

Leveraging new technologies

Marie-Noëlle Semeria

Senior Vice President Research & Development

Leading the way on innovation

Industrial digital

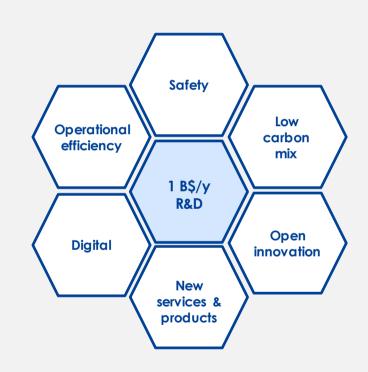
- Robotics
- Artificial Intelligence with Google
- Refinery 4.0
- Smart rooms

Digital marketing

- Digital mobility
- Blockchain
- Smart electricity

Open Innovation

- Joint initiatives on carbon capture
- With start-ups and funds





Robotics

Contributing to safety and targeting cost reductions of 20%



Inspection robot

Carry out inspections and detect equipment failures

Autonomous underwater vehicle

Autonomous pipeline inspection with no surface support

Submarine robot

Autonomous glider technology for low cost ocean exploration

Seismic drone

High density and high quality seismic data acquisition



Artificial Intelligence to improve efficiency in Geoscience Total & Google join forces

30 experts from Total & Google at Sunnyvale, California

~400 M\$/y budget for seismic acquisition & interpretation/studies

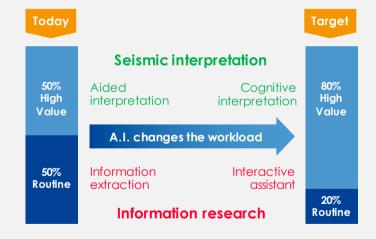
Goal is to accelerate data treatment

Shifting the workload to high value tasks

Potential to **expand the partnership** to other domains



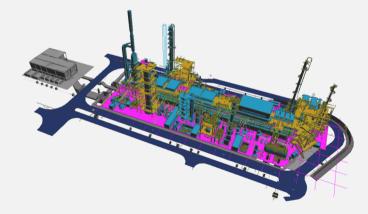




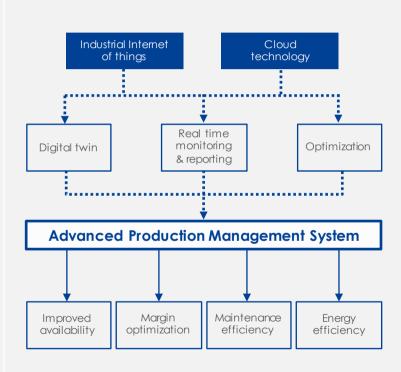
Refinery 4.0 Leveraging digital for efficiency

Digital innovation center in India

- Together with TATA Consultancy services, leader in India
- 30 experts mobilized
- Pilot project in Donges refinery



Ongoing initiatives in other domains



Smart rooms

Reducing costs through collaboration and technology

Collaborative technological environments

- Remote control and monitoring
- Improved access to data
- Quicker problem solving
- Enhanced troubleshooting services

25 Smart rooms deployed across the Group

- Main assets (Angola, U.K., Nigeria)
- Technology centers for rotating equipment, drilling operations and metering





Digital mobility

Transforming our transportation business

Mobile payment via Total wallet

• 1,000 stations in Europe by end 2018

Fleet management system

Acquisition of start-up WayKonect

B2B Internet of Things low cost solutions



Blockchain

Using blockchain to improve trading efficiency

Blockchain platform for trading

Joint initiative with 9 major European energy companies

Initial trading cost gain: -20%

Opportunities in other domains

 CO2 tracking, green electricity origin tracking, customer data management...



Smart electricity

Direct Energie, digital expertise to build a profitable low carbon business

Innovative services simplifying customer's life

Low price digital model

- Only 320 employees for ~3 M customers
- Efficient cost of acquisition of a new customer at < 80 €

Established reputation through quality service

Diversity of acquisition channels, with digital marketing in-house expertise (web, social media)





Transforming client relationship through digital





Carbon capture

Accelerate deployment of CCUS technologies through open innovation

Northern Lights in Norway

- First integrated industrial-scale project
- FID 2020/21-start up 2023/24

Chemical looping combustion

- Financial support from China & EU
- 3 MW demonstration unit planned

Research with Stanford & Lawrence Livermore National Laboratory

- Enable CO2 storage at gigaton scale
- 20 M\$ over 5 yrs

Targeting 10% of R&D budget on CCUS



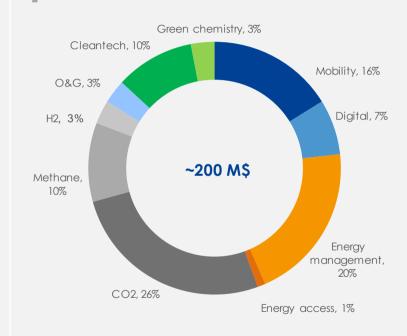
Energy start-ups & funds Pushing the boundaries of innovation

Open innovation across regions and sectors

New focus on start-ups in China

- Largest innovative market in the mobility sector and new energies
- 75 M\$ commitment

Innovation across energy sectors



^{* %} based on book values in start-ups & commitment in funds



Disclaimer

This document may contain forward-looking information on the Group (including objectives and trends), as well as forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, notably with respect to the financial condition, results of operations, business, strategy and plans of TOTAL. These data do not represent forecasts within the meaning of European Regulation No. 809/2004.

