



# Company Presentation

November 2023



# Forward-Looking Statements

This presentation contains "forward-looking statements" relating to future events, and AgPlenus (the "Company") and its parent, Evogene Ltd. ("Evogene", and collectively "we", "us", "our"), may from time to time make other statements, regarding our outlook or expectations for future financial or operating results and/or other matters regarding or affecting us that are considered "forward-looking statements" as defined in the U.S. Private Securities Litigation Reform Act of 1995 (the "PSLRA") and other securities laws. Such forward-looking statements may be identified by the use of such words as "believe", "expect", "anticipate", "should", "planned", "estimated", "intend" and "potential" or words of similar meaning. We are using forward-looking statements in this presentation when we discuss our value drivers, growing market's expectations, challenges, business model and potential revenue stream, commercialization efforts and timing, product development and launches, estimated market sizes and milestones, as well as the capabilities of Evogene's and our technology.

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# Agenda

01// Vision, challenges & our solution

02// The technology platform

03// Product pipeline

04// Business development

05// Summary



## Our Vision

### **Novel and safe crop protection products**

Design and develop novel and safe crop protection products allowing food security for the rapidly growing world population

## Our Mission

### **AI and science to boost novel crop protection development**

To direct and accelerate the development of target-based novel crop protection products, utilizing a revolutionary tech-engine based on AI, combined with a deep understanding of biology and chemistry

# Agrochemical Market Growth Drivers

Market growth forecast for 2025 \$74.1B

2022, \$62B (CAGR 3.1%)\*



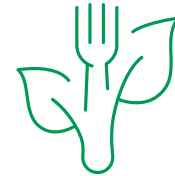
**10B**

The world's population in 2050



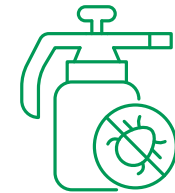
**50%**

of the world's population lives in urban areas



**60%\*\***

increase in food production to feed the world



**Agro-chemical pesticide**

is a well proven economical approach for increase of crop yields

# Agrochemical Market Challenges

## Increase of Pest Resistance & Regulatory Requirements

- Reduced tools due to regulatory requirements
- Resistant pests
- Increased application rate resulting in environmental damage

## Long and Expensive Development

- Time to market 10-12 years
- Average cost of \$286M
- 160K molecules synthesized

## Lack of Innovation

- Decrease in discovery of new pesticides
- Lack of capabilities to identify protein targets



**Novel products & an effective  
product development  
approach are urgently needed**



# Key Product Development Challenges



## 01

### Target Protein Selection

Target Protein - an essential protein, that upon loss of its function compromises the organism.

#### The Challenge

To find a novel, safe, and druggable\* *Target Protein* from the thousands of proteins in the relevant organism, with a new mode-of-action (MOA) that *will not* result in adverse cross-reactivity in beneficial species.



## 02

### Small Molecule Inhibitor Identification

A small molecule inhibitor - is a chemical compound that effectively modulates or inhibits the activity of the target protein.

#### The Challenge

To find a novel molecule inhibitor out of the billions of potential chemical compounds, that both effectively and selectively affects the target protein.

# Our Solution - AI and Science for Novel Crop Protection



Computational  
prediction of essential  
druggable proteins



AI- based rapid virtual  
screening of  $10^{10}$   
compounds



Well-proven  
drug design  
*in-silico* approach assimilated  
into the tech-engine



Robust  
computational  
platform

Addressing  
**environmental  
safety** and selectivity  
early in discovery

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**Cost-effective**, wet  
screening of only  
hundreds of  
compounds

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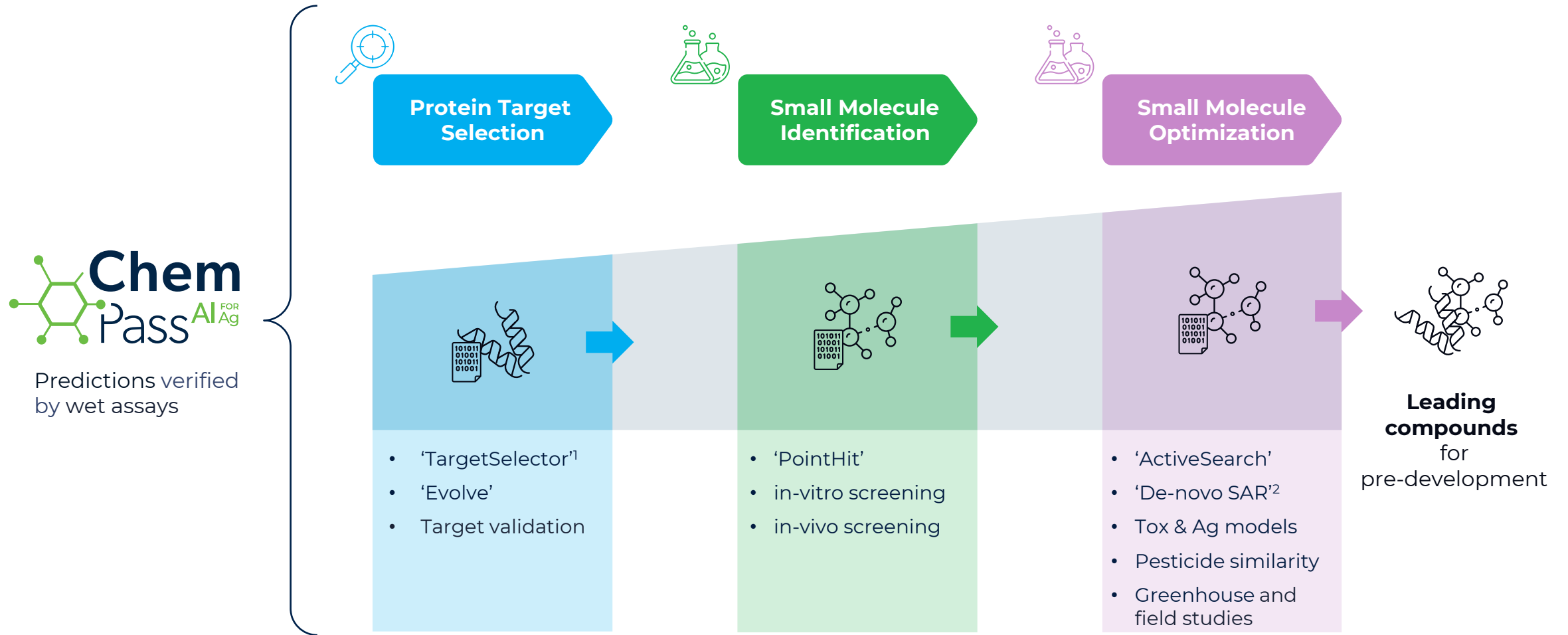
**Reduced time**  
to market

