IBISBA SHARING THE WAY TO INNOVATION

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A strategic R&D infrastructure to support EU green growth

Michael O'Donohue – INRAE - Cell Factories for Industrial Bioproduction – ADEBIOTECH – 29/30 March 2022

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The circular bioeconomy

A defintion

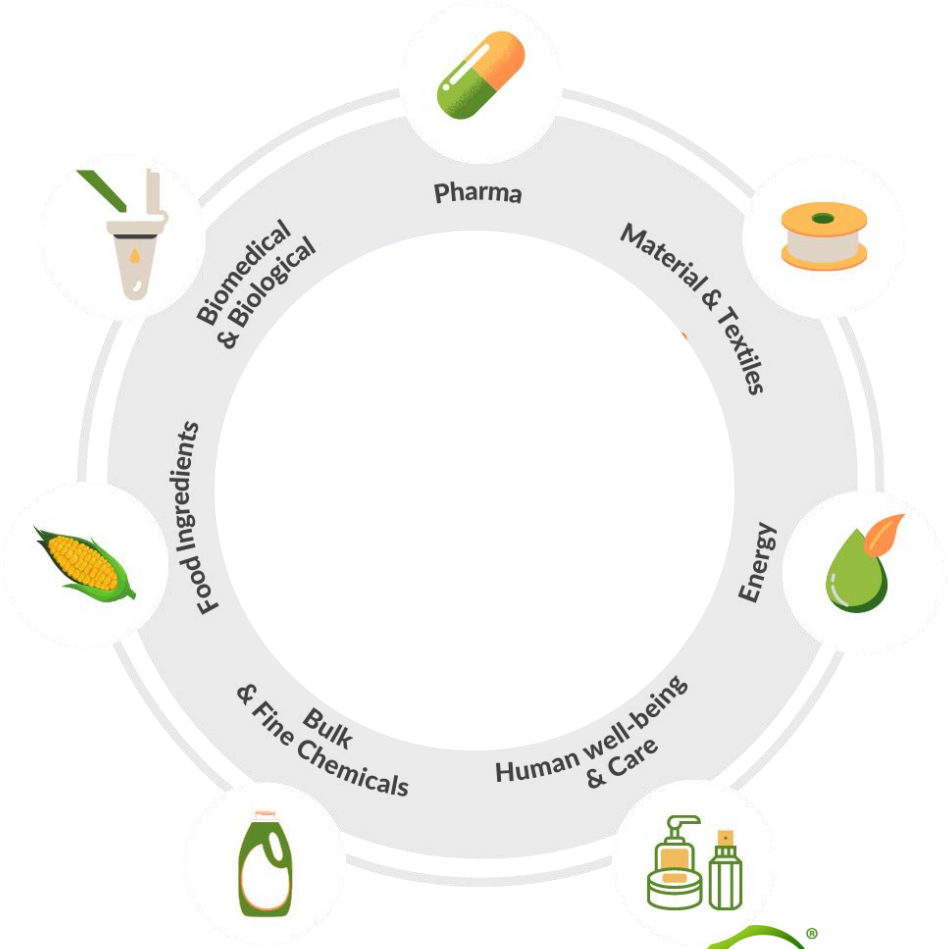
A circular bioeconomy is a circular, sustainable economy grounded in the production, processing and recycling of renewable biological resources that will lead to the phasing out of fossil carbon (European Commission 2019)

The circular bioeconomy

The enabling role of industrial biotechnology

- The circular bioeconomy requires specific technologies, adapted to the intrinsic complexity of biomolecules
- Industrial biotechnology is set to become the foremost enabler of the circular bioeconomy

However, to achieve this progress is required!



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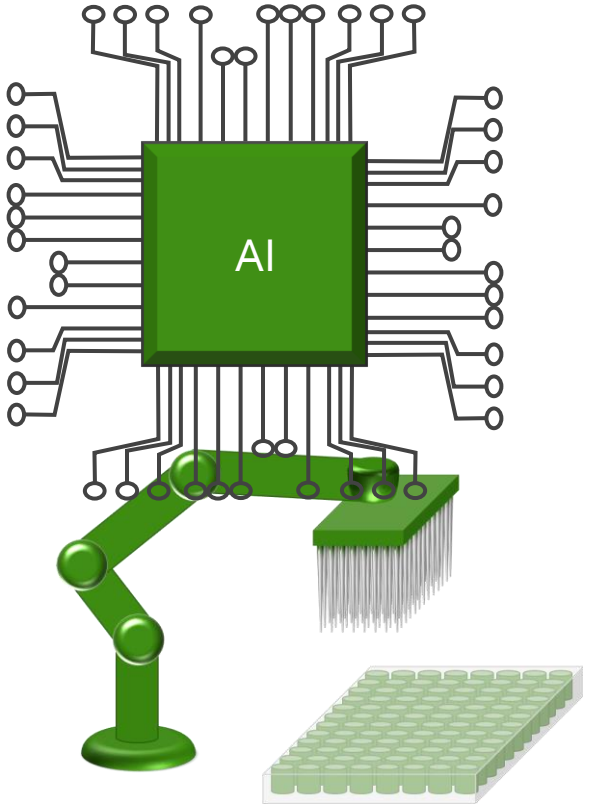
Industrial biotechnology

What needs to be achieved?

For industrial biotechnology to be able to power the circular bioeconomy, this technology area needs to come of age

What does this imply?

