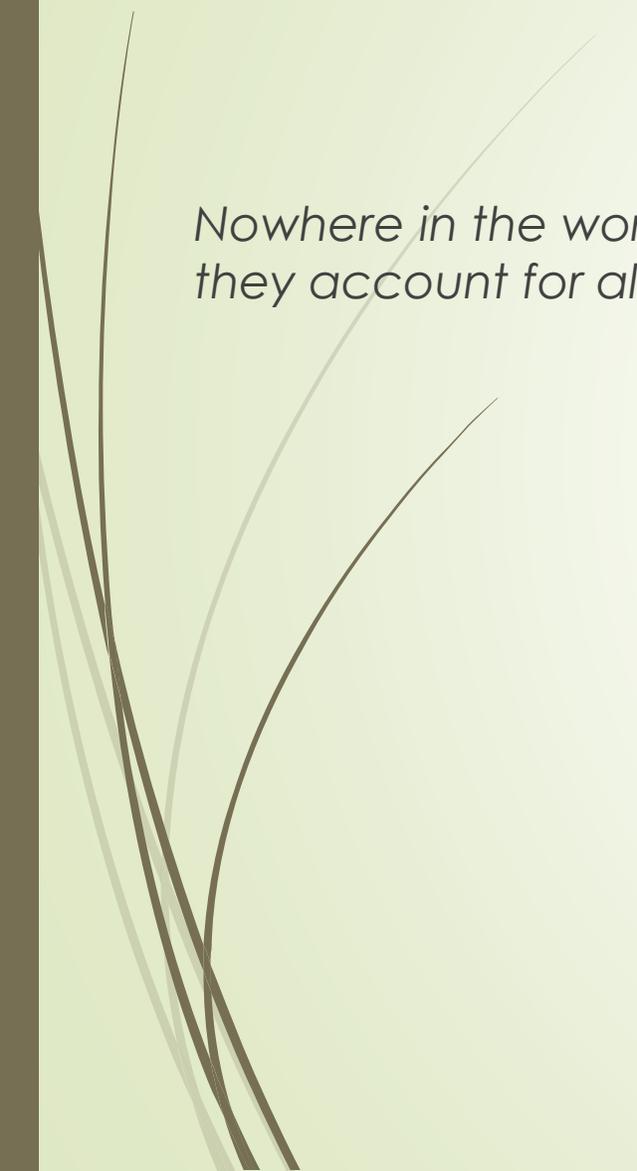


WHY AFRICA SHOULD HAVE LOCALLY SOURCED ROBOTICS KIT(S)

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Nowhere in the world are children more central to a continent's future than in Africa, where they account for almost half (47 per cent) of all inhabitants. (UNICEF 2017)



Africa

SOME STATISTICS:

Population

- Under 15 : 41%
- 15 – 24 years old : 19 %
- By 2050: 2.5 Billion (Increase by 1.3 Billion from 2017). More than half of world population growth.

Youths

- By 2050: 830 Million (Double from 2016)

Children

- By 2030 : 750 Million (Increasing by 170 Million from 2016)
- By 2055 : 1 Billion (40% of global total)



Transform Africa's educational, skills and vocational learning systems through systems-strengthening, curriculum reform and access to technology, to enhance learning outcomes and match the skills of Africa's children and youth to current and future labour market needs.

Maximize the use of available resources (domestic and international) to increase investment in Africa's children and youth, targeting the most effective programmes and population groups with the greatest need.

