Digital: stepping up value creation

Creation of a Digital Factory in 2020 to accelerate value creation through digital solutions

Impact on Upstream

~1 B$/y*

Impact on Midstream and Downstream

~500 M$/y*

Levers: revenues, availability, costs

* By 2025
Digital in Upstream: ~1 B$/y value creation
Targeting 30 major assets of our portfolio

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<th>Drivers</th>
<th>Examples</th>
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<td>Analytics for Asset Perf.</td>
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<td>Reduce Opex by 5%</td>
<td>Industrial Mobility</td>
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<td><strong>Projects</strong></td>
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<td>Reduce Capex by 5%</td>
<td>AI for Drilling</td>
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<td>Accelerate studies by 6 months</td>
<td>Google partnership on seismic</td>
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<td>HSE performance</td>
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# Digital in Midstream & Downstream: ~500 M$/y value creation

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| **Refining & Petrochemicals** | Energy efficiency, reliability and optimized operations & supply chain  
Refining > 2 $/t  
Petrochemicals > 6 $/t | Refinery 4.0 |
| **Marketing & Services** | New mobility services for non fuel revenues: ~100 M$ | Total Fleet  
besmo |
| **Gaz Renewable & Power** | Support customer base growth ambition to 8 millions  
Optimized operations for gas & renewables production  
~ 200 M$ | Total direct energie  
Energy smart assistant |

HSE performance
A Digital Factory to accelerate value creation
**What is a Digital Factory?**

A **TECH COMPANY** with a **ROBUST DELIVERY ENGINE**

<table>
<thead>
<tr>
<th>Digital Tech Company</th>
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<tr>
<td>• Top talent &amp; skill diversity</td>
</tr>
<tr>
<td>• New digital culture</td>
</tr>
<tr>
<td>• Attractive work environment</td>
</tr>
<tr>
<td>• Lovable &amp; valuable products</td>
</tr>
<tr>
<td>• Best-of new technologies</td>
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<table>
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<tr>
<th>Factory Robust delivery engine</th>
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<tr>
<td>• Tech &amp; business together</td>
</tr>
<tr>
<td>• 25 to 30 “squads”</td>
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<tr>
<td>• Agile delivery at scale</td>
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<tr>
<td>• Robust IS &amp; IT landscape</td>
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<tr>
<td>• End-to-end value tracking</td>
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Combining

• Innovation & agility with rigor & pace
• High tech with industrial production
Multi skilled & autonomous squads

- ~300 technology resources with dedicated business experts
- Supported by a core partner to **speed-up the start** from March 2020
- All gathered in a **dedicated location** in the centre of the Paris digital ecosystem
- To deliver up to **60 digital solutions per year**
An end-to-end process to accelerate value generation
Bringing use case from candidate to fully scalable solution

For 1 asset:

- 100+ ideas generated
- ~40 to be framed
- ~20 to be developed
- ~16 to be deployed
- ~16 x N sites

Digital strategy by assets & business:
@Start: Angola, Nigeria for EP, Antwerp for RC,
Supply for MS

Continuous idea generation per domain

Evaluation & selection
based on: value (potential & speed), feasibility
(IT & Data), business impact & user readiness, scalability

Deliver solution in agile mode
(4 to 6 months in 2 week « sprints »)
focusing on most value-added functionalities

Pilot phase with users
Cross assets deployment

Digital value mapping
Ideation
Framing
Develop
Deploy & Scale
Run & value tracking

Run & value tracking
Digital beyond technology

Be attractive to young talent

Foster agility

Infuse new ways of working

Upskill workforce through the Total Digital Academy
DrillX: agile drillers

Nicolas Baudouin
Head of DrillX program
Driller’s DNA

DRILLing EXPenditures 2018
~ 4 B$
96 new wells
321 km drilled

COST CULTURE
PERFORMANCE
PROCESSES

SAFETY
Leveraging data & machine learning for drilling operations

DrillX program

- *2-year program*
- *5 M€ cost/year*
- *9* FTE core team
- Target 50 M$ savings/year

* 2019 / target 2020: 12.5 FTE

**Targets**
- Blow-out prevention
- 20% reduction of targeted Non-Productive Time
- Performance culture spread

**Data**
- 24+ years of cold drilling data ingested;
- 120+ drilling events machine-learned

**User centric**
- Designed by & for our drillers, on the rigs

**Risks prediction by AI**
- Real time simulations
- Performances monitoring

**Real Time Support Center**

**DrillX**

**EXPERTISE**
Agile drillers

Two project teams, co-located at Boosters

...have already delivered three predictive MVPs

- **2.5 internal FTE**
- **6.5 external FTE**

Product owner

- Scrum master
- IT architect
- Software developer
- UX/UI designer

SME Métier expertise (HQ & Affiliates)

