



Alagene – SynBio Biofoundry

Innovation on demand

Alagene

SynBio Biofoundry

Synthetic biology biofoundry CRO delivering modular R&D solutions that turn bold ideas into industry-ready applications with precision & speed.

Alagene is a national initiative backed by our parent company HyLabs, bringing **over 50 years of excellence in biotechnology services**



Alagene
Trusted Partner

Our Structure

Multidisciplinary Approach

We bridge **biology, chemistry, and engineering**
to deliver **end-to-end R&D services**
Led by **four department heads**,
our team brings **over 100 years of combined experience**



01

Computational
design & cell
engineering

02

HTP screening &
Bio-Assay
Development

03

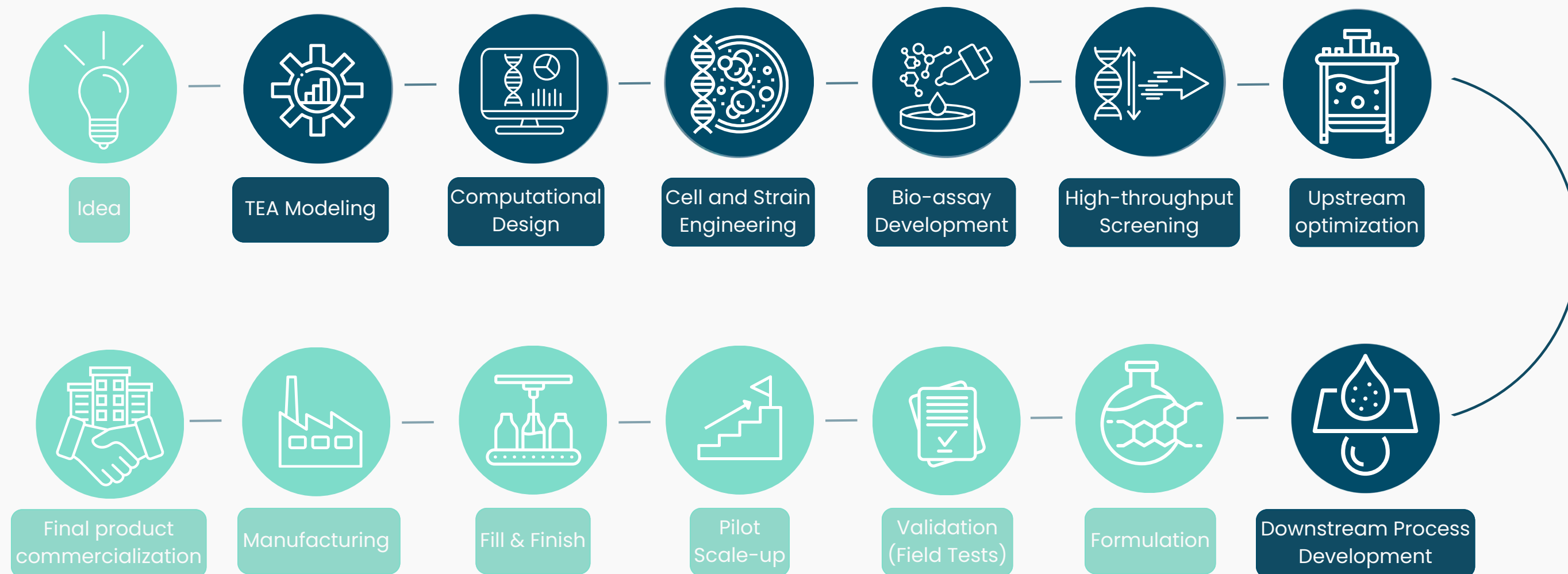
Fermentation
& process
design

04

Downstream
& Analytics

Our Services

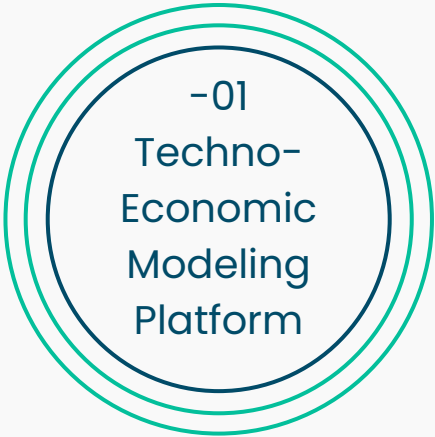
Alagene in your value chain



● In-house
● 3rd Party

Alagene's Techno-Economic Modeling Platform

Designing R&D strategies for \$/kg



Inputs

Selection 1

Selection 2

Organisem

Pichia Pastoris

Carbon Souch

Methanol

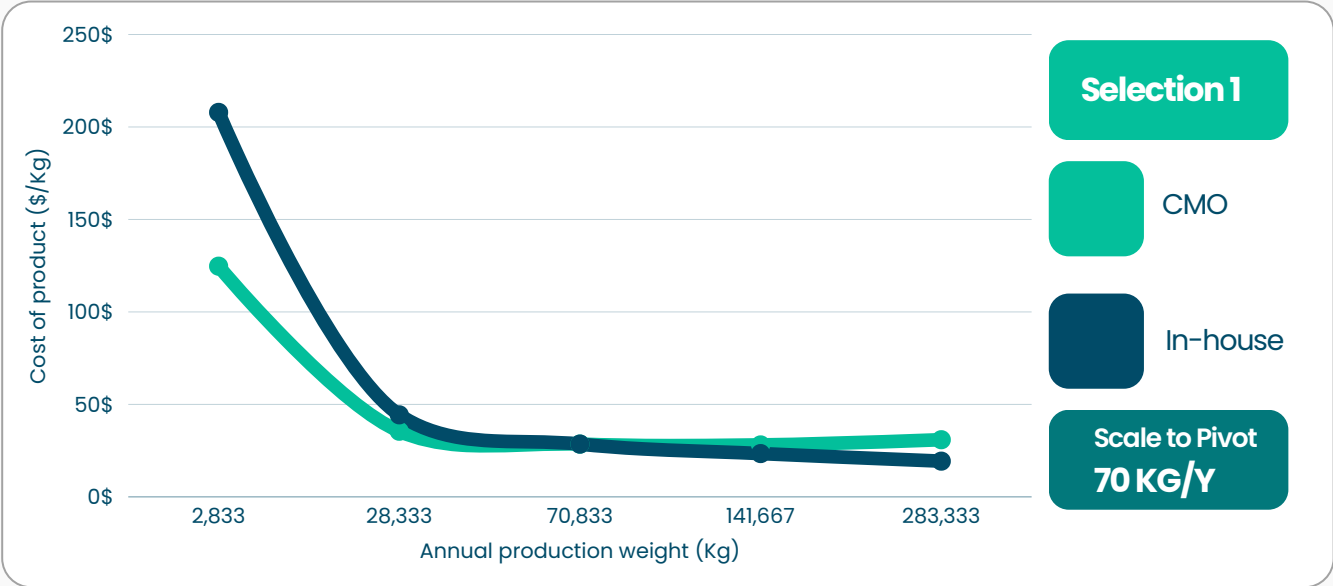
Avarage feed rate (g/hL)

1.5

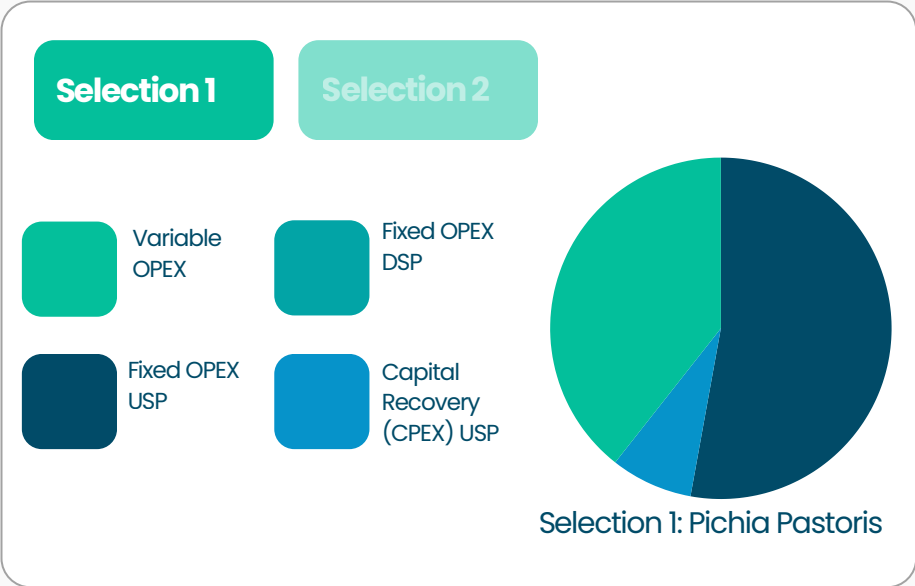
Titer (g/L)

