TERMS OF REFERENCE
PROJECT AFTER II

Training of Trainers sessions in Information technology at IPRC Karongi

Output 2: The training offer in the IPRC Karongi is strengthened and more attractive

Specific objective 2.1: The quality of vocational training provided in IPRCs is significantly raised

Estimated number of working days	96 days which may vary downward
Estimated period of face-to-face services	72 days which may vary downward

Summary

I.   CONTEXT / PROJECT

1.   Context and justification of the need:

The Government of Rwanda and Agence Française de Développement (AFD) signed 5 years grant/loan agreements on 8th March 2023 to implement AFTER II Project (Appui à la Formation Technique et l'Emploi au Rwanda). AFTER II aims to improve technical and vocational education and learning conditions in order to strengthen the skills of youth in line with labor market requirements.
Project management will be provided by two contracting authorities: Rwanda Polytechnic (RP) for IPRC-related interventions, and Rwanda TV ET Board (RTB) for TVET schools-related interventions, through their respective Single Projects Implementation Unit (SPIU).

Expertise France will provide technical assistance to the project implementation. Short and long-term expertise are mobilized on the basis of a technical offer validated by AFD, with the agreement of the Rwandan party.

On RP side, the beneficiary institutions are IPRC Karongi and IPRC Kitabi located in Karongi and Nyamagabe Districts respectively. On the side of RTB, the beneficiary institutions are Muhororo and Cyanika TVET Schools located in Karongi and Nyamagabe Districts respectively.

2.   Objectives of the project:

The main objective of AFTER II project is to reinforce the employability of youth and increase the number of TVET students in Nyamagabe and Karongi districts.

AFTER II project is divided into 4 main components and 2 cross-cutting components:
- Component 1: The IPRC Kitabi and Karongi and TVET schools of Cyanika and Muhororo campuses are expanded, modernised and environmentally friendly
- Component 2: The training offer in the IPRC Kitabi and Karongi and TVET schools of Cyanika and Muhororo is strengthened and more attractive
- Component 3: The link between TVET providers and the private sector is strengthened, and employment and entrepreneurship support mechanisms are more efficient
- Component 4: The quality and leadership of RP and RTB as institutions in the TVET sector are reinforced
- Cross-cutting component 5: The TVET programs are more gender-responsive and inclusive and specifically address dropouts of the general education
- Cross-cutting component 6: Greening TVET – TVET programs provide youth with green skills and competencies for sustainable economic growth

3.   Progress of the activity concerned by the ToR:

One of the program supported within the AFTER II project is Information technology offered at IPRC Karongi.

The process started by conducting a capacity building need assessment to the instructor of this department based on the curriculum developed by Rwanda Polytechnic.
Through this process, we have identified 8 training subjects to be offered by different experts whose profile have been identified in the ToR.

The training will focus on practical skills through Project based methodology and will be organized in different sessions based on the availability of the participants. The period will be from August 2024 to February 2028. An average of 3 training session per year will be offered

Through these trainings, IPRC Karongi instructors will be skilled enough to deliver practical lessons to their students that will lead to the production of competent graduates based on the labor market requirement.

II.   Objective and expected results of the mission

1. General objective:

The objective of the assignment is to reinforce the practical skills of ten (10) instructors from IPRC Karongi and other IPRC having the same program to upgrade their practical skills and enable them to improve the delivery of practical lessons based on the following modules:

Level 6	Level 7	Level 8
▪ Database Administration	▪ Mobile Application Development	▪ Development Operations
	▪ Network Security	▪ Machine Learning
	▪ Advanced Wed Technologies	▪ Block chain Technology
	▪ Internet of Things	

2. Specific objectives:

At the end of each training session mentioned in the table below, participants shall be able to perform the task mentioned in the expected outcome.

