

# Value creation through Innovation

# STRATEGY UPDATE

## Saipem's Strategic pillars

## ACTIONS

1 Business portfolio refocus

2 De-risking the business model

3 Cost optimisation & process efficiency

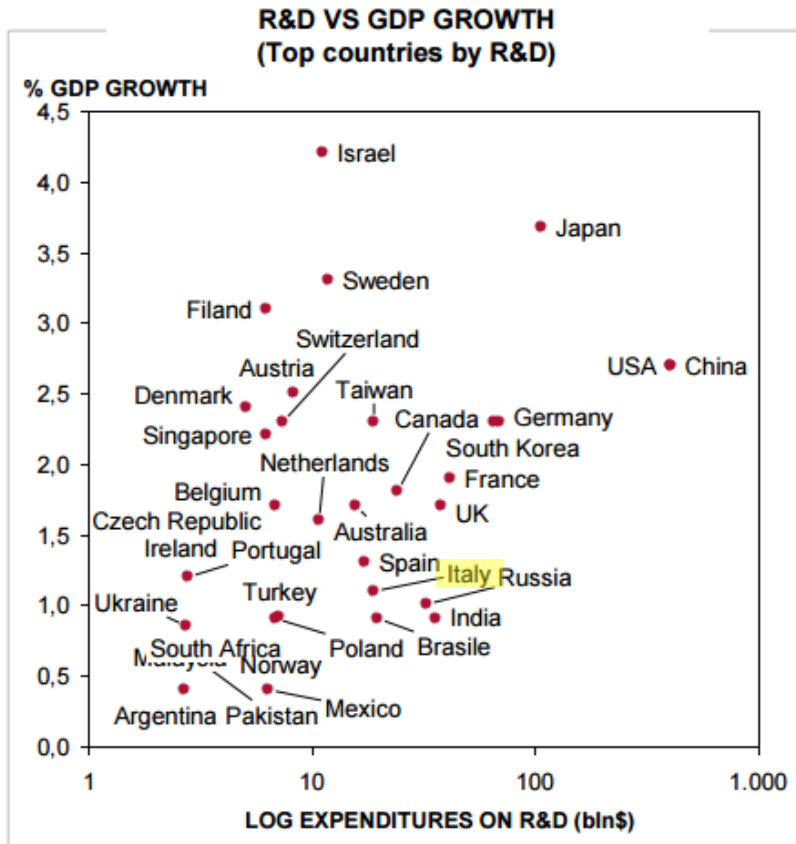
4 Technology and innovation

5 Debt reduction and capital discipline

- FIT FOR THE FUTURE 2.0
  - NEW BUSINESS MODEL IMPLEMENTATION
  - 2015 COST OPTIMISATION PROGRAMME €1.7BN PROCEEDING AS SCHEDULED
- ASSET BASE RATIONALIZATION
- COMMERCIAL SELECTIVITY
- ENHANCING INNOVATION CULTURE
- BUDGET INCREASE
- FOCUS ON COST-EFFECTIVE SOLUTIONS
- FOCUS ON WORKING CAPITAL MANAGEMENT
- CAPEX CONTROL

# Why Saipem must always keep innovating?

Correlation between  
Innovation and Growth



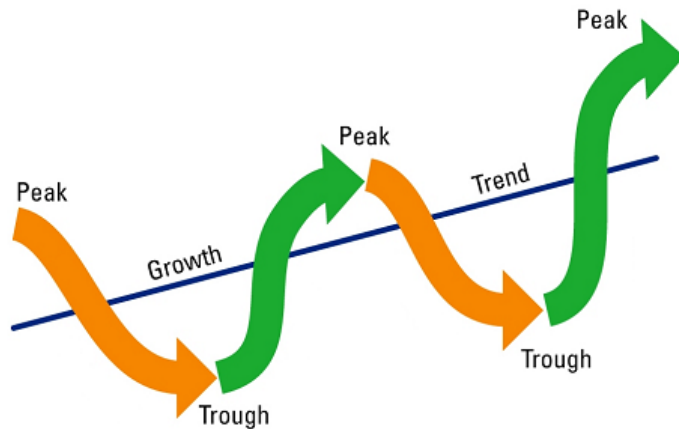
Source: Accenture, 2016

Innovation is  
necessary to Survive

**Rank FORTUNE 500 - 2000 vs 2016**

Company	Rank 2000	Rank 2016	Change
Apple	284	3	↑
Amazon	Not Present	18	↑
Valero	229	32	↑
Google	Not Present	36	↑
Morgan Stanley	30	78	↓
Motorola	37	451	↓
Dell	56	Not Present	↓
Xerox	87	150	↓
Kodak	124	Not Present	↓

