

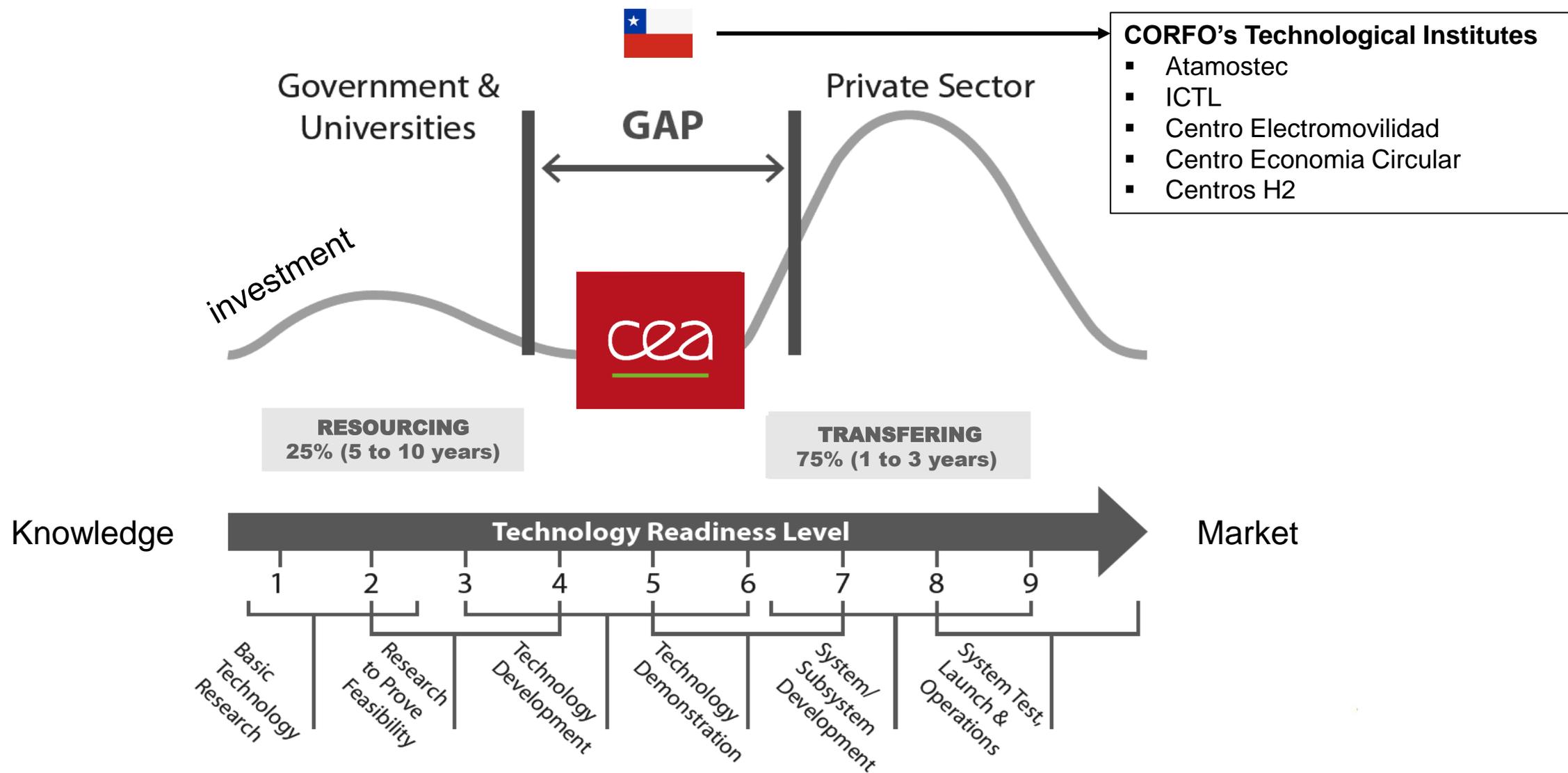


# CEA-LITEN: the French Institute for Energy Transition

R&D partnerships to strengthen the hydrogen industry both in Chile and France

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# FROM RESEARCH TO INDUSTRY : MIND THE GAP !



2005

2010

2020

Transfer to industry

## PV Panels

**Strategic decision**  
Launch of HJT activities

cea

**Proof of concept**



**Demonstrators**



**Transfer to industry**



**enel**  
Green Power

## Electrolyzers

**Strategic decision**  
Launch of SOC activities

cea

**Proof of concept**  
First electrolyzer rSOC



**Demonstrators**



**Transfer to industry**



**GENVIA**

## Fuel cells

**Strategic decision**  
Launch of PEMFC activities

cea

**Proof of concept**  
first stack PEMFC



**Demonstrators**  
From EZ to ~100 vehicles



**Transfer to industry**



**SYMBIO**  
A FAURECIA MICHELIN HYDROGEN COMPANY

**MICHELIN**

**faurecia**  
inspiring mobility

**Objective:** LCOE < 15 USD/MWh in Atacama Desert conditions

Tests platform Lalcktur (1 MWp)



**CEA-Liten contribution in ATAMOSTEC :**

- Founding member
- Design of PV panels adapted to Atacama desert
- Qualification for PV panels → Desert Label
- Modeling and data analysis
- Competitiveness analysis |
- Training, IP Transfer to Chile
- Brought one of its industrial partners to the project (Enel)

Outdoor lab - PSDA (Plataforma Solar del Desierto de Atacama)



## ICTL : THE CHILEAN INSTITUTE FOR CLEAN TECHNOLOGIES

- Also financed by CORFO, also located in Atacama Desert, ICTL will be created at the end of 2021
- Budget of 193 million USD to build the institute in 10 years

ICTL will focus mainly on :

Solar Energy	Green Mining
<p>Solar Electricity, <b>Solar Fuels</b>, Solar Heat</p>	<p><b>Sustainability in the extraction</b> and processing of minerals;</p> 

2005

2010

2020

Transfer to industry

## PV modules

**Strategic decision**  
Launch of HJT activities



**Proof of concept**



**Demonstrators**



**Transfer to industry**



## Electrolyzers

**Strategic decision**  
Launch of SOC activities



**Proof of concept**  
First electrolyzer rSOC



**Demonstrators**



**Transfer to industry**



## Fuel cells

**Strategic decision**  
Launch of PEMFC activities



**Proof of concept**  
first stack PEMFC



**Demonstrators**  
From EZ to ~100 vehicles



**Transfer to industry**



The CEA logo is a red square with the lowercase letters 'cea' in white, with a thin green horizontal line underneath the letters.

# GRACIAS

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**Gracias y bienvenidos a visitar nuestras instalaciones en los Alpes franceses!**