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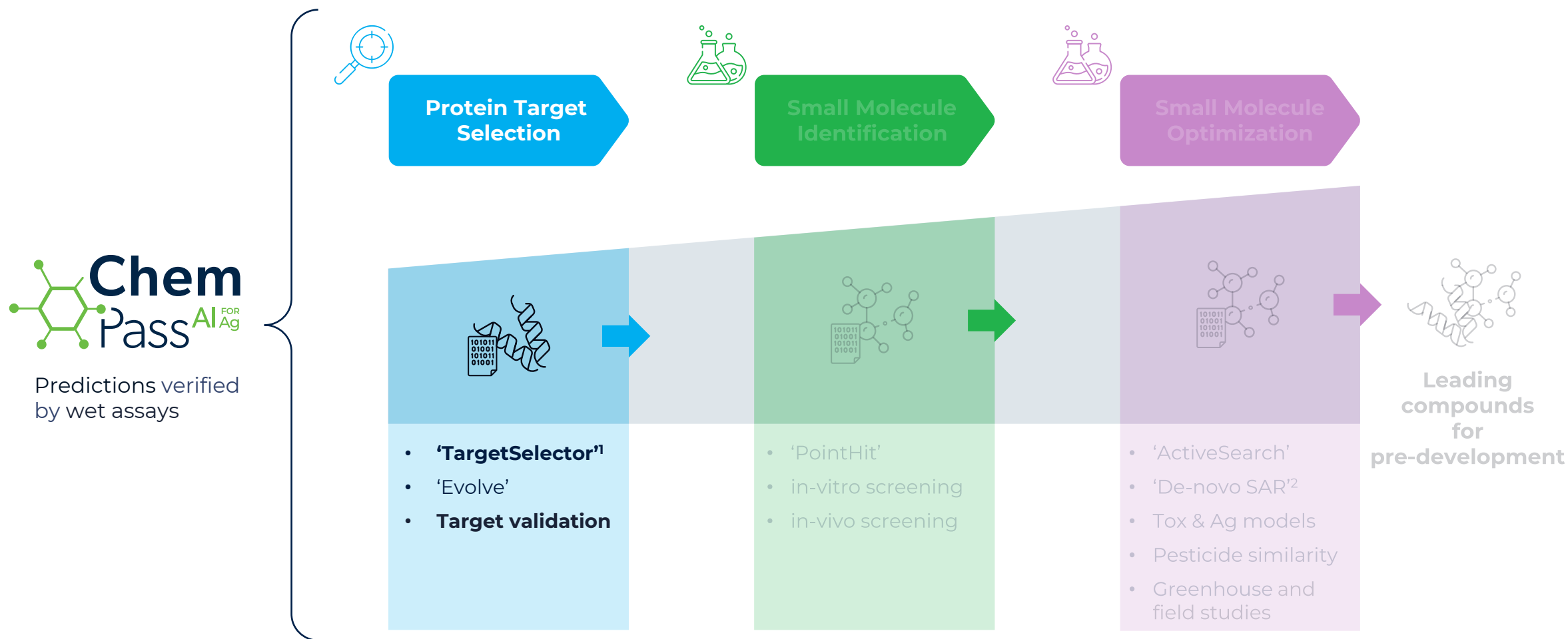
Increase  
**probability of  
success**



