Fuelling Angola’s growth
While oil is by far Angola’s most important sector, the current low price of the commodity has added urgency to the need to diversify the economy. Moves to exploit the country’s other resources are now underway with an ambitious national geological plan, Planageo, in the forefront. Angola has 38 of the world’s 50 most important minerals, including gold, copper and iron, and could shortly become self-sufficient in phosphate fertilisers.

Possession of natural resources does not, however, automatically make a nation wealthy. Countries with such potential may be very poor, while others with few assets, such as Singapore and Japan, whose wealth is based on the quality and organisation of their human resources, may be extremely prosperous.

Fortunately Angola has a relatively large number of qualified and highly-experienced geologists, especially in the area of oil (see page 12), but also in diamond mining. They are, thanks to their transferable skills, in a position to take up senior posts in enterprises seeking to develop new mineral riches.

If the world’s most favoured economies are those which marry an educated population with abundant natural reserves, then Angola is on the right path to achieving this goal.

John Kolodziejski
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President José Eduardo dos Santos embarked on a five-day state visit to China in June at the invitation of Xi Jinping, his Chinese counterpart. The aim was to reinforce Angola’s existing close links with the Asian powerhouse through meetings with local business groups, as well as to negotiate a new finance package. The two countries also agreed to develop a bilateral economic forum. The Angolan head of state reiterated the country’s interest in continuing its privileged relationship with China, especially in joint actions to develop basic and economic infrastructure.

As well as a courtesy visit to the offices of top political advisor Yu Zhengsheng, the Chairman of the National Committee of the Chinese People’s Political Consultative Conference (CPPCC), the guest of honour also toured the Tianjin Economic-Technological Development Area, where he was able to see the city’s high level of development.

On the return leg of his Far East trip, the president also undertook his nation’s first state visit to the United Arab Emirates, where he held talks with Crown Prince of Abu Dhabi, Sheikh Mohamed bin Zayed Al Nahyan. During their meeting, President dos Santos expressed Angola’s desire to widen co-operations with the Persian Gulf state.
Angola signed a contract in June for the 2,172MW Caculo Cabaça dam on the middle reaches of the River Kwanza in Cuanza Norte province. A Chinese consortium led by CGGC (60 per cent), along with Boreal Investments (37.5 per cent) and CGGC & Niara Holding (2.5 per cent), will build the $4.5 billion megastructure. CGGC was behind China’s Three Gorges Dam, the world’s largest, with installed capacity of 22,500MW.

The project is scheduled to take some 6 years to complete with Industrial and Commercial Bank of China expected to provide finance.

This new dam will be larger than Angola’s Lauca project (2,017MW), due on-stream in 2017.

Sonangol strengthens Total ties

Sonangol and French oil major Total announced an agreement on July 5 reinforcing their partnership in various areas, including joint production and exploration in Angolan and blocks abroad. Sonangol’s board president Francisco de Lemos José Maria signed the accord alongside the CEO of Total, Patrick Pouyanné, in the presence of France’s head of state, François Hollande, and Angola’s foreign minister, Georges Chikoti.

President Hollande said Total currently invested $2.5 billion a year in Angola and accounted for 40 per cent of production. He also spoke of the need for Total to diversify its activities in Angola, through projects linked to natural gas and clean energies.
Sonangol Academia signs quality deal

Sonangol Academia, the educational arm of Sonangol E.P., has signed a co-operation deal with Total E&P Angola aimed at improving technical training and certification in its School of Safety. The school, based at Cacuaco just north of Luanda, provides training in health, safety and the environment for workers operating in the oil sector.

Baltazar Miguel, Sonangol Academia’s board president, and Jean-Michel Lavergne, director general of Total E&P Angola, inked the agreement on behalf of the two organisations on May 16.

Angolan space control

The Minister for Telecommunications, Technology and Information, José Carvalho da Rocha, laid the foundation stone for Angola’s Satellite Mission Control at Funda in the north of Luanda province on June 28. The centre, which will track and control the country’s first communications satellite, Angosat-1, will consist of a three-storey building occupying an area of 6,617 m².

Due to be launched in the first quarter of 2017, Angosat-1 will provide telecommunications, television, Internet and electronic governance services for at least 15 years and will cover all Angolan territory.

SOYO LNG BACK IN BUSINESS

The Angola LNG plant at Soyo is to restart liquefied natural gas operations in the last quarter of 2015, with export cargoes resuming within the first three months of 2016. Owing to gas pipeline faults, plant operations were interrupted in April last year. Contractor Bechtel has carried out the necessary repair works.
President José Eduardo dos Santos met his Italian counterpart, Sergio Mattarella, and the Prime Minister, Matteo Renzi, during his July visit to Italy. He also met entrepreneurs and representatives of international organisations based there. Angola is Italy’s third biggest trade partner in sub-Saharan Africa.

The visit was the president’s third and coincided with the country hosting the 2015 Expo in Milan, which Angola is currently attending with the largest African pavilion at the event. Angola is also participating in the Venice Biennale, one of the world’s most prestigious arts exhibitions.

Sonangol board president Francisco de Lemos José Maria named Óscar Alves Morais de Brito as president of Sonangol Asia Ltd (SonAsia) on May 26. Morais will also perform the role of spokesman for the board of Sonangol Comercialização Internacional (Sonaci) during 2015–17 as well as serve on its board.

Angolan wine, ‘Serras da Xxila’, was sold abroad for the first time this summer. The wine, from the Herdade de Santa Maria vineyard in Cuanza Sul province, was exported to Portugal.

The 2013 vintage consisted of 70,000 bottles, of which 60,000 were sold locally. It was aged in oak barrels for a year and has aromas of raspberries, mulberries and spices.

Brazilian and Portuguese specialists advised on the $16 million Angolan wine, olives and stock-raising project, which dates back to 2008. According to a study by the Portuguese winemakers association, ViniPortugal, Angola is the second largest wine market in Africa, with Portugal having over 90 per cent of market share.
New French deals

Several partnership agreements were reached during the visit of France’s President François Hollande to Angola in July. These covered the fields of energy, water, environment and hotels.

Angola’s Ministry of Energy and Water and the French Vergnet Group signed deals to produce solar energy in Ondjiva and Xangongo (Cunene province) and in energy transmission.

Leading French hotelier Accor and Angola’s insurance and investment company AAA agreed to jointly open and manage 50 hotels with 6,200 rooms, creating 3,000 jobs.

The two nations made other co-operation agreements in power production, meteorology, science research and maritime pollution control vessels.

President José Eduardo dos Santos said more than 60 French companies were active in Angola, and outside of the oil sector 87 French private investment projects had been approved in various regions of the country.

“This is clear proof that we’re interested in expanding our co-operation in non-oil areas”, said the president, who pointed to the sectors of farming, transport, energy, hotels and tourism, among many other examples.

President dos Santos greets France’s President François Hollande

ANGOLAN SEATS ON UN BOARDS

Angola is to take a place on the board of UN-Habitat for a four-year term from January 1, 2016. The nation will be one of two representatives from the southern African region. UN-Habitat is a body set up by the United Nations (UN) General Assembly to specifically address the housing sector, human settlements and sustainable urban development of member states.

A second recognition of Angola’s international presence was its election in June to the finance committee of the UN’s Food and Agriculture Organization (FAO). This committee consists of 12 members: two from Africa, Asia and the Pacific, Europe, Latin America and the Caribbean and Near East, and one each from North America and Southwest Pacific.
SonAir helicopter

Two SonAir pilots who died in a tragic air accident in Cuanza Sul were buried in Luanda on July 13. Adão Mateus Francisco Filho and José Custódio Saldanha Novais, respectively the pilot and co-pilot of the SonAir helicopter, which was in service with the National Emergencies Institute, were killed in the July 2 crash, along with four others.