Training title	Expected outcome	Number of days for training	Days for preparation and reporting
1. Development Operations	1. Plan Key Workflow 2. Implement CI/CD Pipeline	9	3

	3. Manage infrastructures		
	4. Perform Security integrations		
	5. Optimise monitoring and feedback mechanisms		
2. Machine Learning	1. Apply dataset preparation mechanisms	9	3
	2. Apply Machine Learning techniques		
	3.Apply model evaluation techniques		
3. Mobile Application Development	1. Set up the development environment	9	3
	2. Design the application		
	3. Develop, test, and simulate USSD app		
	4. Implement mobile app design		
	5. Deploy the mobile app		
4. Network Security	1. Install and Configure Linux server services	9	3
	2. Install and configure network monitoring tools		
	3. Implement server based Authentication, Authorization, Accounting		
	4. Implement Firewall technology		
	5. Implement Virtual private networks		
5. Advanced Wed Technologies	1. To Develop Web Application using PHP Laravel Framework	9	3
	2. To Develop application using Nodejs		
	3. To Develop Application using ReactNative		
	4. To Develop Application using spring boot framework		
6. Database Administration	1. To start up a database	9	3
	2. To Secure Oracle database		

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	3. To Manage Database 4. To Document database		
7. Internet of things (IOT) Systems	1. To apply IOT Devices connectivity protocols. 2. To secure IOT Devices 3. Implement Firmware Codes and deploy IoT device to the IoT platform	9	3
8. Blockchain Technology	1.Design Blockchain Based Systems 2.Develop Blockchain Based System 3. Enforce Blockchain-based system Security 5. Maintain Blockchain based system	9	3

3. Anticipated results

The following anticipated result are expected at the end of each training session that will be organised:

- IPRC Instructors will upgrade their hands-on skills on each subject trained
- IPRC Instructors will improve the teaching of practical lessons
- IPRC Instructors will gain knowledge and skills to operate different software
- IPRC instructors will improve their knowledge and skills on the use of existing software
- The skills offered to students in Information technology program will be enhanced through practical lesson
- Students will be familiar with the use of different software found in different industries

4. Description of the assignment

Expertise France is supporting Rwanda polytechnic in the AFTER II project implementation. In this framework, Expertise France will recruit individual experts/Company to support the delivery of training of trainers in Information technology for IPRC Karongi based on the RP curricula from level 6 to level 8 and organise field visit where needed. The methodology to be used during these training session is **project based learning**

Applicants are allowed to apply for one or more training sessions based on their expertise. They should clearly indicate in the application letter which training they are applying for.

The expert to deliver the training will work under the supervision of the Component manager at Expertise France.

5. Place, duration and terms of performance

a. **Implementation period:** August 2024 to February 2028

b. **Start date:** The exact dates for each training session will be defined at a later stage based on the availability of participants and Experts

c. **End date:** to be defined later

d. **Effective duration per assignment:** see table below

e. **Schedule/programme**: see table below

The provisional programme for assignment implementation is as follows:

Activity	Place	Period	Duration (man/days) Expert 1:	
1. Training on Development Operations	Karongi or Kigali or Musanze	To be defined later	12 days (9 days for training and 3 days for preparation and reporting)	
2. Training on Machine Learning	Karongi or Kigali or Musanze	To be defined later	12 days (9 days for training and 3 days for preparation and reporting)	
3. Training on Mobile Application Development	Karongi or Kigali or Musanze	To be defined later	12 days (9 days for training and 3 days for preparation and reporting)	
4. Training on Network Security	Karongi or Kigali or Musanze	To be defined later	12 days (9 days for training and 3 days for preparation and reporting)	
5. Training on Advanced Wed Technologies	Karongi or Kigali or Musanze	To be defined later	12 days (9 days for training and 3 days for preparation and reporting)	
6. Training on Database Administration	Karongi or Kigali or Musanze	To be defined later	12 days (9 days for training and 3 days for preparation and reporting)	
7. Training on Internet of things (IOT) Systems	Karongi or Kigali or Musanze	To be defined later	12 days (9 days for training and 3 days for preparation and reporting)	
8. Training on Blockchain Technology	Karongi or Kigali or Musanze	To be defined later	12 days (9 days for training and 3 days for preparation and reporting)	

6. Assignment reports

For each training session, a report following the model provided must be forwarded by e-mail on conclusion of the assignment
The analysis of pre and post-test to assess the impact of the training shall be conducted and each participant shall fill a training satisfactory evaluation form to assess different aspect of the training (Organisation, delivery, logistic, etc.)