# AgPlenus' Holistic Discovery Approach



# AgPlenus' Holistic Discovery Approach



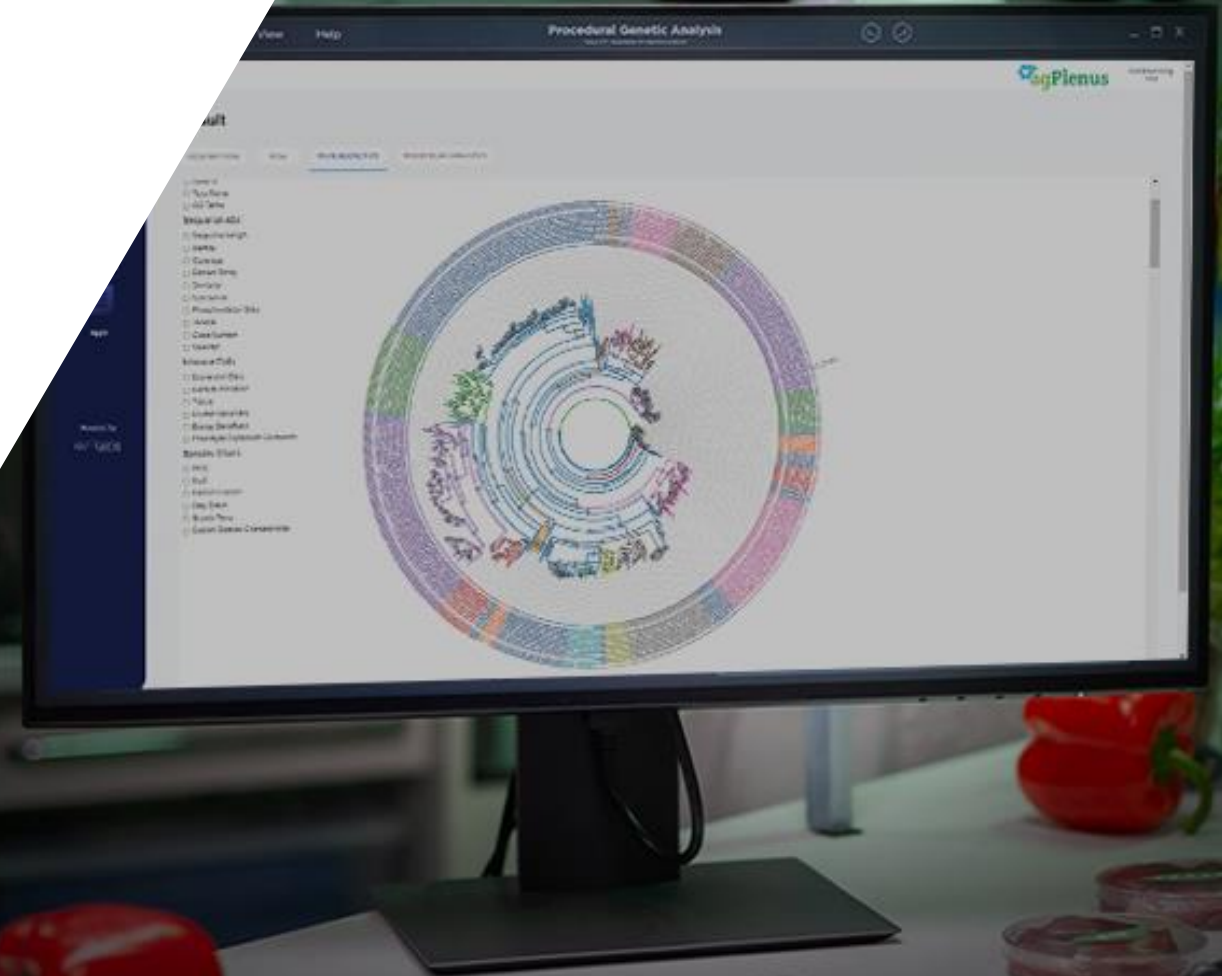
# TargetSelector -

## A computational approach for identification of essential proteins

Cost-effective and time-efficient approach

Addressing environmental safety and selectivity early in discovery

Variety of novel targets (less researched)





# TargetSelector

## Essentiality

Predicting proteins necessary for the survival, growth, and reproduction of an organism

## Cellular pathways

Connecting the target protein to biological pathways essential for cellular processes



## Druggability

Computational assessment of the likelihood of a small molecule to modulate a target

## Target-related safety

Assessing on-target and off-target safety-related issues

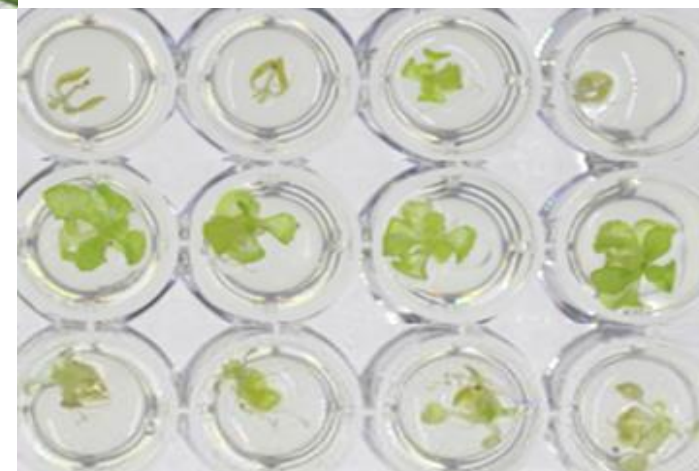


# Target Validation

Knocking down the targeted protein results in severe growth inhibition



No treatment (control)

