

Committee on Development and Intellectual Property (CDIP)

Thirtieth Session
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**PILOT PROJECT ON TEXT AND DATA MINING (TDM) TO SUPPORT RESEARCH
AND INNOVATION IN UNIVERSITIES AND OTHER RESEARCH-ORIENTED
INSTITUTIONS IN AFRICA – PROPOSAL SUBMITTED BY THE AFRICAN GROUP**

prepared by the Secretariat

1. By means of a communication dated November 3, 2022, the Delegation of Algeria, on behalf of the African Group, submitted a proposal for a pilot project on “Text and Data Mining (TDM) to Support Research and Innovation in Universities and Other Research-Oriented Institutions in Africa”, for consideration of the 30th session of the CDIP.
2. The Annex to this document contains the said proposal, developed with the support of the WIPO Secretariat.
3. *The Committee is invited to consider the Annex hereto.*

[Annex follows]

1. Project Code
DA_4_10_16_25_27_01
1.2 Project Title
Pilot Project on Text and Data Mining (TDM) to Support Research and Innovation in Universities and Other Research-Oriented Institutions in Africa – Proposal by the African Group
1.3 DA Recommendations
<p><i>Recommendation 4:</i> To place particular emphasis on the needs of small and medium-sized enterprises (SMEs) and institutions dealing with scientific research and cultural industries and assist Member States, at their request, in setting up appropriate national strategies in the field of intellectual property.</p> <p><i>Recommendation 10:</i> To assist Member States to develop and improve national IP institutional capacity through further development of infrastructure and other facilities with a view to making national IP institutions more efficient and promote fair balance between IP protection and the public interest. This technical assistance should also be extended to sub-regional and regional organizations dealing with IP.</p> <p><i>Recommendation 16:</i> Consider the preservation of the public domain within WIPO's normative processes and deepen the analysis of the implications and benefits of a rich and accessible public domain.</p> <p><i>Recommendation 25:</i> To explore intellectual property -related policies and initiatives necessary to promote the transfer and dissemination of technology, to the benefit of developing countries and to take appropriate measures to enable developing countries to fully understand and benefit from different provisions, pertaining to flexibilities provided for in international agreements, as appropriate.</p> <p><i>Recommendation 27:</i> Facilitating intellectual property-related aspects of ICT for growth and development: Provide for, in an appropriate WIPO body, discussions focused on the importance of intellectual property-related aspects of ICT, and its role in economic and cultural development, with specific attention focused on assisting Member States to identify practical intellectual property -related strategies to use ICT for economic, social and cultural development.</p>
1.4 Project Duration
36 months
1.5 Project Budget
Total project budget: 523,800 CHF allocated for non-personnel resources
2. Description of the Project
<p>Text and Data Mining (TDM) refers to the application of computational processes to materials to derive data and text from or about documents, research materials and various works. TDM researchers work with vast amounts of digitized material. TDM is a step in training computers to engage in machine learning and artificial intelligence (AI).</p> <p>This project focuses on TDM from the perspective of universities and other research- oriented institutions in Africa. Universities and research-oriented institutions have a key role to play as stakeholders in the TDM landscape.</p> <p>In depth mapping of copyright treaty implementation, the copyright legal framework including specific provisions for research, as well as licensing arrangements and practices, is needed for African universities and other research-oriented institutions to effectively</p>

access TDM in a useful way.

The proposed pilot project will promote awareness and build capacities to use TDM by universities and other research-oriented institutions in Africa and thus facilitate the use of AI tools, create and disseminate knowledge on TDM through documenting best practices by universities or research institutions in the region, and build capacities of staff from universities and research institutions in Africa.

The project addresses Development Agenda (DA) Recommendations 4, 10, 16, 25, and 27.

Moreover, this proposal is in line with WIPO's Medium-Term Strategic Plan (MTSP) for 2022-2026, including its vision, which is to help create *"a world where innovation and creativity from anywhere is supported by intellectual property (IP) for the good of everyone"*, and its mission to *"lead the development of a balanced and effective global intellectual property ecosystem to promote innovation and creativity for a better and more sustainable future"*.

