

Deepwater between boldness and discipline

Jean-Hervé Morard
Deputy Vice President Deepwater and Subsea



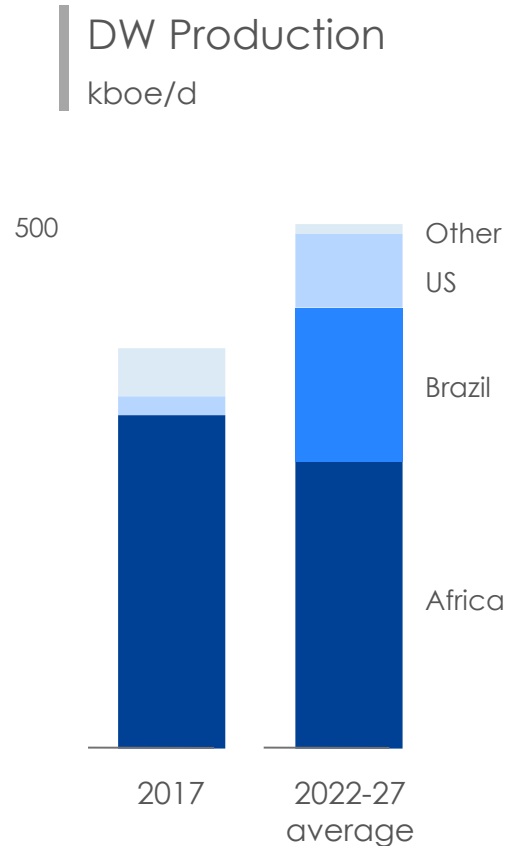
Leveraging our deepwater expertise

10 operated FPSO in West Africa

> 600 operated deepwater wells

6 major deepwater start-ups in 2018-19

- Egina, Kaombo North, Ichthys
- Iara 1, Kaombo South



Leader in Africa

Giant developments: Moho Nord, Kaombo, Egina

Leveraging existing facilities with short cycle projects

Future projects: Owowo, Preowei



Growing in Brazil

Sanctioning world-class Libra field

Strategic Alliance with Petrobras: Lapa/Iara, first pre-salt IOC operator

Maturing exploration portfolio



Gulf of Mexico, the next wave

Leveraging expertise to build attractive portfolio:

- Producing assets: Jack & Tahiti
- Discoveries to be developed: Ballymore, North Platte, Anchor

