



Supply destruction: the risk on human capital

A service company perspective

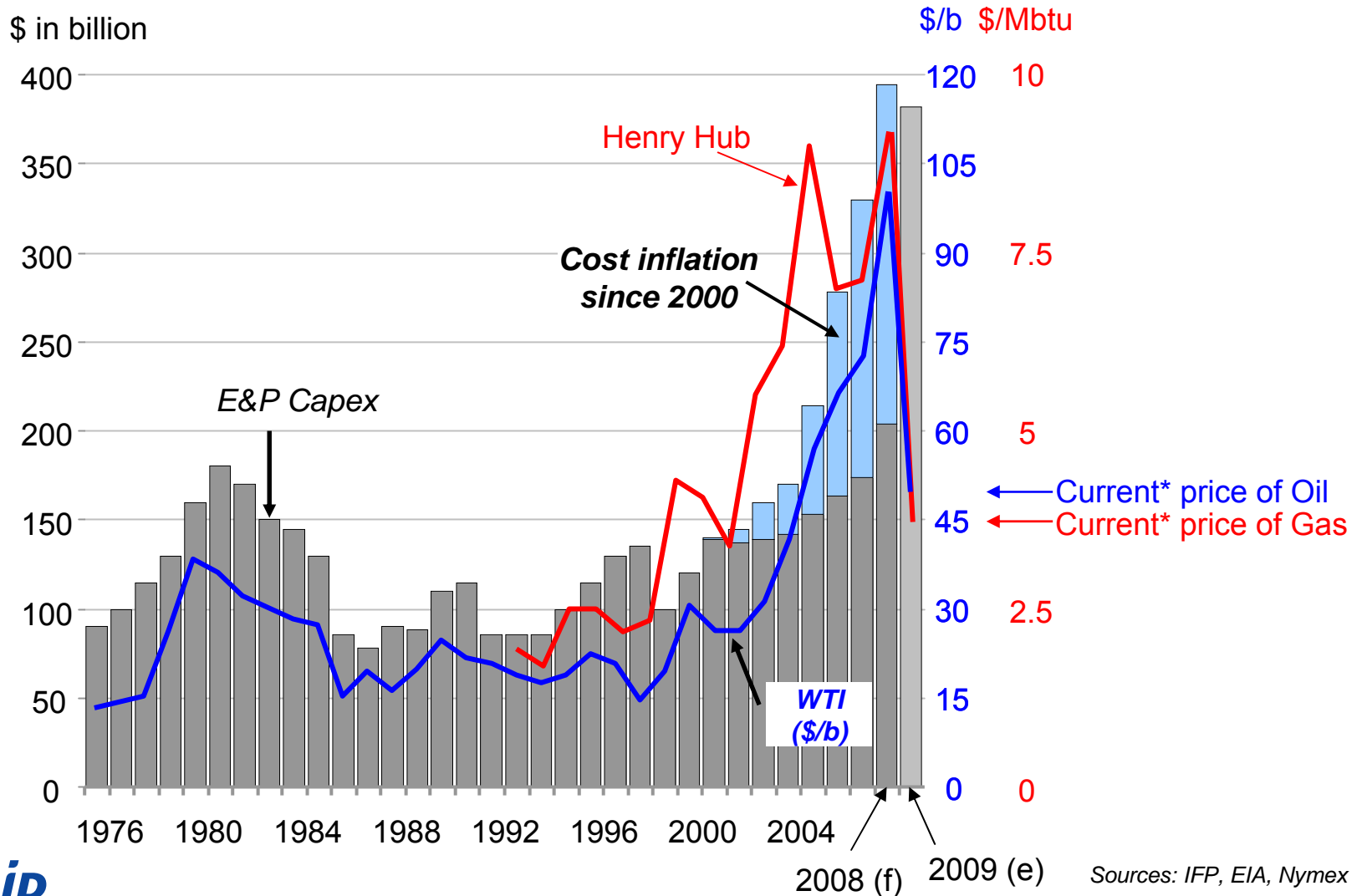


10th International Oil Summit, Paris April 2nd 2009