Vice-president Manuel Vicente attended the funeral in his capacity as chairman of the National Council for Road Traffic Planning and laid wreaths at the tombs of the deceased.

Universo would also like to convey its condolences to the families and colleagues of the two pilots for their tragic loss.

World Bank lends $650 million

The World Bank approved guarantees and loans worth $650 million to Angola on July 1. The funds will help the state to manage and develop policies in the field of fiscal and public investment. The idea is to support the modernisation of the tax administration and tax policy, thus enhancing the efficiency and effectiveness of public investment.
Sonangol has requested bids for 10 new onshore oil blocks by September 18. Seven of the blocks are in the Kwanza Basin (designated KON3, KON 5, KON 6, KON 7, KON 8, KON 9 and KON 17), while the other three are in the Congo Basin (CON 1, CON 5 and CON 6). The blocks are believed to contain around 700,000 barrels each. Some of the big names involved in the auction include international oil majors Chevron, Eni, Glencore and Galp Energy. Out of the total of 87 prequalified bidders, 39 are seeking to be block operators and the other 48 non-operators.

Angola Cables has enhanced the country’s Internet experience through its new Angonix service, a neutral traffic exchange platform sited in Luanda. It interconnects global networks, content providers and network operators to keep local traffic local and offers international content providers and networks a basis for partnerships on the African continent. “Angonix is a key element of the Internet ecosystem,” said António Nunes, CEO of Angola Cables. “The traffic that flows through this exchange serves all users in Angola and in the Southern African Development Community region.

The new broadband platform was launched on March 16 and it is now connecting its first clients in Angola.
FPSO SIX-YEAR SAFETY RECORD

Sonangol P&P’s FPSO (floating production, storage and offloading vessel) recently commemorated six years without losing any work. Sonangol P&P board spokesman Ricardo Van-Deste presided over the ceremony in July. Representatives of Italian company Saipem operator of FPSO Gimboa, were also present.

The vessel started operating in Angola’s offshore in April 2009 and currently produces 11,000 barrels per day in Block 4/05. Sonangol P&P’s partners in the block are Statoil, Acrep, Prodoil and Somoil.

FIGURED OUT

2,172MW
size of Angola’s latest and largest dam project

$650 million
latest World Bank loan to Angola

7 million barrels
estimated reserves in latest Angolan oil drilling tenders

6,200
new hotel rooms planned in Angola by France’s Accor

2 billion barrels
oil extracted in Block 17 since drilling began
Sonangol petroleum geologists perform a vital role in discovering and fully exploiting Angola’s oil resources. Universo looks at the career that is persuading increasing numbers of young Angolans to study geology.
Oil is undoubtedly Angola’s major industry. Detecting more oil and finding the most efficient means of extracting it are the primary concerns of petroleum geologists. Their deep understanding of the earth’s structure, age and materials enables them to identify the most likely whereabouts of new oil sources.

Before geology developed into a modern science, the discovery of Earth’s mineral riches was largely restricted to chance encounters on its surface. Now geology has systematised this search process by classifying the ages of the planet’s rock layers. It has also devised comprehensive theories of how processes such as erosion and deposition, and other forces such as continental movement, act upon these layers.

**Sonangol’s department of geology**
Sonangol E.P. boasts its very own geology department as part of DEX (the Department of Exploration). DEX provides technical services to its parent company to aid in its role as concessionaire, as well as to the company’s international partners involved in oil and gas exploration and production in Angola.

The department has a 33-strong staff which
includes specialists in different areas of geology and geological engineering. Sonangol’s geologists ensure that drilled wells are correctly evaluated according to the company’s objectives. They employ modern techniques, methods and equipment to identify reservoirs and accumulations of hydrocarbons and their characteristics.

The geologists examine and validate companies’ strategies for exploration, their work plans and exploration budgets related to geological activities. They also analyse and draw up exploration drilling proposals, and evaluate and develop them.

Other functions involve overseeing public tenders for mudlogging (a detailed record of a borehole), wirelining (lowering equipment into wells) and logging while drilling (retrieving well data in real time), and collecting specialist evidence statements.

The main activities of the department include: wellsite geology, where it evaluates formations and characterises wells (reservoir size, content, flow, economic feasibility, etc) and geological models. It also co-ordinates and monitors geology operations during well-drilling and controls the quality of static geological models of reservoirs and calculates the volumes based on operators’ own models.

For a certain period, generally around five years, the operator has minimum obligations that include the acquisition of seismic and research well data. After undertaking geological and geophysical studies, structures are identified with the best potential for hydrocarbons and for well-drilling, and later submitted for the appreciation of DEX.

Meanwhile, the geology department’s own evaluation studies allow it to issue a report about the type of proposal and drilling programme to use in discovering oil resources.

There is a great deal of interaction between this section and Sonangol’s international oil partners in the training of specialists, as well as in undertaking projects and studies.

Co-operation also takes place with other departments under the auspices of DEX and with Sonangol’s other upstream offices in monitoring research, exploration and development activities.

Sonangol’s expert geologists also monitor the company’s visualisation

WHAT IS OIL?

Oil is a fossil fuel, mostly formed from prehistoric organisms whose remains settled on the bottom of oceans and lakes millions of years ago. As layers of sediment covered them, the pressure on them increased and this raised their temperature. This process changed their chemical composition and eventually transformed them into oil.

Petroleum geologists today have an impressive array of tools at their disposal, such as seismic surveying and 3D computer modelling, to model hydrocarbon reservoirs, but they must all first grasp the fundamentals of their science.
“I chose the career of petroleum geologist with the aim and pleasure of serving Angola, because in the 1980s there were none [in the country] and I belong to a generation that had the first graduates in this area,” said Edna Conceição, a geology advisor at Sonangol P&P.

She graduated from the Faculty of Sciences at Agostinho Neto University in 1988. She then worked on onshore rigs at Catu, Bahia State, Brazil, until January 1989, and did internships with Brazilian oil major, Petrobras in both Bahia and Rio de Janeiro.

“In Angola in the 1980s, women didn’t work on board rigs, and we just visited. We worked in monitoring well geology remotely in offices. Only in the 1990s did we begin to go.

“I like this profession because it’s interesting to have the expectation of what you’ll find under the surface. On the other hand, with the know-how, technical experience and practice that I’ve acquired during the past 27 years of work, this has allowed me to understand all the disciplines from wellsite to well monitoring, reservoir characterisation and modelling to the final product for good reservoir management, and has led me to understand all the ins and outs of the oil and gas industry.

“One place where I worked which I found interesting was Houston on the Angola LNG project. I was there for three years as team leader for simulation models for reservoir characterisation. Here I had the chance to do a variety of courses and apply them in practice – I did a Min-MBA in Energy Management at Rice University, which allowed me to gain a wider view of the oil and gas industry.” Conceição was later also a co-ordinator of a non-operator block for Sonangol P&P for four years.

As far as her career is concerned, Conceição is enthusiastic. “I’ve loved it all, but what has made me most excited has been modelling reservoirs from geology, stochastics, dynamics and the history match and to make economic rankings and to measure the uncertainties of different reservoirs. I feel flattered and proud to have accomplished all the tasks that were given me during my technical and professional career.”
Why become a geologist?
Two of Sonangol's specialist staff answered this question by explaining how studying geology has led to diverse and interesting career paths within the oil industry.