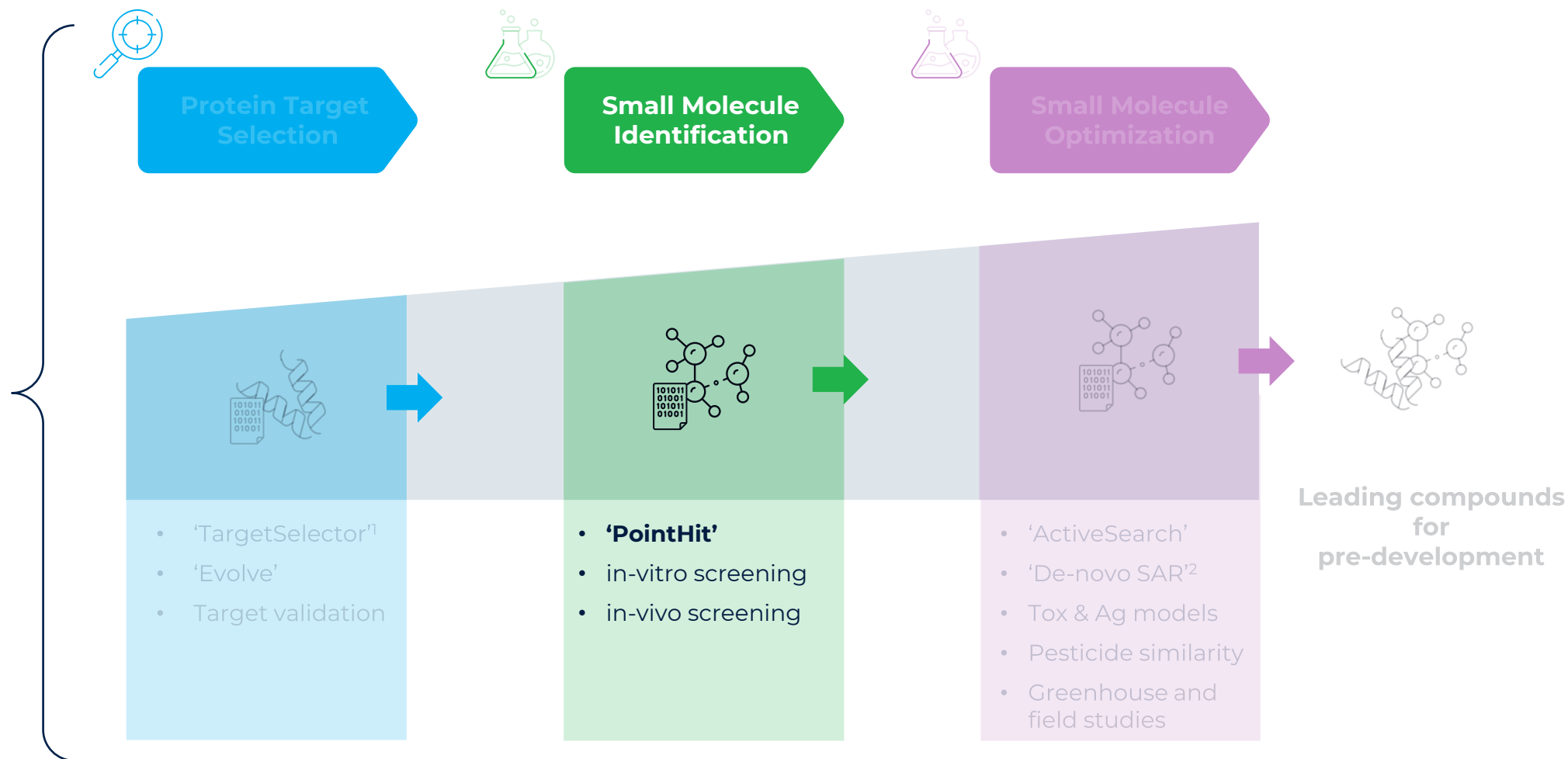


In the presence of target gene silencer

# AgPlenus' Holistic Discovery Approach



Predictions verified by wet assays



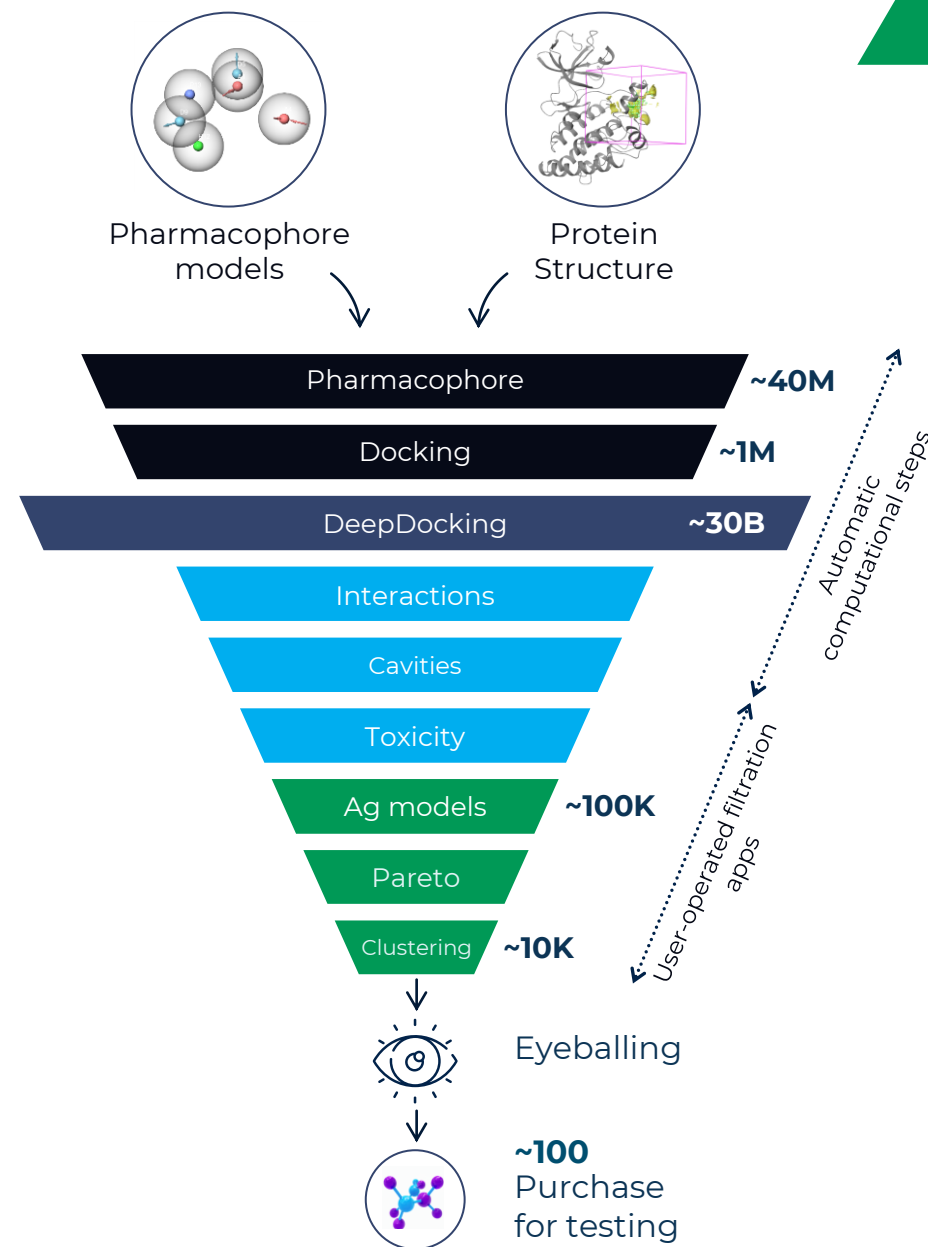
# PointHit - a Virtual High Throughput Screening Tool

- Highly efficient deep docking of up to 30B compound database (DB) (>400-fold acceleration)\*
- Supplemented with proprietary machine-learning (ML) tools to evaluate bioavailability

