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Detailed Scoping Study (DSS) of Agenda 2063 African Integrated High Speed Railway Network (AIHSRN) and Masterplan 2063

Strategy Note_Final Report
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Scope of Presentation

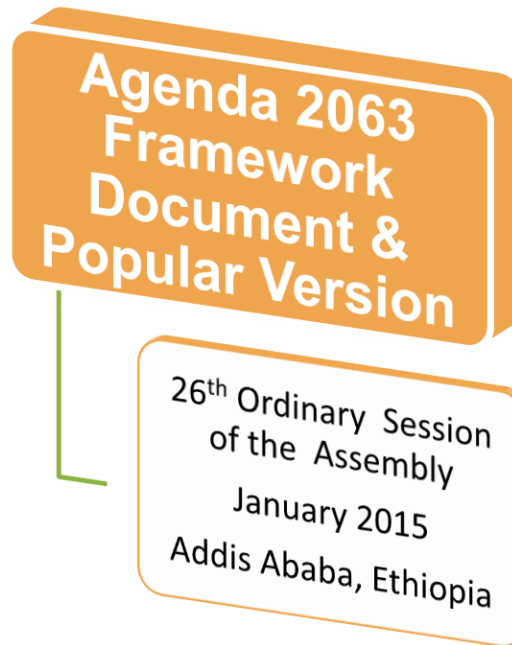
- AIHSRN Background
- Defined Objectives
- AIHSRN First 10-Year Implementation Plan
- Master Plan 2063
- Technology Options/ Technical Standards
- Financing Policy/ Strategies
- Recommendations
- Next Steps



Agenda 2063 Continental High Speed Railway - Freight Programme

❑ Background: Agenda 2063 & Continental HSR Programme

- ❑ African Union Summit **Decision 24** of the AU Assembly of **March 2013**.
[**Assembly/AU/24 (XXIV)**]
- ... approved the **Africa Agenda 2063**.
- **AIHSRN Initiative** – as a Flagship Project of Agenda 2063



❑ **Agenda 2063 – May 2013/ 14 (AU Heads of States)**

❑ **Results Framework - AIHSRN**

❖ **Develop 1st 10-Year Implementation Plan (2 pilots)**

- **Commence Construction of 1st Regional Network by 2023**
- **Commence Construction of 2nd Regional Network by 2025**
- **National Readiness Strategy (NRS) - to Implement the 2 pilots above (2018-2020)**
- **Cooperating Treaty – to be finalized by 2018-2020, by Cooperating Footprint States (in Pilot 1 and Pilot 2 Rail projects)**