0.014

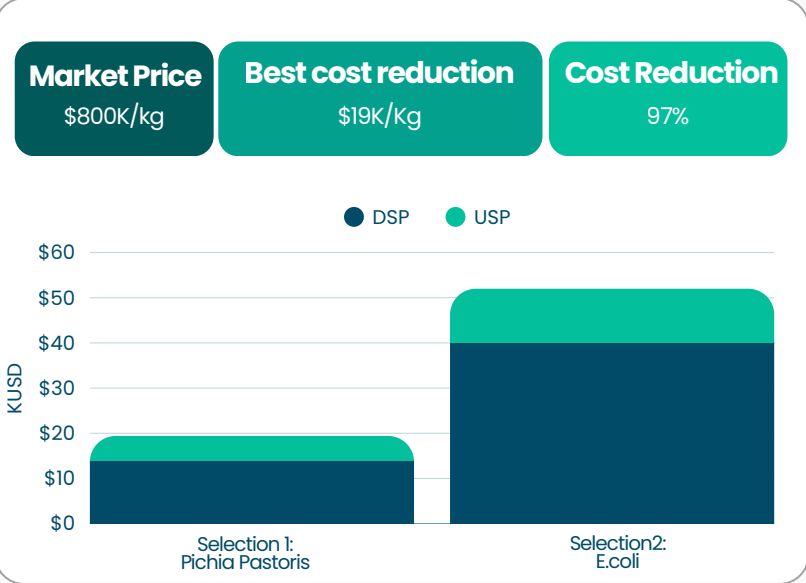
Contract Manufacturing VS In-house



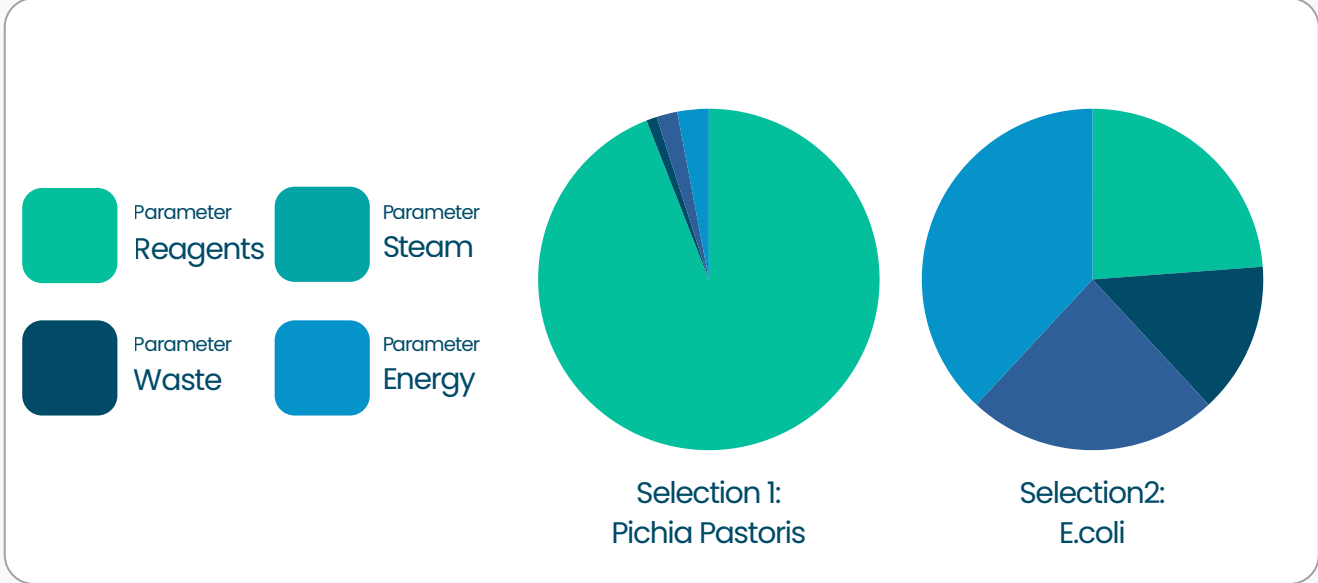
Cost Of Product (\$/Kg)



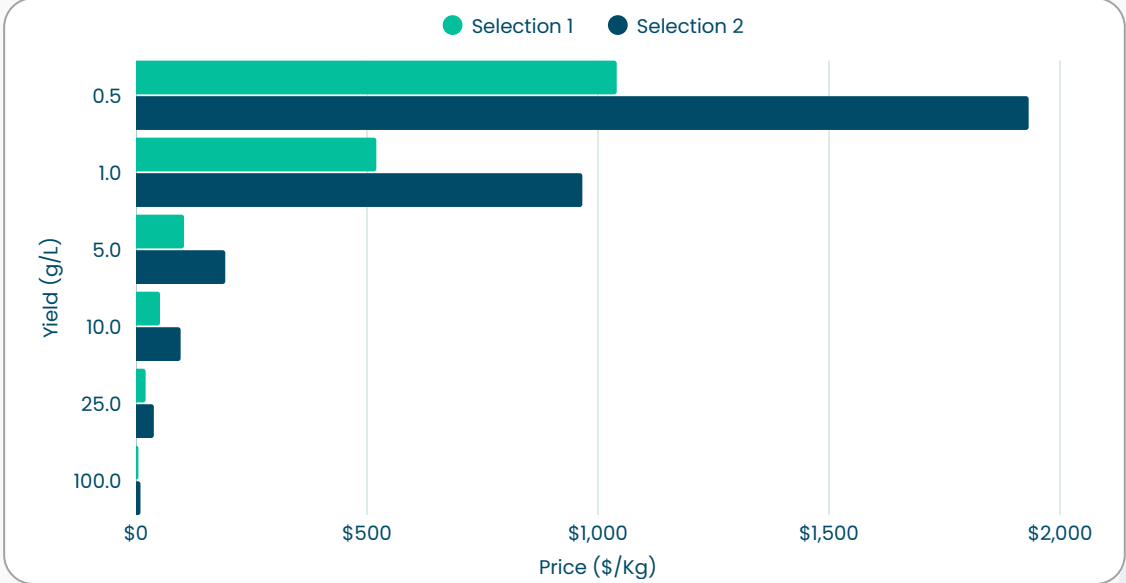
Total Cost Of Product (\$/Kg)



Opex cost (\$/Kg)



