



POLITECNICO
MILANO 1863



Terms of Reference for Selection of Emerging African Innovation Leaders

AID 11346

Emerging African Innovation Leaders

**G7 Exchange & Empowerment Program for enabling Innovation
within the Next Production Revolution**

WP1

**Politecnico di Milano
Politecnico di Torino**

1. Introduction

As recently stated by the Agenda 2030 of the United Nations, ever than ever the role of emerging technologies is considered crucial for the claimed achievement of the Sustainable Development Goals – SDGs in 2030. The Next Production Revolution (NPR) with new digital technologies, materials and processes will reshape design, engineering and production, enabling further leapfrogging in Africa. Among the cluster of emerging technologies, Digital and Green Tech (energy and mobility) appear as the most relevant for the achievement of the SDGs and those which can at best comply with the Africa situation.

The project is sponsored by the Italian Agency for Development Cooperation AICS.

The general objective of the Emerging African Innovation Leaders project is to boost Africa embracement of the Next Production Revolution while enforcing the EU-AU cooperation on the matter and achieving the mutual benefits and socio-economic innovation that may come when coping this approach with Sustainable Development Goals to promote an equitable and long-lasting prosperity in Africa.

The specific objective of AfrInLead is to accompany empowerment and ownership of at least 6 priority African Countries, namely Tunisia, Niger, Nigeria, Kenya, Ethiopia, Mozambique, toward the embracement of the NPR with special reference to digitalisation, energy and mobility.

Two are the main expected results of the project:

1. A qualified community of **AFRICA INNOVATION BROKERS (AIBs)** is created as the seed for the next generation of African Leaders equipped with the right and verified capacity and competences for boosting Africa leapfrogging, so to favour the embracement of NPR and the diffusion of its benefits.
2. A platform for innovation, the **AFRICA INNOVATION CRADLE**, working as a digital tool to enable the AIBs to replicate and expand their pilot experience toward a larger number of local innovation networks.

Three candidates for each country will be selected to participate to the programme, composed by the following modules.

- I. **Learning component for COMPETENCE:** 5 weeks of in presence training on managing innovation and relevant infrastructures in Italian Academies PoliMi and PoliTo, starting indicatively on the 20th of September
- II. **Exposure component for CAPACITY:** equivalent of 2 weeks international exposure tour to the Italian innovation ecosystem with learning experience reporting
- III. **On line component:** specialised Massive Open Online Courses (MOOCs) on online platform to accompany the AIBs for the whole Capacity Building training (Project work) complementing competence and capacity components
- IV. **Learning by doing as RESTITUTION:** the trainees become trainers of a second generation of innovators

Training may cover several topics ranging from digitalization (e.g. 3D printing, Internet of Things, advanced robotics, data driven production, artificial intelligence, synthetic biology), to sustainable energy solutions (sustainable technologies for centralised and decentralised generation, business model and financial mechanism) and smart mobility (from private to public transportation, enabling environment for e-sharing and pooling). As well as Management of Innovation Projects, Development & Deployment of Industry 4.0

National Policy, Principles of a Business Incubator, Industrial eco-efficiency policy and Financing alternative options for innovation projects.

The community and the Cradle platform will count at least 200 members. AIBs will be trained and mentored for roughly 350 hours equivalent and will benefit of on-line MOOCs. The second generation AIBs will be trained for at least 100 hours equivalent including on-line MOOCs. Access to MOOCs will open up additional trainees in a number that will be likely to be one order of magnitude greater. The sessions will be distributed along 12 months and they will not require a continuative attendance and will be compatible with other professional activities. It has a strong focus on building capacity and competence for the AIBs but also including a restitution phase from the AIBs to their home country.

2. Statement of principles

1. PoliMi and PoliTo commit to support the selection processes by the enrolment of the best possible candidates into the Emerging African Innovation Leaders.
2. PoliMi and PoliTo commit to secure a selection process that is based on equal opportunity without prejudice, regardless of gender, race, religion, age, pregnancy, disability or other personal attributes provided that they do not impair the candidate's professional performance (that is, unable to meet the reasonable and genuine requirements of the position).
3. PoliMi and PoliTo ensure that the selection process follows documented procedures, with candidates having access to published criteria on eligibility and selection.

3. Selection process

1. Call for applications

- a. PoliMi and PoliTo send out the call for application through all available and appropriate channels.

2. Evaluation of applications

- a. The applications will be evaluated according to the specifications defined in the requirement profile (point 5).

3. Interview

- a. Short listed candidates will be invited for a web interview.
- b. The web interview follows a defined structure with a common template (as under point 8) and partners will be supplied with the necessary template with questions for the interview and an interview assessment sheet.
- c. To ensure transparency and quality of the web interviews a representative of the donor AICS might be present during the interviews.

4. Selection of trainees

- a. Finally, at least 18 trainees, will be selected on the basis of their application and the interview
- b. The announcement of the selected candidates will be sent out in the same form as in 1a.