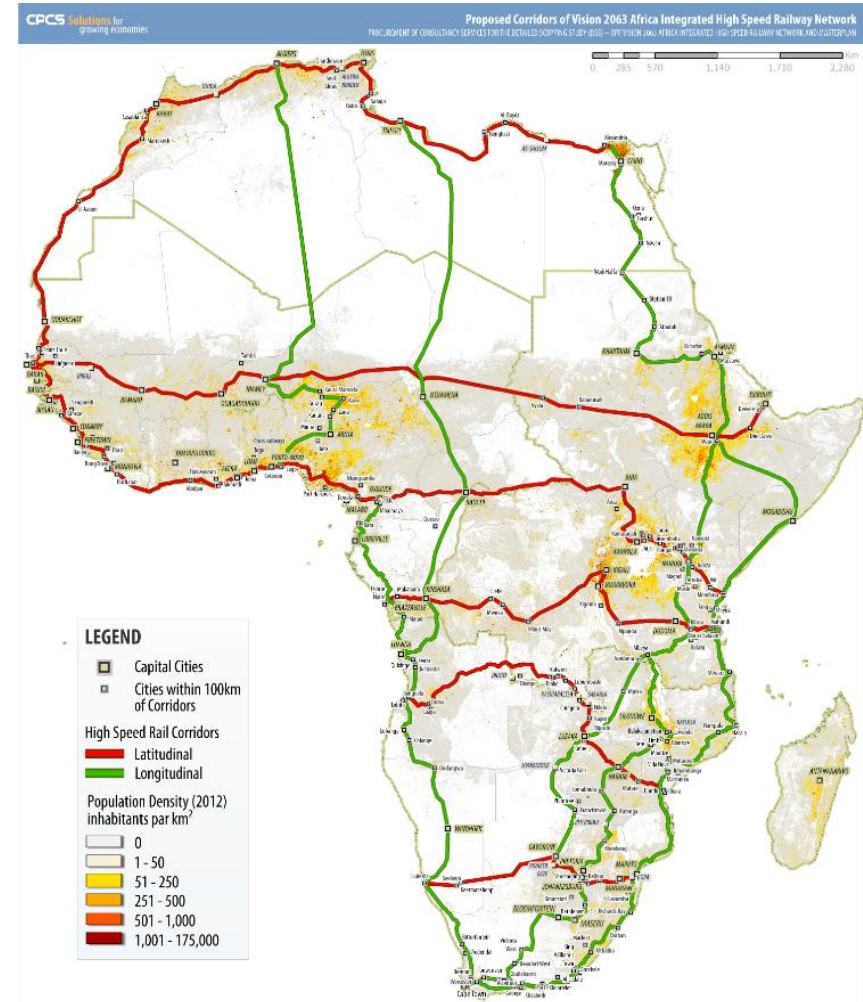


Defined Objective(s)

- A key initiative of Vision 2063 Agenda is the Continental Infrastructure High Speed Rail Initiative:
 - **Obj. #1:** Aim is to **connect cities and economic hubs** across Africa to facilitate economic and physical integration of the Continent
 - **Obj. #2, #3, #4 ??**
- High-level Scoping Study (DSS) for investigating the following:
 - traffic demand forecasts, costs and revenue estimates,
 - corridor/ routes/segment analysis,
 - rail technology options, & tech. standards
 - innovative financing models, and
 - other related issues.



to develop AIHSRN:1st 10-year Implementation Plan: 2014-2023 (2025) & Master Plan 2063



Enhancing the Value Proposition of AIHSRN

- **Add: Objectives (2 – 4)**
 1. Inter-connect **Capitals** with **economic/commercial hubs**
 2. Inter-connect **Landlocked** Countries to **Sea Ports**
 3. Inter-connect **Africa's Regions**
 4. Develop **Trans-Africa Beltways**



First 10-Year Implementation Plan

Phase 1: High Level Scoping: 2 Regional HSR Pilots

Methodology/ Approach to Achieve the Objectives (1-4)

Step 1

- Clearly establish an agreed **project prioritization framework (PPF)**, which is to be applied to prioritize the proposed links and **select 2 pilot projects**

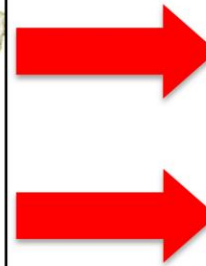
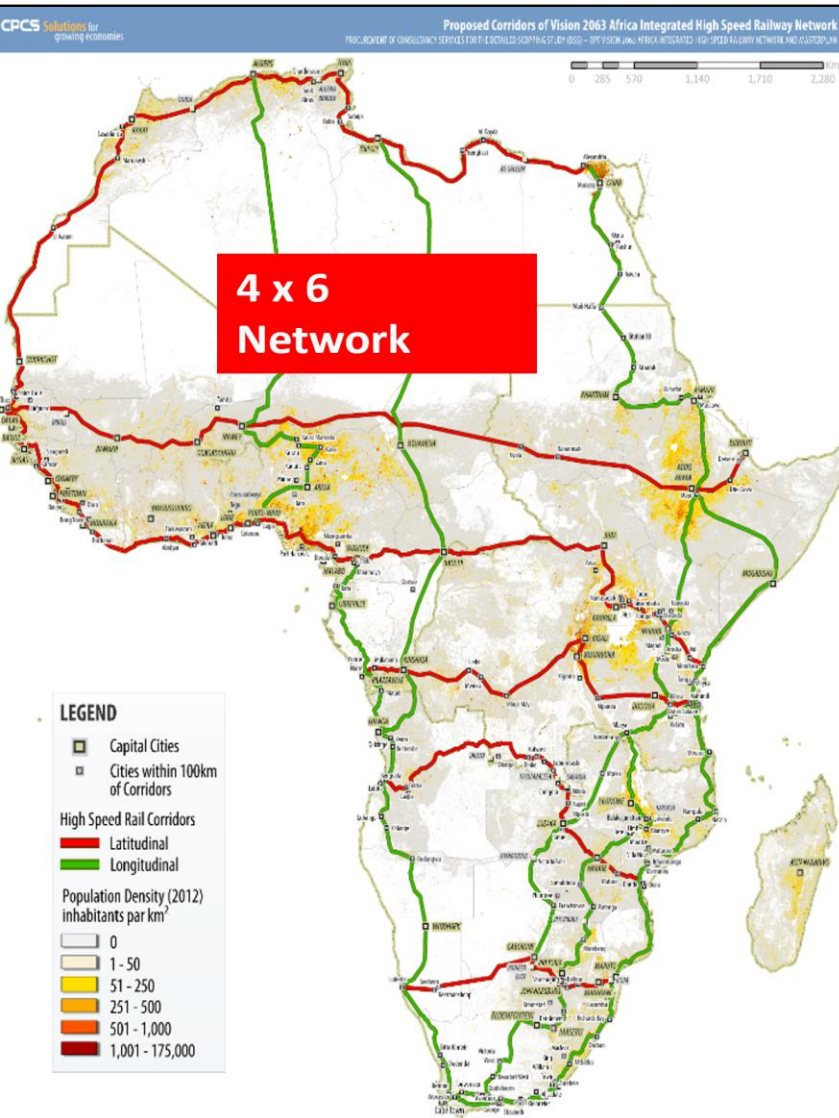
Step 2

