

Report on the R&D situation of privacy protection technologies in Europe
(Summary)

NICT Europe Center
27 February 2015

General Summary

Part I : the R&D projects on privacy protection in the EU's Seventh Framework Program (FP7) and the Reform of EU personal data directive

Privacy protection and human rights

One of the characteristics of privacy protection policy in Europe is that the right to privacy is considered as a human right. Article 8 of the European Convention on Human Rights (ECHR), and article 7 and article 8 of the Charter of Fundamental Rights of the European Union, which both have binding force, concerns the right to privacy and personal data protection. However, there are two problems. Firstly, the member states of the Council of Europe don't all ratify ECHR (ex. The UK). Secondly, the member states of the Council of Europe and the member states of the European Union interpreted and transposed these articles into their national laws by their own way, namely, according to their law system and their tradition, so their approach to human rights are not same.

EU Personal data protection directive and its Reform

In May 1995, the EU Personal data protection directive was approved as a European law on personal data protection, and transposed into national laws by the EU member states. This directive is the most important law for personal data protection in Europe. In January 2012, the European Commission proposed the Proposal for the General Data Protection Regulation (the Proposal), which reforms the EU Personal data protection directive. This proposal is now being discussed in the Council of the European Union (minister council) after discussions in the European Parliament. Some articles of the Proposal are important for the R&D of privacy protection technologies, for example, Data protection by design and by default (article 23), Data protection impact assessment (ar. 33), Certification (ar. 39) etc. The term of " data protection by design" is used in the Proposal instead of the term of "privacy by design".

As for article 23 concerning Data protection by design and by default, European ministers are discussing whether a list of names of measures which meet the principles of data protection by design and by default (ex. Minimising the processing of personal data, pseudonymising personal data) must be added to the recital 61 of the Proposal or not.

According to article 39 concerning the establishment of data protection certification mechanisms and data protection seals and marks, products made in accordance with the principles of data protection by design will have data protection seals or marks.

The R&D projects on methodology for privacy by design in FP7 : PRIPARE and PARIS

While the legal system for privacy protection is modernized in Europe by the Reform of EU Personal data protection directive, the R&D of privacy protection technologies is carried in FP7 parallel to the Reform. Two FP7 projects, PRIPARE and PARIS, concern methodology for Privacy by design. The former aims to establish a general methodology for Privacy by design, the latter to introduce the principles of privacy by design into surveillance system. These two projects are interdisciplinary, because not only engineers, but also legal specialists from ICRI/CIR in KU Leuven participate into them.

- PRIPARE : Research period : October 2013 - September 2015 / Budget (EU contribution) : about 1.3 million euro (1.09 million euro)
- PARIS : Research period : January 2013 – December 2015 / Budget (EU contribution) : about 4.77 million euro (3.49 million euro)

ICRI/CIR in KU Leuven

ICRI/CIR, a research centre for ICT laws and Intellectual property rights founded in the Law department of KU Leuven, is very famous for legal expertise (in particular concerning EU laws) in Europe. This research centre gives advice and recommendations from legal point of view to many kinds of organizations, for example, research organizations, companies (Small, medium and big enterprises), Belgian government and privacy commission, the European Commission, a EU's Joint Research Centre (JRC) in Italy. And it participates into a lot of FP7 projects for giving legal expertise to its project partners.

The R&D projects on Privacy Enhancing Technologies in FP7 : ABC4TRUST and PRACTICE

ABC4TRUST and PRACTICE are large FP7 projects on Privacy Enhancing Technology (PET). The former aims to develop technologies for minimizing personal data to disclose during online user identification. Minimization of the process of personal data is a principle of privacy protection. The goal of the latter is to improve security of the whole cloud system. It develops a technology for preventing cloud providers from seeing client's data by cryptography, which goes beyond legal approach for privacy protection such as SLA (Service Level Agreement).

- ABC4TRUST : Research period : October 2010 – February 2015 / Budget (EU contribution) : about 13.59 million euro (8.85 million euro)
- PRACTICE : Research period : November 2013 – October 2016 / Budget (EU contribution) : about 10.46 million euro (7.55 million euro)

CASED and EC SPRIDE

Darmstadt is in the biggest industrial region for information security in Europe, because it is close to Frankfurt, which is an important city for finance and economy in Europe. Two research organizations, which work closely, are in Darmstadt : CASED (Center for Advanced Security Research Darmstadt) and EC SPRIDE (European Center for Security and Privacy by Design). Founded in 2008 by the Technical University of Darmstadt, Fraunhofer Institute SIT and the University of Applied Sciences in Darmstadt, CASED is the biggest research centre for information security in Europe (about 300 researchers), which studies every subject of information security. EC SPRIDE is a research centre for Privacy and Security by Design, founded by the Technical University of Darmstadt and Fraunhofer Institute SIT in 2011, and financed by the German Federal Ministry of Education and Research.

PART II : the R&D projects on privacy protection technologies in European countries : SPION and LYRICS

SPION

SPION is a Belgian project, which studies privacy protection in social networking service (SNS) not only from the technical point of view, but also from the legal and social point of view. It is an interdisciplinary project financed by IWT, Flemish agency for Innovation by Science and Technology. This project tackles the task of mitigating privacy and security concerns by focussing on the responsibilities of service providers and stakeholder organizations. And it also proposes different stakeholders more secure and transparent ways to develop SNS.

LYRICS

Financed by ANR, Agence Nationale de Recherche, LYRICS is a French project on Privacy Enhancing Technology (PET) for NFC and contactless technologies. It develops a Privacy Enhancing Cryptography (PEC) which enables contactless services for mobile phone, for example, e-ticket. The main

goal is to design new innovative cryptographic solutions that achieve the fundamental privacy principles such as data minimization.