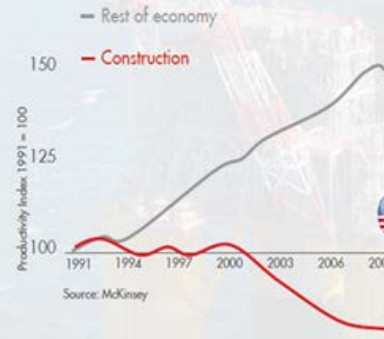
# Our industry current scenario



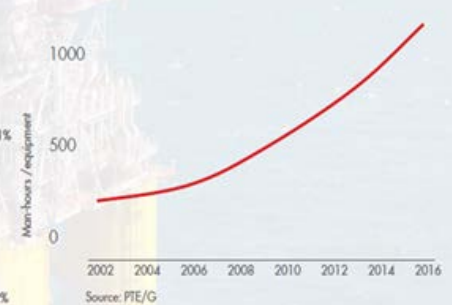
CONSTRUCTION PRODUCTIVITY NEEDS TO BE INCREASED BY EFFECTIVE PLANNING AND ELIMINATING WASTE

ENGINEERING PRODUCTIVITY CAN BE IMPROVED BY SIMPLIFYING PROCESSES AND AVOIDING REWORK

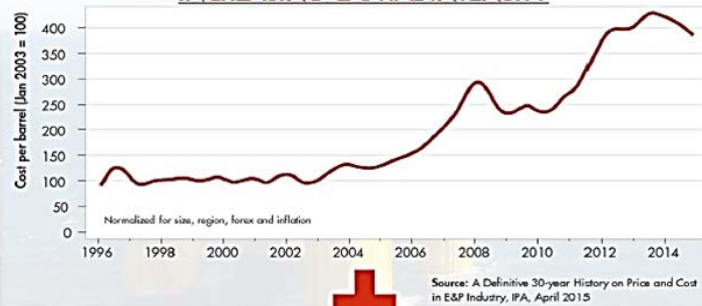
Industry Construction Productivity



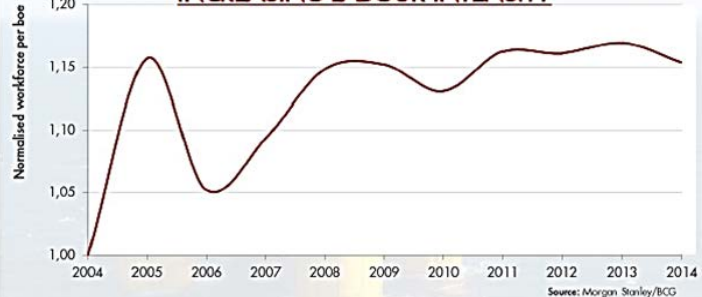
Shell FEED Engineering man-hours over time.



