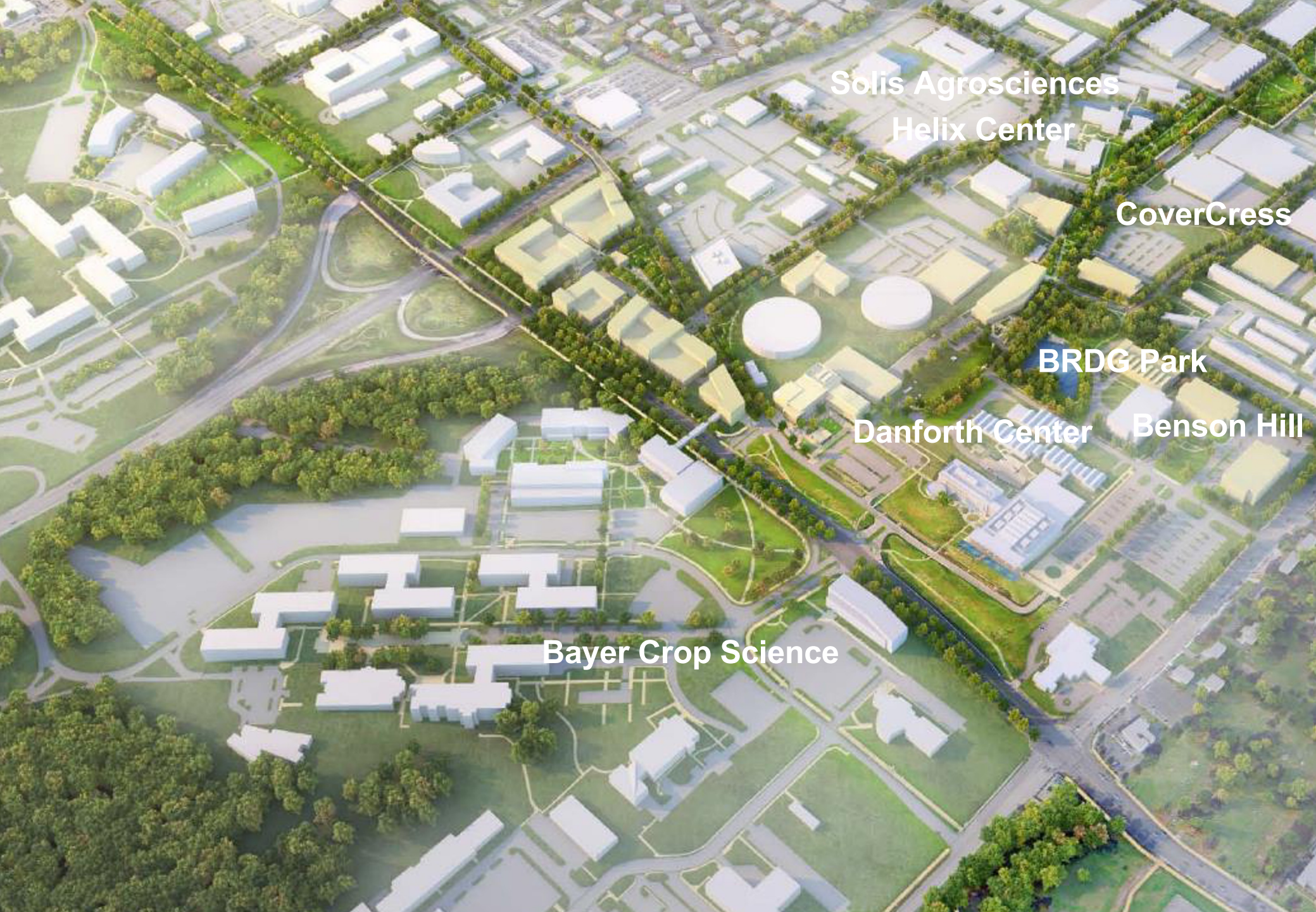
- American Soybean Association
- National Corn Growers
- Renewable Fuels Assn
- United Soybean Board
- WISHH
- US Soybean Export Council
- US Farmers & Ranchers in Action
- National Geospatial Agency



INFRASTRUCTURE/INNOVATION SPACES

Danforth Greenhouses, 39 North
Helix Center, BioGenerator Labs, BRDG Park

39°N



Solis Agrosiences
Helix Center

CoverCress

BRDG Park

Danforth Center

Benson Hill

Bayer Crop Science

- Connect assets
- Improve mobility – biking & walking trails & greenspace
- Create a mixed-use center of activity
- Create development opportunities
- Programming