## Advantages

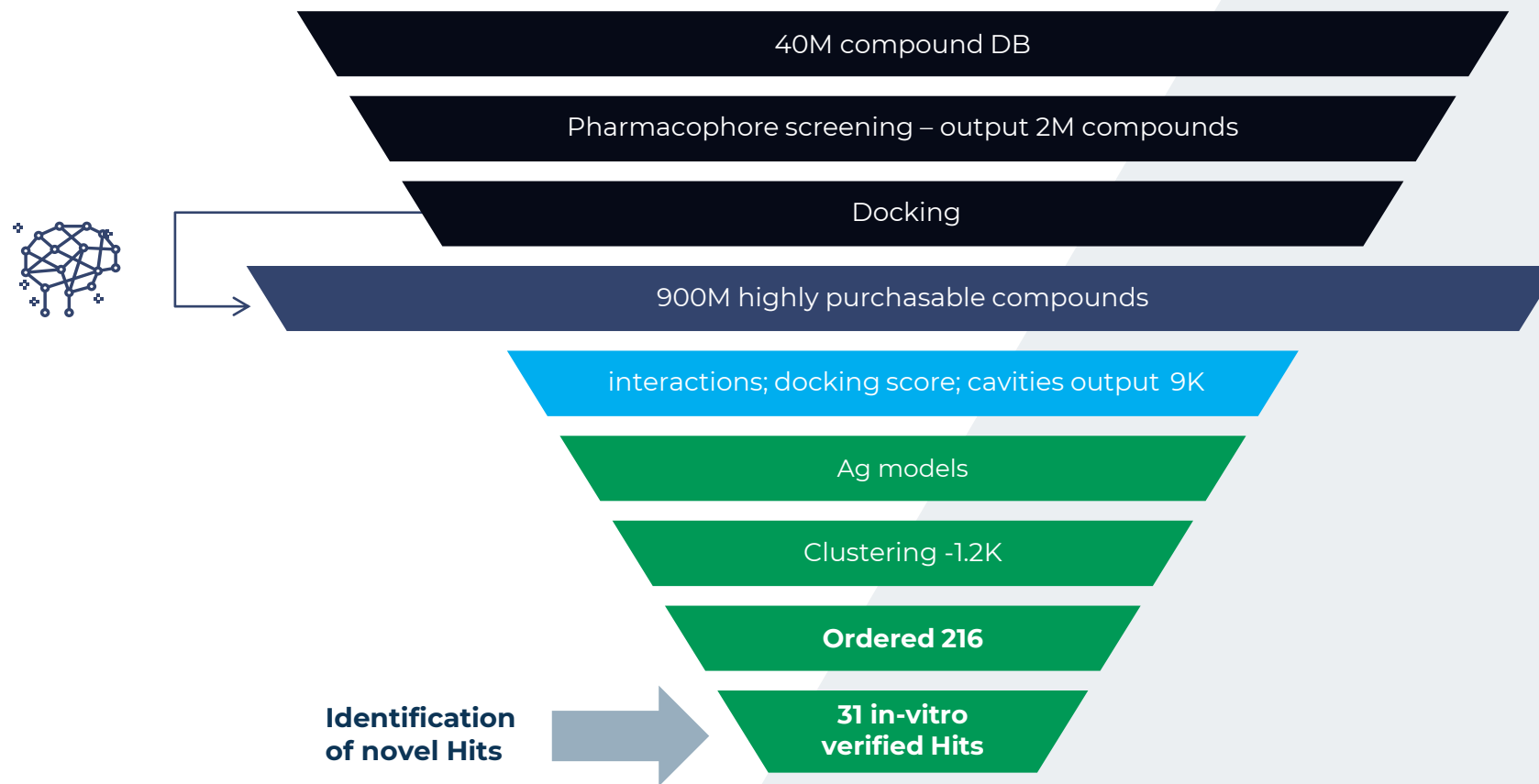
Increases structural variability and opportunity to find Hits

