A NEW LEASE OF LIFE FOR AFRICAN RAIL

↗ DESTINATION 2040

INTERNATIONAL UNION
OF RAILWAYS

CONTENTS

INTERNATIONAL UNION
OF RAILWAYS

INTRODUCTION

As part of its regional outreach programme, UIC plans to concentrate efforts on Africa in particular to contribute to the development of its railway network.

Of the 35 African countries with an operational railway network, only five (including Libya) are presently UIC active members, while others are affiliate members.

While the immediate benefit of becoming an active member of UIC for African railways is clear, there are other untapped advantages to be gained as well, such as forging links in intermodal transport chains. A number of these countries (including small countries) could serve as essential building-blocks in international intermodal channels across Africa. Cooperation through a body such as UIC, by developing a strategy for the future for Africa, should therefore be seen as critically important.

The “Africa Rail 2025” strategy for Africa’s railways, which was finalised and adopted in October 2012 at the 9th Regional Assembly in Tangiers, has reached a crucial stage.

Africa is currently going through massive demographic growth and economic, political and social upheavals, marked by a sea change in communications infrastructure development.

BACKGROUND

CLEAR ADVANTAGES FOR EVERYONE

Contrary to what is happening elsewhere, the railway network in Africa lacks density and still has a massive potential to be realised in terms of productivity, which can only be harnessed through clear and energetic public action.

And yet, there are many positive signs despite this situation: railways are going through a revival across the world, evidenced by the large number of major, pivotal projects either being planned or underway. Africa is very much part of this new lease of life for railways, and has much to gain from the undeniable advantages railway technology can offer.

Railways are still the most attractive option for customers in terms of value for money. This is even more true if public authorities decide to internalise the external costs of all transport modes, in order to reflect its real cost to society and in terms of environmental protection: disturbances, noise, pollution and accidents, etc.

Developing a railway system offers society a whole range of advantages, such as:

- **Mass transit**

One of the main features of railway transport is its ability to transport ever-increasing numbers of passengers or goods (including strategic goods), avoiding congestion on the roads;

- **Low cost to society**

A number of studies have demonstrated that a car produces approximately 5 times more in external costs per production unit (passenger-km) than a passenger train, while a lorry produces 8 times more (per tonne-km) than a freight train.

- **Safety**

Technical advances in safety systems mean that rail has the highest resistance among all transport modes to human error and freak weather conditions;

- **Energy efficiency**

Railways are well known to be the least energy-intensive mode of transport (0.009 litres of fuel/passenger-km or tonnes-km compared to 0.0125 L/VK for coaches, 0.017 L/VK large taxis and 0.04 L/VK for lorries);

- **Space saving**

A double-track railway takes up a width of 15 m (max. flow of 15 700 passengers/hour/direction), whereas a road needs 28 m (max. flow of 600 passengers/hour/direction);

▸ **Sustainability**

Electrification of the railways has made this mode of transport the least polluting. Studies have shown that railways emit between 2-4% of the CO2 produced by the whole of the transport sector, while road transport produces between 96 and 98 %.

A NEED TO IMPROVE TRAFFIC AND PRODUCTIVITY

Analysis of UIC data indicates that rail in Africa is facing difficulty positioning itself on the domestic land transport market. Statistics from the past six years clearly show that there has been no notable growth in railway traffic in the region over this period.

As a result, the overall volume carried by rail is still around 200 billion unit-km, of which 30% is passenger and 70% freight.

This volume accounts for only 2% of global railway traffic, placing Africa last in terms of performance for this indicator.

This low level of traffic and quasi-stagnant structural development in both passenger and freight are a symptom of the railways struggling to take up and fulfil the role they should be playing in the social and economic development of the continent.

Quite aside from the negative impact of a whole series of events affecting the continent over the past years, such as recession, the world financial crisis, and the 'Arab Spring', which has reached sub-Saharan Africa, it should be noted that the railways, given the way they are marketed today, still have trouble winning market share, despite clear benefits for society and for sustainable development. As testimony to this situation:

Passenger traffic was still below 49 billion passenger-km in 2011, marking a 20% fall in the number of people choosing rail compared to 2006, and accounting for only 2% of worldwide passenger volume. Populous countries, such as China and India, alone represent over 1240 billion passenger-km, or 20 times the figure recorded for Africa.

Freight and logistics in 2011 reached approximately 140 billion tonne-km, revealing a small reduction of 2% in relation to 2006 and amounting to 7% of the global total. Countries such as Russia and China alone produce about 4700 billion tonne-km.

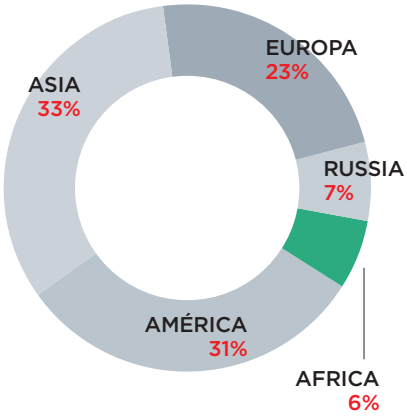
It should nonetheless be realised that this somewhat weak performance cannot be applied to all railway networks in Africa. In North and South Africa, traffic figures have made significant progress thanks to the effort and money invested in improving the product offering and adapting to customer expectations, as well as meeting business needs.

What can be said overall is that railways have still not managed to tap into spectacular economic growth in Africa over the past decade and have not yet managed to carve themselves a significant place on the international stage. Moreover, railways have so far missed the opportunities which lie in increasing mobility due to social and economic development and of the growing pace of urbanisation and population growth in Africa.

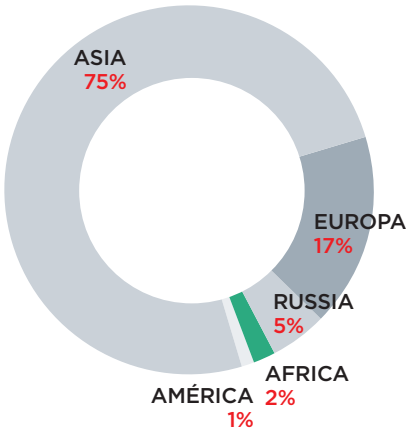
PIVOTAL PROJECTS

As stressed above, socioeconomic development in Africa and the culmination of the regional integration process require the support of major

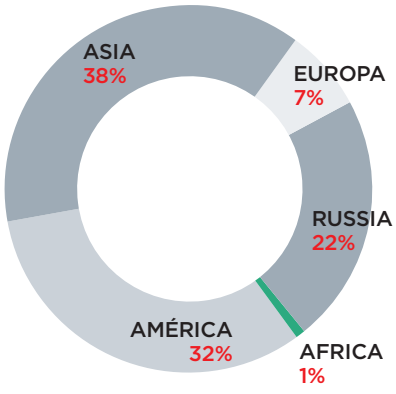
DISTRIBUTION OF WORLD RAILWAY NETWORK PER REGION IN 2011



PASSAGERS-KM PER REGION IN 2011



TONNE-KM PER REGION IN 2011



projects which will inject new momentum into the continent's development.

