

A man with dark hair and a beard is focused on working on a robotic arm in a laboratory setting. He is wearing a dark shirt and is using a pair of pliers to adjust a component on the arm. The arm is made of metal and has various wires and sensors attached to it. The background is dark and out of focus, showing shelves with various items. The overall lighting is blue and dim, creating a high-tech, industrial atmosphere.

ENGie

The Energy Revolution

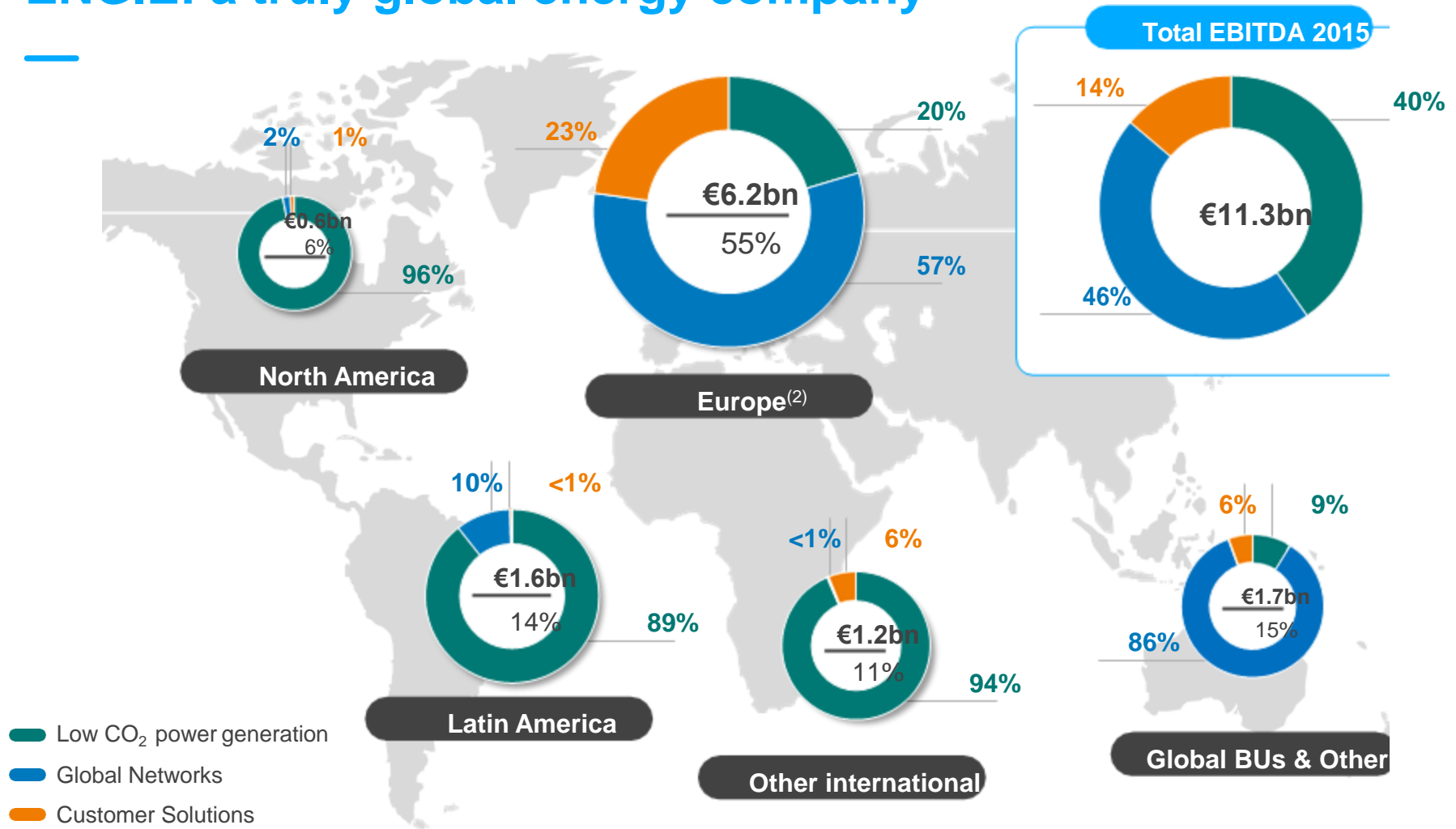
01

Introducing ENGIE and the Energy Revolution

ENGIE



ENGIE: a truly global energy company



ENGIE today: a bold transformation into new energy models

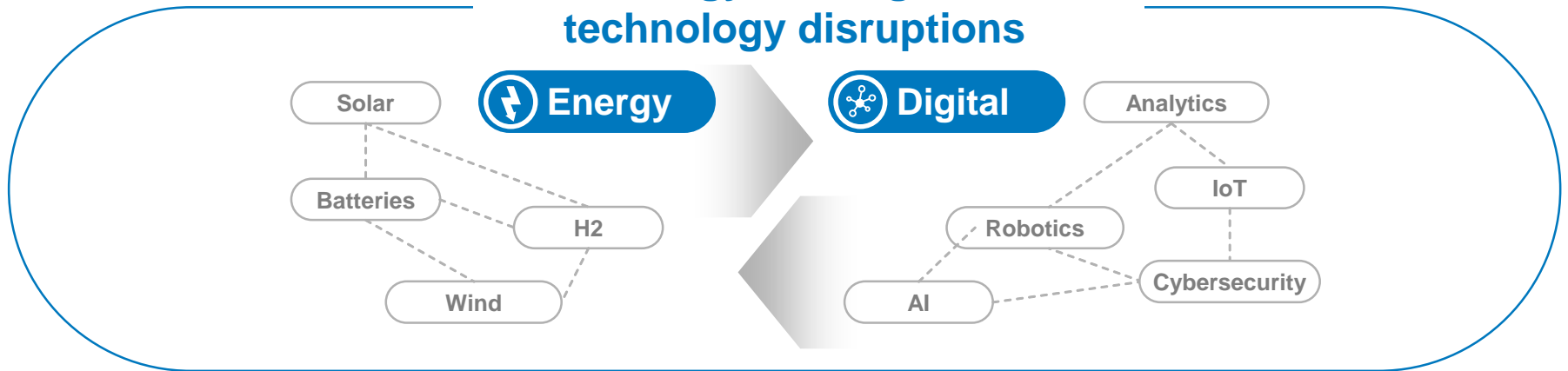


ENGIE tomorrow: “Full 3D”, showing the way into the Energy Revolution



The Energy Revolution: when technology changes everything

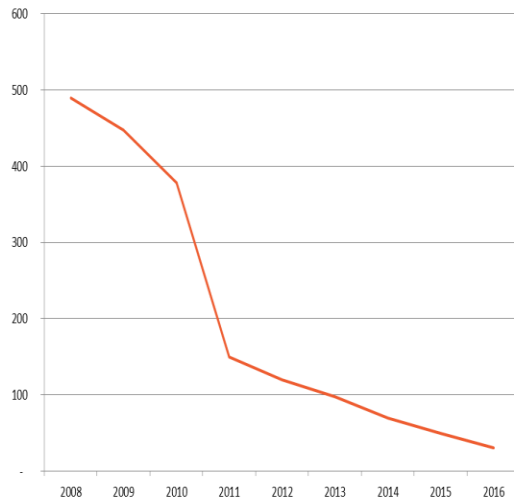
Energy and Digital technology disruptions