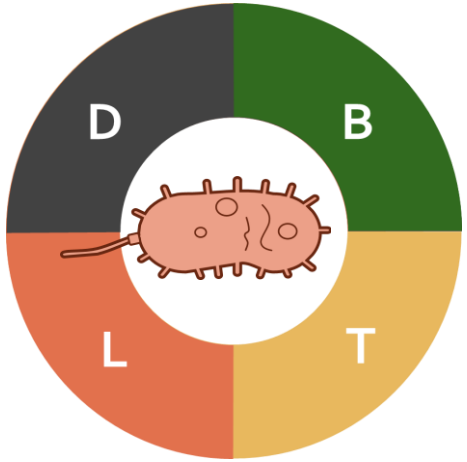


IB coming of age

Industrial biotechnology

Coming of age

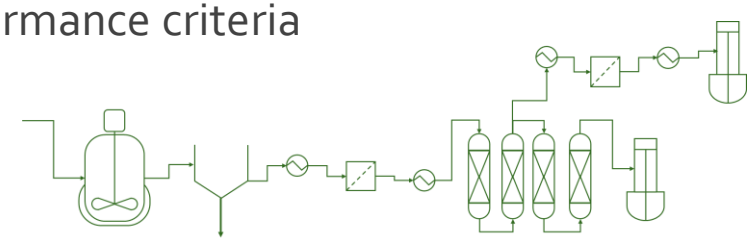
Bioengineering



- Biological models
- Small scales
- Big data
- Biology performance criteria

Chemical engineering

- Physical models
- Large scales
- Small (sparse) data
- Process performance criteria



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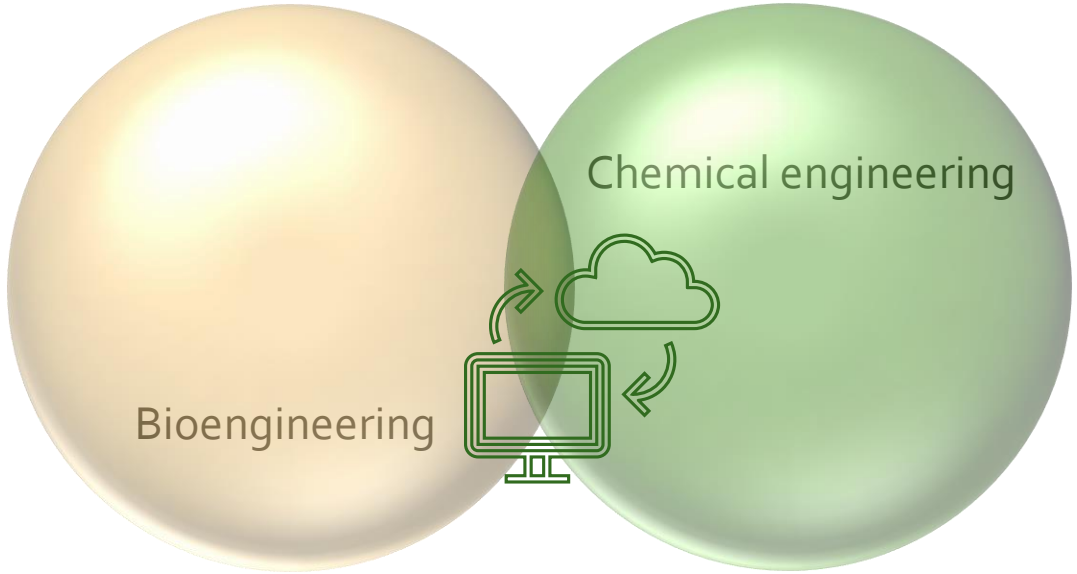
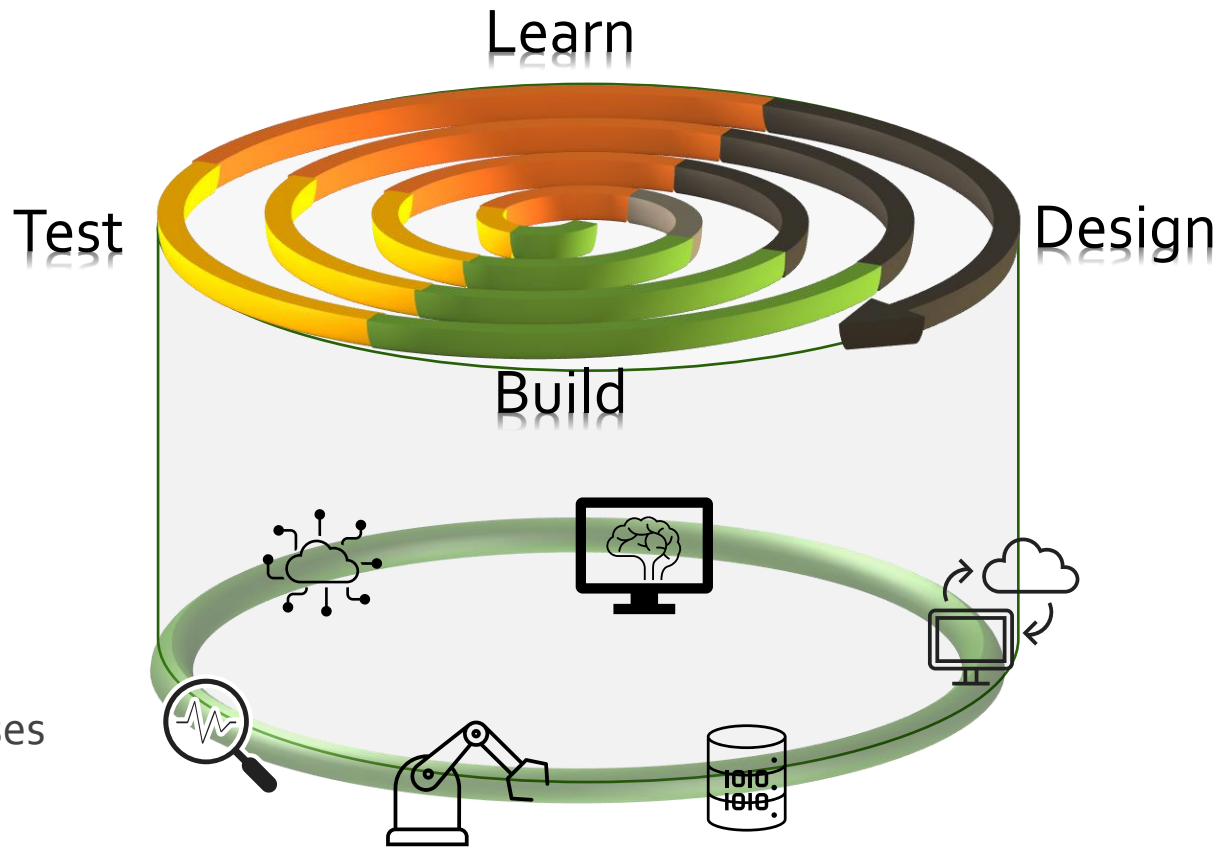
Industrial biotechnology