As such, several local or regional projects and/or master plans have already been adopted and are being rolled out at a high level in the relevant countries, with a view to propelling trade both within Africa and with the rest of the world. These projects extend to a variety of levels, both regional and sub-regional, across the continent.

Attempting to identify all ongoing projects of this nature in Africa is no easy task (in terms of time and expense). For this reason it was decided that presenting a selection of case studies illustrating the efforts being deployed to develop rail in Africa would be useful for more inclusive and sustainable development.

Choosing a select portfolio of projects is appropriate to the scope of the present study, whose ultimate goal is to identify the major strategic priorities for rail development in Africa.
Let us recall that one of the strategic aims of this brochure is to list the outcomes of African rail master plans in recent decades.

This chapter will provide a brief overview of planned or ongoing projects in different regions across the continent. The purpose here is to sketch out a roadmap for 2040, rather than offer in-depth analysis or judgement of the relevance of each of these projects and how they fit into a broader picture of African infrastructure development.

HURDLES

Although railways have a distinct competitive edge over other modes of transport, railway volumes in Africa are still lagging behind those found on networks elsewhere in the world. Freight traffic in Africa accounts for only 7% of the global total, and for passenger traffic this share falls to 2%.
This situation is testimony to the difficulties faced by rail in winning its share of the transport market and in turn in acting as an engine for development. Surveys of the situation all point to the fact that existing infrastructure and transport services still have a long way to go before reaching what is required for making socioeconomic development and continental integration a reality. Further examination shows that aside from a lack of infrastructure, there are other constraints such as funding, technology and even politics, which are exacerbating the delay in African development.

TECHNICAL AND FINANCIAL LIMITS

Although exceptions exist, the majority of the network's infrastructure is in a poor state of repair and no longer meets the standards required for effective railway operations.

This is demonstrated by the following:

- Age of tracks and track components: insufficient ballast, worn rails, settling or subsidence of track beds;
- Signalling and telecom systems in bad condition and/or absence of spare parts, which compromises operational safety and means that operations do not meet international standards;
- Inadequate maintenance or renovation programmes for rolling stock and fixed installations;
- Shortage of equipment and maintenance vehicles;
- Poor availability of rolling stock;
- Infrastructure lacks uniformity, making maintenance work costly and time-consuming. For example, the network is made up of different gauges.
- Lack of uniform procedures;
- Outdated and old fashioned management, compounded by overstaffing and bureaucratic management which does not consider commercial viability and marketing, which are key to understanding customer needs and for designing effective strategies to meet those demands.

This situation is a reflection of the neglect suffered by most of the railways in Africa in recent years, and, consequently a huge part of the network does not meet the standards required to offer high quality services.

The alarming state of the network can in part be explained by the lack of revenue in the face of low traffic density and the struggle to adequately fund operations and proper maintenance. This is true both for state-run networks and those running under concession agreements, and is compounded by the unfair advantages given to other modes of land transport. The road sector today accounts for 80-90% of total traffic volume in Africa, and receives state aid for maintenance through road or investment funds, which have been established in

most African countries. The direct result is the immediate distortion of a market in which players are not bound by the same obligations and, more importantly, not all players are held accountable for their share of external costs. In addition, transport costs are higher than in other developing regions of the world.

EXTERNAL CONSTRAINTS

Aside from the infrastructure and financial constraints described above, there are also external hindrances (which affect all transport), which act as a heavy burden on railways in relation to the African transport market, and which hinder them from helping improve trade and exchange between countries.

There are tariff issues between countries on a political and administrative level, as well as border crossing obstacles compounded by red tape, civil war and social unrest. The clearest example of the problems which exist in Sub-Saharan Africa is the heavy war damage sustained by railway infrastructure in Angola, Eritrea, Ethiopia and Mozambique. Thousands of kilometres of rail are today unusable and need to be completely rebuilt.

From an institutional point of view, existing concessions are thwarted in their purpose due to the poor legal and institutional framework and lack of clear definition of roles and responsibilities of contractual parties, which will be developed later on in this report.

This comes on top of a weak system for trade facilitation and poor coordination of border crossings, which become major obstacles to transport in general and by extension to the railways specifically.

A few telling figures:

- **Cost of freight transport is over 30% more than what is earned in export revenue for landlocked regions;**
- **The average cost of intra-African trade is higher than in other regions: +65 % compared with Latin America; +95 % compared with East and South Asia.**

POOR COMPETITIVENESS

One example can be used to illustrate the problem described above: the North-South Corridor between the Democratic Republic of Congo and Tanzania to South Africa, where transit by rail from the DRC to Durban takes 38 days (9 days of travel and 29 days for connections and border crossings), whereas for a heavy goods vehicle, the average time needed for the same journey is eight days (of which four are spent crossing borders). Another non-negligible issue is the fragmentation of

national jurisdictions, leading to market distortion and cancelling any economies of scale. The lack of trust between countries has all but killed any economic cooperation. External constraints render the African transport system, and railways in particular, inefficient. This contributes to spiralling costs, especially for landlocked countries, and undermines competitiveness, if not a state's entire development model. A study of the current state of the African networks leads to the conclusion that apart from a few exceptions (such as South and North Africa), where actions have been implemented to modernise the system and upgrade production methods, the majority of African railways still face a number of barriers.

Based on this multi-factor analysis of the situation and taking into account performance and competitiveness indicators, three types of situation can be identified:

- **VIABLE** networks, which meet customer and business needs and are investing in further development of their network;
- **DETERMINED** networks, which are in the process of upgrading their network from a technical, business, commercial and financial point of view, with state support;
- **VULNERABLE** networks, which are facing difficulty at the moment and urgently need to launch restructuring and reorganisation plans and implement measures to catch up the lag which has grown over time by upgrading production facilities at least, in order to allow the railway itself to survive.

