



Petrobras
connections
for *innovation*

Powering Innovation with Petrobras



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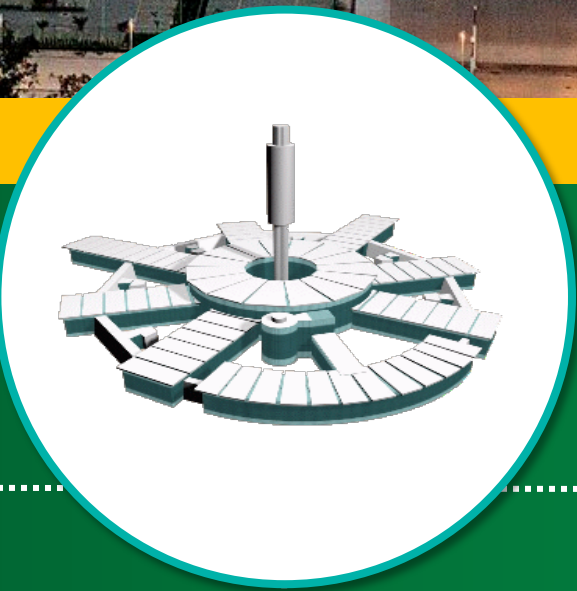


High capacity for innovation



Human capital

~ 1000
Researchers



Total area

308,000 m²

Partnerships



+9k
Researchers
Engaged

+230
Innovation
Partners

+60
Startups

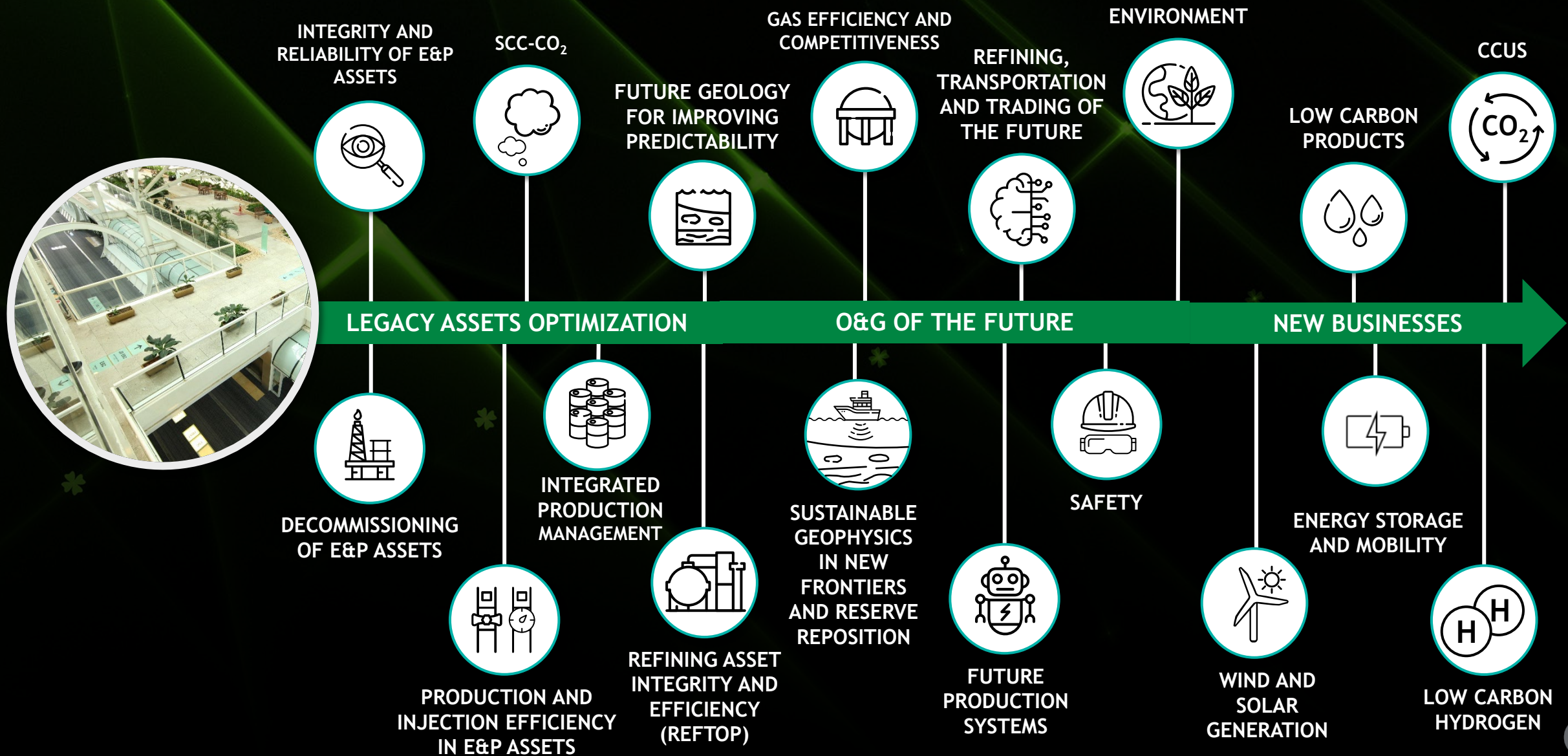


Laboratories

116
Labs

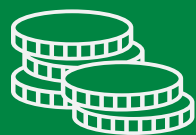
4,600
Equipments

RD&I ambitious portfolio, focused on high impact technologies



Technological innovation has been the basis for Petrobras' pioneering spirit over 70 years and will drive the construction of the future

