TERMS OF REFERENCE FOR TWINNING PROJECTS

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<td>Report authors:</td>
<td>D S Usami</td>
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</tbody>
</table>
Table of Contents

Executive Summary .......................................................................................................................... 1

1 Introduction ................................................................................................................................ 4
  1.1 Background .......................................................................................................................... 5
  1.2 Task 6.4 description ........................................................................................................... 5
  1.3 Structure of the report ........................................................................................................ 6

2 Research capacity needs in Africa ............................................................................................. 7
  2.1 Findings from WP5 - Road Safety and Traffic Management Capacity Reviews ............... 7
    2.1.1 RSM Capacity Review – Tunisia ................................................................................. 8
    2.1.2 RSM Capacity Review – Cameroon ........................................................................... 8
    2.1.3 RSM Capacity Review – Kenya .................................................................................. 9
    2.1.4 RSM Capacity Review – Burkina Faso ...................................................................... 9
    2.1.5 RSM Capacity Review – South Africa ...................................................................... 10
  2.2 Findings from WP6 - Capacity building and training actions .............................................. 10
    2.2.1 Road safety Curriculum for Africa (Deliverable D6.1) ................................................. 10
    2.2.2 Research Needs in a High Education Institute in Cameroon ....................................... 11
  2.3 Conclusion .......................................................................................................................... 12

3 Twinning programmes for building capacity in road safety research ...................................... 14
  3.1 Main features of Twinning programmes in road safety research ......................................... 14
  3.2 Terms of References for “institution-to-institution” Twinning programme ......................... 17
    3.2.1 Objectives ............................................................................................................... 17
    3.2.2 Type of actions ........................................................................................................ 17
    3.2.3 Expertise required ................................................................................................. 18
    3.2.4 Timing .................................................................................................................. 18
  3.3 Conclusion .......................................................................................................................... 19

4 References .................................................................................................................................. 19

5 ANNEX 1 .................................................................................................................................... 20
  5.1 User Need Analysis questionnaire of ENSTP .................................................................. 20

6 List of Abbreviations ................................................................................................................. 23

Figures and Tables

Table 2-1 Summary of barriers to research in Africa .................................................................... 12
Table 3-1 Research activities in the Global Plan for the Decade of Action for Road Safety 2011-2020 15
Executive Summary

Task 6.4 of SaferAfrica project aims at supporting road safety research capacity development in Africa by fostering the adoption of Twinning programs between European and African institutions. Twinning programs will help African countries acquire new skills and experience to improve road safety.

Based on an analysis of WP6 results and the Capacity Reviews undertaken in the five investigated countries, there is no evidence of national road safety research strategy, and more in general the conditions to perform research are missing:

- Sources of (sustainable) funding are missing or are very limited.
- Good results focused research, monitoring and evaluation systems start with good crash fatality and injury data, however, road safety data are missing and when available quality is questionable.
- Road safety capacity is also a critical aspect. Experts are missing and there is no immediate evidence of specialised courses being widely available to graduates or post-graduates nor do any of the tertiary institutions seem to be offering specialised road safety short courses in, for example, road safety management, road safety audit, etc.

Although a number of road safety studies have been undertaken in Africa, research is still in its infancy in the continent. This is not limited to road safety but it affects also other research fields as highlighted by (Owusu, Kalipeni, & Kiiru, 2014).

Several road safety domains exist in Africa in which new knowledge specific to the African context should be acquired via twinning mechanisms. Some of them, based on available evidence, are: Road Safety Institutional Management; Road accident data collection and management; Road safety performance indicators; Road Infrastructures Designing and Construction; Road safety audits and inspections; Vehicles inspection; Regulation Enforcement; Post-crash care.

In general, the European-African twinning programme should involve two universities or research institutions, one from a European country and one from an African country. Language and technological environment similarities are desired, facilitating communication and dialogue. Matching research needs (mandatory and optional results expected from the twinning) and competencies is also critical.