<https://39northstl.org>

Mission:

To be the #1 landing place for Agtech startups, established companies and entrepreneurs



DONALD DANFORTH
PLANT SCIENCE CENTER





DONALD DANFORTH
PLANT SCIENCE CENTER

<https://www.danforthcenter.org/>

Mission:

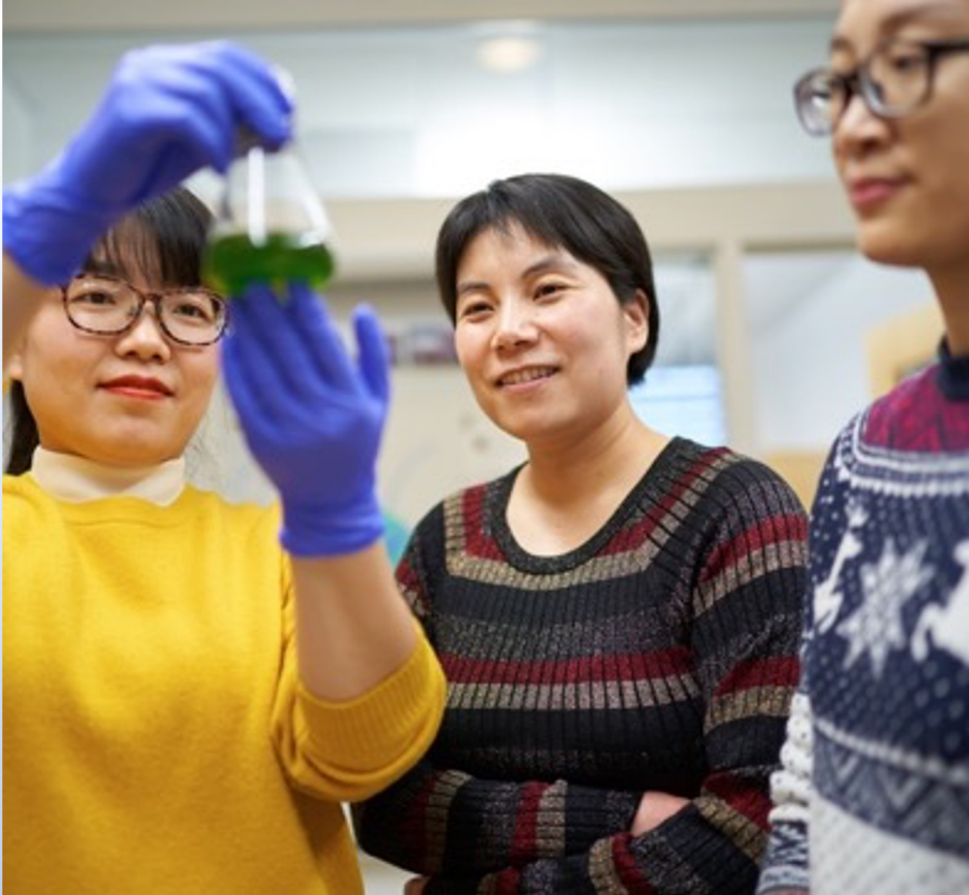
To improve the human condition through plant science

Feed the hungry and improve human health

Preserve and renew the environment

Enhance the St. Louis region as a world center for plant science

World's largest nonprofit, independent plant research institute



400+
Community members from 35+ countries

30
Scientific teams

\$45M
Annual operating budget

1718
Scientific publications

3
Members, National Academy of Science

9
Startup companies launched

\$250M
External research funding since inception

\$412M
Annual economic impact to the St. Louis region

- Foundational plant research
- Sustainable crops & systems
- International crop improvement
- Innovation & economic impact
- Future scientists & talent pipeline