## INCREASING CAPITAL INTENSITY



## INCREASING LABOUR INTENSITY

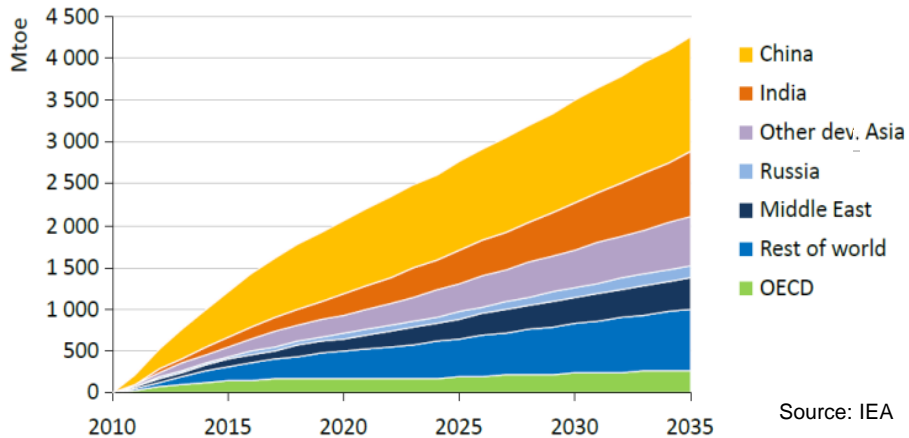


## Over the last 10 years

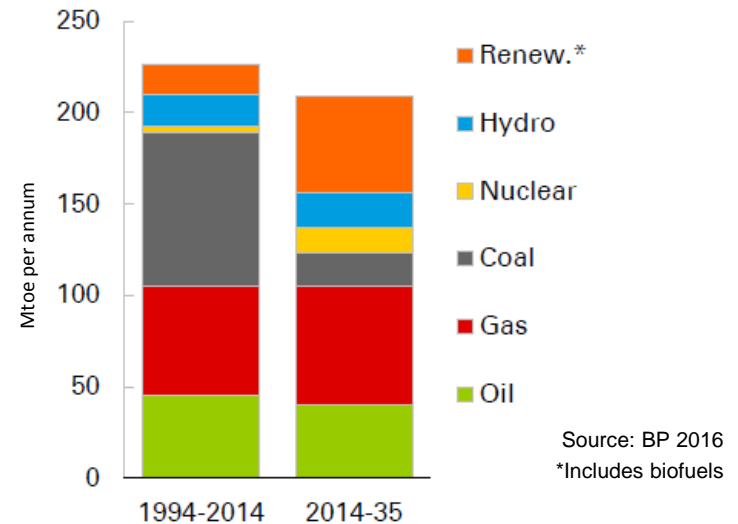
- Project cost increased **5-fold**
- Productivity declined
- Project schedule slippage increased **1-2 yrs**
- Construction cost **25% -> 50%** of EPC
- Craft labour ~ **30% to 40%** of project budget
- Competition stronger than ever
- O&G projects increasingly complex

# Our industry future scenario

## GLOBAL ENERGY DEMAND



## ANNUAL DEMAND GROWTH BY SOURCE



LOWER  
QUALITY  
OIL



# Our way to cope with both scenarios

## Short period

driven by **PROJECTS**

- increase efficiency
  - boost productivity
  - increase market coverage
- } costs reduction

## Med/Long period

driven by **MACRO-SCENARIOS**

- prepare for the future challenges

## DIGITAL TRANSFORMATION

increase efficiency

offer new value propositions

# Our Strategic Roadmap - Offshore business

## **SUBSEA** as a prime area of election by

- EXTENDING**
- our business footprint into **SUBSEA PROCESSING**
  - **TIE-BACKS** and Subsea-to-Shore distances, Ultra Deep Waters
  - our **URF EPCI** offering into the **LIFE OF FIELD**

Exploit the growing **DECOMMISSIONING** business

Consolidate our leadership in **T&I and TRUNKLINE**

Diversify in **RENEWABLES** market (Offshore Wind Farms)

Complement our **FLEET capabilities** with equipment, enabling or optimizing installation and maintenance operations

Explore **GAME CHANGING** innovative solutions

# Our Technology Roadmap - Subsea

A combination of **NEW TECHNOLOGIES**

into new, more efficient **FIELD ARCHITECTURES**

moving **TOPSIDE** operations onto the **SEABED**

extending the **DISTANCES** from the main infrastructures

and offering **LIFE-of-FIELD** service business model



ACTIVE LOCAL HEATING



MULTIPIPE

SINGLE INDEPENDENT RISER



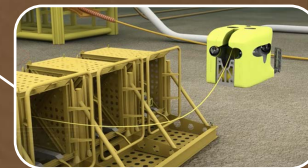
HEATED PIPE-IN-PIPE

SPOOLSEP

SPRINGS®  
(with TOTAL & VEOLIA)