Data scientist

Data manager

Data architect

Métier  Data  IT

**Kick risks prediction MVP**

- 16 weekly sprints
- Kicks prediction rate: **79%**
- Live on **ALL*** rigs

* ALL rigs connected to RTSC
DrillX program phasing

Phase 0: initialization & structuration
- Identify use cases & priorities (bottom up approach)
- Program core team staffing
- Recover & prepare data sets

Phase 1: delivering while learning
- Develop & deliver MVPs with strong stakes (ROI & learnings): predictive use cases
- Perform pilots with key assets (3)
- Get clarity on technical fundamentals & required technologies

Phase 2: industrial delivery
- Industrial delivery & run (DevSecOps) of new features for existing & new uses cases
- One single, modern DrillX UI
- Roll-out in all affiliates
- Implement target architecture
- Improvement of predictive models

Benefits

Time

H2 18
2019
2020

3 MVPs delivered
First predictive MVP on production
Start to code
DrillX app V0 delivered
All services in one UI
Rolled out on all rigs

Pilots on 5 rigs
3 MVPs delivered
Pilots on 5 rigs
Get clarity on technical fundamentals & required technologies

DrillX app V0 delivered
All services in one UI
Rolled out on all rigs
be:mo: in house digital mobility platform

Alexis Vovk
President Marketing & Services
be:mo: in house digital mobility platform

Connecting the dots between mobility ecosystems & energy services.

new business model for TOTAL
be:mo: enabling your transition to better mobility

Customer experience
Seamless customer journeys with a full digital experience for energy in mobility
Integration in connected vehicle platforms

Transition to electric mobility
Single software platform for fueling & charging
Real-time access to charging network data (location, availability, prices, …)

Shared Mobility
Open software solution for digital mobility ecosystems such as carsharing, ride hailing, car renting, road planners, …

A state of the art, data-driven platform for continuous value creation
be:mo: a dedicated agile organization

Aligned and autonomous squads
- Core
- Fueling
- Data
- Charging
- Pricing & Billing
- Customer Success

A team of 30 people

1200+ user stories analyzed  |  70,000 connected locations (June 2020)  |  Test in progress with OEM partners

Go live Q2 2020
be:mo roadmap

1. Development of technological partnerships
2. Integration of additional car-centric services
3. Expansion of fueling & charging partner network
4. be:mo embedded in 100 mobility apps
5. 2M vehicles connected to be:mo
TEPUK Digital Asset Flagship

Niall Rowantree
Total E&P UK – Digital & Data Manager
TEPUK Digital Assets: Modern and Mature

Elgin and Franklin (2001)
- 46.2% interest
- Facilities: Production, Utilities & Quarters, 2 wellhead platforms & 2 normally unmanned installations
- Op. production: 120 kboe/d in 2019

Culzean (2019)
- 50% interest
- Facilities: wellhead platform, central processing platform, utilities and living quarters & floating storage and offload
- Plateau production: 100 kboe/d

Shetland Gas Plant (2016)
- 60% interest
- Facilities: Subsea tie-back of four fields to onshore processing plant
- Op. production: 64 kboe/d in 2019
TEPUK Digital
Bringing together the best of Maersk & Total

Drilling Reporting & Analytics

Autonomous Robotics

Production & Emissions Optimization

SMART rooms

Shutdown Optimization

Mobile & Wearable Devices

Digital Twin & 3D model

Additive manufacturing
# Digital in TEP UK: 10% of the 1 B$/y value creation for upstream

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<td>Decrease drilling Capex by 10%</td>
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- **Production Optimization**
- **SMARTroom & Robotics**
- **DrillX**

- Reduce emissions and improve safety
Digital contribution to CO₂ reduction in CNS
Thanks to reduced flaring & fuel gas consumption

CO₂ emission reductions from Elgin/Franklin and Culzean
Tonnes

-35,000
0

2020 2021 2022 2023

• Total CO₂ emissions from Elgin/Franklin and Culzean in 2019: 755 kTonnes

• 5% reduction in CO₂ emissions from

• AI driven process interventions to avoid flaring and reduce power consumption

• Optimization of compressor & power generator washing schedules to reduce fuel gas consumption

Digital contributing to ~1/3 of CO₂ emission reduction targets at Elgin/Franklin and Culzean by 2023
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 20-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 performance of TOTAL and the comparison of income (ROACE) and gearing ratio. These indicators are meant to facilitate the analysis of the financial 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 although 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 ($) 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 energy products used by Total customers, that measures the average greenhouse gas emissions of those products, from their production to their end use, per unit of energy. This indicator covers the direct GHG emissions of production and processing facilities (scope 1) and their indirect emissions associated with energy purchase (Scope 2), as well as the emissions associated with the use of products by the customers of the Group (Scope 3) which Total does not control (for the definitions of scopes 1, 2 and 3, refer to Total’s Registration Document).

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