



# ANGOLA-GERMANY: ENGINEERING SUCCESS

The most obvious evidence of Germany's presence in Angola is the array of high-quality vehicles on its roads. However, economic interchanges between the two countries are taking place in other, often less visible areas. *Universo* takes a closer look →

Angola is well aware of Germany's well-deserved global reputation for reliable, quality engineering. Luanda's police use Audi cars to patrol the streets, while other imposing German vehicles such as BMWs and Mercedes-Benz grace Angola's newly-rebuilt roads from Cabinda to Cunene.

President José Eduardo dos Santos expressed his own confidence in German engineering prowess during the visit of Chancellor Angela Merkel in July last year when he said her country would be the preferred partner in Angola's energy projects.

"I informed her that Angola will build three large power dams over the next few years and the electromechanical equipment used in these power-production plants would be of German origin," the president said. The equipment, mainly turbines, would be worth around €1 billion, he added.

Germany's Voith and Siemens are seen as the likely beneficiaries of this verbal agreement, given that Voith supplied the turbines for the recently upgraded Cambambe Dam near Dondo.

The first of three dams slated to use the German equipment is the country's largest power project, the 2,067 megawatt Laúca Dam in Kwanza Norte province. Construction work began in June and the dam is expected to come on-line in July 2016.

President dos Santos described the joint declaration of common intent during Chancellor Merkel's visit as "written in letters of gold in the history of relations between the two countries".

The chancellor was the first German head of government to visit Angola. She agreed to a "wide-ranging political partnership" between the two countries, which included the creation of a bilateral commission charged with developing political, social, economic, cultural, scientific and educational relations.

### Training and education

President dos Santos also indicated there would be a German role in developing much-needed training and education to aid Angola's industrialisation. Education,



President dos Santos alongside Chancellor Merkel during her 2011 visit to Angola

he said, was key to enabling all Angolans to take part in the life of Angolan society.

He pointed out to journalists that when Angola achieved independence there had been a 98 per cent illiteracy rate. "That data is the starting point, and although much improved since, there is still a lack of qualified personnel in sufficient numbers, which is the condition for getting value from Angola's potentially rich land."

Germany's ambassador Jörg-Werner Marquardt agrees that one of the greatest constraints on social and economic development is a shortage of skilled workers.

"We give a great deal of support to professional training because we believe that without qualified people we won't have sustainable development," he told *Jornal de Angola*.

Consequently, one of the main thrusts of Germany's co-operation efforts in Angola is vocational. Its aim is to help build Angola's human capital to aid industrialisation and economic diversification as well as socio-economic integration.

Vocational training, widely viewed as a key ingredient to Germany's economic success, is supported in Angola under a bilateral government-to-government agreement by the German Agency for International Cooperation (GIZ) on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ).

GIZ has been working in Angola since 1995, initially helping in food security, peace-building and rehabilitating the physically handicapped. More recently, German government support has concentrated its efforts on aiding Angola's vocational education, training and business development.

GIZ is addressing this problem through helping reform vocational training under the Ministry of Public Administration, Employment and Social Security (Mapess), notably in construction. One of Germany's success stories has been its apprenticeship scheme; which combines on-the-job learning with formal college training. Just over half of Germany's young people go through this system. There are more than 340 recognised professions where this training qualification is a condition of employment.

GIZ work in Angola includes capacity-building for defining occupational profiles, skill requirements, curricula and test item development as well as training for certain trades such as bricklaying and installing domestic electrical wiring. The organisation has done this by calling on practitioners to contribute to and agree on the requisite skills to be learnt.

GIZ has also held seminars aimed at promoting small and medium-sized enterprises in Angola. Germany's powerful



Lufthansa flies to Luanda twice weekly

## Chancellor Merkel's visit was "written in letters of gold in the history of relations between the two countries"

German-backed trainees in Luanda



### German companies with offices in Angola

**ASGM (VW)**

**BAUER Angola**

**Bayer HealthCare**

**Commerzbank**

**DHL Internacional (Angola)**

**Ferrostaal AG**

**GAUFF Engineering**

**GIZ International Services**

**Krones Angola**

**Kuehne + Nagel (Angola)**

**Lufthansa**

**Nehlsen Ambiente Angola**

**Nokia Siemens Networks**

**Schenker AG**

**Sertopo**

**Siemens SA Angola**

**TrevoTech**

**C Woermann Angola**

Source: German Embassy, Luanda

## GAUFF's activities in Angola

### WATER

**Water supply: exploration, storage, transport and distribution**  
**Waste-water: drainage, treatment, and re-use of treated water and sludge**

### ENVIRONMENT

**Solid-waste management**

### TRANSPORT

**Urban transportation solutions (roads, rails and parking)**

### ENERGY

**Hydropower**  
**Renewables (solar and wind energy)**

### AGRICULTURE

**Rural development and organisation**  
**Dams and irrigation**  
**Rural transportation**



Pipe-laying in Lubango

economy is mainly based on the small and medium-sized companies which account for 80 per cent of its GDP.