Coming of age



- Integrated data and models
- Scale integration
- Continuous, knowledge-rich R&D processes



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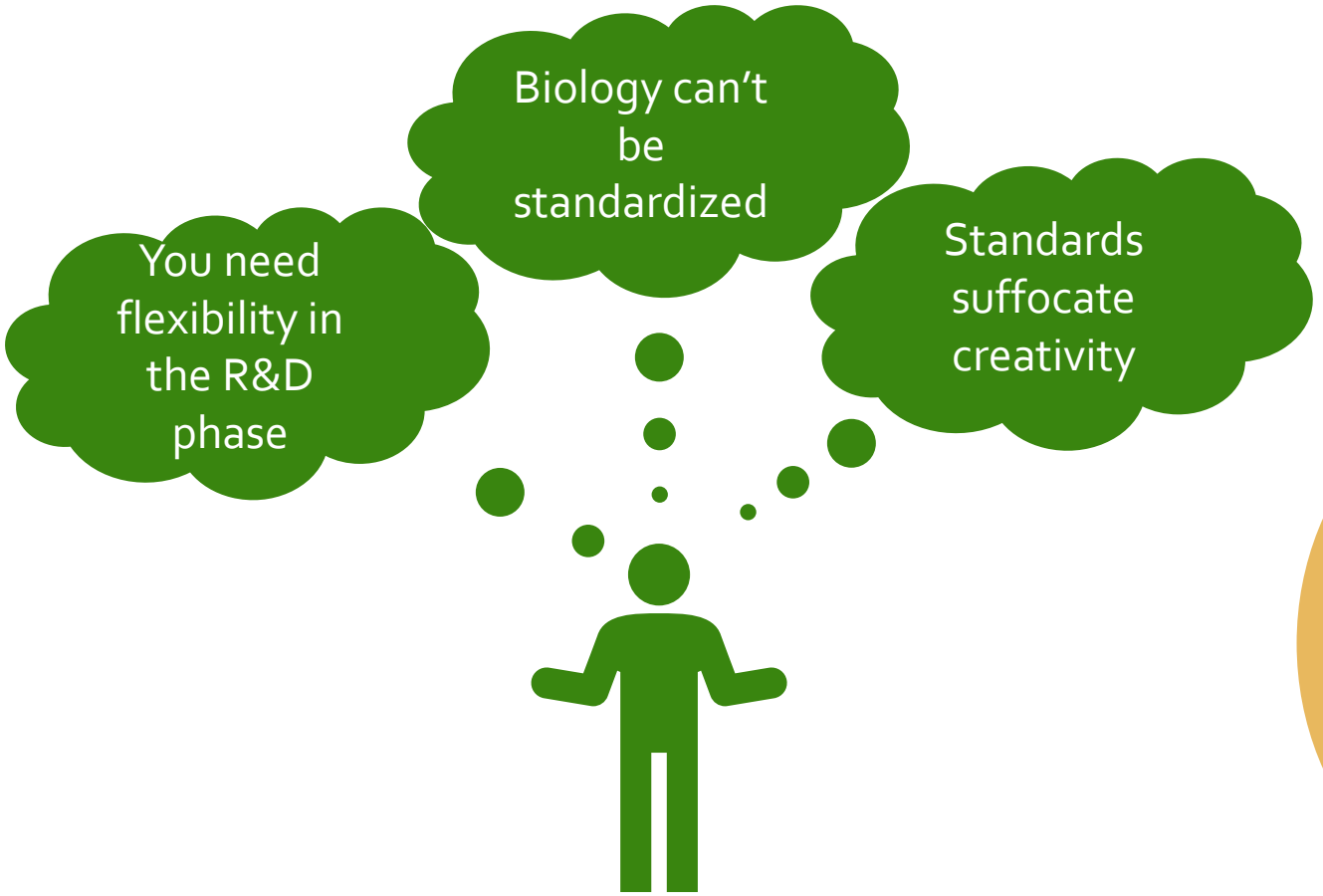
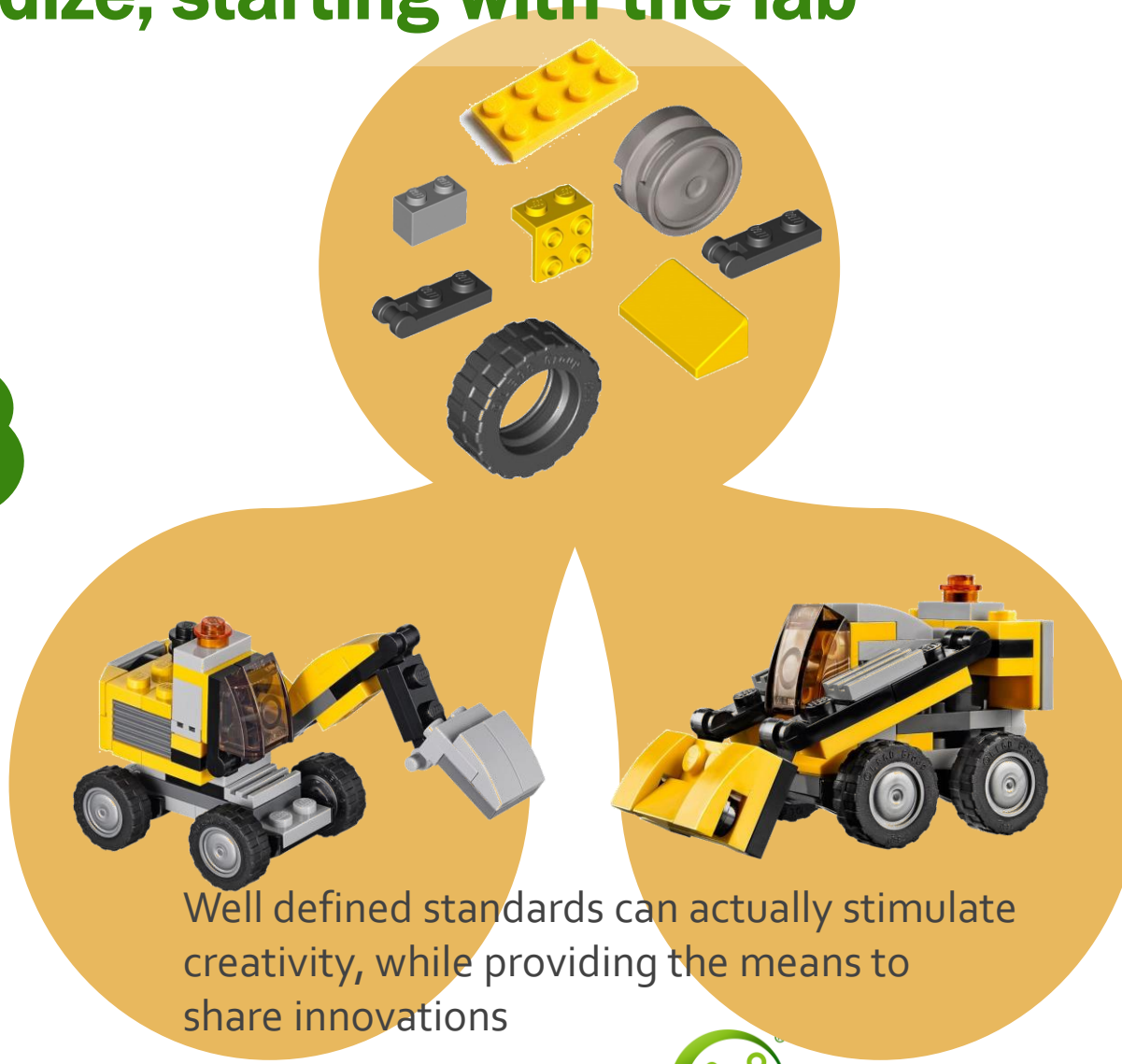
The industry needs to standardize, starting with the lab





