



Fermentalg

## Investor presentation

26 April 2016

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## Andrew ECHATTI

CEO



- **CEO since December 2015**
- **CFO from August to December 2015**
- Occupied Senior positions in Europe and the US with Gilead Sciences, Bausch & Lomb and The Coca-Cola company
- MBA degree (Ghent University in Belgium ) and Executive degree (The Chicago Booth Management of Business)



## Hywel GRIFFITHS

CSO

- **CSO since September 2015**
- **VP R&D from August 2014 to September 2015**
- Former Chief Scientific Officer for Photonix Corporation, a New Zealand biotechnology company specializing in the production of EPA from microalgae from 2005 to 2014
- PhD in molecular microbiology (University of Cambridge)



# Investment highlights

## FOUNDED WITH A GROUNDBREAKING & ENDURING VISION

- Exploit the exceptional potential that microalgae hold
- Develop the technology required to bring products to market

## A FULLY INTEGRATED BIOTECHNOLOGY PLATFORM

- Well-equipped teams of scientists focused on innovation and operation
- Constant care to protecting and exploiting the knowledge and resources developed

## A STRONG ORGANIZATION WITH EXCELLENT LEADERSHIP

- Structured to place the focus where it is needed, and provide the support required
- Experienced and international leadership team

## SCIENCE PLUS

- Doing the basic science required but always thinking of the needs of industrialization
- Strong project management to bring products to life and to market

## INDUSTRIALIZATION AND COMMERCIALIZATION

- Poised to initiate industrialization and commercialization through internal and external resources
- Strong product pipeline for the years ahead

## AN OUTLOOK FOR THE FUTURE

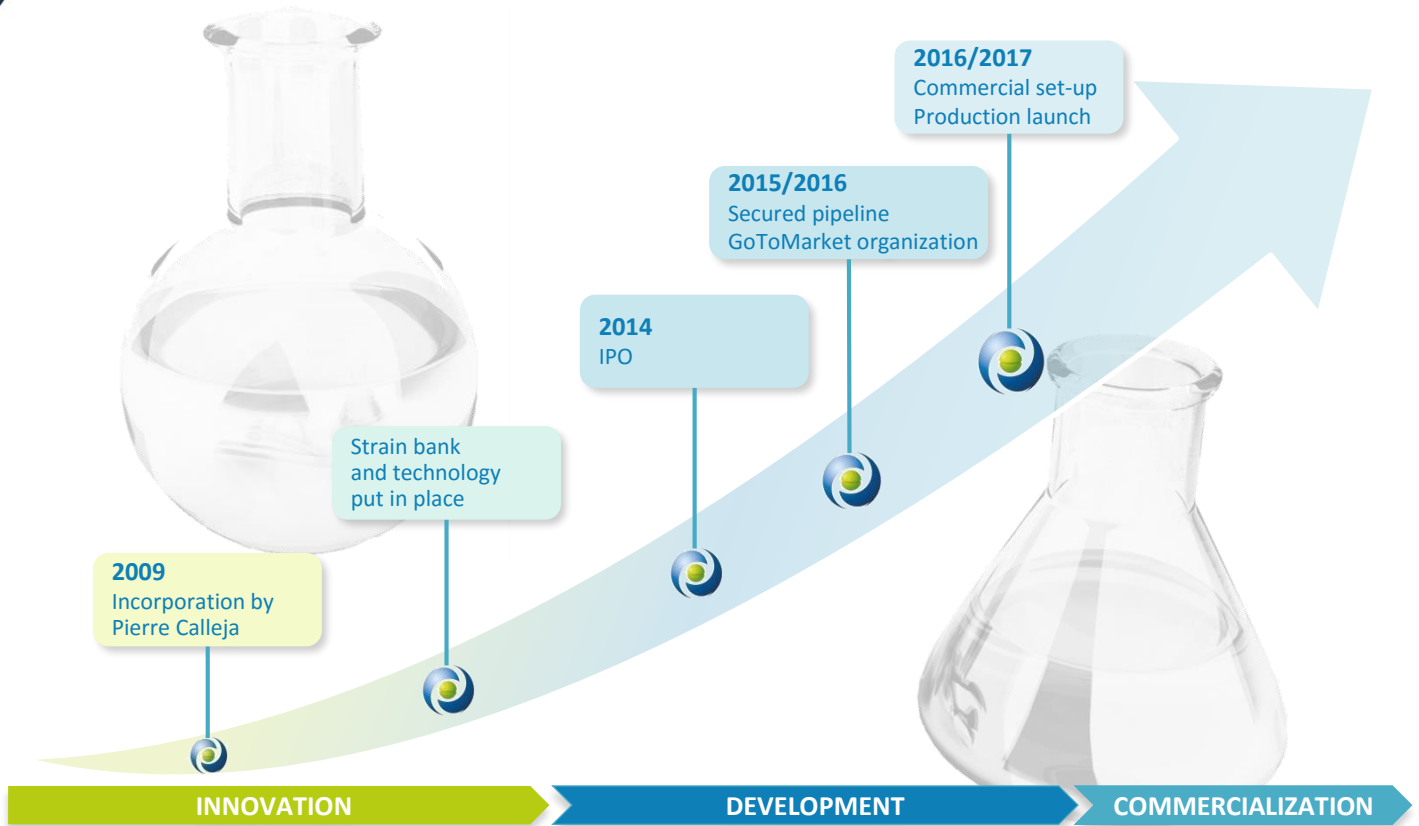
- Ideally positioned to generate and seize opportunities as they arise
- Clear plan and future milestones to guide growth





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## Fermentalg to date





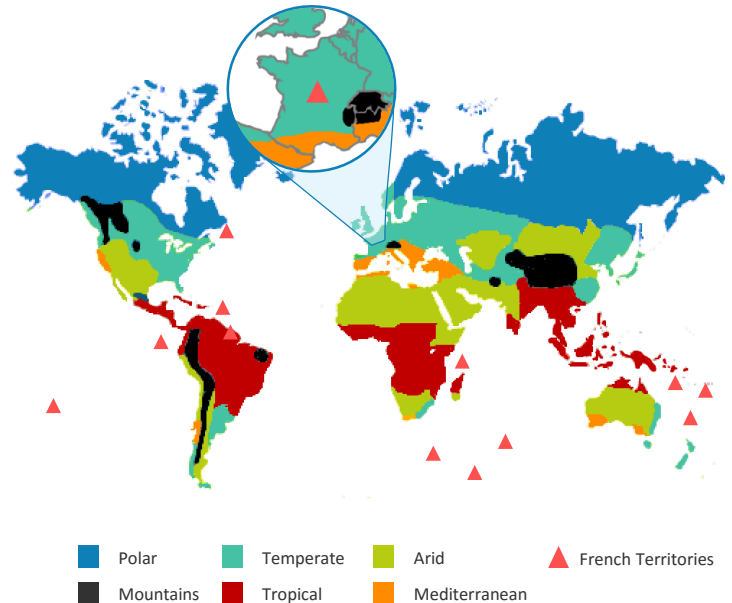
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## Unique access to natural resources French territories offer key competitive advantages

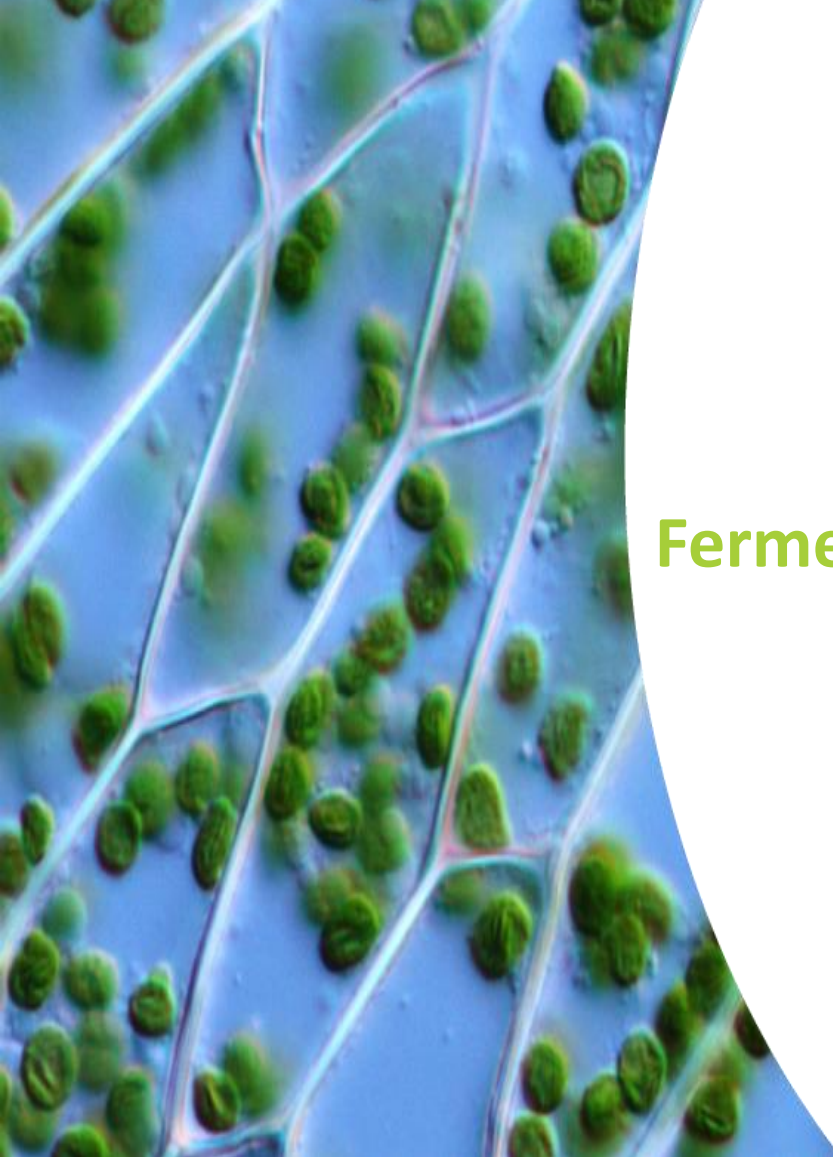
### FRENCH COMPETITIVE ADVANTAGES

- 1 **PROTECTED NATURAL RESOURCES**
  - 2<sup>nd</sup> largest maritime area worldwide
  - Diversity of climates
  - Nagoya Protocol fighting against biopiracy
  - ➔ Ideal territory for strain collection
- 2 **TECHNICAL EXPERTISE**
  - Unique research know-how
  - Historical experience in microalgae
- 3 **LOCAL SUPPORT**
  - Collaborative industrial & academic programs (France & UE)
  - Tax incentives (CIR)
  - Local & regional support

