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| **Council 2019 Geneva, 10-20 June 2019** |  |
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| **Agenda item: PL 1.6** | **Revision 1 to**  **Document C19/14-E** |
| **31 May 2019** |
| **Original: English** |
| Report by the Secretary-General | |
| Implementation of Resolution 154 (Rev. Dubai, 2018) on use of the six official languages of the Union on an equal footing  Draft plan for the full achievement of the provisions concerning the adoption of alternative translation procedures included in Decision 5 (Rev. Dubai, 2018) and Resolution 154 (Rev. Dubai, 2018) | |

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| Summary  CWG-LANG requested the Secretariat to submit a detailed plan for pilot projects related to alternative **translation, interpretation and captioning procedures for the next two or four years** for submission to C-19, pursuant to Decision 5 (Rev. Dubai, 2018) and Resolution 154 (Rev. Dubai, 2018).  Action required  The Council is invited **to note** the draft Plan and provide guidance, as deemed appropriate.  \_\_\_\_\_\_\_\_\_\_\_\_  References  [*Report by the Secretary-General*](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=S19-RCLCWGLANG9-C-0002)*;* [*Resolution 154 (Rev. Dubai, 2018)*](https://www.itu.int/pub/S-CONF-ACTF-2018)*;* [*Decision 5 (Rev. Dubai, 2018)*](https://www.itu.int/pub/S-CONF-ACTF-2018)*.* |

# 1 Introduction

1.1 The 2018 Plenipotentiary Conference (PP-18) approved Decision 5 on implementation of practicable measures for making savings in the provision of interpretation and the translation of ITU documents.

1.2 Additionally, Resolution 154 on the use of the six official languages on an equal footing, instructs the Secretary-General, in close collaboration with the Directors of the Bureaux to present annually to the Council and to CWG-LANG a report containing:

• **Alternative translation** procedures feasible to be adopted by ITU, in particular the use of innovative technologies and their advantages and disadvantages;

• Progress made on the implementation of measures and principles for **translation and interpretation** adopted by the Council.

1.3 CWG-LANG requested the Secretariat at its ninth meeting to submit a detailed plan for pilot projects related to alternative **translation, interpretation and captioning procedures for the next two or four years** to be submitted to C-19, including a calendar, relevant benchmarks and budgetary provisions required for implementation.

# 2 Projects conducted in 2018-2019

## 2.1 Translation procedures

• In 2017, a bona fide pilot project offered by a language technology company from Latvia was implemented. A pilot was organized in 2018, which consisted of test and evaluation phases;

• TSB has developed, in collaboration with C&P, an open-source, royalty-free neural machine translation tool, called ITU-Translate, and has trained it with ITU-T technical documents;

• A trial for the translation of webpages was run in accordance with Council documents [C18/12](https://www.itu.int/md/S18-CL-C-0012/en) and [C18/14](https://www.itu.int/md/S18-CL-C-0014/en), and Council-18 decisions, with the participation of one ITU Member Administration per target language.

## 2.2 Voice recognition

A Chinese voice recognition product was tested during 2018 and will be put in production in the C&P Chinese Language Service.

## 2.3 Document Management Systems

The roll-out of the basic version of DCPMS, the Document Production System developed by UNODC in Vienna mentioned in previous reports, took place in July 2017, and its customization started in early 2018.

# 3 Four-year plan (2020-2023)

## 3.1 Objective

The ITU is proposing a four-year plan (2020-2023) for research and development of alternative procedures to be used in translation, interpretation and captioning processes, by harnessing new technologies, in particular Artificial Intelligence and Machine Learning. The objective is to assess the possible efficiency gain and cost reduction of introducing these alternative mechanisms. The work will be led by ITU Conferences and Publications department (C&P) and within the current budget allocations.

## 3.2 Scope

The work covers all ITU language services: translation, interpretation and captioning, in the six official languages of the union. Functions and tools to be investigated include, but are not limited to:

• Standardizing document structure and mark-up of documents;

• Building a well-structured and vast translation memory;

• Good quality voice recognition software (speech to text);

• Machine translation and machine learning software;

• Text-to-speech software;

• Efficient and user-friendly pre-translation, revision and editing tools.

## 3.3 Deliverables

Projects within the scope of the plan would be delivered in stages, with yearly reporting to CWG-LANG and the ITU Council for governance.

## 3.4 Resources

ITU needs to acquire skills to be able to embrace these new technologies, this could be done by offering training to staff, participating in relevant conferences and using consultants. It is essential to build a suitable infrastructure, as neural machine learning has different hardware requirements than the structure currently available.