Well defined standards can actually stimulate creativity, while providing the means to share innovations

Images by Lego group

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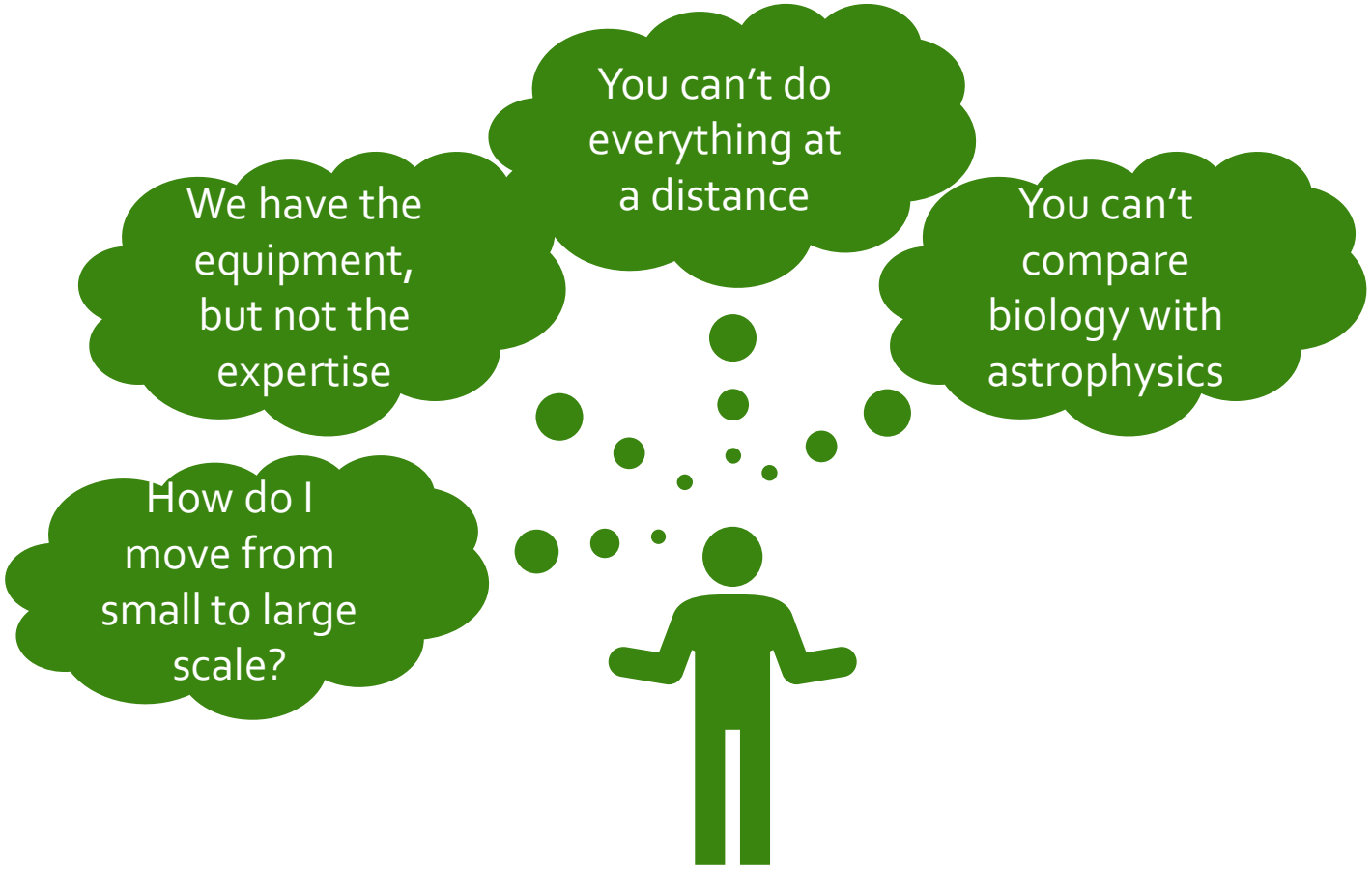
R&D in the IB sector needs greater use of R&D infrastructure



