



LOGISTICS OF THE ENERGY REVOLUTION

INNOVATING
ENERGY SUPPLY
CHAINS



**POWERING
OUR WORLD,
TOGETHER**

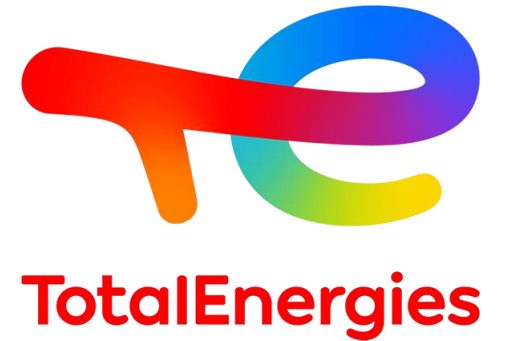
DELIVERING EXCELLENCE
TO THE ENERGY SECTOR

DHL ENERGY REGIONAL CONFERENCE 2022

Digital Factory Reinventing energies in a digital age

Frédéric Gimenez

**Chief Digital Officer and Digital Factory Managing Director,
TotalEnergies**



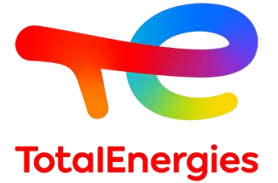
DHL CSI Energy Customer Conference

March 24th, 2022

Digital Factory

Reinventing energies
in a digital age

Transformation is a matter of urgency



EP

**Maintain
TOTALENERGIES's
leading position** in EP
and contribute to
sustainable growth
by adopting digital
at scale

RC

**A safe and High-
Performing R&C,**
Integrating Growth
and Energy transition

MS

**Reinvent networks and
services** for the era of
electric mobility and
100% digital customer
journeys

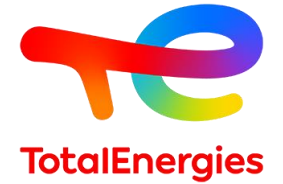
GRP

Support the fast growth
of a business driven by
the transition to low
carbon energy

Harnessing all our ingenuity to
provide more energy while reducing
carbon emissions

**and achieve carbon
neutrality in
2050**

TotalEnergies' ambition in Digital



A value-driven ambition with a target set at

\$ 1.5 Bn per year in 2025

In value generated

1Bn\$ Upstream

- Production up 2%
- OPEX down 5%
- CAPEX down 5%
- Studies accelerated by 6 months

0.5 Bn\$ Mid / Downstream

- Refining > \$2 / T
- Petrochemical > \$6 / T
- New mobility services for non-fuel: + \$100Mn
- Support customer base growth ambition to 8 millions
- Optimized operations for GRP: + 200 M\$

