

A close-up photograph of dark, porous volcanic rock, likely basalt, with a rough, textured surface. The rock is the central focus, with a semi-transparent white box overlaid on the left side containing text.

YPF

**FOUR YEARS OF
VACA MUERTA**

The Value of our history and future vision.

**Vaca Muerta Field Trip
December 2016**

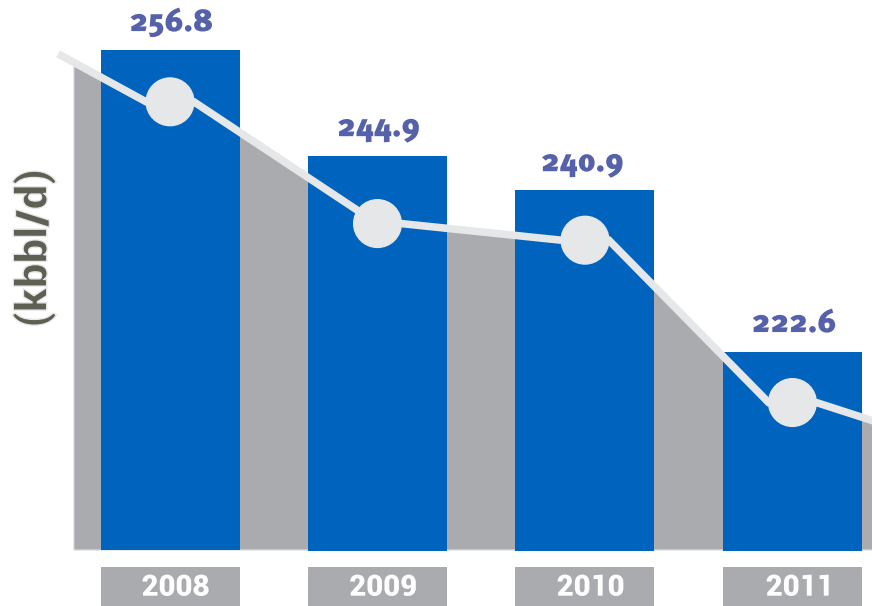
Safe harbor statement under the US Private Securities Litigation Reform Act of 1995.

This document contains statements that YPF believes constitute forward-looking statements within the meaning of the US Private Securities Litigation Reform Act of 1995.

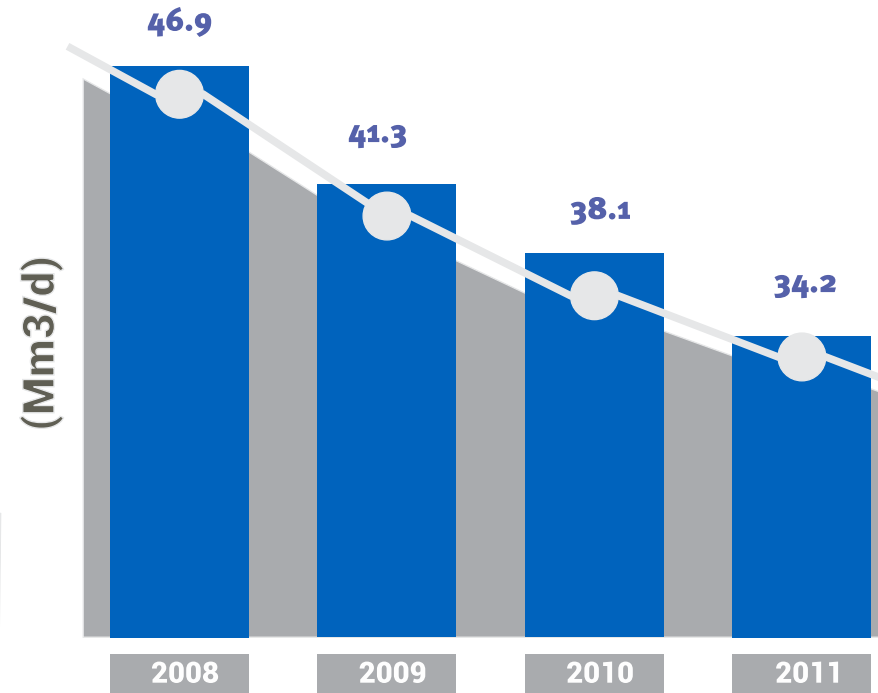
These forward-looking statements may include statements regarding the intent, belief, plans, current expectations or objectives of YPF and its management, including statements with respect to YPF's future financial condition, financial, operating, reserve replacement and other ratios, results of operations, business strategy, geographic concentration, business concentration, production and marketed volumes and reserves, as well as YPF's plans, expectations or objectives with respect to future capital expenditures, investments, expansion and other projects, exploration activities, ownership interests, divestments, cost savings and dividend payout policies. These forward-looking statements may also include assumptions regarding future economic and other conditions, such as future crude oil and other prices, refining and marketing margins and exchange rates. These statements are not guarantees of future performance, prices, margins, exchange rates or other events and are subject to material risks, uncertainties, changes and other factors which may be beyond YPF's control or may be difficult to predict.

YPF's actual future financial condition, financial, operating, reserve replacement and other ratios, results of operations, business strategy, geographic concentration, business concentration, production and marketed volumes, reserves, capital expenditures, investments, expansion and other projects, exploration activities, ownership interests, divestments, cost savings and dividend payout policies, as well as actual future economic and other conditions, such as future crude oil and other prices, refining margins and exchange rates, could differ materially from those expressed or implied in any such forward-looking statements. Important factors that could cause such differences include, but are not limited to, oil, gas and other price fluctuations, supply and demand levels, currency fluctuations, exploration, drilling and production results, changes in reserves estimates, success in partnering with third parties, loss of market share, industry competition, environmental risks, physical risks, the risks of doing business in developing countries, legislative, tax, legal and regulatory developments, economic and financial market conditions in various countries and regions, political risks, wars and acts of terrorism, natural disasters, project delays or advancements and lack of approvals, as well as those factors described in the filings made by YPF and its affiliates with the Securities and Exchange Commission, in particular, those described in "Item 3. Key Information—Risk Factors" and "Item 5. Operating and Financial Review and Prospects" in YPF's Annual Report on Form 20-F for the fiscal year ended December 31, 2015 filed with the US Securities and Exchange Commission. In light of the foregoing, the forward-looking statements included in this document may not occur. Except as required by law, YPF does not undertake to publicly update or revise these forward-looking statements even if experience or future changes make it clear that the projected performance, conditions or events expressed or implied therein will not be realized. These materials do not constitute an offer for sale of YPF S.A. bonds, shares or ADRs in the United States or otherwise.