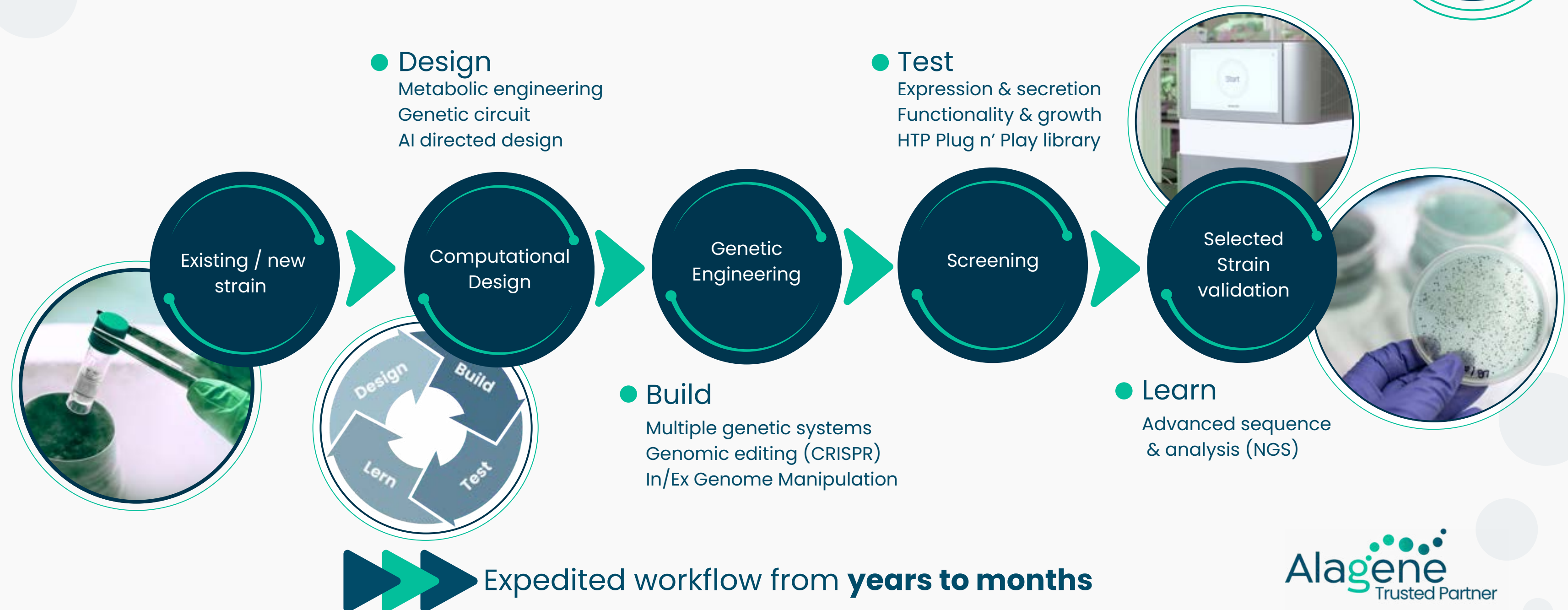
Yield to Cost



Microbial Strain Design and Optimization

Fully integrated, accelerated DBTL workflow

01
Computational
design & cell
engineering



Non-GMO Microbial Strain Improvement

Rapid Improvement Through Adaptive Evolution

01
Computational
design & cell
engineering

● Bioassay

Directed evolution & Mutagenesis (UV, Heat)
Consortia composition
Enrichment experiments
Population Characterization
Selection assay & adaptive resistance

Existing / new
strain

Automated
Bioassay

Selected
Non-GMO
microbe/
consortia

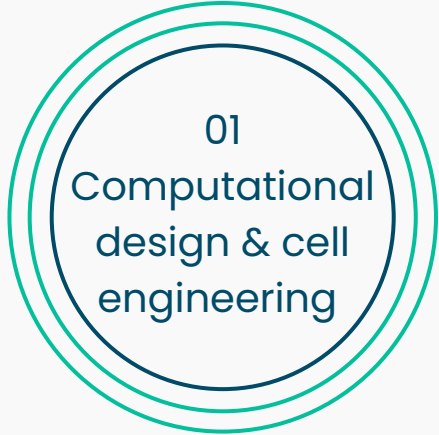


Expedited workflow from **months to weeks**

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In-house

Ultra Productive Strain Menu



	Strains	E. Coli DH5α, BL21-DE3	Bacillus PY79, 168	Pichia pastoris GS115	S. Cerevisiae S288C, CEN-PK	Trichoderma RUT-C30
	Genetic modifications		No protease No sporulation	No protease		
Genetic Toolkits						
	Inducer (Promotor)	IPTG (pT7)	IPTG (Phs, Pgrac)	Methanol (pAOX1)	Galactose (pGAL1/10)	Cellulose (Pcbh1/2)
	Non-Induced	X	V	V	V	X
	In/Ex-genome	Ex	In & Ex	In & Ex	In & Ex	In

And many more...
yours is next



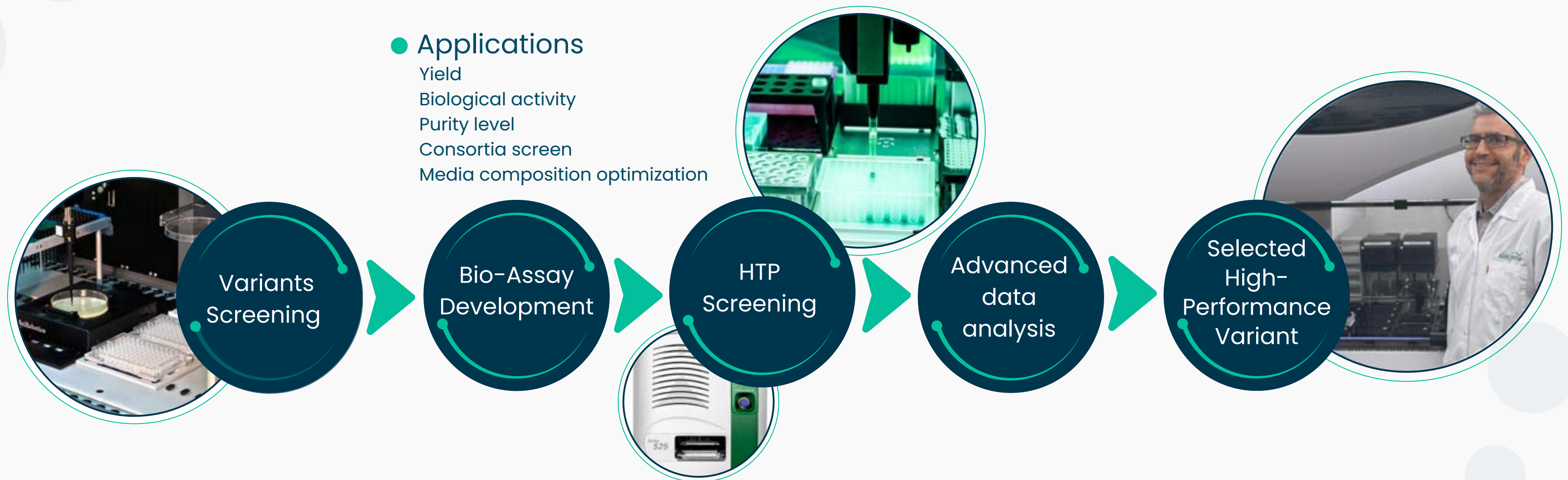
Automated Biofoundry for HTP Screening & Bioassay Development