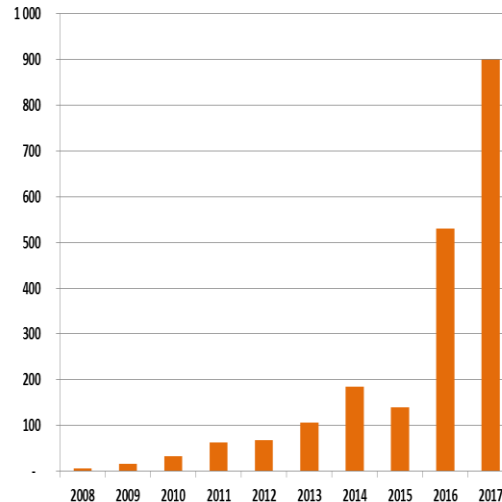
DISRUPTIVE BUSINESS MODELS

Solaredirect, competitive solar and entrepreneurial growth: the perfect match for ENGIE's Energy Revolution strategy

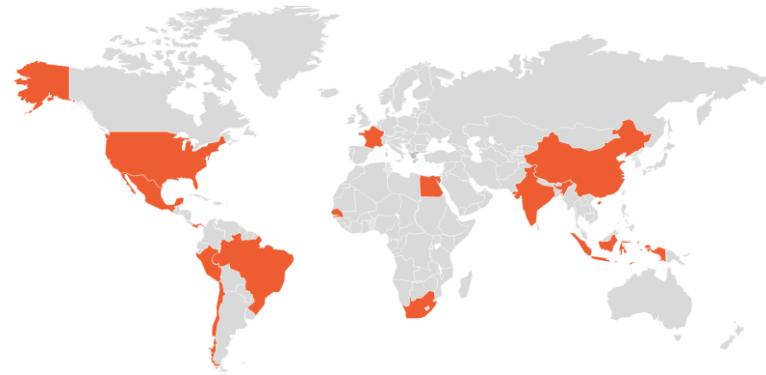
Incredible achievements in generation costs (\$/MWh)



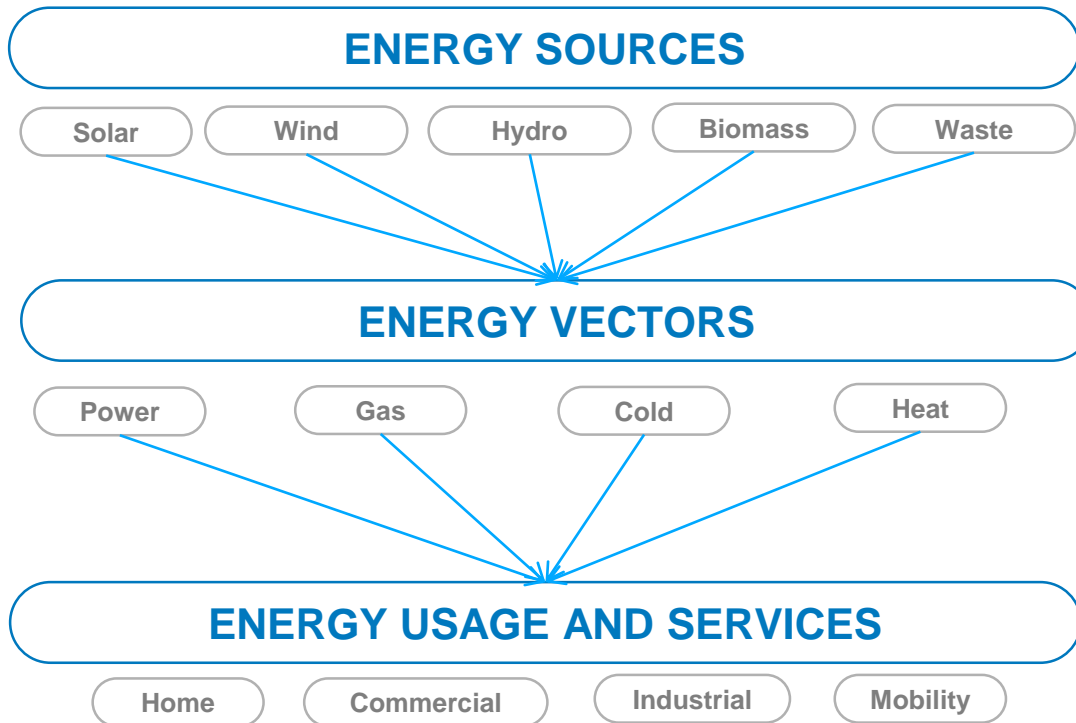
Exponential growth (MW installed per year)