265 millions km from Earth

Careful experimental design, standard protocols and automation of remote experimental processes underpin many very advanced R&D activities

Image by European Space Agency

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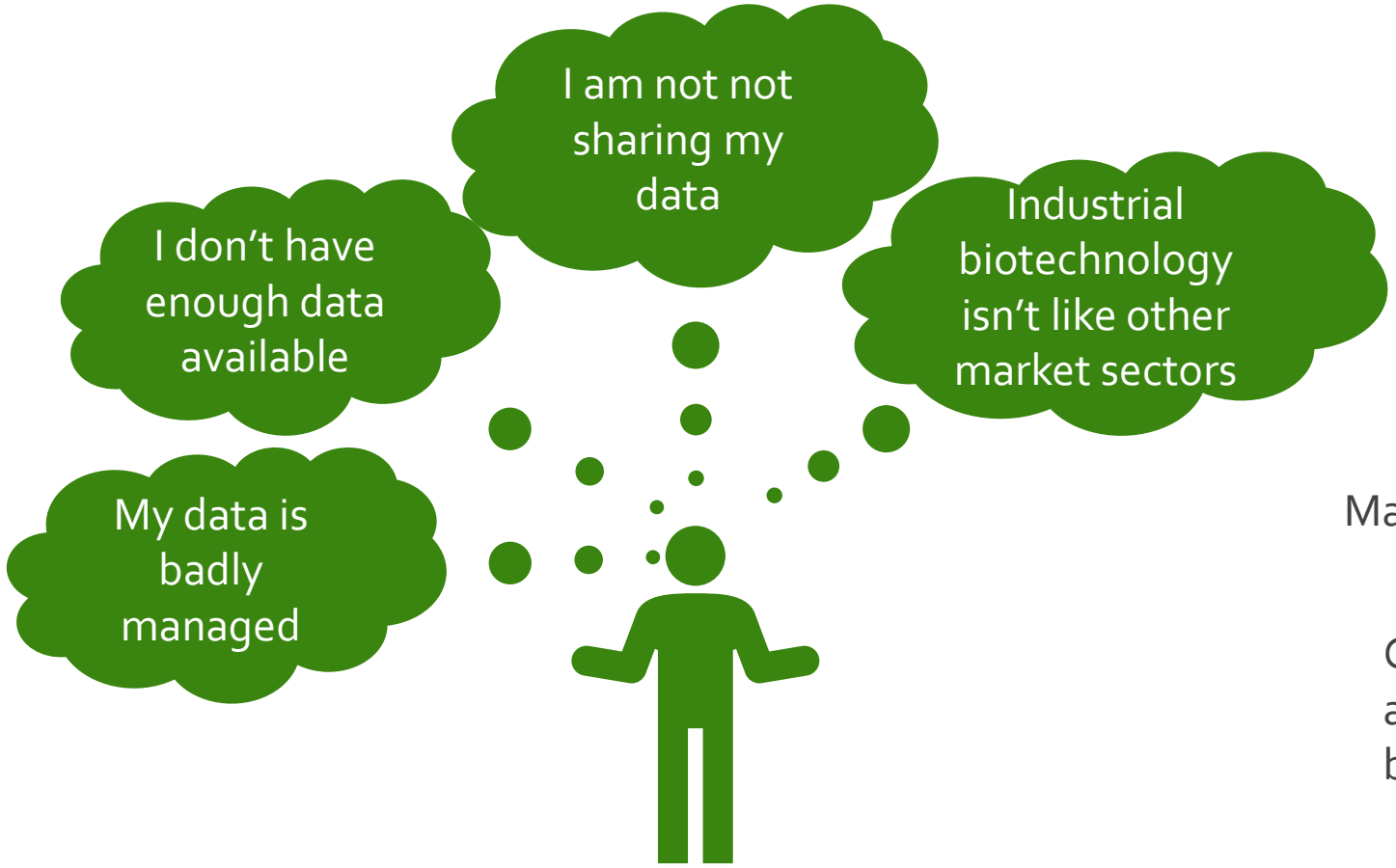
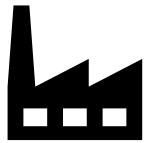
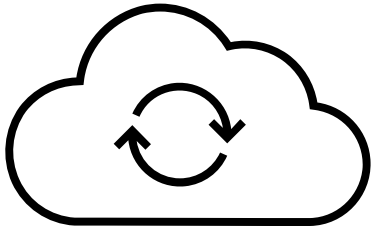
IB must be in the vanguard for data sharing



Education and research



Manufacturing



Start-up

Good data management and "sharing" are increasingly recognized as major business accelerators.

