

# Promoting data protection by Privacy Enhancing Technologies “PETs”

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# *Goal of the presentation*

- **Explain** work of the European Commission in the field of data protection and privacy
- **Outline** data protection and privacy concerns arising in connection with the deployment of technologies
- **Highlight** basic data protection principles that apply regardless technology used
- **Communication** on promoting data protection by privacy enhancing technologies PETs
- **Follow-up** activities



# *Legal framework*

- Article 8 of the **Charter of Fundamental Rights** of the European Union establishes the right to the protection of personal data as a fundamental right.
- **Directive 95/46/EC** of 24th October 1995 concerning the protection of natural persons in respect of the processing of personal data and the free movement of such data (Data Protection Directive);
- **Directive 2002/58/EC** of 12 July 2002 concerning the processing of personal data and the protection of privacy in the electronic communications sector (Directive on privacy and electronic communications);



# *Object of the Directive 95/46/EC*

- to protect the fundamental rights and freedoms of natural persons and in particular their right to privacy with respect to the processing of personal data
- to ensure the free flow of personal data between Member States of the EU and EEA States (principle of internal market).



# *Scope of Directive 95/46/EC*

- Applies to **natural persons**, whatever their nationality or place of residence
- Applies to **private and public sectors** (with the exception of third pillar matters)
- Applies to processing of personal data **whatever the technology used**



# Definitions

- « **Personal data** » : any information relating to an identified or identifiable natural person
  - An identifiable person is one who can be identified, directly or indirectly, in particular by reference to an identification number or to one or more factors specific to his physical, physiological, mental, economic, cultural or social identity
- « **Processing of personal data** » : any operation or set of operations which is performed upon personal data (e.g. collection, recording, organization, storage, use, etc)
- « **Controller of personal data** » : the person who decides on the purpose and the means of the processing



# *Principles relating to data quality*

- Personal data must be collected for a specified, explicit and legitimate purpose
- Not further processed in a way incompatible with those purposes
- Accurate and kept up to date
- Kept in a form which permits identification for no longer than necessary



# *Data processing must be legitimate*

- Consent (freely given specific and informed indication)
- Necessary for performance of a contract
- Necessary for compliance with a legal obligation of the controller
- Legitimate interests of the controller (balance of interest)
- Necessary in order to protect the vital interest of the data subject





# *Data Protection Authorities*

- Fully independent bodies
- Responsible for enforcing national legislation
- Powers of investigation, intervention and to engage in legal proceedings or to bring violations to the attention of the judicial authorities



# *The Working Party 29*

- **What is it?**

- Independent body composed by representatives of all EU DPAs
- Secretariat ensured by the European Commission (DG JLS)

- **What are its competences?**

- It has an advisory role regarding data protection issues
- Issues opinions or recommendations on data protection which are soft law instruments



# *PETs Communication*

- Communication on Promoting Data Protection by Privacy Enhancing Technologies (PETs) adopted on 2 May 2007
- The purpose:
  - laying down the Commission's objectives in this field, to be achieved by a number of specific actions supporting the development of PETs and their use by data controllers and consumers ("PETs Communication").
- Reflects on the benefits of PETs
- Commission intends to clearly identify the need and technological requirements of PETs and further promote the development of these technologies (in particular through RTD projects and large-scale pilot demonstrations) and their use by industry and public authorities, involving a vast array of actors, including its own services, national authorities, industry and consumers.
- The aim is to provide the foundation for user-empowering privacy protection services reconciling legal and technical differences across Europe through public-private partnerships.
- To ensure respect for appropriate standards in the protection of personal data through PETs, standardization and coordination of national technical rules on security measures for data processing were envisaged.



# *PETs*

- The intensive and sustained development of ICT is constantly offering new services;
- Internet and modern technologies are opening new frontiers in both – our lives and liberties;
- To a large extent, the raw material for interactions in cyberspace is the personal data of individuals moving around in it when they purchase goods and services, establish or maintain contact with others or communicate their ideas on the world wide web;
- Alongside the benefits, new risks also arise for the individual, such as identity theft, discriminatory profiling, continuous surveillance or fraud;
- Technologies have also a potential to enhance privacy;
- Technologies emerges as a key factor to facilitate people's lives, protect privacy and ensure public security.



# *Why we need PETs?*

- The legal system may prove **insufficient** when personal data is disseminated worldwide through ICT networks and the processing of data crosses several jurisdictions, often outside the EU.
- Considerable **practical obstacles** may exist as a result of difficulties with the technology used involving data processing by **different actors** in **different locations** and there may be hurdles intrinsic to the enforcement of national administrative and court rulings in another jurisdiction, especially in non-EU countries.