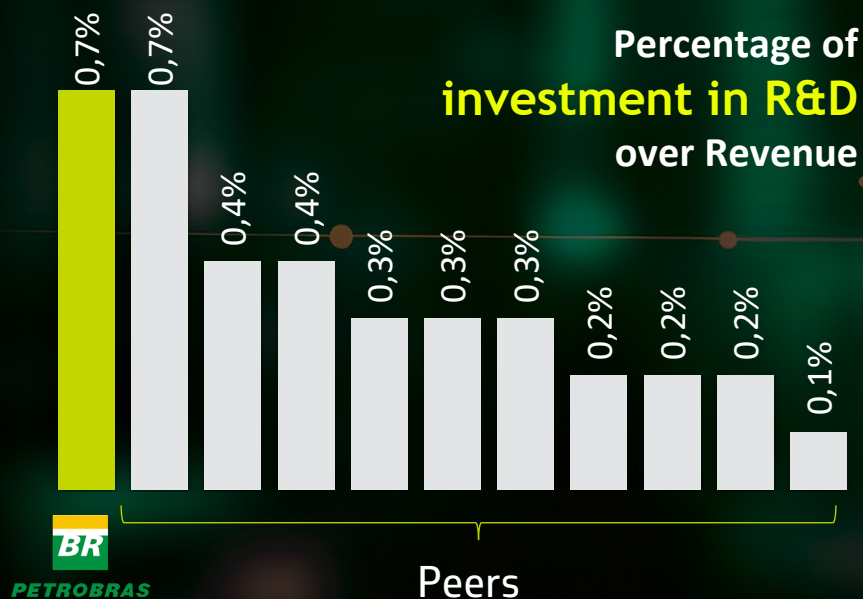
Petrobras' Strategic Plan 2025-2029



US\$4.2 billion in RD&I
from 2025 to 2029



Increase participation in
low carbon technologies
up to 30% in 2029



Source: Evaluate Energy, 2023



Innovation to create opportunities and evolve production

- 1992** — Technical achievements related to the development of deepwater production systems in Marlim field (Campos Basin)
- 2001** — Advances in technologies and cost effectiveness in deepwater development projects of Roncador field (Campos Basin)
- 2015** — Set of technologies developed for oil and gas production in the pre-salt layer
- 2020** — Set of innovations developed to enable production in the Búzios field, in the Santos Basin pre-salt
- 2024** — Deployment of a wide set of new technologies for the successful revitalization of the Marlim Field and the entire deepwater Campos Basin, unlocking new paths for mature deepwater asset redevelopment, with significant reduction in greenhouse gas emissions in pre-salt



