



Challenge Call: *Science in your own Language*

In 2021, CHIST-ERA is exploring the opportunity of launching a multilateral call on Machine Translation focusing on scientific documents: *Science in your own language*.

E.g., would an automatically translated scientific article be accepted at a top tier conference? Because the reasoning of an article can be dramatically altered by a single translation error, the topic encompasses several scientific challenges: Translation of complex documents (graphs, images...) with intricate cross-references, terminology and phraseology issues, document level translation...

Besides, the strategic objectives of the call are:

- i. Promote multilingualism in science;
- ii. Support open evaluation methodology and experiment reproducibility.

Research funding organisations from Europe and beyond are welcome to join CHIST-ERA and participate in the call (contact: chistera@anr.fr).

Multilingualism in Science

With the topic *Science in your own language*, CHIST-ERA joins the agenda of the [Helsinki Initiative](#) to “promote multilingualism in scholarly communication”.

Advances in translation technologies offers an unprecedented opportunity to grasp the potential of multiple languages in Science:

1. Open science to the citizens and the society;
2. Take on board all research works whatever their language;
3. Value research with regionally or nationally targeted impact;
4. Make creativity and reasoning in research benefit from all languages subtleties.

Researchers and citizens from English speaking countries also value the rise of such technologies, because science still embraces an important share in non-English languages. By contributing to making access to science universal, multilingualism is aligned with the objectives of the ongoing Open Science transformation of the scientific landscape.

With almost 30 national or regional research funders on board, CHIST-ERA is well positioned to tackle this ambition. The languages considered by the Challenge call will be the languages of the research funders participating in the call.

Open Evaluation Methodology & Experiment Reproducibility

The call will follow the so-called Challenge format: The technologies developed by the funded projects to approach the objective of the call (the Challenge) will be evaluated through a yearly campaign during their lifetime.

However, **objective** evaluation is not a triviality in Machine Translation, as in any other knowledge processing domains, and requires an in-depth expertise. While the research community has already, and with great success, endorsed this framework, its public support is still nascent in Europe, in spite of its demonstrated efficiency in terms of research management (see the box below).

Since almost a decade, CHIST-ERA has supported technology evaluation by promoting open evaluation methodology and experiment reproducibility in its yearly call. For the first time, it will deploy the full concept by funding a Challenge call:

Challenge call = Standard Call + Technology Evaluation Instrument*

A standard call is defined as a call for research proposals where the monitoring of the funded projects is based project activity reporting.

A dialogue with the research community will be established to identify, in addition to the scientific objectives of the call, the metrics and protocols that will form the evaluation instrument.

The benefits of the Challenge approach are:

- S&T targets are made explicit and shared by the community;
- Selection of risky approaches is facilitated (they will be evaluated anyway);
- Comparability of technologies and technology transfer;
- Fostered exchanges between the researchers;

The Challenge has broader impacts beyond its duration at the level of the research community:

- Experiment reproducibility;
- Open Access to evaluation methodologies, reference and possibly large data sets.

“The Common Task method (i.e. Challenge approach), a research management technique developed in the 80s and applied increasingly widely since then to support long-term R&D, is arguably responsible for the success of all modern AI research” (M. Liberman, CHIST-ERA Scientific Advisory Board).

CHIST-ERA in Brief

CHIST-ERA is a network of research funders that supports use-inspired basic research on future and emerging digital technologies. It selects every year two new topics of emerging importance and launches a call for transnational research projects. It is itself supported by the European Innovation Council (EIC) of Horizon Europe through the ERA-NET funding scheme.

Aside the yearly call, CHIST-ERA explores additional funding activities addressing Open Science.