Analyze 1000's of variants identifying top-performers

02
HTP screening &
Bio-Assay
Development

● Applications

Yield
Biological activity
Purity level
Consortia screen
Media composition optimization



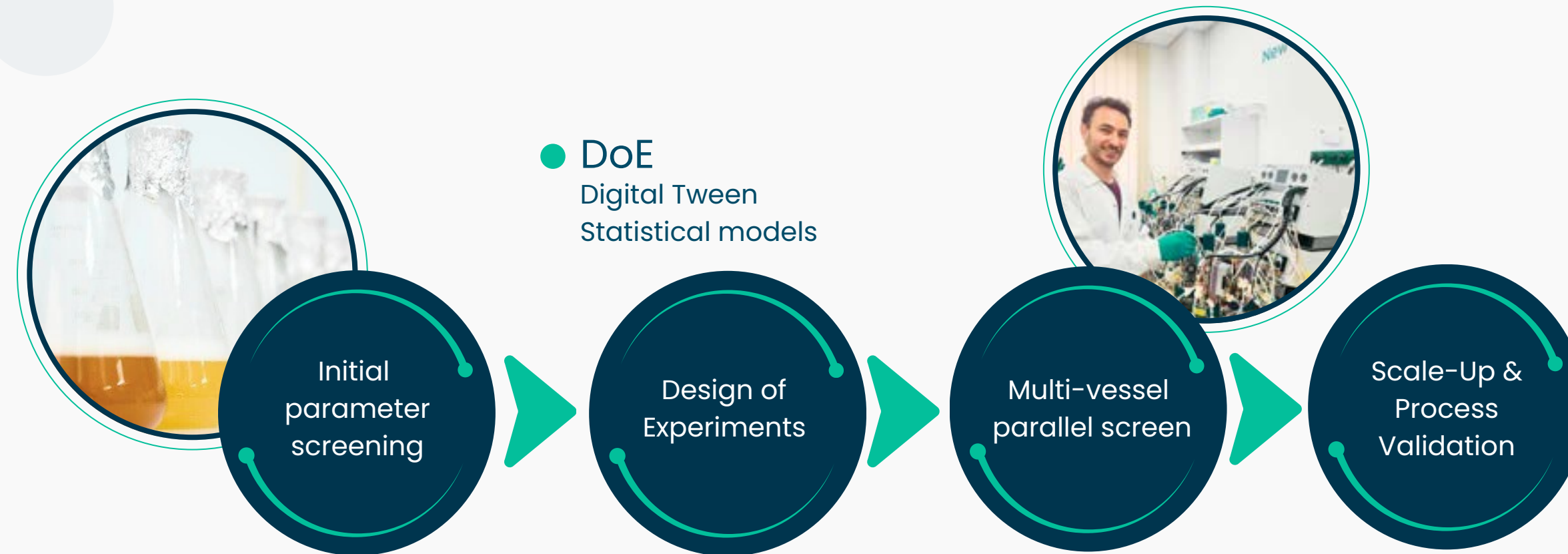
End-to-end HTP workflows and **custom bioassay design**

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Industry-Ready Fermentation Development

Process design, optimization, and scale-up

03
Fermentation &
process design



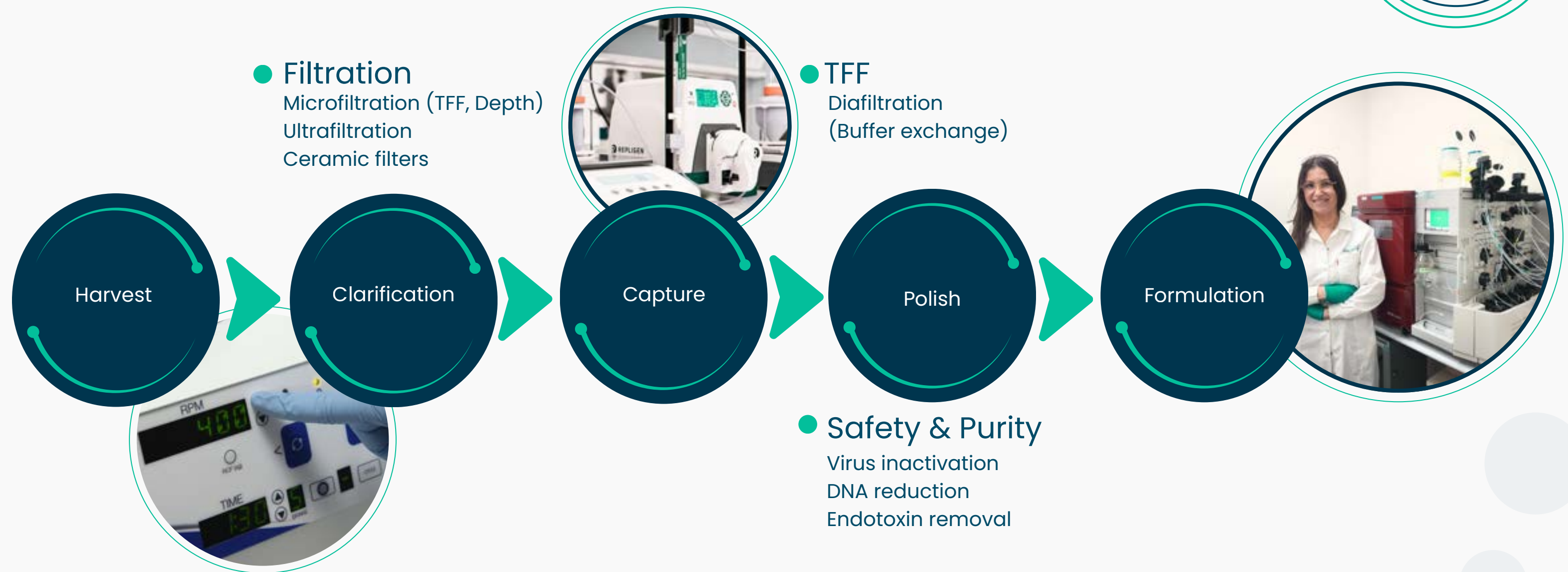
Data-driven process design

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Downstream design and optimization