• Oil Production



• Gas Production

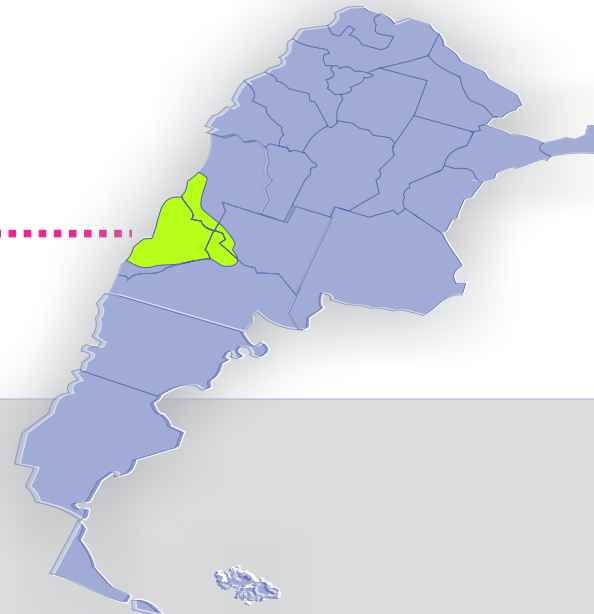
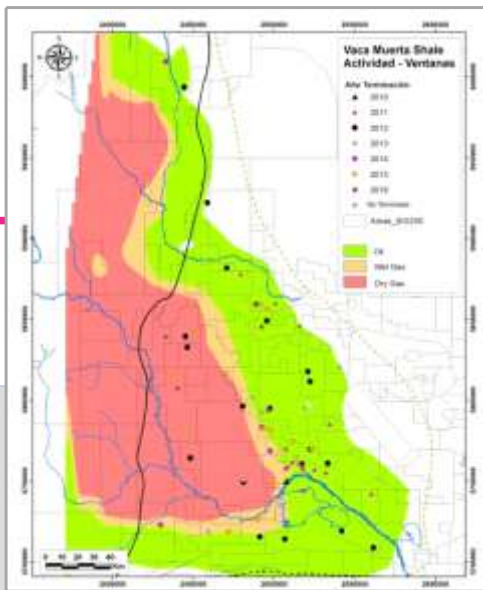
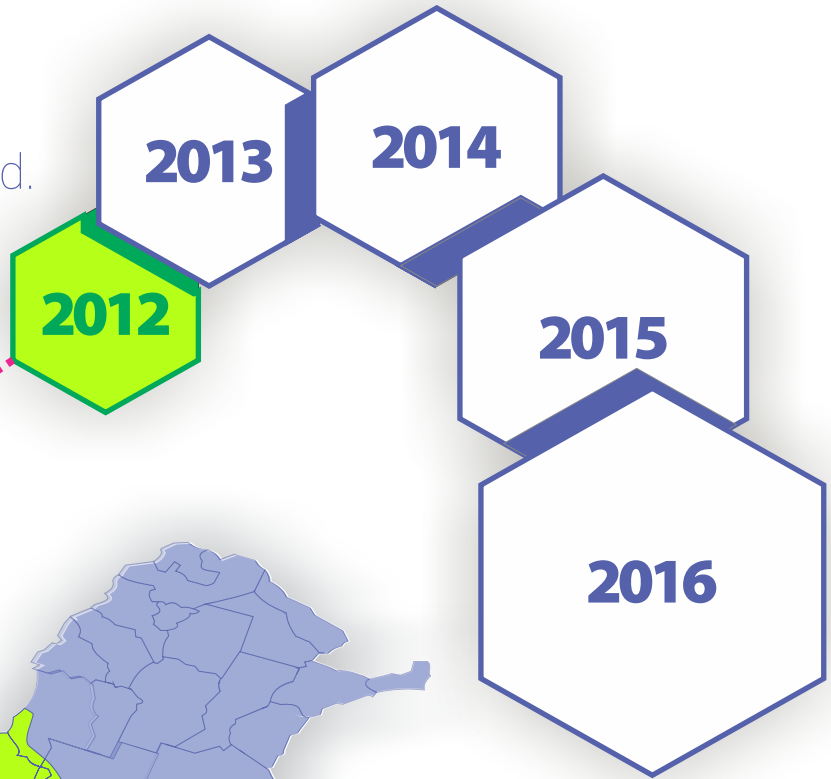


Portfolio Opportunities 2012

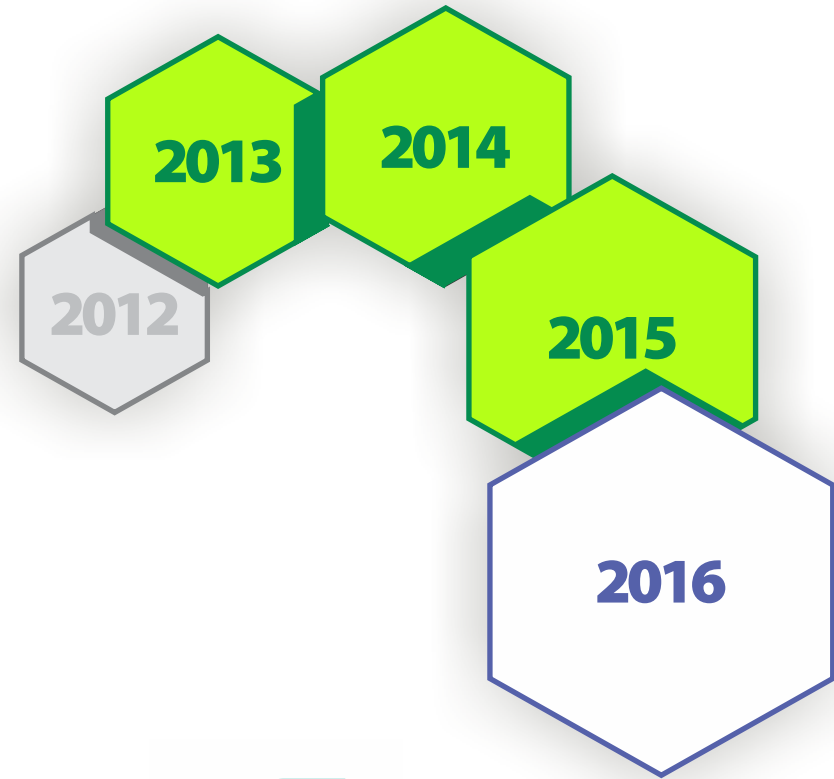
- **Tight gas**
- **Unconventional (Shale oil & Shale Gas)**

Exploratory Campaign in LC finished.