Opportunities everywhere
"Given the fact that Angola is potentially rich in natural resources, local geoscientists have opportunities everywhere to develop their careers, not only in the oil industry, but also in other sectors, just at the moment when the government has a strategy of diversifying the economy," said an experienced Angolan oil geologist. Planageo is a plan to gather geophysical, geological and geochemical data across the whole of Angola so as to exploit them rationally. There’s a need for specialists in all these areas.

Geologists believe they will be needed in the world for a very long time for the simple reason that oil, gas and other natural resources such as iron, manganese, copper, tungsten, rare earths etc. are the basis of development. Mobile phones, computers and aircraft, to mention a few examples, contain mineral raw materials such as columbite–tantalite. Oil and natural gas account for around 52 per cent of the global energy matrix; this means that they are the world’s main energy sources, powering the industries of aviation, cars, and ships and providing the basis for development of the petrochemical industry.

Geology: a route to the top
Many top-level oil industry executives started their careers as geologists and continue to employ their skills.

Uíge-born João Amaral graduated in geology (University of Poitiers - France) in 1985 and is currently deputy general manager of Total E&P Angola. He is taking part in the deepwater Kwanza Basin exploration.

"The oil business is a high-cost business with huge uncertainties regarding subsurface data and interpretation. The high quality of..."
Many top-level oil industry executives started their careers as geologists and continue to employ their skills.

Geoscientists in an oil company allows it to increase the success of discovery rates and reduce uncertainties in evaluations,” he explained.

“As an Angolan, I’m quite proud of actively participating in the Angolan petroleum adventure over the past 30 years. Working for Total, I started my career in the 1980s as a subsurface geologist in a drilling unit in conventional offshore Block 3 exploring and developing Pinda plays; in the 1990s I participated at the ‘Big Bang’ of deepwater discoveries in Block 17 as a chief geologist; during the 2000s I was the exploration manager of the subsidiary during the ultra-deepwater discoveries (Block 32: pre-salt tertiary plays) – and to be honest, it is very difficult to choose which were the most exciting moments and career achievements.”

Outside Angola, Amaral also worked at Elf HQ (as a synthesis geologist) and participated later in the first Girassol project group. He also had a spell as exploration manager in Colombia (2001–04) and was in charge of Total’s worldwide subsurface department in France (2009–11) and of new projects in the Americas (2011–13).

“A head geologist is the one who should understand and interpret the subsurface data to identify, explore, develop and manage oil and gas fields. He should be a generalist that knows how to use and integrate different areas of expertise and methodologies, such as tectonics, sedimentology, reservoir, seismic evaluation, geochemistry, mineralogy, drilling, formation evaluation and so on, which allow him to discover, develop and manage hydrocarbon reservoirs. It is useful to have worldwide experience to face the different Angolan play challenges (carbonates, turbidites, pre-salt, etc.) Management skills adapted to develop listening, mutual support, cross-functionality and boldness are our cornerstone behaviours that should guide our actions.”
What advice would he give to Angolans looking at a career in geology?

“I would say start your career by working in the field to know the reality of our industry and activities, be attentive to develop technical knowledge with adapted training and assignments, integrate teamwork, learn different languages and ask for international assignments during your career to develop your skills and experience, be open and work hard!”

Norwegian geologist Knut Schjerverud currently heads ConocoPhillips’ operations in Angola. He remains fascinated by the subject and enjoys the continuous learning. “It’s very attractive to be able to wander around in nature and know why it looks like it does.”

He likened geology to a jigsaw puzzle. “There are always a multitude of little clues, pieces of information (and blind alleys) that when assembled correctly will give you a geological model. A famous quote in geology is ‘The present is the key to the past.’ Finding clues to the depositional environment in strata millions of years old still gives me goose bumps.”

During the years he worked as a geologist, his most satisfying career moment, he said, was interpreting his first 3D seismic survey. “This was pretty early on in the development of seismic workstations, and the visualisation tools we have today were not available. So, you interpreted away for weeks on end and were pretty far into the project before there were any ‘eureka’ moments. However, fitting all the pieces together and coming up with a radically different model than what was thought previously – that feeling of accomplishment I will not forget.”

Schjerverud said he would encourage young people to follow in his footsteps. “Geology is no different from other
advanced subjects in that, if you want to be successful and be one of the best, you have to have a genuine interest in the science.

“My educational advice to young people is to study something that interests them. It is the only way you will manage to spend the time it takes to truly master it. Geology is a bit different from some of the sciences in that there are rarely any absolute right answers. You need a good understanding of the basic sciences to be a good geologist, but you also need vision, an ability to paint a picture based on a multitude of snippets of information. So geology is part science and part art.”

Planageo: geology beyond oil
Angola has ambitious plans to develop its geological sector in order to diversify the economy and exploit valuable minerals other than oil. This has become especially important since the sharp fall in international oil prices.

The national geology plan, Planageo, expects to complete its $405 million aerial survey of Angola’s potential mineral resources in 2017. The next step will be to take samples and analyse them in laboratories now under construction at Kilamba (Luanda), Saurimo (Lunda Sul) and Huíla.

Minister for Geology and Mines Francisco Queiróz is keen to recruit more Angolan geologists to meet the country’s future needs and to this end is developing a national registry of qualified personnel in geology, geophysics and mining engineering. The shortage of geologists is the sector’s most critical need, he stated.

Over 300 specialists have been registered so far, including 78 with master’s degrees and eight with doctorates.

According to the ministry, Angola has the potential to produce 38 of the world’s most sought-after minerals, such as gold, copper and iron, and could shortly become self-sufficient in phosphate fertilisers.
Fátima Amaro is head of the Geology Department at Sonangol E.P. (DEX). She graduated in Geology in Lisbon in 2004 but had already achieved a degree in oil and gas prospecting geology at the Azerbaijan Institute of Petroleum in Baku in the former Soviet Union.

Why be a geologist?

“I was always fascinated with science, and I was divided between Earth Sciences and Astronomy. I had a special interest with the subjects of Astrophysics: the solar system, the movements of the stars, celestial objects and their interaction. But on the other hand, I was passionate about our own planet and developed a greater interest in areas such as Volcanology. I kept this interest but didn’t make a career of it. I followed my late mother’s advice and studied Geology, in line with my early fascination with Earth Sciences. My mother’s vision was right, it was the best education for me and for my country, which has such a privileged location and geological riches.”
PETROLEUM GEOLOGY BRANCHES

Sedimentology
This involves the study of sand, mud (or silt) and clay, and the ways they are deposited. Sedimentologists apply their understanding of modern processes to ancient rock to try to establish how it formed. Most of the earth’s rocks are sedimentary, and these are where fossils and other historical markers, including oil, may be found. Sedimentology is linked to stratigraphy, which examines the relationships between rock layers and how they can shift. This influences where the oil is and how its extraction can affect the surrounding sediment.

Structural geology
This discipline explores the three-dimensional distribution of large bodies of rock, their surfaces and the composition of their interiors in order to understand their tectonic history, their past geological environments and the events that impacted them. Geologists can date them to determine when they were formed. By identifying the rock types, petroleum geologists can discover if oil and natural gas are trapped within them.

Paleogeography
This discipline looks at the way the Earth appeared in ancient times. It studies rock layers, soil and fossils, as well as their configuration and the movement of oceans and continents. It also charts what kinds of plants and animals existed through history and how species evolved while some became extinct. These then provide clues to the location of oil and natural gas.