PLASTIC LINED PIPE

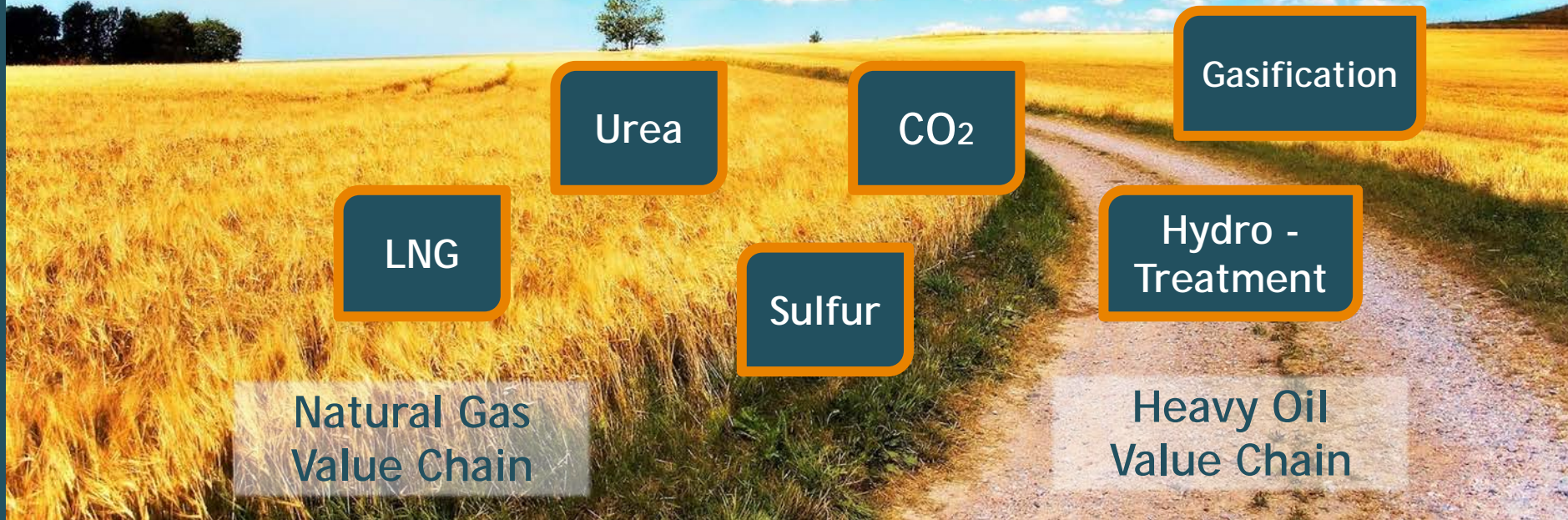
HYDRONE



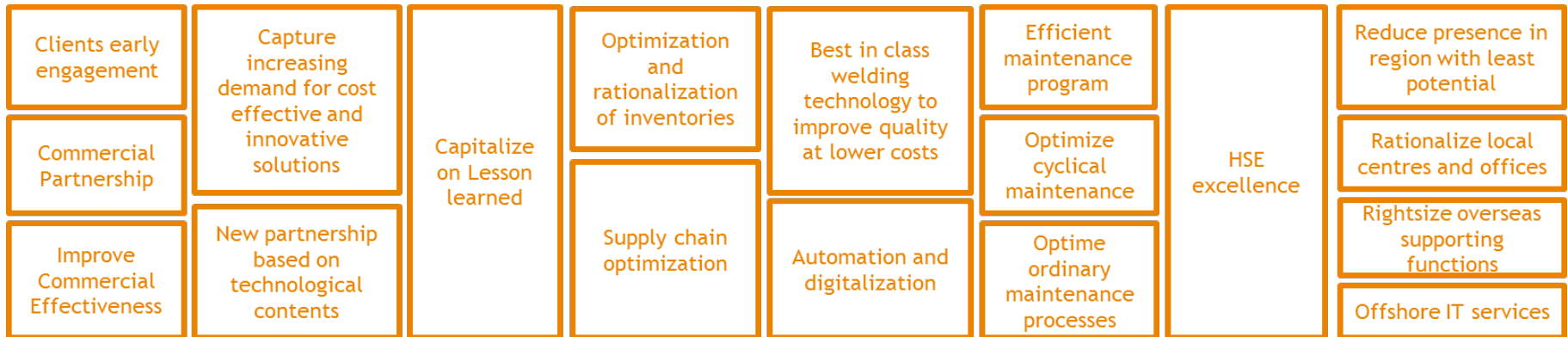


# Our Strategic Roadmap - Onshore business

- Oil "*Bottom of the Barrel*" conversion and by-products value enhancement
- Monetization of Natural Gas
- CO<sub>2</sub> capture, Energy Efficiency improvement