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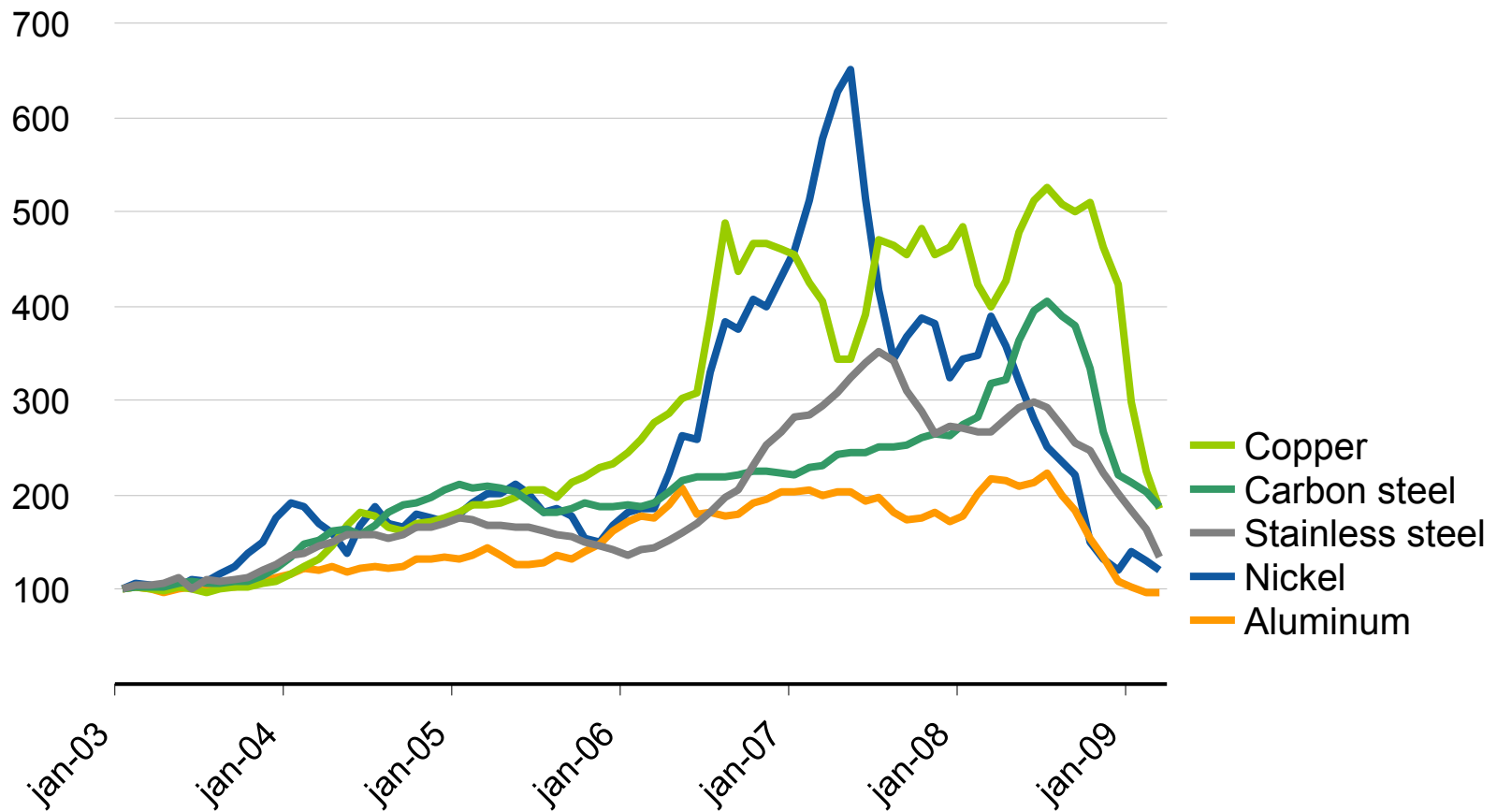
Lower oil prices will lead to lower Capex

