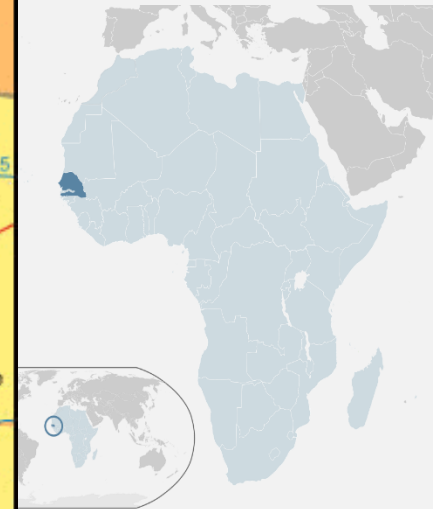


KAIST - GCC Technology Commercialization Conference 2017

**by: Oumar Ba
CEO ACCESS-Technologies**

- 1. Country Presentation - Senegal**
- 2. Country Presentation - South Africa**
- 3. Company Introduction**
- 4. Current Situation & Market Information**
- 5. Specific Technology Demand**
- 6. Collaboration & Partnership Proposal**

1. Country Presentation Senegal 01



2. Country Presentation South Africa 02

- 🏠 Senegal (SN) is the westernmost African country with an area of 196,700 km² and a population of approx. 15 millions inhabitants.
- 🏠 Considered as the gateway to West-Africa due to its geographical location, history (home of former capital of French West-Africa during colonial time), political stability, academic education and available competencies.
- 🏠 Official language: French + national languages
Currency: CFA Francs (1 € = 655,957 XOF)
Part of: - ECOWAS (Economic Community of West African States)
- WAEMU (West African Economic and Monetary Union)

2. Country Presentation South Africa 01



2. Country Presentation South Africa 02

South Africa (SA)

- Area: 1,219,912km²
- Population: 56 millions inhabits
- Divided into 9 provinces
- Languages: English, Afrikaans, Zulu, Xhosa...
- Currency: South African Rand (ZAR)
- Strongest African economy



3. Company Introduction 01

- **ACCESS-Technologies = African Commitment to Communications and Energy Supply Systems**
- **Company of Senegalese law, mainly specialized in the following fields: Railways, Urban Transport Systems, Telecommunications & ICT, Energy, Renewable Energies, Civil Works, Programme/ Project Management, Quality Management, Environmental Management.**
- **Mainly an Engineering company and working Africa wide.**
- **ACCESS is owned and led by a German engineer of Burundian origin (Dr. Emile Muvunyi) and a Senegalese engineer (Mr. Oumar Ba), who have both completed their graduate studies and a long successful professional career in Germany.**

3. Company Introduction - Projects 02

Project: Supply of locomotives

Client: PRASA (Passenger Rail Agency of South Africa)

Duration/ Location: 2013 - 2016 / Johannesburg

Contract value: 250 Million Euros

Description: Supply of 70 mainline locomotives of which 20 Diesel Electric and 50 Hybrid.
Electric/Diesel Electric manufactured by the VOSSLOH Group, Germany