Plate tectonics
The theory of plate tectonics holds that the Earth’s surface consists of plates which slowly move through time, changing size and shape. Plate collisions create earthquakes, volcanoes and mountains. This movement impacts oil and natural gas deposit locations. The idea that the continent of South America was once joined with Africa is one reason why Angola is seeking pre-salt oil deposits similar to those found off the coast of Brazil.

Geophysics
Here physics is used to study the planet’s size and gravity, the weather and atmosphere, volcanoes and hot springs, the oceans, water in the ground and the movements through the earth (seismology). Seismology studies seismic waves, including earthquakes. Geophysicists can analyse how these waves move and affect the earth deep below the surface. The seismic waves can arise from a naturally occurring event, such as an earthquake, or they can be artificially generated.

Geochemistry
This field covers the chemical composition of the Earth and its rocks and soils. Geochemists examine the chemical cycles involved and their interaction with land and water. They evaluate elements and chemicals present in rocks and soils in order to learn how they have changed through time, and how once-living things such as plants and animals decompose and what new forms do they take as they interact with the environment.

Palaeontology
This branch of geology investigates prehistoric life forms by examining plant and animal fossils. It includes the study of body fossils, tracks (ichnites), burrows, cast-off parts, fossilised faeces (coprolites), palynomorphs (microscopic fossils such as pollen) and chemical residues. Biostratigraphy uses these signs of the past to date rock and sediment layers. Once geologists know how old a particular area is, they can assess the potential for finding natural resources such as oil.

Source: AAPG (American Association of Petroleum Geologists)
Sonangol Distribuidora’s largest downtown Luanda petrol station

SONANGOL DISTRIBUTIDORA:
FILLING UP ANGOLA
The past five years have seen a remarkable turnaround in Angola’s fuel supply network. Petrol stations in the not too distant past were few and far between, even in the capital, and queues crawled slowly ahead, at times taking half a day or more before the frustrated driver finally reached the pumps to fill up.

Today the experience of stopping for fuel is no different from that in many advanced economies. The province of Luanda alone has 261 petrol stations to slake the thirst of its huge and relentlessly growing vehicle fleet.

Sonangol Distribuidora, a subsidiary of Sonangol E.P., has a total of 504 units spread across Angola’s vast territory. Most of these (379) are conventional petrol stations and often include additional services such as car washes, shops and even cafes. The other 125 are retail outlets operating out of stand-alone purpose-built containers.

Distribuidora sells petrol, diesel, butane gas, LPG and lubricants, mostly for cars, but also for ships and railway locomotives. It has been operationally independent since 2005, and in 2014 sold 3.3 million cu m of petrol, 1.3 million cu m of diesel and 45,000 cu m of kerosene.

The company is taking increasing amounts of fuel to the provinces and selling larger volumes, helped enormously by better roads, improved rail connections and a greater number of strategically-placed storage depots managed by sister firm Sonangol Logistica.

The retail wing receives its fuel from Logistica. It fills its own road tankers and those of its contractors at the latter’s huge tanks before transporting the petrol and diesel to its own retail outlets. Logistica is helping Distribuidora become even more efficient by bringing its terminals closer to distribution points. This reduces delivery times and transport costs.
Company structure
Sonangol Distribuidora was established in 1983 and currently employs 1,594 personnel. Despite the growth in the number of petrol stations, its staff numbers have declined sharply, making it a much leaner and more competitive organisation compared with rival firms.

The retail subsidiary consists of an executive commission, a support structure, an operational structure and five business units:
- Aviation
- Consumption
- Lubricants
- Marine
- Retail

Investment
Distribuidora’s 2015 investment portfolio involves the installation of another 39 petrol stations, the revamping of one outlet, the complete rebuilding of its lubricants factory, the construction of five fleet car parks, the purchase of 21 delivery vehicles, the rehabilitation of two airport installations and the building of three lubricants warehouses.

The current plan, for the period 2011–15, is to cover the map with 1,335 petrol stations, with 999 being Sonangol owned. This would serve 73 per cent of Angola’s territory and 70 per cent of the entire market.

Building more and more petrol stations is a continuous process and is a function of covering the market’s needs and the company’s strategic position, according to Distribuidora.

Performance
The nationwide delivery system may be considered to have attained a reasonable performance given that it deals with and completes over 85 per cent of orders...
within 24 hours. However, the company’s major objective is to make all of its drops in under eight hours.

Other distributors
Distribuidora, though the dominant player in Angola, is not operating totally alone. Its parent company, Sonangol E.P., also includes in its sales network another 306 fuel retailers which are partly-owned by third parties. In addition, it has stakes in two other petrol station chains, Pumangol and Sonangalp.

Pumangol
Sonangol has a 30 per cent interest in Puma Energy, which is known as Pumangol in Angola. In 2014, Pumangol ran 73 petrol stations throughout all 18 of the country’s provinces, and it has to date invested a total of $600 million in its Angolan operations. It has 3,100 trained personnel employed by Sonangol and Pumangol’s dealerships.

Sonangalp
This is a joint venture between Sonangol, which holds the majority 51 per cent share and Portugal’s Galp, which owns the other 49 per cent. Sonangalp operates 13 petrol stations in the provinces of Luanda, Bengo and Cuanza Sul.
DISTRIBUTION OF SONANGOL PETROL STATIONS (BY PROVINCE):

- Bengo: 15
- Benguela: 73
- Bié: 25
- Cabinda: 27
- Cuando Cubango: 10
- Cunene: 63
- Huambo: 17
- Cuando Cubango: 37
- Cuanza Norte: 55
- Cuanza Sul: 17
- Lunda Norte: 29
- Lunda Sul: 261
- Luanda: 21
- Malange: 25
- Mexico: 21
- Namibe: 30
- Uíge: 47
- Zaire: 31

Distribuidora’s HQ in downtown Luanda

SONANGOL DISTRIBUTORA STAFF NUMBERS

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<td>1629</td>
</tr>
<tr>
<td>2015</td>
<td>1594</td>
</tr>
</tbody>
</table>
The retail subsidiary consists of an executive commission, a support structure, an operational structure and five business units:

1. Aviation
2. Consumption
3. Lubricants
4. Marine
5. Retail

SONANGOL DISTRIBUTORA STAFF NUMBERS
Another dazzling display at Filda
Sonangol E.P. made its annual appearance at Luanda’s international fair, Filda, in style.

Universo mingled with the crowds.
Sonangol once more won a prize at the 32nd edition of the Luanda International Fair (Filda), which took place on July 21–26. The firm picked up a Golden Lion trophy in recognition of its outstanding role in the public companies and bodies category at the awards ceremony held at the Luanda Bay marquee. This was its second Golden Lion in consecutive years.

More than 800 exhibitors set up stands representing 41 countries at Angola’s premier international show event. Filda this year was held under the banner *Dynamism, Creativity and Competency in National Production;* a basis for the diversification and industrialisation of the Angolan economy and a challenge for young entrepreneurs.

Filda’s opening ceremony was presided over by Economy Minister, Abrahão Gourgel. He was accompanied by the provincial governor of Luanda, Graciano Domingos; minister for agriculture, Pedro Canga; minister for science and technology, Maria Cândida Teixeira; minister for the family and the promotion of women, Maria Filomena Delgado, as well as members of the diplomatic corps.

One day, July 24, was dedicated to Angola’s many oil sector companies, and there was consequently a great deal...
Sonangol’s presence at Filda was particularly inspirational and spectacular.