Unviable operations mean that the associated infrastructure, when compared on a global scale, is usually judged to be among the world's worst. Logistics performance indicators illustrate the point clearly (2013-2014 report): Africa scored an average of 3.28 out of 7, with Morocco coming top in North Africa (2.86) and Namibia (3.7) in the south of the continent.

Railway infrastructure is worst in West Africa, where the highest score was 1.84 out of 7. This highlights the vast task ahead and the level of effort on different levels (technical, economical, financial and managerial) which needs to be deployed in order to boost the performance of these networks and motivate improvement.

Needless to say, this desperate situation means that a vast majority of African countries lack the basic logistics backbone to fuel regional and continental integration effectively.
There are multiple factors contributing to this state of affairs: poor connectivity between railways and ports, absence of institutional and operational links, customs barriers and transhipment problems, safety hazards, lack of reliable production tools and equipment, etc.

For all the above reasons, railways in Africa, apart from a few exceptions, are struggling to take up and fulfil the role they should and could be playing in social and economic development. Most networks have been mired in a critical situation since the 80's: declining traffic volume and diminishing revenue, narrow technical mindsets, poor service, lack of maintenance, overstaffing, etc.

MEGA-TRENDS

Change in any society is generally slow and regular. Socioeconomic structures also tend to naturally develop a form of inertia which helps to re-establish balance. Consequently, examining the future becomes more realistic when looking at mega-trends.
Transport is an integral part of a socioeconomic system and consequently, the way it develops is intrinsically linked to the system's overarching trends. The development of this mode of transport itself is affected by other mega-trends, both on demand-side and supply-side. Supply and demand are both subject to long-term inversion, due to various factors, disruptions either unplanned or deliberate such as public policy, major events, or even relative prices, etc. A number of studies aimed at exploring possible future scenarios in the sector have uncovered a number of mega-trends which will be key to its future. These are population growth, globalisation, sustainable development and technology and regional integration.

INNOVATION AND NEW TECHNOLOGY

Change in contemporary society is characterised by the high value placed on speed and mobility as well as sea changes in production methods. Therefore, whilst remaining sustainable, step changes in technology and innovation in the various modes of transport are an unavoidable necessity. One of the challenges faced by society is in fact to nurture smart, green, integrated transport. Innovation is important for economic competitiveness, and better productivity. It is essential for meeting the challenges brought about by transport, such as ageing infrastructure, congestion, unstable energy prices, environmental concerns, the impact of climate change and population growth.

GLOBALISATION

Globalisation of economies around the world in the period 2020-2040 will lead to many other far-reaching influences which will completely reshape structures and systems. Choices will become increasingly difficult when having to choose between growth, jobs or the environment.

SUSTAINABLE DEVELOPMENT

The sustainability of transport in Africa and railways in particular fits perfectly into the social master plan for which people in Africa are striving, and which will be achievable through national level strategies and policies.

Sustainable development is also about internalising the social and environmental costs of the production of goods and services, including transport. This fosters the emergence of energy-efficient and non-polluting transport modes which emit less green house gases (GHGs). According to Marc Wiel, "although technology allows us, we hope, to cut emissions by half, we still need to develop the technology which will allow us to halve the remaining amount again".

A comparative analysis of countries in Africa illustrates that efficient and effective sustainable transport is possible. Certain countries have made more progress than others. This gives them a strong competitive edge to a certain extent, but they are still dependent on the development of similar services in the south of the continent.

For over half a century how, transport systems have been built on the principle of traction by combustion engine. Consequently, these systems are responsible for a large share of GHGs. They have become one of the triggers of climate change and as such are associated with growing air pollution.

Combating global warming is primarily about reducing carbon dioxide emissions, and by extension about cutting GHGs.

BUILDING A 2040 RAIL VISION

These unprecedented upheavals generate the need to find means not only to ensure railways can endure into the future but also make them central to the transport chain.

A strategy for the future should at least be able to:

- Reinforce the complementary nature of different modes;
- Think and behave in a sustainable way;
- Meet the increasing need for mobility;
- Harness the potential of new technology;
- Be supported by competent human resources;
- Draw positive advantage from standardisation;

Targeted interviews also contributed to this work, which focused on the following areas:

- African Union vision for general infrastructure development with particular focus on transport.
- UIC strategic direction for railway development on a global and regional level;
- The potential and capacity available for implementing actions resulting from the aforementioned study, on the basis of defined thresholds and objectives;
- A new strategy was then drafted to add to the major work already carried out as part of the Africa Infrastructure and Development Master Plan (AIDMP), which itself aims to interconnect, integrate and transform Africa.

In addition to the above factors, other elements have also been taken into account, including the following key areas:

- The stated will of the government to increase the pace of investment in transport infrastructure;
- Remarkable socioeconomic progress and positive future outlook for the continent in the medium to long term;

These are just some of the challenges which lie ahead in order to build a high-performance railway system, positioned in the market through the provision of services which meet customer expectations and thus fostering a more accessible mass transit system.

In terms of yield on investment on these different levels, it should be noted that railway productivity has undergone vast improvement, as has the sector's ability to improve mobility and overall performance and efficiency of services.

In addition, realisation of this vision will serve as means to nurture staff loyalty and thus draw more benefit out of each mode and optimise the business productivity, boosting the competitiveness of African countries and thereby their position on the world stage.

It is against such a backdrop that the UIC Africa Region launched a series of workshops (Technical Committee), comprising railway experts representing the various regions in Africa, with a view to defining a medium-term participatory framework for the development of the continent's railways.

- Capitalising on conclusions drawing from recent long-range forecast studies carried out (such as AIDMP);
- The central and inevitable issue of meeting UIC railway operating standards;
- Integration, in this process, of a series of other planned or ongoing projects and programmes with a view to obtaining an accurate snap shot of how the railway system in Africa is already developing.

The above form the founding principles for the new development strategy compiled by UIC Africa for transport on the continent. Entitled "A new lease of life for African rail: destination 2040", this strategy is both ambitious and feasible. It rests on three pillars, which form the bedrock of values shared by the UIC community of railways around the world: Unity, Solidarity and Universality.