In addition, it is in line with WIPO's proposed future direction to achieve Expected Result 2.2: *"Bring the international community together to proactively address, at the global level, emerging issues and policy challenges relating to IP, innovation and creativity"*, and in particular, to create *"spaces for information sharing, the exchange of best practices, and other important reflections,"* to *"enrich understanding of emerging IP issues among stakeholders and the broader user community"*.¹

As a first step, the pilot project will map the current treaty implementation, legal framework, and licensing schemes and existing materials (studies, toolkits, etc.) from the region on the use of TDM in research, and in particular research undertaken by universities and research-oriented institutions. As a second step, based on the information and experiences collected through the mapping, the project will work with three pilot universities in Africa, with input from other regional stakeholders, to develop case studies on the use of TDM in research.

Lessons learned from the case studies will be embodied in the training materials on the effective use of TDM by universities and other research-oriented institutions in Africa, which will be peer reviewed by experts in the field. Finally, as the last step in the process, the project will deliver two regional training seminars for a larger group of stakeholders.

The following are the main stakeholder groups identified as relevant to this project:

- Public and Private Research Institutions
- Universities
- Text and Data Mining Researchers
- Communities of Creators and Innovators
- Publishers

2.1 Project Objective, Outcome and Outputs

The overall **objective** of the project is to increase awareness, provide networking opportunities and build capacities to use TDM in research projects undertaken by universities and other research-oriented institutions in Africa, in order to facilitate the use of AI tools.

More specifically, the project intended **outcome** is to facilitate the use of TDM in research

¹ WIPO Medium-Terms Strategic Plan for 2022-26, document WO/PBC/32/3, https://www.wipo.int/meetings/en/doc_details.jsp?doc_id=541373

undertaken by universities and other research-oriented institutions in Africa, based on a set of tools and customized training materials.

To achieve that, the project will deliver the following **outputs**:

- i. A mapping of the African landscape for the use of TDM for research purposes: current treaty implementation at national and regional levels, legal framework, and licensing schemes applicable to TDM in each African country.
- ii. Case studies for using TDM in three pilot universities in Africa and awareness raising.
- iii. Training materials on the use of TDM for scientific research by universities and other research-oriented institutions in Africa, and two regional training seminars using these materials.
- iv. A dedicated webpage that will provide easy access to all the outputs delivered in the context of the pilot project.

2.2 Project Implementation Strategy

The following is the proposed project implementation strategy:

Output 1 – Mapping of available information and tools in Africa related to the use of TDM for research purposes, IP treaty implementation at the national and regional level, legal framework, and licensing schemes applicable to TDM in all African countries.

Activity: Undertake a mapping of locally and regionally available material and resources on the use of TDM for research by universities and other research-oriented institutions in Africa. Survey the treaty implementation at national and regional level, legal framework, and licensing schemes applicable to TDM in each African country.

Output 2 – Develop case studies on the framework for the use of TDM with three African universities interested in piloting the project to develop their awareness and build capacities on the use of TDM.

Activities:

- I. Identify three universities to participate in the pilot project on TDM capacity.
- II. Hold workshops with university research representatives and other stakeholders to develop the pilot projects tailored to the situation of each university.
- III. Work with university research representatives to implement the pilot projects.
- IV. Report on the pilot projects in case studies, which will form the foundation for the training materials.

Output 3 – Develop training materials on the use of TDM for scientific research by universities and other research-oriented institutions in Africa.

Activities:

- I. Training materials will be developed, comprising video tutorials, guidance documents, and step-by-step procedures. The training materials will provide the foundation for a modular blended-learning course, providing learners with the necessary knowledge and skills to make systematic decisions on TDM projects, including assessing the legal and licensing situation with respect to the content to be incorporated into new or

ongoing TDM projects.

- II. Peer review. Experts in the field will be selected to review the training materials. Based on the results of the peer review, the training materials will be revised and finalized.
- III. Delivery of regional training seminars using the training materials, to a wider stakeholder group. The regional training seminars will help build the capacities of a broader range of stakeholders, and in particular more universities and research-oriented institutions across the African continent, including the experiences collected during the case study pilot phase. This networking opportunity will help provide practical advice and insights that will respond to the specific needs and context of all participating African countries, and will establish relationships to facilitate future collaboration.

Output 4 – Creation of a dedicated webpage that will provide easy access to all the outputs delivered in the context of the pilot project.

Activities: A dedicated webpage will be created to provide easy access to all the outputs delivered in the context of the pilot project to all interested stakeholders.

