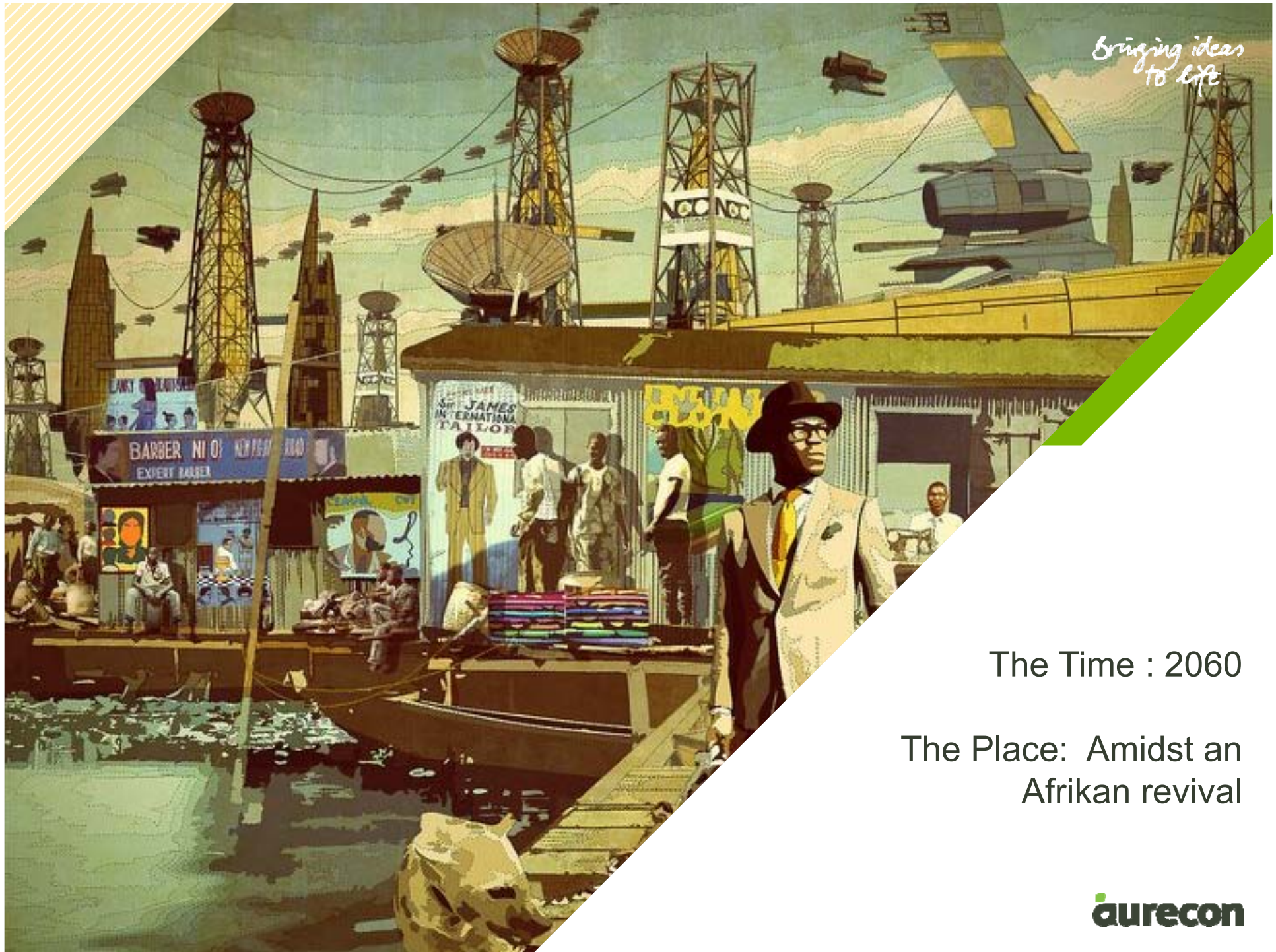**Engineering of the Future**
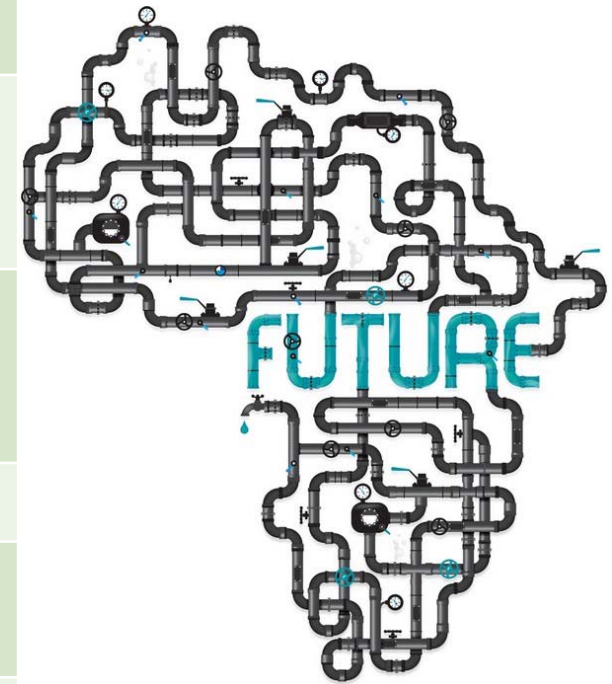
Dr Gabi Wojtowitz & Salona Naidoo