2019



2023



Awarded 2 times in the Brazilian edition

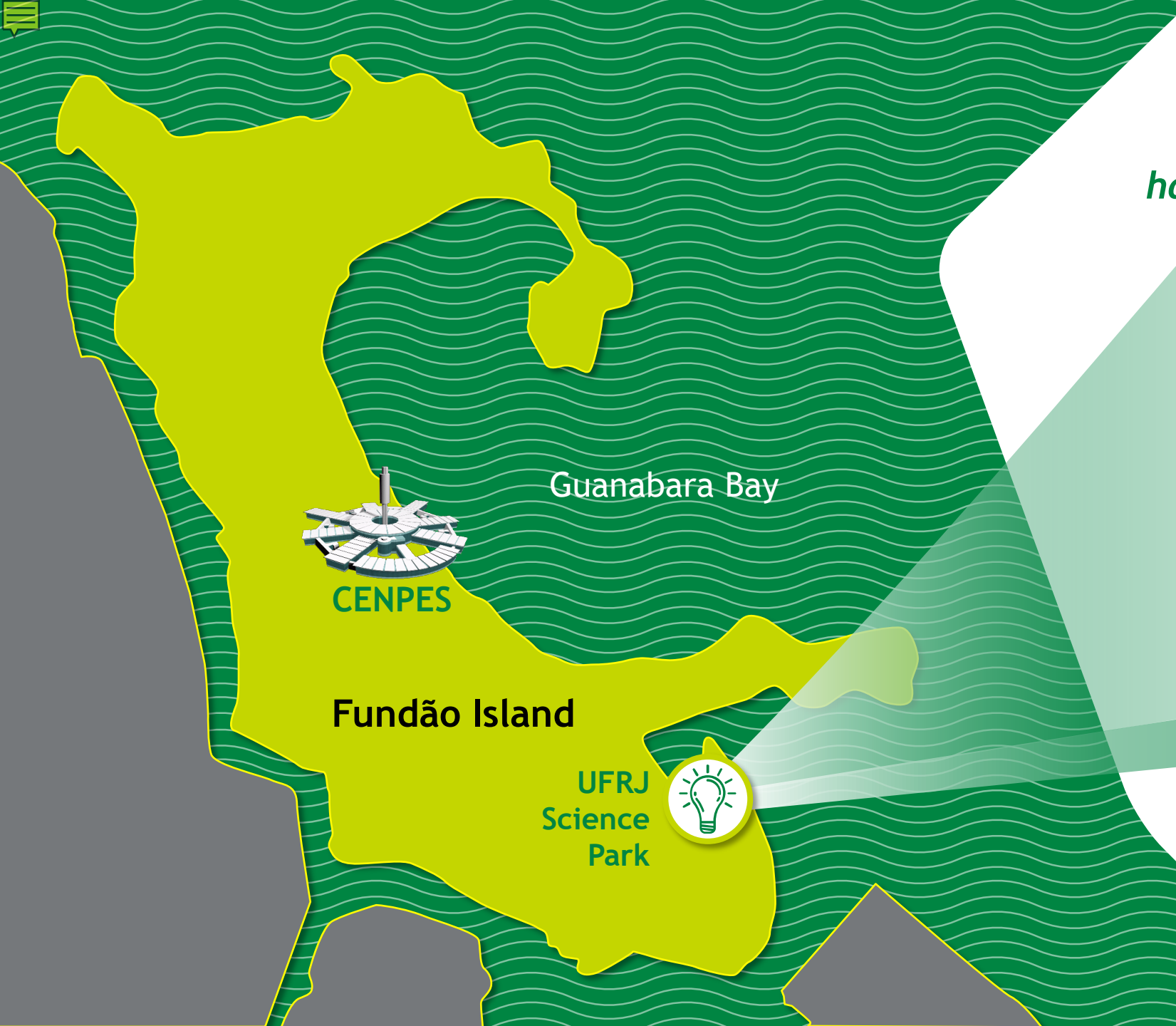


Awarded
5 TIMES
by OTC

Highest award of the world's oil industry



Business with Petrobras is facilitated when companies have a local presence in Brazil



Petrobras' open innovation hub publishes hundreds of opportunities since 2019

From **Lower**
to **Higher**
maturity levels



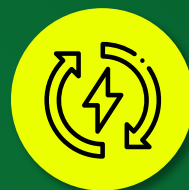
To find the best
Universities,
Science Institutes
Startups
and Companies

And create win-win partnerships **to develop and test technologies** with Petrobras

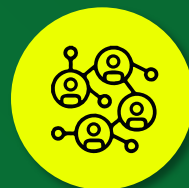


**"An environment
of *real*
opportunities
for the market"**

Petrobras
connections
for *innovation*



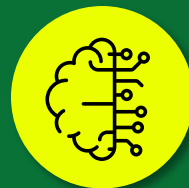
Accelerate Innovation



**Integrate with the
Innovation Ecosystem**



Establish new partnerships



Develop new technologies

Big Numbers



+950

OPPORTUNITIES
DISCLOSED ON THE PORTAL



+9.000

RESEARCHERS
INVOLVED



+4.000

PROPOSALS RECEIVED BY THE ECOSYSTEM



+600K

VIEWS
ON PORTAL



+USD 400 million

CONTRACTS SIGNED



+230

INNOVATION
PARTNERS



+ 900

PARTNERSHIPS
IN PROGRESS



+580

CONTRACTS
SIGNED

Pre-Commercial Procurement

Technology development with pre-established conditions for a large scale supply contract

Solution Acquisition

Search for startups and other innovative companies that present validated or soon-to-be-validated tech solutions

Startups

Search for innovative solutions with startups from different areas

Technological Partnerships

Partnerships with Universities, companies and science and technology institutions

Open Lab

Open-source software development

Residents

Attract professionals and accelerate the learning curve

Technology Transfer

Licensing Technologies for use by third parties in their businesses



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Pre-Commercial Procurement

Technology development with pre-established conditions for a large scale supply contract

➔ **+ 17 contracts signed**

➔ **+ USD 260 million** investment

Solution Acquisition

Search for startups and other innovative companies that present validated or soon-to-be-validated tech solutions