The use of multiple instruments is strongly suggested, examples are: Training-The-Trainers (TTT) courses; advisory and consultation services; study tours; the implementation of short-/long-term courses (e.g. a one year MSc course in road safety); expert visits and short-term on-site or virtual training; e-learning; workshops; conference attendance; library upgrade; new technologies for learning; etc.
1 Introduction

1.1 Background

SaferAfrica project aims at establishing a Dialogue Platform between Africa and Europe to improve road safety on the African continent. Work Package 6 (WP6) is focused on education and training of professionals in the field of road safety, which is also one of the main recommendations of the World Report on Road Traffic Injury Prevention (Peden, Scurfield, & Sleet, 2004). Its recommendation 4 (allocate financial and human resources to address the problem) emphasis among other things on training programs across a range of disciplines for developing and implementing national road safety strategies.

In 2015, a mid-term review of the Global Plan (WHO, 2011) was conducted by the United Nations Economic Commission for Africa (UNECA). As a result, four challenges were put forward to accelerate the implementation of the action plan. The fourth was about transferring knowledge and expertise. For (Small & Runji, 2014) the lack of road safety education in universities and of specialized professional training, but also the lack of training standardization are the main difficulties in this area for African development.

The specific aim of WP6 was to identify training needs and to develop capacity building programs on road safety in African countries. The work was based on country needs and existing training activities in African countries and courses offered by different organizations specific for low- and middle-income countries (LMICs). As stated by (Bliss & Breen, 2009), "the challenge for low and middle-income countries will be to benefit from what has been learned and accelerate their adoption and adaptation of good practice to avoid unnecessary and unacceptably high level of deaths and injuries resulting from the evolutionary pathway taken by high-income countries".

The actual evolution of traffic in African countries looks very similar to the one experienced by European countries some decennia ago. During that period European governments and institutions have learned, sometimes by trial and error and with a lot of mistakes, how to deal with the safety issue. Nowadays, many high-income countries are deciding their road safety actions based on the "safe system approach". This approach aims to develop a transport system that is able to accommodate human error and take into consideration the vulnerability of humans. The human limitations will be the basis for the development of the road environment and the vehicles. In this approach, the three components (vehicle, road and humans) are addressed in an integrated manner, through a wide range of interventions, with a higher attention to speed management than in traditional approaches (Peden et al., 2004).

This also means that the responsibility is in fact more in the hands of people who design the road system, but also on other players such as the health department, the juridical system, schools. It is in this framework that all education and training initiatives would be placed.

1.2 Task 6.4 description

Building research capacity is the process of empowering organizations (or individuals, nations, institutions) in: defining and prioritizing problems systematically, developing and scientifically
evaluating appropriate solutions and sharing and applying the knowledge generated (Lansang & Dennis, 2004).

Task 6.4 of SaferAfrica aims at supporting road safety research capacity development in Africa by fostering the adoption of Twinning programs between European and African institutions. Twinning programs will help African countries acquire new skills and experience to improve road safety. Based on the results collected in the different WPs and in the previous tasks, this task will identify:

- domains in which new knowledge specific to the African context needs to be acquired via twinning mechanisms;
- the profile of the ideal potential partner duo, which will include one (semi-)public body and one university;
- the beneficiaries in different countries;
- the mandatory and optional results expected from the twinning;
- the Term of References of the twinning activities, with a view towards supporting future calls for proposals.

A pilot Twinning Program will be realised starting with the project coordinated by CTL for Cameroon. In fact, the activities for the design and implementation of traffic accident databases in Cameroon are complemented by capacity building activities involving, especially, ENSTP. Starting with this initial framework and based on the results of previous tasks, the pilot Twinning Program will focus on developing a master’s course in road safety, to be included as part of the ENSTP curriculum.

1.3 Structure of the report

The document is divided in 4 chapters.

Chapter 1 introduces the SaferAfrica project and Task 6.4 Twinning Programs on research capacity needs. Chapter 2 explores the research capacity needs in Africa in the field of road safety, while the third chapter presents the features of the twinning tool as a process to develop capacity in road safety research in Africa.
2 Research capacity needs in Africa

Road safety research received a high attention in several general planning documents like the Global Plan for the Decade of Action for Road Safety 2011-2020 (WHO, 2011) and the African Road Safety Action Plan ((AU), 2011). However, research in road safety in the continent is still at its infancy. For a long time in Africa, education funding has focused mainly on primary and secondary education, with higher education and research receiving little funding from governments (Brodén, 2012).