+ HSE & CO2 performance



A specific set-up for an ambitious objective

1

DIGITAL IS ABOVE ALL A QUESTION OF TRANSFORMATION

TDF is not a Premium IT unit but a **catalyst** for change



THIS TRANSFORMATION REQUIRES AN AGILE MINDSET

TDF is a **collaborative Agilist**



2

3

THE TRANSFORMATION ALSO REQUIRES TIME AND ITERATIONS

TDF builds **software**, not tools



TOMORROW

TRANSFORMATION RELIES ON THE TECHNOLOGY

TDF provides outstanding expertise in state of the art technology



4

Strong digital assets



“Supply chain”, a domain in each digital roadmaps



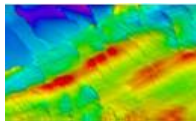
nergies

Exploration & Production

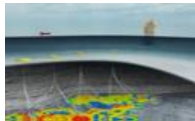
Refining & Chemicals

Marketing & Services

Subsurface Interpretation & modelling



Development Studies



Projects delivery



Drilling



Production & energy mgt



Enhanced Operations



Supply Chain



Planning & Scheduling



Process Optimization



HSE & Energy Efficiency



Availability & Integrity



Lean Digital Processes



Customer & Supply Chain

LUBRICANTS



NETWORK

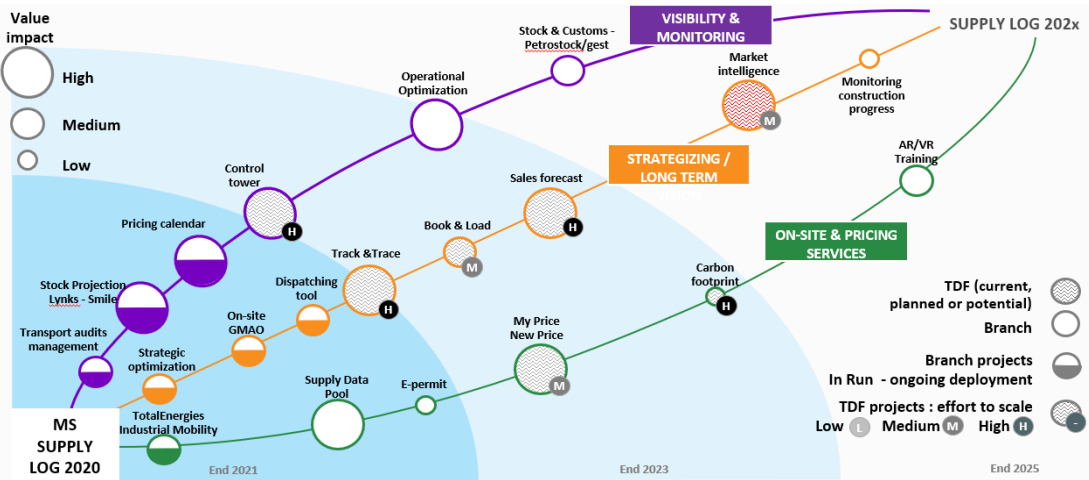


MOBILITY

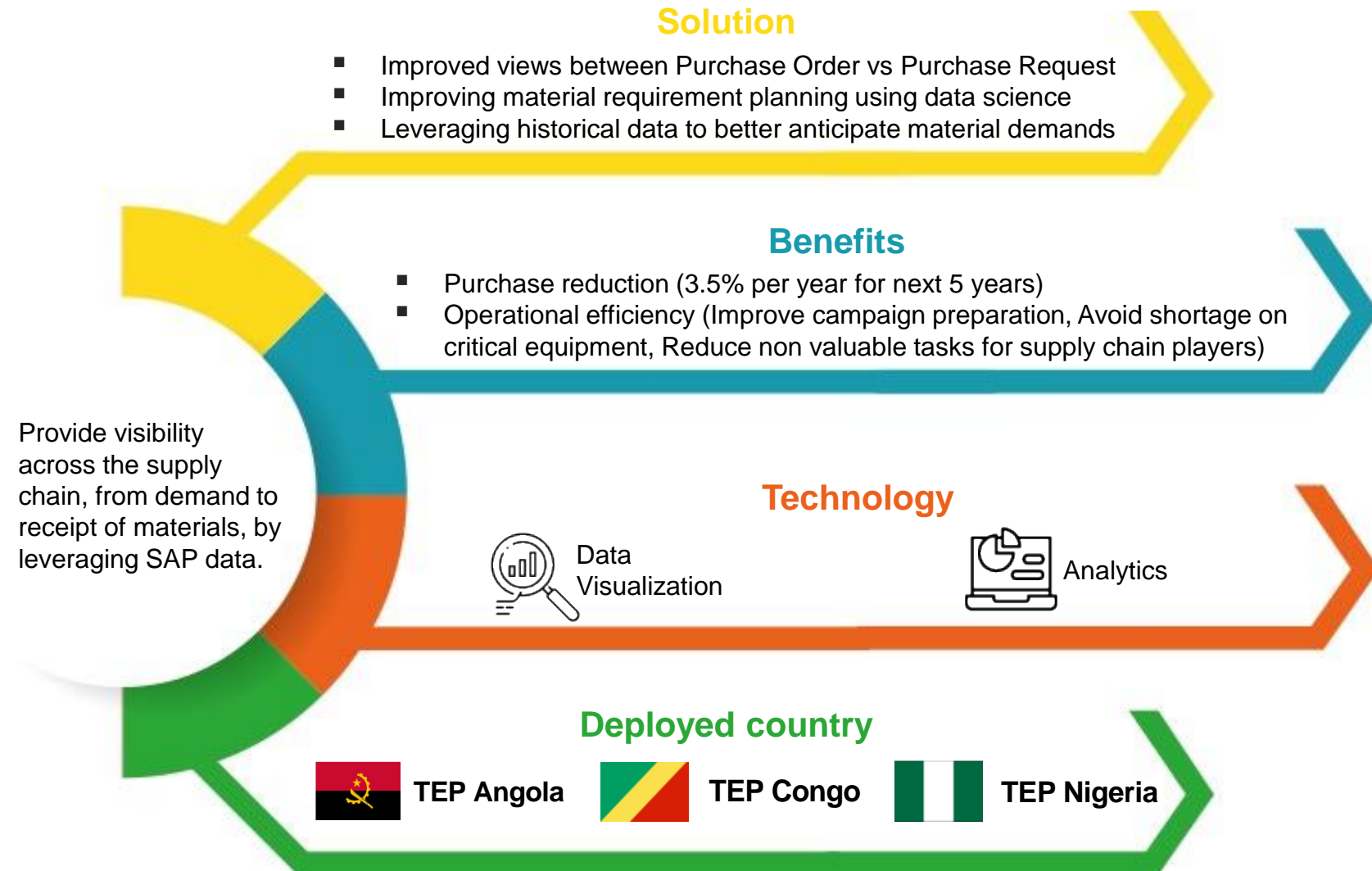
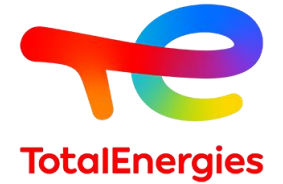
Supply



