

The Biotech Alley, a unique integrate ecosystem to accelerate, derisk & industrialize innovations

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The Biotech Alley Unique Value Proposition In Industrial Biotechnology



Bring together academia & industrial to speed up **bio-economy**. We propose a continuum of means & expertises from research to pilote development to derisk, accelerate and support industrials projects.

The Biotech Alley environment

A « one-stop-shop » fostering innovation to pre-industrial stage



15,000 m² dedicated to industrial biotechnologies



420+ people
~ 60 PhD



10 M€+ revenues per year



~110 publications / year
~7 patents / year



Industrials projects
~ 150 cutting-edge R&D projects every year projects/year



Foster start-ups' inception
Provide means to speed-up
10+ hosted start-ups



Public / Private Consortium
50+ members



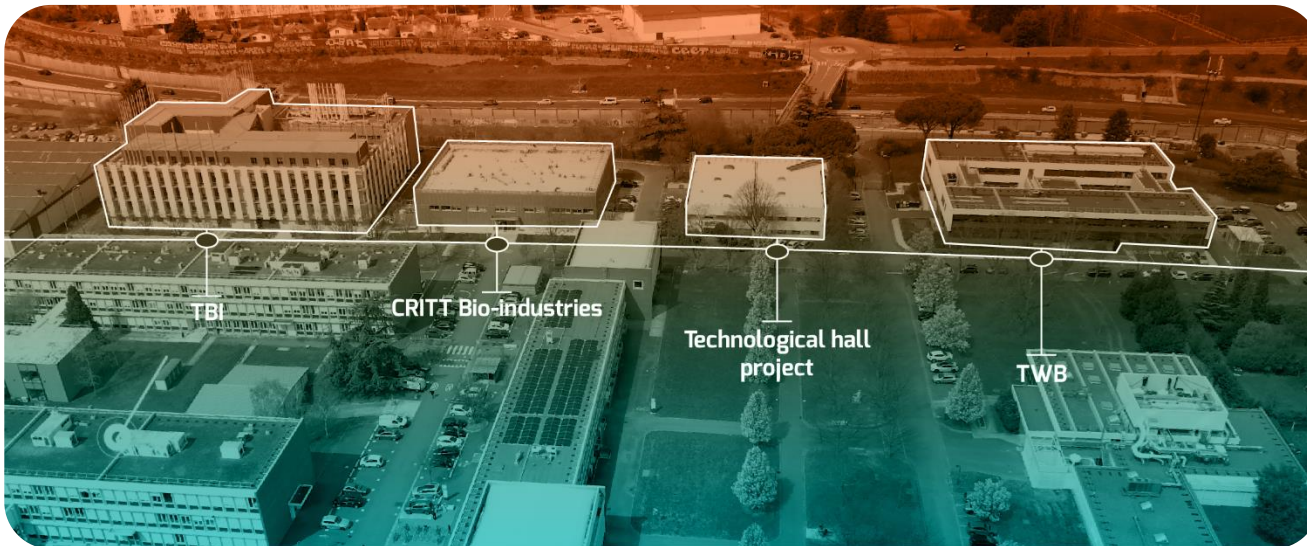
TIBH labellisation for health



Path forward to enhance capabilities

A unique set of technologies & scientific expertises

From the gene to the industrial process



Strain & metabolic engineering

Fermentation liquid & solid

Bioprocess development

Enzyme catalysis

Enzyme immobilisation

Down Stream Processing

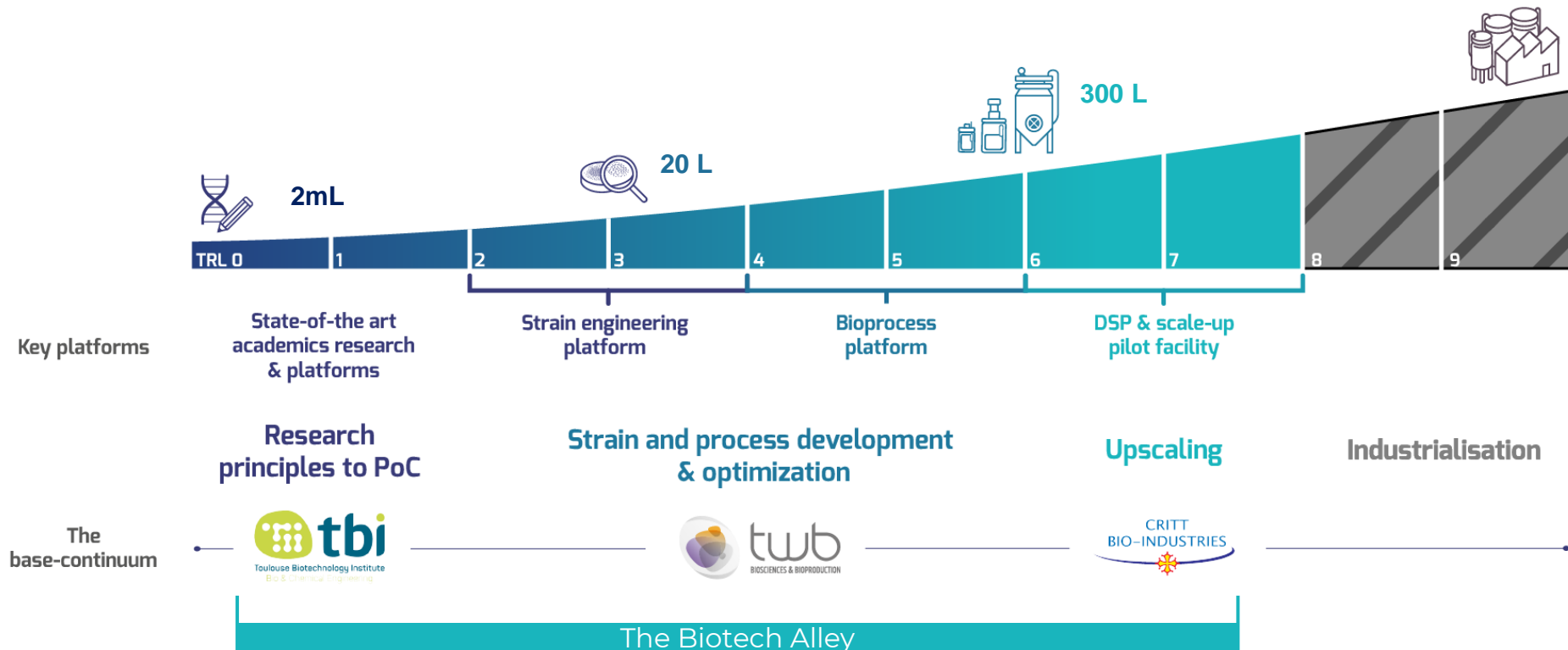
Analytical & Cytometry & Omics

Metabolic modelling

Data science

Your Biotech Partner from Concept to Scale-up

An integrated scientific service provider supporting your road to commercialization



Work on yeast, bacteria, fungi, consortia, micro-algae, amoeba, enzyme



Toulouse Biotechnology Institute

Scientific expertise in bioeconomy for challenges of today & tomorrow