There can be several barriers to the development of research, among the most broadly recognized there are (Franzen, Chandler, & Lang, 2017): fragmented research systems, insufficient funding, limited use of research evidence, inefficient networking, inefficient research management, limited governance and regulatory capacity, inadequate material capacity, insufficient human capacity (research knowledge and skills), few research leaders and mentors, low motivation.

Many of these barriers represent an issue to the development of road safety research in Africa. In the following sections it is reported a summary of the research capacity needs in Africa from the analyses and data collected in other WPs of SaferAfrica, namely: WP5 - Road Safety and Traffic Management Capacity Reviews and WP6 - Capacity building and training actions.

2.1 Findings from WP5 - Road Safety and Traffic Management Capacity Reviews

The main objective for WP5 was to review the state of road safety and traffic management in selected African countries with a view to obtain a deeper understanding of underlying problems and together with African partners to develop sustainable and effective remedial road safety plans for countries in Africa.

For the purpose of the SaferAfrica project five countries representing the main geographic areas of Africa have been selected to be reviewed on the basis of the Road Safety Management Capacity Review (RSMCR) assessment framework outlined in the World Bank guidelines:

- Deliverable 5.6 – Capacity Review – Tunisia (Carnis & Bouhamed, 2018)
- Deliverable 5.7 – Capacity Review – Cameroon (Bajia & Usami, 2018)
- Deliverable 5.8 – Capacity Review – Kenya (Omari, Schermers, & Aketch, 2018)
- Deliverable 5.9 – Capacity Review – Burkina Faso (Cardoso, Kluppels, & Vandemeulebroek, 2018)
- Deliverable 5.10a – Capacity Review – South Africa (Small & Niekerk, 2019)

An Assessment Framework (see Capacity Reviews Appendix) has been developed for the SaferAfrica Project to support discussion between the road safety and traffic management capacity review team and senior officials (Breen & Small, 2017).

One of the investigated aspect is “Research, Development and Knowledge Transfer”. This is an integral and essential component of any road safety management system and relates to the timely identification of changes in the system, the development of new techniques and methods, the application of new knowledge and the transfer and application of knowledge to continually improve
the efficiency and effectiveness of the system in order to keep meeting the desired results. This aspect has been reviewed for each of the 5 countries.

2.1.1 RSM Capacity Review – Tunisia

Based on the findings collected, there is no systematic and important academic research on road safety in Tunisia.

A National Observatory for Information, Training, Documentation and Studies on Road Safety has been established, however, there are no researchers among its staff. The Observatory achieves some studies with the assistance of colleges of medicine.

The National Observatory and the insurance companies wish to improve the data collection process in order to produce more detailed analysis and to have a better picture of economic consequences related to the road crashes. The insurance companies collaborate with associations for educating the young people towards a better respect of road safety rules. However, the road safety issue is strongly in competition with other societal issues for being integrated in school programs.

As a conclusion, a number of recommendations were set dealing with:

- The development of academic research dealing with road safety issues.
- The definition of standards for data collection and the use of digital technology.
- The integration of road safety issues in the school and high school programs.

2.1.2 RSM Capacity Review – Cameroon

Cameroon has no national road safety research strategy for a desired focus on result within the vehicle, highway, human or institutional factors. Besides, there is very little research capacity in road safety. The government universities in the country have very little capacity in carrying out road safety research. In addition, within a nationally funded framework, capacity building demonstration and pilot programs are not widely in use or conducted to address goals and targets.

Research and development and knowledge transfer need to be well supported by building stakeholders’ capacity for achieving effective knowledge. It should as well be strengthened to address the results focus. Technical guidance and rapid knowledge transfer on Safe System principles is indispensable.