Where possible and applicable, WIPO will work in partnership with ARIPO and OAPI, in particular when delivering the regional seminars.

2.3 Project Indicators

<u>Project Objective:</u>	<u>Objective Indicator:</u>
The overall objective of the project is to increase awareness, provide networking opportunities and build capacity to use TDM in research projects undertaken by universities and other research-oriented institutions in Africa, in order to facilitate the use of AI tools.	50% of the stakeholders from the selected universities indicated that they were more aware and have improved their capacities to use TDM in research projects undertaken by them as a result of the project.
<u>Project Outcomes:</u>	<u>Outcome Indicators:</u>
Facilitate the use of TDM in research undertaken by universities and other research-oriented institutions in Africa, based on a set of tools and customized training materials.	50% of the university staff and research institutions in Africa who have used the tools and training materials developed as the results of the project, found them useful and fit-for purpose.
<u>Project Outputs:</u>	<u>Output Indicators:</u>
Mapping of the African landscape for the use of TDM for research purposes: current treaty implementation at national and regional levels, legal framework, and licensing schemes applicable to TDM in each African country.	- A document containing the mapping of available information related to the use of TDM for research purposes in Africa, survey of treaty implementation at the national and regional level, legal frameworks, and licensing schemes and practices applicable to TDM, developed and published according to the timeline.

	- At least 50 downloads of the mapping within the first three months of its publication.
Develop case studies on the framework for the use of TDM with three African universities interested in piloting the project to develop their awareness and build capacities on the use of TDM.	- Three universities in Africa to participate in the pilot project on TDM capacity identified.
	- Three workshops (one in each selected university) with university research representatives and other stakeholders held, and pilot projects tailored to the situation of each university developed.
	- Three pilot projects implemented in the selected universities.
	- Case studies on the framework for the use of TDM with three African universities developed and published according to the timeline.
Develop training materials providing learners with the necessary knowledge and skills to make systematic decisions on TDM projects, including assessing the legal and licensing situation with respect to the content to be incorporated into new or ongoing TDM projects.	- Training materials developed according to the timeline.
	- Two (2) regional training and networking seminars devolved in accordance with the project timeline.
Creation of a dedicated webpage providing easy access to all the outputs delivered in the context of the pilot project.	A dedicated webpage providing easy access to all the outputs delivered in the context of the pilot project developed and made available online by the end of the project implementation.

2.4 Sustainability Strategy

The dedicated webpage, which will include material from the mapping, case studies, information from the regional seminars, and other outputs, will help ensure that the outputs of the project benefit countries within and outside the African region even after the project is completed.

Updates to the sustainability strategy will be provided in the course of the project implementation.

2.5 Selection Criteria for Pilot/Beneficiary Countries

The pilot project will be implemented in the African region. Although the training material will be tested in three selected universities, the mapping, case studies, final training material and training seminars will be provided to all African countries.

The universities will be selected by the Project Manager, in consultation with the relevant Regional Divisions in the Regional and National Sector of WIPO, the WIPO Academy, and the IP and Frontier Technologies Division, based on their expression of interest. The following criteria may be considered:

1. Awareness of copyright limitations and exceptions, as well as licensing practices related to scientific research;
2. Existence of an IP Department;
3. Existence of interest in undertaking the project;
4. Existing national legal framework and licensing schemes.

2.6 Implementing Organizational Entity

Copyright Law Division, Copyright and Creative Industries Sector

2.7 Links to other Organizational Entities

Regional and National Development Sector
Copyright and Creative Industries Sector
Infrastructure and Platforms Sector
IP and Innovation Ecosystems Sector

2.8 Links to other DA Projects

- a) DA Project on IP, Information and Communication Technologies (ICTs), the Digital Divide and Access to Knowledge (DA_19_24_27_01),
- b) DA Project on the Use of Information in the Public Domain for Economic Development (DA_16_20_03),
- c) DA Pilot Project for the Establishment of “Start-Up” National IP Academies – Phase I and II (DA_10_01 and DA_10_02), and
- d) DA Project on Specialized Databases’ Access and Support – Phase II (DA_08_02)

2.9 Contribution to Expected Results in WIPO’s Program and Budget

Program and Budget 2022/23

E.R. 2.2 WIPO brings the international community together to proactively address emerging issues and policy challenges at the global level relating to IP, innovation and creativity

E.R. 4.1 More effective use of IP to support growth and development of all Member States and their relevant regions and sub-regions, including through the mainstreaming of the Development Agenda recommendations

E.R. 4.4 More innovators, creators, SMEs, universities, research institutions and communities leverage IP successfully

2.10 Risk and Mitigation

Risk 1: Insufficient capacity by the staff of universities to effectively use the information contained in the training materials.