E&P Capex vs. Oil and Gas Prices



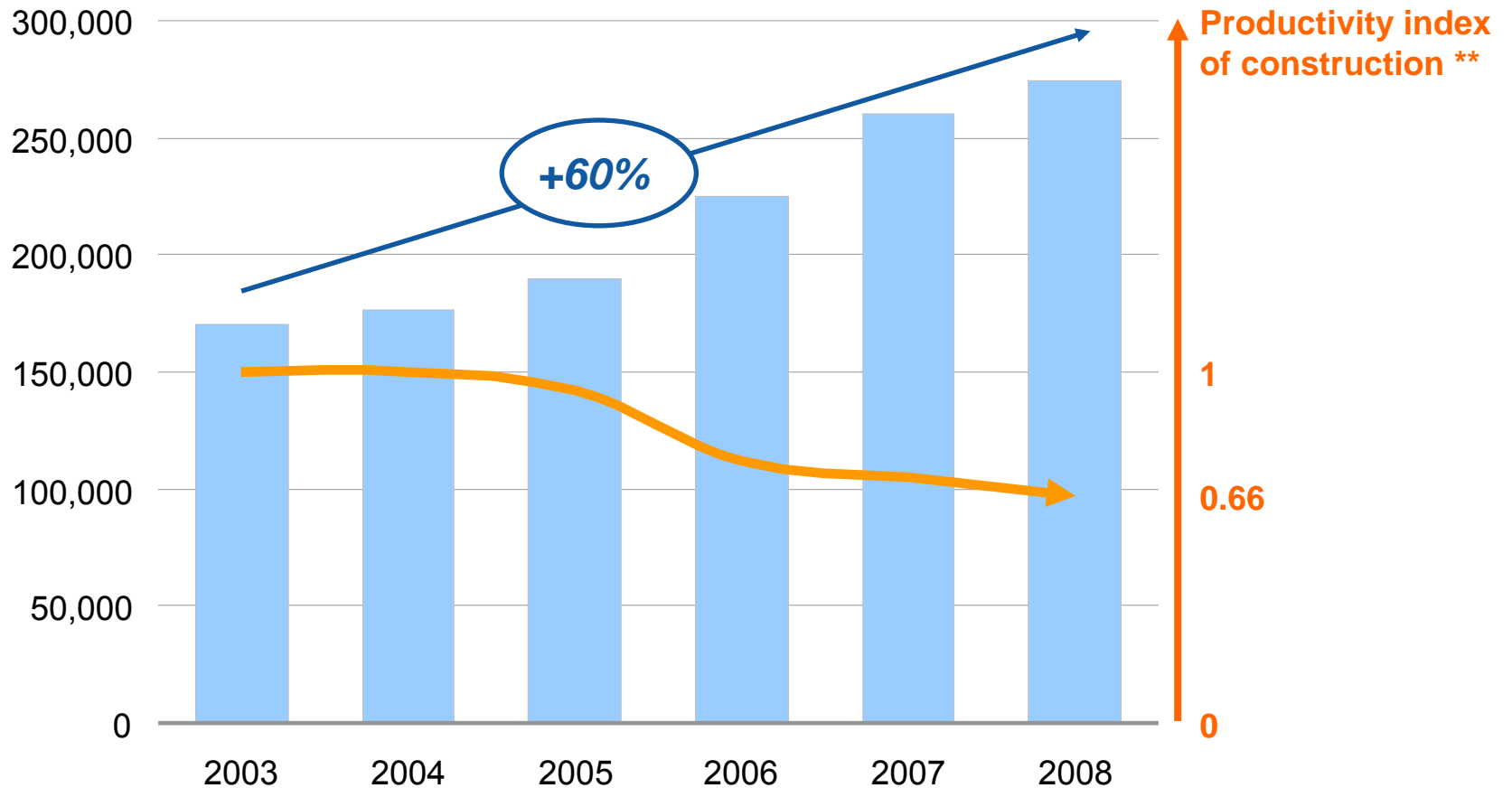
Raw materials' costs have started to decrease dramatically