# Our Strategic Roadmap - Digital Transformation



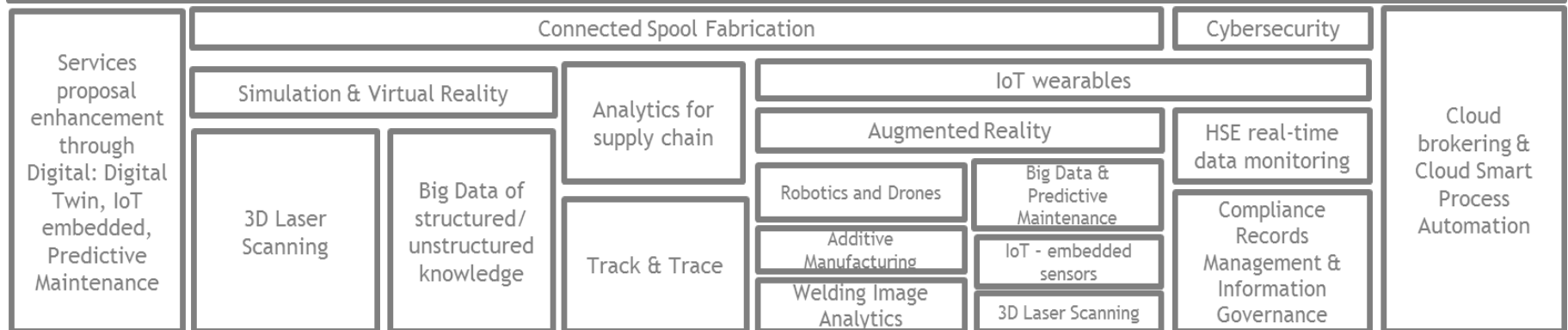
Continuous Improvement (process & technology)