### FRENCH TERRITORIES



FRANCE PROVIDES NUMEROUS COMPETITIVE ADVANTAGES FROM STRAIN COLLECTION TO RESEARCH EXPERTISE AND SUBSIDIES



**Fermentalg: The vision**





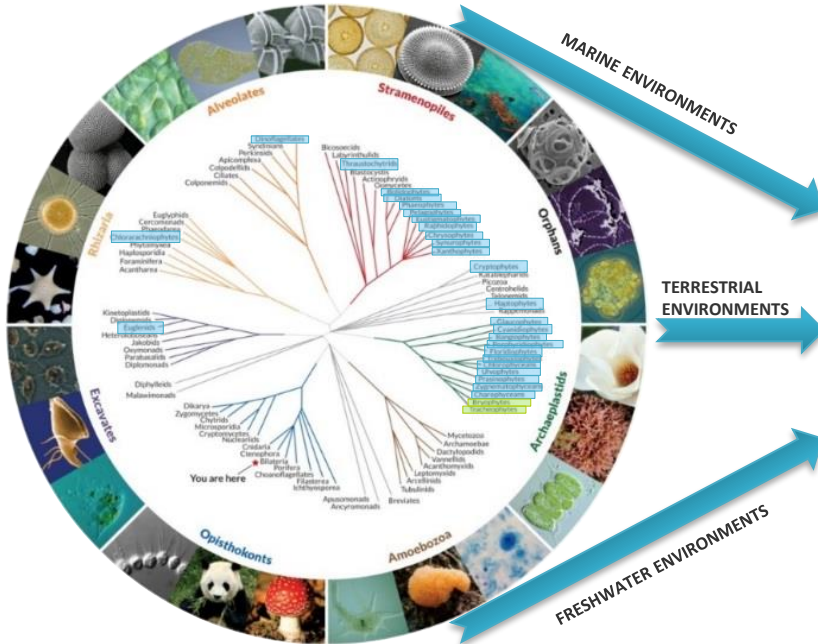


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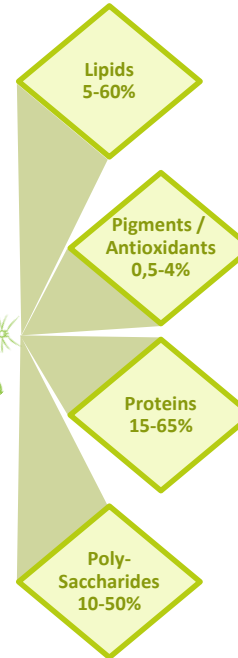
# Exceptional properties found in microalgae

## Natural resource producing a large range of molecules

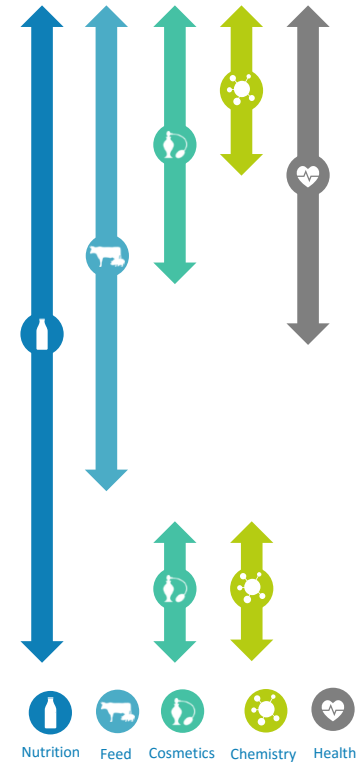
### TREE OF LIFE



### MOLECULES OF INTEREST\*



### END-MARKETS



Eukaryotic tree of life  
Worden, A. Z. et al. Science 347, 1257594 (2015)

**Legend:**  
■ Algae  
■ Land Plants

\* % of Biomass

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**EARLY TECHNOLOGY  
(AUTOTROPHY)**



**GROWTH ON SUNLIGHT**

**Low density cultures**

**5-10mg biomass/L/day**

Open to environment

At the mercy of the  
weather and seasons

**MODERN TECHNOLOGY  
(HETEROTROPHY)**



**FERMENTATION**

**High density cultures**

**2-5g biomass/L/hour**

Closed, sterile

Controlled, consistent

## The history of fermentation

### Performance and control

**A CONTROLLED FERMENTATION PROCESS ADDS SIGNIFICANT  
VALUE**

- ✓ Proportion of molecules in biomass significantly enhanced
- ✓ High Productivity
- ✓ Consistent quality with no seasonal variation
- ✓ Rapidly scalable supply
- ✓ No danger of environmental contaminants such as heavy metals, pesticide residues, or toxins from other contaminating organisms

MICROALGAE EVOLVED TO RESPOND  
TO LIGHT



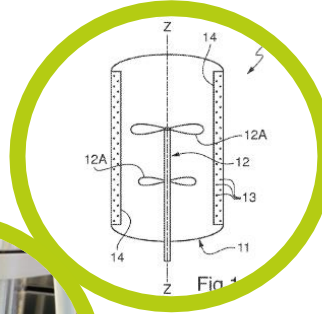
FERMENTATION IS TRADITIONALLY  
PERFORMED IN THE DARK



WHAT IF THE TWO COULD BE  
COMBINED?



A NEW TECHNOLOGY IS BORN



## Historic evolution Let there be light

FERMENTERS WITH INTEGRATED  
LIGHTING



ACTIVATING GENE EXPRESSION



ALLOWING NEW STRAINS TO BE  
EXPLOITED...



...AND NEW PRODUCTS TO BE  
DEVELOPED

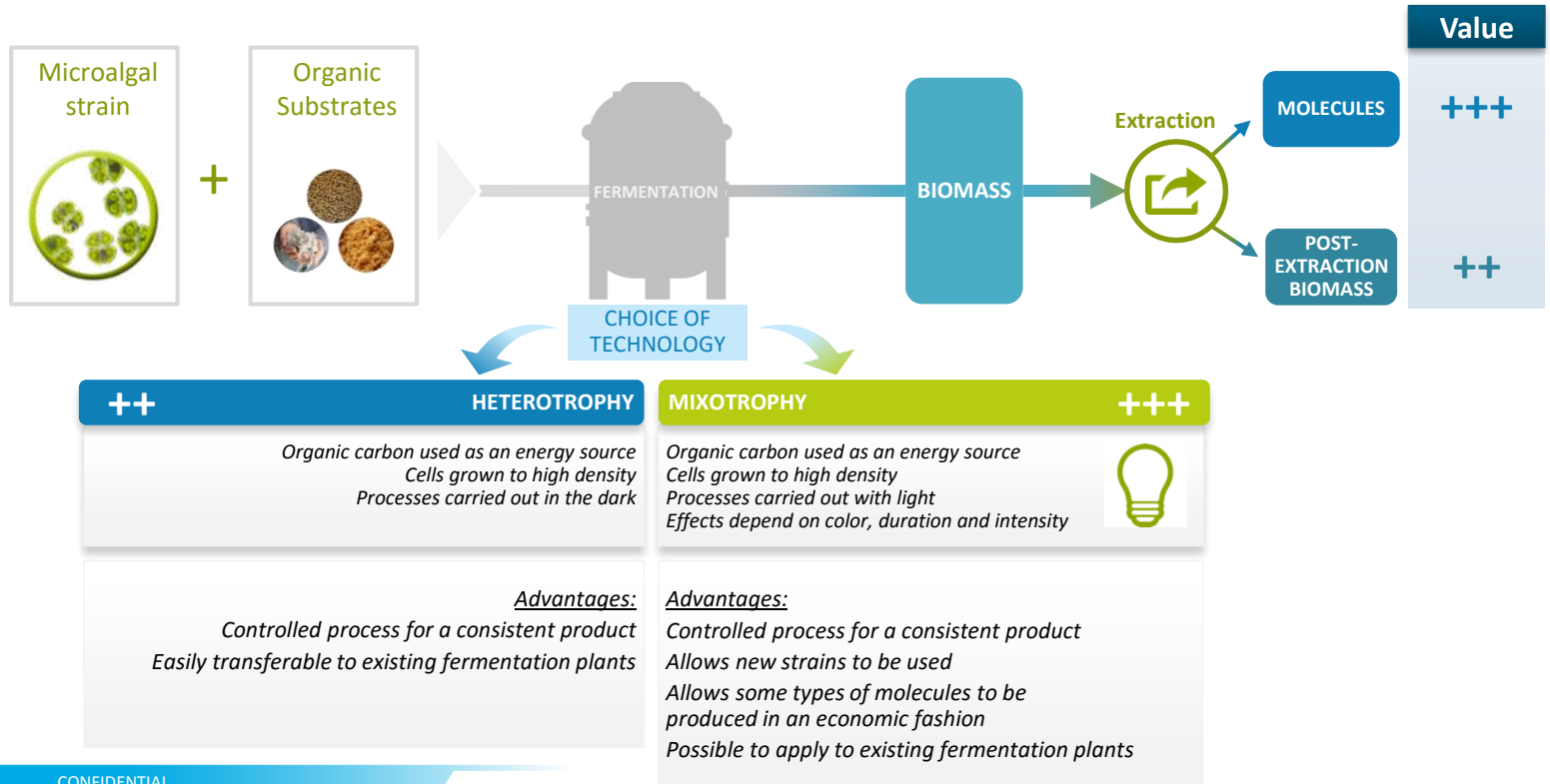
# Fully integrated biotechnology platform