A truly global footprint



The Energy Revolution: a systemic vision, ushering a new era of energy abundance, affordability and service for all





The Energy Revolution: five tsunamis

ENGIE

The technology adoption J curve: do you remember the combustion engine?



New York City
1900



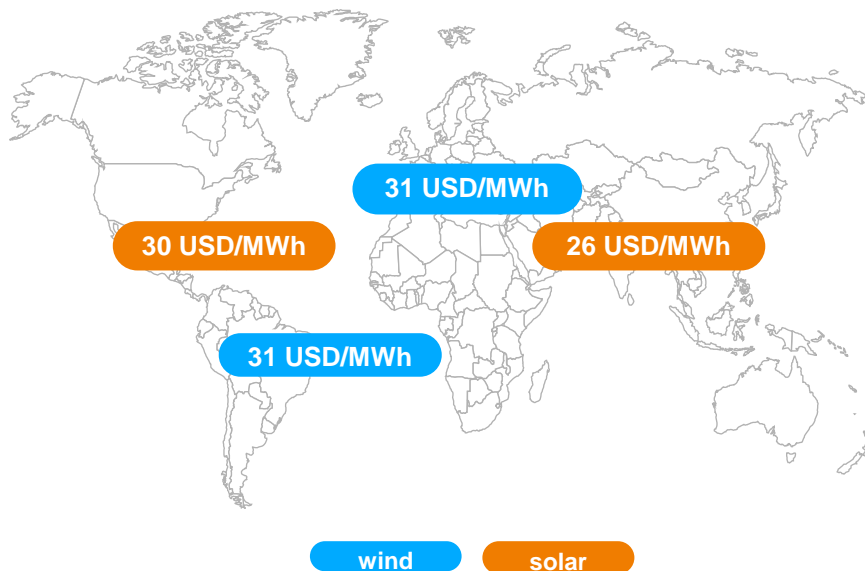
New York City
1913

Tsunami #1: super-competitive solar and wind bringing energy costs (and prices) closer to zero

Wind and solar now far cheaper than conventional energy sources

New technologies bring the promise of nearly infinite, quasi-free energy

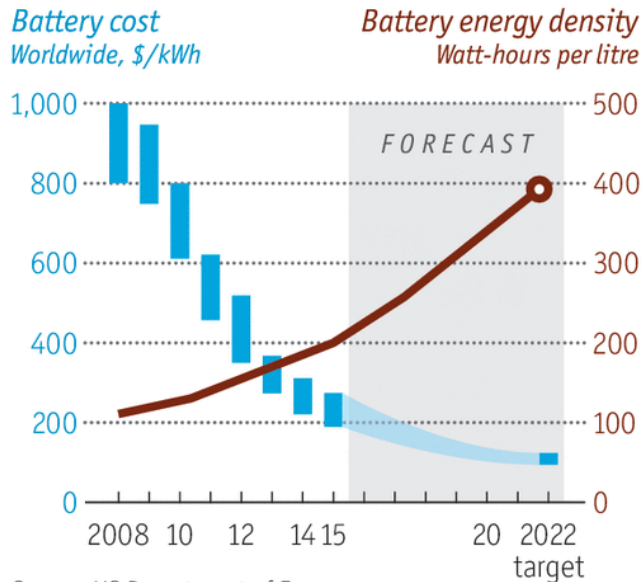
Price of MWh of recent wind and solar tenders