# Why we need PETs?

- Strictly speaking data controllers bear the legal **responsibility for complying** with data protection rules **BUT** others also bear some responsibility for data protection from a societal and ethical point of view;
- Article 17 of the Data Protection Directive lays down the data controller's obligation to implement appropriate technical and organisational measures and to ensure a level of security appropriate to the nature of the data and the risks of processing it;
- The use of technology to support the respect for legislation, in particular the data protection rules, already envisaged to some extent in the ePrivacy Directive.
- A further step to pursue the aim of the legal framework, whose objective is to minimise the processing of personal data and using anonymous or pseudonymous data where possible, could be **supported by measures called Privacy Enhancing Technologies** or PETs - that would:
  - *facilitate ensuring that breaches of the data protection rules and violations of individual's rights are not only something forbidden and subject to sanctions, but technically more difficult.*



# What are PETs?

- a number of definitions of PETs used by the academic community and by pilot projects on PETs;
- E.g. according to the EC-funded PISA project, PET stands for a coherent system of ICT measures that protects privacy by eliminating or reducing personal data or by preventing unnecessary and/or undesired processing of personal data, all without losing the functionality of the information; system.
- The use of PETs can help to design information and communication systems and services in a way that minimises the collection and use of personal data and facilitate compliance with data protection rules;
- The Commission in its First Report on the implementation of the Data Protection Directive considers that "*...the use of appropriate technological measures is an essential complement to legal means and should be an integral part in any efforts to achieve a sufficient level of privacy protection...*".
- The use of PETs should result in making breaches of certain data protection rules **more difficult and/or helping to detect them**;
- In the dynamic landscape of ICT, the effectiveness of different PETs to ensure the protection of privacy, including aspects of compliance with data protection law, is varied and changes over time. Their typology is also varied. They can be stand-alone tools requiring positive action by consumers (who must purchase and install them in their PCs) or be built into the very architecture of information systems.



# *The Commission supports PETs*

- The Commission considers that PETs should be developed and more widely used, in particular where personal data is processed through ICT networks.
- The Commission considers that wider use of PETs would improve the protection of privacy as well as help fulfil data protection rules.
- The use of PETs would be **complementary to the existing legal framework and enforcement mechanisms.**





# *Positive impact of PETs*

- Rather than witnessing the increase of privacy invasive technologies, the Commission would like to see that **technology becomes a tool to strengthen data protection and privacy** of individuals.
- The use of **appropriate technological measures is an essential** complement to legal means and should be an integral part in any efforts to achieve a sufficient level of privacy protection.
- Better respect of data protection rules would also have a positive impact on **consumer trust**, in particular in cyberspace.
- A number of promising and **value-added services** that rely on transfers of personal data across IT-Networks, such as e-learning, e-government, e-health, ebanking, e-commerce or "intelligent car" systems would certainly benefit.
- People could be sure that the data they are providing to identify themselves, receive services or make payments will only be used for legitimate purposes and that their **participation in the digital community** is not done at the expense of sacrificing their rights.



# *Commission's objectives*

## **First objective: to support the development of PETs**

- If PETs are to be widely used, there needs to be further design, development and manufacturing of PETs.
- With this aim in mind, the need for PETs and their technological requirements should be identified and RTD activities should develop the tools.



# *Commission's objectives*

## *Action 1.1.: Identifying the need and technological requirements of PETs*

- PETs are heavily dependent on the evolution of ICT. Once the dangers posed by technological developments are detected, the appropriate requirements for a technological solution must be identified.
- The Commission will **encourage various stakeholder groups to come together and debate PETs**. These groups will include in particular representatives from the ICT sector, PETs developers, data protection authorities, law enforcement bodies, technology partners including experts from relevant fields, such as eHealth or information security, consumers and civil rights associations.
- These stakeholders should regularly look into the evolution of technology, detect the dangers it poses to fundamental rights and data protection, and outline the technical requirements of a PETs response. This may include fine-tuning the technological measures in accordance with the different risks and the different data at stake and taking into account the need to safeguard public interests, such as public security.

