March 2026 - The Clarus Project

The Clarus project brings together forensic scientists, academics, police, linguists, the public and other professionals across borders to understand how communication, professional culture, and decision-making influence the way digital evidence is handled.

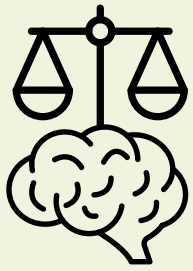
The first part of the Clarus project has focused on identifying and reducing potential biases in digital forensic work. This includes looking at how professional background, organisational culture, and language shape the way investigators make decisions and communicate their findings. This Executive Summary discusses these aspects of our work with implications for practice.

Executive Summary for Deliverable 1.4: Residual sources of bias

Authors: Brita Bjørkelo, Laura Vom Kolke & Nina Sunde

Key Points

- Bias can be understood as a systematic deviation from a norm (e.g., best practices or evidence-based reasoning). It has the potential to undermine objective and reliable decision-making.
- While there is no direct causal link between bias and error, bias increases the likelihood of errors occurring and therefore warrants attention and mitigation. Left unaddressed, bias has the potential to compromise the fairness of justice outcomes.



- We approach bias from a systemic, rather than an individual perspective. Systemic sources of bias include, among others, organisational pressure, hierarchical dynamics, inconsistent practices, and superficial peer review and verification procedures.
- We found that while the implemented bias mitigation measures in Clarus partner countries touch upon several known systemic sources of bias to some extent, they often fall short. This leaves residual sources of bias: sources of bias that are not fully identified and mitigated by current procedures, standards, or safeguards.
- There is a need for more targeted interventions as well as greater awareness and knowledge of bias to address systemic bias in digital forensic work.

Co-funded by the European Union

This project is co-founded by the European Union's Horizon Europe research and innovation programme under grant agreement No. 101121182

UK Research and Innovation

CLARUS

Background & Context

The sources of bias in digital forensic work extend beyond the individual cognitive limitations often discussed in the literature. We therefore wanted to investigate bias mitigation from a systemic perspective as bias is frequently embedded within the structures, processes, and cultures of organisations. Addressing these systemic influences is essential to reducing bias effectively and enhancing the objectivity and fairness of police and forensic practice.

Methods: How we did it

Our research built on previous research carried out as part of the Clarus project. We conducted a secondary analysis of the data collected document reviews, research diaries and interviews with police investigators and digital forensic analysts.

These data were analysed through a combined data driven and theory driven approach. We then assessed the implentated bias mitiagation measures in partner countries and their effectiveness.

Based on this assessement, we identified nine residual sources of bias and presented suggested measures that may be applied to mitigate the identified systemic sources of bias.