Tsunami #2: battery storage technologies in a solar-like cost and volume race

Battery costs and energy density

The road to viability

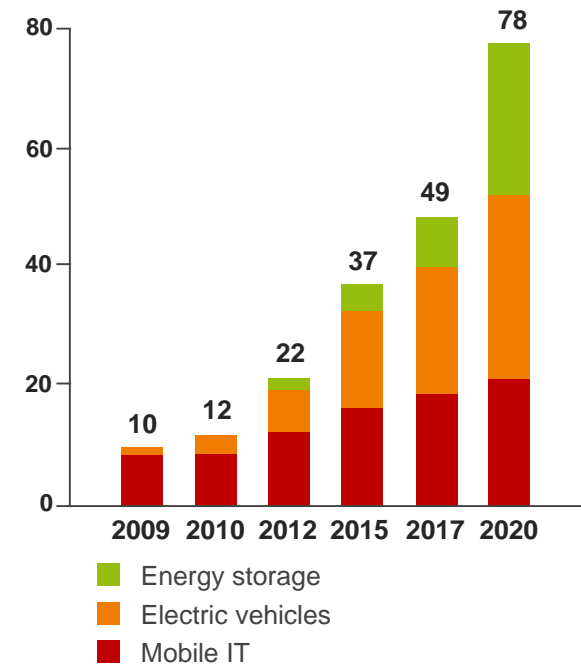


Source: US Department of Energy

Economist.com

Perspectives of the Lithium-Ion battery market

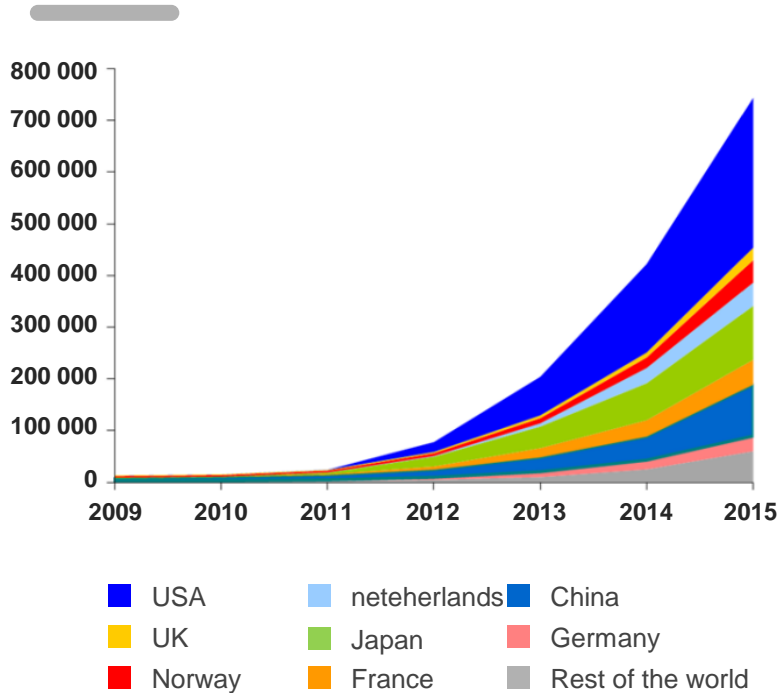
(Unit: \$billion)