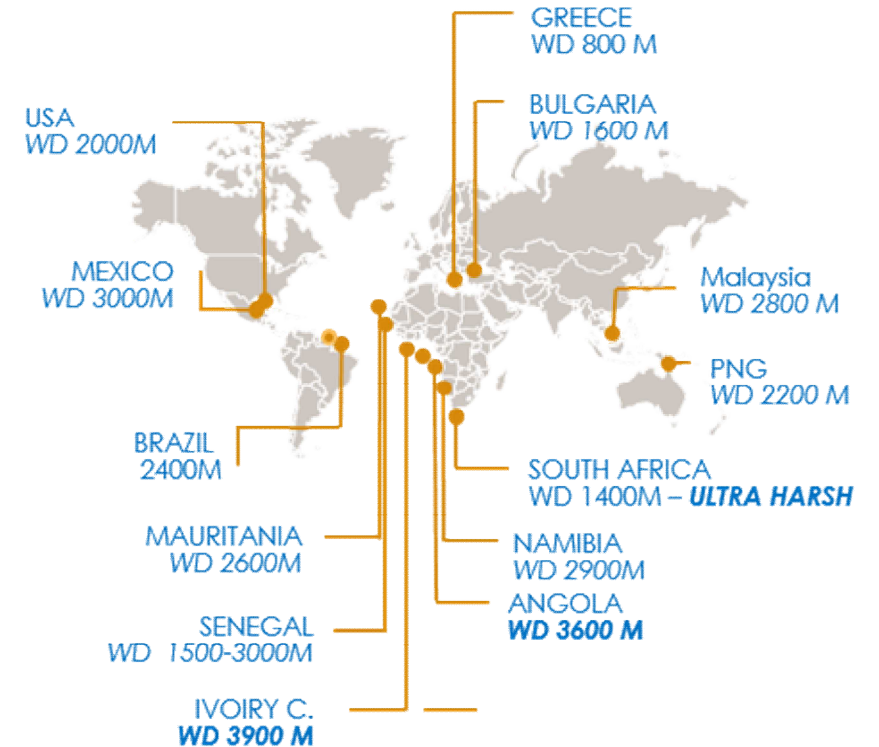
Growing > 100 kboe/d



Deepwater: a target for TOTAL Exploration, with delivery underway

- ca. 80% of Total POTEX
- Targeting
 - new play opening prospects
 - shallower burial / higher quality reservoirs,
- Balance between Frontier / Emerging / Mature plays
- Deeper water and harsher environment
- Lower capture and technical costs

TOTAL OPERATED EXPLORATION WELL PORTFOLIO

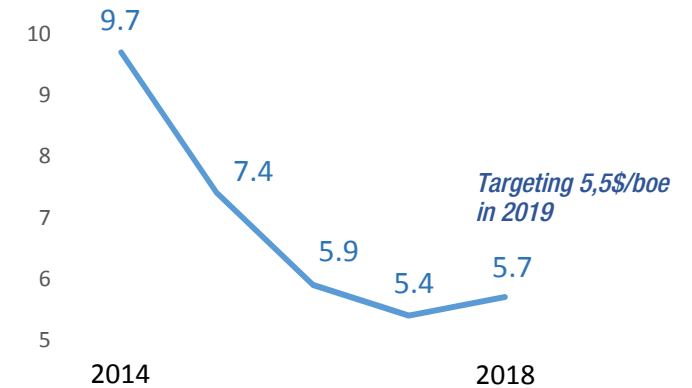


Cost discipline: structural changes towards profitability

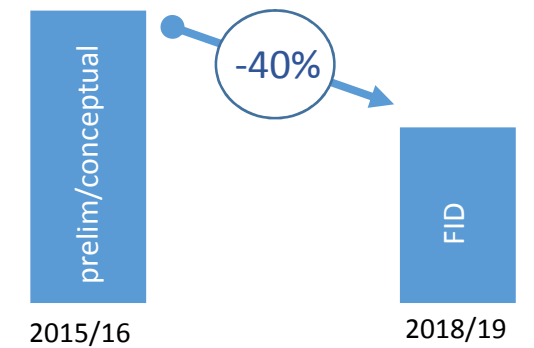
- Continue to consolidate our DW Assets cost reduction
- Reduction of new development technical cost intensity
- Deliver projects on time and within budget
- Selectivity: high return projects, wt. avg. IRR > 15% at 50\$/b