Optimize workforce and office spaces

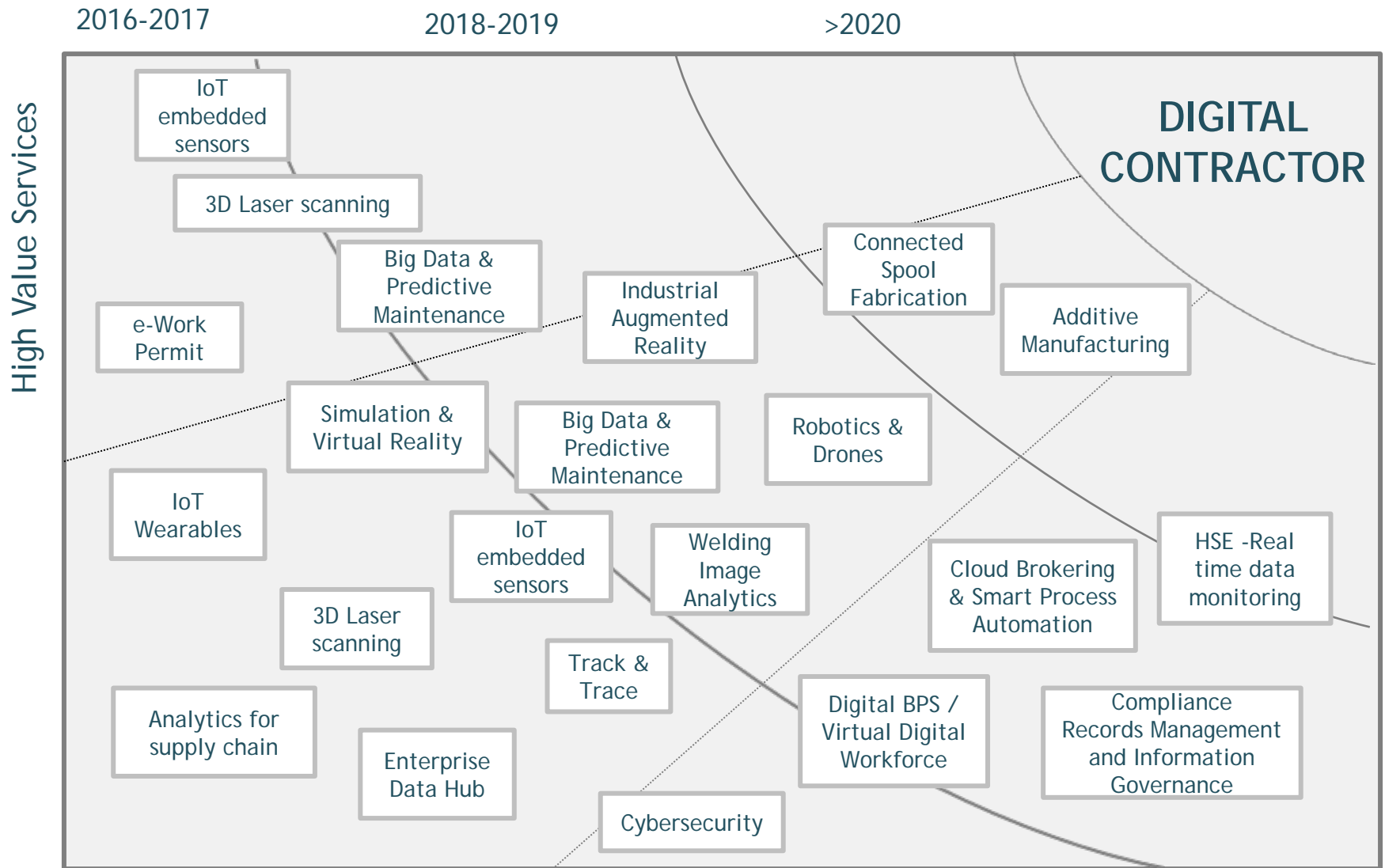


Virtual Digital Workforce

Enterprise Data Hub



# Digital Transformation Agenda



# Technology Development 1/4



**Corporate Technology Innovation**



**Technology Innovation Centers**



**Technology Application Execution**



**ROVs/Subsea Engineered Systems**



**Technology Lab**



**250,000+**

worked hours by year



# Technology Development 2/4



\* referred to 2012-16 timeframe

## Technology Innovations

accounted within the formal R&D budget

## Technology Applications

development activities done in commercial or investment projects (i.e. offshore fleet)