Other high-ranking Sonangol officials were also in attendance.

**Another standout performance**
Sonangol’s presence at Filda was particularly inspirational and spectacular as the Angolan oil company flourished its ‘green credentials’ by recycling and re-erecting the same stunning stand used at the prestigious Rio Oil & Gas Expo and Conference 2014 in Brazil.

Just as in Rio de Janeiro last year, the well-designed Sonangol stand was a focal point at Filda and attracted many visitors. It covered an area of 432 square metres and displayed pictures of all the Sonangol group’s component companies. Another 18 sq m was set aside to exhibit products and services from its subsidiaries Sonagás, Sonangol Distribuidora and SIIND.
Total is Africa’s premier international oil-producing company. Universe focuses on its huge contribution to the sector’s development in Angola.
Total E&P Angola (TEPA) is part of the Total Group, the world’s fourth largest oil and gas company. Its operated production in Angola exceeded 700,000 barrels of oil equivalent in early 2015, enabling TEPA to maintain its place as the country’s leading oil operator, a position it has held since 2011. The company is now one of the most important subsidiaries of the group.

The French producer has been in Angola, in various guises, since 1953 and has been at the heart of every chapter of its oil exploration and production story. From onshore wells at Kwanza and Soyo in the 1950s through to the 1970s, to conventional offshore in the 1980s, moving on to deep offshore in the 1990s and 2000s (Block 17), then the ultra-deep offshore (Block 32) and now the deep offshore in the Kwanza Basin.

Uíge-born João Amaral, TEPA’s deputy general manager, points to the company’s high-tech capabilities as operator as key to its success.

“Total was a pioneer able to identify and successfully explore new Angolan plays and find technological solutions adapted to production, especially in deepwater contexts.”

The oil major’s competence in project management and meeting schedules within budget, along with indigenous staffing rates of 75 per cent, have helped it to become a reference for the industry and the number one international oil company in Angola, Amaral believes.

“Compared with our competitors, Total has clearly a more ‘Latin’ culture, one more adaptable to the Angolan context and challenges. Total privileges dialogue to better understand and integrate local expectations and needs, and how to develop common interests. Integrating with the local culture is also a must for us in our activities.”

Amaral has held his deputy manager’s job since October 2013. His career is an example of binational co-operation. He studied geology in France (1979–85) on scholarships from the Angolan and French governments.

“I started to work for the Total subsidiary in Angola in 1985 and have now 30 years of experience. I held various positions in the area of exploration and geosciences as subsurface geologist, synthesis geologist, head of Block 7 exploration team, head affiliate geologist (1997–2001) and

Total employs over 75% local staff in Angola

Total has twice won OTC prizes for its innovative offshore developments
exploration manager (2005–08). I had the privilege of participating in a number of oil ventures in Angola that allowed the successful exploration of Blocks 3, 17 and 32, which are now in production or will be in the coming years.

“I have lots of memorable moments from my different postings outside and inside Angola. The success of the campaign in Block 32, when I was the exploration manager, was for sure one of the most memorable; Total drilled 16 exploration and appraisal wells during this period with a success rate of about 70 per cent in an ultra-deepwater context with subsalt complex plays. It was an unforgettable technological and human adventure that integrated all the capabilities and diversity of Total,” he recalled.

**TEPA today**
Total is currently operator in five blocks (17, 17/06, 32, 25 and 40) and has a stake in blocks operated by other companies (0, 14, ALNG and 39).

Its 40 per cent interest in Block 17 in the Lower Congo Basin is Total’s main asset in Angola. TEPA also operates Block 32, with a 30 per cent share, in the ultra-deepwater area of the same basin. The company has made 15 discoveries in the block, which confirmed its potential. It has now started developing the central southeastern region of this block, where the Kaombo project is scheduled to come on-stream in 2017.

**Golden block: Block 17**
TEPA operates Block 17, known as the ‘golden block’ for its prolific output, in partnership with Statoil (23.33 per cent share), Esso Exploration Angola (Block 17) Ltd (20 per cent) and BP Exploration (Angola) Ltd (16.67 per cent). The block was the stage for some of the most ambitious technological developments in Angola’s deep water offshore. This block is a unique industrial adventure with 15 discoveries and developments and covers an area of 4,000 sq km, located 150–270km off the coast.

**Prizewinning development: Girassol**
Total discovered Girassol in 1996 and developed it with an innovative system of 40 undersea wells (23 producers and 17 injectors) connected to an FPSO (floating production, storage and offloading vessel) with capacity to process 200,000 barrels per day (bpd) and store 2 million barrels. Production began at the end of 2001 and rapidly rose to 200,000 bpd.

Girassol won the Offshore Technology Conference (OTC) prize in 2003 in recognition of its excellence. In 2007, the Rosa field was connected to FPSO Girassol in order to maximise the use of its installations.

**Dália**
The Dália field started production in December 2006 and is one of the largest developments in Block 17, with an extensive undersea system (71 wells). This complex industrial structure produces an average of 250,000 bpd.

**TOTAL GROUP IN NUMBERS**

Number 1 oil producer in Africa
Number 2 oil producer in the Middle East
100,000 personnel in 130 countries
Strong presence on five continents
Workers on the deck of FPSO Pazflor
Dália is an engineering wonder with its disparate viscous oil reservoirs and complex geological structures, and is at the forefront of technological innovation.

Pazflor – second OTC prize
Pazflor began output in August 2011, raising the production capacity of Block 17. One of the main technical challenges consisted in producing two types of oil with very different characteristics, coming from different fields: Perpêtuá, Hortênsia and Zínia, whose reservoirs are from the Miocene age, and Acácia, whose reservoir is of the Oligocene period. Total opted to separate the gas from the liquids at the bottom of the sea, so as to be able to pump these viscous liquids to the surface. An installation on this scale, of underwater gas–liquid separation modules using pumps was a world first. Total designed, tested and built pumps especially for the Pazflor project. This daring conception gained Total its second OTC award in 2013.

“In a challenging technical and contractual context, we were able to successfully develop oil resources in a deepwater scenario on time and on budget. This is quite rare in the petroleum context,” explained deputy general manager Amaral.

CLOV
Total launched its fourth development in Block 17, CLOV, in August 2010. It started production in June 2014 and increased the block’s output substantially. CLOV comprises four fields, Cravo, Lírio, Orquídea and Violeta, with total reserves of around 505 million barrels of oil.

CLOV uses technologies that have already proven effective in Girassol, Dália and Pazflor. Some 34 subsea wells are connected to FPSO CLOV with a production capacity of 160,000 bpd and a storage capacity of 1.78 million barrels. FPSO CLOV produces two types of oil from its Oligocene reservoirs (Cravo-Lírio) and Miocene reservoirs (Orquídea-Violeta).

Block 32
Block 32 is operated by Total (30 per cent) and its partners are Sonangol (30 per cent), SSI (20 per cent), ExxonMobil (15 per cent) and Galp (5 per cent). Twelve discoveries made between 2003 and 2014 confirmed the block’s reserves, situated in ultra-deep waters over an area of 5,090 sq km.

Blocks in exploration
The French firm has a presence in exploration in Block 17/06 (30 per cent, operator) in the Lower Congo Basin, and in blocks 25 (35 per cent, operator), 39 (15 per cent) and 40 (40 per cent, operator) in the Kwanza Basin in ultra-deep waters.