16/08/2017

The Time : 2060

The Place: Amidst an Afrikan revival

The Future………… "My Afrikan Dream"

bringing ideas to life

Environment	Outcome
Youngest population	Virtual Education, Ownership
4 of the worlds largest megacities (Cairo, Gauteng, Lagos and Kinshasa)	Defined Afrikan cities – smart cities
Integrated transport network	Free trade, link cities, promotion of intra Afrika incentives
Technology innovation	Basic needs, sustainable
Regional Corporation, unified governance	Infrastructure planning for climate change
Resource and Manufacturing	Proudly Afrikan
Eco Planning and heritage sustainability	Integrating environment

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ADVANTAGES OF SMART CITY

PRODUCTION	CONTROL	UTILITY	SERVICES	TRANSIT	PUBLIC SAFETY
ORGANIC FOOD	WATER TREATMENT	SMART WASTE MANAGEMENT	MOBILE PAYMENTS	INTELLIGENT RAIL AND TRANSIT SOLUTIONS	VIDEO SURVEILLANCE
SAFE PRODUCTS	WATER MANAGEMENT	RECYCLING	REMOTE OUTAGE NOTIFICATION	FLEET MANAGEMENT	REMOTE SECURITY MONITORING
REDUCE THE COST OF DELIVERY	ENVIRONMENTAL CONTROL	REUSE	ONLINE ORDERING	ASSET TRACKING	EMERGENCY RESPONSE
HAZARDOUS MATERIALS EMERGENCY RESPONSE	CONSERVATION OF ANIMAL POPULATIONS	EQUIPMENT MONITORING/ CONTROL	REMOTE CONTROL	MOBILE PAYMENTS	SMART STREET LIGHT
			24 HOUR ACCESS	SMART ROADS	MASS NOTIFICATIONS

22 mil migrate to African cities every year

1.34 bil will live in Afrikan cities by 2050

The Future………… "My Afrikan Dream"

bringing ideas to life

Digitisation and Innovation

Virtual Team

Problem finders

Empathy design - stakeholder

Shaping our environment

Mastery

Divers e

Global Team

Clients = Partners

Agile and Evolving

Trusted advisor

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NOW
2017

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The Good , the bad and the ugly…………

- **The Good**
  - Buy in with regards to smart cities (Narobi, Kigali, Cape Town – connected cities)
  - Development plans in place
  - Investing in renewable energy
  - Rich culture and heritage
  - Agricultural and also nutritional research
  - Plenty of arable land
  - Natural resources untapped
  - Connected