3C·E&P
CONSOLIDATION · COST · CULTURE

EP operating costs (ASC392) / \$/boe



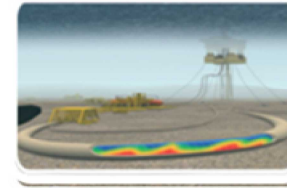
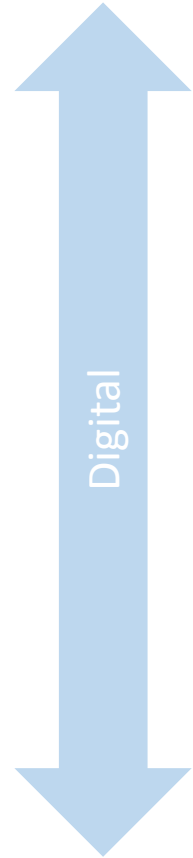
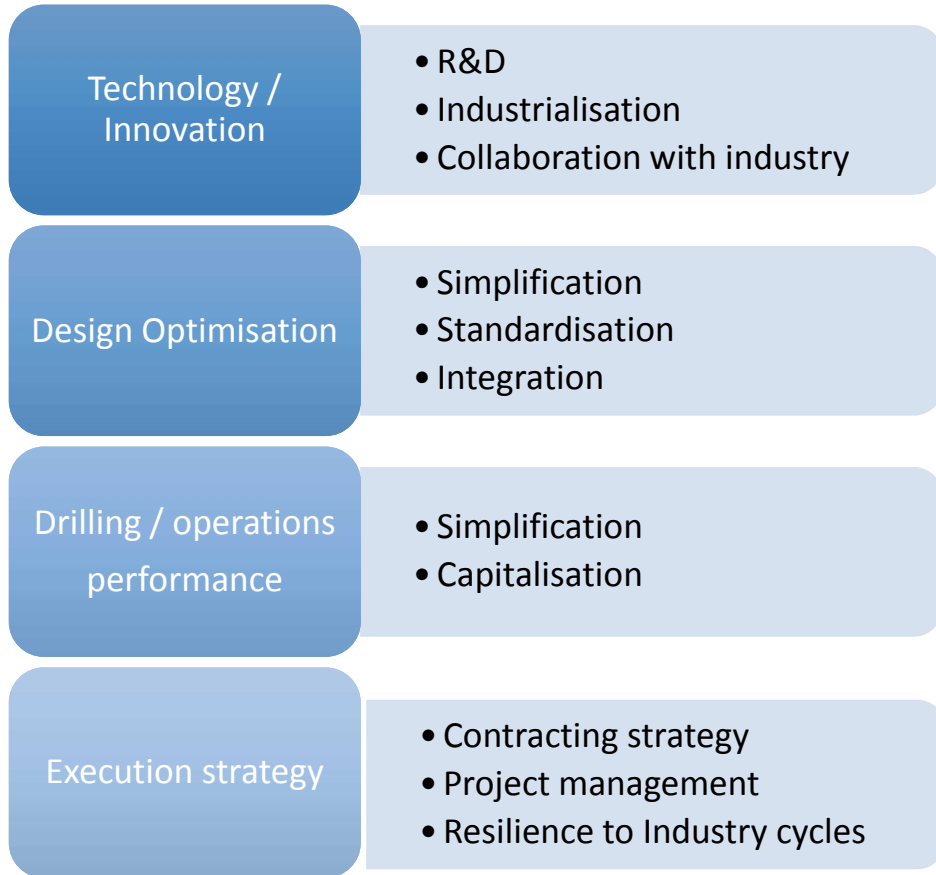
actual subsea tie-back surface cost (Angola / Nigeria / Brazil) / base 100



MCEEDD
DEEPWATER DEVELOPMENT

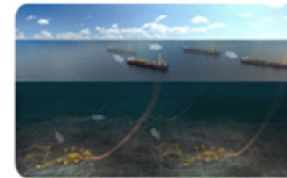
Deepwater roadmap: a consolidated and shared vision