- Assess the **technical, financial and economic viability** of the **2 pilot projects**...

Step 3

- Develop the **Master Plan 2063**, and **implementation roadmap** for the **2 pilot projects**;
- Implementation Strategy/ Plan

Step 1A - Decomposed Network-Links Analyzed



Step 1B: Develop PPF/MCA for the Screening, Ranking and Selection of the 2 Regional Pilot Projects

□ Step 1B – PPF/MCA used to select links for pilot study

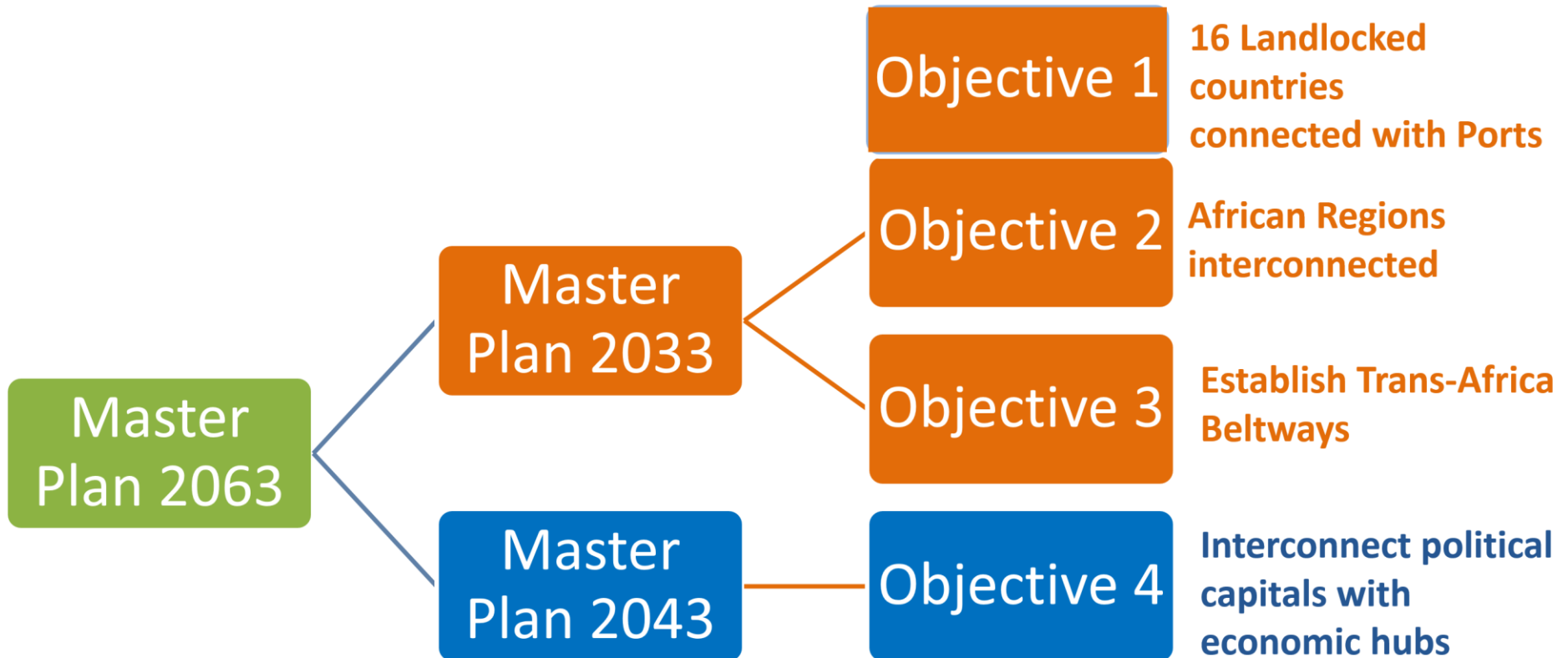
- MCA: 15 criteria (tech., econ., financial, strategic alignment)
- 2 Selected Regional HSR Pilots
 - Link 34 - Dar es Salaam-Kigali (EAC)
 - L36 & L35- Gaborone-Windhoek-Walvis Bay (SADC)