Between 2014 and the beginning of 2015, a drilling campaign was completed in the pre-salt Blocks 25, 39 and 40. Total drilled wells in Blocks 25 and 40, and is now evaluating and interpreting the seismic data acquired.

Other Angolan projects
In Block 0 Total has a 10% share in the Mafumeira Sul development, which was approved in 2012. This project is in the second phase of development.

In Block 14 the company has a participation in Angola Block 14BV, which owns 20% of block’s shares. This Block 14 is producing from the Tombwa-Landana, Kuito and the Benguela, Belize, Lobito and Tomboco (BBLT) fields.

Meanwhile, Block 14K (Total’s
share: 36.75%) lies in the offshore zone between Angola (Block 14) and the Democratic Republic of the Congo (Permis Haute Mer). The Lianzi field development began in 2012 and will be connected to the existing BBLT platform (Block 14) in 2015.

Total is involved in liquefied natural gas (LNG) as part of the Angola LNG project (to the tune of 13.6%), which consists of a processing plant near Soyo fed by associated gas from offshore blocks in the Lower Congo Basin.

**Kaombo: blockbuster**
A new hub, Kaombo in Block 32, with discoveries in the Gindungo, Gengibre, Louro, Mostarda, Canela and Caril fields, is in the development phase and will have two FPSOs, each with 115,000 bpd capacity. Production start-up is scheduled for 2017.

Total has been a pioneer in the development of local content facilities in Angola since the 1980s, when the major yards started their activities in the country, with contracts associated with Total’s field developments in Blocks 3 and 17.

Total was also the first oil company to dock an FPSO in Angola, when it fitted a water production module to FPSO CLOV in 2013 at the Paenal yard at Porto Amboim.

“We are quite proud of it. However, to secure their future survival and development, we need to ensure that those local content activities are competitive in a worldwide challenging economical context,” said João Amaral.

The Kaombo project, whose go-ahead was announced on May 28, will take around 14 million local man-hours and use 84,000 tonnes of Angolan-manufactured modules, pipelines, risers and ‘Christmas trees’ (valve systems) from seven national yards.

“It is the biggest local content ever done in the country, and we hope that adapted competitive conditions will allow more home-made modules to be built for future FPSOs,” Amaral commented.

**Moving on up**
Total recruited 685 Angolans per year in the period 2010–14, over half of which had studied at higher levels. The company also has a scholarship programme to find the best candidates for its needs and is benefiting 50 Angolans inside and outside the country.

“We have today a competitive hire package with associated social advantages considered as one of the best in the country, and also we receive
numerous spontaneous applications from Angolans from inside and outside the state. With these programmes, we are successfully facing our recruiting needs here,” said Amaral.

By the end of 2014, 56 Angolans from TEPA’s workforce were working abroad in other locations such as France, Brazil, Yemen, Congo, Nigeria, Bolivia, Indonesia and the Netherlands. Some of them reached high positions in technical and management positions. One was a former general manager in Brazil and the current general manager of Total Bolivia. These moves illustrate the international quality of Total’s Angolan staff.

Amaral told Universo that he had the opportunity to spend some 12 years abroad at Total head offices and its subsidiaries. “My overseas experiences allowed me to develop my technical and management capabilities in other contexts and challenges, and they were very useful for career development.”

Low prices, low costs
All oil companies in Angola are facing up to the current sharp dip in world prices, and Total is alert to the challenge.

“We are facing up to it and implemented in 2014 a Total worldwide global cost reduction programme called 4C&D (Change Culture, Compete on Costs and Deliver). By these actions, we are successfully maintaining our operational costs in Angola as low as possible in a very competitive worldwide context,” said Amaral.

As with other operators worldwide, the lower oil price affected Total’s Angolan investments. Current and future development projects are being re-evaluated and fiscal incentives being discussed with the authorities in order to ensure their profitability and viability.

Future golden blocks
Total is famous for its ‘golden block’. Are there potential high-volume blocks similar to Block 17 in conventional Angolan deep waters?

“We hope so and are doing our best to find it!” Amaral answered. “Total’s experience in Angola over the past 60 years has proved that we are capable of finding and exploring new to plays, from onshore to the conventional offshore to deep and ultra-deep contexts, in different sedimentary basins such as Kwanza and Lower Congo. For sure new challenges are there, and we expect to explore and develop the new Angolan plays in the future.”

West Eclipse oil rig drilling in Block 17
A French Total employee in the Pazflor development
<table>
<thead>
<tr>
<th>Year</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1955</td>
<td>Petrangol (Fina) makes its first commercial discovery in Kwanza Basin</td>
</tr>
<tr>
<td>1958</td>
<td>Petrangol (Fina) inaugurates and starts operating Luanda refinery</td>
</tr>
<tr>
<td>1980</td>
<td>Elf awarded Block 3</td>
</tr>
<tr>
<td>1985</td>
<td>Total’s first oil</td>
</tr>
<tr>
<td>1994–2002</td>
<td>Total makes 15 discoveries</td>
</tr>
<tr>
<td>2001</td>
<td>Starts production in Girassol field</td>
</tr>
<tr>
<td>2003</td>
<td>Total is awarded prize at Offshore Technology Conference (OTC) for its development of Girassol</td>
</tr>
<tr>
<td>2003–2007</td>
<td>13 discoveries made in Block 32</td>
</tr>
<tr>
<td>2004</td>
<td>Total reaches 1 billion accumulated barrels of oil</td>
</tr>
<tr>
<td>2006</td>
<td>Starts production in Dália field (Block 17)</td>
</tr>
<tr>
<td>2007</td>
<td>Production start-up in Rosa field (Block 17)</td>
</tr>
<tr>
<td>2010</td>
<td>1 billion barrels produced in Block 17</td>
</tr>
<tr>
<td>2011</td>
<td>Pazflor production begins (Block 17)</td>
</tr>
<tr>
<td>2011</td>
<td>First steel cutting marks start of construction work on FPSO CLOV</td>
</tr>
<tr>
<td>2011</td>
<td>TEPA becomes largest oil operator in Angola with around 600,000 bpd</td>
</tr>
<tr>
<td>2013</td>
<td>Company receives second OTC award for Pazflor development</td>
</tr>
<tr>
<td>2013</td>
<td>Total is first international oil major to dock FPSO in Angola (Porto Amboim)</td>
</tr>
<tr>
<td>2015</td>
<td>2 billion barrels produced in Block 17</td>
</tr>
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</table>
Halliburton opens new facility in Angola

Cabinda’s governor, Aldina Matilde da Lomba, officially opens the new facility with Halliburton’s Joe Rainey.
Halliburton opened a new state-of-the-art facility at Malembo, Cabinda, on June 27.

The Malembo base, a several million dollars investment, will provide services to the ongoing development of the upstream sector in Cabinda province. It represents one of the largest investments Halliburton has made in Angola since arriving in 1959.

Cabinda’s provincial governor, Aldina Matilde da Lomba, cut the ribbon after a traditional grand opening ceremony. Governor da Lomba said, “We consider this a world-class project that reflects the level of Halliburton’s involvement in the development of Cabinda province.”

Halliburton has been involved in drilling operations for the major local and international oil and gas operators on a long list of fields, including Lianzi, Banzala, Mafumeira, Malongo, Belize, Benguela, Landana, Tombwa, CLOV, Dália Pazflor, Cameia, Kizomba, Plutónio, Saturno, Vênus, Marte and Greater Plutão.

The facility covers a seven-hectare site in Malembo’s new industrial zone. It comprises a giant 11,000 square metre workshop space, 4,600 sq m of warehouses and laboratories, 2,700 sq m of office space, a cafeteria and a large storage area.