Acceleration and cost reduction drivers



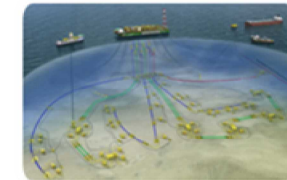
SUBSEA TIE-BACK

to feed our existing facilities and develop nearby objects



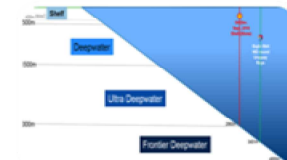
STAND ALONE MARGINAL FIELDS

to unlock our 2C resources



NEXT ELEPHANT

to define the next DW development generation



FRONTIER

to create new opportunities

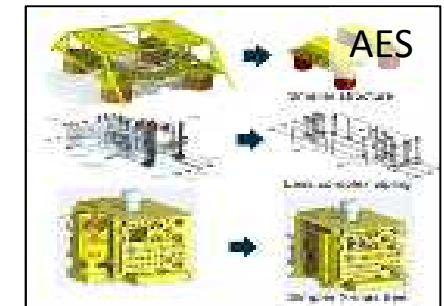
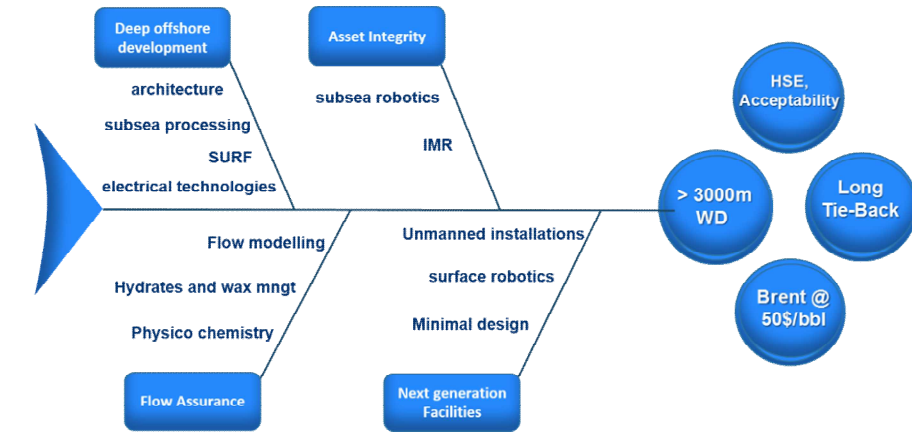


MATURE FIELD

to support the asset profitability

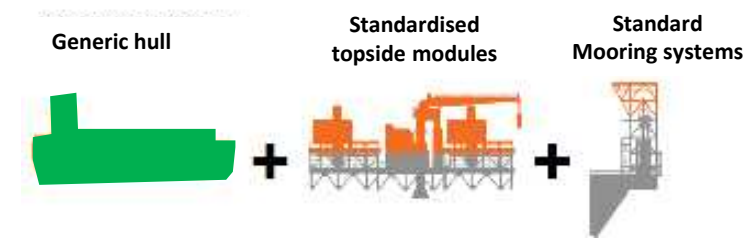
R&D: provider of cost effective solutions & technologies

- One dedicated Deepwater R&D program
- Increased partnership with industry, technology suppliers and institutes
- Strategic Alliance with Petrobras
- Agreements with other IOCs
- Rupture technologies with pilots



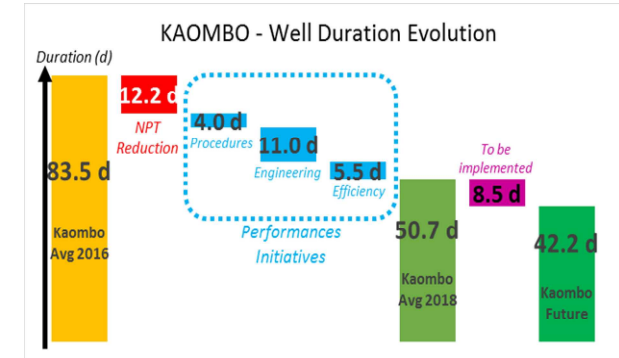
Design optimisation: maximize value from very early phases

- Simplification
- Innovative design approach
- Standardisation
- Contractor led solutions
- From prescriptive approach to functional requirements
- Promotion of 'Design to Cost' approach
- Integrated subsea offering



Performance: virtuous cycle towards increased profitability

- Performance turned into a mindset
- Benchmark 'attitude'
- Performance in each and every field
 - HSE: cornerstone of our operational efficiency
 - Drilling: two wells for the price of one
 - Field Operations: operating efficiency maximisation
 - Projects: improved execution and delivery



