



CENL Network GROUP APPLICATION FORM

1. Applicant Personal Details

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2. Applicant Current work

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4. Network Group Topic

4.1) Please describe your proposed group topic in less than 300 words.

As AI will change society in general, AI will also influence the way libraries work both internally and as service providers to patrons. The current understanding of the potential of AI for libraries yet seems low (50% of CENL members did not respond to our [recent survey](#) which was designed to collect information from CENL members about their AI practices and maturity). The demand for better knowledge on the field is significant, both in short-term and concrete use of AI in libraries as well as the long-term potential of the technology. This group will contribute to the general understanding of AI in libraries, and thus leverage the use of AI in libraries.

Practitioners on AI in libraries need to get together and share experience and knowledge. This group will establish arenas for sharing and collaboration. Such arenas include online seminars, workshops, meetings and more.

The group will strengthen the network of national libraries already involved in this transition, or willing to do so, and thus create a dynamic of exchange and sharing which will be beneficial and speed up the deployment of new technologies, including AI, in libraries.

This proposal is to extend the life of the already existing AI in Libraries Network Group within CENL. The core group is extended with new libraries/members.

4.2) Please describe the main aims of this group. Describe how this topic will align with the priorities and objectives under the CENL Strategy 2018-2023, and what its impact will be.

The objectives of this group will be:

- to leverage the use of AI in libraries through better understanding and use
- to promote sharing, collaboration and standardization on AI between institutions
- to identify areas on AI of particular significance for libraries

This topic is aligned with the CENL Strategy 2018-2023 priorities notably the first one for the training perspective, the second one for the innovative service implementation and the third one for the sharing of best practice.

5. Membership

5.1) Please list CENL member libraries which have expressed an interest in joining this group:

This group already gathers 15 active practitioners in the AI domain.

Founding members:

- Jean-Philippe Moreux, Gallica scientific advisor, National Library of France
- Svein Arne Brygfjeld, NLN Head of AI-lab, National Library of Norway
- Max Kaiser, Head of Research and Development, National Library of Austria
- Petr Kukac, Lead of digitization and digital collections, National Library of Czech Republic
- Neil Fitzgerald, Head of Digital Research, British Library
- Urmas Sinisalu, National Library of Estonia
- Love Börjeson, Director of KBLab, National Library of Sweden

New members:

- Yves Maurer, Lead on Web archiving program, National Library of Luxembourg
- Ralph Marschall, Digitalisation Project Manager, National Library of Luxembourg
- Bjarne Andersen, Head of Data Department, Royal Danish Library
- Claus Jensen, Royal Danish Library
- Zahra Mousavi, Royal Danish Library
- Oliver Sievi, Innovation and Informations management, Swiss National Library
- Tan Lu, lead of the KBR Data Science Lab, Royal Library of Belgium
- Elisabeth Mödden, German National Library

5.2) Please confirm names for the following roles:

A Group Chair: Jean-Philippe Moreux, BnF, jean-philippe.moreux@bnf.fr

B Group Treasurer: Svein Arne Brygfjeld, National Library of Norway, svein.arne.brygfjeld@nb.no

C Group Secretary: Svein Arne Brygfjeld, National Library of Norway

5.3) Please describe in less than 300 words interest and expertise of CENL libraries which have expressed an interest in joining this group.

AI has been present at the BnF for more than 15 years, at least in its "machine learning" version, through R&D projects with the image analysis and OCR communities. Today, the democratization of deep learning promotes the ability to experiment and carry out in virtual autonomy, but also makes possible interdisciplinary projects where expertise on content, data and processing is required (CBIR, HTR, OCR and NLP). The BnF will launch its first large scale AI project in 2023.

The National Library of Norway has for the last years been an international leading memory institution on AI, contributing through conferences, networks and other activities. NLN has its own AI-lab to do innovation and experiments on AI in libraries, archives and museums. This lab has carried out several significant experiments, providing relevant knowledge about AI to the community. NLN AI-lab has also contributed to the foundation of AI4LAM, the international community on AI in Libraries, Archives and Museums.

The use of AI in the context of large data and metadata collections is a key goal of the Austrian National Library (ONB). Currently ONB is investigating AI in collaborative research projects for identifying text signals (Travelogues project), for identification, extraction and classification of images in large corpuses of books and newspapers and for classification and processing of online content.

The National Library of the Czech Republic is at the beginning of the journey to use AI. It deals with the extraction of large data acquired in the digitization of library collections and the processing and exploiting the harvested content of web archive. The NLCR plans to use ML and AI in the digitization process, later to automate the cataloging of new acquisitions and process and use its contents using AI based systems.

The British Library has taken part in many AI projects led by its Digital Scholarship team including BL Labs and Living With Machines. In parallel, its Digital Scholarship Training Programme has worked to equip its staff with these skills and the wider research sector via partnerships. It hosts The Alan Turing Institute, the UK national institute for data science and AI and is currently co-chair of AI4LAM along with the BnF.

The National Library of Estonia has initiated two projects: automated subject indexing and chatbot/voicebot and is planning to undertake a project on automated cataloguing. The Library is

hoping to learn from the best practices of other libraries and help to raise the competences of NLE's staff as well as other Estonian memory institutions.

The KBLab at The National Library of Sweden provides scholars with access to the library's digitized collections, NLP-tunnels, computational resources and expertise in deep learning and language technology. Large language models (such as BERT and XLNet), trained on the library's digitized collections, will presently be made freely available.

For more than 10 years, the German National Library has been working on the automated cataloguing of digital publications using AI methods. Currently, the open source toolkit Annif of the National Library of Finland is used for this purpose. In 2021, an extensive AI project was launched. In the process, an AI lab was also established.

