



CONFIDENCE BUILT
ON **EXPERIENCE**



LAURA MONTEIRO
R&D Project Manager

Os desafios de participar no
Horizonte Europa

23 de novembro de 2021

Lic. Biological Engineering

PhD. Civil Engineering /
Hydraulics



Laura Monteiro

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Since June 2021

Senior R&D Project Manager
@ A4F

Previous Projects

FCT – IMIST (2018-2022)

LIFE SWSS (2015-2019)

FP7 – Prepared (2011-2014)

FP6 – Techneau (2006-2010)

Interests

Circular (bio)economy

Water Treatment & Reuse

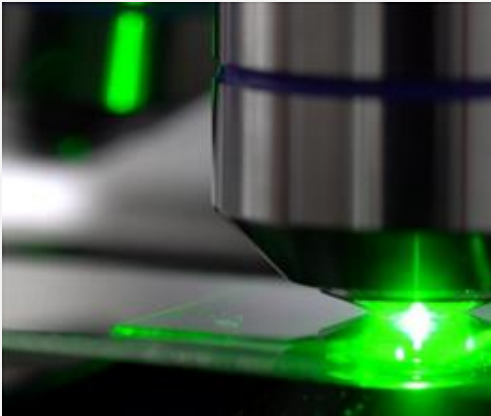
Energy Efficiency

An aerial photograph of a vast green field, possibly a farm or agricultural area, with a bright light source in the sky. The image is oriented vertically, with the field on the left and the sky on the right. A bright, circular light source is visible in the sky, creating a lens flare effect. The field is a vibrant green color, and the sky is a clear blue. The overall composition is simple and clean, with a strong contrast between the green and blue.

A4F - ALGAE 4 FUTURE

**A4F is specialized in the process of
design – build – operate – transfer
(DBOT) of commercial scale
algae production facilities.**

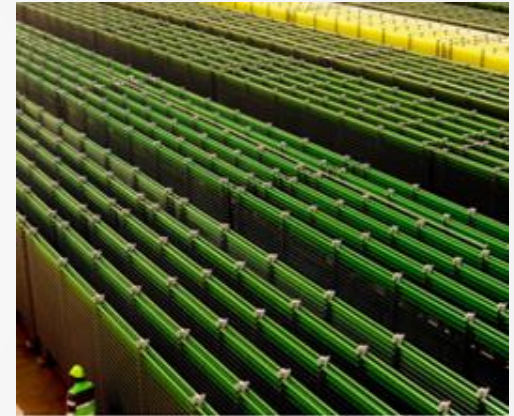
APPLIED R&D



CONTRACT R&D TECHNOLOGY SUPPLY



INDUSTRIAL PRODUCTION



APPLICATIONS & FRAMEWORKS

Current applications

- Food ingredients
- Healthy foods

Food



- Premix feeds
- Specialty feeds

Feed



- Nutraceuticals
- Pharmaceuticals

Health



- Cosmeceuticals
- Thalassotherapy

Cosmetics



- Biofertilizer
- Soil remediation

Fertilizers



Emerging applications

- Biofuels
- CO₂ mitigation

Fuels



- N&P removal
- Bioremediation

Wastewater



- Biofibers
- Bioplastics

Chemicals



LABORATORY



Lisbon Innovation Laboratory (LIL)

Support R&D activities at pilot scale and industrial production.

- Microalgae strain isolation and characterization
- **Inoculum production** up to 200+ litres scale
- Specialized **analytical analysis**
 - Pigments
 - Fatty acids
 - Elemental analysis
- Contamination **diagnostic and control** tools

PILOT UNIT

Lisbon Experimental Unit (UEL)

- **Technological platform** that mimics an industrial plant for microalgae production;
- **Support A4F Clients** and **R&D projects** at pilot scale production.

- Since **2013**
- **2000 m² / 10 m³**
- GMO compliant
- **From inoculum to product!**

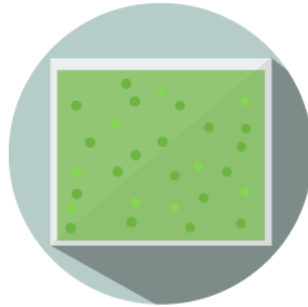
- Scale-up to pilot scale
- Open and closed systems
- Harvesting technologies
- Processing technologies



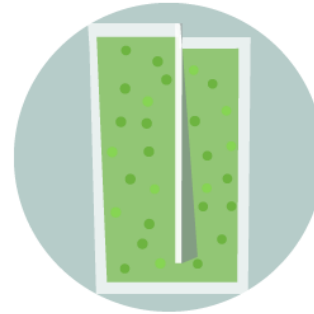
TECHNOLOGY



Tubular PBRs



Flat panel PBRs



Cascade Raceways



Raceways

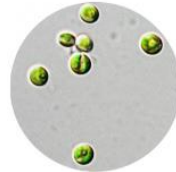
Microalgae production **expertise** at pilot and industrial scale



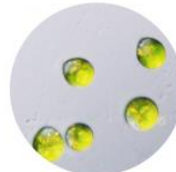
Arthrospira sp.
(Spirulina)



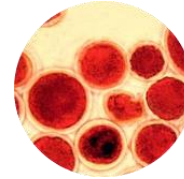
Chlamydomonas sp.



