

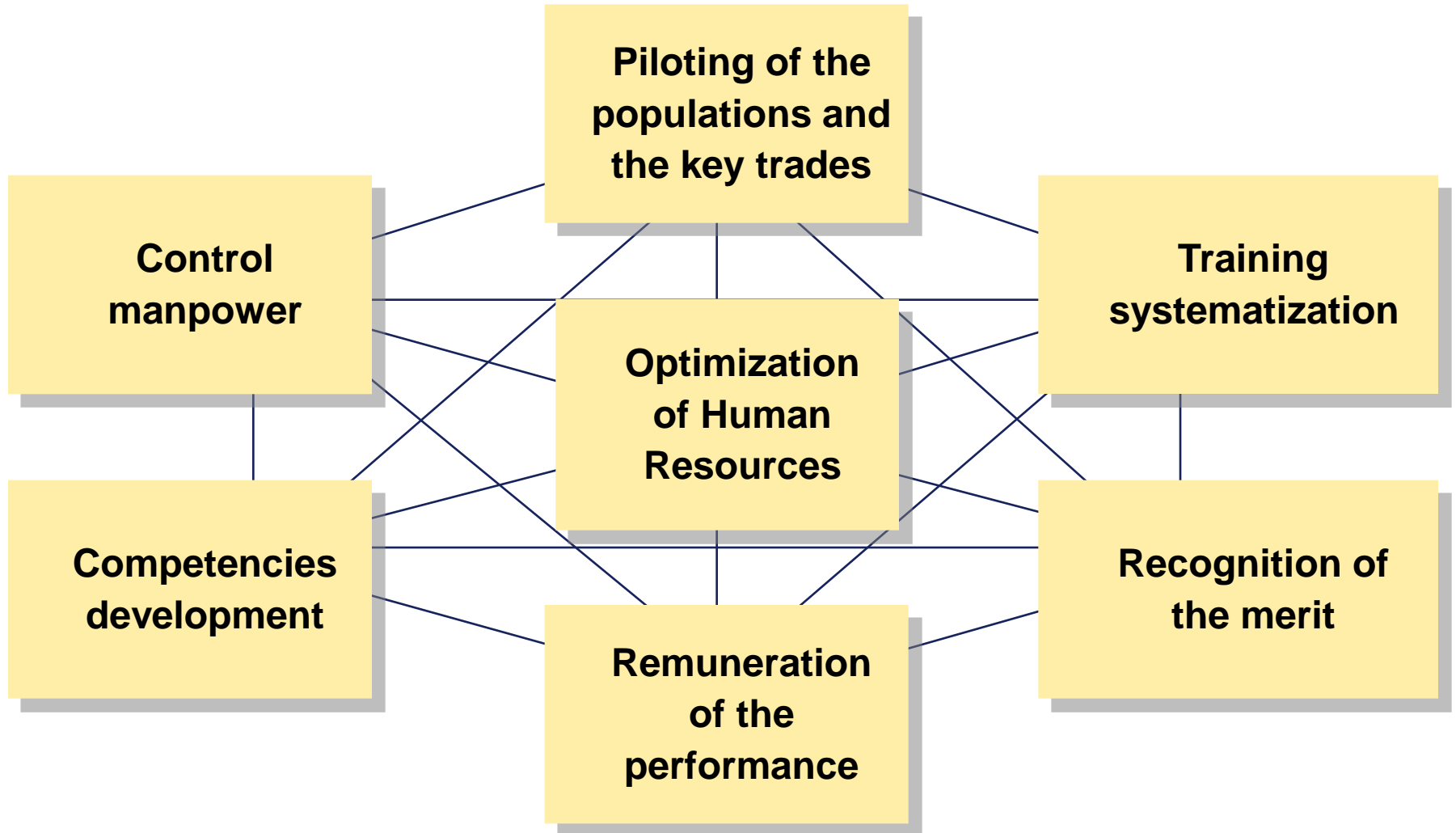
Training challenges to support Sonatrach's Development Plan

