



# encrypt

# A scalable and practical privacy-preserving framework

## The Project

ENCRYPT is an EU funded research initiative, working towards the development of a scalable, practical, adaptable privacy-preserving framework, allowing researchers and developers to process data stored in federated cross-border data spaces in a GDPR-compliant way. ENCRYPT proposes an intelligent and user-centric platform for the confidential processing of privacy-sensitive data via configurable, optimizable, and verifiable privacy preserving techniques. Research and development activities leverage, improve, and complement technologies and cryptographic schemes that represent the current state-of-the-art in the field of data-in-use protection, like: Fully Homomorphic Encryption (FHE), Secure Multi-Party Computation (SMPC), Differential Privacy (DP), Trusted Execution Environment (TEE), GPU-based acceleration, AI-based recommendation system, and Knowledge Graphs.

## Use Cases

The ENCRYPT framework is being designed taking into consideration the needs and preferences of relevant actors, and will be validated in a comprehensive, 3-phase validation campaign, comprising i) in-lab validation tests, ii) realistic use cases provided by consortium partners in three sectors, namely healthcare (oncology domain), cyber threat intelligence (CTI) domain, and fintech, that include cross-border processing of data, and iii) external use cases including privacy preserving computations on federated medical datasets.



Health domain:  
Cooperative  
Oncology



Cyber threats  
domain:  
CTI Sharing



Fintech domain:  
Data Analytics

## Objectives

- To improve the applicability and performance of Privacy-Preserving Technologies (PPT) towards GDPR-compliant, cross-border federated processing of personal and other sensitive data
- To improve the user-friendliness of PPT facilitating the identification, understanding, selection, and adoption of PPT
- To foster, and inherently support interoperability for PP processing of similar data types across organisations, and across sectors
- To promote GDPR-compliant common European Data Spaces and facilitate the exchange of Cyber Threat Intelligence (CTI)
- To co-design ENCRYPT PPT solution with end-users, and validate them in realistic use cases
- To strengthen the PPT ecosystem of open-source developers and researchers

## Partners



Disclaimer: Views and opinions expressed are those of the ENCRYPT consortium authors only and do not necessarily reflect those of the European Union or its delegated Agency DG CNECT. Neither the European Union nor the granting authority can be held responsible for them.



SCAN FOR MORE