Designing separation & purification workflows

04
Downstream
& Analytics



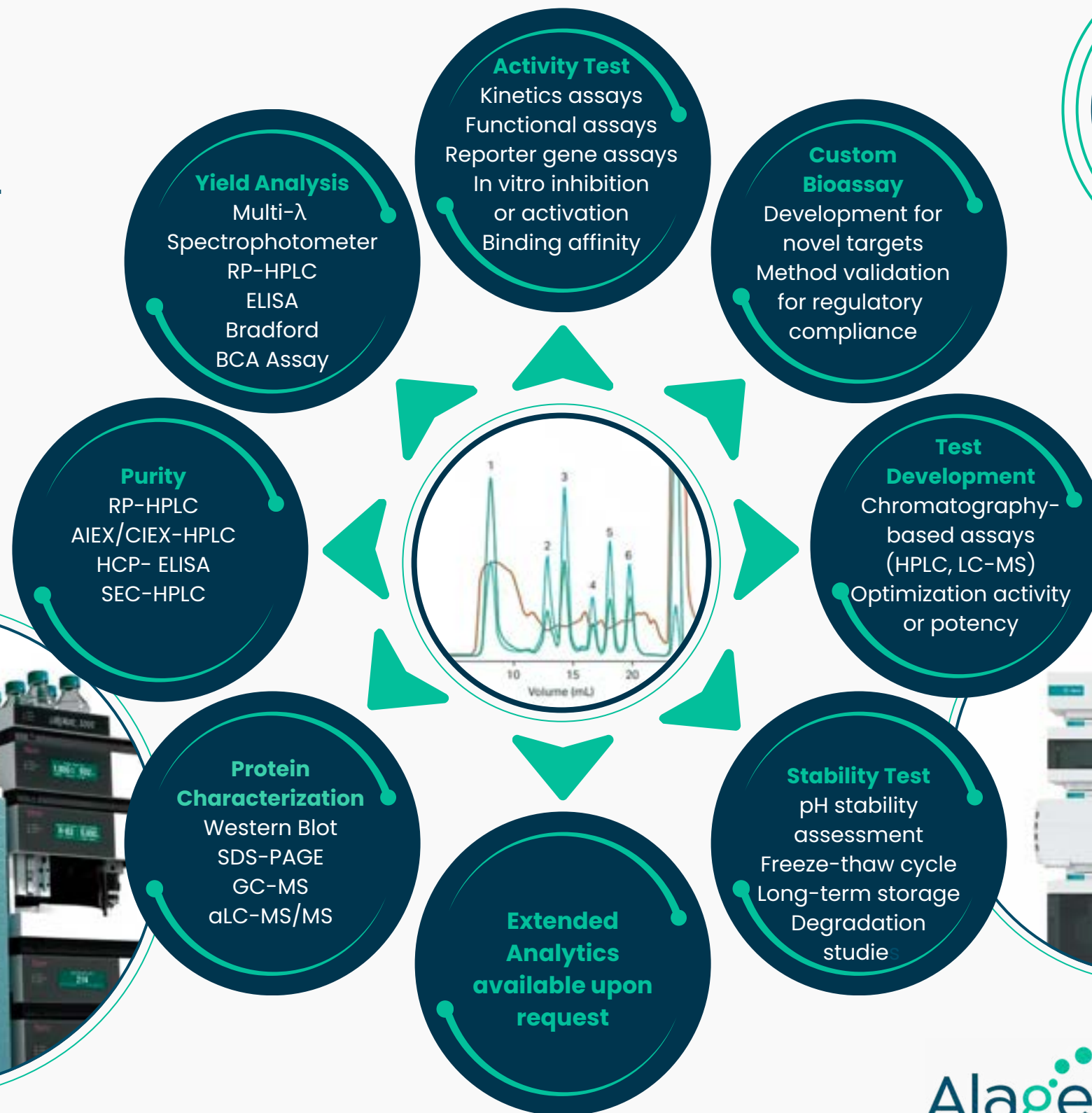
Enabling **cost-efficient, scalable** purification workflow

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Downstream design and optimization