Work on the project began in late 2013 and was completed on schedule in June 2015.

The new base will be able to provide support to all Halliburton’s business segments, including fluids...
and cementing services, electrical logging, completion and production enhancement services.

Joe Rainey, president of Halliburton’s Eastern Hemisphere division, said, “These state-of-the-art facilities will provide a work environment that builds pride among our employees, provides and facilitates training of the Angolan workforce, and will facilitate the integration of young Angolans from Cabinda into the Halliburton team.”

During the opening event, Rainey said Halliburton would focus on health and safety, environment, service quality and operational performance in order to be more competitive in the current industry downturn.

The Malembo facility adds to Halliburton’s existing operational bases in Soyo, where the company’s stimulation vessels are located. The Sonils logistics base in Luanda is where all of Halliburton’s business lines have their support facilities. The head office is located near Sagrada Família in central Luanda.

The company said its first priority is to transfer the latest technology to its clients in Angola. It is focused on three key segments (deep water, mature fields and unconventional resources), which have yielded superior results in recent years, putting Halliburton in a position to strategically navigate challenging market conditions.

The company believes it is ‘a step ahead in protecting the Angolan environment’ in line with the new environmental decree regarding zero discharges offshore. New technologies have been introduced through its Baroid business line, part of the drilling and evaluation division. Baroid Surface Solutions creates customised solid control and waste management solutions to meet operational and environmental requirements, with a key component being the Thermomechanical Cutting Cleaner (TCC).

Halliburton has successfully enhanced oil production through gravel packing and frac packing technology. To this end, the firm operates in Angola with two DP-2 Class Stimulation Vessels, Stim Star and Stim Star Angola. Working
with such equipment offers unlimited capabilities, giving flexibility in the design of operations, ease of logistics, quality, saving time and a global reduction of health, safety and environmental hazards.

Halliburton has also developed pioneering wireline technologies to answer the challenges associated with pre-salt evaluation: The Reservoir Description Tool (RDT™), combined with Halliburton’s standard formation evaluation tool suite, has enhanced understanding of the rock and fluid properties of formations and enabled operators to make informed decisions and minimise drill-stem test risks. Deployment of the new Hostile Rotary Sidewall Coring Tool (HRSCT™) provides quality cores with excellent operating efficiency, surpassing conventional coring techniques. High-resolution borehole imaging, acoustic and Nuclear Magnetic Resonance (NMR) technologies, combined with elemental analysis, helps in the delineation of permeability barriers and enhanced knowledge of reservoir characterisation. Utilising efficient and preventive technologies has minimised risks and non-productive time for operators and lowered operating costs by saving rig time in deep offshore environments.

**Tomorrow’s workforce**

Halliburton currently has 1,700 employees in Angola, with 600 based in Cabinda. It is committed to the development of young talent and has established a specific scholarship to support university studies in the country. The company aims to grow and develop the workforce with the skill set needed for the projects in Angola.

Halliburton believes its technological sophistication and philosophy of the best stewardship of resources, both environmental and human, combined with the energy and drive of local personnel, can provide a model that will help grow a dynamic emerging energy sector and establish the company as a leader in Angola.
15 year-old Alexandre do Nascimento Saluqueni competes at the 2015 Vilamoura Atlantic Tour, Portugal
In the year that Angola marks 13 years of peace and 40 years since independence, it also celebrates a major chapter in what is a new sport for the country, namely showjumping.

This sport involves the competitive riding of horses around a short course and jumping over a set of obstacles. The winner is judged by their speed and accuracy, taking the shortest time and having the fewest faults.

In an arena on the southern coast of Portugal, the crowd is hushed and all eyes are fixed on an especially small rider as he leads his horse with a confidence and finesse belying his age and delicate frame. Welcome to the annual Vilamoura Atlantic Tour, a top international showjumping event which this year saw Angola participating for the first time.

Though just 15 years old, this was not the first time Angolan rider Alexandre do Nascimento Saluqueni had represented his country abroad. He enjoyed his first victory during his school holidays in Havana in 2012. While other kids were attempting to ride bicycles, he was learning to showjump, and at the age of 10 he started to compete.
Tragically, his father passed away just weeks before the Vilamoura competition, yet Saluqueni still managed to achieve great results. Owing to his efforts and those of his seven teammates, Angola performed remarkably well, qualifying in the 1.10-metre event with fifth, ninth and tenth places.

Showjumping is not just about rankings, however. Like any other sport, it is a symbol of national honour.

As 41-year-old competitor Fábio David André commented: “I see Angola becoming a great nation in the world of equestrian sports. We have young people with a lot of talent, and I want to use my knowledge to enhance the sport in the country.”

With pride, he added that his personal highlight at the Vilamoura Tour was riding alongside the Angolan flag, to the tune of the national anthem.

First strides

Angola has not always shown such strong equestrian traditions. The country does not have a long history of equestrian sports per se, and indeed showjumping is very new to the scene.

Horse riding itself can be traced back to 1958, when the Portuguese colonial forces deployed the Dragões de Angola, a special horse unit in the Angolan War of Independence against the local guerrillas. Troops on horseback were able to fight on difficult terrain, were less vulnerable to landmines and benefited from a clear view over the tall grass. They also held a psychological advantage over the enemy, who were not accustomed to dealing with cavalry units and had no training or strategy with which to face them.

As for the horses, they were first introduced into Angola from South Africa, then at a later date from Argentina. Former Minister of Petroleum Desidério Costa developed things further, organising the first import of the Portuguese breed Lusitano and establishing the first riding school after independence at Gimunalu, on the outskirts of Luanda. Throughout the post-colonial years, several cavalry units were created across Angola and they remain a highly active part of today’s national police force.

They have been at the forefront of Angola’s security operations, for example at the African Cup of Nations football tournament in 2010. With its riders requiring especially strong academic credentials and physical
aptitude, it is perhaps not surprising that the cavalry unit enjoys an elevated status within the force. And the mounted branch is just as important for the country’s defence as it is for showjumping as a sport.

Three of the athletes who competed at Vilamoura were mounted police officers and the force actively encourages participation in equestrian events. With the help of trainers from across the globe, the unit is promoting riding as a career. The aim then is to replace these overseas personnel with Angolan nationals in the near future.

In addition to the mounted police school, there are three other impressive riding centres: at Lubango in Huíla, and at Gimunalu and Kikuxi in Luanda. Gimunalu in the Funda district features a stadium, a riding school with a covered ring and jumping area, a 42-box stable yard, accommodation for the riders and several riding fields. A specialist hippotherapy facility also provides rehabilitation for individuals affected by motor, sensory and mental disorders by means of interdisciplinary training. Meanwhile, the Huíla riding centre at Lubango, built from scratch in 2013, now boasts a field of three hectares, five paddocks, a 34-stable complex and three training rings, as well as accommodation and event rooms.

The government is also adding its support to showjumping, offering financial assistance to the country’s national equestrian federation, Fequangola. Set up in July 2009, Fequangola’s mission is to “provide leadership and vision for the development and practice of the equestrian sport in Angola.” It sponsored the first Angolan showjumping competition in August 2010 at Gimunalu, which welcomed President José Eduardo dos Santos and the First Lady among the spectators, and since then interest has been gathering pace.