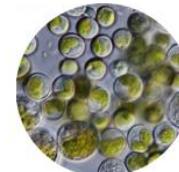
Chlorella sp.



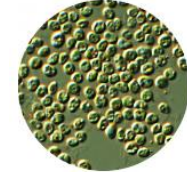
Dunaliella salina



Haematococcus
pluvialis



Lobosphaera
incisa



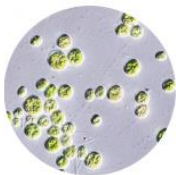
Nannochloropsis sp.



Phaeodactylum
tricornutum



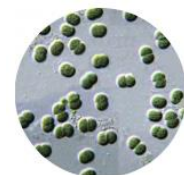
Raphidonema sp.



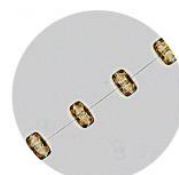
Scenedesmus sp.



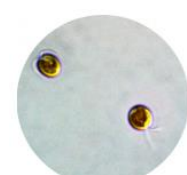
Synechococcus sp.
PCC 7002



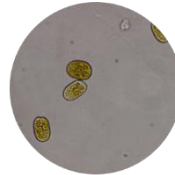
Synechocystis sp.
PCC 6803



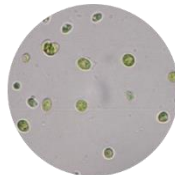
Thalassiosira
weissflogii



Tisochrysis
lutea



Prorocentrum
cassubicum



Scotiellopsis sp.



Tetraselmis sp.



Odontella sp.

An aerial photograph of a vast green agricultural field, possibly a cornfield, with a bright sun flare in the center. The sun is positioned in the upper right quadrant, creating a large, bright white and yellow glow that radiates across the sky and onto the field. The field is divided into rows, and the overall color palette is dominated by various shades of green and blue. A solid green horizontal bar is overlaid across the middle of the image, containing the text "R&D PROJECTS" in white, bold, sans-serif font.

R&D PROJECTS

Applied R&D in Biotechnology



Benefits

- **Funding** for R&D activities
- Access to **cutting edge** science & technology
- **Networking** with stakeholders
- Staff's **training** by participating in specialized conferences/events
- High **visibility** / reputation

Cluster 6 - 10 proposals submitted!

8 for HORIZON-CL6-2021-CIRCBIO-01-09

- Unlocking the potential of algae for a thriving European blue bioeconomy

2 for HORIZON-CL6-2021-CIRCBIO-01-05

- Novel, non-plant biomass feedstocks for industrial applications

A4F was invited to join all the proposals
Participation as partner

Other HE proposals submitted in 2021

1 for HORIZON-EIC-2021-TRANSITIONOPEN-01

- ERC grantee from Universita Degli Studi di Verona, Italia

1 for HORIZON-CL4-2021-TWIN-TRANSITION-01-05

- Manufacturing technologies for bio-based materials



Main differences from Horizon 2020



- **45 pages !**

Challenges

- Finding the right **partners**
- Being **ambitious** ... while keeping the feet on the ground
- **Balancing** all partners ambitions/competences/contributions
- Establishing **cost-efficient** budgets
- Writing of a **coherent** document (not a sum of parts)

What it takes

- **People** dedicated to the projects' proposals
- **Time** for many meetings, discussions, proposal writing...
- **Something (unique) to offer** – e.g.: A4F facilities allow to perform experimental tests at higher scale than the universities/research centres
- **R&D skills** – A4F has highly skilled people: > 50 % PhD & MSc

It is never too soon to start!

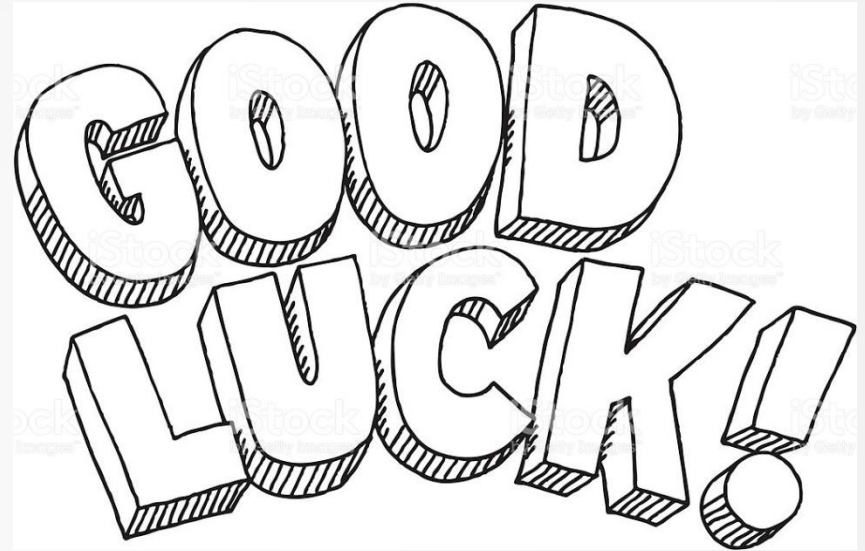
- It always takes longer...
- Keep a timeline for the project proposal

Read the call text over and over again

- Make sure the project tackles all main issues

Look for the right partners

- Experience and trust are key





Thank You!



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