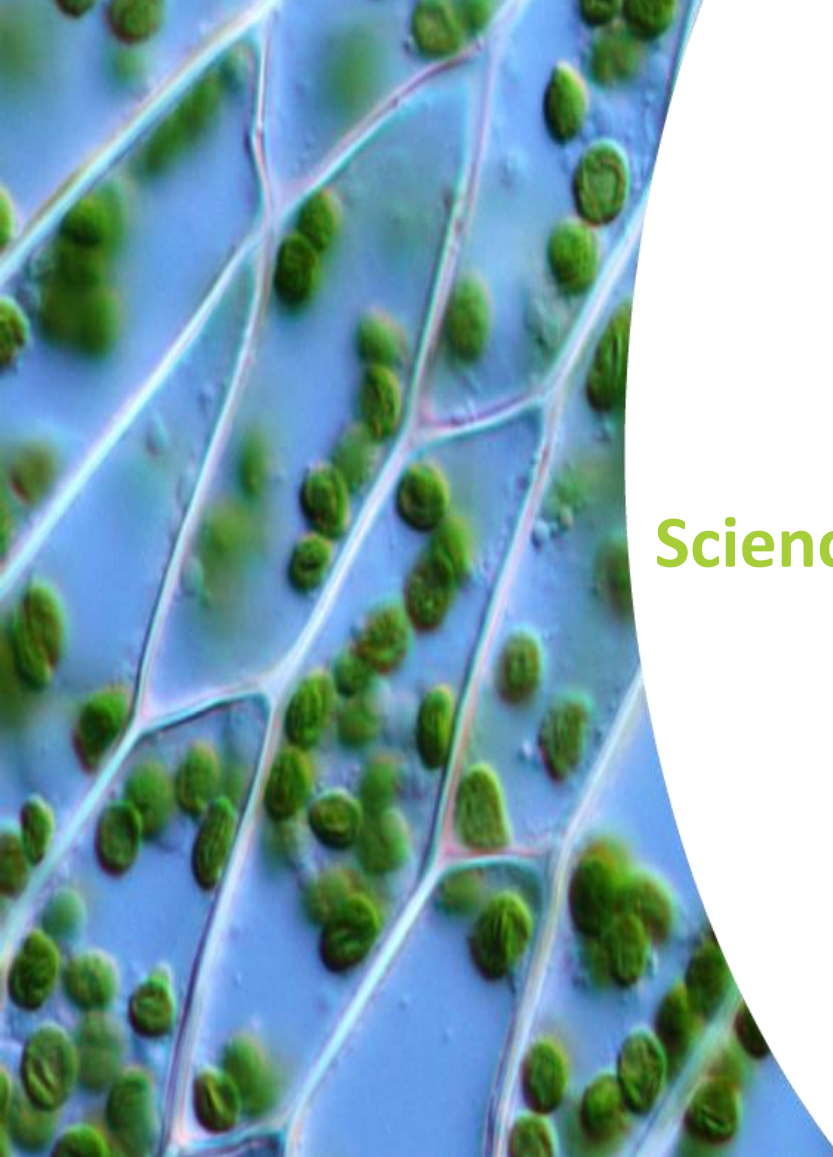
## From microalgae to products



## Unique proprietary technology

### Heterotrophic and mixotrophic fermentation

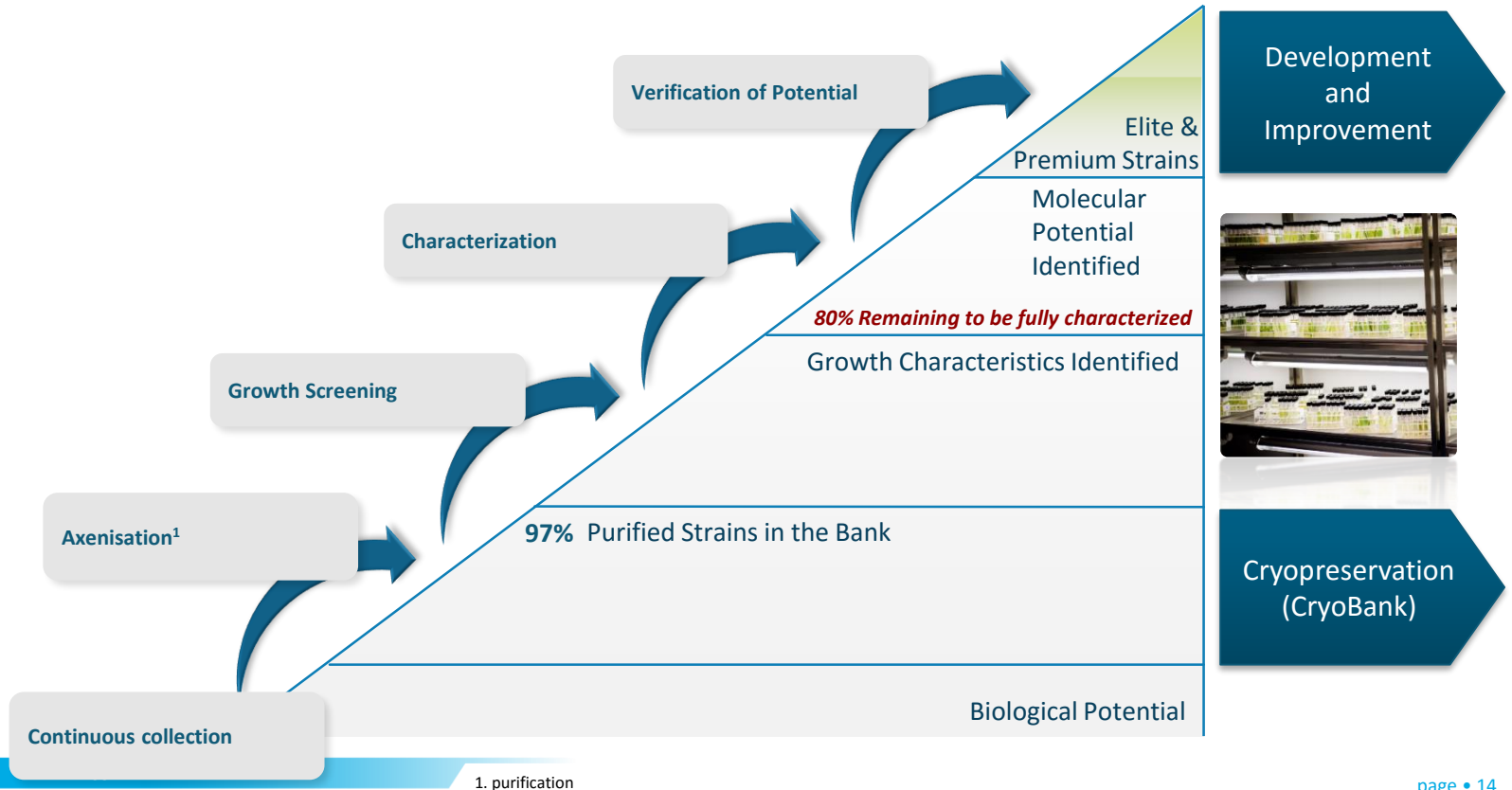




**Science at the core**

## World-class private strain bank

Over 2,000 strains collected to date





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## Strain optimization using natural properties as a base

### Continuous strain improvement

#### Elite Strains

- Strains with the highest potential for conversion to products
- Transferred to fermentation development teams
- Highly characterized – often to genetic level
- **Master and Working Cryobanks** made to ensure long-term availability of identical cell lines



#### Premium Strains

- Strains developed further to improve productivity and yield
- Gain beneficial characteristics not found directly in nature
- Strains become truly “ours”, and provide a lead-time advantage
- **Non-GMO techniques**

##### ■ Examples include

- Improved composition – Marco Polo strain
- Changed sensitivity to light – Bastille strain
- Improved use of substrates