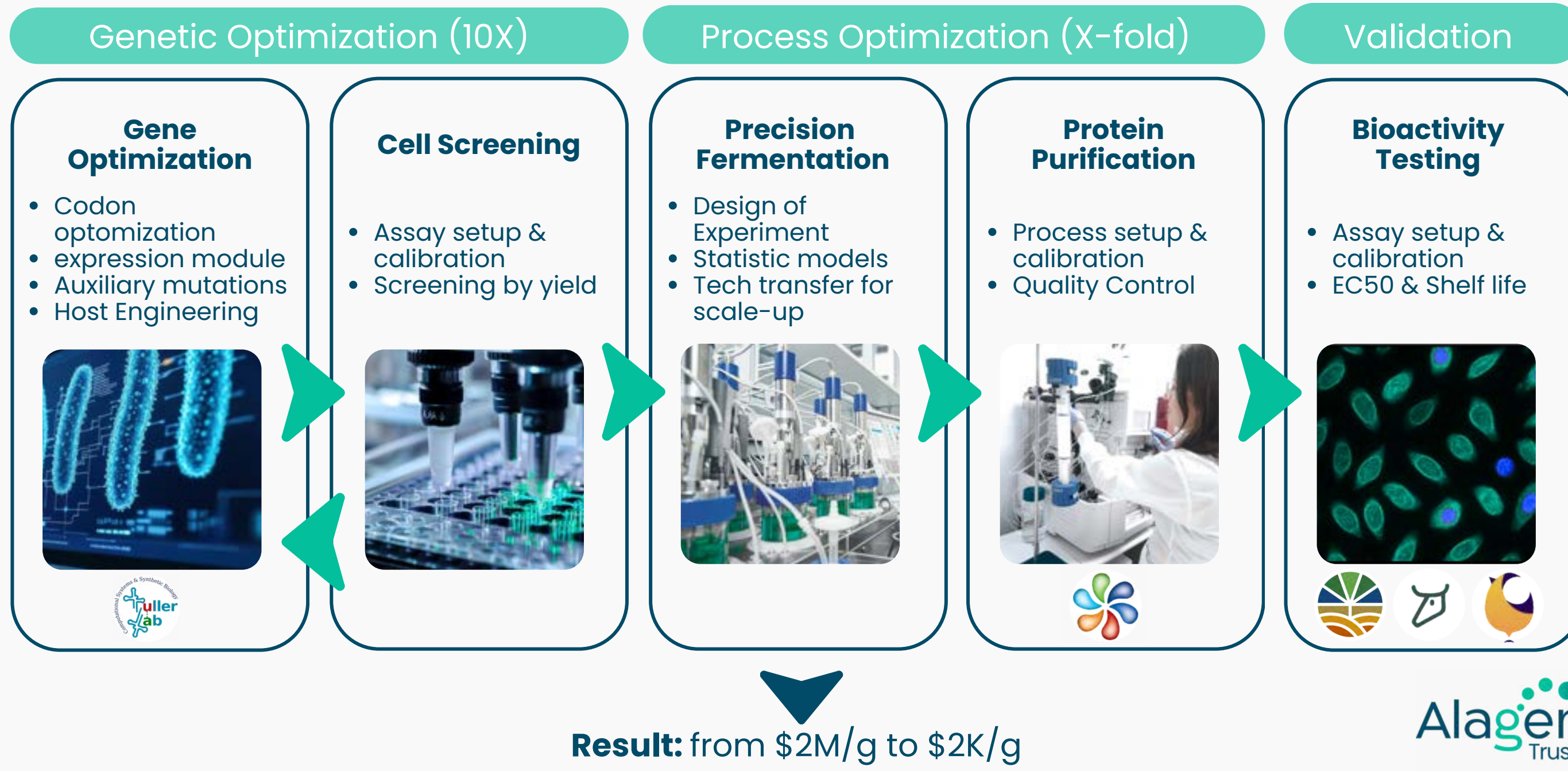
Analytical Toolbox

04
Downstream
& Analytics



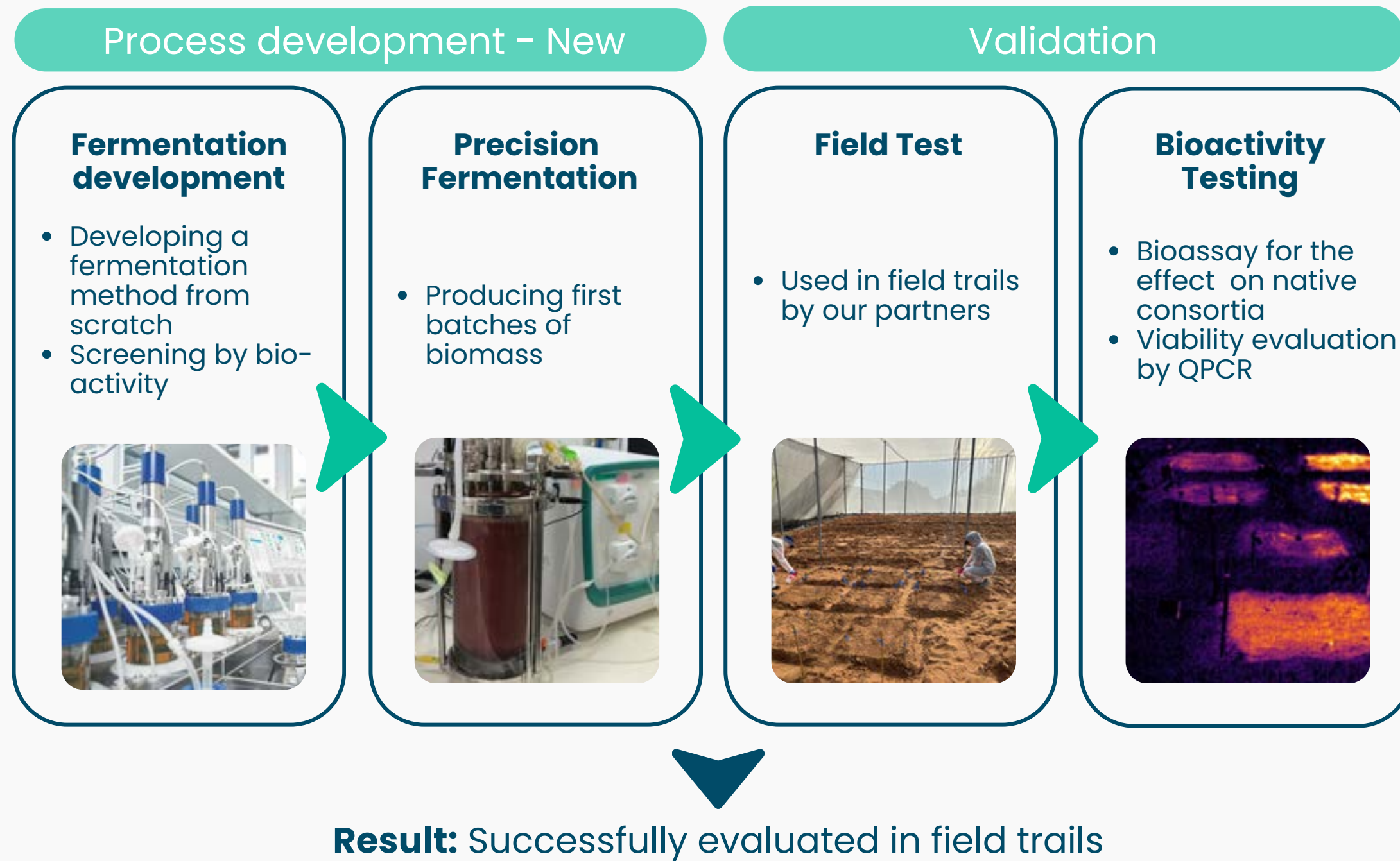
Case Study I: Producing Growth Factors (FGF-2)