The aim of this strategy is to form a suitable complement and add value where possible, to the decisions already adopted by the African Union, and the declarations and pledges made by Ministers for Transport during the last two African transport conferences. The purpose is to strive for a mode of transport including all different modes that will serve as a tool for regional integration, in a region which is still cruelly lacking in these.

In order to ensure that this vision can become an operational reality by 2040, it has been organised into five interdependent, complementary and relevant strategic domains. These five domains in turn have been broken down into 15 measures.

In order to make this vision a reality, each of these measures has been attached to a series of targeted priority actions for revitalising rail in Africa. This action plan contains a total of 65 tasks which will be progressively unrolled.

A number of key performance indicators have been adopted in order to measure progress by the Technical Committee, with SMART objectives to be reached at key milestones along the way (2015, 2020, 2025 and 2040).
Given the different levels of railway development, viability, and economic, commercial, financial, managerial and technical performance across the continent (i.e. dividing the networks into three groups), it was decided that incremental objectives should be set each with specific targets to be met:

- The target for "vulnerable" railways is to achieve the minimum;
- The maximum constitutes the target for "Determined" and "Viable" networks;

Schematically speaking, this strategy translates into a waterfall-pyramid structure with results-based objectives: the domains and measures relate to the strategic layer in the plan, whereas the tasks are operational.
The components making up this structure will be elucidated in detail in the next chapter.

STRATEGY
5 DOMAINS

- **DOMAIN 1:**
  MODERNISATION, DEVELOPMENT
  AND INTERCONNECTIVITY OF RAILWAYS IN AFRICA
- **DOMAIN 2:**
  IMPROVING THE PRODUCT OFFERING
  FOR PASSENGERS AND BUSINESSES
- **DOMAIN 3:**
  GOOD GOVERNANCE
- **DOMAIN 4:**
  DEVELOPING SEAMLESS MULTIMODALITY
- **DOMAIN 5:**
  PROMOTE REGIONAL INTERDEPENDENCE
  AND CONFIRM AFRICA'S PLACE ONTHE WORLD STAGE

DOMAIN 1
MODERNISATION, DEVELOPMENT AND INTERCONNECTIVITY OF RAILWAYS IN AFRICA

Upgrading production methods and developing national networks is a prerequisite for a sustainable system, in order to make the most of ongoing technological progress and ensure that the railway can become the tool for urgently-needed regional integration. Adapting the network in this way relies on ambitious investment plans centred on track and component renovations, as well as injected into newer rolling stock and more modern safety systems.

Surveys reveal a worrying delay in infrastructure renewal and maintenance on the majority of sub-Saharan networks. For this reason, the strategy has formulated two key principles which should form the basis for fixed installation maintenance policies, in order to guarantee train operation in the safest possible conditions:

- 1 – Gradually adapt the network so that it can meet current real growing demand for heavier loads, higher speeds and larger traffic volume;
- 2 – Optimise track maintenance costs through mechanisation and deployment of new technology and suitable tried-and-tested management methods.

Aside from the features which make one network different from another, there are recognised complementary - if not indispensible - solutions which can be used in compliance with UIC-recommended standards.

RENEWING ROLLING STOCK

Traffic is set to increase and the current rolling stock fleet on most sub-Saharan networks is very old. As a result, steps need to be taken to renew rolling stock, depending on financial capacity and other available opportunities.

MAINTENANCE

Lack of funds has prevented many railway companies in Africa from renovating and renewing their infrastructure following a rational plan which fully takes into consideration traffic forecasts as well as the seriousness of infrastructure degradation.

↗ MEASURE 2
DEVELOPING NATIONAL NETWORKS INCREASING THE CAPACITY OF EXISTING LINES

Apart from the abovementioned need to renovate rolling stock, it is also crucial to design realistic and optimised maintenance programmes, taking the state of components into account.

A large part of the railway network in Africa is single track with different types of track gauge, compounded by weak technical characteristics, which make it impossible for the system to cope with demand and allow the smooth operation of trains and execution of maintenance work.

A number of paths exist to overcome these technical shortfalls, which railways in Africa can develop depending on their business and financial situation. These options can be compared using different criteria, enabling properly-informed decisions.

Some of these options include:

- Doubling tracks on congested sections and those with the highest development potential;
- Renewal, repair and correction of the track layout to improve the technical characteristics of certain routes;
- Electrification of lines with a view to optimising

energy, which is a scarce resource, and to be in line with international calls for protecting the environment;
- ↗ Possible opening of new stations to grow the number of train paths and improve transport plans.

EXTENSION OF AFRICAN NETWORKS

The African railway network today is not very developed. It has less than 90 000 km, or less than 5% of the world network, and has very low density of 3 km for every 1 000 km² compared, for example, with 400 km/1000 km² in Europe.
All studies conducted to date confirm that

Africa has made promising economic progress over the past decade, although much effort still remains to be deployed in order to develop the railways and win some competitive economic advantage.

TAKING MINING PROJECTS INTO ACCOUNT

Africa is a rich continent for minerals and is home to 30% of this resource in the world. This core sector has undergone continuous growth and is a major source of income for the relevant countries, and has placed Africa in a central macroeconomic position, to the extent that some countries see Africa as being the engine for economic growth for the medium to long term.
Given forecast demand, the mining industry is set to grow, in particular in the BRICS countries (Brazil, Russia, India, China and South Africa). However, it is important to be realistic about these prospects, since it is likely that large mining corporations will be the motor to revolutionising the railways in Africa, given their capacity and ready funds to make their plans a reality.

DOMAIN 2
IMPROVING THE PRODUCT OFFERING FOR PASSENGERS AND BUSINESSES

The need for mobility is constantly rising, economies are expanding and passenger needs and expectations are shifting. These facts mean that African countries must continue to invest money and effort to confirm their position as the most reliable transport mode for customers and the public at large. Achieving this goal can be approached in various ways, such as improving services, including price adaptation and greater range of products, and better communications.

↗ MEASURE 1
BETTER-QUALITY SERVICE

REDUCING JOURNEY TIMES

It is important in this chapter to take into account the fact that different parts of the network bring up different challenges, both in terms of marketing and operations. As such, African railways will opt for more train services along busy routes and develop mass transportation with coordinated timetabling to facilitate intermodal transfers and rolling stock turnaround times.

Planning schemes, network modernisation and increasing capacity, in particular on the busiest routes, will form part of larger investment projects allowing African networks to adapt their national transport plans and open up train paths along the most needed routes, as well as implement a correspondingly efficient maintenance plan.