Co-funded by the European Union

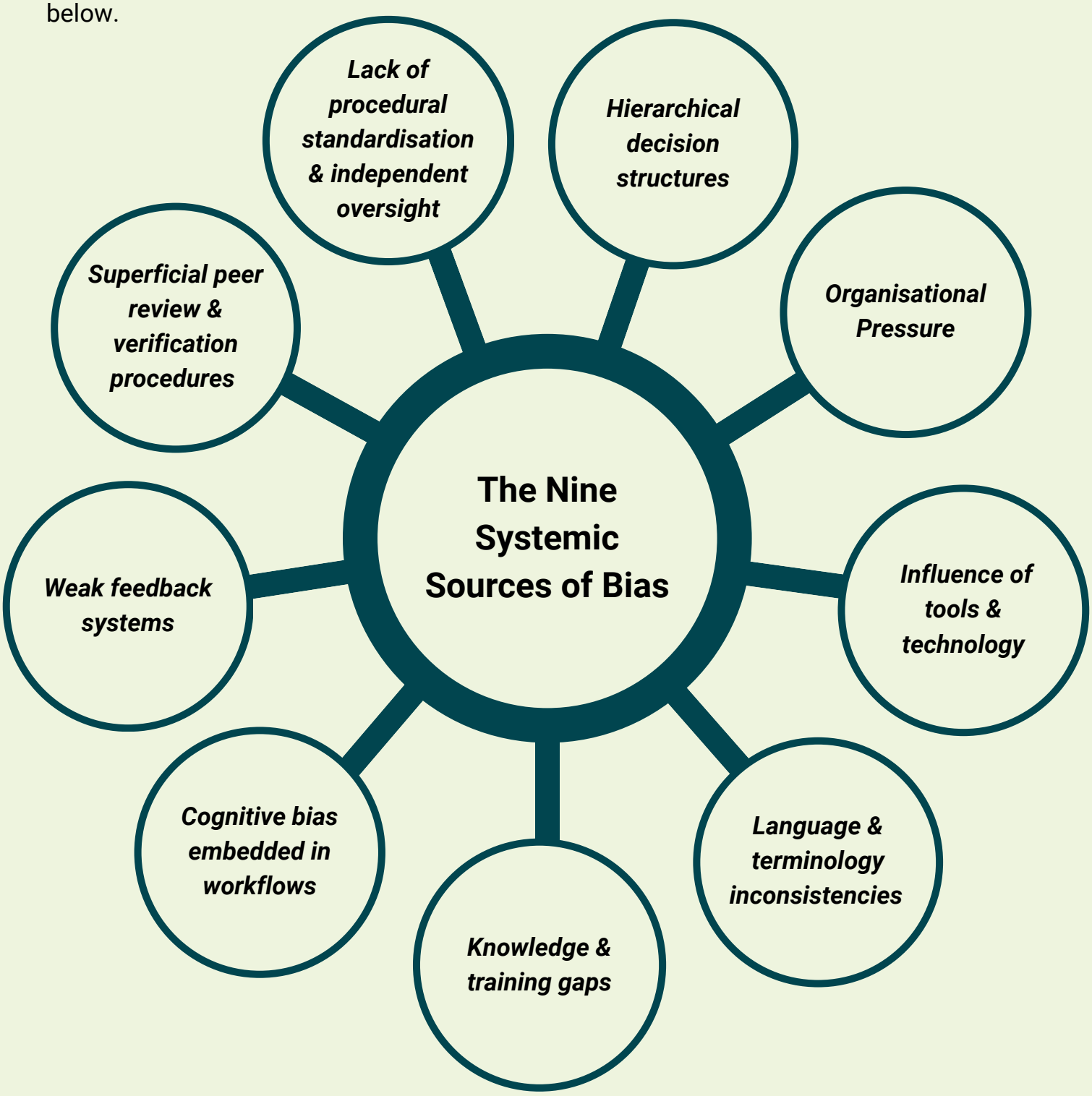
This project is co-founded by the European Union's Horizon Europe research and innovation programme under grant agreement No. 101121182

UK Research and Innovation

CLARUS

Key Research Findings

Our research highlights nine systemic sources of bias within digital forensic processes that can shape how digital evidence is communicated and understood. These are outlined below.



Co-funded by the European Union

This project is co-founded by the European Union's Horizon Europe research and innovation programme under grant agreement No. 101121182

UK Research and Innovation

Key Research Findings - Continued

Attempts to mitigate systemic bias often run short:

Our findings revealed that efforts to mitigate bias frequently are insufficient. For example, partner countries have implemented peer review processes to various degrees, whereby a second analyst assesses a report and sometimes even co-signs it before submission. While peer review can help to avoid certain types of errors and is thus a useful and commendable approach, its benefit in terms of bias mitigation is limited due to the lack of a blind procedure.

Systemic bias is only addressed to a limited extent:

While the analysis revealed that the partner countries' systems touch upon several of the proposed bias mitigation measures to a certain extent, no relevant bias mitigation measures were identified targeting organisational pressure, hierarchical decision structures, weak feedback systems, language and terminology inconsistencies, and the impact of tools and technology.

Implications

Addressing systemic bias more effectively:

Considering the limited evidence of coordinated organisational strategies to address systemic bias, we suggest different measures that can mitigate this. For instance, including bias awareness training into professional development, fostering a culture of awareness and encouraging peer challenge, and encouraging the use of standardized terminology can contribute to safeguarding the system more effectively against systemic bias.

CLARUS

Co-funded by the European Union

This project is co-founded by the European Union's Horizon Europe research and innovation programme under grant agreement No. 101121182

UKRI UK Research and Innovation