#### Cryopreservation

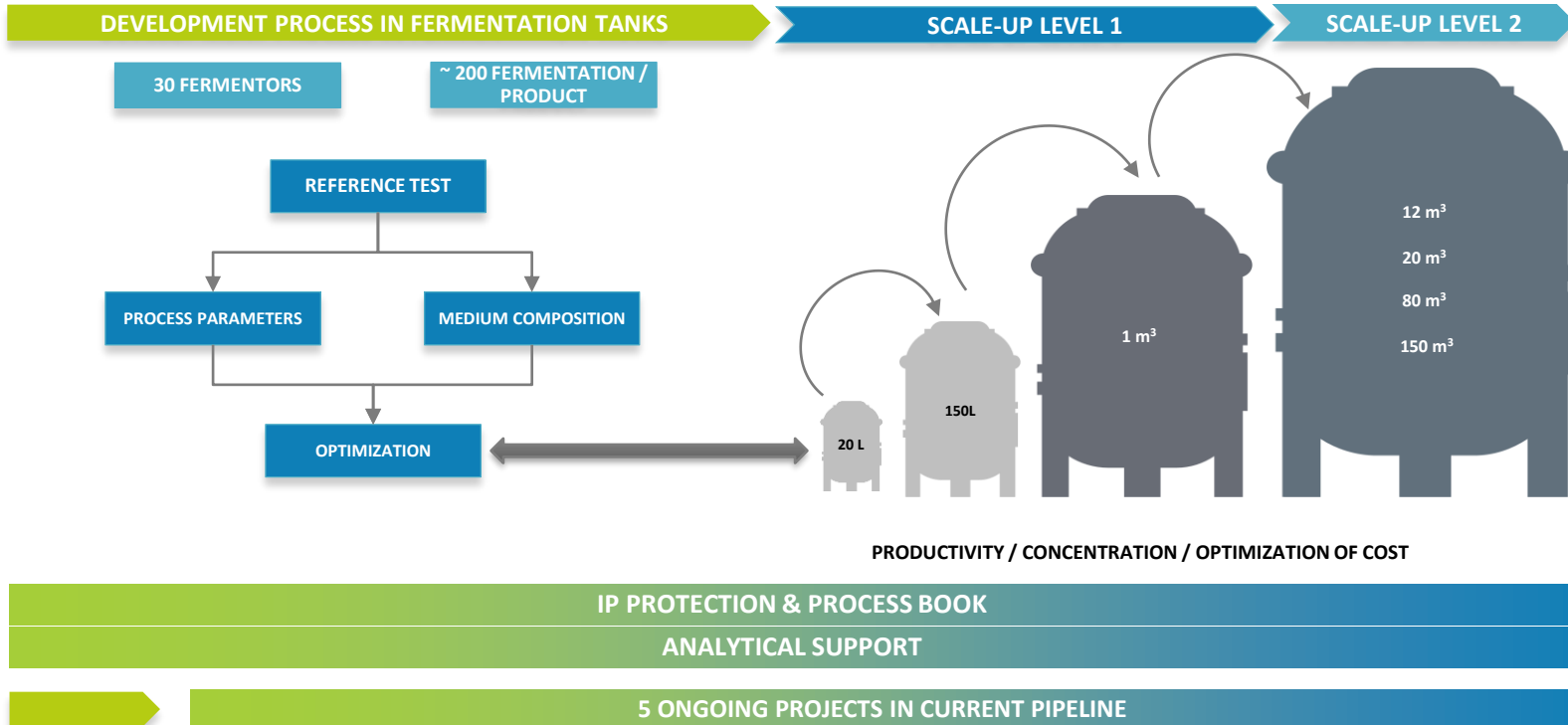
- Strains placed in liquid nitrogen or at -150°C
- Preserves characteristics for the long-term
- Over 50% of entire bank currently cryopreserved