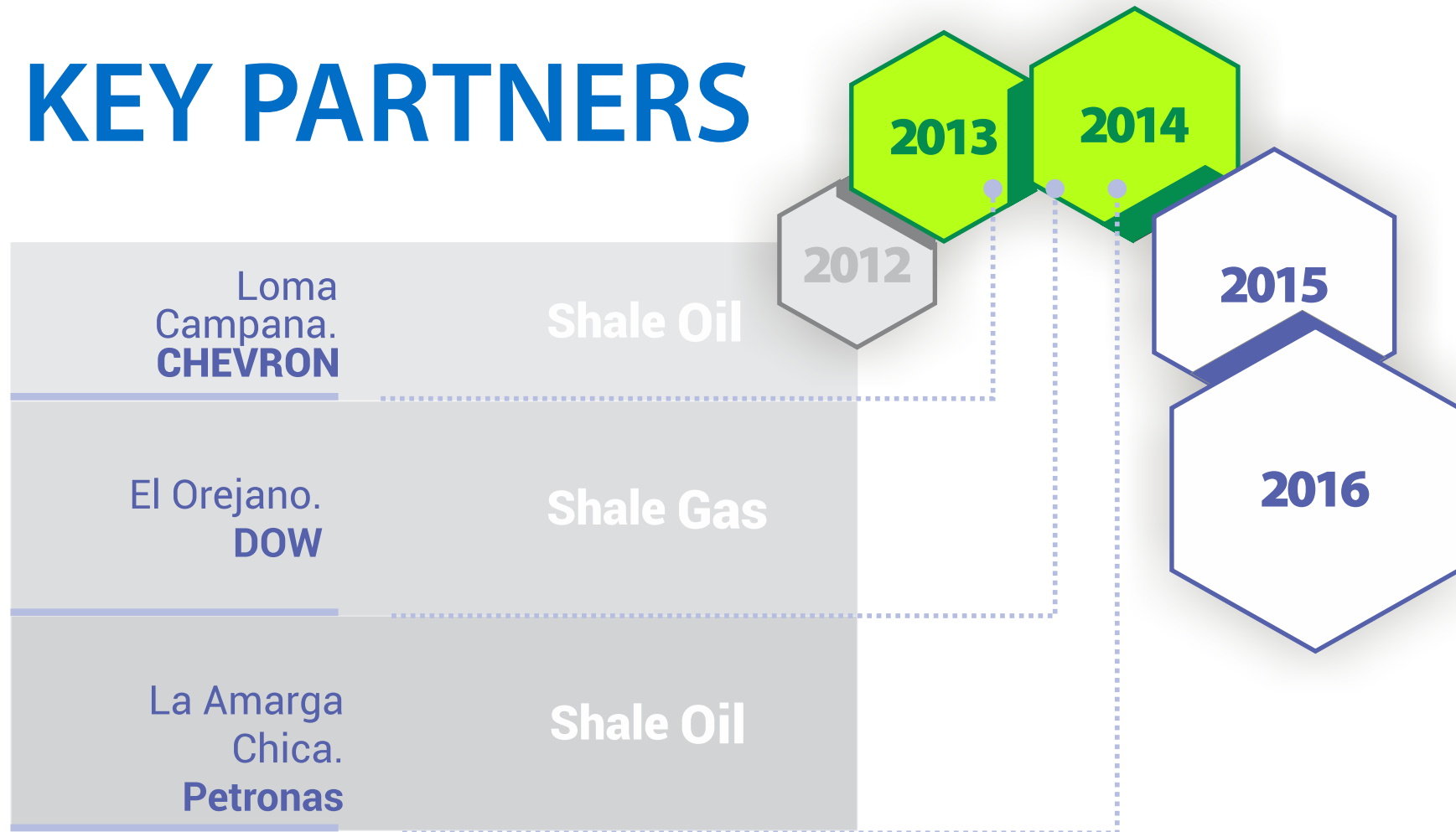
67 exploratory wells to Vaca Muerta
920 MUSD



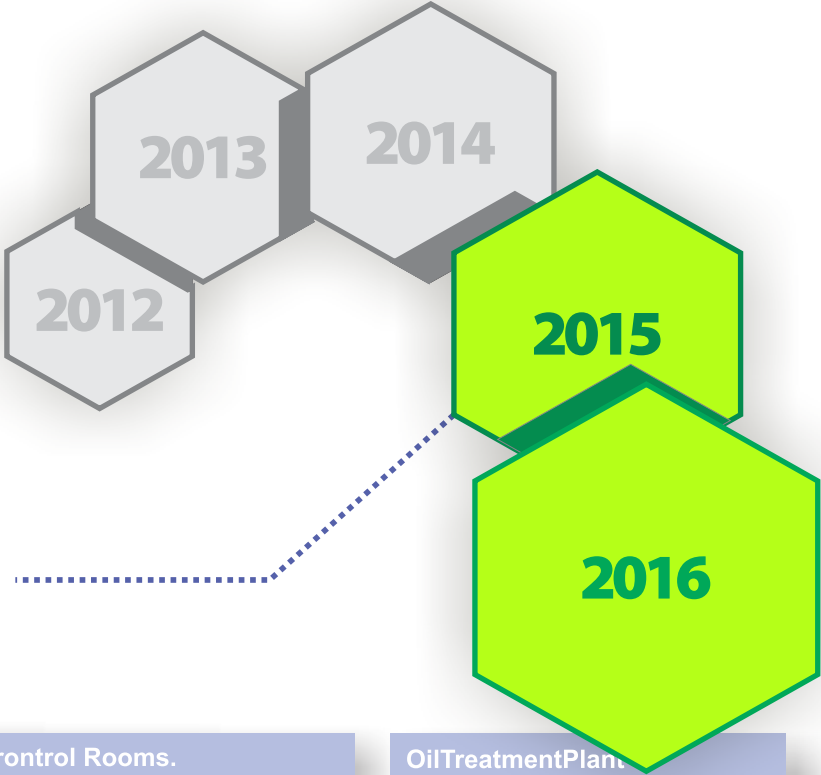
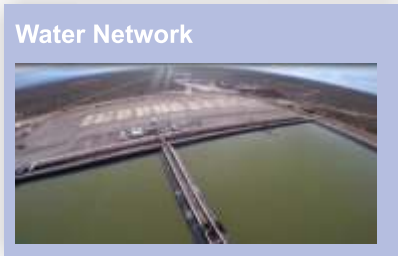
KEY PARTNERS