Source: International Information Technology

Tsunami #3: electric and digital mobility in an exponential drive

Number of electrical vehicles in the world

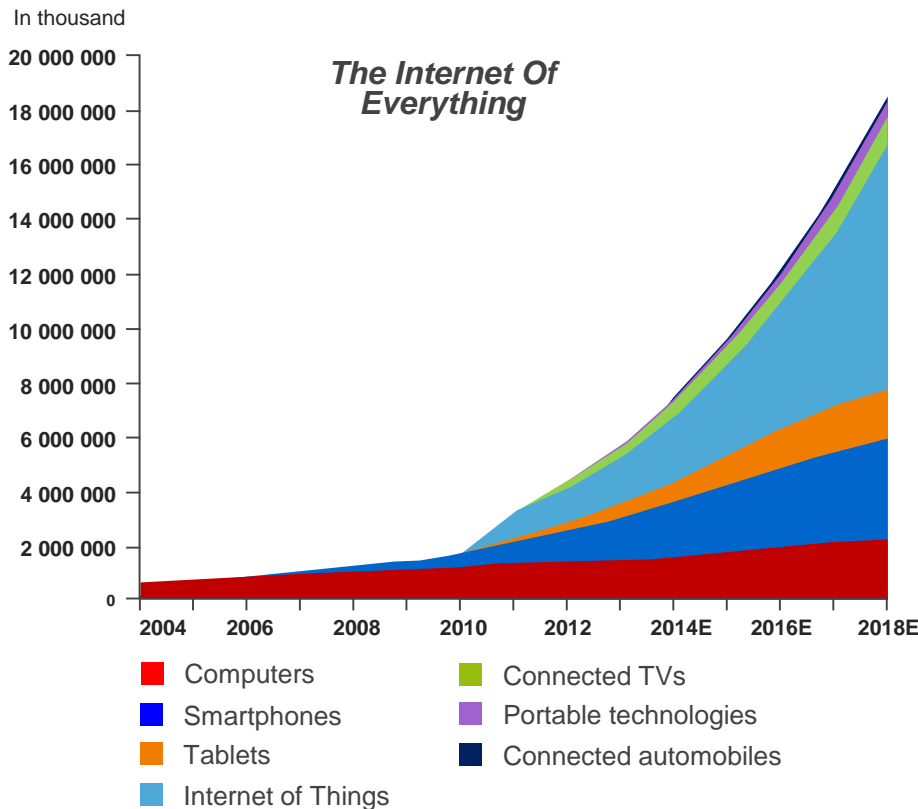


Source: Centre for Solar Energy and Hydrogen Research

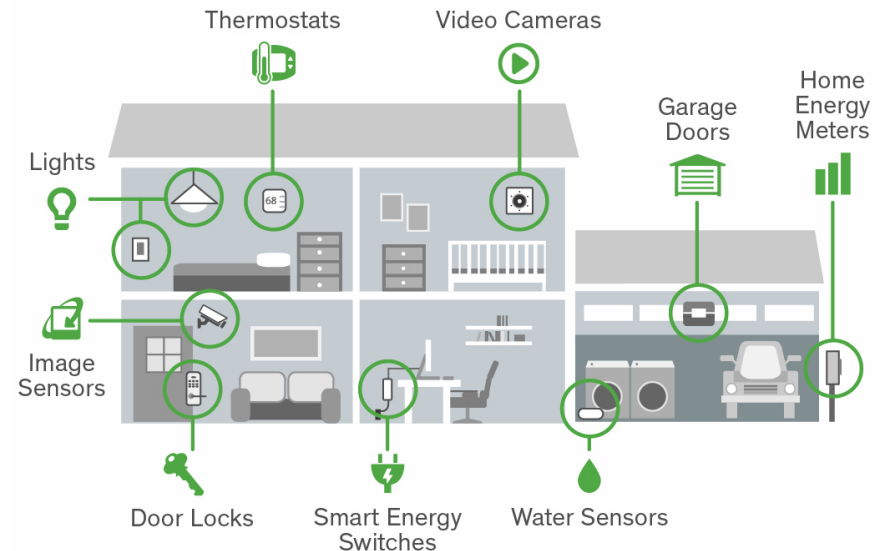


Tsunami #4: The internet of things and big data turning homes and buildings into active participants in the energy system

Number of connected objects
in the world



Source: BI Intelligence Estimates



Tsunami #5: new hydrogen technologies and the incoming substitution of fossil fuels

5 technology disruptions

- ① **Energy sources**
(ultra-competitive energy sources)
- ② **Generation**
(electrolysis technologies)
- ③ **Storage**
(pressurized and in saline cavities)
- ④ **Conversion into power**
(fuel cells)
- ⑤ **Applications**