As recommendations the CR reports the following:

- A range of national guidance on key road safety topics related to fatal and serious injury prevention should be put in place to facilitate road safety research;
- Mechanisms and media to disseminate the findings of road safety research and development should also be put in place.
2.1.3 RSM Capacity Review – Kenya

There is no evidence of a national road safety research strategy in Kenya and nor is there a dedicated road safety research programme supported by dedicated research funding. The research that is conducted is incidental and responsive to specific issues that require some form of investigation (applied research). The research is limited in its scope and seldom are scientific studies carried out to establish the effects of specific programmes/interventions.

In Kenya some road safety research is carried out by the Universities, including attitudinal and perception studies into behavioural changes resulting from road safety education of promotional activities. Various organisations commission specific studies or conduct market research but these are ad-hoc and generally directed at specific current issues. The results are either applied (project based) or serve to communicate or lobby for actions in specific areas. Government agencies such as NTSA do not appear to make active use of this research.

Not all Universities offer civil engineering and the few that do, do not have post graduate courses/programmes focussed on transportation or traffic engineering and/or safety engineering. Traffic psychology and road user behaviour are also not domains that the Universities are active in.

According to the NTSA Act, a core function of NTSA should be directed at conducting research. Since its establishment, this function has not been fulfilled and nor have provisions been made to establish a road safety research unit within the structures of NTSA. It is however anticipated that this will be done within in the near future. To support the research activities a coordinating committee is anticipated

Kenya has limited research capability in the area of road safety and this capacity will need to be built or sourced from other (international) organisations. Developing MoUs with international road safety research organisations and obtaining support and building capacity through exchange programmes may be an option. Existing research funding and existing education programmes should more explicitly focus on road safety issues. The importance of road safety research and setting up monitoring programmes cannot be overemphasized. Without this, the efficacy of the efforts and interventions cannot be determined, nor can the outcomes be explained. Monitoring helps to measure effects and directs research programmes; and research in turn informs policy and directs future strategies. Capacity building in these areas must be seen as a priority.

2.1.4 RSM Capacity Review – Burkina Faso

There is no specific focus on road safety research found in the CR, suggesting that road safety research is poor and needs to be developed. Only one relevant study is mentioned, a pilot project in the capital city, Ouagadougou, to address the existing limitations of the accident registration system in 2015. This aspect of the poor quality and availability of data is frequently highlighted as a major issue within the report.

The CR report involved as a stakeholder the Circle of Reflection, Expertise and Action in Transport and Logistics (CREAT), created in 2017 with the mission to bring reflections and observations to the
government and administrations in charge of (some aspects of) road safety. CREAT is a body for study and research, training, awareness and expertise. It highlights, among the others, the problem of illiteracy, especially within the small business community in the city, and the inadequacy of the training of the police forces.

2.1.5 RSM Capacity Review – South Africa

South Africa CR strongly recommend developing a road safety results framework in the country which can drive improvement through national and provincial agencies. This requires supporting evidences from road safety research and in turn the focus is the improvement of the data collection system, since good results focused research, monitoring and evaluation systems start with good crash fatality and injury data.

The further point stressed in the CR is building capacity: There is also an urgent need to bring senior officials with responsibility for road safety, and road safety professionals up to speed on modern road safety analyses, techniques and practices, particularly in the safe system approach to road safety. It appears this capability may not be as strong as is needed, particularly in moving towards a safe system approach, and may lead to a simplistic interpretation of what needs to be done or to individual preferences for activity rather than evidence-led interventions. A road safety knowledge transfer program could form part of a larger promotion plan, aimed at influencing Ministers, MECs and senior officials to become champions of road safety.

2.2 Findings from WP6 - Capacity building and training actions

Work Package 6 aims to identify training needs and develop capacity building programs focused on road safety in African countries.