Reduces the volume of downstream analysis - cost and time-effective





# PointHit - Start-to-End Case Study

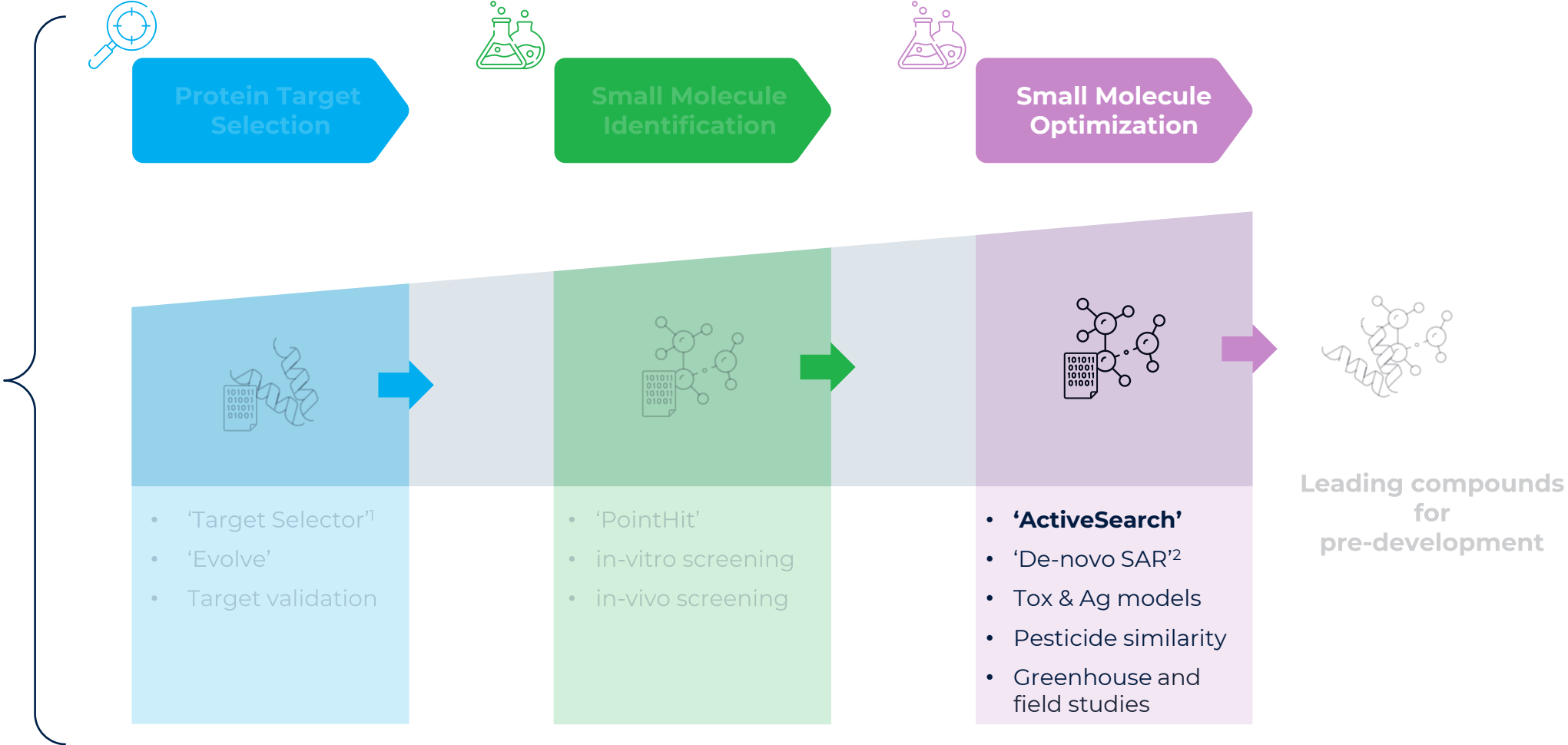




# AgPlenus' Holistic Discovery Approach

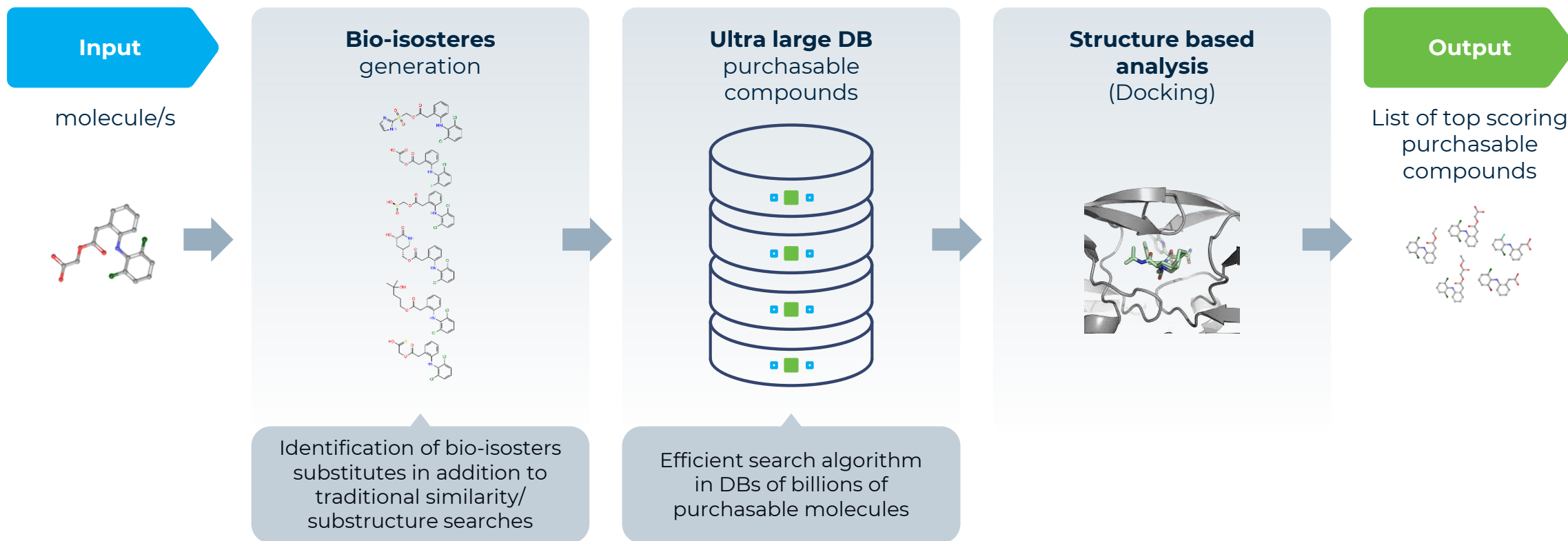


Predictions verified by wet assays





# ActiveSearch - Optimization Tool

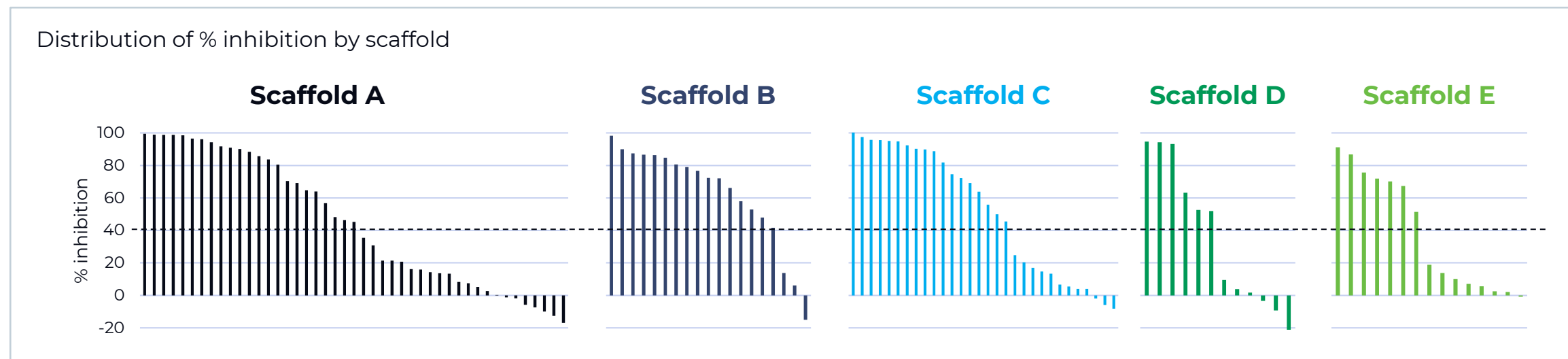


**A proprietary computational SAR tool to streamline Hit and Lead optimization process**



# ActiveSearch - Case Study

ActiveSearch Yielded Purchasable Active Compounds



Criterion	Pass/Fail	Comments
Compound availability	Pass	~95% purchasable
Compound activity	Pass	57% above the threshold (40% inhibition) 20% above 90% inhibition
Diversity	Pass	NEW chemicals identified

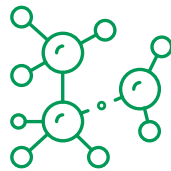
# Additional Capabilities Under Development



## Target discovery & prioritization

TargetSelector V.2.0

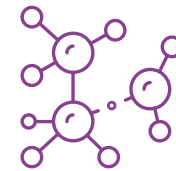
Automate target assessment process to increase speed and predictive success for the selection of commercially relevant novel protein targets



## Hit discovery

PointHit V.2.0

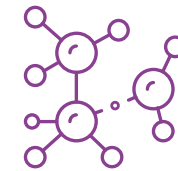
Predictive models for Ag activity to increase probability of success



## Hit & Lead optimization

ActiveSearch V.1.1

Improved functionality, addition of features used in analog selection leading to enhanced predictive results