IMPROVING COMFORT

A study of networks in Africa today has revealed that, with a few exceptions, too little attention is paid to one of the most decisive factors in service quality, which is comfort, not only on board trains but also in stations.
All too often, it has been found that comfort is managed from a purely functional point of view.
There is therefore a clear need for service innova-

tion and better safety. Combining efforts on these two areas alone should significantly improve customer satisfaction and spell a turnaround in management methods which will lift the railways towards becoming a genuinely commercial industry. An incremental objective was designed including step by step targets over the years. The present target is to reach an overall satisfaction level of at least 50% on vulnerable networks and 70 % on the others.

SIMPLIFYING TECHNICAL AND ADMINISTRATIVE PROCEDURES

Interviews were conducted with railway managers in order to produce a detailed snapshot of the situation. It was discovered that most railways report major management shortcomings. This can be identified in the form of bureaucratic procedures and lack of thoroughness in updating and applying technical procedures.
As such, it is critical to overhaul these processes, while drawing on the good practices and technical work conducted systematically by UIC.

REGULARITY AND PUNCTUALITY OF TRAINS

Train technology has reached the point where railways can now be in direct competition with the airlines. However, surveys have shown that regularity and punctuality are not seen in the same way in the African railways. These two factors do not necessarily sit side by side with other differentiating factors used to sharpen the competitive edge of railways against other modes.

↗ MEASURE 2

ADAPT PRICES AND DIVERSIFY PRODUCT OFFERING

PRODUCT AND PRICE DIVERSIFICATION

Railway undertakings today still have a lot of potential to harness through better pricing policies.
The systems used today are old and do not tap into the possibilities offered through NICT (New Information and Communications Technology).

Consequently, one of the most obvious paths to emerging as a business for Vulnerable and Determined Transport plans, is to generate more revenue from diversification of ticket pricing and product offering, to match their target audiences (young people, adults, senior citizens, etc.) while allowing for the purchasing power of consumers so that they can maintain a healthy level of competition.

DEVELOPING PARTNERSHIPS WITH OPERATORS

In the same way as with passenger transport, freight also needs a clear path for sustainable development for the future and to become more profitable. Based on the actions mentioned above aimed at the mining sector in various African countries, railways need to act pre-emptively and promote their services, underscoring the advantages to be gained from transport by rail, such as bulk carriage of goods and environmental protection.

↗ MEASURE 3

BETTER COMMUNICATION TOOLS

IMPLEMENTATION OF MEASUREMENT TOOLS

The direct result of the purely functional management approach of sub-Saharan railways mentioned above is the absence of concerted commercial and marketing policies, often considered of less importance.

Changing the culture in such companies, and fostering a more commercial approach where the customer is placed at the centre of management decisions, is only possible if appropriate tools are implemented to measure customer satisfaction. Grasping the real needs and expectations of customers and businesses is pivotal for decision-making and identifying ways to improve the product line-up.

Tools for measuring quality can be implemented with the help of experts, to gauge different service performance indicators: information about the journey, services onboard trains and in stations, management of disrupted situations, pricing, positioning, bearing in mind that each railway will have its own objectives and evaluation methods to measure service quality. Despite this, there is a generally-similar set of approaches which can be examined by the experts working on this issue: defining the target audience, determination of the measurement tool (questionnaire, gauge, mystery

customer, surveys, etc.), selection of sampling method and periods for data collection.

DIVERSIFICATION OF COMMUNICATION CHANNELS AND MEDIA

Communications today are undisputably the core variable in the marketing mix (4 'P's principle: Product, Place, Price, Promotion).

And yet today, there is a clear lack of communications within African railway companies, compared to other service-industry companies or foreign rail networks.

Steps therefore need to be taken to get closer to customers, understand their needs and satisfy their expectations.

DOMAIN 3
GOOD GOVERNANCE

Good governance in today's economic climate is synonymous with survival. Human capital is increasingly central to success, as are key partnerships to achieve efficiency and effectiveness. This 'Domain' lists a number of pointers to achieve better governance.
The purpose of this is to make African railways more competitive and enable them to become key players in the economic development of the continent.

↗ MEASURE 1

CAPITALISING ON HUMAN RESOURCES AND RAILWAY RELATED EXPERTISE

MULTI-YEAR TRAINING PLANS

Achieving optimal operational performance, coping with technological change and preventing skills erosion are all challenges which need to be met by railways by preparing the next general of railway workers through coordinated and priority training programmes.
Rapidly-changing railway technology means that the railways need to adapt their strategy for developing knowhow and human factor expertise, in order to adjust what have become outdated methods. The future of railways in a competitive environment hinges on the skills of managers and front line staff.

MODERNISING HUMAN RESOURCE MANAGEMENT METHODS

As African railways undergo unprecedented restructuring and reorganisation, human resources should be placed firmly at the centre of management decision-making, in order to enhance professionalism and succeed in introducing meaningful change.

Part of this requires rethinking and modernising HR policies to make them more effective and grounded in clear distribution of roles and responsibilities in the company structure; this presupposes the need to introduce Objective Oriented Management and a range of effective steering tools.

BETTER WORKING AND WORKER CONDITIONS

Part and parcel of any move to enhance governance, improve training and modernise human resources management methods are the policies to be implemented to encourage staff loyalty and worker motivation.

BETTER IN-HOUSE COMMUNICATION

Internal communications are the interface between marketing and management, and as such pose a number of challenges on both a technical and organisational level, especially for African railways, which have suffered the result of poor dialogue between and with employees.

PARTNERSHIP AGREEMENTS WITH SOCIAL PARTNERS

Today marks a historical turning point for most railways in Africa, as major restructuring, rebuilding and development plans are unveiled. The success of these projects depends on the transparency and commitment of all parties concerned.

↗ MEASURE 2

CLARIFICATION OF STATE-COMPANY RELATIONS

INTRODUCING CONTRACT BASED PROGRAMMES

Studies have shown that while some African railways have the benefit of new framework agreements with their public authorities and government, the majority still face a lack of available resources needed for restructuring and rebuilding their networks. Lessons drawn from this reality have proved useful, and the solution found has come in the form of medium-term contract-based programmes signed with the state.