Jumping forwards
In 2014 Fequangola was unanimously voted into the International Equestrian Federation (FEI), the international governing body of equestrian sports. The 2015 Vilamoura Tour provided the next jump forwards in history, with Angola becoming the first African nation to be part of a four-star international event. Here Angolan riders met and
learned from the top showjumpers in the equestrian world and advanced the development of the sport further.

Compared to other countries with an equestrian history, however, very few people are riding on a regular basis in Angola. The police riding club is currently training 46 men to ride, of which just a dozen are involved in jumping. Gimunalu has 170 entrants, of which around 20 are jumping, and Huíla is training approximately 50 students, but is not yet able to offer showjumping lessons.

**Overcoming obstacles**

Equestrianism in Angola faces many challenges, including a scarcity of qualified trainers and schools. Logistics is another hurdle, with many finding it difficult to access the Luanda-based schools, which are located far from the centre of the city. Furthermore, local farmers are not always able to supply the necessary horse food and supplements. The health and safety conditions at some of the centres are also due for an upgrade, and extra funding is required to implement this and other important renovations. Logistics, climate and terrain don’t present an insurmountable obstacle, however, and regional specific challenges are being addressed. For example, Gimunalu riding school has installed a new surface for the jumping arena made of sand and special fibres.

While the Angolan national team has a very promising future, it can only realise its ambitions with increased support. All team members praise the role their families play, but also recognise the limits without further help from outside.

The federation will also continue to promote showjumping and other equestrian sports to children from disadvantaged backgrounds, offering many a route out of poverty.
The vice-president of Fequangola, Ginga Neto de Almeida, commented: “Unfortunately riding is an expensive sport, so we need to find sponsors who can better finance our activities. I trust that with time we will get this support.”

Subject to this support, Fequangola is looking to introduce polo into the country, and in the southern province of Namibe there are plans to launch endurance trials and desert treks. The federation will also be continue to promote showjumping and other equestrian sports to children from disadvantaged backgrounds, offering many a route out of poverty. Almeida underlined that Angola’s topography makes it especially well suited to equestrian sports, and a promising future lies ahead.

“In what is essentially a rural country, I hope that in the future more and more farms will have horses and encourage people to ride. We have great potential to become big in this sport.”

_Faster, higher, stronger_

All the Angola team members have the Olympics somewhere in their sights and, based on their progress to date, these dreams could well become reality very soon. Nevertheless, it is clear that this is a sport which more than anything is about sheer pleasure.

As young Alexandre Saluqueni beamed with joy after his round in the Vilamoura arena, he summed everything up, “One day I want to become an Olympic champion. But most of all, I just love jumping because it’s a great sport.”

**Embassies Abroad**

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Tel: + 351 21 7967041 / 7967043  
Consulate general in Porto

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**BRAZIL**  
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SHIS - QL 6 - Conjunto 5 - Casa 1  
Brasilia DF 71620-0551  
Tel: + 55 61 32484489 / 32482999  
Consulate general in Rio de Janeiro

**SOUTH AFRICA**  
1030 Schoeman Street  
Hatfield  
Pretoria 8685  
Tel: + 27 12 3420049 / 3420052  
Consulates general in Johannesburg and Cape Town

**Useful websites**

- Government of Angola: .................................................www.angola.gov.ao
- Banco Nacional de Angola: ..............................................www.bna.ao
- ANIP (Investment agency): .............................................www.anip.co.ao
- Tourism information: ...................................................www.minhotur.gov.ao
- Jornal de Angola: ..........................................................www.jornaldeangola.com
- Angola News Agency (Angop): .....................................www.portalangop.co.ao
- Angola online: ..............................................................www.angolaonline.gov.ao
- RNA (Rádio Nacional de Angola): ....................................www.rna.ao
- TPA (Televisão Pública de Angola): ..................................www.tpa.ao
- Fundação Eduardo dos Santos: .......................................www.fesa.og.ao
LOCATION
Southern Africa, bordering the South Atlantic Ocean, between Namibia and the Democratic Republic of Congo. The province of Cabinda is an exclave, separated from the rest of the country by the Democratic Republic of Congo.

TIME ZONE
UTC + 1 (6 hours ahead of Washington, DC during standard time)

AREA
1,246,700 sq km (23rd largest country in the world). Slightly less than twice the size of Texas or just over five times the size of the UK

CLIMATE
Semi-arid in south and along coast to Luanda; north has cool, dry season (May to October) and hot, rainy season (November to April)

TERRAIN
Narrow coastal plain rises abruptly to vast interior plateau. Morro do Moco (2,620 metres – 8,596 feet) is the highest point

POPULATION
19,625,353 (59th country in comparison to the world). Note: preliminary results from Angola’s 2014 national census estimate the country’s population to be 24.3 million (July 2015 est.)

MAJOR CITIES
Luanda (capital), 5.5 million, Huambo, Lubango and Benguela

ADMINISTRATIVE DIVISIONS
18 provinces – Bengo, Benguela, Bié, Cabinda, Cuando Cubango, Cunene, Huambo, Huila, Cuanza Norte, Cuanza Sul, Luanda, Lunda Norte, Lunda Sul, Malange, Mexico, Namibe, Uíge, Zaire

ETHNIC GROUPS
Ovimbundu 37%, Kimbundu 25%, Bakongo 13%, mestico (mixed European and native African) 2%, European 1%, other 22%

RELIGIONS
Indigenous beliefs 47%, Roman Catholic 38%, Protestant 15% (1998 est.)

LANGUAGES
Portuguese (official), Bantu and other African languages

NATIONAL HOLIDAY
Independence Day, 11 November (1975)

NATURAL RESOURCES
Oil, diamonds, iron ore, phosphates, copper, feldspar, gold, bauxite, uranium, ornamental stones

GDP
$128.6 billion (2014 est.)

GDP PER CAPITA
$7,200 (2014 est.)

GDP COMPOSITION BY SECTOR
Agriculture 10.2%, industry 61.4%, services 28.4% (2011 est.)

AGRICULTURE
Bananas, sugar cane, coffee, sisal, corn, cotton, manioc (tapioca), tobacco, vegetables, plantains, oranges, livestock, forest products, fish

INDUSTRIES
Oil production, diamonds, iron ore, phosphates, quarrying, feldspar, bauxite, uranium and gold, cement, basic metal products, fish processing, food processing, brewing, tobacco products, sugar, textiles, ship repair, glass for construction, offshore services

EXPORTS
$69.46 billion (2014 est.)

EXPORT PRODUCTS
Crude oil, diamonds, refined petroleum products, coffee, sisal, fish and fish products, timber, cotton

MAIN EXPORT PARTNERS
China 44.7%, US 12.3%, India 9.5%, South Africa 5.1%, Portugal 4.9%, Spain 4.0% (2013 est.)

IMPORTS
$28.05 billion (2014 est.)

IMPORT PRODUCTS
Machinery and electrical equipment, vehicles and spare parts, medicines, food, textiles, military goods

MAIN IMPORT PARTNERS
Portugal 19.5%, China 19.1%, US 7.0%, South Africa 6.9%, Brazil 6.1%, South Korea 6.0% (2013 est.)

CURRENCY
Kwanza (AOA)

INTERNATIONAL DIALLING CODE
+ 244

INTERNATIONAL INTERNET CODE
.ao

Partly-sourced from:

Source: CIA, the World Factbook
THERE IS AN ENERGY
BEHIND WHAT MAKES US
CHANGE THE WORLD.

We know there is no stronger energy than the energy of a people. That is why Angola is getting stronger and more developed every single day. A country where everyone is called to make a difference. There is an energy behind what makes us change the world. That energy is called Sonangol.