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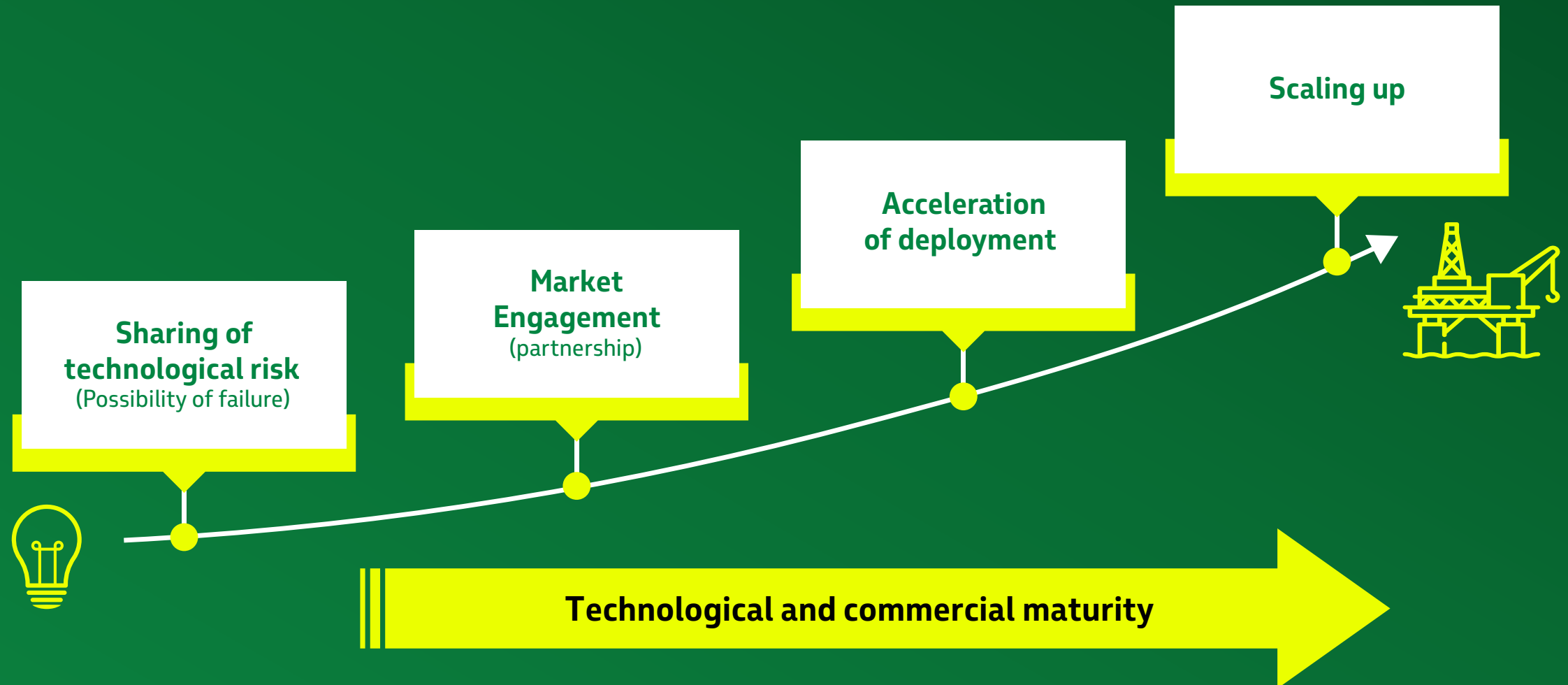
Attract professionals and accelerate the learning curve

Technology Transfer

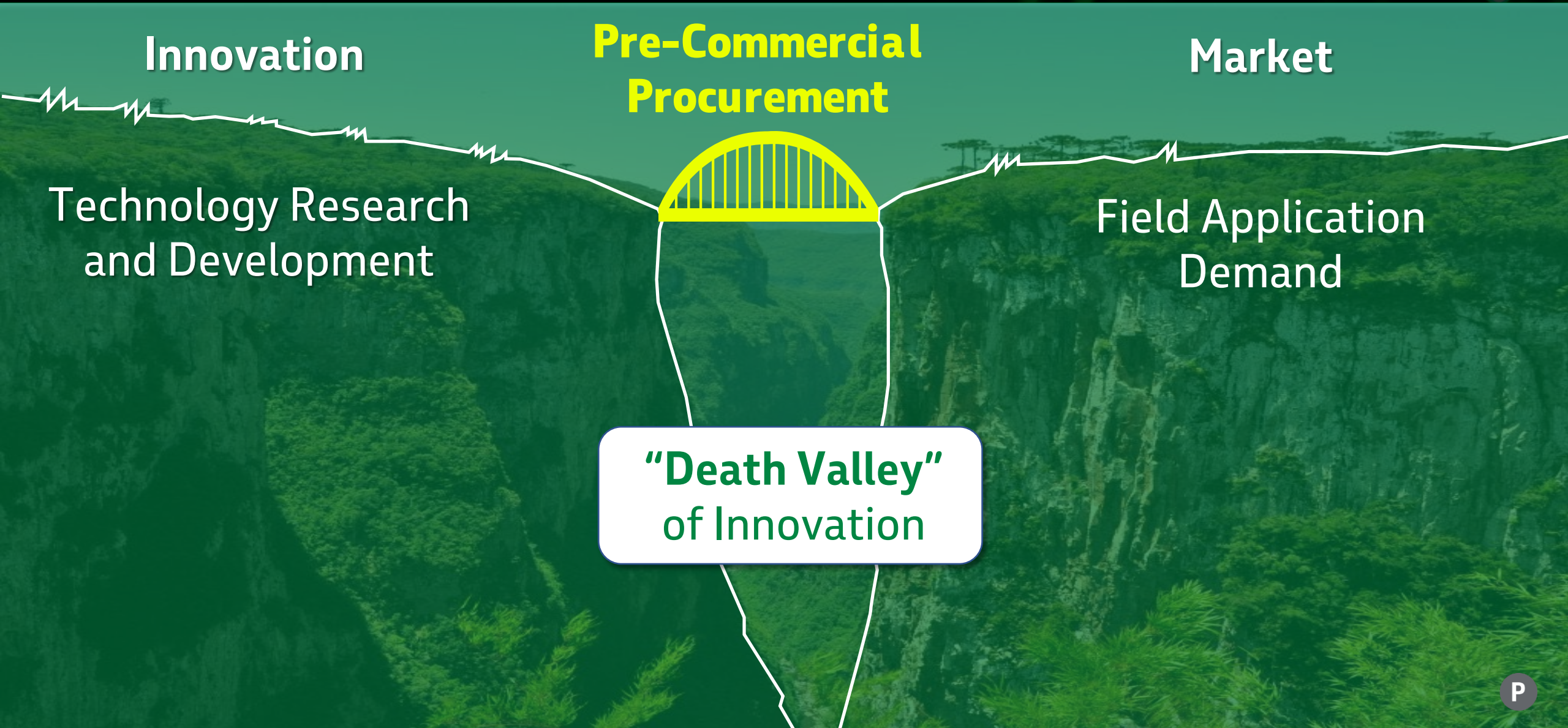
Licensing Technologies for use by third parties in their businesses