SPECIAL PUBLIC SERVICE AGREEMENTS

The profitability of a railway network is crucial to be able to adopt private railway company management methods. Railways are mass-transit system which can serve as a tool for the state to wield to improve public transport services. Nonetheless, profitability must underpin any endeavour undertaken.

↗ MEASURE 3

DIVERSIFYING AND MOBILISING FINANCIAL RESOURCES

DEVELOPING PUBLIC-PRIVATE PARTNERSHIPS

The international financial crisis which has characterised the past few years and created growing tensions poses a dilemma for African railways:

- ↗ On the one hand railways need massive capital injections to make up for the years of under-investment in maintaining and developing basic infrastructure;
- ↗ On the other hand, this comes at a time when funds are difficult to raise, especially for capital-intensive investments such as railway projects.

Public-private partnerships are therefore one possible exit from this otherwise inextricable situation.

CREATING SYNERGY WITH FUNDING BODIES

In the same vein, railways are being asked to redouble their efforts to identify funding schemes which will allow investment projects to go ahead successfully. Such schemes should not be limited to the PPPs mentioned earlier.

Of course, there are no one-size-fits-all solutions, but railways should leave no stone unturned, each company seeking the solutions which fit its context, economic and political situation.

For example, it is important to build partnerships and stay in touch with funding bodies so that the projects researched and submitted are attractive and obtain the necessary financial support. Trust is the major form of capital in such relations. Let us note that the African Devleopment Bank (ADB) has played a key role in many projects touching on economic development and African regional development, investing approximately 6 billion dollars every year in a host of ventures.

↗ MEASURE 4

PROMOTE INTER-ORGANISATIONAL AND INTER-NETWORK COOPERATION

GIVING NEW MOMENTUM TO THE ROLE PLAYED BY UIC AFRICA

The reorganisation of UIC in 2009 placed heavier importance on the roles played by each of its six regions. The purpose of this shift was to find a way to better meet the specific needs of members in those regions.

Since its establishment, UIC Africa has invested relentless effort into a broad range of activities. Aside from organisational change, these programmes include:

- ↗ Targeted topic scientific seminars and conferences;
- ↗ Information sessions tailored to an African railway audience;
- ↗ Reinforcement of bilateral cooperation, through technical visits and/or exchanges between managers and key players from African networks;
- ↗ Participation in international events and coordination with bodies involved in developing Africa.

Based on this track record, UIC Africa is now increasing the pace of its work in order to implement the road map outlined in “A new lease of life for African rail – Destination 2040”. Innovation, mobilisation and integration will be the driving force behind a series of actions including:

- ↗ Promoting railway transport on a continental

scale, helping members to meet the future challenges of sustainable development and mobility;
- Promoting railway interoperability and standards;
- Developing and facilitating regional, continental or bilateral cooperation in order to foster good practice (benchmarking);
- Offering technical support to members as they work on various projects, develop new markets and new business ventures;
- Recommend methods for enhancing technical and environmental performance, in order to sharpen competitiveness and lower costs.

As such, UIC Africa will play the role of:
- SUPPLIER of operational and technical expert knowhow, as well as guidance on regulations, standards and good practice recommended by UIC;
- FACILITATOR through innovation and exchange: new concepts and ideas to defend the common interests of members, with support policies to underpin essential infrastructure work;
- COORDINATOR for rail forums, platforms, seminars, conferences and symposia in Africa;
- DEVELOPER of interoperable specifications and interfaces along continental rail corridors.

FOSTERING EXCHANGE FOR FEEDBACK ON EXPERIENCE

As mentioned above, there have been far-reaching changes in the railway sector over the past ten years, leading to a general move to upgrade and rebuild many railway networks. This work has, amongst other things, created a need for specialised railway knowledge. Several European networks have adapted their own organisations to be in a position where their expertise and experience gathered over many years of practice can be offered to meet the growing demand for support.

It is crucial for vulnerable railways in Africa to capitalise on this experience and knowhow by establishing links with other UIC Africa members who have themselves acquired a recognised level of expertise: this will allow the networks to benefit from the lessons learnt elsewhere and avoid repeating unnecessary mistakes, thereby optimising any investment in intellectual or technical services.

Expert advice and services can be provided to cover many areas including:
- Management training;
- Management and technical assistance;
- Project preparation;
- Provision of experts;
- Conducting studies.

There are various advantages in opting for such services: fostering positive relationships between African railways, harnessing synergy between neighbouring networks and similar cultures, a common railway development history (to a certain degree), and having a majority of railways in Africa as members of UIC Africa.

PROMOTE THE CREATION OF AN AFRICAN RAILWAY INSTITUTE

Staff training is of primary importance to achieve the desired capitalisation of existing railway expertise and human resource potential, especially in the face of the scale of the challenge spanning all areas of railway expertise and swollen by years of underinvestment.

↗ MEASURE 5

ENHANCING MANAGEMENT AND IMPROVING FINANCIAL PERFORMANCE

STREAMLINING

Technical, business and financial performance go hand in hand with a proper strategy to allow sustained growth in traffic and better railway competitiveness.
This can be achieved through streamlining of costs, making it possible to maintain and even improve operations while meeting required safety standards.

BETTER PROCUREMENT

Nurturing a network of reliable suppliers is part of keeping ahead of the competition. Good supplier relations are evidence of corporate responsibility, good cost management and commitment to offering high-quality services to customers, because all of these components depend on third- party performance and good “procurement” represents a large part of a major investment package.
Buying should become a more central ingredient in any successful business plan. Keeping good suppliers motivated is a way to ensure that they will

do their best to remain at the cutting edge of solutions and offer best value for money.

Against this background there is a pressing need to forge partnership relationships with suppliers, grounded in mutual trust and respect, in line with contractual obligations. Above and beyond this, companies need to equip their buyers with the skills and tools required to manage supplier relations in the best possible conditions.

TAKING THE ENVIRONMENT INTO ACCOUNT

Environmental protection occupies a central place in future development strategies. Initiatives already exist to make access to a healthy environment an inalienable right.
It is in this climate that rail today is going through a revival and can realise the potential of its intrinsic qualities as the most energy-efficient and environmentally-friendly mode of transport.

These strengths are in reality the fruit of railway technology which has inbuilt advantages as it has evolved over time with particular consideration for various aspects of the environment: safety, space occupancy, energy consumption, air pollution, noise, impact of infrastructure on fauna and flora and on the landscape, geared for mass transit of dangerous goods in the safest possible conditions...