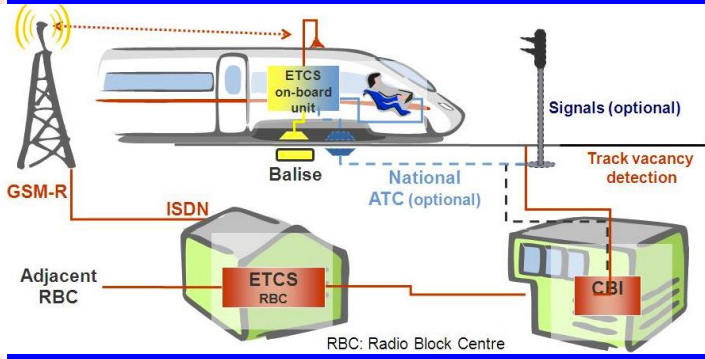

ACCESS Staff: Dr.-Ing. Emile Muvunyi / Project Director



3. Company Introduction - Projects 03

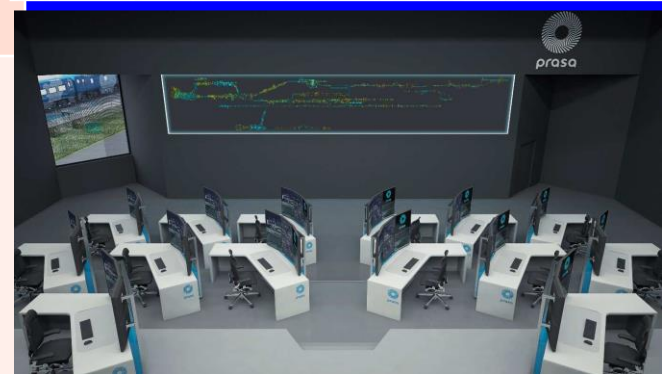
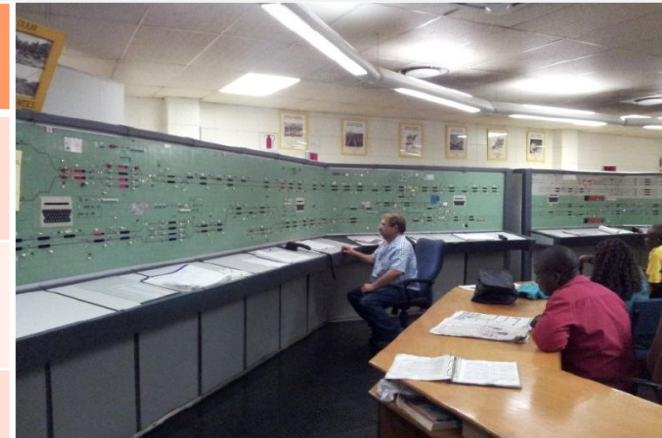
Project:	Air Condition Systems
Client:	PRASA (Passenger Rail Agency of South Africa)
Duration/ Location:	2012 - 2015 Johannesburg
Contract value:	13.6 Million Euros
Description:	Supply and installation of Air Conditioning Systems in 272 rail passenger coaches of PRASA. Aircon systems manufactured by the VOSSLOH Group, Germany
ACCESS Staff:	Dr.-Ing. Emile Muvunyi Project Director

3. Company Introduction - Projects 04

Project:	STE Master Plan	
Client:	PRASA (Passenger Rail Agency of South Africa)	
Duration/ Location:	2011 – 2012 Johannesburg	
Contract value:	1.434 Million Euros	
Description:	<p>Signalling, Telecoms & Energy (STE) Master Plan.</p> <p>Assessment of existing technologies, benchmarking, recommendations and implementation programme.</p>	
ACCESS Staff:	Dipl.-Ing. Oumar Ba Project Director	

3. Company Introduction - Projects 05

Project:	W. Cape Re-signalling
Client:	PRASA (Passenger Rail Agency of South Africa)
Duration/ Location:	2012 – 2017 Cape Town
Contract value:	95,315,000 ZAR = 9.100 Million Euros (T. Adviser)
Description:	Modernization of Signalling, Telecoms & Energy systems of the Western Cape rail network. Construction of new buildings (CTC) & equipment rooms, alterations of civil works, perway and Overhead Traction Lines.
ACCESS Staff:	Dipl.-Ing. Oumar Ba Project Director



3. Company Introduction - Projects 06

Project: Airport Rail Express Link

Client: APIX, Senegal

**Duration/
Location:** Since 2017
Dakar

**Contract
value:** 882 Million Euros (total)

Description: Technical Advisory/ Assistance Services to the Project Owner (APIX) for the “Regional Express Train” Dakar – Blaise Diagne International Airport Project during the design and build phases.