Raw materials prices (Index 100 in Jan. 2003)



Oil service industry workforce has strongly increased

Evolution of the number of employees in the E&C industry *

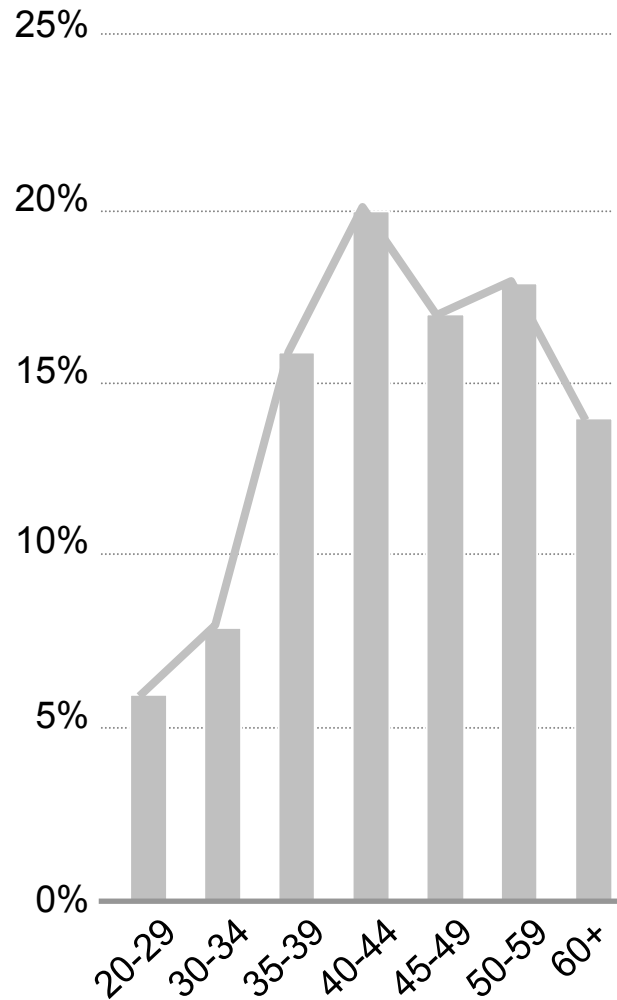


*Sample of companies: Saipem (incl. Snamprogetti), Acergy, Subsea 7, McDermott, Aker Solutions, JGC, Chiyoda, Fluor, Jacobs, Foster Wheeler, SNC Lavalin and Technip

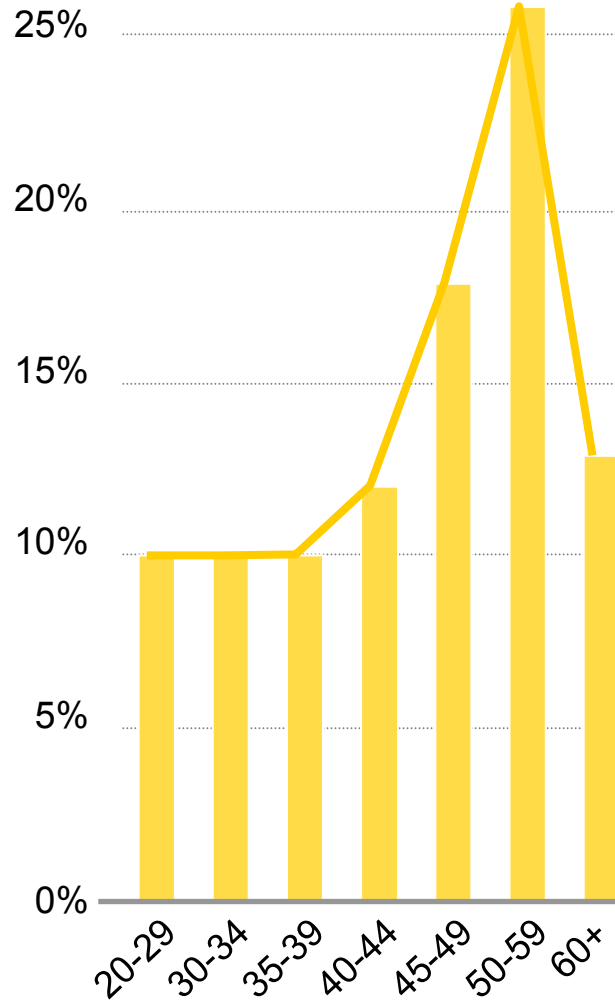
** : In Middle East (Technip estimates)

