IHS
Towers of strength

Green Power for Mobile

January 2014



IHS has a 12-Year Track Record of Success

Experience and a track record of success throughout the value chain – from many years of building, managing and owning passive infrastructure for MNO's in Africa

Total	Built c.3,500 Towers (1)	Manage c. 2,500 Towers on behalf of MNOs	Collocation portfolio of c.7,000 Towers Across Three Countries (1) In addition to portfolios in Zambia and Rwanda

Business History





2001

Established in Nigeria in 2001 as "Deployment" contractor to build telecom towers for MNOs. More than 3,000 sites deployed since



2006

Launched "Managed Services" operations to maintain towers for MNOs under contract. Services include: repair, fuel, and security for over 2,500 towers



2009

IHS launches its "Collocation" operation, by owning its own towers and leasing space to MNOs



2013 - 2014

Collocation operations enter Côte d'Ivoire and Cameroon though acquisition of the MTN and Orange tower portfolios. Nigerian BTS market continues to grow at rapid pace to become #1 independent Tower Company in Nigeria. Acquisition of MTN portfolios in Rwanda and Zambia signed.

Deployment	Managed Services	Collocation & Future Opportunities

Source: Company Information (as at 31 December 2013)
(1) Includes WIP sites

Source: Company Information

1) Includes towers under construction

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Africa's largest mobile infrastructure company

Where do we operate?

Nigeria

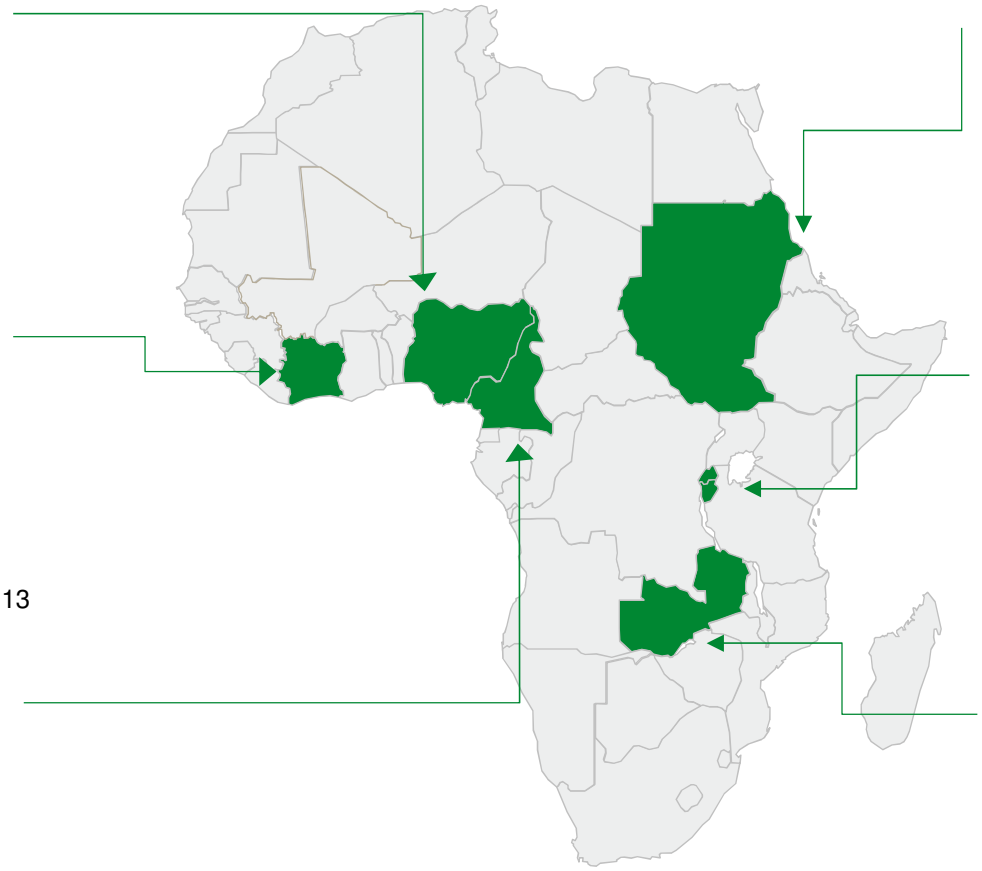
- **Sites:**
  - 1,184 owned (+127 WIP)
  - 1,804 managed
- **Key customers:**
  - MTN, Airtel and Etisalat amongst main customers

Côte d'Ivoire

- **Sites:**
  - 911 acquired
  - 1,205 managed
- **Key customers:**
  - MTN and Orange as anchor tenant
- Business commenced April 2013

Cameroon

- **Sites:**
  - c900 acquired
  - 837 managed
- **Key customers:**
  - MTN and Orange as anchor tenant
- Business commenced March 2013



Republic of Sudan & South Sudan

- 720 managed in the Republic of Sudan
- **Key customers:**
  - MTN & Zain

Rwanda

- **Sites:**
  - 524 owned
- **Key customers:**
  - MTN as anchor tenant
- Portfolio acquisition signed December 2013

Zambia

- **Sites:**
  - 704 in initial portfolio
- **Key customers:**
  - MTN as anchor tenant
- Portfolio acquisition signed December 2013

IHS Operations

Source: Company Information
(1): LUR on the BLB portfolio

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IHS Portfolio and activities