ACCESS Staff: Dipl.-Ing. Oumar Ba
Systems Coordinator



3. Company Introduction - Projects 07

Project: Airport Rail Express Link



3. Company Introduction - Projects 08

Project: Multipurpose Primary Cooperative Limited Rural Development

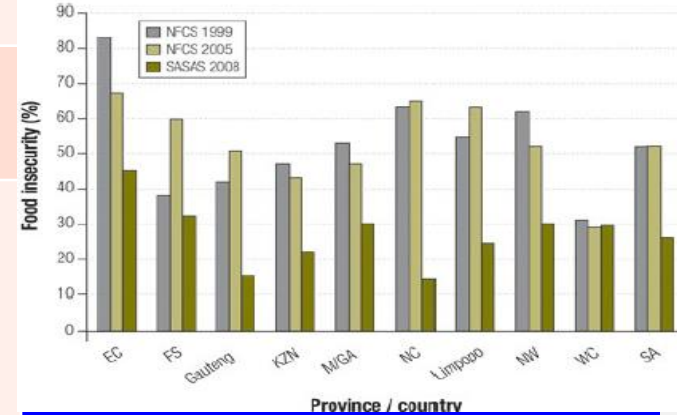
Client: Mlasimbi Cooperative

Duration/ Location: 2017
South Africa, nationwide

Contract value: N/A

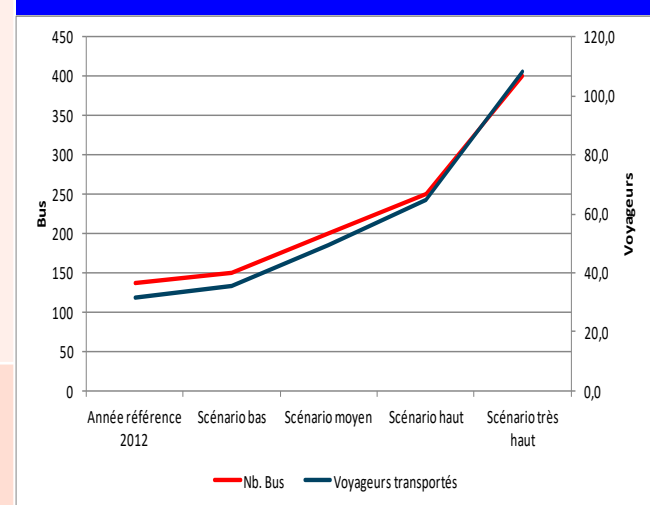
Description: Multipurpose Primary Cooperative Rural Development. Sustainable local development initiative: Small business development, Farming, Crop feed, Furniture making...

ACCESS Staff: Dr. Daniel Mthimkhulu (Engineering X / RIL X)



3. Company Introduction - Projects 09

Project:	DDD/ PTB Integration
Client:	CETUD, Senegal
Duration/ Location:	2013 - 2015 Dakar
Contract value:	400,000 Euros
Description:	Integration & organization of the urban transport companies DDD (bus) and PTB (urban train). Development of the selected scenario for the integration of the two main public transport companies of the Greater Dakar.
ACCESS Staff:	Dipl.-Ing. Oumar Ba Rail Systems Senior Expert



4. Current Situation & Market Info 01

Telecoms and ICT:

- Rapid growing mobile phone market, enormous needs of digital development and equipment, networking, value-added services in ICT, Internet infrastructure (mainly in rural areas).

Railways:

- Obsolete networks (mainly Transnet in SA, DBF in Senegal)
- Obsolete substations for the traction of PRASA (SA), to be upgraded
- Booming sector for urban networks, airport express links, high speed lines, freight networks, rail systems, etc.

Energy:

- Old transport/distribution networks (Senegal)
- Needs to connect more rural areas and parts of cities (Senegal)
- Gap in energy generation in SA: now available 40 GW, needs: 60 GW
- Objective is to increase use of green energies

4. Current Situation & Market Info 02

Civil Engineering:

- Lack of sufficient competent staff for complex structures (bridges, tunnels, dams, etc.) in Senegal (SN) and Western Africa
- Growing market with international and local companies, roads/ highways/ structures/ buildings
- Considerable needs for irrigation & hydro-agricultural works/ rain water drainage in towns, etc. (Senegal)

Agriculture:

- Problem of food security in SA (imports large part of the food)
- Insufficient rice production to cover the needs in Senegal (imported from India, Vietnam, etc.)
- Deficiencies in rural areas (Senegal)

5. Specific Technology Demand 01

📡 Telecoms and ICT:

- Mobile phone network development, operation and maintenance for the operators, QoS monitoring (Senegal).
- Digital development and equipment, e.g. IPBX, LAN/ MAN equipment, Fibre optic and transmission equipment, etc. (Senegal).
- Development and implementation of value-added services for the mobile telephony and ICT.
- Development and implementation of countrywide Internet infrastructure, solutions to cover the rural areas with broadband low-cost technologies.