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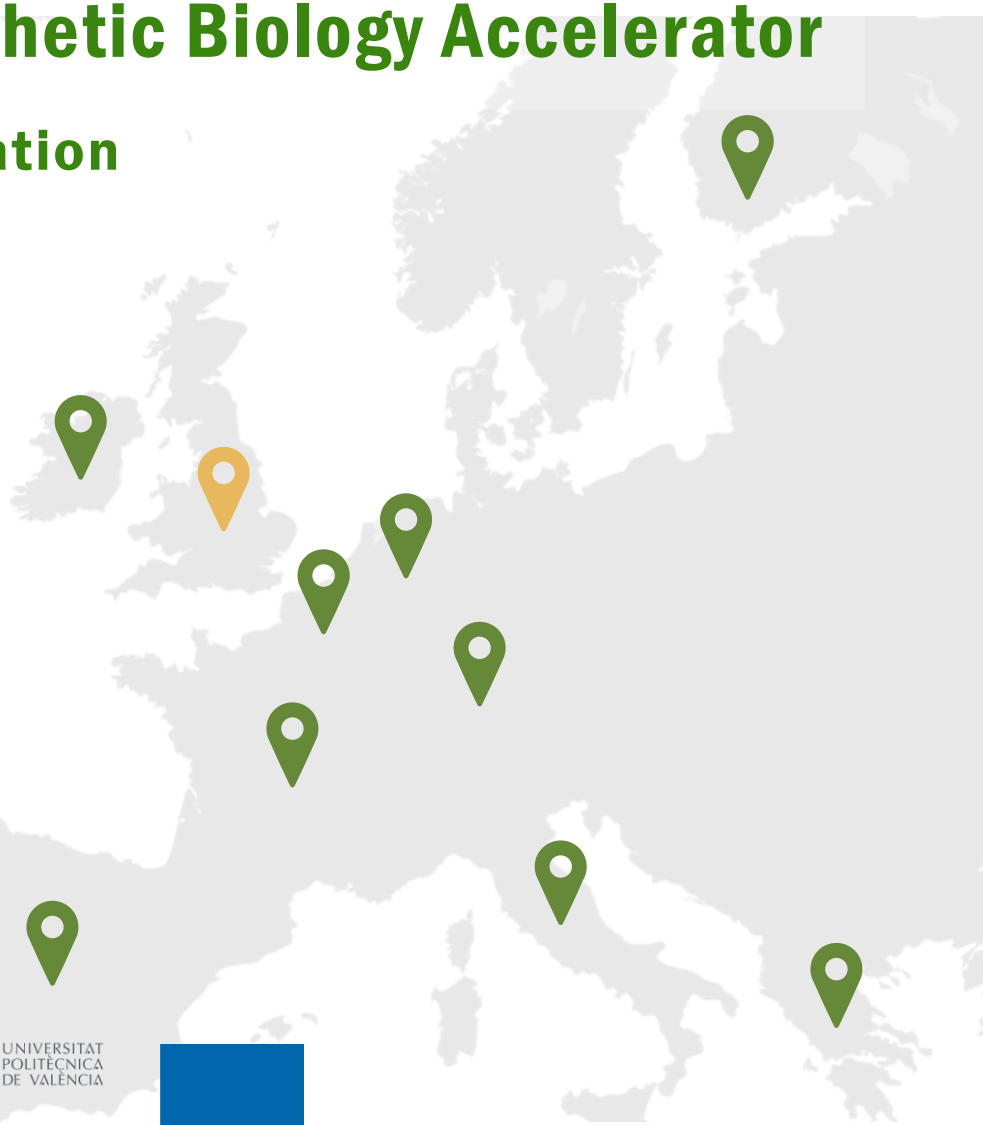
Where does IBISBA come into this?

Industrial Biotechnology Innovation and Synthetic Biology Accelerator

Sharing the Way to Innovation

IBISBA is a Distributed European Research Infrastructure for Industrial Biotechnology



- 10 countries: 9 Member States + United Kingdom
- 19 partners (RTO, universities) committed to developing industrial biotechnology
- An array of equipment and expertise, from high-throughput small scale to 10 m^3.

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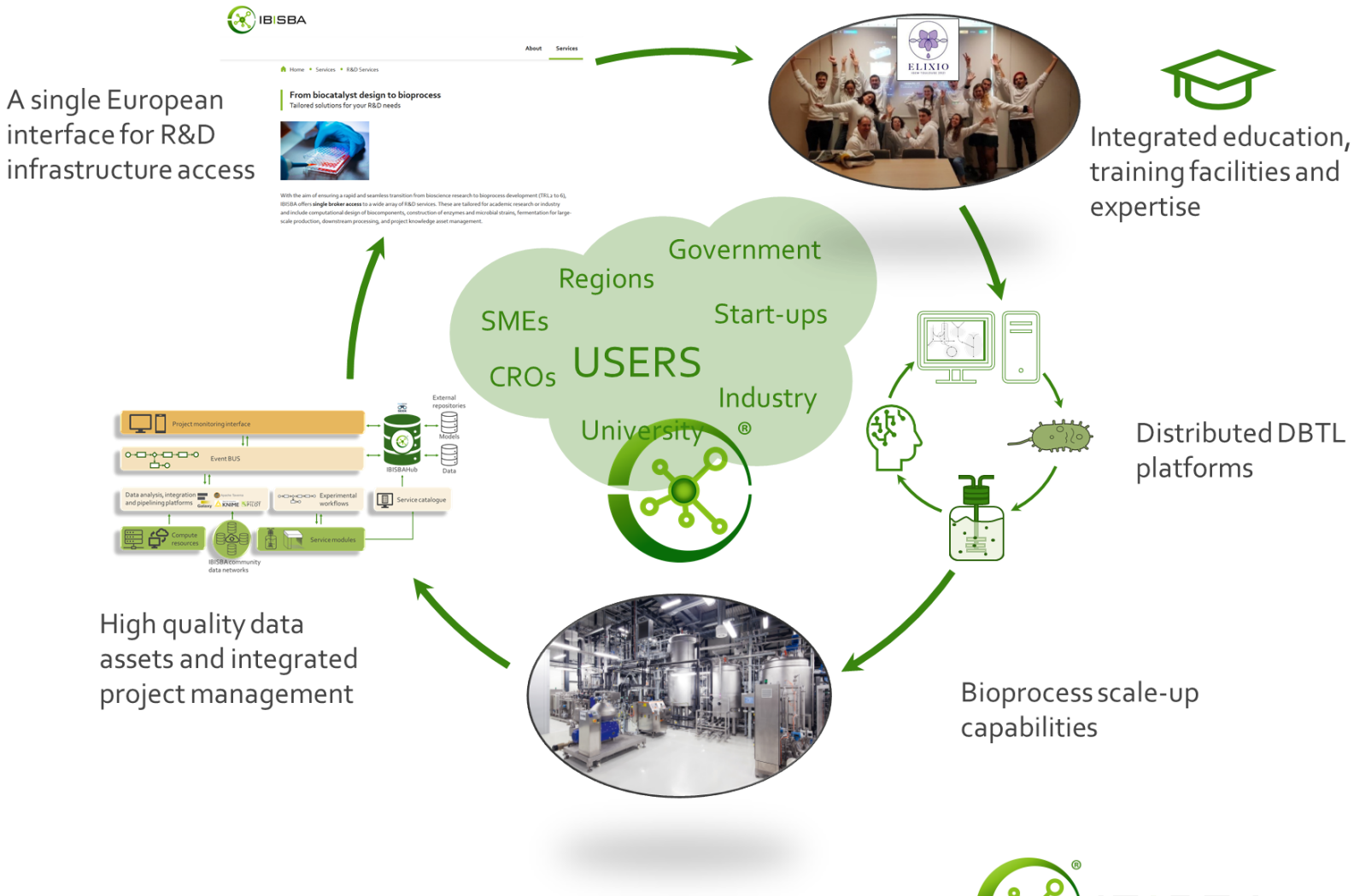
IBISBA's ambition