The National Library of Luxembourg has started its first proof of concept machine learning project in 2016 to correct OCR for its digitized materials and has generated ground truth, targeted models and a production pipeline in 2019. Since then, it has used a variety of text and image-based tools like topic modeling, classifiers using BERT, image similarity and object detection to enhance the discoverability of its collections. It also contributes to AI4LAM and GLAM Labs.

At the Royal Danish Library we have worked with experimenting and investigating different AI technologies in combination with our digital collections. We have a production line running for classifying images using Google Vision and a number of prototypes within NLP, Classification, nGram-viewer etc. online at KBLabs (labs.kb.dk)

Since 2020, the Swiss National Library has been building up knowledge in the field of machine learning and gaining initial experience. Within the framework of an Innovation Fellowship, three ideas are currently being explored in greater depth (Automatic classification of subject groups of e-dissertations, Face recognition for photo archives and (Semi)-automatic content indexing for the poster collection with existing methods).

In recent years, the Royal Library of Belgium (KBR) has launched a series of projects for archiving, sharing, facilitating access to, and exploiting, in more intelligent ways, the rich collections that are hosted in KBR. A wide spectrum of materials, such as historical magazines (*ARTPRESSE*), newspapers (*CAMille*), contemporary social media content (*BESOCIAL*), etc. are being investigated using AI related technologies pertaining to the analysis of images (*ADOCHS*), texts (*BELTRANS*), electronic literature (*LabEL*) etc. In the long term, KBR is keen in developing and promoting AI technologies in creating end (original collections)- to-end (information) workflows for unlocking rich library resources. These AI initiatives in KBR will in particular be supported by several in-house research laboratories such as [Digital Research Lab](#) and [Data Science Lab](#).

5.4) Please describe in less than 300 words the interest and expertise of Chair, Treasurer and Secretary.

Chair, Jean-Philippe Moreux

Jean-Philippe Moreux has been for 10 years the scientific referent of many French and European R&D projects of the BnF with an AI dimension, in particular in the disciplines of image analysis, document analysis and NLP. He participates in the integration of the results of these projects into the BnF's systems and processes. He's also a member of the AI4LAM council and has been involved in the 3rd edition of the Fantastic Futures conference on AI at the BnF in 2021.

Secretary/Treasurer, Svein Arne Brygfjeld

Svein Arne Brygfjeld leads the efforts on AI at the National Library of Norway through their AI-lab. He has been leading this work for several years, and he is a much used speaker in conferences internationally. He is deeply involved in the series of Fantastic Futures conferences on AI, in Oslo 2018, Palo Alto 2019 and Paris 2021. Finally, Mr Brygfjeld is central in the shaping of an international community on AI in libraries, archives and museums.

5.4) Please describe the group's early thoughts on a proposed way of working.

After 2 years of activity, the group believes that maintaining a network group on AI at the European level, focusing on library missions, is still necessary. Nevertheless, we have to focus our objectives on a realistic scope and take into account the existence of the AI4LAM international initiative, which also gathers representatives of European libraries.

The group's proposition is to emphasize on sharing and showcasing at the European level within a library context, and no longer aims at producing content (training resources, catalog of projects/initiatives/tools...) as these AI related materials are increasingly available.

The group also proposes to establish a practical collaboration with AI4LAM by co-organising a joint public event (workshop, seminar...) which will take place in Europe but will welcome international practitioners.

The group is committed to implementing the work plan outlined below.

Work plan

Webinars

On selected topics, e.g.:

- Central IT and AI: how to accommodate the traditional missions of central IT (maintenance, legacy systems) and the disruption of AI driven projects and their deliverables -> central IT representative/head of; library stakeholders, head of AI/digital research...
- Technical driven topics: HTR and OCR; heritage newspapers, audio & video holdings... -> technical experts, data scientists, data curators, head of AI/digital research...
- How to: ML Ops and ML infrastructure → central IT representative, head of AI/digital research, technical experts, data scientists

Organisation:

- 2 to 3 each year, 60 mn
- Organised and hosted by a CENL library (in rotation)
- Possibly scheduled on a CENL general assembly

AI Experts in Residence

Some European national libraries are already well-developed on AI, while others have just begun studying the area. To support the development of knowledge and skills on AI in the various institutions, a framework for knowledge exchange based on “Experts in Residence” should be established. Experts could stay for shorter or longer periods, and in some cases a base funding may be needed.

Organisation:

- 2023: search for fundings (EC calls, e.g. staff exchanges in Marie Skłodowska Curie Actions; CENL; DARIAH; national programs...), set up phase
- 2023/2024: launch of the program with at least 2 institutions offering seats for visiting experts.

CENL-ai4lam Workshop

Face to face workshop on a technical topic (hands-on workshop), e.g.:

- how to implement a tool used/developed by a library in other libraries
- hackathon or data sprint on technical topics, holdings, use cases...

A return of experience could be obtained from organizers of past Dagstuhl seminars in the heritage scope (<https://www.dagstuhl.de/en/program/>)

Organisation:

- one per year
- one day to one week (“summer school” like)
- hosted by a CENL library
- co-organized with ai4lam.org
- audience: European libraries + ai4lam community

Annual AI survey update

- Ask the network for real needs regarding this survey
- Expand the network (no answer from 50% of the CENL members)
- Share the AI list of contacts

Operation of the network group

- On-line meetings of the group’s secretary: every month
- On-line meetings of the group: every 2 months, on a fixed slot
- One face-to-face meeting every year, hosted by a library (in rotation)

Signed:



Jean-Philippe Moreux



Svein Arne Brygfjeld

Date: 17/11/2022