Step 2: Assess Technical & Financial Viability of the 2 Pilots

- **Step 2 - Viability assessed**
 - Both pilots **technically viable**
 - **Not** found to be **financially** or **economically** viable in **base case**

Return	Pilot 1: Dar es Salaam-Kigali	Pilot 2: Gaborone- Windhoek-Walvis Bay
Financial IRR	3.1%	5.4%
Economic IRR	6.5%	11.2% (12% cut-off rate)

Step 3: Master Plan 2063



AIHSRN: Technology Options/ Technical Standard

Conventional/Slow Speed Trains

(up to 120kph)

Narrow/Cap Gauge Tracks
(mixed traffic: pax/freight)

Mainly in SADC countries

High Speed Trains

(320kph and above)

Standard Gauge Track
(traffic: pax)

Eg. Morocco HSR

Ultra High Speed Trains (Monorails & Hyperloops)

(450kph -1200kph)

Standard Gauge Track
(traffic: pax)

Semi-High Speed Trains

(140-240kph)

Standard Gauge Track
(mixed traffic: pax/freight)

SGRs: Ethiopia; Addis;
Kenya, Nigeria; Tanzania,
South Africa (Gautrain);
Senegal: TER

Recommended
Minimum Technical
Standard (SGR) for
AIHSRN
(AfCFTA)



Financing Policy/ Financing Strategies

■ Financing Policy

□ Infrastructure/Network investment

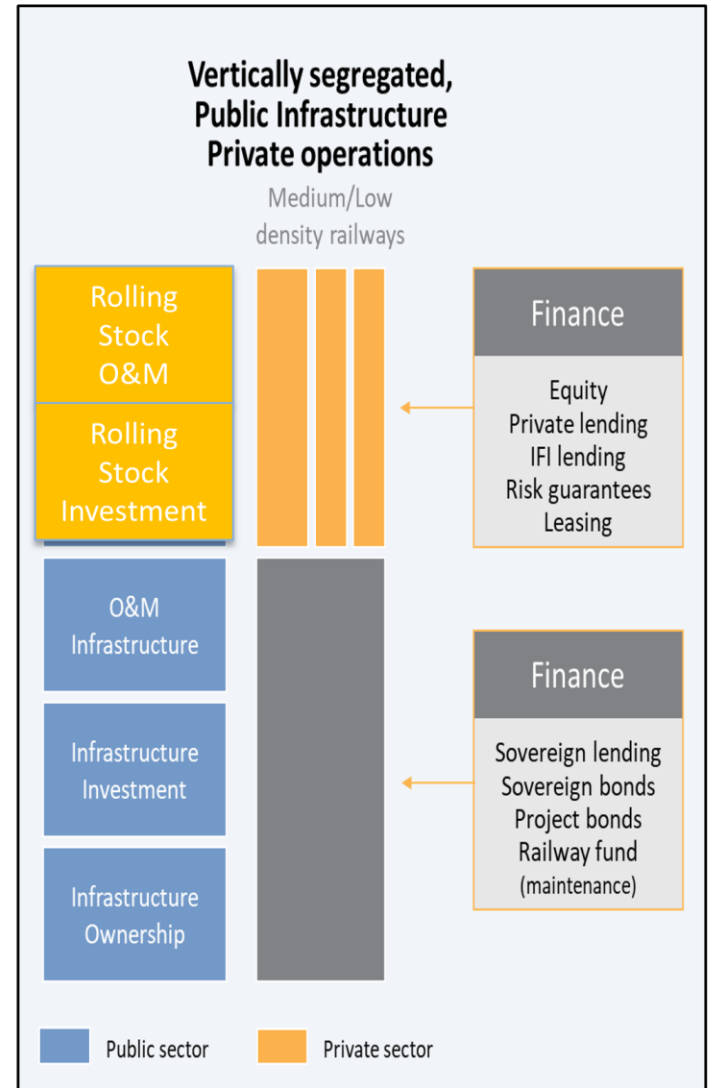
Public/mixed financing: e.g.