Vision

Industrial biotechnology is a game-changer, providing the technology building bricks for advanced industrial solutions impacting a wide variety of market sectors, including environmental services.

Ambition

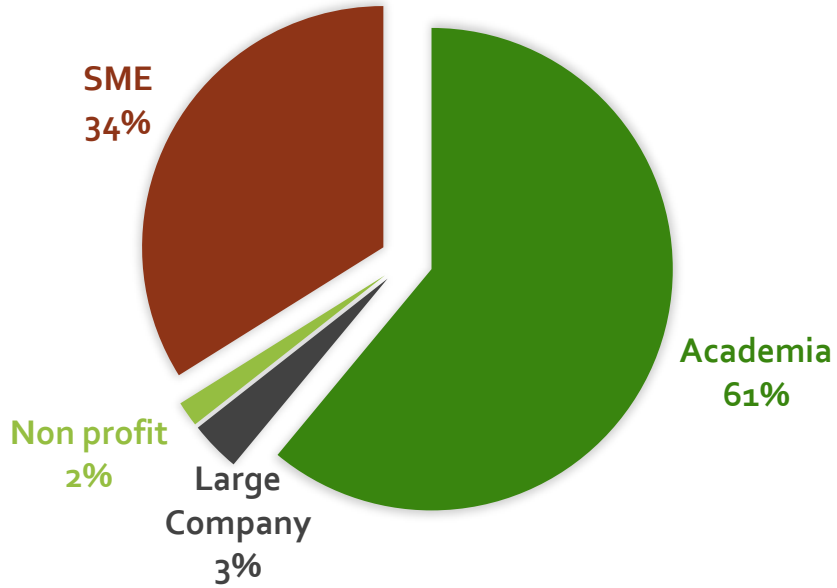
Addressing a need to advance the development of industrial biotechnology, IBISBA's ambition is to create a comprehensive research infrastructure offer