# Commission's objectives

## Action 1.2.: Developing PETs

- As the need for and technological requirements are identified, concrete action has to be taken to arrive at an end-product ready to use.
- The Commission has addressed the need for PETs:
  - Under the 6th Framework Programme it sponsors the PRIME project tackling issues of digital identity management and privacy in the information society.
  - The OPEN-TC project will allow privacy protection based on open trusted computing
  - The DISCREET project develops middleware to enforce privacy in advanced network services.
  - In the future, under the 7th Framework Programme, the Commission intends to support other RTD projects and large scale pilot demonstrations to develop and stimulate the uptake of PETs.
    - The aim is to provide the foundation for user-empowering privacy protection services reconciling legal and technical differences across Europe through public-private partnerships).
- The Commission calls on national authorities and on the private sector to invest in the development of PETs.
- Investment is key to placing European industry ahead in a sector that will grow as these technologies become increasingly required by technological standards and by consumers more aware of the need to protect their rights in cyberspace.



# *Commission's objectives*

## **Second objective: support the use of available PETs by data controllers**

- PETs will only be truly beneficial if they are **effectively incorporated** into and used by technical equipment and software tools that carry out processing of personal data.
- The **participation of the industry** that manufactures such equipment and of data controllers who avail themselves of it to carry out data processing activities is therefore paramount.



# Objectives and follow up

## Action 2.1.: Promoting the use of PETs by industry

- The Commission believes that all those involved in processing of personal data would benefit from a wider use of PETs.
- The ICT industry, as the primary developer and provider of PETs, has a particularly **important role to play** with respect to the promotion of PETs.
- The Commission calls on all data controllers to **more widely and intensely incorporate and apply PETs** in their processes.

## Follow up

- For that purpose, the Commission will organise **seminars with key actors of the ICT industry**, and in particular PETs developers, with the aim of analyzing their possible contribution to promoting the use of PETs among data controllers.
- The Commission will also conduct **a study on the economic benefits** of PETs and disseminate its results in order to encourage enterprises, in particular SMEs, to use them.



# *How to deploy PETs*

## **Private sector**

- Increased use of PETs and increased use of e-services which incorporate PETs could turn in economic reward to the industries using them, and may result in a snowball effect, encouraging other companies to pay greater attention to respecting the data protection rules.
- In order to achieve this, a series of steps should be taken.
- A study on the economic benefits of PETs with the aim to disseminate its results in order to encourage enterprises, in particular SMEs, to use them.
- The study should produce a set of reasoned conclusions and recommendations as to (i) whether and how to deploy PETs in order to increase protection of personal data resulting in economic advantage of a deployer being it public authority or an actor from private sector; (ii) the effectiveness of such means; (iii) whether a cooperation/joint action such as PPP with national authorities or international organisations would enhance economic benefits.
- The results of the study should lead to conclusions on whether there are economic benefits and how to measure them in order to invite all the stakeholders, including both public and private sectors to deploy PETs in their applications, suggestions how to improve the current situation and how to deploy PETs in order to bring about economic benefits, if these are identified.



# *Commission's objectives*

## **Action 2.3.: Promoting the use of PETs by public authorities**

- A consistent number of processing operations involving personal data are conducted by public authorities in the exercise of their competences, both at national and at Community level.
- Public bodies are bound to respect fundamental rights, including the right to protect personal data, and ensure respect by others, and should therefore set a clear example.
- PETs in eGovernment is necessary to provide trust and confidence to ensure its success.





# *How to deploy PETs*

## **Public sector**

- eGovernment applications entail the use of information and communication technologies in public administrations, e.g. electronic identification, more transactional online public services such as tax declaration, e-procurement and e-social security.
- The European Commission strongly supports the development of eGovernment as a way for public administrations to be more transparent, service-orientated and productive.
- One of the conditions for eGovernment services to thrive is to ensure that users have trust and confidence in them.
- Such an environment can only be guaranteed if, among others, the security and confidentiality of personal information is guaranteed.
- Deployment of PETs in eGovernment applications is necessary in order to provide such trust and confidence necessary to ensure successful eGovernment services.



