Building Transformative and Game Changer Infrastructure for a Seamless Connected Africa
1. Introduction

The Lamu Port South-Sudan, Ethiopia Transport (LAPSSET) Corridor Program is a regional multimodal infrastructure program integrating roads, railway and pipeline components in Kenya, South Sudan and Ethiopia. The program is the single largest project of its nature in Eastern Africa and is intended to provide seamless connectivity, enhance trade and logistics within the region by providing an alternative and strategic corridor to serve the landlocked neighbouring countries of Ethiopia and South Sudan. The scope of the truck infrastructure includes:

i. A 32 Berth Port in Lamu intended to unlock logistics and trade and create regional transport hub;

ii. Interregional Standard Gauge Railway lines from Lamu to Isiolo, Isiolo to Nakodok and Juba (South Sudan), Isiolo to Moyale and to Addis Ababa (Ethiopia), and Nairobi to Isiolo;

iii. Interregional Highways from Lamu to Isiolo, Isiolo to Nakodok and Juba (South Sudan), Isiolo to Moyale and to Addis Ababa (Ethiopia);

iv. Crude Oil Pipeline from Juba (South Sudan) - Nakodok – Lokichar - Isiolo – Lamu; and

v. Product Oil Pipeline from Lamu - Isiolo- to Moyale (Kenya) and Moyale to Addis Ababa (Ethiopia).

Apart from the trunk infrastructure, it is designed to encompass other investment and economic activities such as International Airports, Resort cities, Special Economic Zones, Industrial parks, and mineral exploration to generate and harness the economic and business activities for the corridor to bolster the viability of the investment and overall program sustainability. LAPSSET will become Kenya’s second strategic and largest transport corridor once the project has been completed.

2. National Perspective

At the country level, the LAPSSET Corridor Program is one of the flagship Vision 2030 projects intended to spur economic development by creating new opportunities and unlocking the latent economic potential in the larger hinterland of Northern and North Eastern and Western parts of Kenya. The program is also intended to provide the country with a second strategic port thereby making the country a transport and logistics hub in the region. Among the projects components planned locally are include:

i. International Airports at Lamu, Isiolo, and Turkana;

ii. Resort Cities at Lamu, Isiolo and Turkana; and

iii. High Grand Falls Multipurpose Dam;

The LAPSSET Corridor Program infrastructure traverses nine counties as shown in the map while the International Airports and Resort Cities components are to be implemented in Lamu, Isiolo and Turkana.
Kenya and by extension the regional neighbouring countries currently relies on Northern Corridor that runs from Mombasa to Nairobi to Malaba and then to Kampala (Uganda), Kigali (Rwanda) and Bujumbura (Burundi). This corridor locally serves a small and confined part of the country spanning approximately 150 kilometers and this has been the Centre of economic influence in the country.

The LAPSSET Corridor will therefore open large segments of the country which are located in Northern, North Eastern and North Western parts which account for over 70% of the country’s land mass. The potential that resides in this region is enormous ranging from livestock farming, rare minerals, natural power sources including solar and wind, fishing industry and tourism.

The LAPSSET Corridor which will traverse 9 counties, namely; Lamu, Garissa, Isiolo, Meru, Laikipia Baringo, Samburu, Marsabit and Turkana.

The Corridor will have two components. The first will comprise of a 500 meter wide infrastructure corridor that will host all the trunk components among them the highways, the railway, the oil pipelines, and the utilities. The second component is space spanning 50 kilometers on either side of the infrastructure corridor which is planned to host economic activities to create business and generate cargo for the infrastructure. Among the activities planned include special economic zones, industrial parks, agro processing plants, irrigation schemes, mining and exploration and blue economy activities.

Bring the entire land mass traversed by the LAPSSET Corridor into active economic activities will provide the country with ample and multiple revenue generating activities, create employment and contribute to economic growth.
3. Regional perspective

At the regional level, the core participating countries are the Republic of Kenya, Federal Democratic Republic of Ethiopia and Republic of South Sudan. The program will create a second strategic corridor to the land locked neighbouring countries of Ethiopia and South Sudan.

