

# DECA: Democratic epistemic capacities in the age of algorithms

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## Abstract

The DECA project consortium investigates epistemic capacities, defined as an individual's access to reliable knowledge, their ability to participate in knowledge production, and society's capacity to make informed, sustainable policy decisions. In this paper, we focus specifically on the parts of the project examining the challenges posed by multilinguality in these processes and the potential role of MT in supporting access to, and production of, knowledge.

## 1 Background

The expanding role of algorithms in processes of information production and reception poses challenges to trust, security, equality and ultimately, societal sustainability. The project consortium "Democratic epistemic capacity in the age of algorithms" (DECA) brings together researchers from media, communication and journalism research, translation studies, social psychology, sociology, computer science and law to address these questions. The DECA consortium is formed by the University of Helsinki (consortium coordinator), the University of Eastern Finland, Tampere University, Aalto University and the Finnish Youth Research Society and funded (2022–2025) by the Strategic Research Council established within the Academy of Finland.

The key concept forming part of the project name, epistemic capacity, can be defined in different ways (cf. Werkheiser, 2016). On the one hand, it can be seen as an individual's access and exposure to reliable knowledge, their right to be recognised and represented, and their ability to participate in knowledge production. On a broader societal level, it refers to a society's capacity to make informed, sustainable policy decisions.

Through work packages examining reliable knowledge, misinformation, societal trust and distrust, and barriers to epistemic capabilities from different perspectives, DECA aims to promote access to reliable knowledge and facilitate an understanding of how existing social inequalities intersect with epistemic capabilities.

Vital components in building epistemic capacity and participating in the functioning of society include the abilities to access understandable information and communicate with other members of society. Modern societies are increasingly multilingual, but official institutions and language policies generally do not account for this linguistic diversity. In practice, knowledge and information is only available in nationally recognised official languages and possibly some lingua franca such as English. This creates barriers to linguistic accessibility (see e.g. Hirvonen and Kinnunen, 2021) and excludes many members of society, limiting their epistemic capacities (e.g. Mowbray, 2017).

Potential solutions to the problem may be offered by machine translation (MT). A growing body of research shows that migrants often turn to MT in their daily lives to read information that is not otherwise accessible to them (e.g., Ayvazyan and Pym, 2018; Ciribuco, 2020). Various governmental and non-governmental institutions have also explored the use of MT as a tool for increasing linguistic accessibility (Nurminen and Koponen, 2020), and recent proposals suggest a potential role for MT in language policies (Cabrera, 2022; Torres-Hostench, 2022).

## 2 MT as part of the DECA project

Questions of multilinguality and the role of MT in supporting linguistic accessibility and epistemic capacities will be the focus of DECA work package WP3, *Linguistic barriers, machine translation and epistemic capabilities*, carried out by the research team at the University of Eastern Finland in

collaboration with the Finnish Youth Research Society. In this section, we outline the goals and approaches of the work focusing on the role of MT in epistemic capacities.

One line of research for the work package focuses on the epistemic capabilities and needs of linguistic minority individuals and communities in Finland. The first stages of this work package will focus particularly on members of Ukrainian and Russian speaking communities in Finland. Other work packages of the project also address the experiences of officially recognised language minorities (Swedish and Sámi communities). In later stages, we aim to broaden the view to include other minority language communities. We will investigate how they access, use and interact with knowledge in different languages, and more specifically, how they make use of digital media resources. Special attention will be paid to their use of MT. Empirical work will involve focus group discussions and task-based explorations of how participants access information. The data collected will be analysed to identify current information channels and potential information gaps. Following this initial work, we will conduct a longitudinal study consisting of follow-up interviews and a survey to further observe how members of linguistic minority communities build their epistemic capacity as part of the process of integrating into Finnish society.

A second line of research in the project focuses on the role of different languages, translation and translation technology in journalists' processes of information production. Through surveys, interviews and observational research, we will investigate multilingual and translational processes in journalism, such as how journalists produce news in languages other than mainstream ones and conversely, how they use multilingual sources when producing news in mainstream languages. Special attention will be paid to whether and how journalists use MT in these processes. We aim to examine journalists at both national and local media houses.

### 3 Current status and future work

The DECA consortium was launched in October 2022. During these first months of the project, work has focused mainly on 1) outlining the theoretical framework of the project through literature reviews, 2) planning the empirical work to be conducted during the project, and 3) establishing contacts with key stakeholder groups, such as the Federation of Russian Speakers in Finland, the Ukrainian Association in Finland, and the Finnish public broadcasting company Yle. Some exploratory interviews and discussions have also been conducted with representatives of media houses on their processes and interests.

Data collection for the empirical parts of the project is planned to start in various stages during spring 2023 (work focusing on journalists) and fall 2023 (work focusing on Ukrainian and Russian speaking communities). Data analysis will follow, with reporting of the first results of this empirical work planned for 2024. In addition to academic publications, the DECA consortium aims to produce research-based recommendations for educational, policy, and other actions that can support epistemic capacities and contribute to the sustainability of Finnish society, including the role of MT in these efforts.

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