# Objectives and follow up

## Action 2.2.: Ensuring respect for appropriate standards in the protection of personal data through PETs

- Respect for appropriate standards requires action beyond self regulation or the goodwill of the actors involved.
- The Commission will assess the need to develop standards regarding the lawful processing of personal data with PETs through appropriate impact assessments.
- On the basis of the outcome of such assessments, two sorts of instruments might be considered:
  - a) Standardisation**
    - The Commission will consider the need for respect of data protection rules to be taken into account in standardisation activities.
    - The Commission will endeavour to take account of the input of the multi-stakeholder debate on PETs in preparing the corresponding actions and the work of the European standardisation bodies to assess specific European needs, and to subsequently bring them to the international level



# Objectives and follow up

## ***b) Coordination of national technical rules on security measures for data processing***

- National legislation adopted pursuant to the Data Protection Directive gives national DPAs **certain influence in determining precise technical requirements** such as providing guidance for controllers, examining the systems put in place or issuing technical instructions;
- National DPAs could also require the incorporation and use of certain PETs where the processing of personal data involved makes them necessary;
- **Coordination of national practice** could contribute positively to promoting the use of PETs;
- In particular the **Article 29 Working Party could contribute** in its role of considering the uniform application of national measures adopted under the Directive.
- This work should then produce guidelines for data protection authorities to implement at national level through coordinated adoption of the appropriate instruments



# *Commission's objectives*

## **Third objective: to encourage consumers to use PETs**

- Consumers remains the most concerned party in ensuring personal information is properly used, that data protection rules are properly enacted, and that PETs are an efficient means to guarantee them.
- Consumers should be made fully aware of the advantages that the use of PETs may bring to diminish the risks posed by operations involving processing of their personal data.
- They should also be placed in a position where they may exercise an informed choice when purchasing IT equipment and software, or using e-services.
- Simple and understandable information about possible technological tools to protect privacy must thus be provided to the user.
- Increased use of PETs and increased use of e-services which incorporate PETs will in turn mean economic reward to the industries using them, and may result in a snowball effect, encouraging other companies to pay greater attention to respecting the data protection rules.



# *EU Barometer*

- Results of the two Eurobarometer surveys on data protection awareness in the European Union carried out in autumn 2003 and in winter 2008 showed that neither companies nor users are aware of/ use privacy enhancing technologies.
- Eurobarometer surveys conducted in 2008 disclosed that most European Internet users feel uneasy when transmitting their personal data over Internet. On the top of that, most European Internet users were not familiar with tools or technologies that helped to limit the collection of personal information while being on the Internet: a slight majority had never heard of such tools or technologies.
- In 2003, Citizens from the (then) 15 Member States had already been asked whether they had heard about tools and technologies that protected data on their personal computers and whether they had already actually used them. Results indicated that the awareness and usage of those tools and technologies by respondents in the 15 EU Member states had shown a tremendous increase in the last four years: the percentage of surfers participating in the survey who reported never having heard about these tools and technologies fell from 2/3 of respondents to half of them. While the number of those who had heard about the tools but never used them remained constant; the number of respondents who had already used them rose from a very little number to almost 1/4 of the respondents.



# *Commission's objectives*

## ***Action 3.1.: Raising awareness of consumers***

- A consistent strategy should be adopted to raise consumer awareness of the risks involved in processing their data and of the solutions that PETs may provide as a complement to the existing systems of remedies contained in data protection legislation.
- The Commission intends to launch a series of EU-wide awareness-raising activities on PETs.
- The main responsibility for conducting this activity falls within the realm of national data protection authorities which already have relevant experience in this area.
- The Commission also urges the Article 29 Working Party to coordinate national practice in a coherent work plan for awareness-raising on PETs and to serve as a meeting point for the sharing of good practice already in place at national level.



# Commission's objectives

## **Action 3.2.: Facilitating consumers' informed choice: Privacy Seals**

- The take-up and use of PETs could be encouraged if the presence of PETs in a certain product and its basic features are easily recognizable.
- The Commission intends to investigate the feasibility of an EU-wide system of privacy seals, which would also include an economic and societal impact analysis.
- The purpose of such privacy seals would be to ensure consumers can easily identify a certain product as ensuring or enhancing data protection rules in the processing of data, in particular by incorporating appropriate PETs.

### Following principles should be respected:

- The number of privacy seal systems should be kept to a minimum. In fact, a proliferation of seals may create more confusion to the consumer and undermine their trust in all seals.
- Privacy seals should only be awarded for a product's compliance with a set of standards corresponding to data protection rules. The standards should be as uniform as possible throughout the EU.
- Public authorities, in particular national data protection authorities, should play an important role in the system through their involvement in the definition of relevant standards and procedures as well as in monitoring the functioning of the seal system.



***Thank you very much for your  
attention!***

**Questions?**

**Web site:**

**[http://europa.eu.int/comm/justice\\_home/  
sj/privacy/index\\_en.htm](http://europa.eu.int/comm/justice_home/sj/privacy/index_en.htm)**

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