The program will also position the country strategically as a trade and logistics hub by serving the lower parts of Ethiopia and South Sudan and giving access an efficient transport network to over 100 million people. It will also link with the Northern Corridor via a link from Isiolo to Nairobi and therefore help to ease business for the regional countries of Uganda, Rwanda, Burundi and Democratic Republic of Congo.

4. Continental perspective

The LAPSSET Corridor Program is designed to link with other continental corridors such as East Africa Northern Corridor, East Africa Central Corridor and provide a land bridge through the African Great Lakes region. This will create a link from Lamu port in the Eastern Africa Coast of India Ocean to Douala Port in the Western Africa Atlantic Ocean and help ease trade by reducing the distance through an efficient land transport system.

Owing to its significant in the continent, the LAPSSET Transport Corridor Program was admitted to African Union Program for Infrastructure Development in Africa (PIDA), under NEPAD and subsequently to the Presidential Infrastructure Champion Initiative (PICI) project under the African Union (AU) Commission. This elevation is critical in paving way for prioritization of the project for support at the continental level through AUC/NEPAD for project preparation funding and implementation financing. It also gives the program sufficient mileage and exposure to attract Foreign Direct Investment (FDI) especially given the recent discoveries of oil, gas, rare minerals and coal in East Africa.
5. Project components

The following gives description of the LAPSSET Corridor Program components in Kenya.

5.1 Lamu Port

Lamu Port is a 32 Berths port located at Manda Bay, Lamu and is one of the economic anchor projects for the LAPSSET Corridor Program. The construction of the 1st three Berths of Lamu Port is currently under ongoing and dredging works commenced in October, 2016. The completion timelines are mid-2018 for the 1st berth and December, 2020 for second and third berths. The 1st three berths cost is estimated at US$412 Million, equivalent of KShs 48 billion at current exchange rate.

Major auxiliary facilities are in place, with the Port Headquarters and the Lamu Port police station completed, while the Port Management Housing Scheme is under construction. Electric power has been delivered from Rabai to Lamu port via a 220 KV line to power the infrastructure. The water reticulation network to the port has been undertaken although both quality and quantity have been noted to be a major concern.

After construction, the berths will commence operations and therefore procurement of the equipment and Transactional Advisor to determine the operating model needs to be fast tracked.

5.2 Railway

The Standard gauge railway lines will run from Lamu to Isiolo (533 Km), Isiolo to Nakodok (738 Km) Nakodok to Juba (South Sudan) and from Isiolo to Moyale (448 Km), Moyale to Addis Ababa (Ethiopia). Kenya and Ethiopia have strengthened the regional coordination framework for the
delivery of the standard gauge railway. The Preliminary designs are complete and a due diligence report prepared for release to prospective contractors. Ethiopia has already completed construction of the Addis Ababa to Modjo section and is currently planning to commence the construction of the Modjo – Hawassa section.

In addition, the government of Kenya has under the NEPAD Infrastructure Projects Preparatory Fund (IPPF) entered into an MoU with The Intergovernmental Authority on Development (IGAD) to spearhead the detailed designs for the regional SGR infrastructure project.
Highways

The road network for the LAPSSET Corridor Program runs from Lamu to Isiolo (538 Km) Isiolo to Nakodok (731Km) Nakodok to Juba (South Sudan), and Isiolo to Moyale (505 Km) Moyale to Addis Ababa (Ethiopia). The Isiolo -Moyale road construction of about 505Km was completed in 2016. The Lokichar - Nakodok – Juba section is at advanced tendering stage with some lots already handed over to the contractors. Detailed designs of the Lamu – Garissa – Isiolo section are complete and the section is at financial mobilization stage, while the section between Isiolo and Lokichar is at detailed design stage. On the Ethiopian side, the Moyale – Hawassa road is currently being upgraded in line with corridor standards.