### Angola-Germany trade

Angola is Germany's third most important market in sub-Saharan Africa. Bilateral trade tripled to \$1.5 billion last year, rocketing from just \$491 million in 2010.

The 2011 figure was atypical given that German access to Libyan oil was blocked and Angola thus filled the supply gap, but in future Germany is expected to buy more hydrocarbons from Angola given that the Soyo liquefied natural gas plant is now up and running.

While Angola currently sells mainly crude to Germany, German exports to Angola are much more diversified. Apart from vehicles, German sales include oil and gas-sector equipment for the offshore industry, construction plant, high-tech hospital apparatus, bottling and packaging equipment, telecommunications, electrical equipment, pharmaceuticals,

engineering-consultancy services and water-supply systems.

### GAUFF fast track

One of Germany's most prominent companies in Angola is Nuremberg-based GAUFF Engineering. Founded by 81-year-old patriarch Helmut P. Gauff, it has been active in the country since 1995.

GAUFF started operations on the continent in 1965 and has gained experience in more than 30 African countries. The company assists the reconstruction and modernisation of public and social infrastructure in Angola with efficient "Fast Track Solutions".

GAUFF's main activities involve engineering, procurement, and project and operation management for public and industrial infrastructure projects – such as urban and rural roads, parking areas, road and rail transportation, bridges, water supply and waste-water systems, hydropower, renewable energy and rural development.

As part of its Fast Track Solutions, GAUFF offers close co-operation with German banks, which can provide tailor-made long-term financing.

Since its arrival in Angola, GAUFF has executed many engineering services for a number of government ministries, such as studies for improving Luanda's urban transport. Since 2004, GAUFF has been active in designing and supervising the reconstruction of long-distance highways totalling more than 1,000km in different Angolan provinces. A large part of these highways benefited from GAUFF's help in arranging finance as part of its Fast Track Solutions scheme.

The company has also been supporting Luanda's water-supply company EPAL since 2003 in its planning and investment for rehabilitating and extending urban supply systems. As an EPPM (Engineering Procurement and Project Management) consultant, GAUFF is currently also responsible for the first phase of the development of the water supply and

waste-water system of Lubango, with an investment and finance package of €90 million. Lubango has a very fast-growing population of around 1.2 million.

Apart from these activities, GAUFF has also drawn up proposals for mini-hydropower plants for decentralised energy supplies to various provinces.

The company employs many Angolans and offers them practical and theoretical training based on the German apprenticeship system, which is a very important aspect in all the projects

The promotion of capable young Angolan technicians together with other German partners and universities is an important objective in GAUFF's strategy. For many years, it has organised studies for its Angolan employees in Europe.

To fulfil its social responsibility, the GAUFF Foundation co-operates actively with Angolan social foundations and promotes and assists, among other activities, several orphanages in Angola and sports clubs in the provinces.

Angolan Orlando Ferraz (pictured right) has been with GAUFF for seven years, having spent a total of 17 years in Germany where he studied at the Universities of Bonn and North Rhine-Westphalia.

"The most attractive points in working for a German company are those that have to do with the virtues by which the Germans are known: seriousness, thoroughness in the execution and

meeting of commitments, and punctuality in meetings as well as in meeting timetables agreed in contractual clauses – in other words, responsibility in their approach," he says.

During his long stay in Germany, Ferraz was a leader of the Angolan student community. Consequently, he travelled throughout the country and got to know all 16 federal states.

"Learning the language opened many doors for me and made it easier to fit in socially. It was a much smoother and deeper relationship."

Ferraz read widely in German and, being passionate about music, appreciated contemporary German artistes such as Matthias Reim, Modern Talking and Herbert Grönemeyer.

Ferraz said his favourite German dish was *Maultaschen*, a kind of pasta envelope, similar to ravioli, filled with minced meat in hollandaise sauce or cream, as well as the famous Nuremberg sausages.



"The attractions of working for a German company are **seriousness, thoroughness and responsibility in their approach**" – Orlando Ferraz

## Some prominent Germans

**Albert Einstein – physicist**

**Johannes Gutenberg – inventor of the printing press**

**Felix Hoffmann – inventor of aspirin**

**Rudolf Diesel – inventor of the diesel engine**

**Karl Benz – inventor of the petrol-engine car**

**Adolf Dassler – inventor of Adidas sports shoes**



## Siemens Angola: areas of activity

Energy generation,  
transmission and distribution

Water projects

Oil industry equipment

Gas turbines, compressors

Mining

Electrical and engineering  
services and maintenance

Automation and instrumentation

Airport equipment

Healthcare

Telecommunications



### Siemens solutions shop

Germany's Siemens, one of the world's leading engineering conglomerates, is also present in Angola. The company had a global turnover of €73.5 billion last year. Angola accounted for a small but growing part of this figure.