4 scientific departments & 11 research teams dedicated to bioeconomy

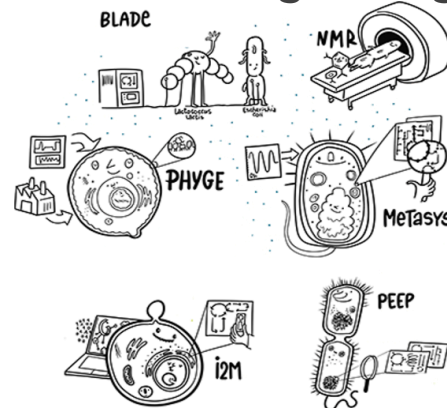
Enzyme molecular engineering and catalysis



Physiology and Engineering of Microbial Metabolism



Microbial engineering



Sustainable chemical engineering



Platforms for academia & industry



Engineering and Screening for Original Enzymes



Genomics and Transcriptomics



Metabolomics & Fluxomics



Control of microbial cultures



Semi-industrial scale test platform for the biogas industry

Toulouse White Biotechnology

The unifier to accelerate industrial project development



Expertises



Optimize your strain thanks to **synthetic biology** & **genetic engineering**



From strain **screening** to **evolution**, with **scaling up robust** microbial production processes



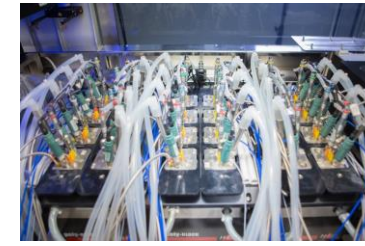
Support development thanks to adapted **in/out-line analysis** & **high throughput screening**.

2 platforms with High throughput & automated approaches



STRAIN ENGINEERING

- Colony pickers - 96wells
 - High-Speed splitter- 96 wells
 - Echo Acoustic System (nanovolume) – 386 wells
 - Robotic station for molecular biology
- ✓ Screening : +9 000 strains/week
- ✓ + 18 automated & manual workflows



BIOPROCESS

- Fermentation from 2ml to 20L :
- Biolector
 - Robotic station with 24 fermenters
 - Bioreactors
 - Scale up 20 L for 1st batch
- Facility :
- P2 & Anaerobie lab



CYTOMETRY

- Benchtop analyzer
- Flow & Spectral Cell sorter

ANALYTICS

- Separative technics (HPLC/GC/SEC/SPE)
- Detection methods (DAD corona, IR , MS, HRMS)
- Seqmals
- Orbitrap