There is a path from the first idea up to **innovation commercial deployment**



Pre-Commercial Procurement



Pre-Commercial Procurement Module



Solution to a real problem (firm demand)



There is technological risk (TRL 2 to TRL 7)



Possibility to contract one or more technological routes with national or foreign companies



Compensation for effort



Possible to purchase solution in large scale (waiver of bidding)

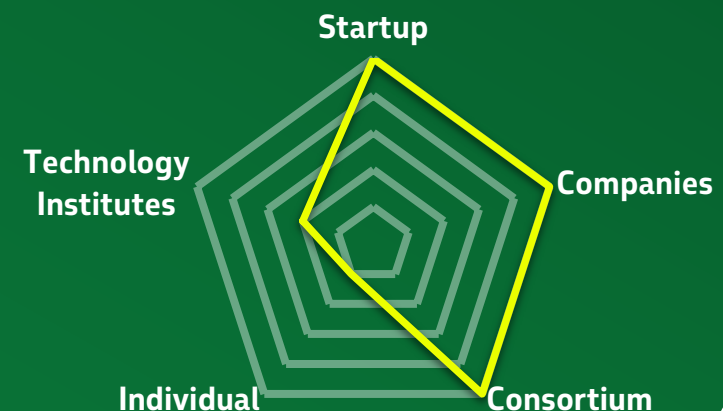


Flexibility to negotiate IP rights



Market Engagement!

*Companies or Technology Institutes with **recognized technical capacity** and RD&I tradition*



Pre-Commercial Procurement Module

Some of the companies that have already signed PCPs with Petrobras:



Pre-Commercial Procurement

Technology development with pre-established conditions for a large scale supply contract

Solution Acquisition

Search for startups and other innovative companies that present solutions that have been validated or are in the process of being validated in the market

Startups

Search for innovative solutions with startups from different areas

Technological Cooperation

Partnerships with Universities, companies and science and technology institutions

Open Lab

Open-source software development

Residents

Attract professionals and accelerate the learning curve

Technology Transfer

Licensing Technologies for use by third parties in their businesses

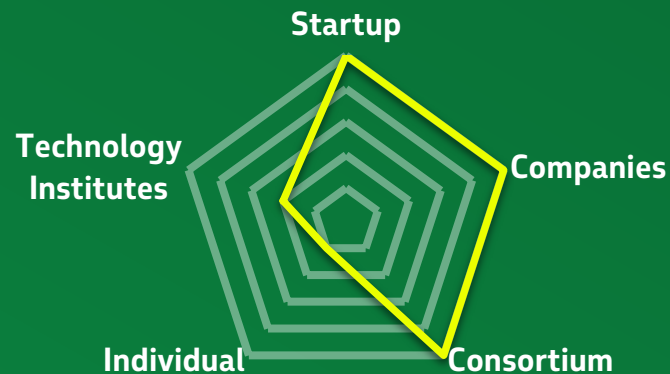


Solution Acquisition Module

Startups and companies with mature technologies to run tests in production environments and get ready to deployment.

→ **+ 50 solutions** in the pipeline

→ **+ Future opportunities** in inspection technologies for industrial and offshore systems, as well as digital technologies with AI applications.