- **The Bad**
  - Still very dependent on Foreign aid
  - Water shortage
  - Basic needs
  - Access to health care
  - Inequality
  - Job shortages
  - Western world closing in on itself, BREXIT, America reducing foreign aid
  - Civil Unrest, safety
  - Reaction to hazards
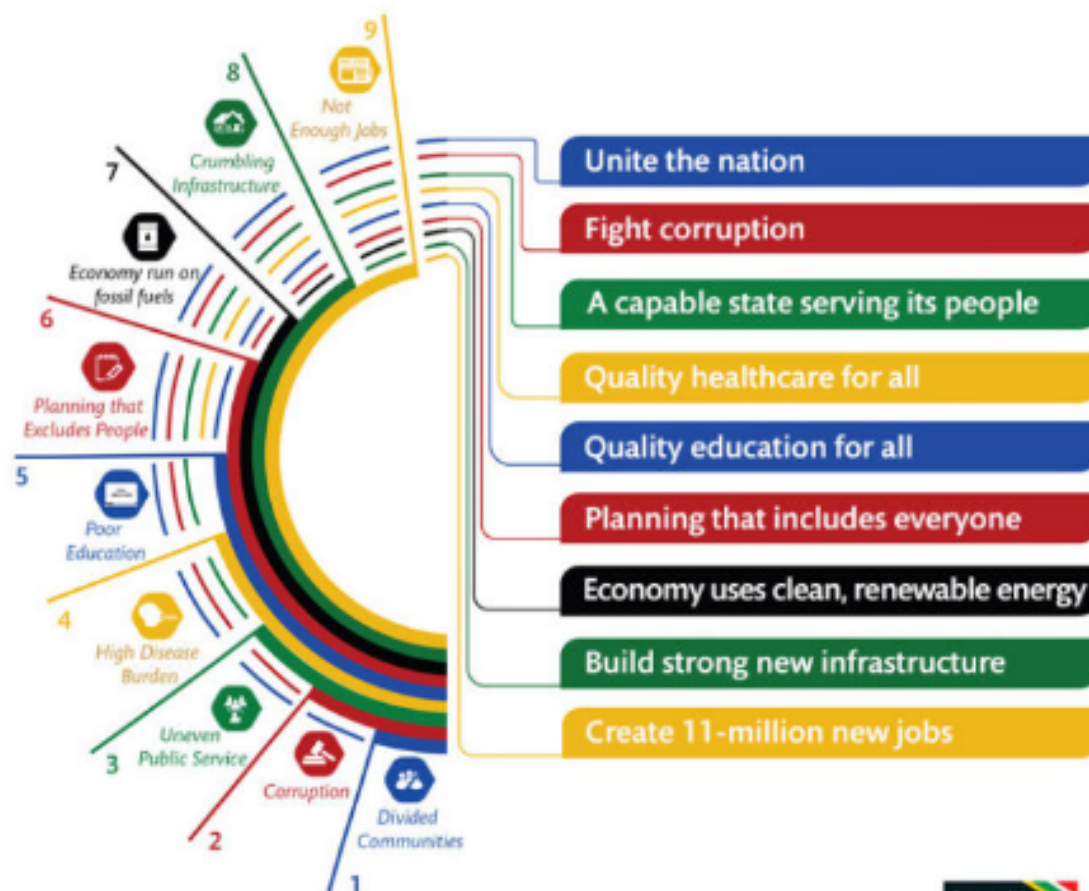
- **The Ugly**
  - Misuse of power
  - Corruption
  - Colonial urban planning
  - Inadequate political governance and follow through at local level
  - Bleak future prospects – access to industry
  - Climate Change

ENVIRONMENT

The Good , the bad and the ugly………..

- The Good
  – Abiding by policies
  – Working according to good practice
  – Very good civil construction portfolio
  – Greenfields option – clean slate renewed integration
  – Seed of transformation
  – Road and Rail infrastructure
  – Expected unique projects

- The Bad
  – Very large vs very small companies
  – Commoditising – shopping list, unsustainable competition
  – Fixing the consequence, not problem
  – Working to standards dictated by the western world
  – Integration and Implementation policies – not aligned and not sustainable

- The Ugly
  – Private sector working in isolation from government
  – Misuse of policies
  – Lack of mentoring because of skills gap.
  – Dated mindset
  – Aftermaths of reshuffle, mergers etc