4. Proposed Timeline

An Intensive Capacity Building training for Competences and Capacity Building in the sector of Innovation and NPR jointly is delivered by Politecnico di Milano and Politecnico di Torino.

A participation plan of trainees could look like following:

- | | |
|---|----------------|
| • Spreading the call for applications | June 26, 2018 |
| • Early Bird Deadline for application (with Priority Selection) | July 20, 2018 |
| • Second Deadline for application | July 26, 2018 |
| • Deadline for Trainee Selection Report | August 6, 2018 |

Please remain available for the following dates:

Week for Interviews: July 27, 2018 – August 3, 2018

Visa Application Period: August 7, 2018 – September 15, 2018

5. Requirement profile for trainees

The professional or academic experiences of potential trainees are used to help determine their potential to meet the requirements of the project. To be eligible for admission it is required that trainees:

- are involved in the Innovation field
- preferably with business or engineering education background
- should have proven experience in Innovation
- should have proven experience in leadership and team working
- should have excellent communication skills
- are willing to extend their knowledge about the Next Production Revolution
- are able to understand English effectively and are able to communicate clearly and accurately in spoken and written English
- are committed to train other colleagues after their return from the trainings
- priority selection will be given to national citizens of Tunisia, Niger, Nigeria, Kenya, Ethiopia and Mozambique

6. Responsibilities

The trainees are expected to attain the following responsibilities:

- Trainees are expected to travel to Italy to attend 5+2 *in-presence* training weeks
- Trainees are expected to follow MOOCs on the Africa Innovation Cradle platform

- Furthermore, they are expected to work as group in order to deliver a final project at the end of the training program
- Finally, they are expected, once back in their countries, to train 10 colleagues each on the learned subjects and actively animate the Africa Innovation Cradle
- If trainers do not meet this requirement they are obliged to pay back the full cost for the trainings they received (travel, accommodation, food, excursions, etc...)

7. Necessary documents

The following documents should be handed in to support the application that must compulsorily be sent to info-africanlead@polimi.it :

- Motivation letter (in English) highlighting reasons to participate and commitment of the candidate to the project (MAX 1 page)
- CV (in English, including section specifying points listed in section 5, academic background and professional experiences, including personal contacts such as Skype, e-mail, LinkedIn, Telephone)
- Additional Document containing other information that may highlight experiences in innovation or experiences as trainer (Max 2 pages)

For any information you may contact info-africanlead@polimi.it.

8. The Interview

Candidates will be invited to attend a skype interview carried by representatives of the partner institutions.

The interview will consist of:

- Document check – a list of what to bring will be given with the interview invitation
- Presentation – the candidate will be asked to give a five-minute presentation about his/ her motivation and affiliation to NPR related topics
- Personal interview – the candidate will take part in a personal interview

During the interview, the candidates will need to demonstrate:

- His/her capability to meet the required qualification by the end of the training course and the appropriate personal and intellectual qualities
- That he/she possesses a certain mental fitness and readiness of mind to deal with Next Production Revolution for the Africa prosperity
- That he/she has an experience background suitable for the training program
 - That he/she has appropriate communication skills

9. Selection criteria

Selected trainees should show:

- *Sufficient English language skills*

- the interviews for trainee selection will be carried out in English language to assess the candidate's language skills.
 - Candidates should be able to follow and engage in a fluent conversation, they should know and use the relevant technical terms, they should be able to appropriately answer to questions and express themselves in a clear and accurate manner and have a good command of their active vocabulary.
 - It is beneficial when candidates can provide a certificate, which certifies sufficient English proficiency.
 - If candidates are able to provide a TOEFL test, the minimum TOEFL IBT score should be 90. The test should not be older than two years.
- *A well-developed ability to break down knowledge*
 - Trainees should be able to break down difficult and complex topics to easily understandable pieces of knowledge, which allow non-experts to grasp the key concepts of a particular topic.
 - *Comprehend the basic NPR and Innovation principles*
 - Trainers should have a good insight and understanding of the Next Production Revolution and Innovation principles
 - *Interest for application of innovative solutions for Africa prosperity*
 - Trainees should show an understanding for the interconnectedness of Africa's many challenges and should show commitment to work on these challenges in an interdisciplinary, holistic, and collaborative way
 - *Spirit and motivation*
 - Trainers should show commitment towards the principles of Next Production Revolution and should show an enthusiasm to spread the adoption of those principles

10. Grading Rubric

To ensure an objective method of evaluating the interviews and the motivation letters, a grading rubric will be developed and applied in order to objectively measure the candidates' abilities and compatibility with the concepts at hand. The grading will measure 10 distinct factors with an individual grade of 5 for each for a total of 50 grades. Candidates with the highest grades will be the candidates chosen to go on the training.

Personal data will be managed under the provisions of the European Union GDPR - General Data protection Regulation (679/2016/EU).