## Hit & Lead optimization

De-Novo Design V.1.0

Design of novel compounds and assessment of synthetic feasibility resulting in fine tuning of products to better serve the target market while minimizing cost of goods

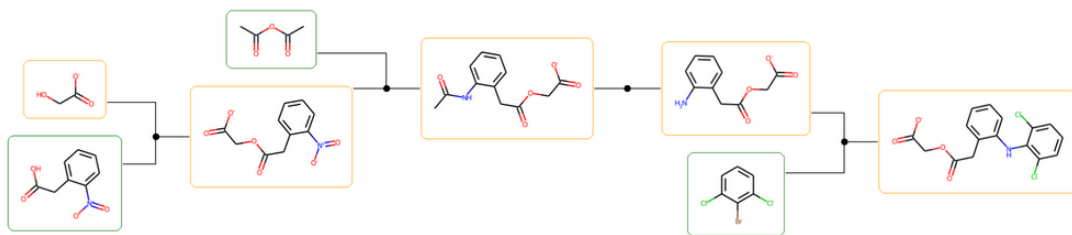


# De-novo Design

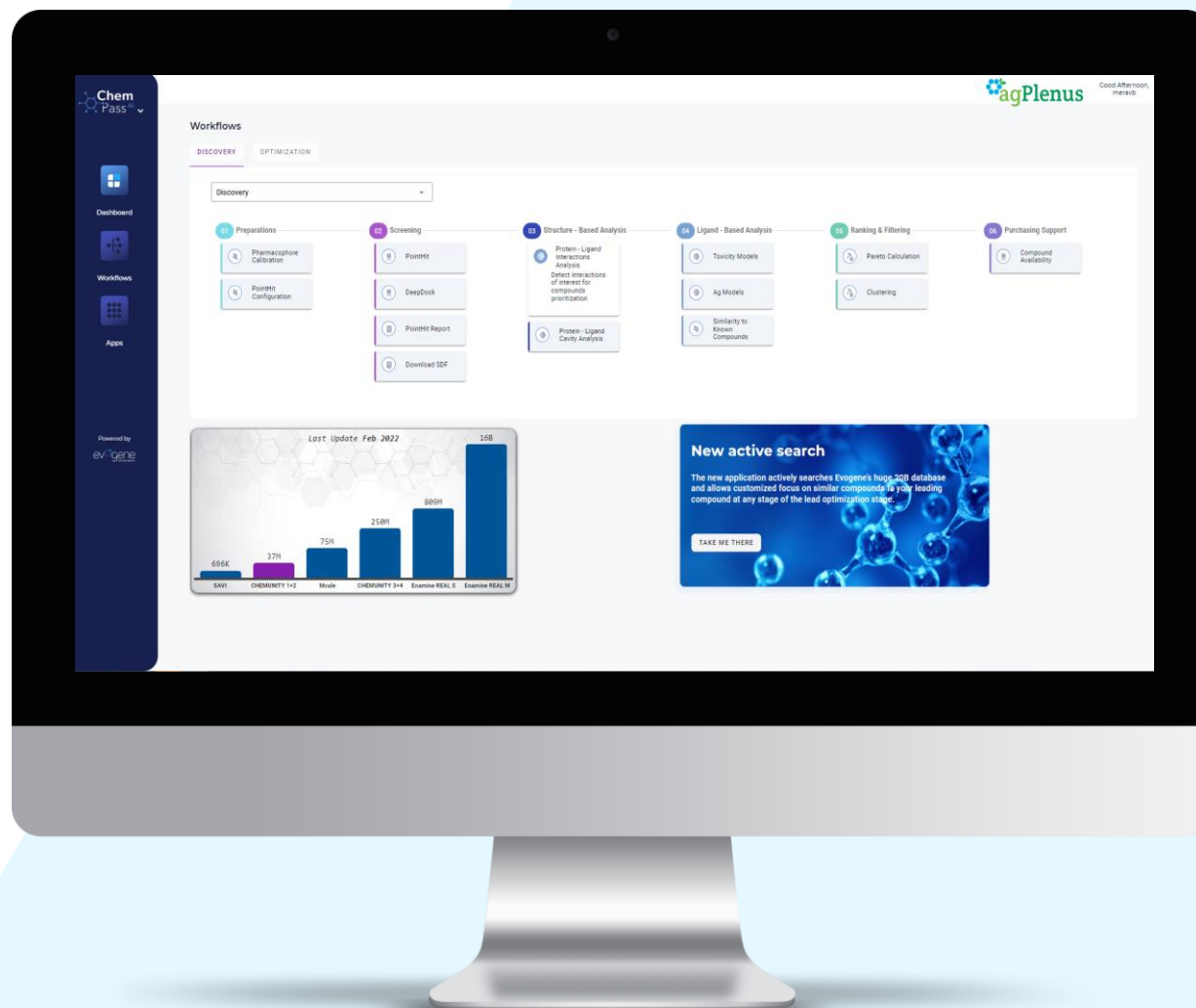
## Addressing Lead-to-Candidate challenges

### De-novo design of new chemical entities:

- Structure activity relationship analysis (SAR)
- Synthesis models – computational assessment of ease of synthesis and route of synthesis



# Dashboard User-Enabled Software



# Our Products



## Insecticide: Piercing/Sucking Insects

### Market opportunity

- Broad spectrum weed market - \$8B
- Europe ban on insecticide classes

### Major markets

- Global



## Broad Spectrum Herbicide

### Market opportunity

- Broad spectrum weed market - \$10B
- Resistance to current top products

### Major markets

- North America, Latin America
- Needs in all major global regions



## Wheat Blotch Fungicide

### Market opportunity

- Wheat blotch + related Septoria market - \$1.4B
- Resistance to current top products ('Strobilurins')

### Major markets

- Europe, Asia
- Needs in all major global regions

# AgPlenus Pipeline

Product Program Name / Type	Protein Name	Discovery			Pre-Development
		Protein Identification & Selection	Hit Identification	Hit & Lead Optimization	
<b>HERBICIDES</b>					
Broad spectrum	APTH 1	S1			
		S2			
		S3			
Corteva Collaboration		Confidential	Confidential		
<b>INSECTICIDES</b>					
Piercing/sucking	APT1 1	S1			
<b>FUNGICIDES</b>					
Wheat blotch					