5.3 Oil pipelines

In respect to the oil pipelines a Crude oil pipeline from Lamu to Isiolo to Lokichar to Nakodok (1288 Km) to Jonglei (South Sudan) and a Product Oil Pipeline from Lamu to Isiolo to Moyale (987 Km) to Addis Ababa (Ethiopia) are planned. The current priority is for the crude oil pipeline from Lokichar to Lamu in Kenya and this is informed by the need to monetize the crude oil deposits in Kenya. For the crude Oil pipeline project from Lokichar – Lamu, the Pre – Front End Engineering Design (FEED) study was completed in December, 2015 and is rolling to the Front End Engineering Design study. In respect to the Product Oil pipeline, initial bilateral discussions took place culminating in the signing of a Memorandum of Understanding (MoU) between Kenya and Ethiopia on Oil and Gas which is being negotiated.
5.4 Resort Cities

To bolster the viability and sustainability of the LAPSSET Corridor, three resort cities are planned in Lamu (Mokowe), Isiolo (Kipsing Gap) and Turkana (Kalokol). These are intend to support economic enabling activities to harness and tap into the rich tourism potential. The concept is to create new tourism corridor based on group tours using the mass transportation network offered by LAPSSET Corridor.

The Isiolo Resort city is premised on a rich biodiversity and habitation to rare and endangered wildlife species among them black rhinos, Grevy’s zebras and sitatungas. The big five (Masai lion, leopards, elephants, rhinos and Cape buffaloes) are also found around here. The city will also leverages on the 5 National Parks/Reserves around it which includes:-

i. Mount Kenya;
ii. Aberdares Ranges;
iii. Marsabit;
iv. Samburu; and
v. Meru National Park

The county is also home to major and internationally renowned private and community conservancies which include:-

i. Buffalo Springs;
ii. Shaba Game Reserves;
iii. Bisanadi Game Reserves; and
iv. Lewa Downs Conservancy

This therefore presents one of the most unique tourist menu in the country that can be exploited and harnessed to create positive economic impact.

The Lamu Resort City is proposed to be at Mokowe and is premised on the rich cultural history including the Swahili village, beaches, unique cultural identity, world heritage sites and national reserves/parks. Other tourism attractions facilities include mangrove forests, deep sea fishing, archeological sites and water sporting activities. The construction of the resort city is expected to make Lamu one of the ten long-haul tourist destination in the world.

Lake Turkana Resort City is proposed to be located at Kalokol near Lake Turkana and will ride on the following facilities:-

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i. Central Island National Park;
ii. Sibiloi National Park;
iii. Southern Island National Park;
iv. Eliye Springs; and
v. Loiyangaiani sites.

5.5 International Airports

To interface with the three Resort Cities, International Airports will be constructed in Lamu, Isiolo and Turkana. Currently, there are intermediary facilities at Manda for Lamu and Lodwar and Lokichogio for Turkana which are operational. Isiolo Airport is at advanced construction stage and is ready for commissioning.

The international airports will significantly aid in facilitating the tourist industry by supporting charter services and also interfacing with the other components for the group tours.

5.6 High grand falls multi-purpose dam

The long-term adequate water provision in Lamu and along the corridor is a key concern. To address this, a mega multi-purpose dam is planned which is also expected to generate electricity and provide water for irrigation.
6. **Business for the LAPSSET Corridor Program components**

Kenya is a gateway to her neighbouring land locked countries and the larger Eastern and Central Africa region all the way to Democratic republic of Congo. These countries have traditionally been served by the Mombasa Port, linking with the Northern Corridor. Currently Mombasa Port has undergone significant expansion, with construction of additional Berths.

According to projections of trade volumes for both export and imports, the Mombasa Port is currently coping with demand and this will reach a peak by 2026. Given that Mombasa port will have reached its’ expansion limit for additional berths, the demand will outstrip capacity.