Agile route to testing and validating solutions



Petrobras technical monitoring



Possibility of direct contracting of supply after validation



Support from the Petrobras team in the continuity and implementation of projects

Pre-Commercial Procurement

Technology development with pre-established conditions for a large scale supply contract

Solution Acquisition

Search for startups and other innovative companies that present validated or soon-to-be-validated tech solutions

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Technology Transfer

Licensing Technologies for use by third parties in their businesses

+30 Current contracts

+200 Patents disclosed to the market

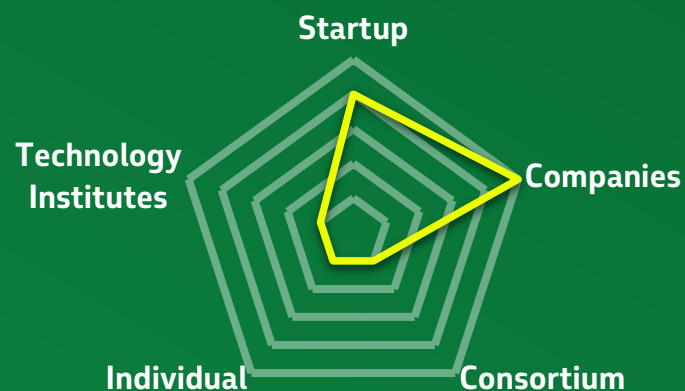


Technology Transfer Module

*Companies seeking to incorporate **new technologies** to its portfolio*

➔ **+30 Current** contracts

➔ **+200** Patents disclosed to the market



Access to cutting-edge technology, know-how and knowledge for innovation



Companies can commercially explore technologies developed by Petrobras



Possibility of internal use to optimize operations



Training and technical assistance

Smart Money

Petrobras Empowers Our Partners Beyond Financial Investment...

