

**'HIGHER THAN THE HIGHEST HUMAN THOUGHT CAN REACH
IS THE GOAL TO BE REACHED'**

Thank you



DIGITAL RAILWAY MATURITY IN AFRICA, STRENGTHS, WEAKNESSES, THREATS, OPPORTUNITIES (SWOT)

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[HTTPS://WWW.YOUTUBE.COM/WATCH?V=5L8HMZWELSK](https://www.youtube.com/watch?v=5L8HMZWELSK)



WE'RE

ROI LING



STRENGTHS

1

1. Increasing investment in digital infrastructure and technology across Africa. E.g. Liquid Technologies determination.

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2. Growing number of digital railway projects being implemented in various countries. E.g. Morocco has Al Boraq, Gautrain in South Africa.

3

3. Adoption of advanced technologies such as IoT, AI, and big data analytics for enhancing railway operations. E.g. the Gibela Train- Isitimela Sabantu- The people's train.

4

4. Potential for improving efficiency, safety, and customer experience through digitalization. E.g. Rail Competence Hub to be launched soon.

UPSKILLING OPPORTUNITIES

- Virtual Reality Training
 - Technical Personnel Managerial Training
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- **Hardware setup**
 - **Three environments created (jigs, machine, factory)**
 - **Business case developed**
 - **Startup registered**



WEAKNESSES

1. **Lack of standardized regulations** and guidelines for implementing digital railway systems. E.g. narrow guage, standard guage, all gauges even in one country.



2. **Limited availability of skilled professionals** with expertise in digital technologies. Global shortage compounded by brain drain.



3. **Inadequate funding and resources** for large-scale digital transformation projects. E.g. high speed continental project has been overwhelmed with questions of funders- WHO WILL FUND THE AU AGENDA 2063 on transport and rail in particular?




4. **Infrastructure challenges such as poor connectivity and outdated systems** hindering implementation. Energy crisis across the continent.

THREATS


1. Cybersecurity risks associated with digital railway systems. E.g, escalation of breaches in the recent days.



2. Resistance to change from traditional stakeholders within the railway industry. E.g. Legacy systems and the climate and technological dynamics that are being experienced continually.



3. Competition from other transportation modes such as road and air travel. Persistant investment in the 'common' modes of transport.



4. Political instability and regulatory uncertainties affecting project timelines. E.g. the continuous volatile situation in the mother land.





OPPORTUNITIES

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- 1. Collaboration with global technology providers to leverage best practices and solutions. E.g. none exploitation approach to collaboration.
- 2. Partnership opportunities with governments and private sector for funding digital railway projects. E.g. as we digitalise we deliberately ensure that we work with infrastructure that is planned and in the pipeline.
- 3. Integration of smart city initiatives with digital railways to create seamless urban transportation networks. E.g. several African nations have joined the Smart City movement, are planners embrace digital rail possibilities?
- 4. Potential to serve as a model for other developing regions looking to modernize their rail infrastructure through digitalization. E.g. Africa has done this with the banking sector innovations, it is possible with transport.

CONCLUSION

Overall, the state of Digital railway maturity in Africa is still **evolving** but presents significant opportunities for **growth and innovation** in the coming years. It will be crucial for **stakeholders to address the weaknesses and threats** while leveraging the strengths to fully realize the **potential benefits of digital transformation in the railway sector on the continent.**



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