KEY PARTNERS



INFRASTRUCTURE





First four years of **Vaca Muerta's** history: Infrastructure



NOC Office

INFRASTRUCTURE | 2015



First four years of **Vaca Muerta's** history: Infrastructure



Logistic Center

INFRASTRUCTURE | 2015



First four years of **Vaca Muerta's** history: Infrastructure



Water Network

INFRASTRUCTURE | 2015



First four years of **Vaca Muerta's** history: Infrastructure



EPFs

INFRASTRUCTURE | 2015



First four years of **Vaca Muerta's** history: Infrastructure



Gas Pipeline RDM –LLL

INFRASTRUCTURE | 2015



Control Room Production

INFRASTRUCTURE | 2015



Control Room Drilling

INFRASTRUCTURE | 2015



Proppant Plant

INFRASTRUCTURE | 2015



First four years of **Vaca Muerta's** history: Infrastructure

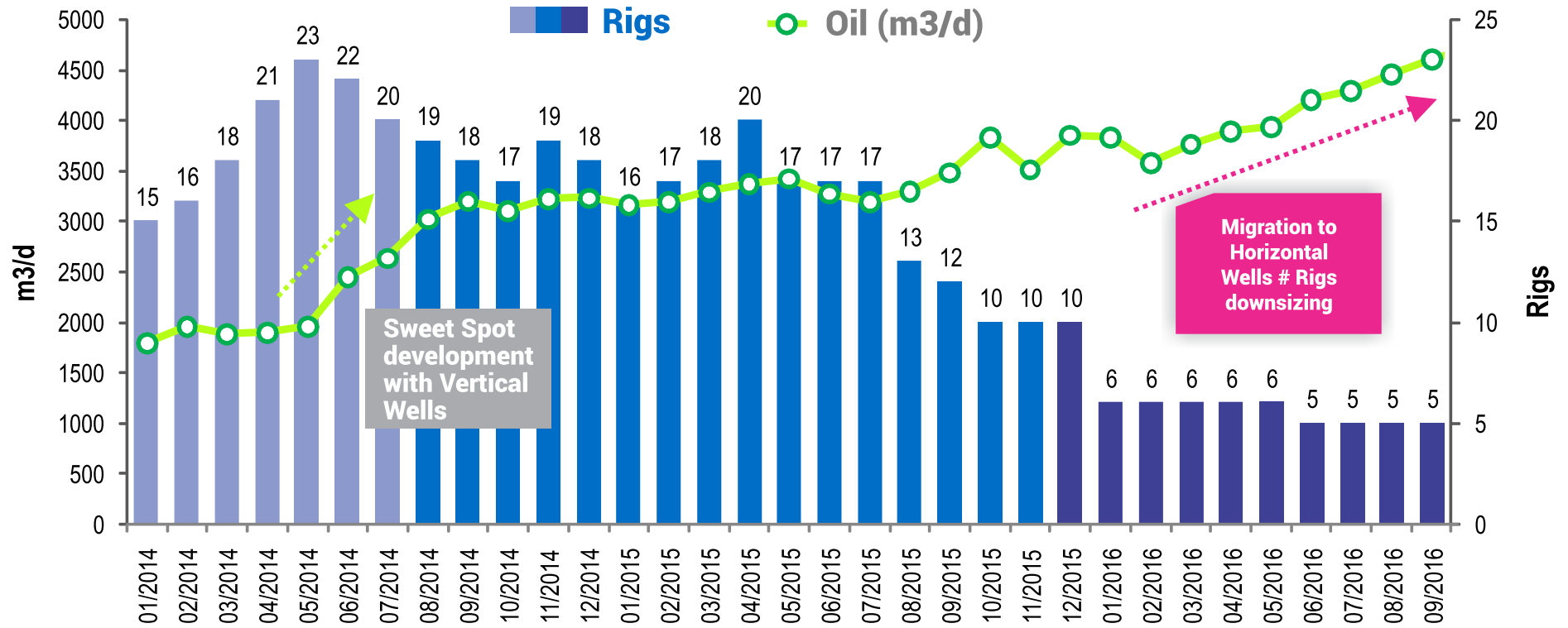


Oil Treatment Plant

Capacity 8000 m³/d

INFRASTRUCTURE | 2015

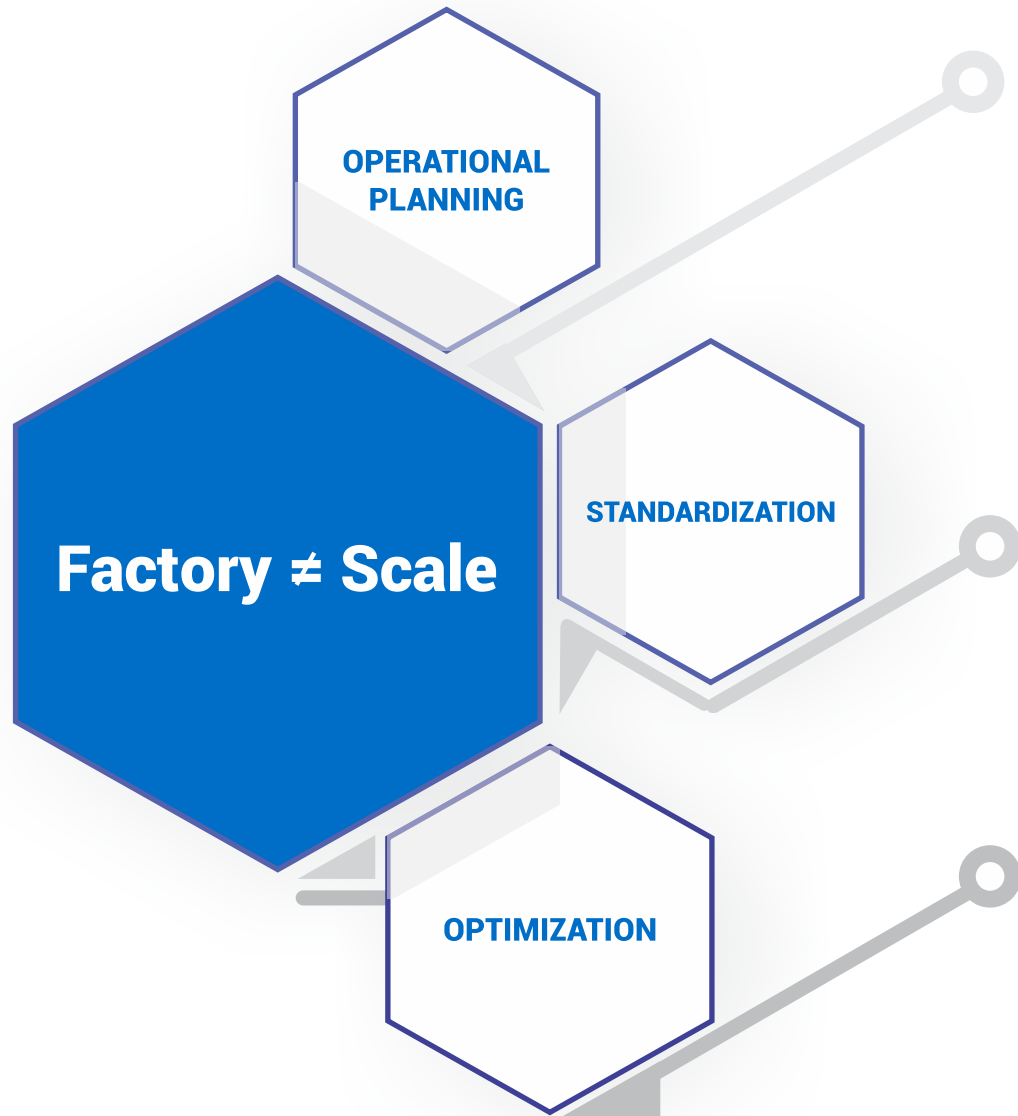
Loma Campana Oil Production (m3/d) – Drilling Rigs (#)