# Development process and scale-up phases

## Poised for industrialization





**2016: Anchor year for strategic deployment**



- **Organisation aligned & reinforced to deliver commercial strategy**



- **Product launch strategy and pipeline set in place through to 2020**



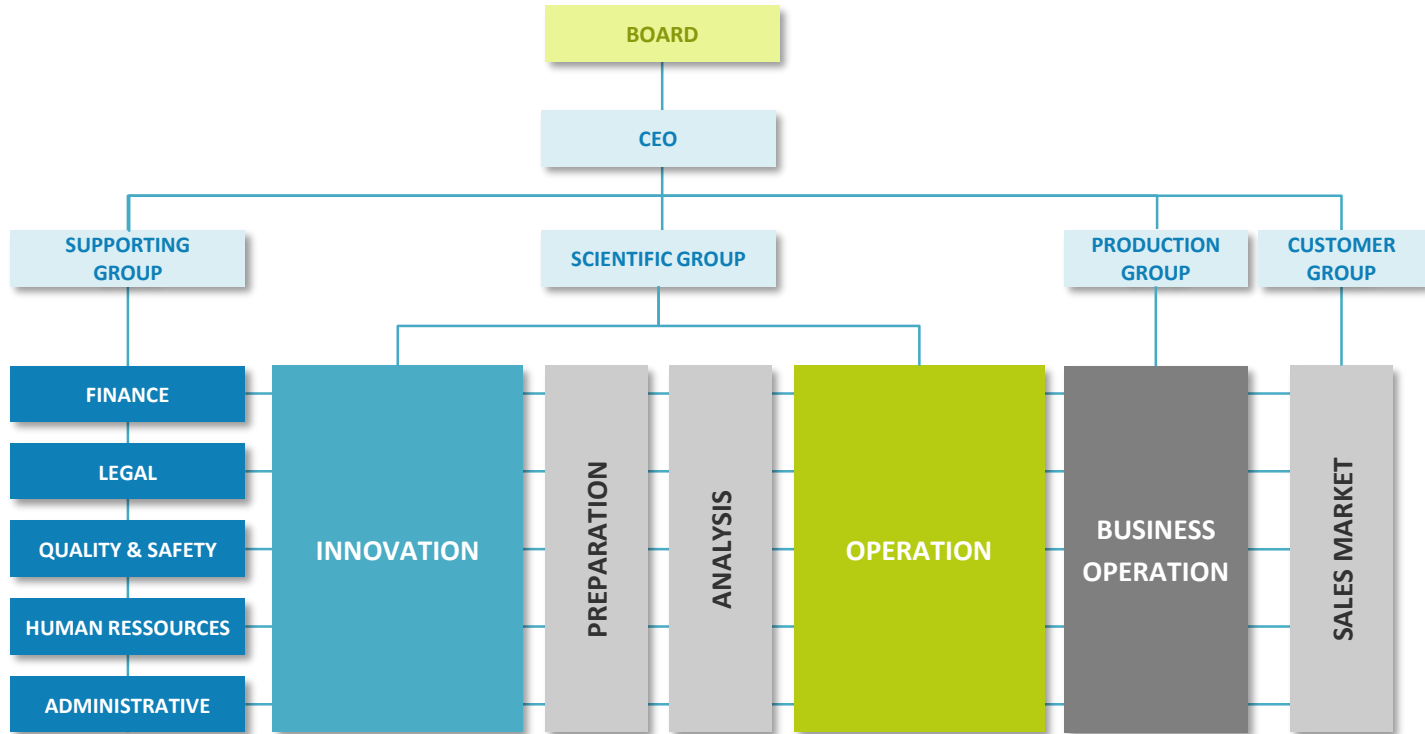
- **First products ready to market**

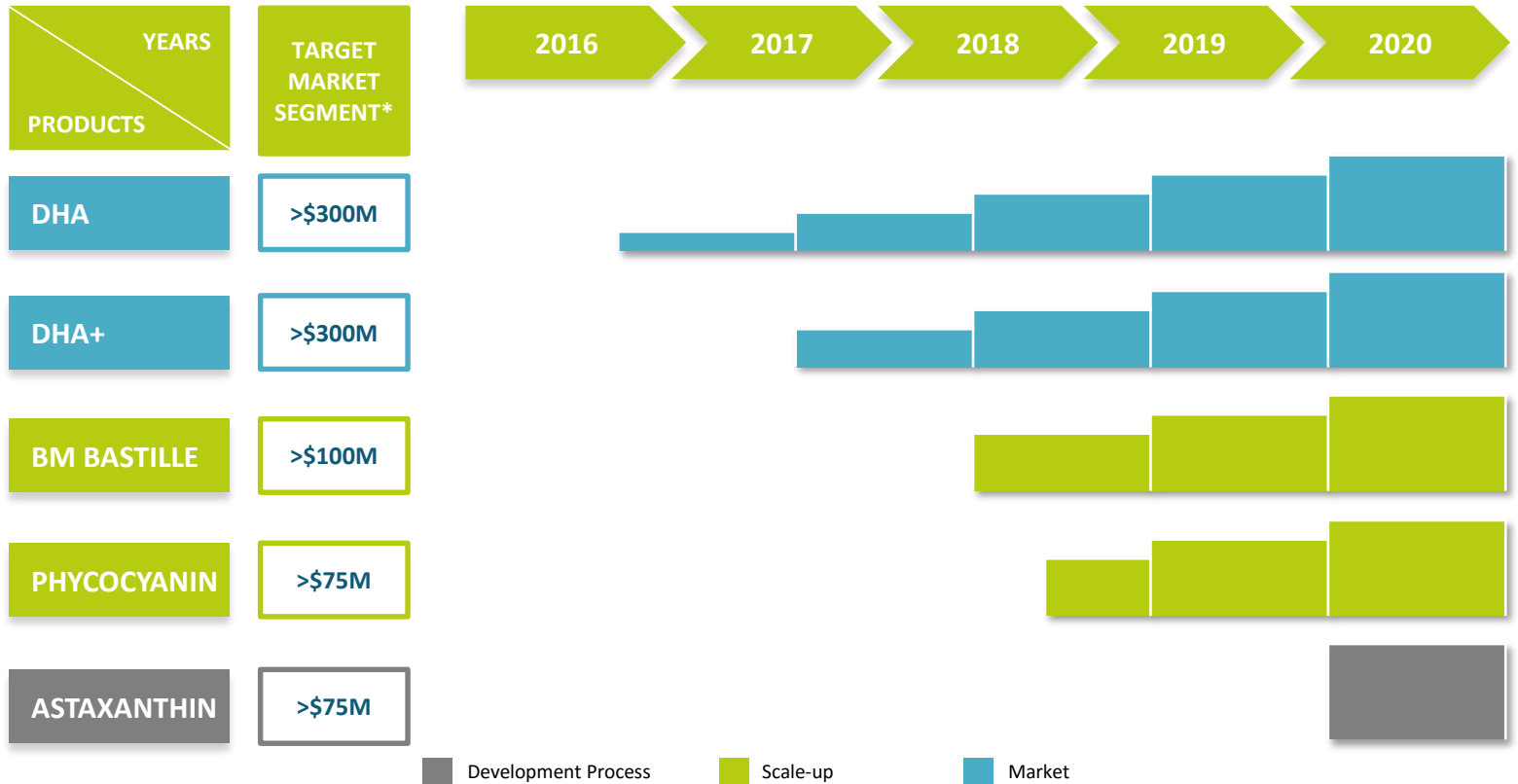


- **Commercial partnership with Oleon (Avril Group)**



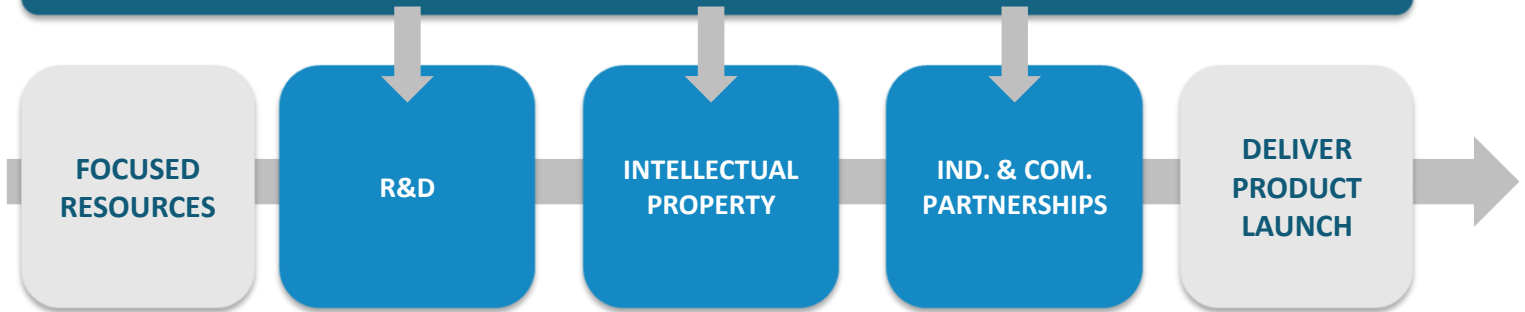
- **Industrial partnerships being finalized**







**FIVE MOLECULES OF INTEREST**



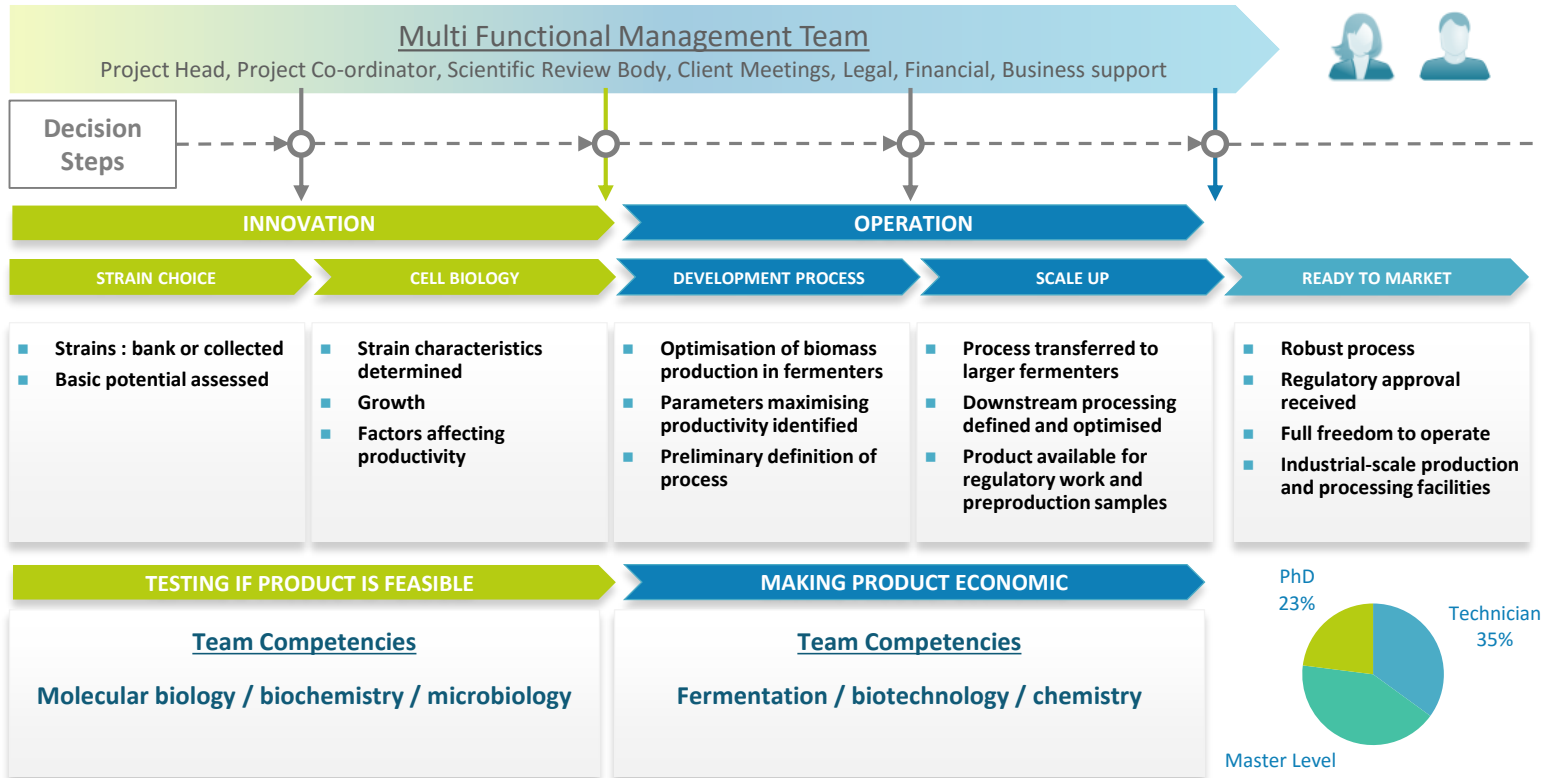
**INDUSTRIAL FLEXIBILITY**



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## Integrated project execution platform

Focused and controlled execution through to commercialization



## Process + Management = Products

Illustrations: project Marco Polo

### A IDENTIFICATION

- Strain collected as part of a **targeted collection program** for this type of organism
- Quickly demonstrated **high growth potential** and **attractive composition**

### B PROCESS DEVELOPMENT

- Integrated into existing program to replace other strains
- **Best productivity to date**
- Now **being transferred to industrial production**

### C STRAIN ADAPTATION

- **Strain improvement** led to variant with higher proportion of DHA in its lipids
- This variant now undergoing process development as a **new product**

### D IP PROTECTION

- **Patent application** for certain critical steps in production process
- Significant **proprietary know-how** on how to get best performance from these strains

STRAIN	PRODUCTS	KEY PROPERTIES/BENEFITS
MARCO POLO	DHA, DHA+	<ul style="list-style-type: none"> <li>■ DHA is an essential fatty acid meaning that, for good health, it must be taken up from the diet. Implicated in brain development and eye health in particular</li> <li>■ DHA+ product has advantages for clients and end-users, and is market differentiated</li> </ul>



- FERMENTALG'S COLLECTION TEAM HAVE THE CAPACITY TO PERFORM TARGETED COLLECTIONS TO ENSURE ACCESS TO PROPRIETARY STRAINS WITH SUPERIOR PROPERTIES  
→ FURTHER DEVELOPMENT OF THESE STRAINS CAN LEAD TO YET FURTHER PRODUCTS



## A IDENTIFICATION

- Strain identified as part of **internal discovery program**
- Screening and characterisation revealed **high growth potential** and **highly interesting composition**

## B PROCESS DEVELOPMENT

- Ideal candidate for **mixotrophic** technology
- **Rapid advances in productivity**
- Now **moving into Scale-Up** phase

## C STRAIN ADAPTATION

- **Strain improvement** program ongoing
- Several variants with **higher productivity** currently under test

## D IP PROTECTION

- **Three patent applications** already lodged
- Cover **compositions** and **processes**



STRAIN	PRODUCTS	KEY PROPERTIES/BENEFITS
BASTILLE	Phycocyanin, Protein-rich biomass	<ul style="list-style-type: none"> <li>■ Phycocyanin is one of the few natural blue pigments (and the only one currently accepted for food use)</li> <li>■ Protein rich biomass with antioxidant effects interesting for food and feed</li> </ul>



- **THE CONTINING DISCOVERY PROGRAM HAS THE POTENTIAL TO IDENTIFY OTHER STRAINS IN THE BANK WITH SIMILARLY HIGH COMMERCIAL POTENTIAL**

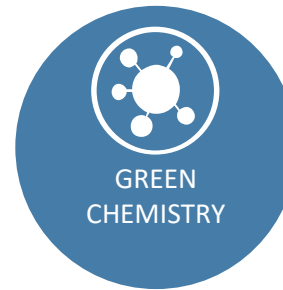
→ **FERMENTALG'S STRAIN BANK HAS A SIGNIFICANT POTENTIAL THAT HAS YET TO BE FULLY TAPPED**