S- scaffold

Completed   In process   Completed   In process   In process

# Business Model



## Licensing Model

- Development up to Lead optimization, by AgPlenus
- Hand off to partner
- Revenue via license, milestones, royalties

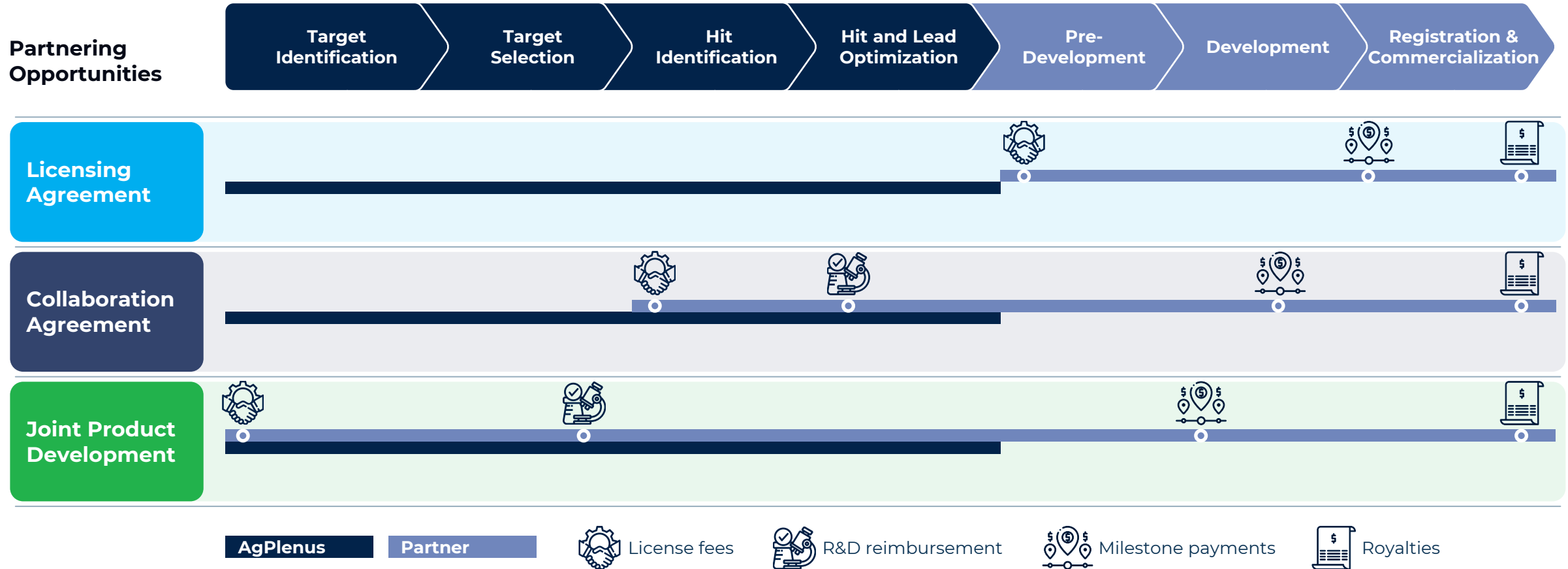
## Collaboration Model

- Co-development utilizing AgPlenus' and partner's capabilities
- Flexible entry point along development path
- Revenue via upfront fee, R&D reimbursement, milestones, royalties

## Joint Product Model

- Co-development starting at identification of market target
- Revenue via R&D reimbursement, milestones, royalties

# Go to Market Strategy





# Collaboration Agreement



## Develop new MoA herbicides to target resistant weeds

- Started in March 2020
- AgPlenus to discover & optimize herbicide candidates
- Corteva to conduct testing & product development

## License to Corteva

- Corteva has exclusive license to products of collaboration
- AgPlenus receives research fees, milestones & royalties upon commercialization



# Partnership Opportunities

## Full R&D capabilities companies



### Opportunities

New projects, identified targets, SAR, pipeline projects

## Interest in partnering for earlier innovation



### Opportunities

Pipeline projects

## Generic companies



### Opportunities

Pipeline projects

## Discovery companies

biologicals



MoA

### Opportunities

Target identification, hit ID, optimization

# The Management Team

Innovative & Experienced Management Team



**Brian Ember, PhD | CEO**

Previous positions:

- Biotallys, Head of Global Portfolio Management & Head of Marketing
- AgriMetis, Business Development



**Nir Arbel, PhD | COO**

Previous positions:

- Carmentix, CEO
- ESCO Ventures, Operating partner
- ARL , Head of R&D



**Merav Beiman, PhD | VP R&D**

Previous positions:

- ImmPACT-Bio, CEO
- Ferring, R&D
- Compugen, R&D
- QBI, R&D



**Yaron Elad | CFO**

Previous positions:

- Yamba Group Int. Ltd, CFO
- Recoly NV, CFO
- e-Sim Ltd., CFO



**Mirit Ram, MSc | VP Portfolio Management**

Previous positions:

- Evogene, PM
- FMC, PM
- HP, R&D



**Liat Foigel-Wejgman | VP HR**

Previous positions:

- Evogene, HR Director

# Board

## Experienced Board of Directors



**Ofer Haviv | Chairman of The Board**

- Evogene, President & CEO



**Adrian Percy | Director**

- North Carolina Plant Sciences Initiative (N.C. PSI), Executive Director
- Board of Directors: Evogene, BioLumic, Nufarm, FA Bio
- Previously: UPL, CTO
- Previously: Head of R&D, Bayer



**Robert A. Woods | Director**

- Former Chair of Marrone Bio Innovations,
- CEO and Chair of Targeted Growth Inc.
- Former Chair of Syngenta Corp, US



**Eran Kosover | Director**

- Atera Networks
- Previously: AgPlenus Ltd., CEO
- Previously: Evogene, EVP & GM Crop Protection

# Summary



Target-based design with new MoA for sustainable and resistance breaking products



Combined computational and biological platforms



Continuous incremental tech platform improvements



Higher probability of success



Large molecule database provides wide chemical space



Flexible business model



**THANK YOU**

[www.agplenus.com](http://www.agplenus.com)