DDPSC provides tools to accelerate discovery and commercialization

\$50M invested in state-of-the-art facilities



ADVANCED
BIOIMAGING
LABORATORY



DATA
SCIENCE



PHENOTYPING



PLANT GROWTH -
GREENHOUSES &
GROWTH CHAMBERS



PLANT
TRANSFORMATION



PROTEOMICS
& MASS
SPECTROMETRY

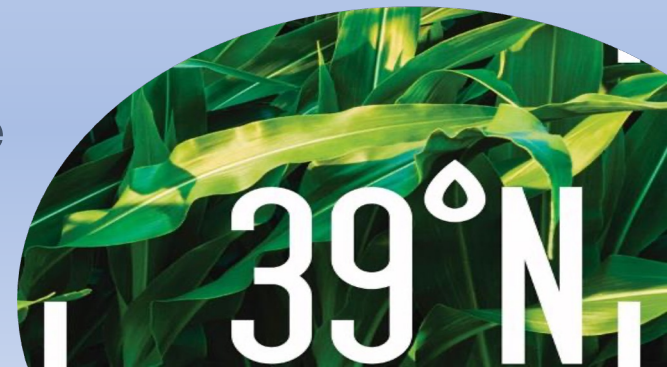
Top Scientists | New Foundational Knowledge | New Technology | Sustainable Crops and Systems

| Licensed Technology | Future Scientists and Talent Pipeline | Economic Impact

The Helix Center



- Opened 2012 with a grant from the Economic Development Agency
- 33,000 sq ft. of office and lab space for startup companies in Agtech
- Currently ~25 companies occupy the offices and labs
- Purpose of incubator is to provide low-cost lab & office space for early-stage startups, who grow and move into other space in the 39N District



Startups generally focus on services or product development

- Services (examples)

- Intact Genomics
- INTENT
- Ferris Genomics
- MOGene
- Solis Agrosiences

- Product/technology development (examples)

- Aferna
- Agragene
- Impetus
- Plastomics
- Pluton



SOLIS
a g r o s c i e n c e s

<https://www.solisagrosiences.com>

Mission:

To help scientists and entrepreneurs accelerate plant science innovation and product development

Solis empowers innovators to take on grand challenges in food security and sustainability

- Solis is a B2B Agtech services company whose mission is to help startups accelerate their product development while retaining their IP
- We design and develop new crop varieties through gene editing and genetic engineering
- We offer a comprehensive menu of wrap-around R&D services to maximize product success



Solis enables Ag innovation beyond STL

"Solis is launching an exciting and new model for R&D services to support the expanding AgriFoodTech startup ecosystem. Meeting global challenges in climate, food security and sustainability requires new and improved crops. Solis will help scientists accelerate the discovery and commercialization of these important advances."

– **Robb Fraley, PhD., former CTO Monsanto Company and 2013 World Food Prize Laureate**

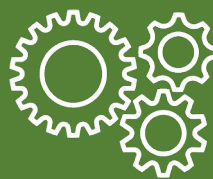
"Solis Agrosiences is an ideal trait technology services partner."