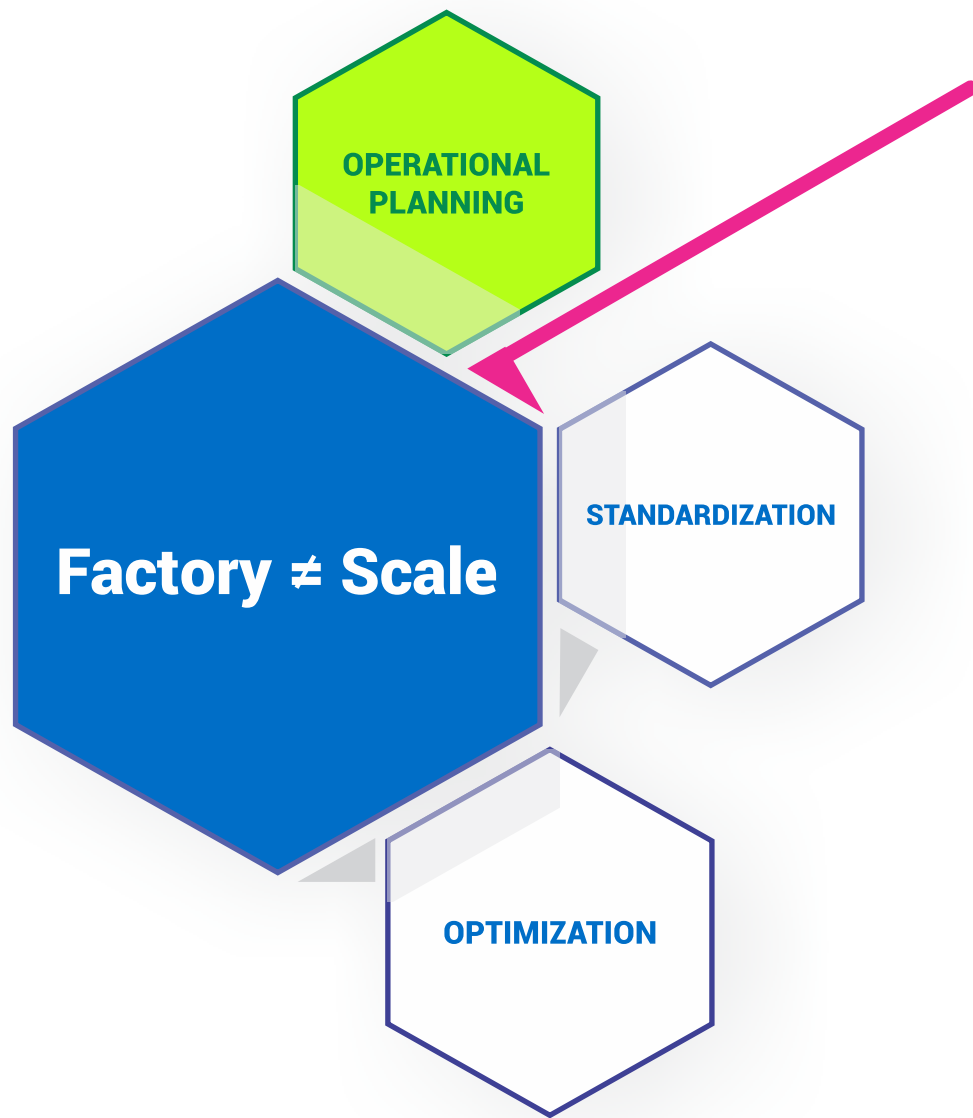




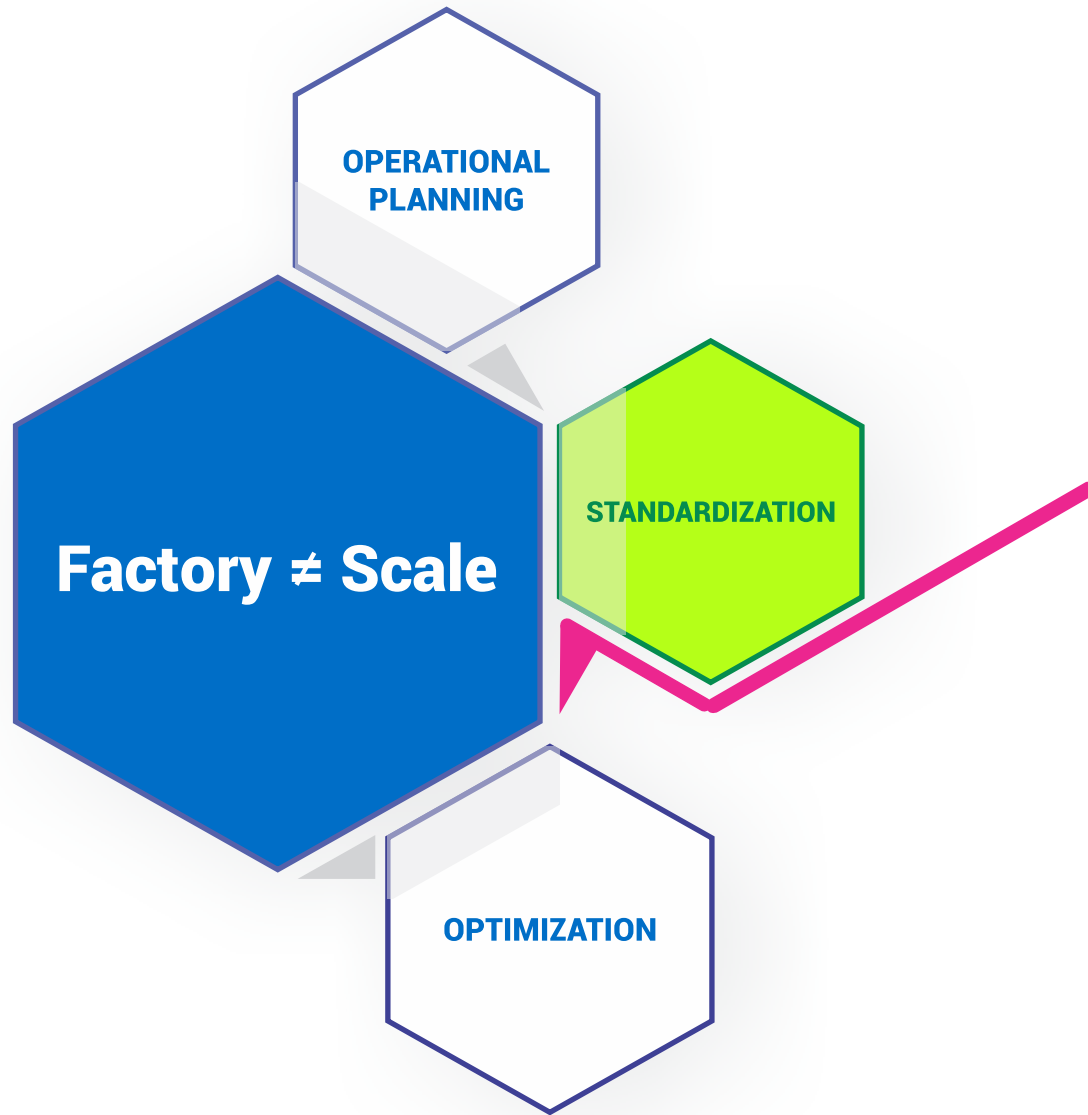
Scale Increase

- Break the inertia of the industry and generate new infrastructure.
 - Establish VM in the world to attract investments.
 - First Unconventional Cluster outside North America, with more than **60** Kboe/d produced from VM Formation.
 - Captured economies of scale.
 - The company obtained a social license.
-

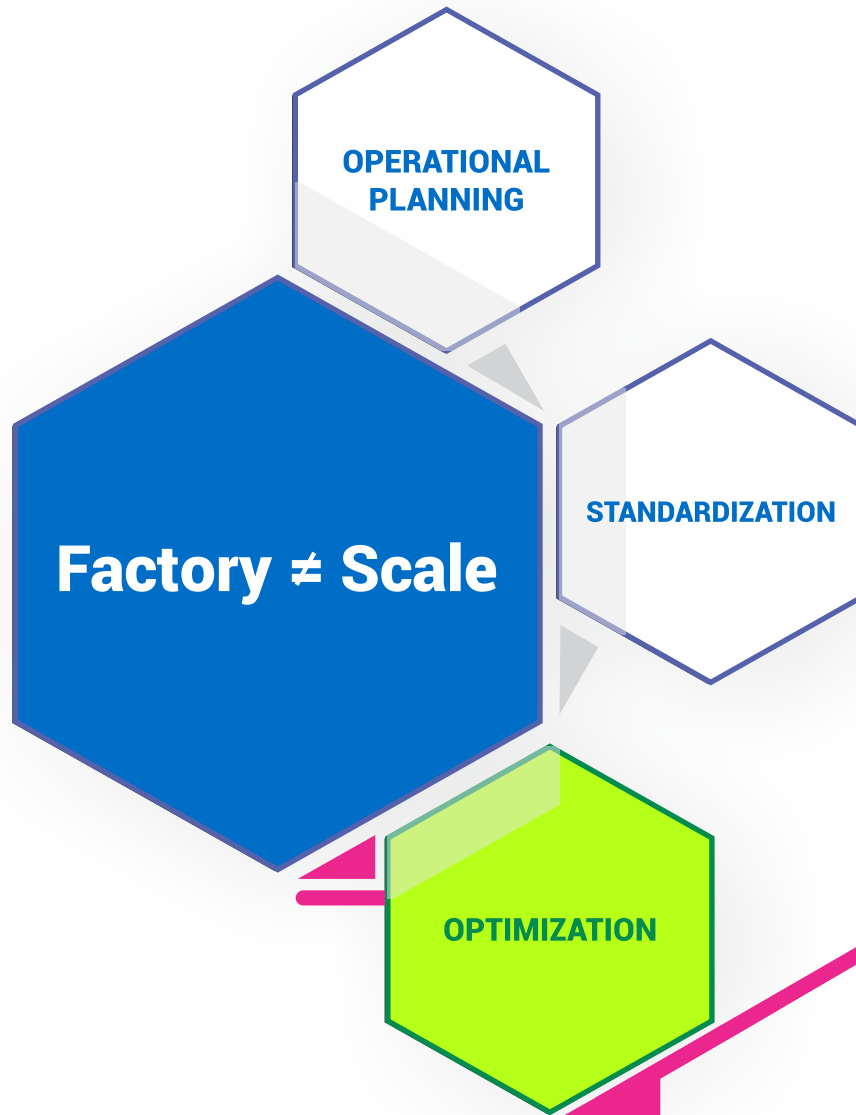




- Advance in fronts
- Minimum secure distance between:
Drilling
Completion
Production
- Preventive shut ins due to interferences