Sources: Company reports, Technip

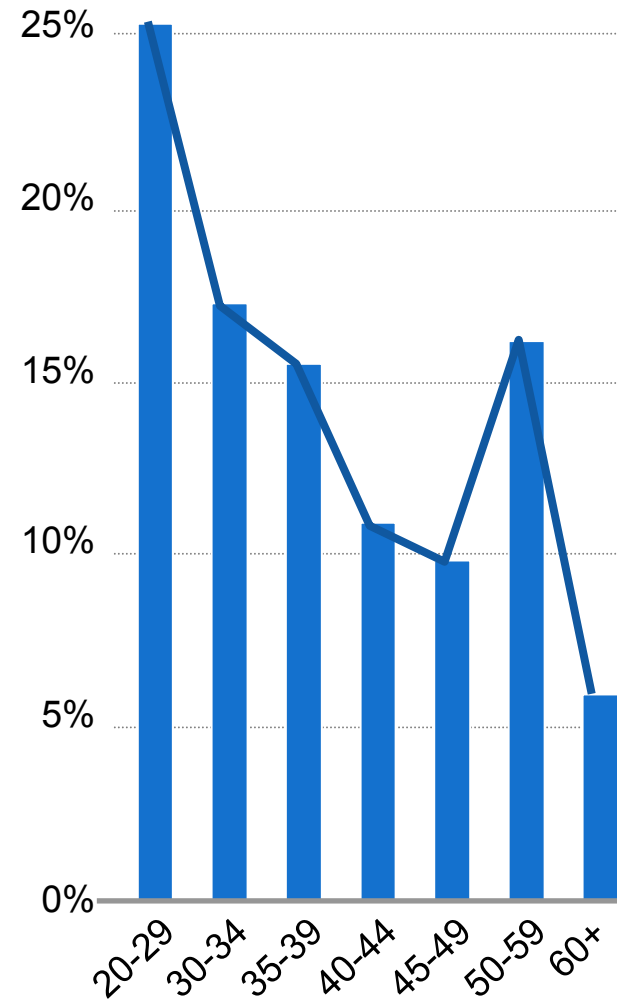
And the HR age pyramid has generally moved to the right



SPE members 1996



SPE members 2006



Technip 2008



Sources: SPE, Technip

Reactions to the Erosion in Demand

▶ **Projects are postponed**

- Canadian oil sands
- Ultra deepwater
- LNG
- Petrochemicals

▶ **Equipments are stacked or taken away from the market**

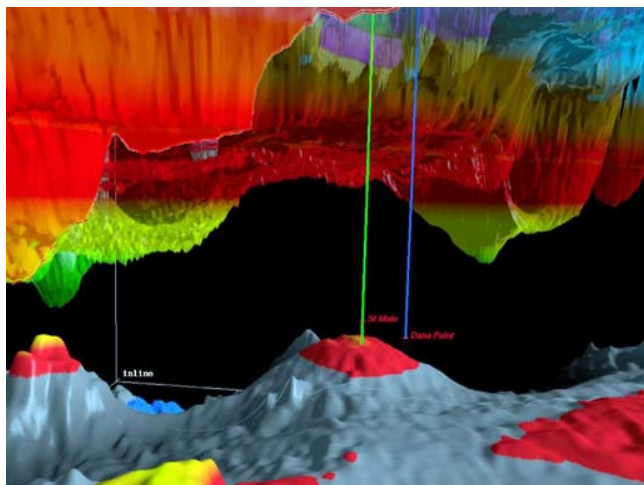
- Drilling: 22 out of 74 drilling Jackups rig currently stacked in the Gulf of Mexico
- Seismic: a potential of 30 vessels (≤ 6 streamers) and 50 “2D vessels” converted to shooting vessels or retired