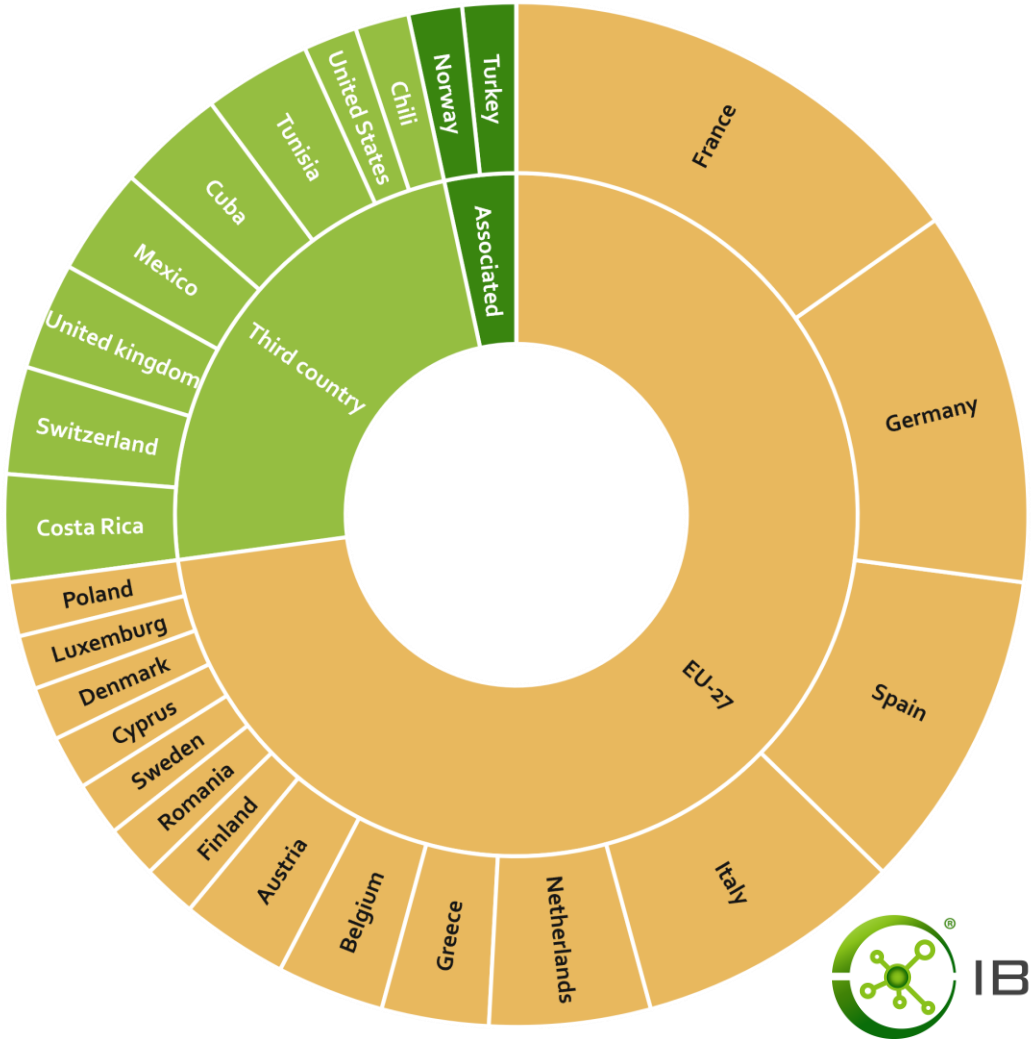


IBISBA in pre-operation

IBISBA 1.0 - a successful case study

5 calls for proposals
59 proposals submitted
36 projects linked individual services





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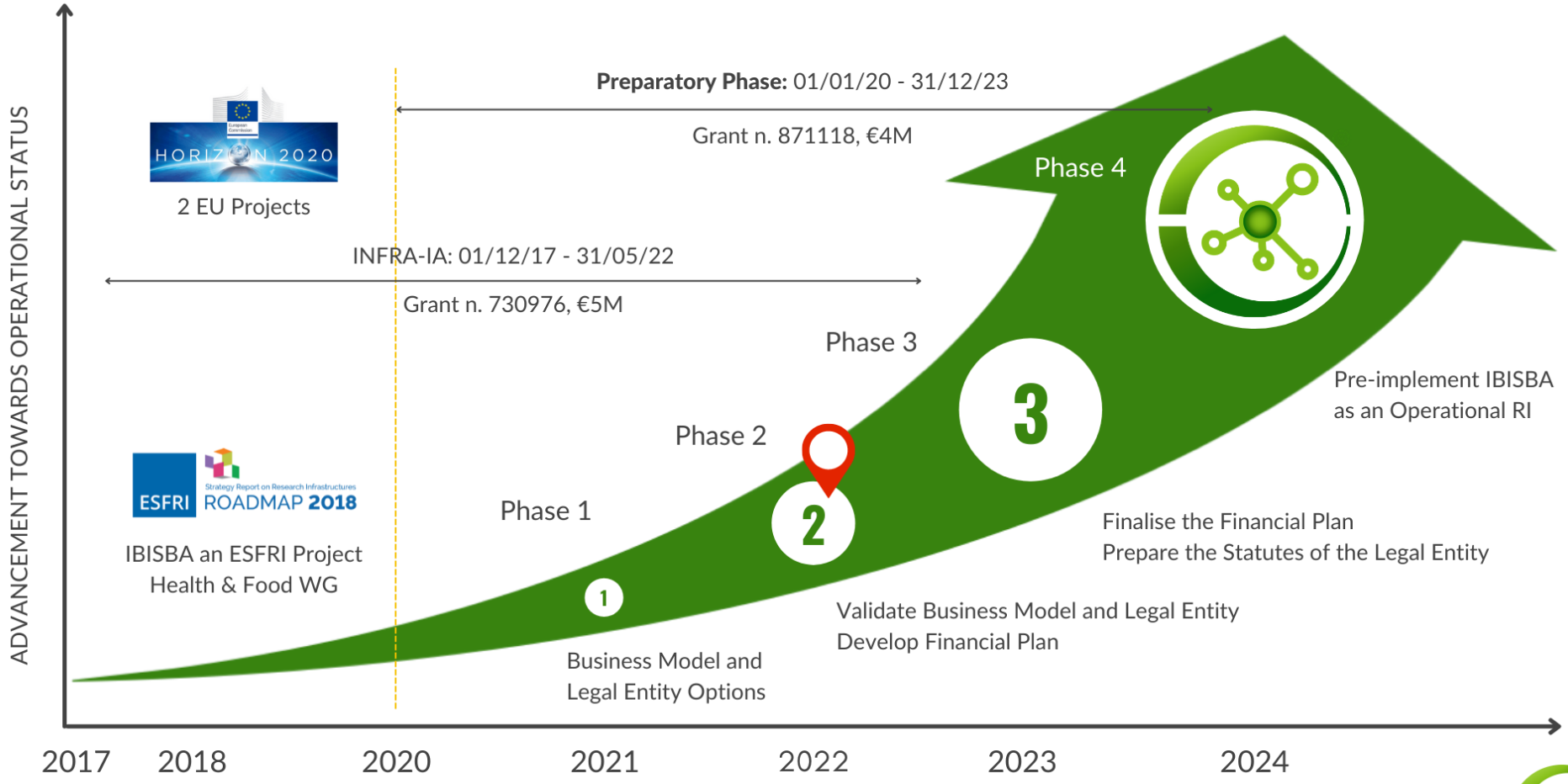
IBISBA's pathway to operation

Towards a legal entity



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Joining and working with us

https://hub.ibisba.eu/

- Join our Memorandum of Understanding
  - declare support for IBISBA and participate with like-minded institutions in bringing IBISBA to full operation)
- Join our industrial advisory board
  - We welcome contributions from industry
- Become a member of a working group

New

  - Education and training for industrial biotechnology
  - Data-driven industrial biotechnology
  - Standards in industrial biotechnology
  - Supporting innovation in EU-regions
- Join the « HUB CLUB »
  - Become an IBISBAhub user – manage your project data assets

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