- Drilling Rigs
- Well Pad Design
- EPFs



Development cost (USD/BOE)

continuous improvement

- MM + RSS
- Soluble technology
- Sleeves
- National sand



Unconventional
DNA
Factory
Model



..... **Know how:**

- Multi-wellpad design
- VM Bottom-up development strategy
- Preventive shut in interferences



..... **Know how:**

- Slim well design
- Fit for purpose fleet (skidding & walking rigs)
- Batchdrilling operations
- Offline operations
- Remote monitoring
- BHA MDF+RSS Geosteering
- Longer laterals
- Service integration
- In-house technical engineering staff:
UBD, mud, directional



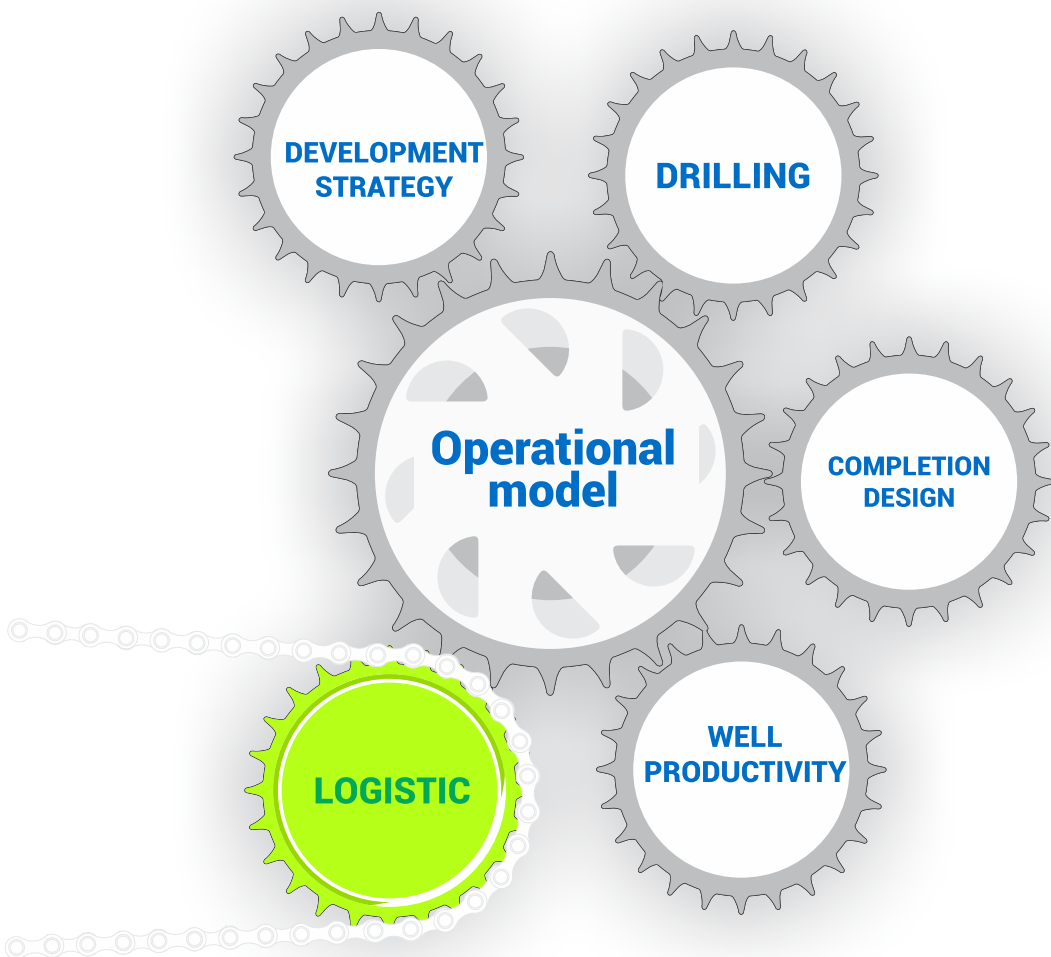
..... **Know how:**

- In-house Frac plan design
- YPF quality control in fracture set
- Conductivity vs. Complexity
- YPF's own sand supply
- CTU and wireline specialists
- New technology
 - Diverters
 - Frac sleeves
 - Re-frac
 - Soluble plugs
 - Geosteering
 - Microseismic
 - Chemical tracers & PLTs



..... **Know how:**

- Choke management policy
- Artificial lift design
- Paraffin control (Flow assurance)



..... **Know how:**

- **24 hr** logistic control room
- **+400** trucks
- Installation of watersupply: **centralized pool + water pipelines**
- **100%** flexipipe for fracture water
- Proppant Plant in core zone, **100%** transportation in bulk sand trucks



..... **Know how:**

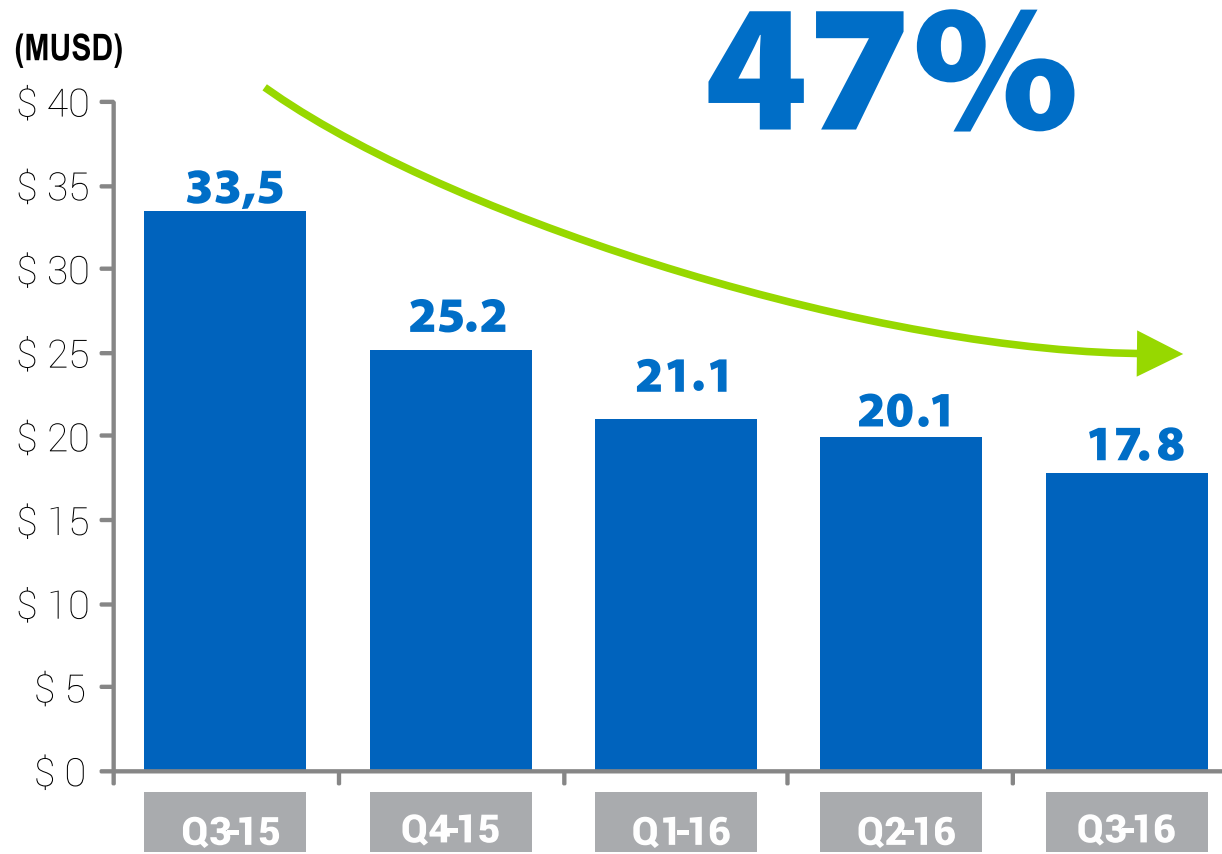
- Telemetry and automation
- Real time optimization
- Facilities standardization
- Lean Six Sigma as an optimization processes