## 3.5 Partnerships

ITU wishes to establish partnerships at several levels with a view to collaborate in the area of language services: with the UN system, with regional organizations, with the private sector and with individual member states.

At the level of the UN system, ITU is already in contact with the Under-Secretary-General of the United Nations Department of General Assembly and Conference Management to establish a closer and formal collaboration in the area of language services.

In March 2019, the United Nations signed an agreement with Microsoft Corporation to develop a Proof of Concept (PoC), based on the cloud computing platform Microsoft Azure. The objective would be to participate in the PoC carrying out content semantic analysis to identify, categorize and classify entities and their relationships contained in United Nations General Assembly resolutions and plenary meetings reports. It should be noted that the United Nations already collaborates with FAO, ILO, IMO, ITU and UNICEF.

ITU should negotiate with the United Nations on the use of eLUNa and other translation and language tools available using AI/ML technologies.

It should also consider implementation of the United Nations Semantic Interoperability Framework for normative and parliamentary documents[[1]](#footnote-2). In this context, the United Nations has launched two parallel initiatives at the beginning of 2019: a partnership agreement with Microsoft and a crowdsourcing challenge on Unite Ideas.

As refers to collaboration with regional organizations, for example, ITU is interested in co-operating with the European Union on subjects such as the ELG – European Language Grid initiative[[2]](#footnote-3), the Digital Innovation Hub[[3]](#footnote-4), and many other EU projects on multilingualism; for instance ITU already participates as an Observer in EU’s High-Level Expert Group on Artificial Intelligence, whose general objective is to support the implementation of the European strategy on Artificial Intelligence.

The possibility of establishing partnerships with relevant private sector entities (e.g.: Microsoft, Apple, Google, Amazon) could be explored for voice recognition and online interpretation.

Partnerships could be established with Member State Governments with experience in providing AI/ML language solutions.

Until a specific plan and calendar are established and duly costed, all preparatory work could be financed through savings of the Union. In addition, ITU will seek donorship to fund parts of specific projects and developments.

## 3.6 Continued development of ITU-Translate and automatic webpage translation

The scope of this project, which is managed by TSB, includes:

• Extending ITU-Translate to the other Sectors and the General Secretariat. The scope is limited to those documents that are currently not translated;

• Expanding the capability of the tool to also cover.pdf and .pptx formats;

• Selectively translating lower-level ITU webpages that are currently not translated;

• Improving alignment of the Russian, Arabic and Chinese language corpuses to improve the respective translations;

• Modifying the algorithms to enable the tool to also parse and manipulate .pdf and .pptx formats in addition to the current .docx and .html formats;

• Training the tool to cover subjects other than technical ITU-T documents;

• Developing a mechanism to identify the webpages to be translated based on page popularity (page visits);

• Developing a function for cloud-based webpage translation;

• Translation of close to 40 000 ITU webpages from English into the other five languages of the Union;

• Project delivery to the other Sectors and the General Secretariat, including drafting of user guidelines and end-user training.

ITU-Translate will be used for the translation of documents, while external cloud-based services will be used for the translation of untranslated lower-level webpages currently posted on the website.

**Duration of the project:**

6 months

**Budget:**

The total direct cost of the project is CHF 230 000, financed through the current budget allocation of the Conference and Publication department (C&P).

## 3.7 Document Management Systems

The United Nations Secretariat is developing a new document workflow software – gDoc2.0. gDoc2.0 will be implemented across United Nations offices during 2019 and will become available to their other clients during 2020.

## 3.8 Web translation tool

ITU will work with Japan’s Ministry of Internal Affairs and Communications (MIC) and a private sector company on a test of **web translation into over 100 languages**.

# 4 Reporting

All reports related with the assessment of alternative translation, interpretation and captioning procedures shall be submitted by the **Group on Study and Evaluation of Alternative Translation Procedures to Council via CWG-LANG**.

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1. Aimed at the establishment of a UN-wide ecosystem of machine-readable documents that will foster collaboration and reduce costs in information management across the system through a web of data that can be interpreted by computers to create innovative services. [↑](#footnote-ref-2)
2. Project to develop the first – and primary – platform for European Language Technologies, meant to turn into the most important digital marketplace for language technology solutions in Europe. In addition to a business directory of companies, universities, research centres and independent experts, the platform will also contain a repository of thousands of data sets as well as hundreds of functional services that can be used directly from the grid. [↑](#footnote-ref-3)
3. Digital Innovation Hubs are a means to support businesses in their digital transformation and promote cooperation among them. [↑](#footnote-ref-4)