# Technology Development <sup>3/4</sup>

## PATENTS PORTFOLIO (December 2016)



36

NEW PATENTS FILED IN 2016

334 PATENT FAMILIES

2308 PATENTS IN FORCE

## LICENSED PROPRIETARY TECHNOLOGIES



MTBE + derived techs

42 LICENSED UNITS  
(ECOFUEL co-owner)

REFINERY/PETROCHEMISTRY



134 LICENSED UNITS

+60 REVAMPED UNITS

+66 EX MONTEDISON

*Snamprogetti*<sup>TM</sup> UREA TECHNOLOGY

# Technology Development 4/4

JOINT INDUSTRY PROJECTS

>60 43 ongoing

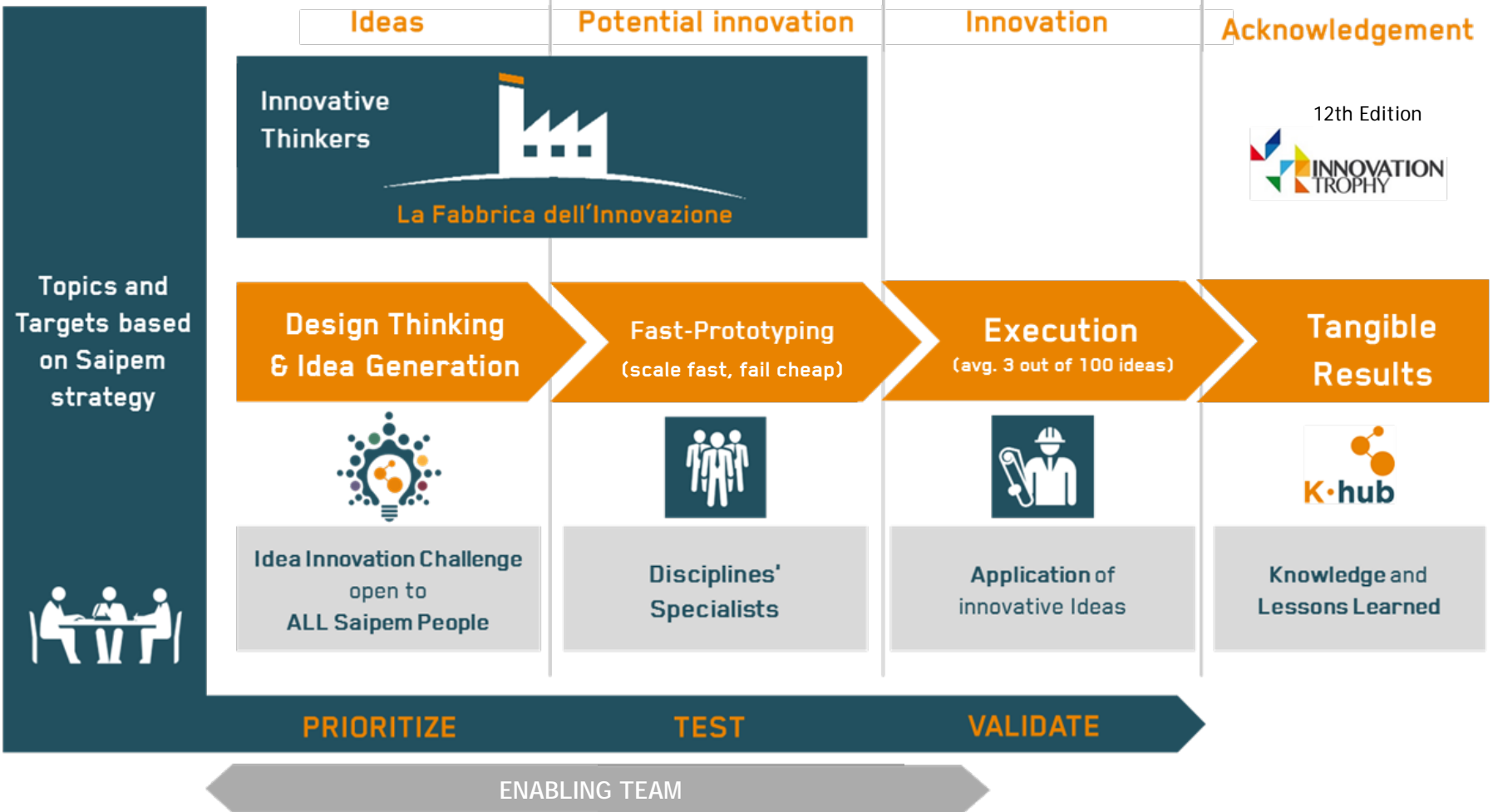
from 2013 to 2016



## COLLABORATIONS WITH UNIVERSITIES, SPIN-OFFS, RESEARCH CENTERS, INSTITUTES



# Transformative Innovation 1/4





# Transformative Innovation 2/4

- Innovative thinkers collaborating with cross-disciplines specialists on strategic themes
- A network of competencies to co-innovate with the ecosystem
- Processes re-design, digital technologies as enabler



## VISIONARI

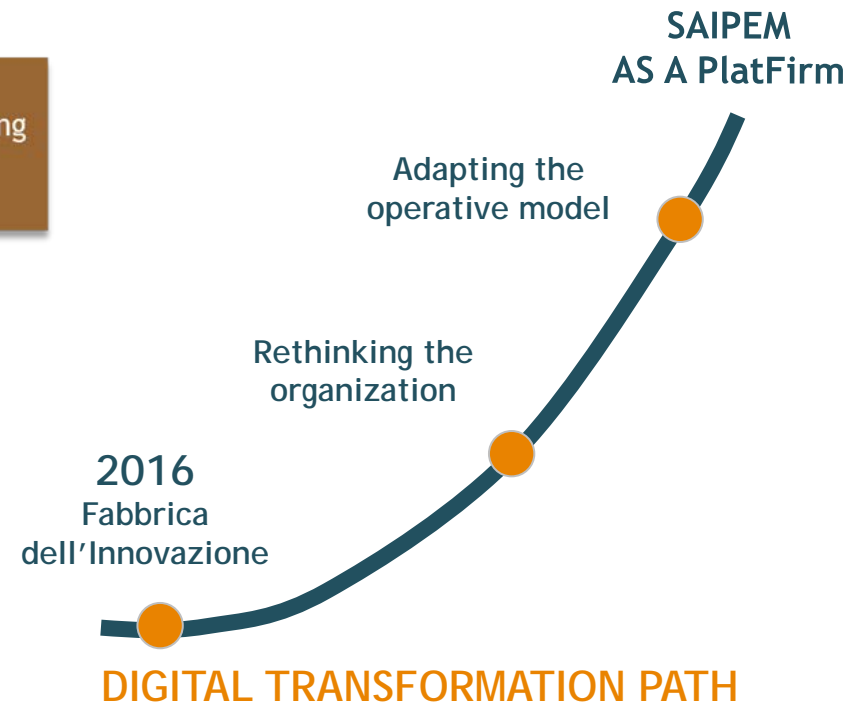
- Lateral thinking
- Entrepreneurial attitude
- Cultural greediness
- Passion

## PROGETTISTI

- Analysis
- Creative problem solving
- Empiricism
- Perseverance

## CONNETTORI

- Team-working
- Charism
- Smart risk-taking
- Flexibility



## Proof of Concepts

ENGINEERING

PROCUREMENT

CONSTRUCTION

OPERATIONS &  
MAINTENANCE



BIG DATA, ANALYTICS and MACHINE LEARNING



VIRTUAL REALITY and PROCESS SIMULATION



AUGMENTED REALITY



E-P-C DIGITAL COLLABORATIVE PLATFORM



INTERNET OF THINGS and TRACKING



DRONES and UNMANNED VEHICLES



INDUSTRIAL PROCESS AUTOMATION



REMOTE SUPPORT CENTER



## Idea Innovation Challenge

solve specific business challenges through crowdsourcing

Connect People  
+  
Foster Collaboration  
+  
Share Ideas



### 1<sup>st</sup> Edition RESULTS

<u>NEW IDEAS</u>	GENERATORS	33
40	DEVELOPERS	20
	RESPONDING COUNTRIES	19

A crowd-innovation initiative open to the external ecosystem will be launched soon