▶ **Headcount reduction has started**

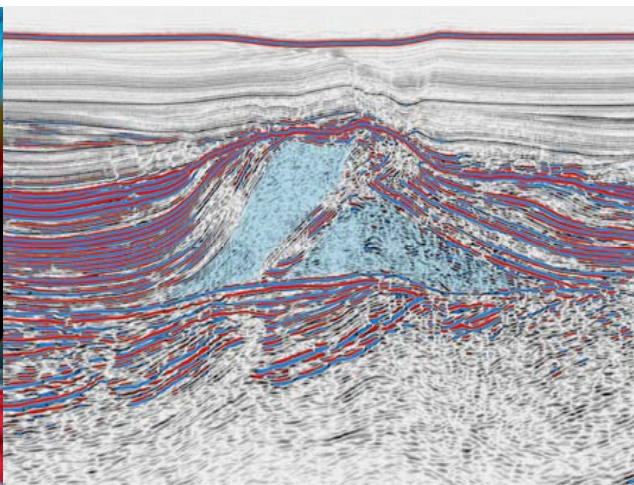
- Lay out plans announced by certain operators and service companies
- Expecting massive reduction of construction workforce

Complexity of projects is increasing: interpretation

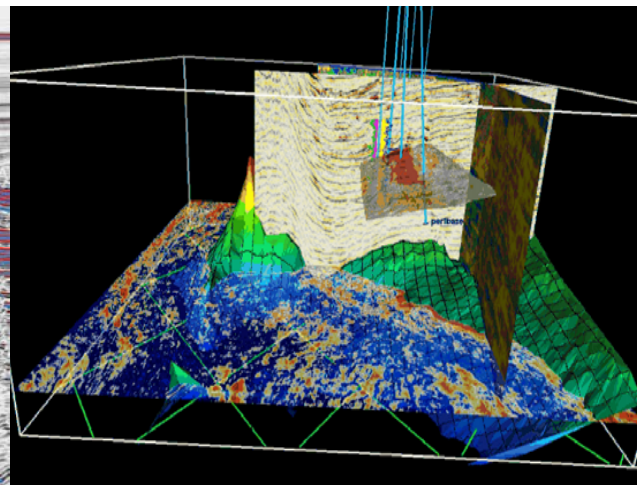
Seismic interpretation and reservoir modeling