(From Policy Actions for Generation 2030 Africa UNICEF 2017)

Robotics

- ▶ Creative thinking
- ▶ Computational thinking
- ▶ Mechanics, Electronics and Computing (Software meets hardware)
- ▶ Interfacing with AI and ML
 - ▶ Current Computing Platforms: ML for Kids, Cognimates, Scratch

Potential Market

AFRICA CONTINENTAL FREE TRADE AGREEMENT/AREA (ACFTA)

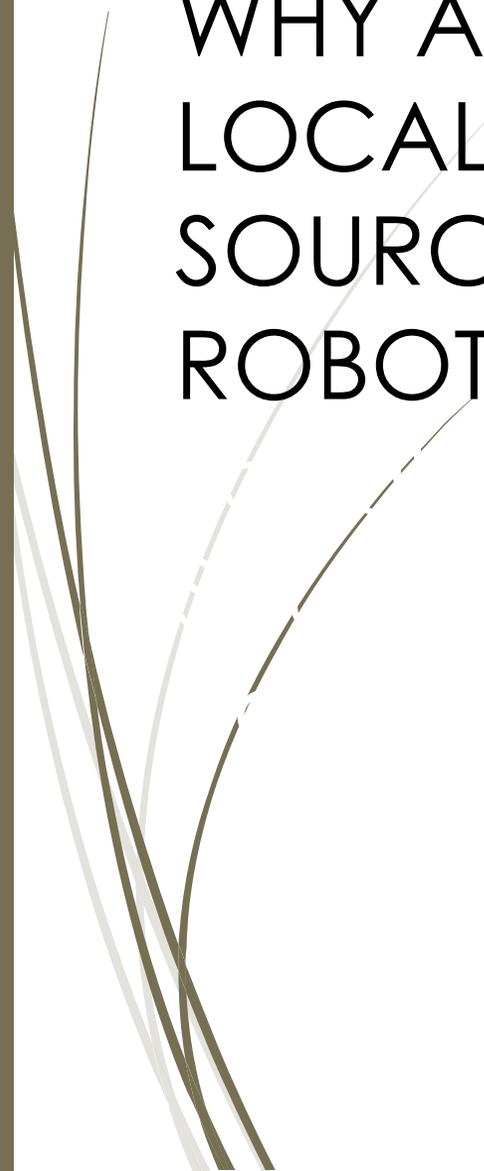
- ▶ Free Trade Across 55 countries. Largest since World Trade Organisation. Currently signed up to by 54 countries as at July 2019.
- ▶ Intra-trade estimated to increase 52% by 2022.
- ▶ Combined GDP : \$ 2.5 Trillion

AFRICAN MAKER MOVEMENT

- ▶ Over 300 active tech hubs across the country
- ▶ Symbiosis with the startup/entrepreneurial ecosystem.
- ▶ Education outreach



WHY A LOCALLY SOURCED ROBOTICS KIT?



Cost: Must be cheap enough to be afforded by the vast majority. A parallel example is seen in the penetration of cheap android phones on the continent.



Relevance: Does it work in the unique African environment? E.g. M-Pesa.



Access to the entire continent



Scale: Cost can go down as scale increases



Reach: Support and Derivative Industries.
Mining, Construction, Manufacturing

Cost

The African Robotics Network Ultra Affordable Educational Robot Project : 2012 and 2014.

Panyabot: \$31 Dollars

Roboarm: \$50 Dollars (without industrial controller ~ 30 Dollars)

Print & Fold Robot: \$ 20.27

AERobot : \$ 10.70

Remember Scale!!!

Component	Quantity	Sources	Cost(Naira)
Perspex	30% of total purchased	Art & Design Shops	525
Motors	5	Old TV Antennas & Toys	0
Silicon Diodes (1N4000)	3	Electronics Stores	15
Resistors-4.7k Ω	20	Electronics Stores	50
High Wattage Resistors 100 Ω	4	Electronics Stores	40
Relays	4	Electronics Stores	240
TIP41	10	Electronics Stores	300
TIP42	5	Electronics Stores	150
Bridge Rectifier	1	Electronics Stores	30
Resistors-56 Ω	2	Electronics Stores	20
IPQ77	3	Electronics Stores	4500
Light Dependent Resistors (LDRs)	10	Electronics Stores	1000
12V 3 Anode Transformer	1	Electronics Stores	160
1000 μ F Electrolytic Capacitor	2	Electronics Stores	60
Vero-Board	1	Electronics Stores	40
Miscellaneous (e.g. wires, metal, screws)		Electronics Stores	800
Total			7930



➡ THANK YOU!