Such forward-looking information and statements included in this document are based on a number of economic data and assumptions made in a given economic, competitive and regulatory environment. They may prove to be inaccurate in the future, and are subject to a number of risk factors that could lead to a significant difference between actual results and those anticipated, including the price of petroleum products, the ability to realize cost reductions and operating efficiencies without unduly disrupting business operations, changes in regulations including environmental and climate, currency fluctuations, as well as economic and political developments and changes in business conditions. Certain financial information is based on estimates particularly in the assessment of the recoverable value of assets and potential impairments of assets relating thereto.

Neither TOTAL nor any of its subsidiaries assumes any obligation to update publicly any forward-looking information or statement, objectives or trends contained in this document whether as a result of new information, future events or otherwise. Further information on factors, risks and uncertainties that could affect the Group's business, financial condition, including its operating income and cash flow, reputation or outlook is provided in the most recent Registration Document filed by the Company with the French Autorité des Marchés Financiers and annual report on Form 2D-F filed with the United States Securities and Exchange Commission ("SEC").

Financial information by business segment is reported in accordance with the internal reporting system and shows internal segment information that is used to manage and measure the performance of TOTAL. In addition to IFRS measures, certain alternative performance indicators are presented, such as performance indicators excluding the adjustment items described below (adjusted operating income, adjusted net operating income, adjusted net income), return on equity (ROE), return on average capital employed (ROACS) and gearing ratio. These indicators are meant to facilitate the analysis of the financial performance of TOTAL and the comparison of income between periods. They allow investors to track the measures used internally to manage and measure the performance of the Group. These adjustment items include:

(i) Special items

Due to their unusual nature or particular significance, certain transactions qualified as "special items" are excluded from the business segment figures. In general, special items relate to transactions that are significant, infrequent or unusual. However, in certain instances, transactions such as restructuring costs or asset disposals, which are not considered to be representative of the normal course of business, may be qualified as special items atthough they may have occurred within prior years or are likely to occur again within the coming years.

(ii) Inventory valuation effect

The adjusted results of the Refining & Chemicals and Marketing & Services segments are presented according to the replacement cost method. This method is used to assess the segments' performance and facilitate the comparability of the segments' performance with those of its competitors.

In the replacement cost method, which approximates the LIFO (Last-In, First-Out) method, the variation of inventory values in the statement of income is, depending on the nature of the inventory, determined using either the month-end price differentials between one period and another or the average prices of the period rather than the historical value.

The inventory valuation effect is the difference between the results according to the FIFO (First-In, First-Out) and the replacement cost.

(iii) Effect of changes in fair value

The effect of changes in fair value presented as an adjustment item reflects for some transactions differences between internal measures of performance used by TOTAL's management and the accounting for these transactions under IFRS.

IFRS requires that trading inventories be recorded at their fair value using period-end spot prices. In order to best reflect the management of economic exposure through derivative transactions, internal indicators used to measure performance include valuations of trading inventories based on forward prices.

Furthermore, TOTAL, in its trading activities, enters into storage contracts, which future effects are recorded at fair value in Group's internal economic performance. IFRS precludes recognition of this fair value effect.

The adjusted results (adjusted operating income, adjusted net operating income, adjusted net income) are defined as replacement cost results, adjusted for special items, excluding the effect of changes in fair value.

Euro amounts presented herein represent dollar amounts converted at the average euro-dollar (ϵ -\$) exchange rate for the applicable period and are not the result of financial statements prepared in euros.

This document also contains extra-financial performance indicators, including a carbon intensity indicator for TOTAL energy sales that measures the weighted average greenhouse gas emissions of energy products sold by TOTAL, from their production in TOTAL facilities to their end use by TOTAL customers. This carbon intensity indicator covers, besides direct GHG emissions of TOTAL (scope 1), indirect GHG emissions (scopes 2 and 3) that TOTAL does not control (for the definitions of scopes 1, 2 and 3, refer to Total's Registration Document).

Cautionary Note to U.S. Investors – The SEC permits oil and gas companies, in their filings with the SEC, to separately disclose proved, probable and possible reserves that a company has determined in accordance with SEC rules. We may use certain terms in this presentation, such as resources, that the SEC's guidelines strictly prohibit us from including in filings with the SEC. U.S. investors are urged to consider closely the disclosure in our Form 20-F, File N° 1-10888, available from us at 2, Place Jean Millier – Arche Nord Coupole/Regnault - 92078 Paris-La Défense Cedex, France, or at our website: total.com, You can also obtain this form from the SEC by calling 1-800-SEC-0330 or on the SEC's website; sec.gov.