St Malo, Gulf of Mexico



Tupi, Brazil



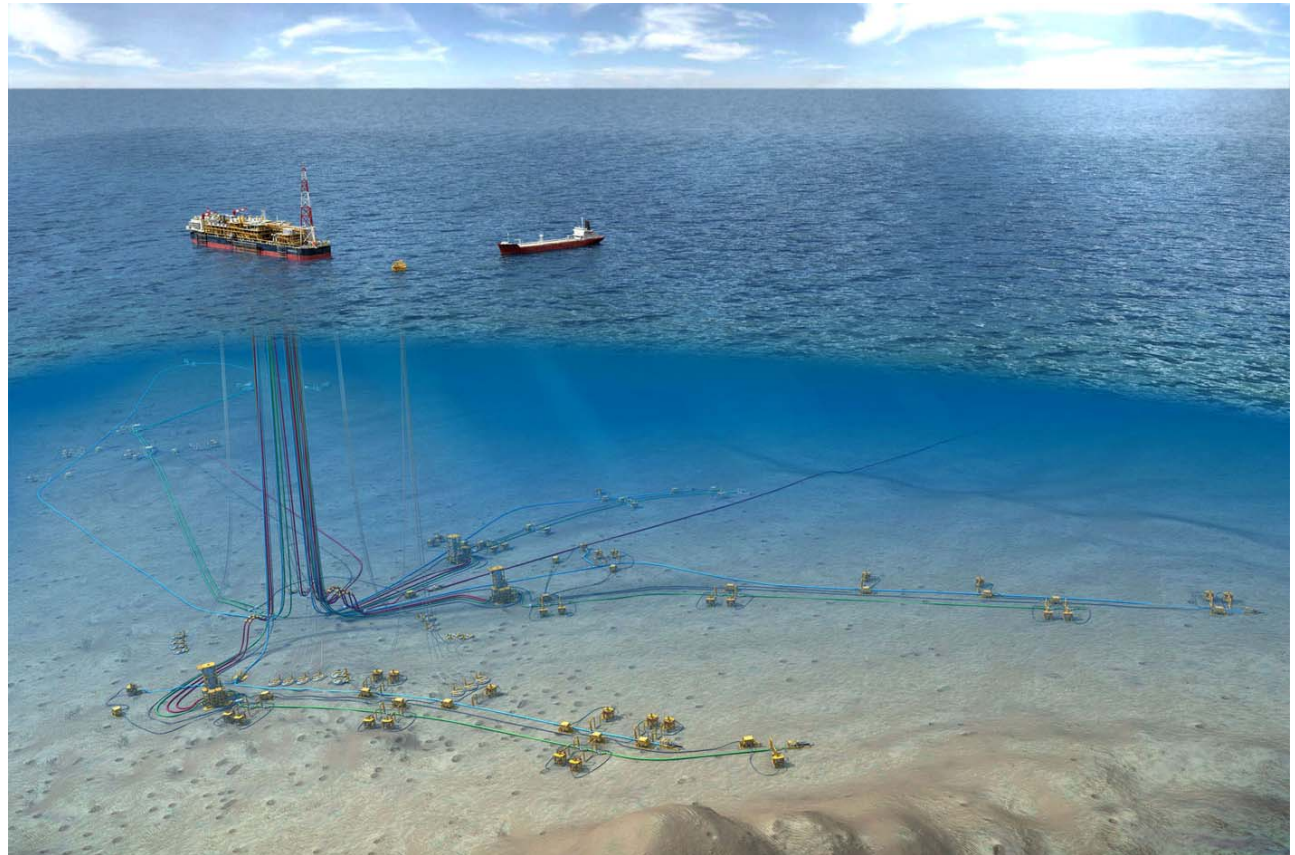
Reservoir modeling

- ▶ Deeper development (3000m)
- ▶ Sub-salt imaging
- ▶ Increased reservoir complexity

Complexity of projects is increasing: Subsea development

PAZFLOR

- ▶ 600 km² at water depths of between 600 to 1,200 meters (i.e. 6 times Paris surface)
- ▶ Extraction of a heavy (17 to 22°API) and highly viscous oil
- ▶ \$ 1.7 bn (Subsea development)
- ▶ 175 km of flowlines and 90 km of umbilicals