2.2.1 Road safety Curriculum for Africa (Deliverable D6.1)

The deliverable analyses the differences, in terms of needs and available expertise, across Africa in order to assess the required level of differentiation (e.g. per country or region). A survey (Vieira Gomes, Kluppels, & Schemers, 2017), covering four of the five geographic regions (central Africa is not being represented) has been undertaken, highlighting the following:

- Road safety is in many instances being considered or is offered in the form of a short course (and therefore not as yet integrated into the curriculum).
- There is little evidence of graduate and post graduate courses related to geometric design, crash data analysis and statistics, road safety audit, vehicle safety, post-crash care management, traffic calming, traffic monitoring techniques, critical offence monitoring or other related road safety subjects.
- Not all countries have tertiary level education in the field of (traffic/civil) engineering, (traffic) psychology, transport planning or transport economics and in which traffic or safety engineering, traffic safety management and road user behaviour are a standard part of the curriculum.
There are few Universities such as in South Africa, Morocco, Ghana and Kenya that appear to have developed a specific curriculum for civil engineering that includes modules on road safety. It should be assessed to what degree these meet the needs regionally and whether they cover the concepts of the state of the art on road safety management and whether or not the pillars adopted in the Decade of Action are covered.

Looking at the results on a regional level it appears that in the four regions represented there is at least one University/tertiary institution offering graduate and post graduate level education in the fields of engineering or human sciences and in which road safety, in some way, is offered as part of the course. However, from these results it seems that there is a need for further developing the content of graduate and post graduate level training in road safety at most tertiary level institutions on the African continent. This suggests that road safety research at the academic level is still very limited.

2.2.2 Research Needs in a High Education Institute in Cameroon

Besides the Capacity Review, it was possible to better understand the current status and needs regarding road safety training and in a High Education Institute (HEI) in Cameroon. A short interview was conducted in early 2018 with representatives of ENSTP (National School of Public Works of Yaoundé), also partner in the SaferAfrica project.

Based on this interview (reported in the Annex), the following can be reported.

At the ENSTP there is a five-year Master of Engineering course in civil engineering. To be admitted in the first year, a student should be a holder of minimum Advanced Level in Science subjects or Baccalauréat Scientifiques and pass a competitive entrance examination.

This Master course contents include a training module in Road Safety (60 hours).

Based on their perception research in road safety needs to be still developed (a score of 20 on a scale 0-100 has been assigned). There are no post-graduation courses in road safety addressing researchers (PhD courses) or professionals. This aspect has been highlighted as a potential need to be addressed in a twinning. Among the suggested actions for improvement it was highlighted: the development of training curricular for different types of training and of trainers and researchers’ capacities.

The most important road safety research fields to be combined and reinforced are:

- Road Infrastructures Designing and Construction
- Road Safety Institutional Management
- Road Safety Auditing
- Post-crash care
- Vehicles inspection
- Regulation Enforcement
Useful skills perceived important to increase the chance of employment in the sector are: Road Safety auditing, Scientific principles for Road Safety analysis and Road Safety management, policies and plans.

Road safety auditing are in general perceived as a priority the country really needs to improve road safety.

2.3 Conclusion

Based on the evidences from the SaferAfrica project, it is clear that road safety research is not existing, or it is very limited in Africa. In some cases, road safety research is mostly undertaken at the academic level and it is strongly linked to the health sector.

Barriers to road safety research in Africa are summarised in Table 2-1 together with the evidences found in the other WPs. The list of barriers is derived from (Franzen et al., 2017).

**Table 2-1 Summary of barriers to research in Africa**

<table>
<thead>
<tr>
<th>Barrier type</th>
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<tr>
<td>Fragmented research systems</td>
<td>There is no evidence of national road safety research strategy.</td>
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<tr>
<td>Insufficient funding</td>
<td>Sources of (sustainable) funding are missing or are very limited in the countries investigated.</td>
</tr>
<tr>
<td>Limited use of research evidence</td>
<td>Adequate and accurate information and data on road safety and the related costs are essential to make research and develop effective road safety policy strategies. However, incompleteness of road safety statistics due to underreporting is a well-known problem for many low and middle-income country. Moreover, information on the consequences of crashes in terms of medical treatment, health, ability to carry out daily activities, property damage and administration, as well as on the associated costs is not systematically recorded and made available.</td>
</tr>
<tr>
<td>Insufficient networking</td>
<td>There is no evidence of road safety research networks.</td>
</tr>
<tr>
<td>Limited governance and regulatory capacity</td>
<td>No findings on this barrier.</td>
</tr>
<tr>
<td>Inadequate material capacity</td>
<td>Road safety data are missing and when available quality is questionable. In some cases, the conditions to perform research are missing.</td>
</tr>
<tr>
<td>Insufficient human capacity (research)</td>
<td>Experts are missing and there is no immediate evidence of specialised courses being widely available to graduates or post-graduates nor do any of the tertiary institutions seem to be offering specialised road safety short courses in, for example, road safety management, road safety audit, etc.</td>
</tr>
<tr>
<td>Knowledge and skills)</td>
<td>No findings on this barrier.</td>
</tr>
<tr>
<td>Few research leaders and mentors</td>
<td>No findings on this barrier.</td>
</tr>
<tr>
<td>Lack of research culture</td>
<td>No findings on this barrier.</td>
</tr>
<tr>
<td>Low motivation</td>
<td>No findings on this barrier.</td>
</tr>
</tbody>
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3 Twinning programmes for building capacity in road safety research