Mitigation 1: The case studies and training materials will be adapted to the assessed capabilities of the staff of the selected pilot universities. Their feedback and experience will be taken into consideration in the peer review process when finalizing the training materials.

Risk 2: Insufficient maturity level of universities and other research-oriented institutions to develop and offer services related to the use of TDM projects.

Mitigation 2: Thorough analyses of the Universities will be done during their selection process, to ensure that those selected for the pilot project have a sufficient level of maturity.

Risk 3: Inability to deliver the training seminars in-person, due to further restrictions related to the COVID-19 pandemic.

Mitigation 3: Training seminars could be organized virtually. The expenses foreseen for staff and third-party travel (non-personnel resources) could be reallocated accordingly.

3. TENTATIVE IMPLEMENTATION TIMELINE

Deliverables	Quarters											
	2024				2025				2026			
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th
Pre-implementation activities ² : - Hiring of a Fellow and establishment of a project team												
Mapping of available information and tools in Africa related to the use of TDM for research purposes, IP treaty implementation at the national and regional level, legal framework, and licensing schemes applicable to TDM in each African country.	X	X	X									
Develop case studies on the framework for the use of TDM with three African universities interested in piloting the project to develop their awareness and build capacities on the use of TDM.				X	X	X						
Develop training materials on the use of TDM for scientific research by universities and other research-oriented institutions in Africa; peer review; and delivery of regional seminars to use the materials.							X	X	X	X		
Creation of a dedicated webpage that will provide easy access to all the outputs delivered in the context of the pilot project.										X	X	
Project Evaluation												X

² Implementation will start once a project team will be put in place.

4. PROJECT BUDGET BY OUTPUT

<i>(in Swiss francs)</i>	2024		2025		2026		Total
	Personnel	Non-Personnel	Personnel	Non-Personnel	Personnel	Non-Personnel	
Project coordination and implementation support.	-	77,100	-	77,100	-	77,100	231,300
Mapping of available information and tools in Africa related to the use of TDM for research purposes, IP treaty implementation at the national and regional level, legal framework, and licensing schemes applicable to TDM.	-	25,000	-	-	-	-	25,000
Develop case studies on the framework for the use of TDM with three African universities; develop their awareness and build capacities on TDM.	-	40,000	-	40,000	-	-	80,000
Develop training materials on the use of TDM for scientific research by universities and other research-oriented institutions; peer review; and delivery of regional seminars to use the materials.	-	-	-	166,500	-	-	166,500
Creation of a dedicated webpage.	-	-	-	6,000	-	-	6,000
Project evaluation	-	-	-	-	-	15,000	15,000
Total	-	142,100	-	289,600	-	92,100	523,800

5. PROJECT BUDGET BY COST CATEGORY

<i>(in Swiss francs)</i>	Travel, Training and Grants			Contractual Services					Total
	Staff Missions	Third-party Travel	Training and related travel grants	Conferences	Publishing	Individual Contractual Services	WIPO Fellowships	Other Contractual Services	
Project coordination and implementation support.	-	-	-	-	-	-	231,300	-	231,300
Mapping of available information and tools in Africa related to the use of TDM for research purposes, IP treaty implementation at the national and regional level, legal framework, and licensing schemes applicable to TDM.	-	-	-	-	5,000	20,000	-	-	25,000
Develop case studies on the framework for the use of TDM with three African universities; develop their awareness and build capacities on the use of TDM.	-	20,000	-	12,000	4,000	44,000	-	-	80,000
Develop training materials on the use of TDM for scientific research by universities and other research-oriented institutions in Africa, peer review, and delivery of regional seminars to use the materials.	22,500	80,000	-	12,000	-	50,000	-	2,000	166,500
Creation of a dedicated webpage.	-	-	-	-	-	4,000	-	2,000	6,000
Project evaluation	-	-	-	-	-	15,000	-	-	15,000
Total	22,500	100,000	-	24,000	9,000	133,000	231,300	4,000	523,800

[End of Annex and of document]