Business Guidance

Technical Expertise

Branding Support

*Diversification of
Solutions*

Media Exposure

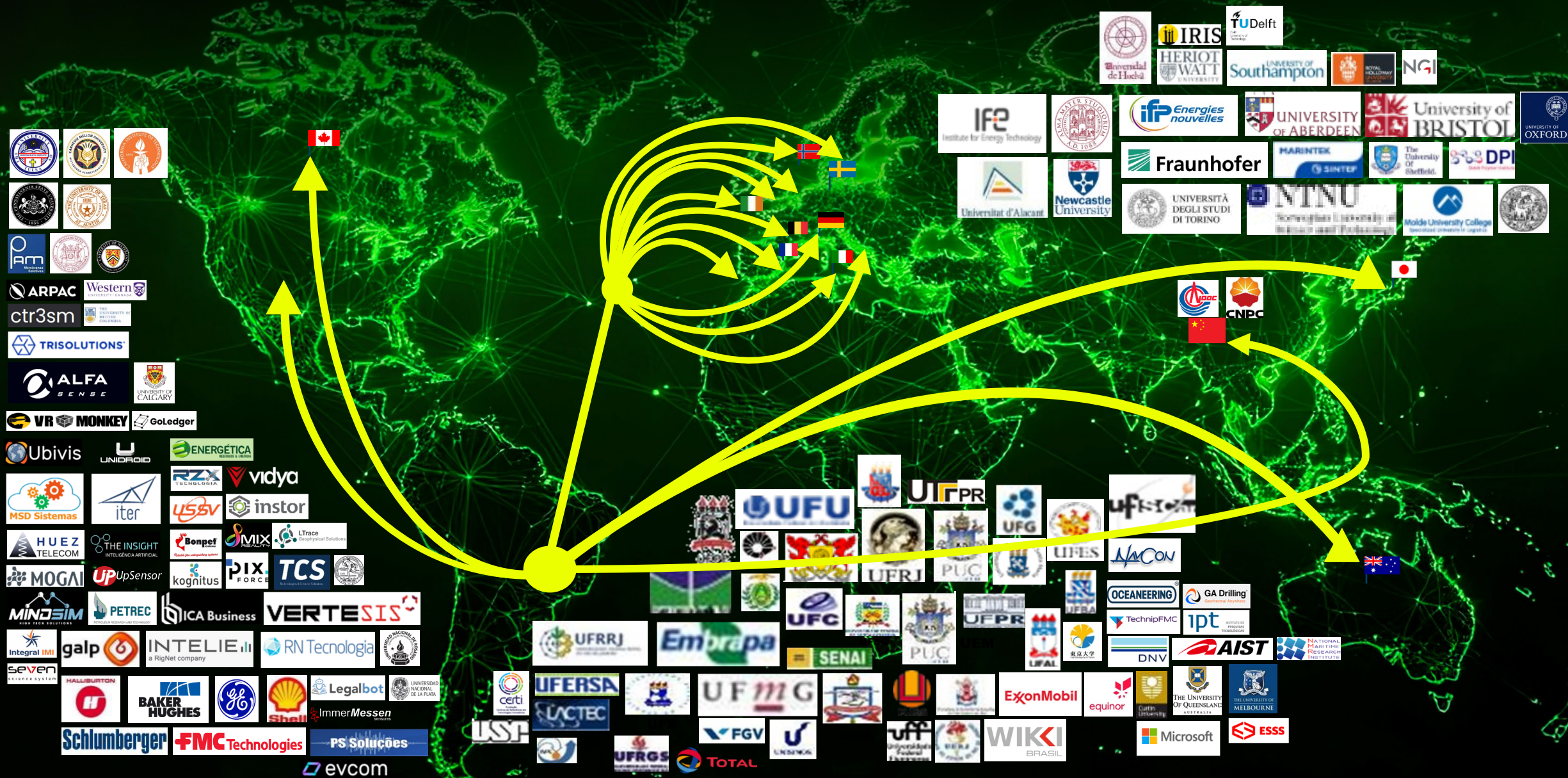
RD&I Support

*Advanced RD&I
Infrastructure*

IT Infrastructure

Data Access

+ 230 Innovation Partners in Brazil and around the world



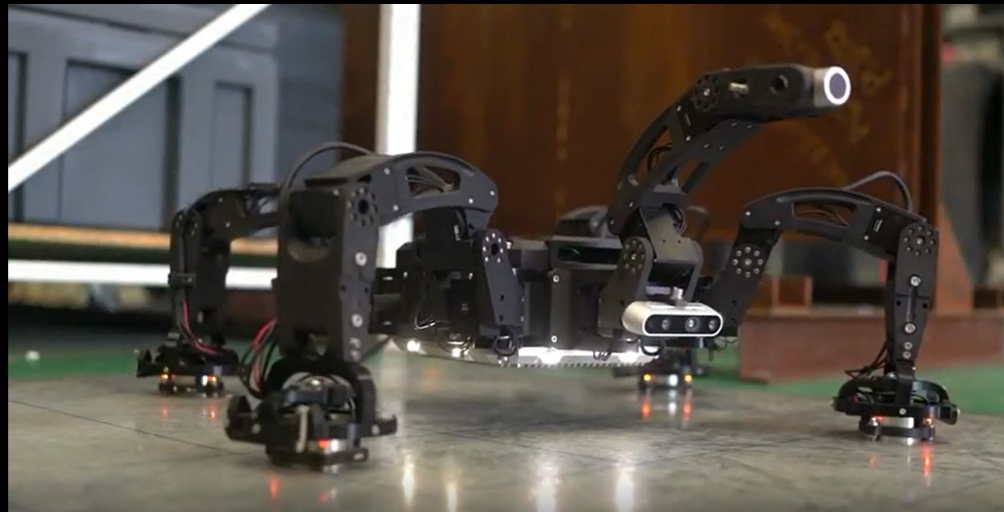


Partners in USA

	<i>NUMBER OF PARTNERS</i>	<i>VALUE</i>
COMPANIES	82	63 MM US\$
UNIVERSITIES	18	11 MM US\$
RESEARCH INSTITUTES	4	6 MM US\$
O&G OPERATORS	4	1 MM US\$
ASSOCIATIONS	2	0.4 MM US\$
STARTUPS	1	0.05 MM US\$
TOTAL	111	82 MM R\$

Successful Partnerships

Spider Robot



UNIDROID



Successful Partnerships



AEVO

Innovation and Strategy Management Platform - 1st CPSI of history of Petrobras



VR Monkey

Offshore training in virtual reality



Flexfitting

Flexible pipe monitoring tool



Lemobs

Health mobile app with an integrated platform - 1st Supply Contract



Moda

Optical Direct Wire Strain Monitoring
Progressive damage monitoring such as sequential wire ruptures