– **Chad Brommer, Chief Technology Officer, Harpe Bioherbicides, Inc.**

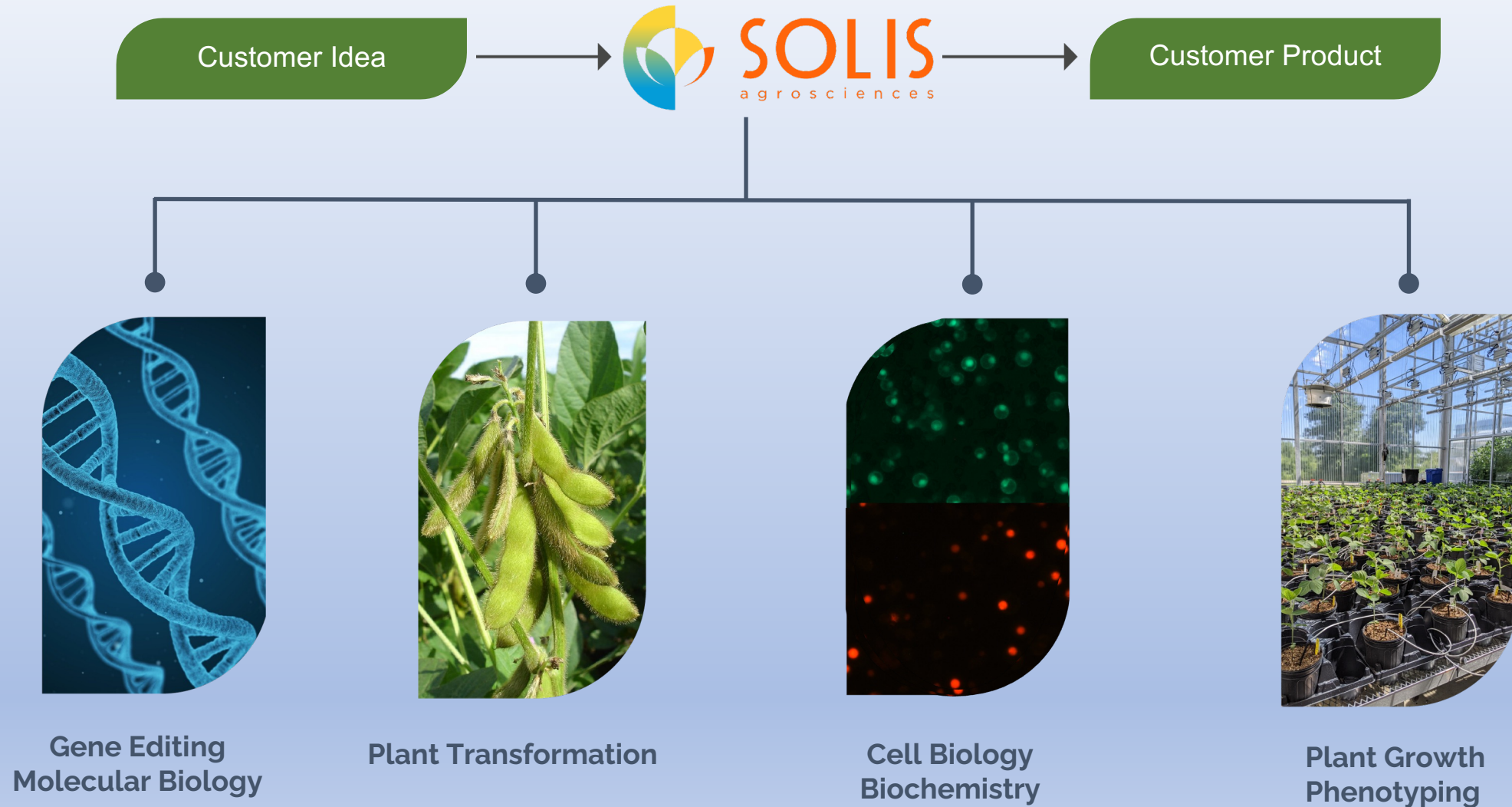
"Amfora gives two thumbs up to Solis...it's a pleasure to work with such a professional team and their 'can do' attitude."

– **Michael Lassner, Chief Scientific Officer, Amfora, Inc.**

Innovators face capacity constraints



Solis' Plant Pipeline as a Service™ is a game-changing platform



Solis Agrosciences by the numbers



CLIENTS

98%
startups

10%
STL-based, rest US/global

100%
customer retention



SERVICES

35+
offerings

10+
crops



GROWTH

5+
acres

55,000+
sq.ft of GH



IMPACT

15+
product concepts

25+
new jobs

Solis' turnkey pipeline successfully de-risks and drives Agtech innovation

- Supports **complete R&D projects** from start to finish as well as **a la carte services**
- Enables “**labless**” product discovery and development
- Provides state-of-the-art **infrastructure** and **proprietary tools** at an **affordable** price
- Expert **talent** brings the best ideas and technical skills to solve challenging problems
- Increases capital efficiency, allowing allocation of client resources to core **focus** areas
- One-stop, nimble shop significantly **reduces product development time**
- Builds **partnerships** and breaks down barriers to accelerate technology development
- Encourages innovation by allowing startups to retain their **IP**