III. REQUIRED EXPERTISE AND PROFILE

The table below provide a required profile for each expert based on the training title.
The applicants should specify proposed experts per each training session

Training title	Required qualification	Number of expert per assignment
1. Development Operations	- At least a bachelor's degree in information technology or similar - Minimum 5 years of working experience in industries with a focus on DevOps - Demonstrate an experience of at least 3 years in training/mentoring trainers in Information technology. - Should be fluent in English (very good verbal and written communication skills); - Having professional certificates will be an advantage.	1
2. Machine Learning	- At least a bachelor's degree in information technology or similar - Minimum 5 years of working experience in industries with a focus on machine learning - Demonstrate an experience of at least 3 years in training/mentoring trainers in Information technology. - Should be fluent in English (very good verbal and written communication skills); - Having professional certificates will be an advantage.	1
3. USSD Development	- At least a bachelor's degree in information technology or similar - Minimum 5 years of working experience in industries with a focus on USSD development - Demonstrate an experience of at least 3 years in training/mentoring trainers in Information technology - Should be fluent in English (very good verbal and written communication skills); - Having professional certificates will be an advantage.	1

4. Linux server Administration and Security	▪ At least a bachelor's degree in information technology or similar ▪ Minimum 5 years of working experience in industries with a focus on Linux server administration and security ▪ Demonstrate an experience of at least 3 years in training/mentoring trainers in Information technology. ▪ Should be fluent in English (very good verbal and written communication skills); ▪ Having professional certificates will be an advantage.	1
5. Backend Develoment	▪ At least a bachelor's degree in information technology or similar ▪ Minimum 5 years of working experience in industries with a focus on backend development in Web frameworks such as Laravel (PHP), node.js and react Native ▪ Demonstrate an experience of at least 3 years in training/mentoring trainers in Information technology. ▪ Should be fluent in English (very good verbal and written communication skills); ▪ Having professional certificates will be an advantage.	1
6. Oracle Database Administration	▪ At least a bachelor's degree in information technology or similar ▪ Minimum 5 years of working experience in industries with a focus on Oracle database administration ▪ Demonstrate an experience of at least 3 years in training/mentoring trainers in Information technology. ▪ Should be fluent in English (very good verbal and written communication skills); ▪ Having professional certificates will be an advantage.	1
7. Development of Internet of things (IOT) Systems	▪ At least a bachelor's degree in information technology or similar ▪ Minimum 5 years of working experience in industries with a focus on IoT systems development Demonstrate an experience of at least 3 years in training/mentoring trainers in Information technology. ▪ Should be fluent in English (very good verbal and written communication skills); ▪ Having professional certificates will be an advantage.	1
8. Blockchain Technology	▪ At least a bachelor's degree in information technology or similar ▪ Minimum 5 years of working experience in industries with a focus on Blockchain technology ▪ Demonstrate an experience of at least 3 years in training/mentoring trainers in Information technology. ▪ Should be fluent in English (very good verbal and written communication skills);	1

▪ Having professional certificates will be an advantage.	

IV. DELIVERABLES

The assignment will be subdivided into training sessions, conducted based on different purchase orders from August 2024 to February 2028. The estimated number of days are 96 which may vary downward.

For each training session, the following should delivered:

Deliverables	End date
▪ Prepare the training program using the Project's template and submit it for validation to the Component manager;	10 days before the start of the training
▪ Prepare all the material and necessary handouts to be used in the training and submit them for validation to Component manager;	10 days before the start of the training
▪ Prepare pre/post-test and develop the evaluation sheet in line with the guidance of the Component manager;	10 days before the start of the training
▪ Conduct a daily management of the training including daily attendance list;	During the training period
▪ Conduct a pre-test	Day 1 of the training
▪ Deliver the training session using validated materials	During the training period
▪ Conduct a post-test	Last day of training
▪ Organise industrial visit in relation with training where needed	When needed
▪ Provide a written report using the Project's template and send it for validation to the Component manager. The report should contain: An executive summary of the mission not exceeding 2 pages; Descriptive part analytical part (Analysis and recommendations); Programmatic part; Annexes: (Attendance list, content developed, PPT, tools, Result of pre and post evaluation; Training Satisfactory evaluation; Pictures	5 days after the training

V. COORDINATION

The Hired expert/ or company representative shall nominate a contact person for project implementation purposes

For the side of Expertise France, all the communication shall be addressed to
Mr Kiba Muvunyi,
Component manager
Email: kiba.muvunyi@expertisefrance.fr
Tel: +250788355036

A launch meeting shall be held 2 days after the contract award has been notified.
Close collaboration must take place with the contact person from assignment preparation right up to completion. Furthermore, regular exchanges must take place with the contact person on assignment progress and any difficulties that may be encountered.