The Lamu port is therefore a timely investment for the country and the cargo traffic for the region is expected to be sustained though imports and exports via the Lamu port. The Projected demand and capacity captured in the graph above depicts the situation that will arise in the imports and export for the region. This scenario is further depicted in graph below.
## 7. SUMMARY OF LAPSSET CORRIDOR PROGRAM STATUS

<table>
<thead>
<tr>
<th>#</th>
<th>Program Component</th>
<th>Project Objectives</th>
<th>Project Description</th>
<th>Project status</th>
<th>Timelines</th>
<th>Next Steps</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Lamu Port &amp; Auxiliary Projects</td>
<td>To provide an alternative and strategic port to serve the regional landlocked countries of Ethiopia and South Sudan and beyond</td>
<td>1\textsuperscript{st} three berths (general cargo)</td>
<td>● Construction on going with 1\textsuperscript{st} berth to be delivered in July 2018 and the other 2 by end of year 2020</td>
<td>1\textsuperscript{st} Berth 2018/19 Berth 2&amp;3 2020/21</td>
<td>● Sourcing of the operator and equipment for the 1\textsuperscript{st} berth with lead time of between 12 and 16 months should before completion of the 1\textsuperscript{st} berth.</td>
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<td></td>
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<td></td>
<td>29 berths (general, bulk, Liquid )</td>
<td>● Planning stage</td>
<td>TBD</td>
<td>● Detailed Engineering Designs; ● Procure Transaction advisory services to package bankability documents, prepare Tender documents and process the tender for the selection of concessionaire to the private sector investors ● The projects shall commence after delivery of the 1\textsuperscript{st} three berths and shall be implemented in batches.</td>
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<tr>
<td></td>
<td>Police Station</td>
<td>100% Complete.</td>
<td></td>
<td>2017/18</td>
<td></td>
<td>● Furnishing and Operationalization</td>
</tr>
<tr>
<td></td>
<td>Port Management Housing</td>
<td>60% Construction ongoing</td>
<td></td>
<td>2018/19</td>
<td></td>
<td>● Completion and occupation</td>
</tr>
<tr>
<td></td>
<td>Lamu Port Wall</td>
<td>Construction ongoing</td>
<td></td>
<td>2018/19</td>
<td></td>
<td>● completion</td>
</tr>
<tr>
<td></td>
<td>Port Headquarter Building</td>
<td>100% Complete</td>
<td></td>
<td>2017/18</td>
<td></td>
<td>● Furnishing and adam</td>
</tr>
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<td></td>
<td>To provide an initial offtake of cargo from Lamu through the road network</td>
<td>Lamu – Witu - Garsen</td>
<td>Contracted awarded</td>
<td>2019/20</td>
<td>Timely Completion of work to facilitate the initial offtake of cargo when 1&lt;sup&gt;st&lt;/sup&gt; berth is completed</td>
</tr>
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<td></td>
<td>To provide an efficient and cost effective offtake route for the Lamu Port and opening of the hinter land of Northern and North Western &amp; Eastern parts of the country, linking with highway to South</td>
<td>Lamu – Garissa (250 Kms)</td>
<td>Detailed engineering designs completed</td>
<td>TBD</td>
<td>Negotiations for funding</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Garissa– Isiolo (280.5Km)</td>
<td>Detailed engineering designs completed</td>
<td>TBD</td>
<td>Negotiations for funding</td>
</tr>
<tr>
<td></td>
<td>LAPSSET Corridor highways</td>
<td></td>
<td>Isiolo – Merile River (136Km)</td>
<td>100% Completed</td>
<td>Completed</td>
<td>Handing over the project to the Government and Commissioning</td>
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<td></td>
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<td></td>
<td>Merille River – Marsabit (123Km)</td>
<td>100% Completed</td>
<td>Completed</td>
<td>Handing over the project to the Government and Commissioning</td>
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<td></td>
<td>Sudan and Ethiopia</td>
<td></td>
<td>Marsabit – Turbi (126Km)</td>
<td>100% Completed.</td>
<td>Completed</td>
<td>• Handing over the project to the Government and Commissioning</td>
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<td></td>
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<td></td>