INTENT™

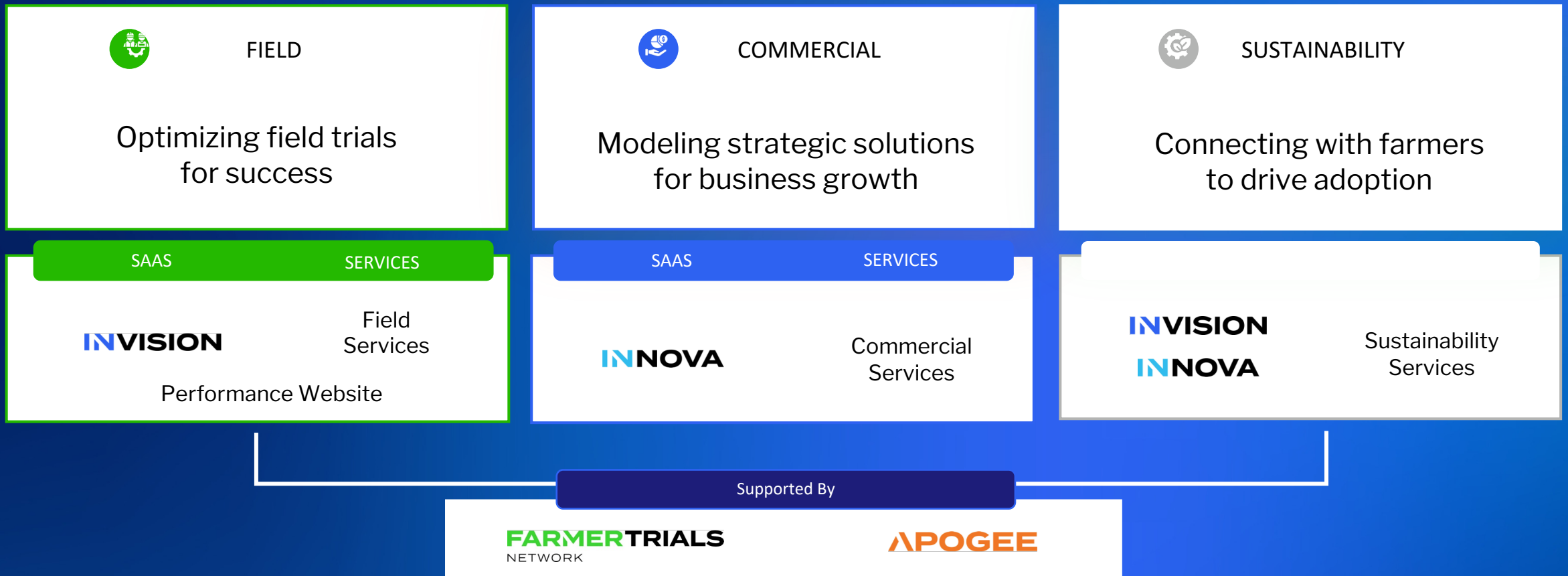
INNOVATION. REALIZED.

Software and services that connect businesses with farmers, supporting the realization of new innovations in agriculture



INTENT Advantage

INTENT offers software and services that connect ag businesses with farmers. Their experience, connections and intelligence tools help businesses at all stages of their commercialization journey, extending across three core focus areas – Field, Commercial and Sustainability.





Proven and Certified High Quality

*ISO 13485:2016 certified molecular
biology reagents & life science
research tools*

- Intact Genomics provides high-quality life science products and advanced genomic services to customers worldwide
- Develops cutting-edge technologies and products for isothermal amplification, gene-editing, simplified molecular cloning and transformation, large DNA fragment cloning and metagenomics
- BAC/Fosmid library construction, protein expression, protein purification, DNA preparation



Ferris Genomics

- A sequencing reagent, instrument, and service company focused on agriculture clients performing Genotyping by Sequencing (GBS) to make informed decisions related to breeding, trait selection, and crop improvement
- Offerings span whole genome, skim/low pass, hybrid capture (2K-20K markers), and amplicon-based sequencing (100 – 2000 markers)
- Ferris Genomics utilizes their MiO Reactor reagent and process which enables microfluidic miniaturization and reaction efficiency, enabling lower costs for sequencing library preparation without losses in quality
- Ferris Genomics' sequencing as a service is focused on providing more data, with fast turnaround times to fuel breeding programs

Summary

- The 39N innovation district supports a vibrant Agtech ecosystem that includes numerous startups as well as the Danforth Center and Bayer Crop Science
- The Danforth Center provides several core facilities and is integral to the success of the ecosystem
- B2B companies in the ecosystem provide valuable services in a variety of areas
- Solis Agrosiences is the first VC-backed Agtech company to provide a comprehensive pipeline for Agtech discovery and product development

THANK YOU!

Solis supports the STL Ag ecosystem

“Our project with Solis was seamless. It's one thing to set up a lab for plant tissue culture. It's a whole different level to optimize an entire process from construct design to QA'd transformant delivery. I wish Solis had been around three years ago.”

– David Woodburn, Chief Executive Officer, Edison Agrosiences, Inc.

“Solis Agrosiences provides the expertise and confidence to generate our plant transformation pipeline. Solis has delivered better, faster and less expensive plants than trying to do it ourselves.”

– Jon Schmuke, Chief Technology Officer, Afernabio, Inc.