Although a number of road safety studies have been undertaken in Africa, research is still in its infancy in the continent. This is not limited to road safety but it affects also other research fields as highlighted by (Owusu, Kalipeni, & Kiiru, 2014).

Various approaches exist to research capacity development at different levels (from individual to national level), some of these are (Lansang & Dennis, 2004):

- Graduate or post-graduate training
- Learning by doing approaches
- Institutional partnerships between developing and developed countries
- Centres of excellence

All of them seem worth trying and each has its advantages and disadvantages. However, it is hard to decide which is the best, because of a limited empirical research and monitoring and evaluation, the results of these actions, together with their implementation strategy in terms of their relative effectiveness is unclear (Franzen et al., 2017).

SaferAfrica project strongly supports the realization of institutional partnerships between a European and an African country in the form of a twinning programme. International twinning partnerships can provide a way to effectively transfer expertise, skills and knowledge acquired in the high-income countries (HICs) over the last few decades to try to improve road safety research.

In the following, the main features of twinning programs for road safety research development is explored in order to define those aspects that should be addressed when defining a twinning program terms of reference.

3.1 Main features of Twinning programmes in road safety research

A twinning program can be seen as a “process that pairs an organizational entity in a developing country with a similar but more mature entity in another country” (Ouchi, 2004). Twinning programmes are practiced by several aid organizations such as the World Bank and the European Commission in various ways. Six features characterizing Twinning programmes are: 1) an institution-to-institution relationship, based on partnership between two organizations; 2) achieve sustainable organizational capacity building; 3) based on long-term cooperation that continues after project completion; 4) highly flexible and can change according to need; 5) use various modes of activity to ensure sustainability; and 6) carry a notion of learning.

This type of action has been applied in the past also to road safety. An important example is given by IRTAD, the International Traffic Safety Data and Analysis Group1. IRTAD is a permanent working group with over 80 members created in response to demands for international comparative road safety data. Among the activities promoted, IRTAD facilitates twinning projects in developing

1 https://www.itf-oecd.org/IRTAD
countries to improve the existing road accident data collection and management processes based on international best practices.

In the research field, the aim is to strengthen the training capacity of the developing country institution, i.e. the capacity to develop researchers. In Europe, for instance, objectives of two programmes, Twinning and the ERA Chairs, are to enhance the coordinating institutions’ research excellence, their networking capabilities and their ability to compete for international funding (European Commission, 2017).

In general, institutional development should focus on the ability to generate, retain and use individual capacity through improving curricula, training support, coaching and research resources (Franzen et al., 2017).

In the research capacity development area, there are several examples of twinning in the healthcare sector (see for instance (Cooke, Gardois, & Booth, 2018)). Based on SaferAfrica evidences and the results from a desk search on the topic, some features of twinning programs aimed at developing capacity in road safety research are below presented, describing: What road safety research domains should be covered in the twinning and who should benefit of Twinning.

**What should be covered - Knowledge domains to improve.**

As already stressed in other sections, research is a key ingredient to support the definition of effective and efficient road safety strategies. The Global Plan for the Decade of Action for Road Safety 2011-2020 (WHO, 2011) encourages the research and implementation of several actions as identified in Table 3-1.