 **X1000 Cost reduction – Soluble & endotoxin free**



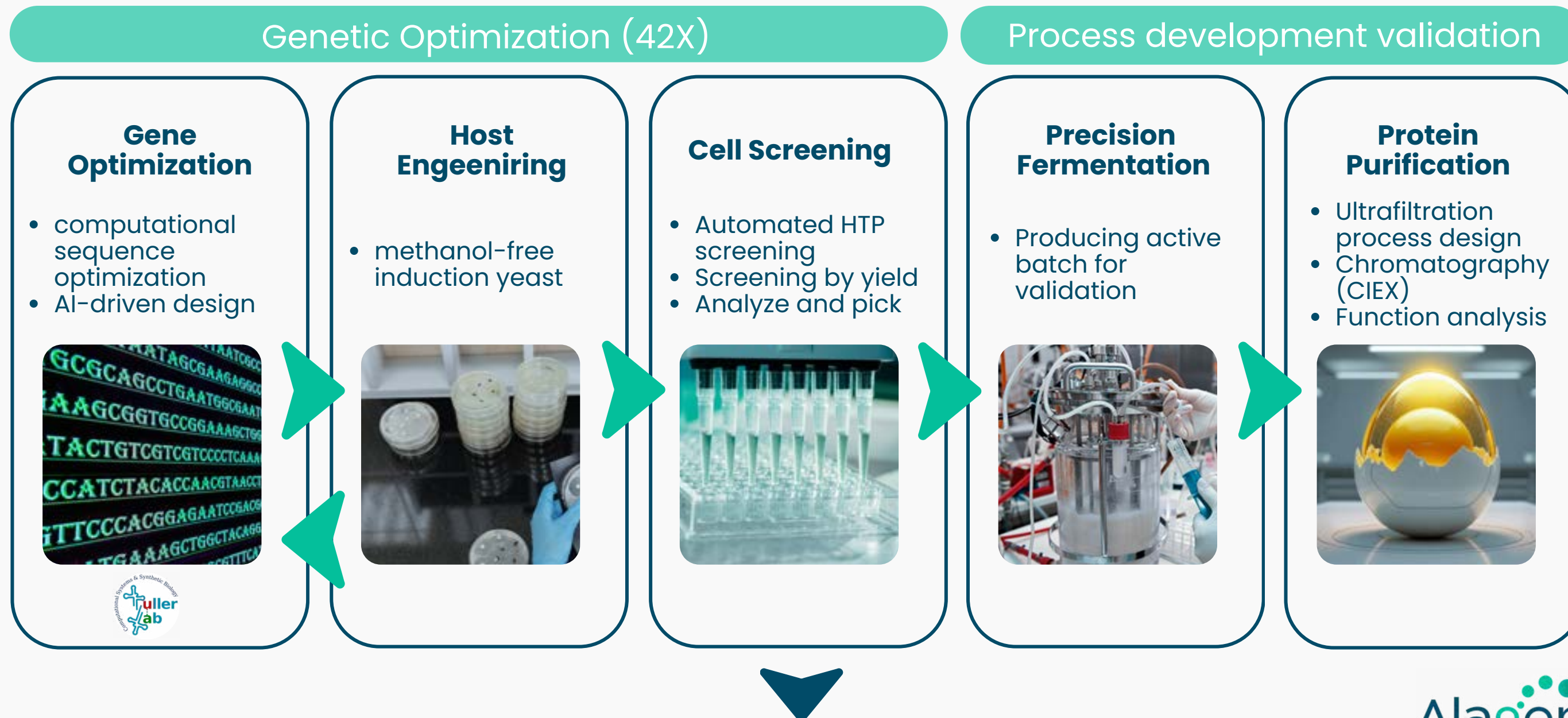
Case Study II: R. Gelatinosus in soil applications

Bacterial viability in soil & the effect on native microbial community



Case Study III: 42× Increase in Ovalbumin Production

 **cost-competitive and scalable recombinant protein production**



Result: Methanol-free yeast strain delivered a 42-fold improvement

Our (Disclosed) Partners

Trusted by industry leaders

MERCK

"It was a pleasure to work with the experts at Alagene. The team was highly responsive and professional. From experimental design to swift execution of the required experiments and detailed summaries of the results, the collaboration was a great success."

Daniel Taglicht, Ph.D. Department Head Protein Expression & Purification R&D Science & Lab Solutions, Life Science



READY TO REALIZE YOUR NEXT BREAKTHROUGH?



 www.alagene.co.il

THANK YOU!