Siemens only re-established offices in Angola in 2005 after an absence of many years. Siemens Angola had sales of €10.5 million in 2011 but its order book, worth €15.8 million, pointed to growth. The company offers a broad range of equipment, engineering and related services for industry, energy, healthcare and infrastructure.

Current Siemens activity in Angola includes power-generation and water-pumping systems, notably for the important offshore oil industry where Sonangol, Chevron and Total are clients. Siemens installed eight gas turbines to power Angola LNG's Soyo plant and has supplied an 11.5MW generator for Luanda's refinery.

Its other high-profile projects in Angola are a telecommunications network operation in partnership with Nokia and the supply of a radiotherapy apparatus to the Girassol Clinic. Siemens has supplied airport, office and hotel-security equipment and has also provided instrumentation for the Catumbela cement plant near Lobito.

Siemens has become heavily involved in supporting education and training in Angola. "For Siemens, training engineers and managers is a core preoccupation in Angola and a contribution the company can make to the country," says Angolan-born Jorge Tropa, chief executive of Siemens Angola.

"It's very challenging to be able to help Angola find sustainable answers for the future. It's equally very gratifying for me to create job places and give development opportunities to people who by their work ensure their own and their families' sustenance," he says.

Siemens trains engineers and clients in the area of energy distribution, instrumentation and maintenance of turbines and electronic equipment, and to this end its ATEC training academy in Portugal has signed a co-operation

agreement with Angola's Integrated Centre for Technological Training (Cinfotec).

Siemens also recently made an agreement with Angola's Higher Polytechnic for Technology and Science (ISPTEC) for co-operation in developing human resources, projects and technologies in engineering, economics and management.

### Looking ahead

Siemens is already highly involved in Brazil's pre-salt oil deposits development, an area in which Angola is currently taking its first tentative steps.

Chemtech, Siemens' Brazilian specialist engineering subsidiary, has a leading role in contracts for engineering equipment employed in exploiting Brazil's pre-salt deposits. The company's training and experience in Brazil will enable Angola to prepare to meet the technological challenges of exploiting its own pre-salt oil. In order to facilitate this transfer of know-how, Siemens offers work experience for Angolan engineers who want to attend the Siemens corporate academy in Brazil to improve their engineering skills and project management.

Armed with this specialist training, Siemens and its Angolan engineers will be in a better position to win contracts and supply services for Angola's pre-salt ventures.

### LSG - food for flight

Angola's flagship airline TAAG was mindful of German industry's prompt and efficient delivery of quality products when it chose LSG Sky Chefs as its partner in producing meals for its passengers.

The new company LSG, Sky Chefs TAAG Angola started operations in mid-July. Its owners are TAAG (35%), Germany's number one carrier Lufthansa (40%), Angola Air Catering (20%) and Angolan airports authority Enana (5%).

Initially the facility will serve just TAAG operations and Lufthansa, which has two flights a week to Frankfurt, but it will in future cater for other airlines.

The \$12 million unit at Luanda Airport employs 200 people and has the capacity to make between 6,000 and 7,000 meals a day. The company not only prepares the

food but manages the whole logistics chain involved in supplying airline meals, from sourcing the food to packaging and placing it on board planes.

Germany's LSG Sky Chefs is one of the world's largest airline-catering companies and last year produced about 492 million meals for more than 300 companies around the globe.

### Saving value

Two German firms, Krones AG and Ferrostaal AG, are fulfilling a crucial need in converting Angolan raw materials into consumer goods.

Krones AG boasts that a fifth of the world's bottles has been filled, labelled or packaged on its machines. The company is responsible for the canning and bottling machinery at the Sequent Brewery, 35km outside Luanda.

Ferrostaal AG is responsible for the Giasop fruit and tomato-processing plant at N'gola Lombo, near Porto Amboim in Kwanza Sul. This flexible plant produces mango, passion fruit, guava and pineapple nectar and also tomato paste. Processing up to five tonnes an hour of mangoes or tomatoes, the plant can produce an hourly output of 5,000 gable-topped cartons.

Storage and shipment of Angolan foodstuffs, especially fruit and vegetables, has been a bottleneck for the country's farmers. Companies such as Ferrostaal provide an outlet for excess fresh produce that might otherwise have gone to waste. With the building of such packaging plants, farmers, especially small family holdings, can now step up production confident that their efforts will be rewarded. ■



German companies are likely to benefit from Angolan dam contracts