<table>
<thead>
<tr>
<th>Pillar</th>
<th>Road safety research activity</th>
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<tr>
<td>1: Road safety management</td>
<td>Encourage the creation of multi-sectoral partnerships and designation of lead agencies with the capacity to develop and lead the delivery of national road safety strategies, plans and targets, underpinned by the data collection and evidential research to assess countermeasure design and monitor implementation and effectiveness.</td>
</tr>
<tr>
<td>2: Safer roads and mobility</td>
<td>Encourage research and development in safer roads and mobility by:</td>
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<td></td>
<td>• completing and sharing research on the business case for safer road infrastructure and the investment levels needed to meet the Decade of Action targets;</td>
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<td></td>
<td>• promoting research and development into infrastructure safety improvements for road networks in low-income and middle-income countries;</td>
</tr>
<tr>
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<td>• promoting demonstration projects to evaluate safety improvement innovations, especially for vulnerable road users.</td>
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3: Safer vehicles
Encourage application of pedestrian protection regulations and increased research into safety technologies designed to reduce risks to vulnerable road users.

4: Safer road users
Research, develop and promote comprehensive policies and practices to reduce work-related road traffic injuries in the public, private and informal sectors, in support of internationally recognized standards for road safety management systems and occupational health and safety.

5: Post crash response
Encourage research and development into improving post-crash response.

These specific actions have been addressed in a more general way within the African Road Safety Action Plan which reinforces the importance of research by recommending:

- Road safety research/studies & use of best practices
- Engage local research centres on Road Safety data management

Based on the SaferAfrica project results in other WPs, several road safety domains exist in Africa in which new knowledge specific to the African context should be acquired via twinning mechanisms. Some of them are:

- Road Safety Institutional Management
- Road accident data collection and management
- Road safety performance indicators
- Road Infrastructures Designing and Construction
- Road safety audits and inspections
- Vehicles inspection
- Regulation Enforcement
- Post-crash care

Who should benefit of Twinning - The potential partner duo.

A study of the World Bank (Ouchi, 2004) identifies similarity in operations between the receptor and the provider, in terms of business and concerns, as one of the key criteria for a successful twinning. Differences may represent a problem also in other aspects, such as disparate political, social, and geographical backgrounds; discrepancies in size, experience, and organizational cultures; and dissimilar technological prowess.

The same study reports also the criteria to identify a potentially successful partnership:

- Having a similar field of tasks, function, and structure.
- Technology/system compatibility.
- Pace and direction of institutional and governance reform.
- Language.
Clearly identified needs of the recipient partner (technical, organizational, managerial), and corresponding competence and capacity of the supplier.
The supplier's command of and experience with development issues.

In general, the European-African twinning programme should involve two universities or research institutions, one from a European country and one from an African country. Language and technological environment similarities are desired, facilitating communication and dialogue. Matching research needs (mandatory and optional results expected from the twinning) and competencies is also critical.

3.2 Terms of References for “institution-to-institution” Twinning programme

A thorough background research on the recipient country, its people, and its customs is fundamental in assisting in adopting the correct approach when dealing with the twinning programme definition.

3.2.1 Objectives

The main aim of the twinning is to create and develop research capacity of a university or research organisation in a defined field of research, addressing networking gaps with the scientific community.

Examples of specific objectives for a twinning programme are (European Commission, 2017):

- Increased research excellence in the particular field of research as a result of the twinning exercise.
- Enhancing the reputation, attractiveness and networking channels of the coordinating institution.
- Improved capability to compete successfully for national and international competitive research call for proposals.
- Increase the number of: publications in peer reviewed journals, collaboration agreements with businesses, intellectual property, new innovative products or services.

3.2.2 Type of actions

The Twinning programme should include a set of measures within a coherent strategy. Based on a review of existing practices, research capacity development (RCD) activities may be:

1. Prioritisation: Developing research priorities from consensus views of informed participants.
2. Mentoring: where an experienced, highly regarded person (the mentor) guides another individual (the mentee) in the development and examination of their own ideas, learning, and personal and professional development.
3. Leadership: the process of influencing group activities towards the achievement of RCD goals.
4. Research facilitators: individuals whose role is explicitly to promote and enable the conduct of a research by those with limited research experience.
5. Training: interventions that aim to increase skills and knowledge.
6. Funding to develop research capacity development including bursaries and fellowships.
7. Networks and collaborations: structures and functions that support people to work together to improve knowledge transfer, innovation, a research process or an output.
8. Infrastructure: a range of activities used to enhance support of RCD.