## Poised to initiate production



## Potential markets

Products development focused on high margin segments

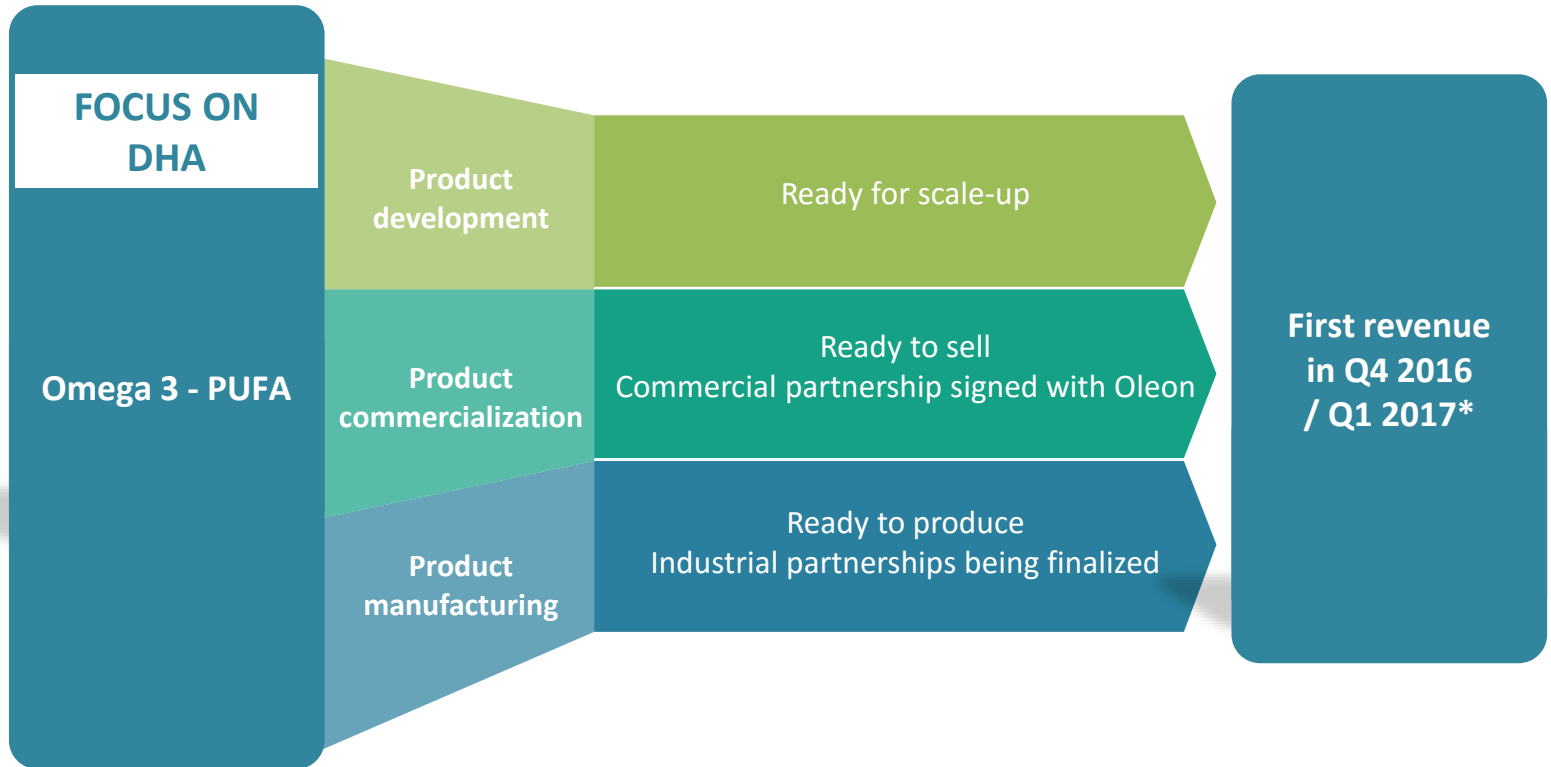


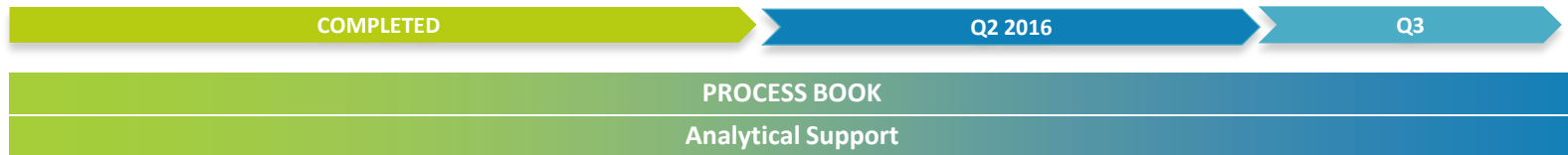
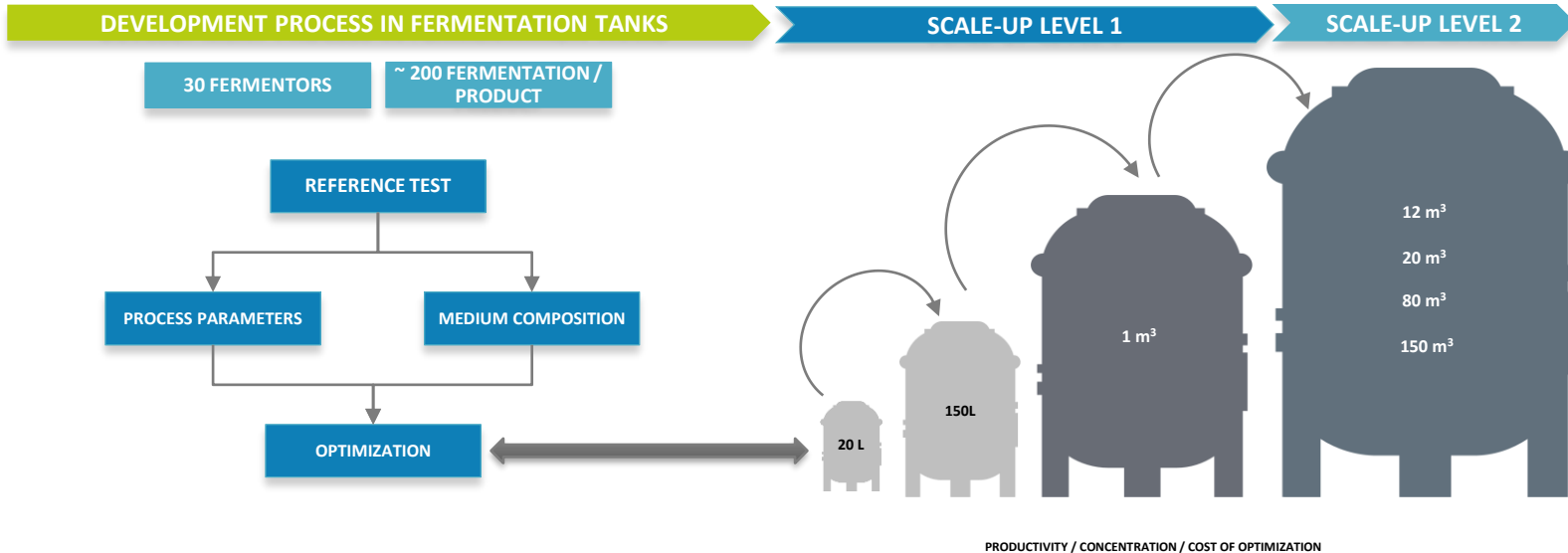
**CURRENT FOCUS (2016-2020)**  
**5 PRIORITY PRODUCTS**

**POTENTIAL MARKETS**  
**ONGOING RESEARCH**



**Commercial launch: focus on  
DHA product**



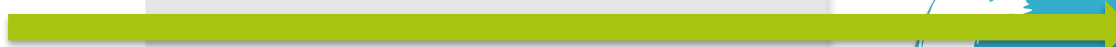




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Product commercialization  
Ready to sell

**oleon**



Part of Avril Group  
(7,200 collaborators in 22 countries)

Specialized in converting natural fats and oils  
into a wide range of oleochemical products

6 production plants (Europe & Malaysia)