Successful Partnerships



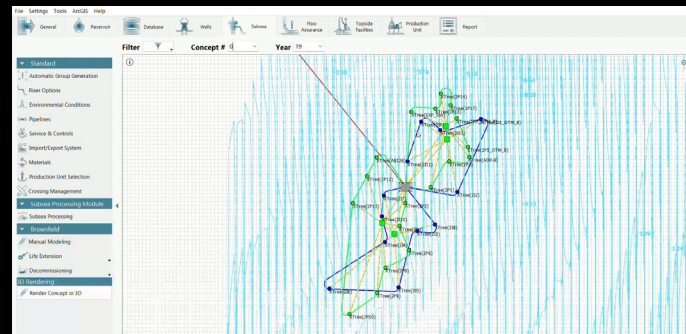
AUV

Autonomous robots for subsea operations

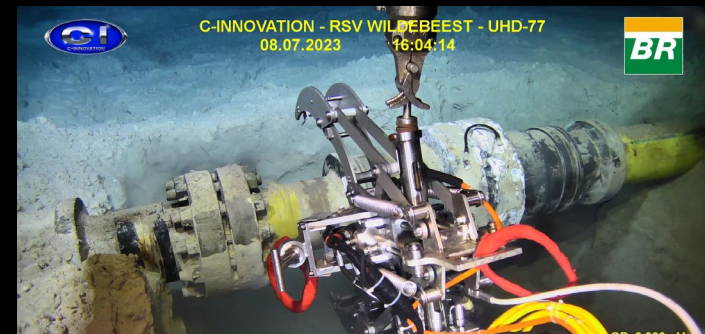
ALFAtwin

Alfatwin

Digital Twin of Artificial Lift and Flow Assurance



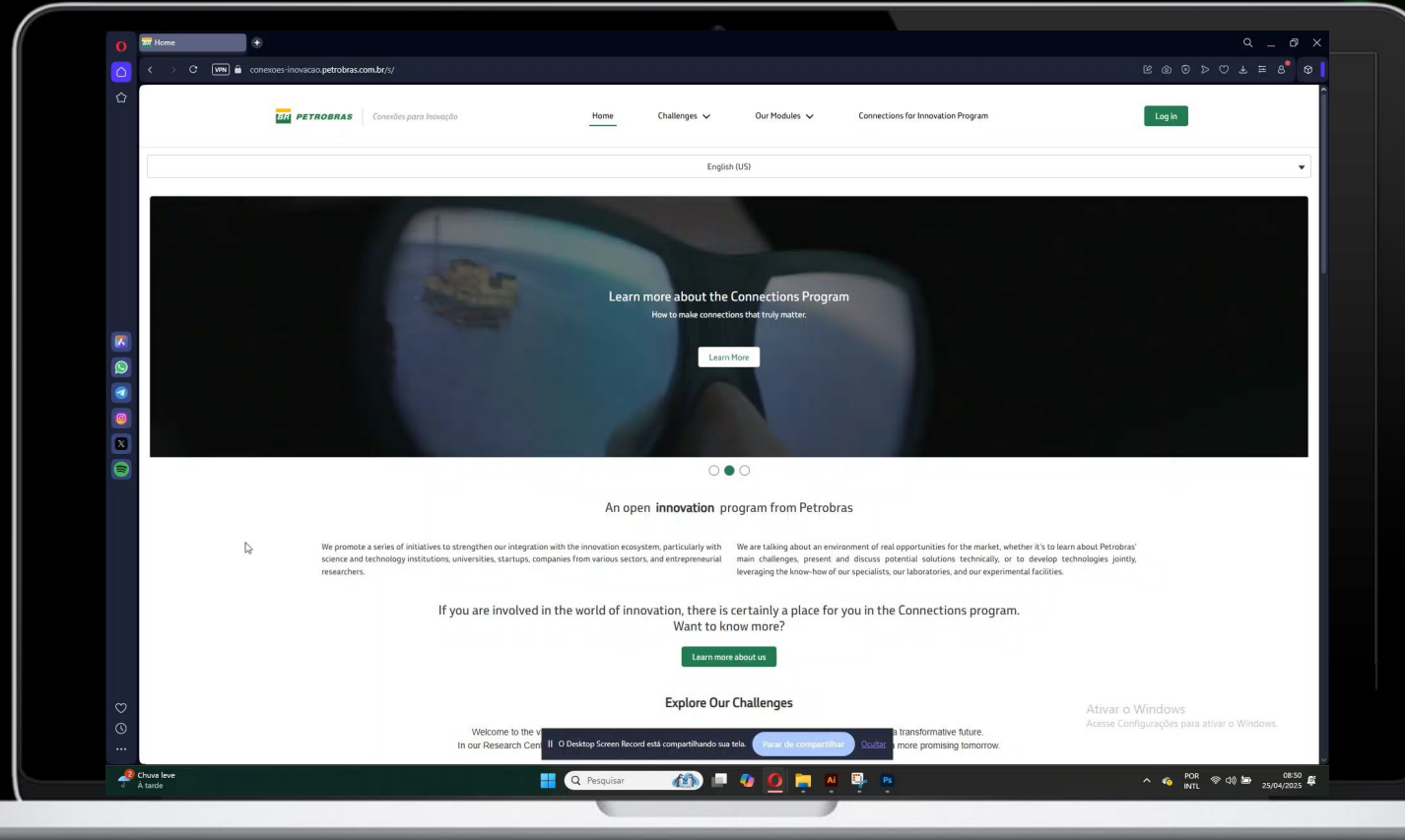
Software for Design and
Evaluation of Production
Development Projects with
Innovation



MDSeal

Make sure you **register** on our **website**
to stay up to date with challenges and news

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conexoes-inovacao.petrobras.com.br/en-US/connections-Innovation



conexoesparainovacao@petrobras.com.br

Examples of **opened** opportunities

Petrobras
connections
for innovation



PCP

Development of
Internal Hydrate
Dissociation
Technologies in
Subsea Systems

PCP

Flexible Pipes for
Deepwater
Applications
(SEAP)

Solution Acquisition

Completion Fluid
for Workover
Applications

Technology Transfer

Vortex-Induced
Motion
Suppression Fins
on SPAR
Platforms

**OBRIGADO
THANK YOU**



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