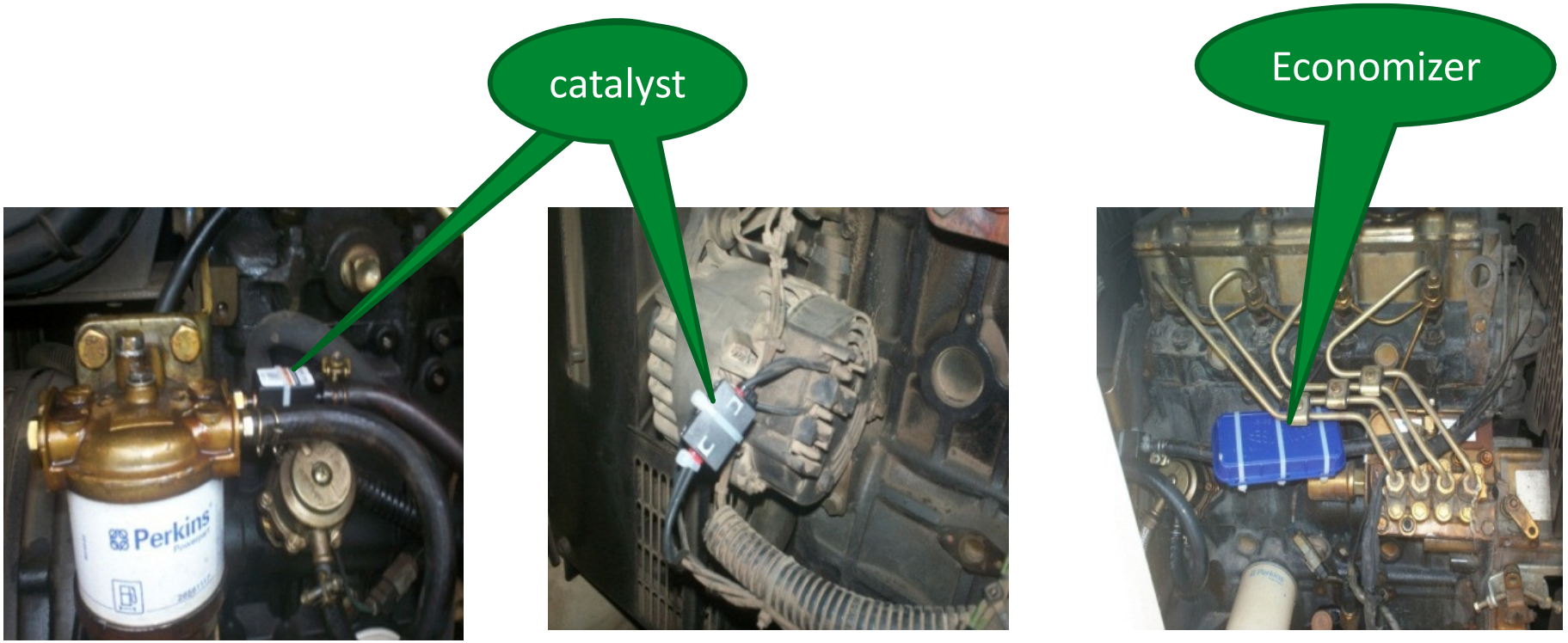
- Managing Passive Infrastructure for 3600 Sites in Nigeria
- Building new sites on B2S model
- Deploying IBS solutions for shared infrastructure

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Catalyst & Economizer

- Magnetic attachments installed on the fuel line in the DG which enables concentrated beam of fuel in the DG

- 7 – 10% saving on Fuel consumption depending on the load and aging of the DG.



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How it works….

— The pack consist of two units

- One unit attached to the fuel line leading to the engine; this unit restructures the fuel and is attached close to where the fuel enters the engine
- One ferrite copper suppression (FCS) attached to the high tension cable leading from the alternator to the positive battery terminal; this unit prevents spikes of electromagnetic frequency (EMF) from affecting the operation of the BDS unit on the fuel line

Principle of Operation:

- When liquids or gases flow through the charged field, the charged particles of the atoms that form the molecules are excited and re-align in the direction of the magnetic field. This allows the fuel molecules to be more energized and more completely combined with oxygen during combustion (burn) in the firing chamber or cylinder of a combustion engine
- The device is installed on the fuel supply line that feeds the engine from tank without any tools or pipe cutting

Benefits:

- Reduction/efficient diesel consumption
- Reduction in carbon emissions
- Less un-burnt fuel release from the exhaust

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Replacing DGs

— 9 KVA ACDG:

- Replacing existing 20/ 27 KVA DGs at sites with 1 or 2 operators
- 15 - 20% saving on Fuel consumption.

— 6.5/10 KVA DCDG:

- Solution for 1 or 2 Tenants OUTDOOR sites.
- Variable speed engine gives load based consumption
- Standardized solution for all new Site build since Jan,2013
- 20 -30% reduction on fuel consumption as compared to conventional ACDG

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Solar Hybrid System

- System consisting of 12 KW Panels with 600 AH Deep Cycle batteries
- Installed at Non Grid sites
- Installed at 1 or 2 Tenants OUTDOOR sites
- Targeted to reduce the DG running Hours by using Hybrid operation on a sunny day by using Solar + Deep Discharge Battery bank
- Achieved close to 40 – 50 % reduction in Diesel consumption on a yearly basis





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Grid Connection

- Average grid availability is 4 – 12 hrs across regions
- Usability @ 60 % of the availability
- 15% - 20% of diesel saving realised across portfolio

- Issues with PHCN
    - Inconsistent Supply
    - Low Voltage/ Phase loss

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New Products being explored

- DC Aircons being tested for low power consumption
- Efficient Energy Storage Platforms being put to trials – Li – Ion batteries
- Alternative Energy Sources – hydrogen Fuel cells, Gas based DGs

Challenges for New Energy Solutions

- Availability of Solution Providers and Product suppliers in the country
- Long Lead time for Pilots based on delivery schedules
- Economic Viability of the solutions – Innovative Business Models
- Service and Spares back up for Solutions

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Thank You

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