End products exported to more than 100  
countries

Multi-year & non exclusive agreement

## Product manufacturing

### Ready to produce DHA

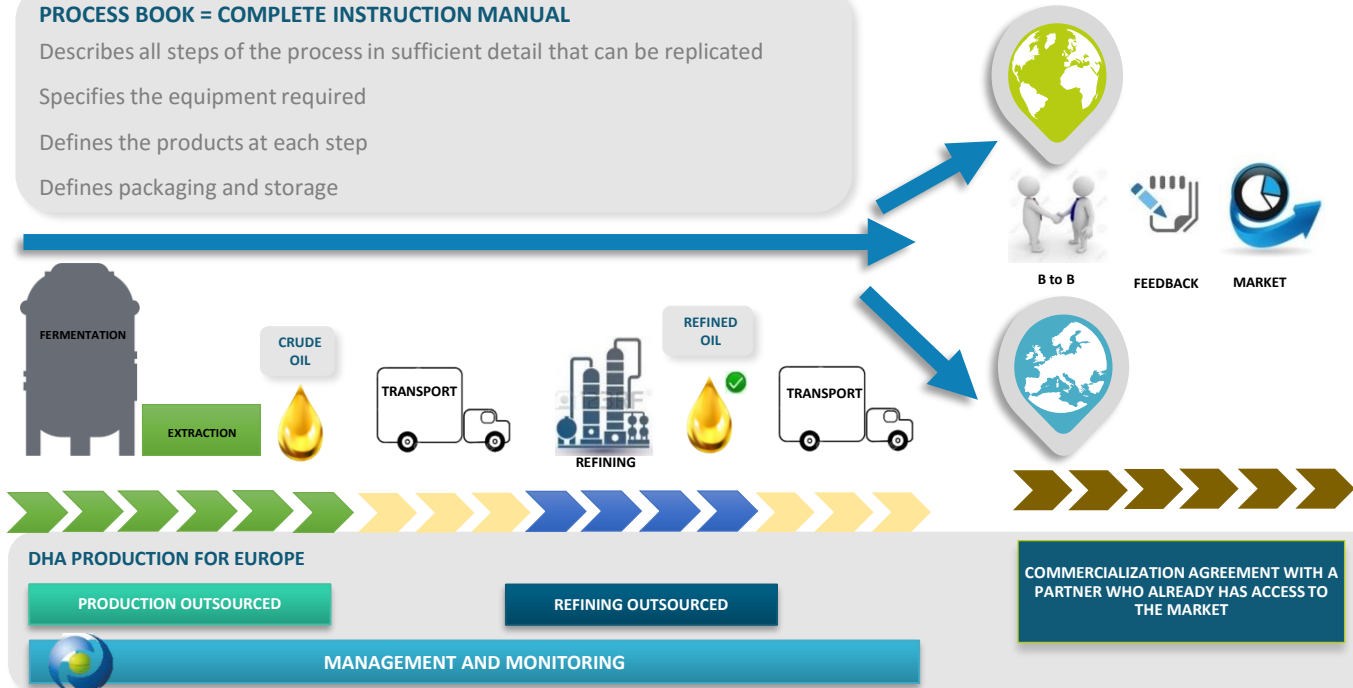
#### PROCESS BOOK = COMPLETE INSTRUCTION MANUAL

Describes all steps of the process in sufficient detail that can be replicated

Specifies the equipment required

Defines the products at each step

Defines packaging and storage







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First revenue from DHA  
in Q4 2016 / Q1 2017



■ Strain: FCC 1324



■ Fermentation process: Heterotrophy



■ Phasing process:  5



■ Applications: Food, Suppl.



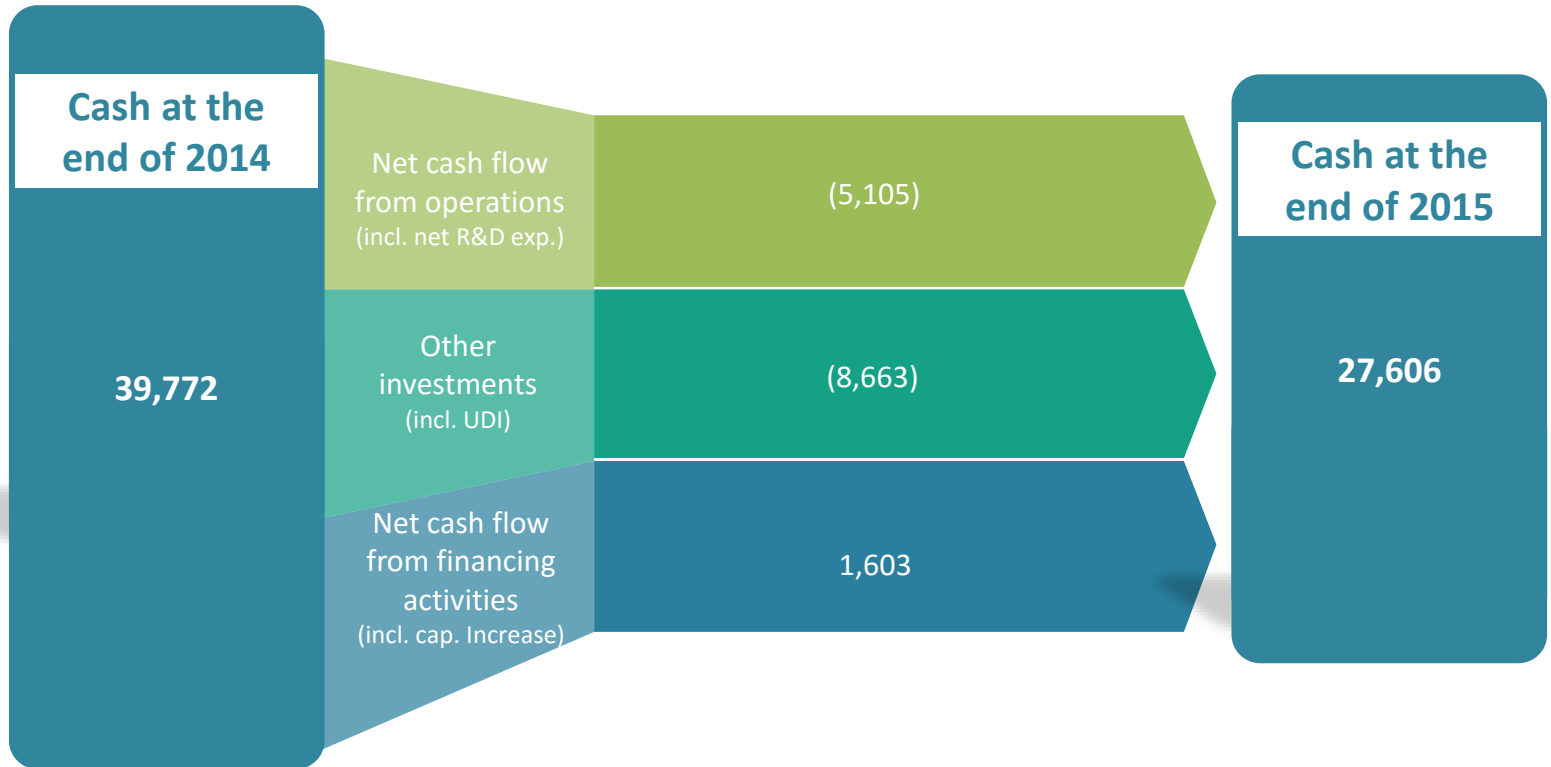
■ Regulatory: EU Novel Food => Suppl. & Food



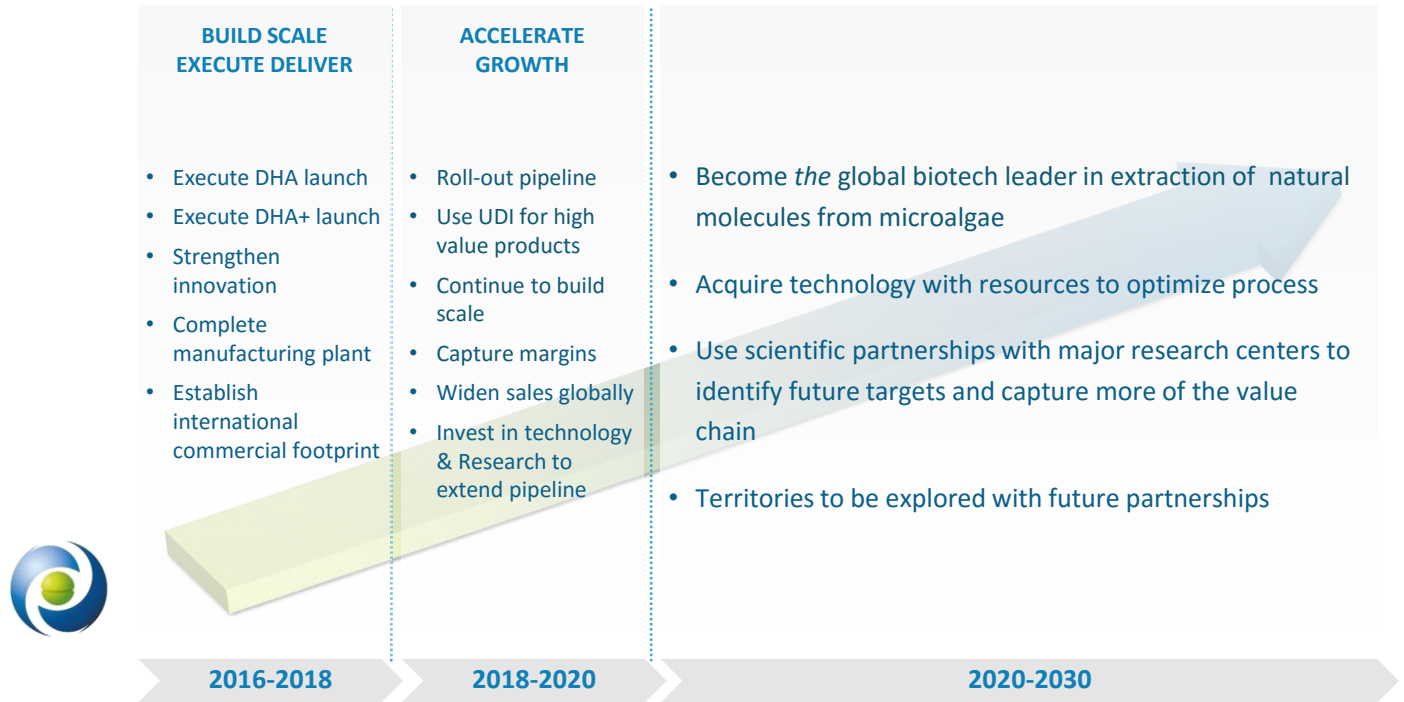
■ Property: Essential for the brain & cellular feature