Complexity of projects is increasing: Onshore

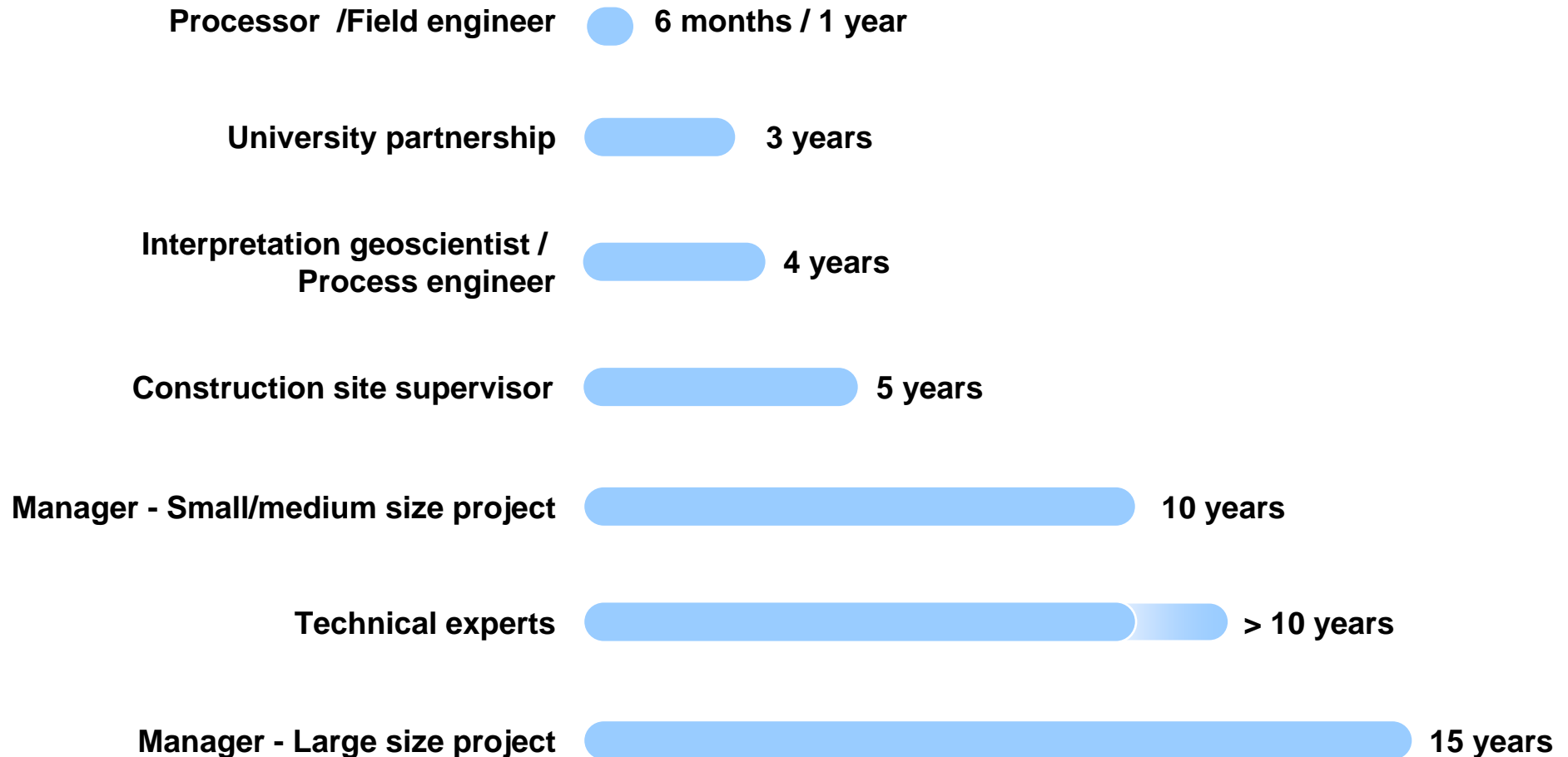
3 LNG Qatar

- ▶ 6 trains of 7.8 Mt/y
- ▶ 100 000 tons of steel (14 times Eiffel tower)
- ▶ 75 000 people at peak
- ▶ 700 millions construction man-hours



Lead times to build critical competencies

Competencies



What do we need to do to mitigate HR impact ? (1)

▶ **Contractors and services companies**

- Work the supply chain – Select the best (costs and competencies)
- Maintain R & D investment
- Use spare capacity to re-think core processes and improve efficiency
- Invest in competency development and lessons learnt

▶ **Oil & Gas Operators**

- Stay engaged on the future projects (particularly the large and complex ones)
- Drive standardization
- Drive simplification and eliminate redundancies

What do we need to do to mitigate HR impact ? (2)

► Industry at large

- Continue to hire University graduates to avoid future generation gaps and maintain credibility





THANK YOU



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