5. Specific Technology Demand 02

Railways:

- Replacement of obsolete metric gauge railways by modern standard gauge (1,435 m) networks (SN).
- Replacement of old analogue technologies by digital systems (Transnet, SA).
- Assistance in funding, engineering, implementation and maintenance of new rail links (SN).
- Growing demand of modern rail systems: telephony, digital wireless train to ground systems, 25 kV AC traction power, SCADA systems, digital signalling and CTC features, CCTV, Public address, Access control and intrusion detection, NTP based time distribution systems, etc.

5. Specific Technology Demand 03

Energy:

- Engineering, implementation and maintenance of energy generation, transport and distribution networks, mainly for HV (no approved local company in SN) - Discussion with Hyundai EC.
- New concept of Smart Grid for ESKOM (SA) - automated and cost saving energy management system.
- Renewable energies : Mainly photovoltaic and wind energy - Discussion with Anyteksys for pilots: street lighting, wind energy.
- Intelligent power meters (SN).
- Engineering, implementation and maintenance of hydro-electrical power stations (ACCESS Project in SA : Collywobbles, First Falls, Second Falls, Ncora Station on Mbashe River, Mthatha River and Tsomo River) - Discussion with Hyundai EC.

5. Specific Technology Demand 04

Civil Works and Agriculture:

- Engineering and implementation of roads and highways (SN).
- Engineering and implementation of complex structures, e.g. bridges, tunnels, viaducts, etc. (SN),
- Engineering and implementation of hydro-agricultural works/ rainwater drainage (SN).
- Pumping and irrigation systems for the agriculture (SN).
- Machines and equipment (tractors, graders, combine harvesters, rice huskers, grain mills) for the agriculture (SN).
- Agriculture modernization and rural development in SA.

6. Collaboration & Partnership Proposal 01

- ✚ Direct partnership with ACCESS for all kinds of railway projects in both countries and in Africa (engineering and implementation).
- ✚ Direct partnership with ACCESS for all kinds of Telecoms and ICT projects in Senegal (engineering and implementation).
- ✚ Direct partnership with ACCESS for all kinds of Energy projects in both countries and in Africa (engineering and implementation).
- ✚ Direct partnership with ACCESS for all kinds of civil works and agriculture related projects in both countries.

6. Collaboration & Partnership Proposal 02

- ✚ Partnership or Assistance by ACCESS for the Korean company willing to do business in South Africa and Senegal: assistance in settling their business in both countries, meeting with the relevant authorities and decision makers and selecting the right local partners and competent staff.
- ✚ Assistance in bids' preparation (in English and French) and contract negotiations.
- ✚ Assistance in contacting and negotiations with multilateral donors for projects in both countries (e.g. WB, AfDB, Islamic Development Bank, BOAD, Development Bank of Southern Africa DBSA, etc.)
- ✚ Co-use of ACCESS offices in Dakar and Johannesburg for bids' preparation, contract negotiation, marketing trips, etc,



**Thank you for
your attention!**

Dr Emile Muvunyi

- Graduated 1982 as “Diplom-Engineer” from Rheinisch-Westfälische Technische Hochschule RWTH Aachen for Metallurgy studies, Germany
- Graduated 1988 as Doctor-Engineer at PREUSSAG Metall Forschung in Goslar with the Technical University of Berlin
- PREUSSAG Wassertechnik, Germany (1988-1993) - Sales Manager Africa
- STRABAG GmbH, Germany (1993-1998) - Regional Director Africa
- DB-International GmbH, Germany (1999-2009) - Regional Director Africa
- VOSSLOH AG, Germany (2011-2015) - Business Dev. Manager for Sub-Saharan Africa
- International Independent Consultant in the field of infrastructure since 2009.

Dipl.-Ing. Oumar Ba

- Graduated 1988 as “Diplom-Engineer” from TU Hannover” (Germany) in Electrotechnics, Electrical Eng., Electronics and Telecoms, Germany
- DB-International GmbH, Germany (1989-1999) - Rail Systems and Telecoms Senior Expert, Project Manager
- Alcatel CGA Transport, France (1999-2000) - Senior Manager Telecoms/ Signalling/ Automatic Fare Collection & Ticketing
- Alcatel Transport Automation Systems, France (2000-2002) - Quality & Business Development Director
- International Independent Consultant for Telecoms, Energy and Rail since 2003 & CEO ACCESS-Technologies (since 2009)
- Projects worldwide (Africa, Germany, France, Greece, UK, Russia, Taiwan, Canada, Thailand, Abu Dhabi, etc.)