Deepwater
operated assets
95 %
operating efficiency

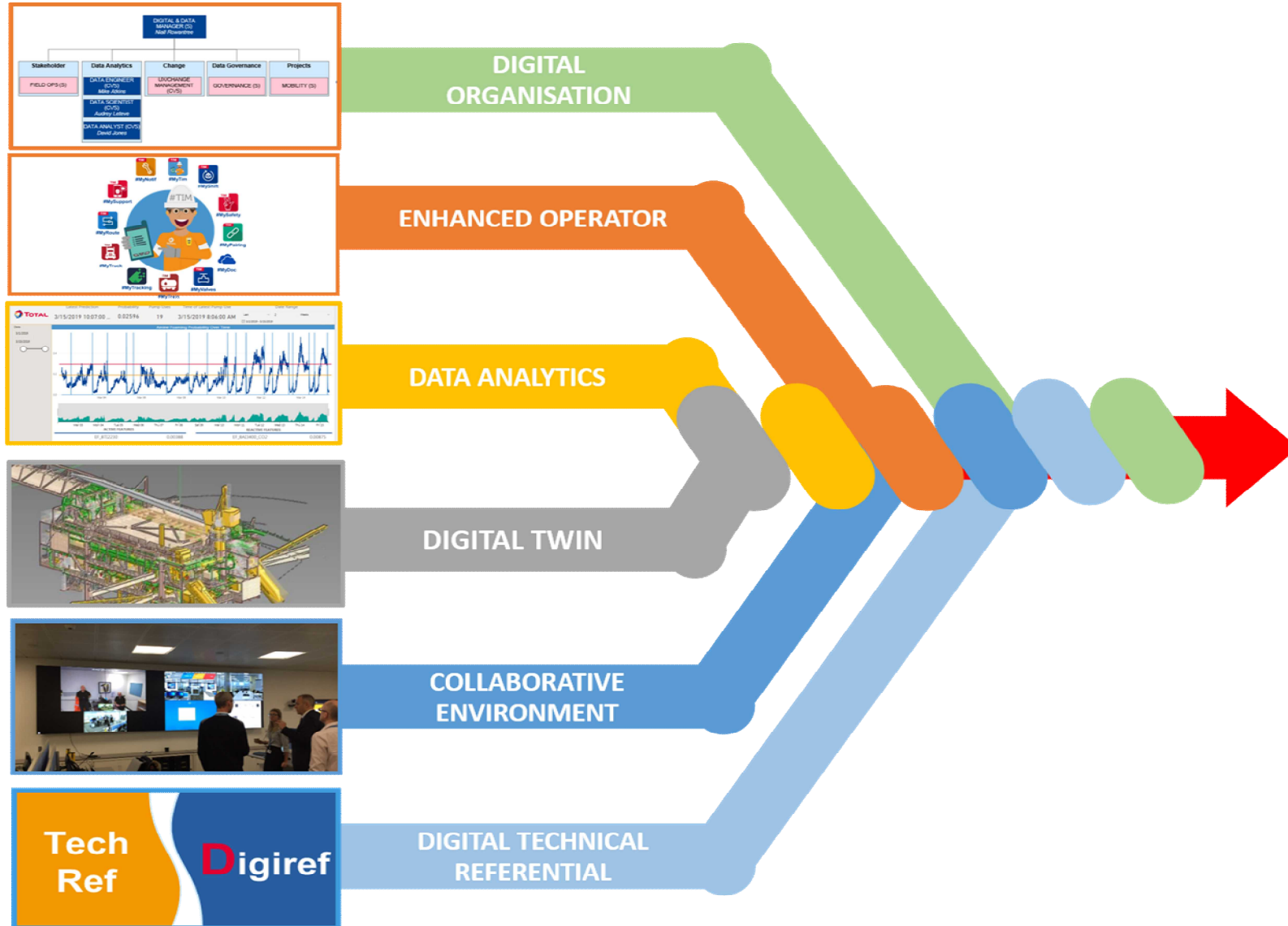


Contracting / purchasing strategy: innovative solution maker

- One global procurement organisation
- Early involvement of contractors/suppliers in our development process
- Qualification of alternative and LCC suppliers
- Increase of Frame Agreements
- Bringing competition on brownfield developments
- Leveraging bundling approach for services and goods (between EP Affiliates and between Group Branches)



Digital: data intelligence&valorisation and new ways of working



- Improving safety
- Production Optimization
 - Real time mobile access to engineering data, work orders and permit data
 - Interactive dashboards / ambitious predictive models
- Condition based Maintenance
 - Rotating machines remote monitoring (RAID)
 - Subsea Eqt. condition monitoring
- Drilling real time remote monitoring and data valorisation
- Increased visibility & contextualised understanding of technical requirements

Deepwater: integrate climate into our strategy

- reduce environmental footprint
 - Reduce emissions (flaring, venting...)
 - Further improve energy efficiency of our operations
- promote gas as a transition energy
- Engage contractors and technology suppliers



Flaring
reduction



Methane
control



Energy
efficiency



Process
electrification



Thank You