Continuous improvement



Loma Campana

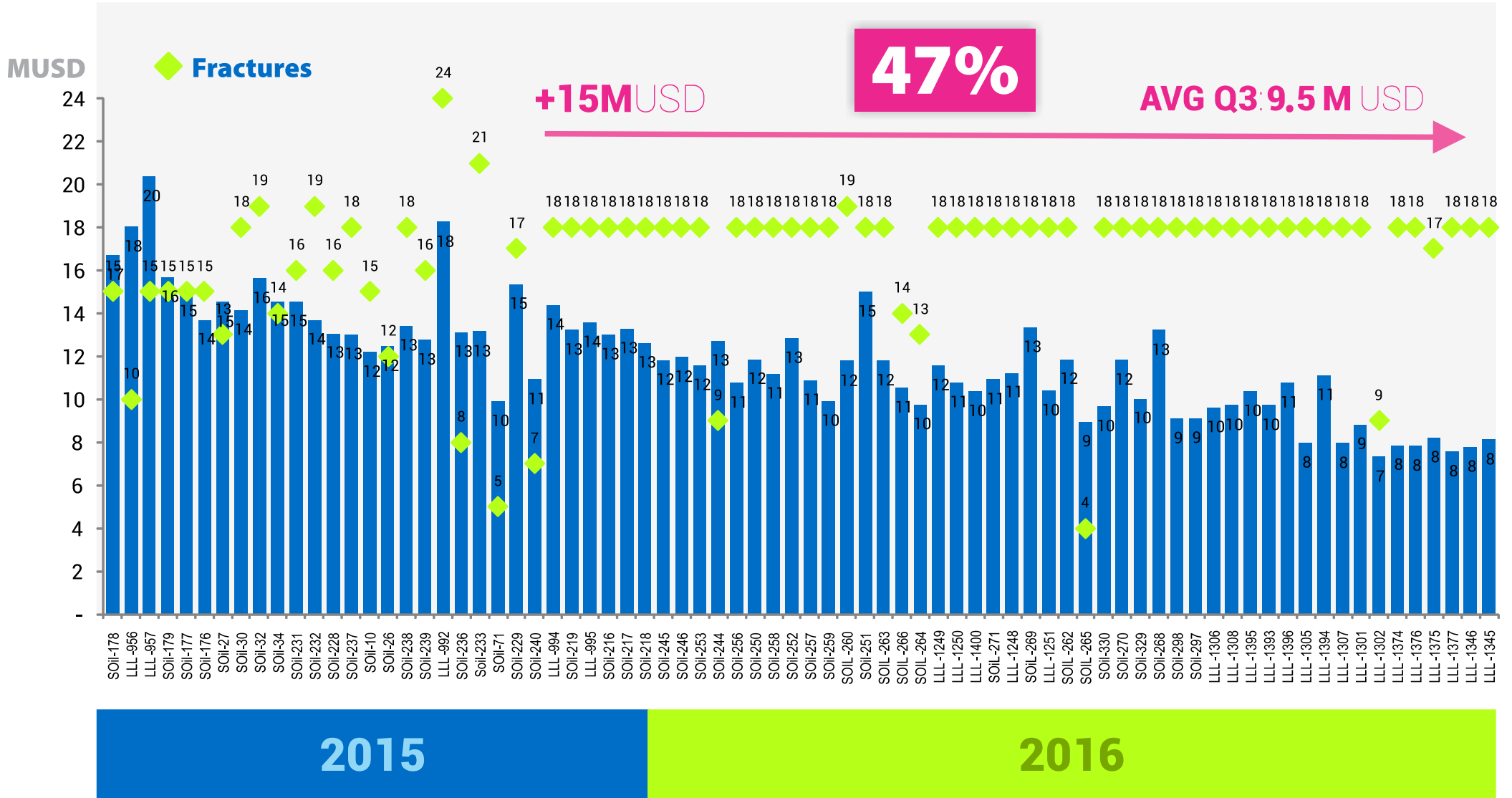
Development Cost (USD/BOE)