<td>Turbi – Moyale (128Km)</td>
<td>100% Complete.</td>
<td>Completed</td>
<td>• Handing over the project to the Government and Commissioning</td>
</tr>
</tbody>
</table>
|    |                   |                    | Isiolo – Lokichar highway (390) | Detailed Engineering Designs ongoing and expected to be complete by August 2017 | TBD | • completion of detailed engineering designs:  
• NB: This road is crucial for construction of the Lokichar – Lamu crude oil pipeline which is a high priority project for the government with delivery timeline of 2021/22 financial year |
<p>|    |                   |                    | Lokichar – Loichangamatak (40Km) | Contract awarded and contractor on site | 2019/20 | • Mobilization of equipment and commencement of works |
|    |                   |                    | Loichangamatak - Lodwar –(50km) | Contract awarded and contractor on site | 2019/20 | • Mobilization of equipment and commencement of works |
|    |                   |                    | Lodwar – Lokitaung Junction (80Km) | Designs Complete | TBD | • Awaiting the No Objections from WB |
|    |                   |                    | Lokitaung Junction - Kalobeiyei River | Designs Complete | TBD | • Awaiting the No Objections from WB |</p>
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<td>(80Km)</td>
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<td></td>
<td></td>
<td></td>
<td>Kalobeiyei River – Nakodok (88Km)</td>
<td>• Designs Complete</td>
<td>TBD</td>
<td>• Awaiting the No Objections from WB</td>
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<tr>
<td>3.</td>
<td>LAPSSET Corridor Railway</td>
<td>To provide and efficient and cheap alternative offtake infrastructure for the Lamu Port</td>
<td>Lamu – Garissa – Isiolo – Moyale- Addis Ababa; Isiolo- Lokichar – Lodward – Nakodok - Juba</td>
<td>• Preliminary Engineering Design Study undertaken  • MoU signed between Kenya and IGAD on the preparatory works for developing the railway through AfDB funding.</td>
<td>TBD</td>
<td>• Establishment of an implementation framework and harmonization of designs and specifications</td>
</tr>
<tr>
<td>4.</td>
<td>Crude Oil Pipeline</td>
<td>To provide a delivery mode for the crude oil to a point of export</td>
<td>Crude Oil Pipeline is from Lokichar-Isiolo-Lamu; Jonglei (south Sudan)-Lokichar.</td>
<td>• The government has entered in a Joint Development Agreement (JDA) with Tullow, Africa Oil and Maersk to undertake construction.  • The FEED study consultants</td>
<td>2021/22</td>
<td>• The crude oil pipeline project has been prioritized by the government given that export of crude oil is a key economic activity earmarked to spur economic growth and anchor the port project.</td>
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<tr>
<td>5.</td>
<td>Kenya-Ethiopia Product Oil Pipeline</td>
<td>To provide an efficient transport system for oil product for the Ethiopia market and northern parts of Kenya</td>
<td>Project scope is from Lamu – Isiolo – Moyale – Addis Ababa</td>
<td>• Bilateral instrument signed between Kenya and Ethiopia for the implementation and technical preliminary studies.</td>
<td>TBD</td>
<td>• Technical meetings to undertake the study for the product oil pipeline to be undertaken.</td>
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<td>with redundancy for existing pipeline</td>
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8. Conclusion

The LAPSSET Corridor Program presents the country with a unique opportunity to have a paradigm shift in the development. In particular, the LAPSSET Corridor will open vast parts of the country and further open the country to a strategic position in the region as a trade and logistics hub.

There is need therefore to facilitate the LAPSSET Corridor Program especially by fully implementing the following high priority and medium term projects components:

8.1 High priority and immediate projects

i. The 1st three Berths of Lamu Port and auxiliary facilities;

ii. The Lamu – Garissa – Isiolo road;

iii. Lokichar – Isiolo - Lamu Crude oil pipeline;

iv. The Lamu - Isiolo – Moyale – Hawassa Product oil Pipeline; and

v. The Security of the LAPSSET Corridor.

8.2 Medium term projects

i. Lamu – Isiolo – Moyale Railway line; and

ii. Next batch of Lamu Port Berths.