DOMAIN 4
DEVELOPING SEAMLESS MULTIMODALITY

The railways have changed irreversibly, and surviving in today's market depends on long-term innovative and sustainable solutions as well as harnessing the potential of a flourishing goods distribution industry. Faced with this reality, railways in Africa have no other choice than to adapt their production lines. Adaptation means meeting business demands and winning market share with a wider choice of integrated door-to-door logistic services.

↗ MEASURE 1
INTEGRATED LOGISTICS

Freight and logistics today exist in a new global order, which has commanded a complete organisational overhaul of the industry characterised by:

- ↗ Rapidly bringing down barriers and obstacles to international trade (customs, formalities, linguistic barriers, etc.);
- ↗ A spectacular harmonisation of markets, which for many industries means that consumer demand has all but become uniform across the world;
- ↗ A turnaround in mindsets, whereby people now see the world as a small place, under the influence of easy passenger travel and international flows of goods, together with remarkable progress in communications.

In transport and logistics, there are three major ramifications to these changes:

- ↗ A permanent extension to market boundaries giving businesses a wider choice of suppliers, production and assembly units to choose from and channels to sell into, was one of the main triggers which has propelled freight transport growth at a speed which has outstripped economic growth.

Another consequence of change has been production off shoring, to the detriment of industrialised countries. The third consequence has been externalisation of logistics. Managing a "supply chain" across increasingly vast geographical areas and in some cases spanning several continents is becoming more and more difficult for single suppliers to manage. As such, demand has risen for companies specialising in this type of work and logistics.

DEVELOPING DRY PORTS

Just-in-time management of inventory is becoming more common and therefore railway companies in Africa have no other solution but to introduce innovative solutions offering added value above and beyond basic transport services.

The majority of railway companies are aware of the stakes at play in this area and have already adapted their development strategies accordingly. France, Germany, Spain and the UK for example, have restructured their freight and logistics arms to create specialised integrated businesses.
There is a pressing need therefore for railways in Africa, especially with the intensification of new mining projects, to maximise this opportunity and stay ahead of coming demand. Seizing this chance involves incorporating logistics services through the construction of dry ports, thereby being ready to respond to changing business and customer requirements.

DEVELOPING INDUSTRIAL LOGISTICS ZONES

Given the forecast development strategy required to build competitive logistics, railway companies in Africa will have to introduce integrated products offering rail-road and other solutions in addition to traditional carriage by rail products.
This means looking at the possibilities of building a network of multimodal platforms, hinging on dry ports and adjacent Industrial Logistics zones, and acting as major distribution and consumer hubs. The real estate potential residing in land belonging to the railways can be used as leverage to forge cooperation and partnerships with other players along the logistics chain.

PARTNERSHIPS ALONG THE TRANSPORT CHAIN

Building logistics hubs offering business a range of integrated solutions will pave the way towards offering a wider range of added value services.
These services, as a minimum, will include for example handling and storage of loaded containers, management and maintenance of container fleets, collection and distribution of goods, packaging, labelling, sorting and quality checking as well as processing customs documents.

↗ MEASURE 2

INTRODUCE INTEGRATED TRANSPORT SYSTEMS

OFFER COMPLEMENTARY RAIL-ROAD AND RAIL-SEA TRANSPORT SERVICES

Development of combined transport is still too slow on the African continent, although logistics is gathering pace in performance and uses this form of transport.
Nevertheless, it should be emphasised that greater attention to the environment is causing attitudes to change in favour of more energy-efficient modes of transport, better organisation and customer profitability. These changes all serve to underscore the important role to be played by combined transport in the development of coherent and integrated transport systems.

↗ MEASURE 3

ESTABLISHING A REGULATORY FRAMEWORK

SET UP REGULATORY BODIES

Privatisation of the railways in Africa is spreading fast. Just like other utilities which have taken this path, the railways will have to equip themselves with an independent regulator which can oversee the liberalisation process.

HARMONISE PRACTICES AND PROCEDURES

Changes in the transport system and increasing customer expectations are unfolding in a world characterised by the development of intermodal transport (ports, maritime transport, carriage by land, air or rail, ancillary businesses, etc.), all focused on cost control and seeking the best quality and value for money while keeping control over delivery and journey times.

DOMAIN 5
PROMOTE REGIONAL INTERDEPENDENCE AND CONFIRM AFRICA'S POSITION ON THE WORLD STAGE

Tomorrow's world, in the eyes of not just many economists but also politicians and even fund providers, lies in Africa. As such it is crucial to give railways a leading role in harnessing this future potential. Taking up this role will depend essentially on the forging of intra-network links, technical and technological standardisation, and opening the way for railways to make their contribution to rebalancing trade relations with the rest of the world, as well as promoting and facilitating mobility for goods and people.

↗ MEASURE 1
BUILD INTERCONNECTIONS

Regional integration is one of the key aspirations for economic development in African countries which want to see their economies turned around through cross-regional cooperation. Regional integration is the lever which will allow countries to break free of the bonds of colonial-era dependency and foreign aid, and as such is the cornerstone of broader stable development.

DEVELOP CORRIDORS
Regional integration first means geographical borders and interfaces.
One of the first questions to be answered when considering the future of railways in Africa and their role in regional itnegration is how they will link up with other modes of transport, namely, roads.
Railway development is inextricably linked to economic growth, use of energy resources and increasing trade between countries. It is therefore encouraging to see that the UAR master plan (Union of African Railways) for rail links in Africa includes numerous projects currently on the drawing board or being debated within the Regional Economic Communities and with financial institutions, which will contribute to regional integration in Africa between 2025-2035.

Building a pan-African railway network is not only a need, it is a political prerequisite in the struggle to catch up on the lag that has grown with other continents and help build a fairer and more just world economy.

EXPANDING THE BRANCH NETWORK
At the 33rd UAR General Assembly held in Nairobi in December 2006, a project for the construction of a hub-and-spoke rail network of 20 000 km was adopted.

- ↗ The first 6500-km spoke will link Libya, Niger, Chd, the Central African Republic, the Republic of Congo Brazzaville, the Democratic Republic of the Congo, Angola and Namibia. This route will span out from North Africa and cross the Sahara, going through central Africa towards the final destination in Namibia in southern Africa.
- ↗ The second leg of the network will form a 7800-km long horizontal lnik from Senegal (Dakar) in the West to Djibouti, passing through Mali (Bamako) and Chad (N'djamena).
- ↗ The third branch will be 5600 km in length joining several East African states along a sinuous route through Kenya, Tanzania, Uganda, Rwanda and Burundi, connecting eventually to

the line in the DRC and central Africa with a possible extension towards Ethiopia and Sudan and thus meshing with spoke 2.