Offshore Technology Conference
May 4-6th Houston

Outline

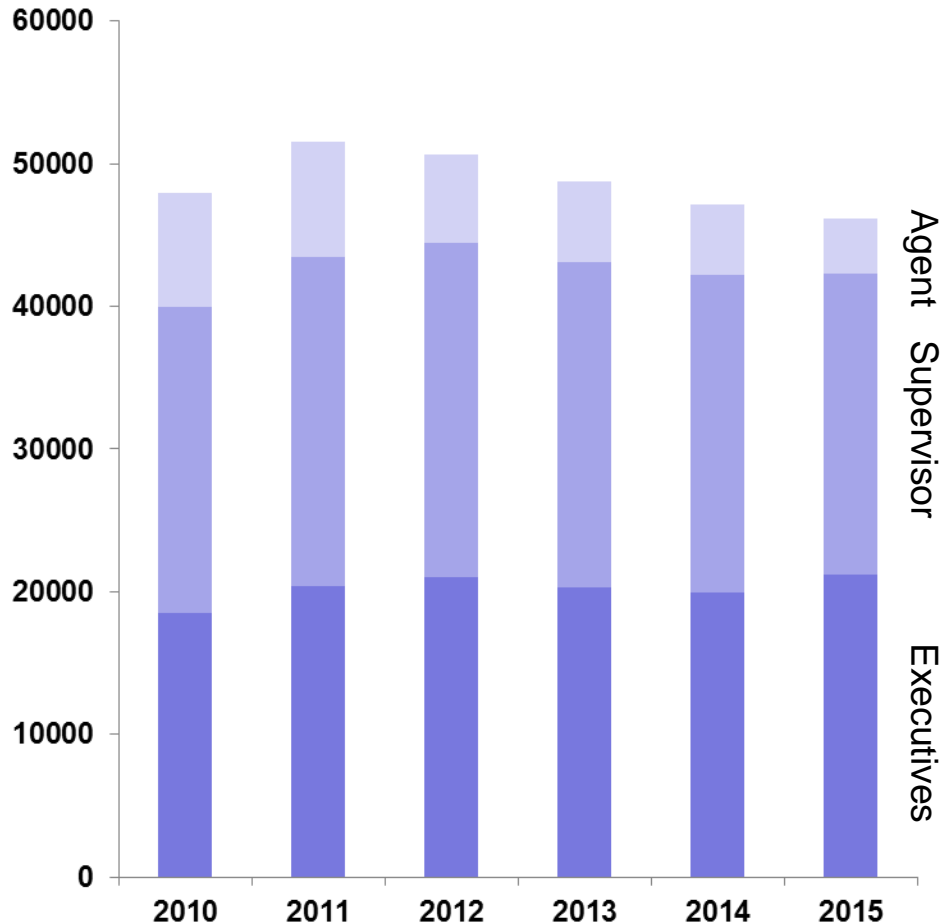
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Sonatrach Human Resources Policy



Manpower of Sonatrach: development through a recruitment based on a Qualitative training

The recruitment process is directed towards the university populations allowed a qualitative evolution of permanent manpower



- To cope engineers & technicians turnover in 2015 Sonatrach recruited, 8000 employees of whose 3000 engineers & 5000 senior technicians
- Massive and qualitative effort of formation financed, on average, these last years with height moreover 34 million equivalent dollars
- The training program borrows and optimizes all spaces of communication and exchanges which our Group initiates and encourages
- Capitalization of the experiment with its 46 000 employees and more than de sixty ten subsidiary companies and participations with their 80 000 employees.

Medium term 2016-2020 main HR orientations

The main HR orientations for the medium term 2016-2020:

- Focus on core business needs,
- Anticipate the HR future needs by training PTP's and graduates pools to ensure succession,
- Implement a master plan for accelerated development program to enhance competencies in some priorities linked to development plan,
- Identify and prepare High Potentials for core business and strategic positions,
- Attract et retain talent selectively,
- Encourage the mobility in the Group,
- Settle appropriate compensation package.

PTP's: Drilling Engineers, Reservoir Engineers, petrophysicists, Geologists, Geophysicists

Offshore projects

Sonatrach, which has increased its exploration operations, inscribed in its outlook achieving a first offshore wells. The Sonatrach Group expects to make its first offshore drilling in Oran and Bejaia, defined as offshore exploration areas after seismic studies of their territorial waters.

The first drilling will be carried out by Sonatrach alone or in partnership.

Offshore areas in Algeria



In Algeria, the offshore areas likely to contain hydrocarbons are located between 2,000 and 2,500 meters deep, according to the results of the first seismic studies of the Algerian offshore . Indeed, offshore 3D seismic data acquired in 2014 by Sonatrach concern two exploration blocks , including a 4080 km² , located between Bejaia and Annaba and a second between Ténés and Mostaganem 1211 km² , revealed that these areas are likely to contain hydrocarbons .

