Satcoms for energy:
Where can we go from here?

Stéphane Chenard
senior associated consultant
Euroconsult

chenard@euroconsult-ec.com

The Connected Oilfield Webinar 2020
27 May 2020

Euroconsult

About Euroconsult

- Privately owned, fully independent advisers since 1983 on all aspects of satellite communications and observation
- Hundreds of government agencies, investors, satellite service providers, operators and manufacturers advised on market trends, business plans and technical feasibility
- 30 consultants in Paris, Toulouse, Montreal, Washington, Singapore, Hong Kong and Tokyo
- Comprehensive research publications and databases
- More at www.euroconsult-ec.com

... and see you in Paris on November 9-12 for our 24th

WORLD SATELLITE BUSINESS WEEK

Situation: Satellites

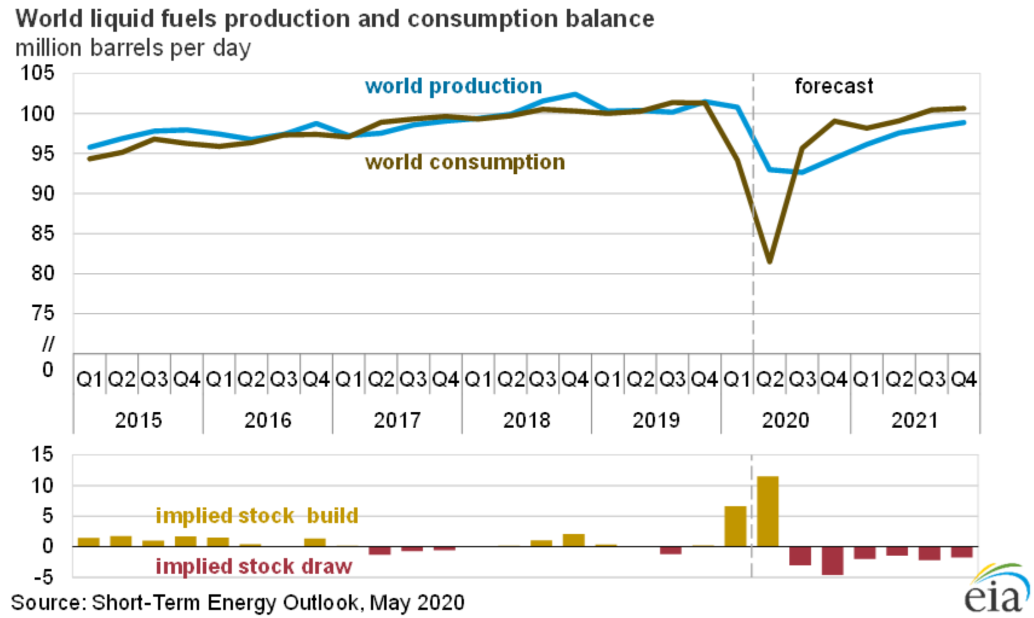
Fill rates	• 52% of 2,866 Gbps (1,123 GHz) when last assessed in mid-2019
Prices	• Appear to have bottomed, but not bottoming up
GEO	• No satellites cancelled or seriously delayed • Intelsat, SES, others on track to receive billions for vacating C-band • Intelsat in Chapter 11; hailed its filing as a new beginning
Constellations	• OneWeb in Chapter 11; to be auctioned on July 2; may then be revived, scavenged or strangled • SpaceX launching satellites; essentially silent on any other aspects of Starlink • Not much forward movement visible from anyone else
New terminals	• Some of the long-awaited FPAs available but not in volume • Only small orders announced, often for evaluation • Key FPA player Phasor Solutions in administration; others still at R&D stages may follow if investors remain on pause much longer

Situation: Oil

- EIA forecasts that oil will close 2020 at $30-34/bbl and 2021 at $43-48 (depending on indices)
- For now the market appears to deliver, with the WTI at $32 and the Brent at $35
- IEA also raised its demand forecast
- Huge questions still open:

  Demand
  -- The actual pace of rebound
  -- Will all blends and producers be in demand the same?
  -- Have we seen peak oil demand?

  Supply
  -- Will the price war resume?
  -- Was North American shale destabilized beyond recovery?
  -- Can offshore fields be viable at $34? Can African fields and exploration be viable at $43-48?



Satcoms for oil: Pre-crisis market comments from the two main players

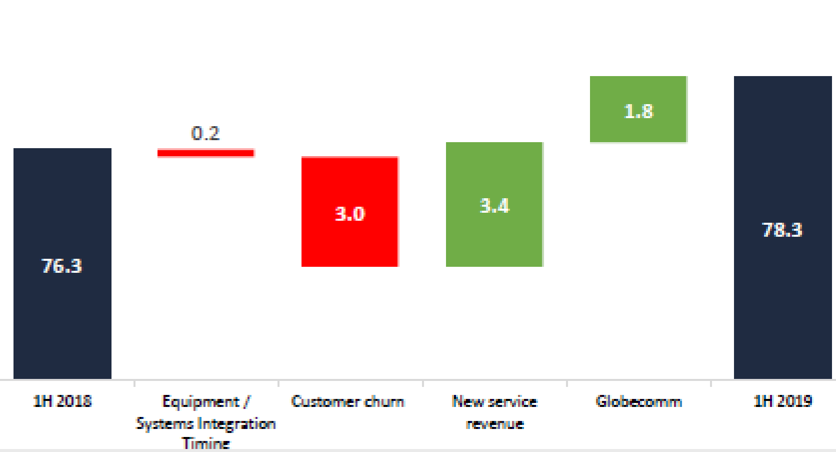
speedcast

Now in Chapter 11, partly because of weakness in its Energy sector

2019 Half Year Results Presentation

27 August 2019

1H18 to 1H19 Energy revenue bridge ($m)



Market Outlook

- Market has stabilised

RigNet

Cutting costs, waiting for recovery

RigNet Update

November 2019

	3Q19	vs. 3Q18		9M 19	9M 18	
Total Revenues	$60,993	↓	6%	$178,835	↑	0.1%

Continued energy sector volatility, particularly offshore

- Slowly increasing rig utilization, but a long way to go
- Strong pipeline of large energy projects including LNG and FPSOs

May update:

- New exploration programs likely to be canceled or delayed
- Spot markets have little activity

Offshore production activity likely to continue (FPSOs in particular)

SI project construction largely continuing, but decision making has slowed

E&P and OFSE restructurings predicted

Euroconsult

Satcoms for energy: Expected vs. observed market trends

For years the satellite industry has expected energy companies to become much larger customers. Is it happening?

Expected	Observed
• More and more oil from remote, high-end deep-sea facilities	• Generally true, at least in 2019
• Rigs will be increasingly automated, remote-controlled, and crawling with IoT devices	• Oil companies tend to agree with the vision but are slow to choose, wary of costs, skeptical of cost savings, focused on the short term, scared of cyber threats, and delayed by procedures and workforce attitudes • Connectivity increases but still average ~5 Mbps/rig and still driven largely by crew welfare • Rigs average ~50,000 sensors but most data is archived; easier to plant a sensor than to use it operationally
• Tough times will force companies to cut costs through technology	• Easier said than done; took many years to pass in shipping • Even easier is to defer investments
• Renewables will need VSATs, e.g. to remote-control wind turbines and manage smart grids	• 650,557 wind turbines at YE 2019 (+10% YoY); how many VSATs? • Good potential for connecting smart grids, but will take a lot of work

Euroconsult