CRITT Bio-Industries

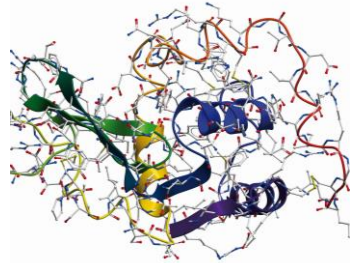
Your Partner for Scale Up & DSP optimization



Expertises



Micro-organisms implementation in **solid** or **liquid media**



Production and implementation of **free** and **immobilized enzymes**



Separation and purification operations definition

Equipments for your scale up project from few mL to 500 L



FERMENTATION IN LIQUID OR SOLID MEDIA

- From 5 to 300 L in liquid media
- From 2 to 30 L in solid media



ENZYMATIC CATALYSIS

- From few mL to 750 L
- Immobilized enzymes from few mL to 45 L



DOWNSTREAM PROCESSING AND PILOTS

- Cell crushing
- Solid liquid separation
- Tangential filtration
- Chromatographic separation
- Electrodialysis



SPECIFIC EQUIPEMENTS

- Airlift reactors
- Microalgae cultivation on test bench
- Photobioreactors
- Analytical tools

Our trustful partners



Developing a tool for real-time monitoring of bioprocesses such as therapeutic antibody production

PHAEOMAbs

Reduce production cost of mAbs by developing new chassis



Production of biobased resins for wood applications by strain & process development



Biorecycling of plastic waste and PET fibers



Development of the amoeba culture process



New metabolic pathway & biocatalytic process for amino acid production



Biocatalysis for ester development



Production of biobased molecules for hair coloring applications



New metabolic pathway for a platform molecule production



Fruit sugars prebiotics



Bioactive micropeptides for crop protection and crop stimulation



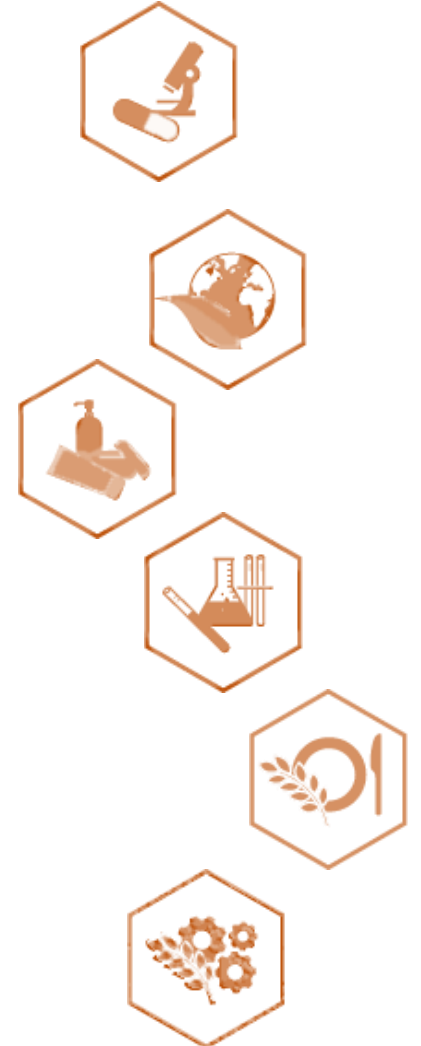
Afactory: Microalgae cultivation



Create aromatic compounds in a bakery yeast

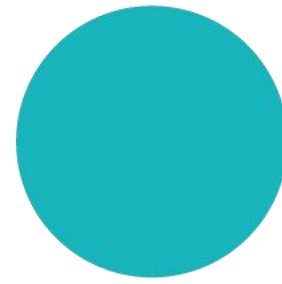


Process water recycling



Connected to France & Europe

	PLATFORMS	NETWORKS	PARTNERSHIP	PRIVATE
LOCAL	 <p>Genotoul GENOPOLE TOULOUSE</p>	   <p>fermat B2S GIS EAU Toulouse</p>	   <p>DERBI Pôle de compétitivité AQUA ALLEY AGRI SUD-OUEST INNOVATION</p>	 <p>iMEAN</p>
NATIONAL	  <p>IBISBA.fr METABOHUB</p>	     <p>SLAMM GDR 2019 CNRS-INRAE biosynsys GDR Groupement de recherche réseau REUSE ADEBIOTECH THINK TANK ONE HEALTH</p>	   <p>GARNOT 3BeAR BIOECONOMY FOR CHANGE EURO BIOMED</p>	  <p>YNGULON processium FROM IDEA TO PRODUCTION</p>
INTERNATIONAL	 <p>IBISBA^{EU}</p>	  <p>synsysbio synbioeco</p>		



Thank you for your
attention

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