INDUSTRY

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The journey

bringing ideas
to life

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A Journey to 2060

The Future
NEXT EXIT

dis rup tion

bringing ideas to life

2017

2060

High potential for development

Afrikan Renaissance

Change of mind set, Taking ownership, partnering with government

Introspection, solutions from within, Unity

Back to basics

Collaboration

Lateral perspective of thinking

Art + economics+ science

Innovate and invent

No clinging to power

Investors, developers, consultants

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The Africa we want

"The country we seek to build by 2030 is just fair prosperous and equitable. Most of all it is a country that each and every South African can proudly call home. It is up to all South Africans to play a role in fixing the future."

NDP 2030

"An integrated, prosperous and peaceful Africa driven by its own citizens representing a dynamic force in an international arena"

AU, Agenda 2063
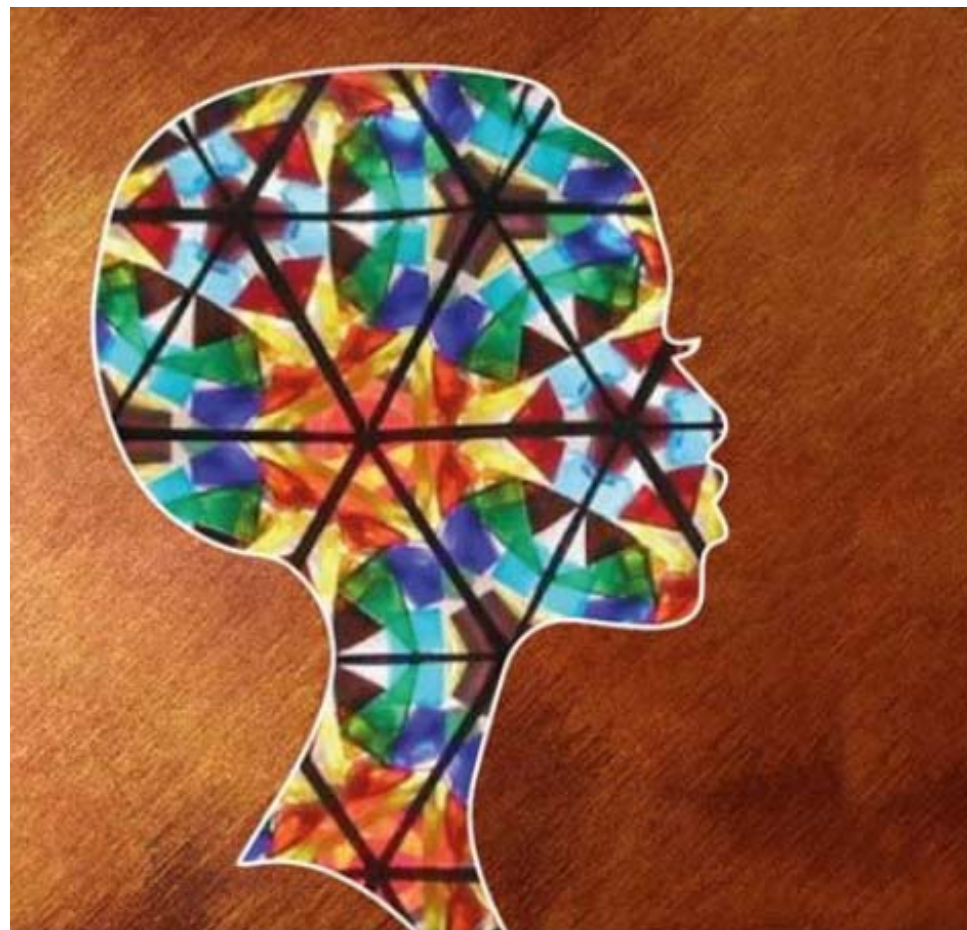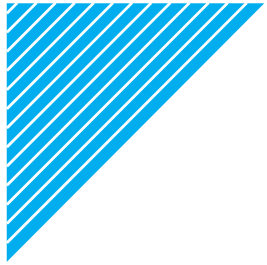
Thank You

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bringing ideas to life

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