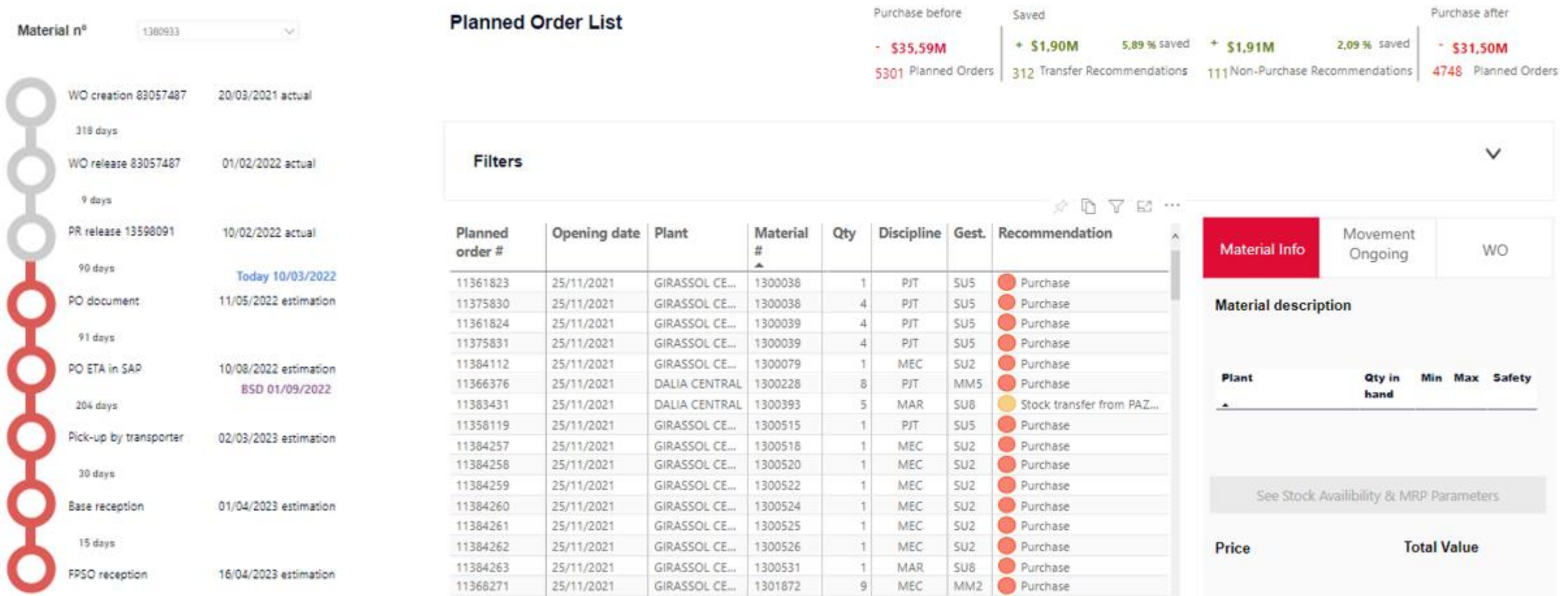
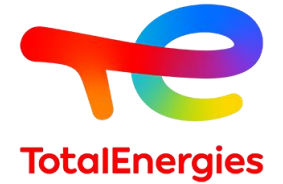
Sourcing Scenarios	Inventory actions	Inventory mutualization	Stock to design
3D printing	Replenishment Strategy	Digital expediting and ITP	Data sharing w/contractors & suppliers



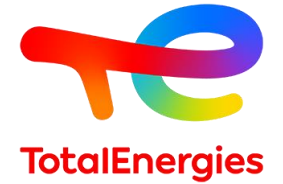
Supply Chain Efficiency for Upstream



Supply chain efficiency



Track & Trace for Downstream



An operational transport control tower enabling visibility and optimization on operational performance and customer service.