DEVELOPING POTENTIAL NEW LINKS

The master plan approved in 1978 included 18 routes across Africa geared to facilitate trade between the countries and foster regional integration. Aside from reinforcing the corridors listed above, the specificity of these routes lies partly in the following:

- Reinforcement of connections between countries in the west of the continent;
- Ensure a north/west Africa link via two main routes: the first connecting states along the Atlantic coast and the second crossing the Sahara.
- Create a select group of priority rail links in central and southern Africa, with a view to offering a path to the ocean for landlocked states, so that they can grasp the full potential of their rich natural resources.

↗ MEASURE 2

TECHNICAL AND TECHNOLOGICAL STANDARDISATION

STANDARDISE TRACKS

Statistics today show that the African railway network is made up of different track gauges, which makes any attempt to construct an interoperable network very complicated.
Consequently, ambitious investment programmes will be needed to gradually replace existing tracks and installations with components complying with standards recommended by UIC.

IMPLEMENT UIC SAFETY STANDARDS

Extensive surveys and analyses conducted in the course of this study have led to the conclusion that for safety, investments must be made on several complementary levels. In addition, for the majority of railways there is still in-depth work to be completed to fine-tune safety management systems.

↗ MEASURE 3

CONTRIBUTE TO THE REBALANCING OF TRADE WITHTHE REST OF THE WORLD

INCORPORATING NICT INTO THE PRODUCT OFFERING

New Information and Communications Technologies (NICT) have revolutionised management systems in advanced railway networks. They have played a key role n facilitating decision-making and improving the performance and efficiency of railways. However, most African railways have not

yet taken advantage of this technology, and are far from doing so.

INTRODUCE COMPETITIVE, INNOVATIVE PRODUCTS & SERVICES

Competition is fierce for land transport, and for the moment railways are struggling to secure a better share of this sector in the face of the overwhelming predominance of road transport.
It is important to note at this juncture how important it is to offer businesses services which will help them optimise their production chains, and so rail has to find its place in these local and regional distribution channels. Of course, optimising service frequency and unrolling a new timetable will require in-depth market surveys carried out to measure demand, continuous capacity improvement on the busiest lines, as well as effective fleet management to meet real needs.
Success will also hinge on flow management allowing better and more flexible access to trains and stations.
The whole purpose of these efforts is to enable customers to reap the full benefit of all these improvements, leading to considerable advantages in terms of shorter journey and connection times and better onboard services.

IMPROVE TRANSITION BETWEEN RAIL-SEA-ROAD

As mentioned above, complementarity between different modes is a prerequisite for re-balancing modal share and meeting growing demand in the best possible conditions.

↗ MEASURE 4

PROMOTE AND FACILITATE THE MOVEMENT OF GOODS AND PEOPLE

HARMONISE PROCEDURES

A battery of policies and measures to facilitate, simplify and harmonise procedures has been launched. Nonetheless, noticeable delays are still appearing in this area of work, which is burdening railways with additional costs, making them more expensive compared with other regions in the world.

INTRODUCE AN INCENTIVISING PRICE SYSTEM

The railways in Africa have managed to overcome a vast number of persistent problems, against a backdrop of several years running at a loss.
This has enabled the sector to reach a relatively stable level in transported volumes, despite the current international financial and economic crisis. Nevertheless, traffic growth alone will not suffice to revive the railway network or make a regional corridor financially and economically viable. Other means must still be deployed in order to make this mode more competitive.

TANGER APPEAL
9TH UIC AFRICA REGIONAL ASSEMBLY

The members of the UIC African Regional Assembly present in Tangier on 17 October 2012, starting from the premise that:

- The African continent continues to record significant development, reflected in its uninterrupted structural economic growth of 5% since 2000;
- The African continent occupies a key place in the major international issues of our time. It is considered by several powers to be a source of potential growth for the future;
- Social sector levelling and consequently, meeting the Millennium Development Goals, (MDG) remain a tremendous challenge;
- Mobility needs for both people and goods are increasingly important when combined with a growing population which is set to double to two billion by 2050;
- Infrastructure of all types represents a major tool in the socio-economic development of the continent.

Considering that:

- Railways constitute a strategic pillar in African development and economic integration
- Rail transport has undeniable advantages which are increasingly prized by modern society and which are vital for putting in place a transport system that is fit-for-purpose, efficient, coherent, integrated and varied enough to meet future challenges;
- Major efforts still need to be undertaken to revitalise railways on the African continent in order that they may constitute a real tool to meet the growing needs in the area of eco-mobility and subsequently the regeneration of African countries;
- Rail transport has all the qualities needed to play a significant and effective role in developing trade between African countries.

Convinced that:

- For most rail networks, the current situation

remains vulnerable and requires major restructuring programmes and improvements;
- The UIC African Region remains the most appropriate body to help African networks benefit from experience in harmonising the railway system;
- Sharing experience between networks and developing cooperation at regional level remains the best approach to derive maximum benefit from good practice and to promote rail transport across the continent.

Desiring that:
- Africa have a rail transport system that is reliable, viable, effective and affordable, capable of promoting socio-economic development across its countries;
- Africa modernise, develop and interconnect the African rail networks;
- Railway companies confirm that their desire to modernise needs to go hand in hand with training to help younger generations access the various professions in the railways;
- Railway companies further improve their range of services for users and businesses, whilst managing the system more professionally and efficiently;
- Complementarity between different modes become an effective reality through better coordination between the various stakeholders and a better-designed transport system with regard to the roles of the various links in the chain;
- Rail transport play a greater role in promoting regional integration and the position of the African continent on the world stage.

Call for:
- Railway companies to sign up to and include their development efforts between now and 2025 in the vision set out by the UIC Africa Region;
- Railway companies to become more involved in the implementation of this new strategy to ensure rail transport plays a part in the continent's economic development;
- Regional economic communities to play a major role in the deployment of the agreed improvement measures;
- Transport regulators, funding bodies and all stakeholders to support the "AFRICA RAIL 2025" rail development project, which has beneficial consequences for our continent in a number of areas.

Tangier, 17 October 2012

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