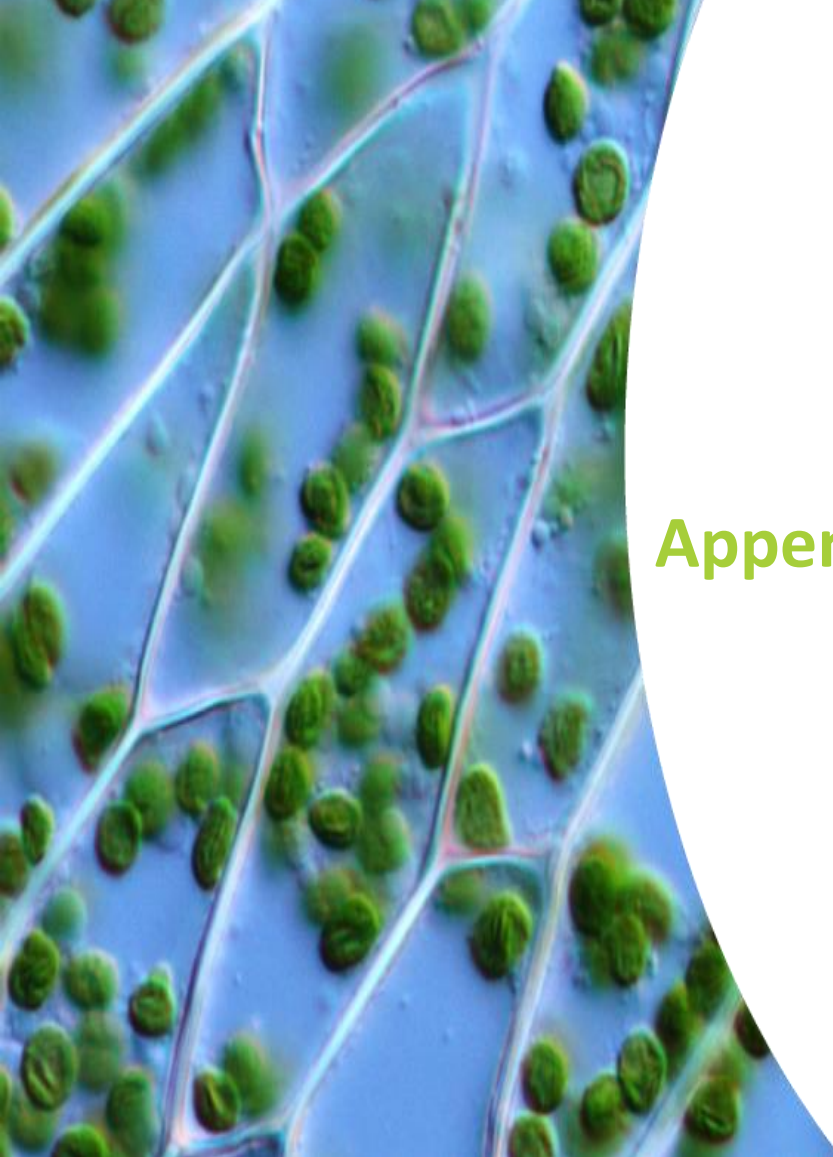


**Delivering growth**



## Key milestones expected





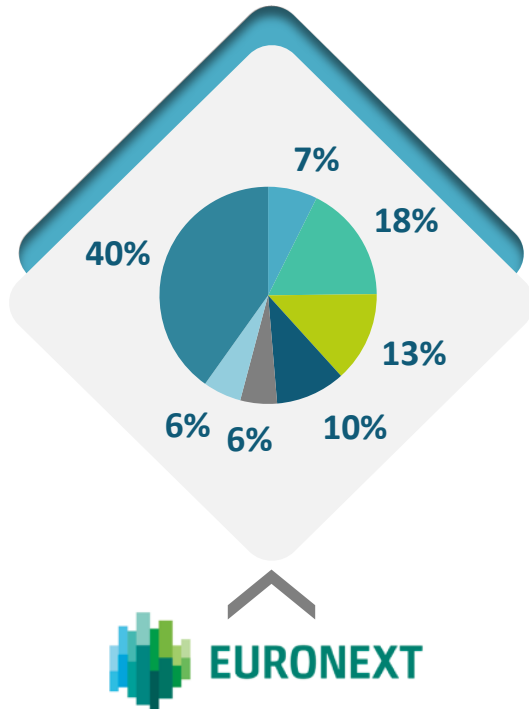
## Appendices

**BOARD OF DIRECTORS****FALG**  
**LISTED**  
**EURONEXT**

- Lats closing price: €3,30
- Market cap.: €40 M
- Nombre de titres : 12.089.519
- Daily average turnover: >€60,000



- Pierre Calleja (Chairman)
- Demeter Partners  
represented by Stephane Villecroze
- Emertec Gestion  
represented by Bernard Maitre
- Bpifrance Investissement  
represented by Gilles Schang
- Agnès Paillard (Independent)



## Shareholding structure

### SHAREHOLDERS

- Pierre Calleja (Founder)
- Fonds Emertec 4
- Fonds Demeter 2
- Fonds Ecotechnologies
- BPI France participation
- Historic Investment funds
- Other Shareholders

## International leadership team

Andrew ECHATTI

CEO & CFO

- CEO since December 2015
- CFO from August to December 2015
- Occupied senior positions in Europe and the US with Gilead Sciences, Bausch & Lomb and The Coca-Cola company
- MBA degree (Ghent University in Belgium ) and Executive degree (The Chicago Booth Management of Business)

Hywel GRIFFITHS

CSO (Chief Scientific Officer)

- CSO since September 2015
- VP R&D from August 2014 to September 2015
- Former Chief Scientific Officer for Photonz Corporation, a New Zealand biotechnology company specializing in the production of EPA from microalgae from 2005 to 2014
- PhD in Molecular Microbiology (University of Cambridge)

Sonia Da ROCHA GOMES

Head of R&D Project Execution

- Executive and scientific manager at Novaptech, a Bordeaux biotechnology company specializing in development & innovation of Aptamers from 2008 to 2015
- Research investigator in molecular biology at the INSERM from 2006 to 2008
- PhD in Molecular Biology (University of Bordeaux)

Fabienne VAN DEN TORREN

Legal Counsel

- Legal Counsel (IP, Corporate Law) at Raymond Weil S.A., a Swiss company specializing in Luxury Horological from 2012 to 2015
- Legal Counsel (IP, Pharmaceutical Law) at OM Pharma S.A., a Swiss Biotechnology company specializing in the production and distribution of pharmaceutical products from 2005 to 2012
- Master's degree in Business Law (Pierre Mendès University in France)

Christine GIRARD -RAGHOONAUTH

RH Manager

- Manager of recruitment , in production site at Bristol-Myers Squibb-UPSA, a pharmaceutical industry, from 2009 to 2013
- Manager of recruitment & communication HR at Danone, an agribusiness, from 2007 to 2009
- International Development HR Manager at Faurecia, an automotive equipment manufacturer, from 2005 to 2006
- Master's degree in Management HR (University of Paris-Dauphine in France)



## Income statement highlights

€ thousands - IFRS	2014	2015
Revenue	900	479
Other income (subsidies & research tax credits)	1,405	1,185
<b>Total operating income</b>	<b>2,305</b>	<b>1,664</b>
Net R&D expenses	-3,315	-3,096
Administrative and selling expenses	-2,343	-4,236
Total current operating expenses	-5,658	-7,332
<b>Current operating income before share-based payments</b>	<b>-3,353</b>	<b>-5,668</b>
Operating profit/(loss)	-4,370	-5,836
Net financial income/(expense)	335	541
Net tax income	14	0
<b>Net profit (Group share)</b>	<b>-4,049</b>	<b>-5,288</b>

## Cash flow highlights

€ thousands - IFRS	2014	2015
Cash flow	-2,236	-4,130
Change in WCR	-173	325
<b>Cash flow from operating activities</b>	<b>-2,409</b>	<b>-3,805</b>
Capitalized R&D net of subsidies & tax research credits	-978	-1,300
Acquisitions of other tangible and intangible assets	-2,742	-8,407
Other capital expenditures	25	-256
<b>Cash flow from investing activities</b>	<b>-3,695</b>	<b>-9,963</b>
Capital increase	37,774	727
Other financial inflows	894	876
<b>Cash flow from financing activities</b>	<b>38,668</b>	<b>1,603</b>
<b>Change in cash position</b>	<b>32,564</b>	<b>-12,165</b>

## Consolidated balance sheet

at December 31

€ thousands  
IFRS

	2014	2015
<b>Non-current assets</b>	<b>11,645</b>	<b>20,349</b>
o/w intangible fixed assets	2,953	4,241
o/w property, plant and equipment	5,042	12,455
o/w deferred tax assets	3,303	3,302
<b>Current assets</b>	<b>41,470</b>	<b>33,006</b>
o/w cash	39,830	28,506
<b>TOTAL ASSETS</b>	<b>53,386</b>	<b>53,355</b>

2014	2015	
<b>48,790</b>	<b>44,380</b>	<b>Shareholders' equity</b>
<b>2,378</b>	<b>3,258</b>	<b>Non-current assets</b>
2,007	2,902	o/w financial assets
<b>2,217</b>	<b>5,717</b>	<b>Current liabilities</b>
58	900	o/w bank overdrafts
0	0	o/w other financial liabilities
<b>53,385</b>	<b>53,355</b>	<b>TOTAL EQUITY AND LIABILITIES</b>