Affermage model will best attract financing

- Domestic pension funds sovereign wealth funds hold particular promise
 - **e.g. 5% Agenda (AU-NEPAD)**

□ Rolling Stock: Leasing

- Luxemburg Rail Protocol (LRP)
- Ratification of LRP/Cape Town Convention by member states



AIHSRN: Key Recommendations

RECOMMENDATION #1: Endorse and implement **Master Plan 2063** (comprising the two (2) DSS-“Accelerated” Pilots; ten (10) “Additional Pilots”; and all RECs-priority Railways Master Plan Projects, e.g., project “boucle ferroviaire” of ECOWAS; Trans-Maghreb train network), as part of the Recommended railways Pilots for AIHSRN.

RECOMMENDATION #2: Re-Affirmed **Standard Gauge**, as the absolute minimum rail track technical standard for all new investments in Africa (**AU Decision**)

RECOMMENDATION #3: Africa to adopt the following **three (3) Design Speeds** for Trains for Master Plan 2063:

- **Category A:** High Speed Railways >>>>> designed speeds above 320kph (**Pax only**)
- **Category B:** Semi-High Speed Railways >>>>> designed 140kph – 240kph (**Pax and Freight**)
- **Category C:** Conventional/Low Speed Railways >>>>> up to 140kph (mainly for **passenger service, and freight**: pit to port bulk carriers)

AIHSRN: Key Recommendations (Cont.)

RECOMMENDATION #4: Railways Financing Policy & Strategies

1. Railways Infrastructure **Investments**: **Affermage**: public/mixed financing model, will best attract financing
2. Institutional Investors: Pension funds, SWFs **(5% Agenda)**
3. Rolling Stock **(O&M)** >>>> private sector (“O& M Concessions”)
4. Rolling Stock **(Investment)** >>>> private sector (“Leasing”: Luxemburg Rail Protocol)

RECOMMENDATION #5: African Member States are urged to **Ratify the Luxemburg Rail Protocol** (to the Cape Town Convention on International Interest in Mobile Equipment on matter specific to the Railways Rolling Stock acquisition/financing

Key Messages: Spotlights

Message 1: AIHSRNP and AfCFTA flagships are inextricably linked.

The successful operational effectiveness of the AfCFTA, depends to a large extent, on the implementation of IHSRN Master Plan 2063 upgrading; and vice versa.

Message 2: Multi-Purpose/ Mixed-Used - Continental "High Speed" Railways Network System

Considering the need to facilitate the free movement of persons, goods, factors of production (capital assets, labour, as well as encourage entrepreneurship – for women, youth – as well as to support the realisation key AU development frameworks: AfCFTA, BIAT, IADA, CAADP and PIDA – the AIHSRNP, is designed as a multipurpose/mixed-traffic continental railway network.

Message 3: AIHSRN must take Digitalization in Account facilitate Inter-Operability, and Safety

The 4IR provides opportunity for Africa to leap frog again, and adopt 5th generation telecommunication technologies (e.g. 5G (GSM-R), ERTMS, etc.), to improve the operational safety and efficiency of Africa's Railways infrastructure and rolling stock.

Next Steps – Phase 1 (~ end 2019)

- Launch of **promotion video** during the PIDA week 2019
- Final DSS Report, and Master Plan 2063, including the following for the **two pilots**:
 - **TOR for Full feasibility study (Phase 2)**
 - **National Readiness Strategy (Workshop)**
 - **Regional cooperation Agreements (Advocacy/Facilitation)**



Next Steps – Phase 2 (Jan. 2020 – Dec. 2023)

- **Phase 2A: Feasibility assessment, preliminary design, ESIA, RAP: (2 “accelerated” pilots):**
 - Link 34 **Kigali Dar es Salaam**, combined with Link 72: **Kampala - Bujumbura**; and
 - Links 35 & L36 (in combination): **Walvis Bay - Windhoek – Gaborone**

Phase 3: Feasibility assessment, preliminary design, ESIA, RAP (10 Additional Pilots)

- **Ten (10) “priority” pilots**
 - Full Feasibility Assessed, Preliminary designs, ESIA, RAP
- | | |
|-----|--|
| 1. | Link 20 Kampala – Nairobi |
| 2. | Link 66 Ouagadougou - Abidjan |
| 3. | Link 4 Tunis – Algiers: TransMaghreb train project) |
| 4. | Link 74 Niamey - Cotonou |
| 5. | Link 6 Sidi Bel Abbes - Casablanca: TransMaghreb train project) |
| 6. | Link 56 Alexandria – Khartoum |
| 7. | Link 29 Asmara - Addis Ababa |
| 8. | Link 43 Lusaka – Beira |
| 9. | Link 17 Douala - Bangui |
| 10. | Link 49 N'Djamena – Bangui |

Thank You