# Technology Intelligence 1/1

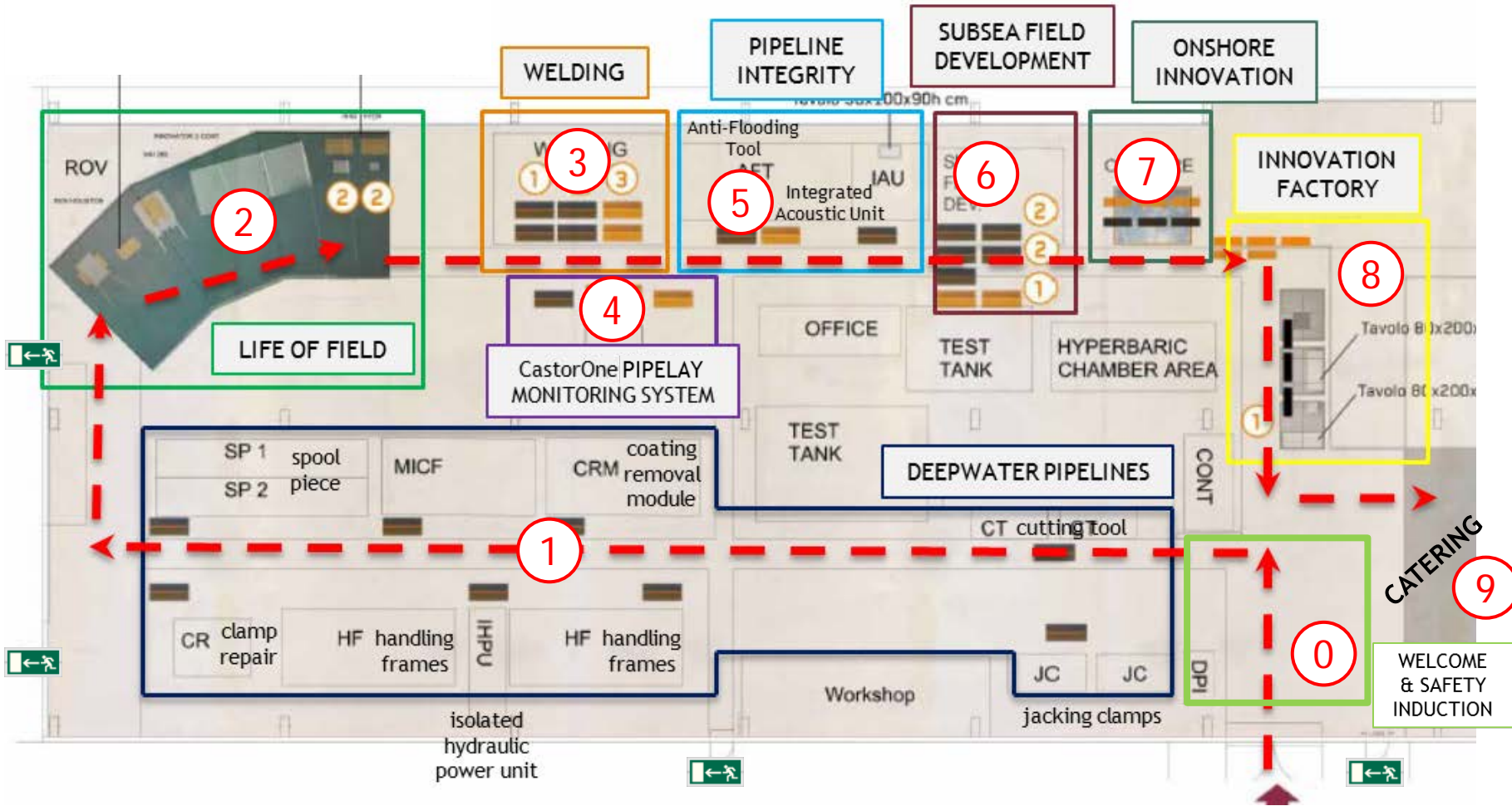
**TARGET** scout disruptive technologies  
chase new value propositions  
discover growth opportunities

**SOURCES** universities  
R&D centres  
start-ups  
traditional O&G partners  
non-O&G firms

*Want Find Get Manage Model® - Slowinski 2004*



# TECHNOLOGY EXPERIENCE



# Are you too busy to Innovate?