Solution

- Optimize fleet usage (visibility on trucks location, search possibilities, zoom on planned routes and progress, alerts when truck is late or blocked)
- Historized data for performance analysis and reporting purpose
- Automate fleet compliance determination

Benefits

- Optimized transport operations
- Improved fleet follow-up and related transport HSEQ metrics
- Eradication of Safe to Load refusals due to fleet noncompliance
- Recued workload for Fleet maintenance

Technology



Data Visualization



Real Time



User Experience



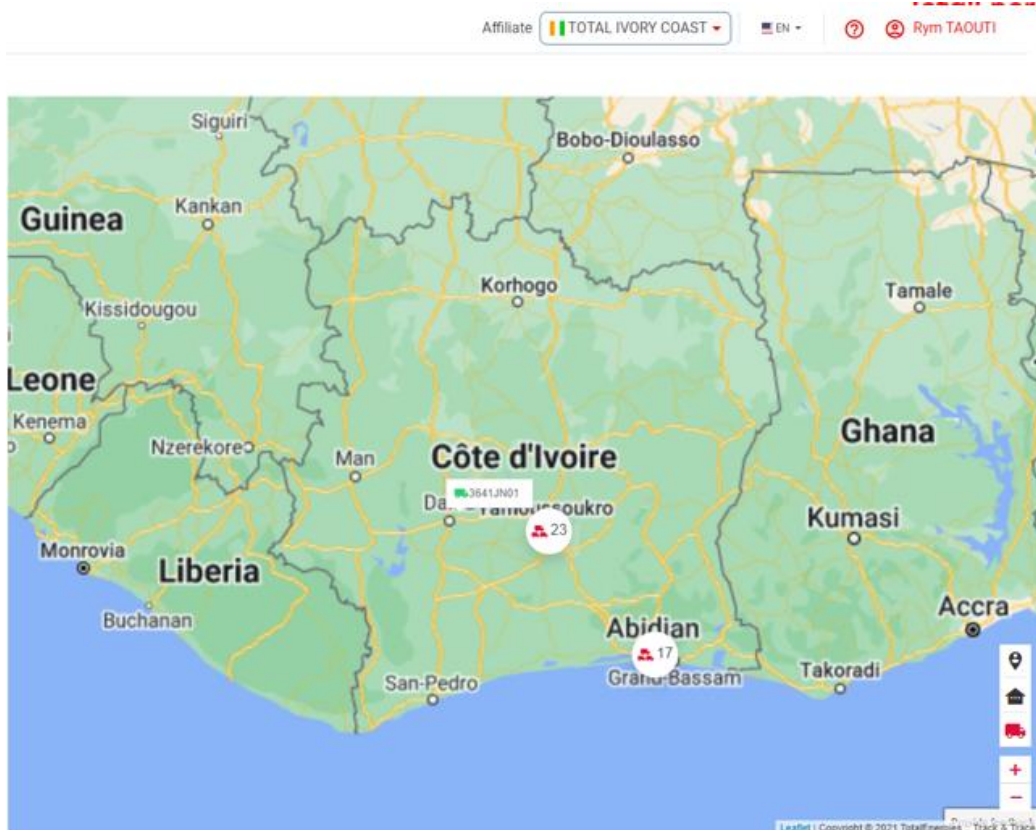
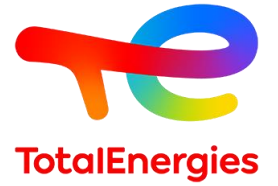
IoT

Deployed country



Ivory Coast (40 countries to come)

Track & Trace – real time tracking / safe to load



Vehicle - Carrier Contracts

* Mandatory

* Contract type	* Fleet type	Contract Date	Contract End Date
PATROM	Dedicated		06/25/2023

Prime Mover - Insurance

* Mandatory

Insurance Number	* Insurance date	* Insurance Expiry Date
ASSUR 3630JN01	01/01/2021	12/31/2022

Prime Mover - Inspection

* Mandatory

* Last TotalEnergies Technical Inspection	TotalEnergies Technical Inspection Exp...	Last Regulatory Technical Inspection D...	Regulatory Technical Inspection Expiry ...
03/02/2022	09/01/2022	04/21/2021	04/20/2022

Prime Mover - Technical Information

* Mandatory

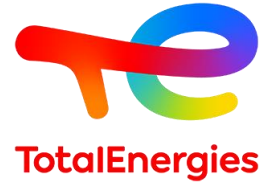
* Brand	* License Plate	Registration Number	* Engine Power (hp)
VOLVO	3630JN01		1
* Manufacturing Date	Age (years)	* Vetting date	Max Circulation Date
04/18/2019	2	05/21/2019	04/18/2029

Technical compliance score

* Prime Mover (Incorporated Weight) (KG)

* Gross Combined Weight Rating (GCWR)

Learnings



- Value generated by digital (\$, HSE, Green House Gases) as a key driver for decisions
- Do not underestimate cultural differences between tech and business people
- High frequency interactions with business (users, product owners, ...) is mandatory
- Adoption is key so are UX and change management
- Digital product means a certain level of constant effort after the build phase
- Disruptive solutions don't come first, transformation is a journey
- Lot of data doesn't mean every problem could be solved with data science



Thank you



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