2018 : Acquisition of 500 km of 2D seismic offshore drilling + 1 offshore well (in Mostaganem , Tenes)

2019 : Offshore drilling 1 well (in Bejaia , Annaba).

Training provided to support offshore projects

- Overall Sonatrach provides each year 34 million dollars for training particularly in the core business of which offshore, This investment concerns annually 36% of the permanent workforce.
- The main training sessions provided in offshore are:
 - Seismic acquisition & processing 2D 3D,drilling technical offshore (On job training) with foreign partner (22 engineers)
 - Seismic marine with Schlumberger /UAE (14 engineers)

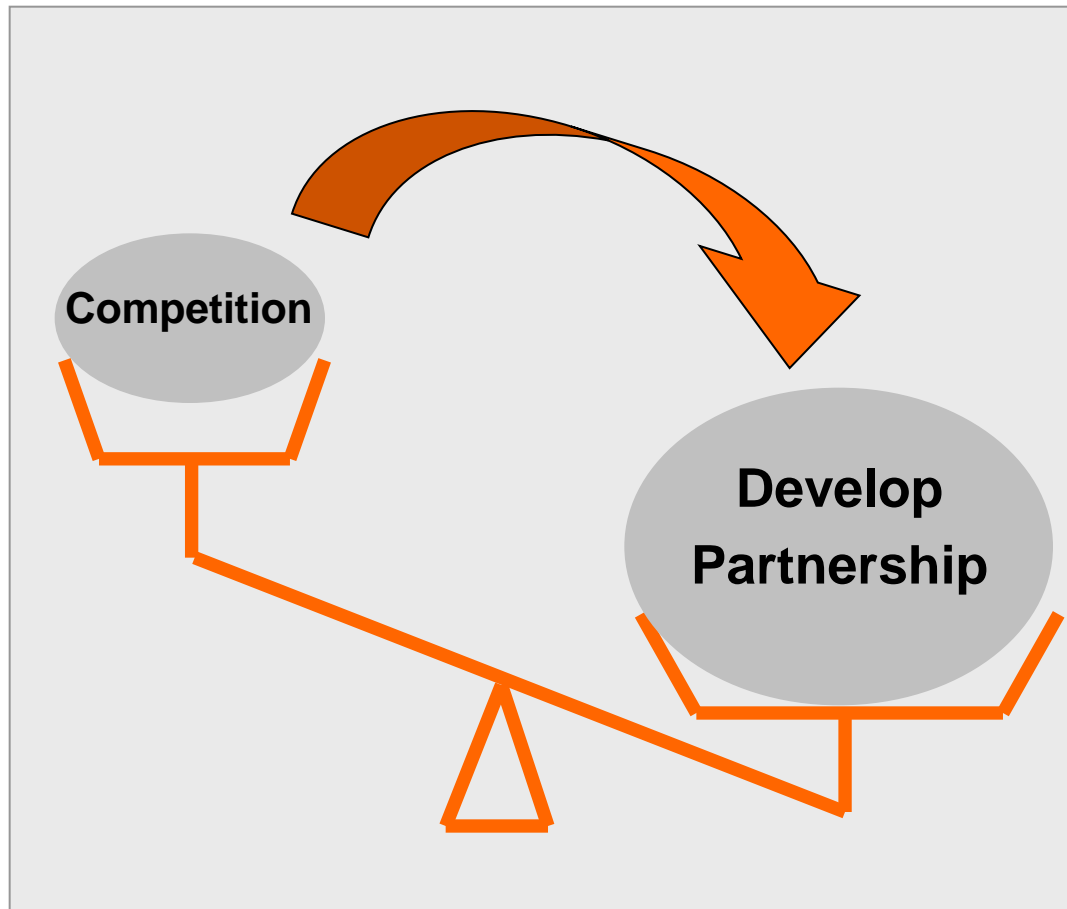
in the medium term 2016-2020



- Each year, in average 40-50 PTP's will be trained in partnership with services companies with extensive experience in the offshore in order to ensure fully offshore operations

Concluding remarks

There is a need to find innovative solutions supporting the co-operation as regards management and development of key human resources



Main issues

- Develop training and research for the industry of hydrocarbons
- Support the transfer of the new technologies
- Reinforce competences in management of large the projects
- Develop competencies in upstream including offshore and downstream