The use of multiple instruments is strongly suggested, examples are: Training-The-Trainees (TTT) courses; advisory and consultation services; study tours; the implementation of short-/long-term courses (e.g. a one year MSc course in road safety); expert visits and short-term on-site or virtual training; e-learning; workshops; conference attendance; library upgrade; new technologies for learning; etc.

3.2.3 Expertise required

Technical competence and experience in the particular field of research are required.

3.2.4 Timing

The duration may vary. Multi-year programmes are desirable, until the desired results are achieved, One to three years are generally a good reference for a Twinning programme.
4 References


5 ANNEX 1

5.1 User Need Analysis questionnaire of ENSTP

Current local situation

Question 1: are there any available Bachelor or Master courses on Road Transport or Transport in general? If yes please provide the curricula of these Masters and a short description.

There is a Master of Engineering course in civil engineering. This Master course contents include one training module in transport systems (60 hours) and one on Road Safety (60 hours).

Question 2: what are the entry requirements for students to attend these courses?

The Master of Engineering course is a five year program. To be admitted in the first year, a student should be a holder of minimum Advanced Level in Science subjects or Baccalauréat Scientifiques and pass a competitive entrance examination

Current local needs

Question 3: to what extent (scale of 100), in your opinion, is research in road safety currently implemented?

20%

Question 4: at local level, what are the most important issues that need to be addressed in terms of research on road safety? How would you address these issues?

1. Development of training curricular for different types of training
2. Development of trainers and researchers capacities

Question 5: at a local level, what are the most important issues that need to be addressed in terms of training on road safety? How would you address these issues?

See question 4
**Question 6:** in terms of improving research in road safety, which are the most important road safety fields to be combined and reinforced?

- Road Infrastructures Designing and Construction
- Road Safety Institutional Management
- Road Safety Auditing
- Post-crash care
- Vehicles inspection
- Regulation Enforcement

**Question 7:** in terms of improving research in road safety, which are the most important road safety fields to be combined and reinforced?

See question 6

**Question 8:** in terms of improving research in road safety, what is the most suitable type of training course (Master course, professional course etc..) to be undertaken in the field of this Twinning Program and why?

Professional course, Master course, PhD

**Administrative barriers**

**Question 9:** at local level, what are the most relevant administrative barriers in order to deliver the course within the time frame of the project?

Signature of the twinning program convention between CTL Sapienza and ENSTP Yaounde

**Question 10:** what is, in your opinion, the best approach in order to overcome these barriers within the timeframe of the project?

We should together prepare this official document as soon as possible and submit for the approval and signature of our hierarchy

**Skills or aspects to be included in the course curriculum**
Question 11: in order to improve the employment opportunities at local level of the course student which skills or aspects would you include in the curriculum?

- Road Safety auditing
- Scientific principles for Road Safety analysis
- Road Safety management, policies and plans

Question 12: would you consider some of the skills to be more crucial to include than others?

- Road Safety auditing
6  List of Abbreviations

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<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>ARSO</td>
<td>African Road Safety Observatory</td>
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<tr>
<td>EC</td>
<td>European Commission</td>
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<tr>
<td>EU</td>
<td>European Union</td>
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<tr>
<td>MB</td>
<td>Management Board</td>
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<td>SG</td>
<td>Stakeholders Group</td>
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<td>WG</td>
<td>Working Group</td>
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<td>CR</td>
<td>Capacity Review</td>
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<td>RSM</td>
<td>Road Safety Management</td>
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<td>LMIC</td>
<td>Low and Middle Income Countries</td>
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<tr>
<td>UNECA</td>
<td>United Nations Economic Commission for Africa</td>
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<tr>
<td>MoU</td>
<td>Memorandum of Understanding</td>
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<td>RCD</td>
<td>research capacity development</td>
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