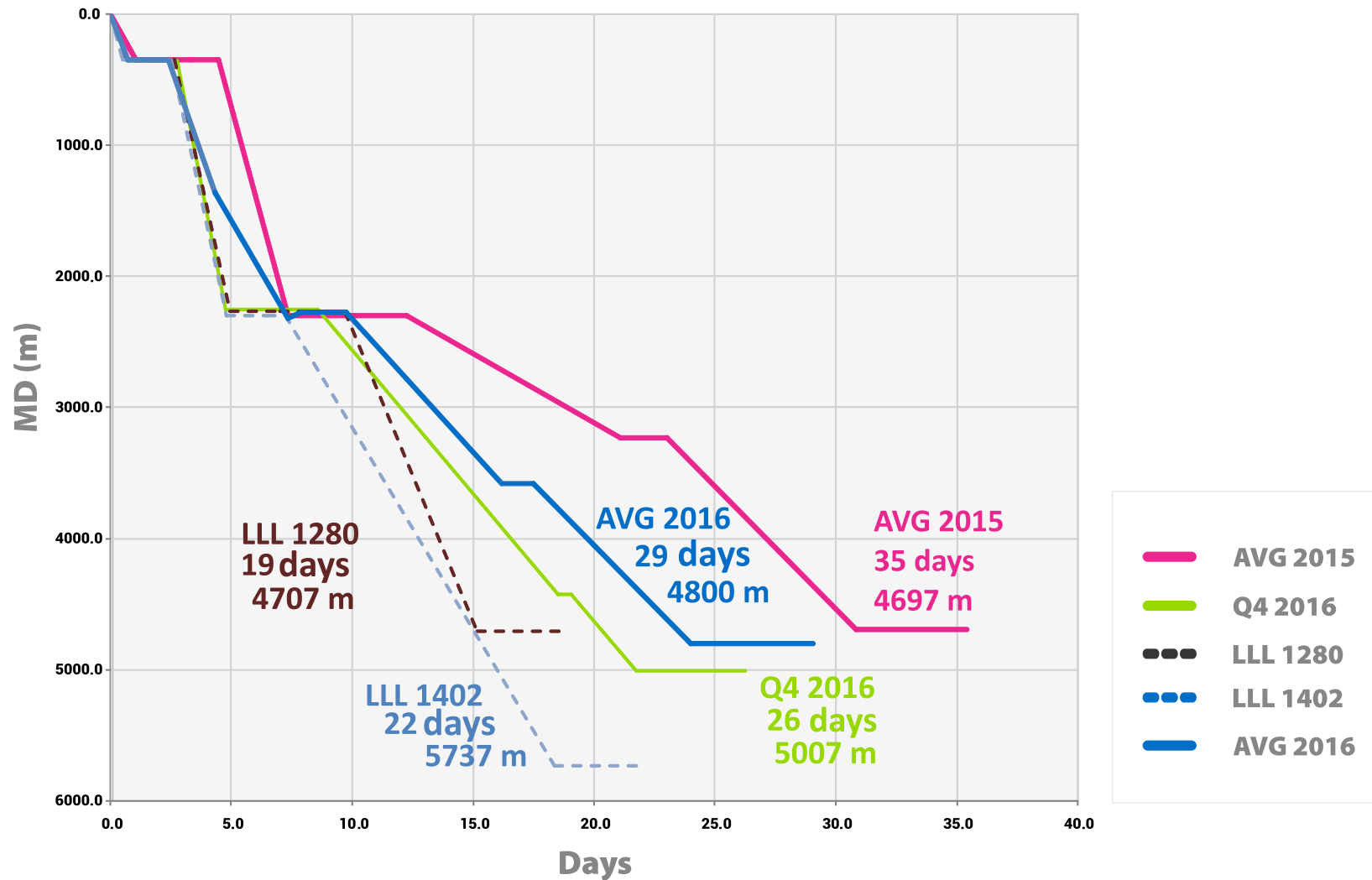
47%

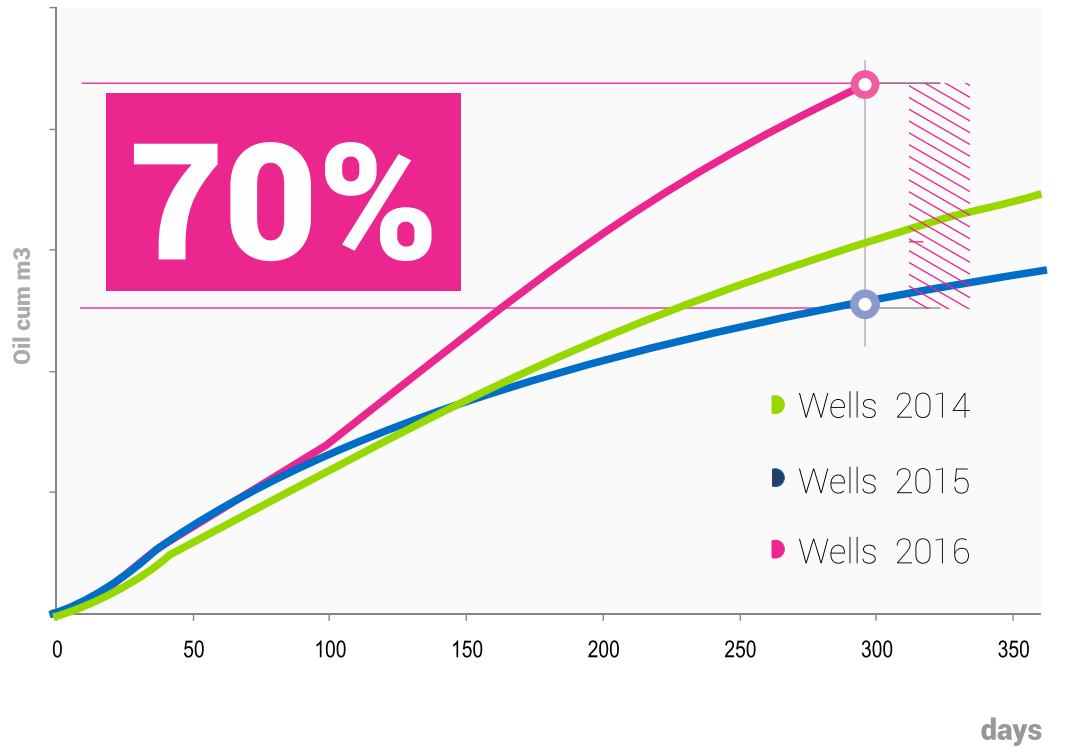
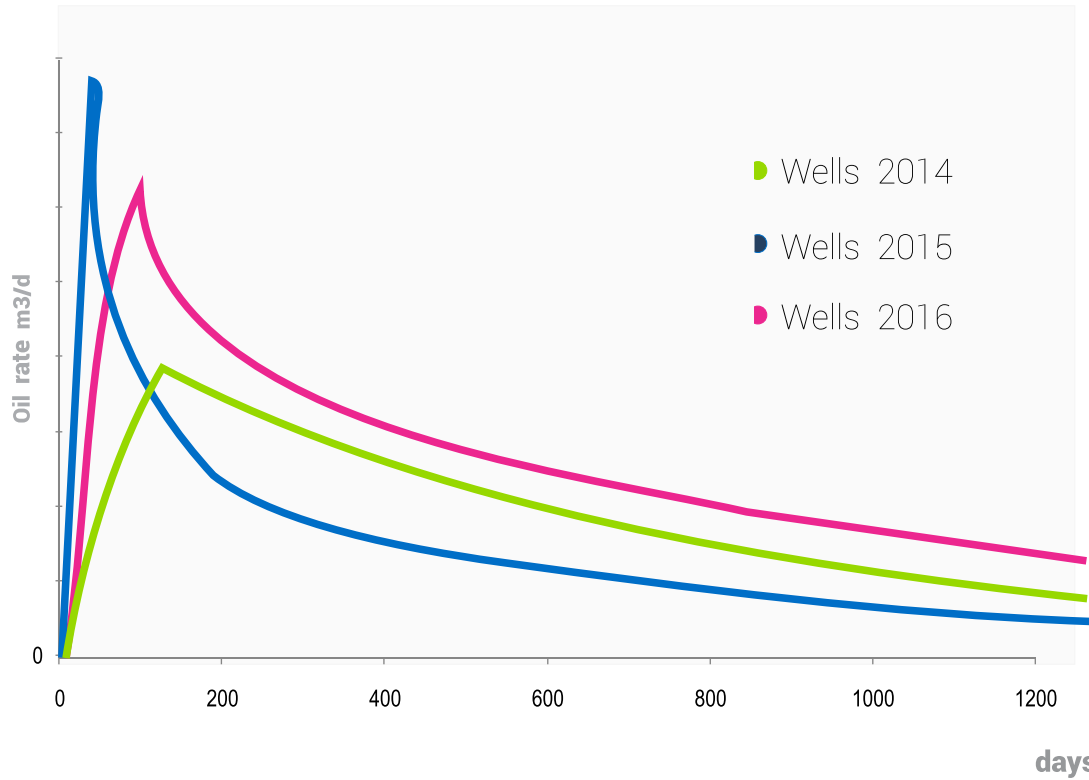
Development Cost (\$/BOE)

CONTINUOUS IMPROVEMENT



2015 / 2016 Loma Campana Drilling Days vs. Depth





What we look for?

Sustainable VM development at international prices

Competitiveness

What we need?

Favorable investment conditions	Well productivity	well cost	work efficiency
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What we have?

Organizational Capacity and Technical Teams with greater knowledge

Better prepared industry and available technologies in the Basin

Vaca Muerta positioned worldwide



YPF

OUR ENERGY

Thank you