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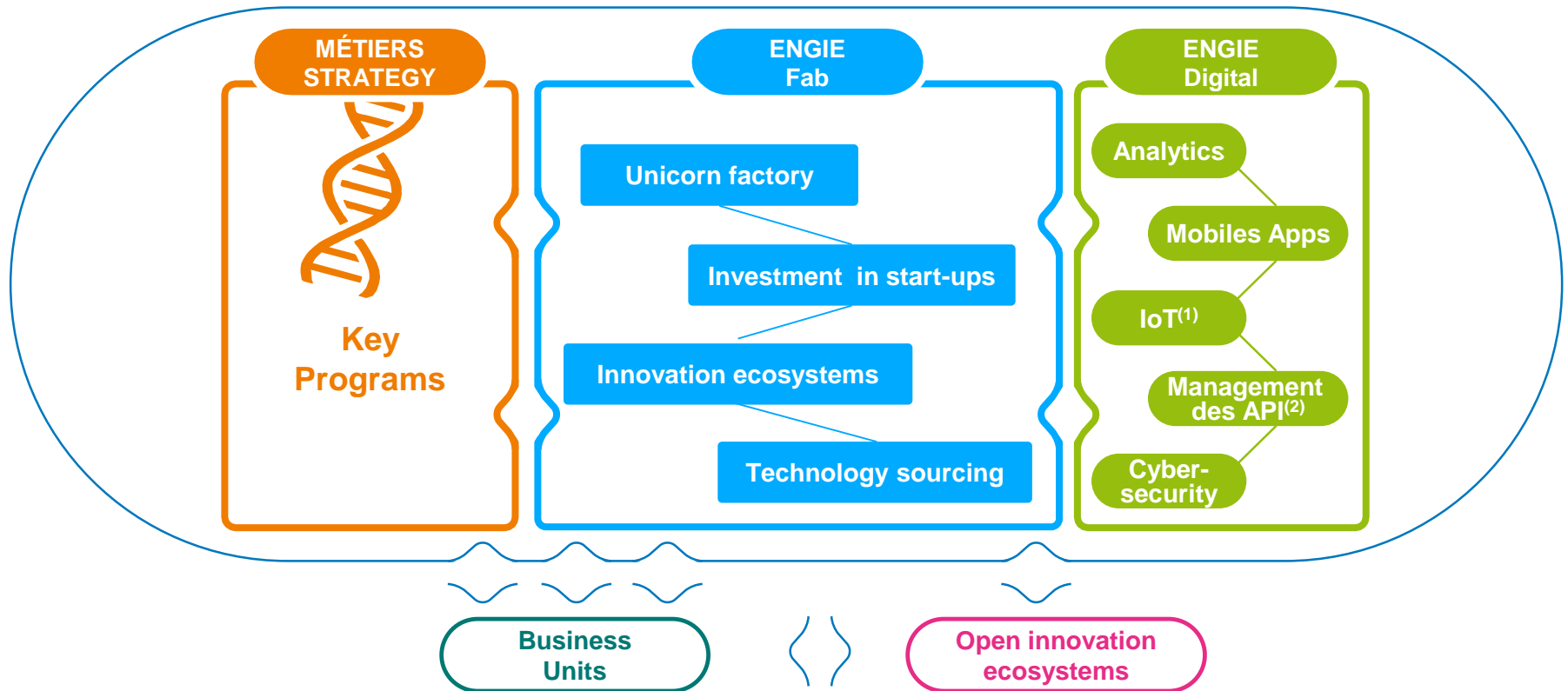
03

ENGIE Fab: the businesses of the Energy Revolution

engie

ENGIE Fab: a one-of-a kind initiative to build the business models of the Energy Revolution

ENGIE Fab: positioning ENGIE as a leader of the Energy Revolution through global energy technology businesses in synergy with other ENGIE entities



EngieFab: five verticals and a systemic vision of a full 3D energy world

