



# Internet of Things

## Privacy & Data Protection

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[www.edri.org](http://www.edri.org)

# European Digital Rights – EDRI

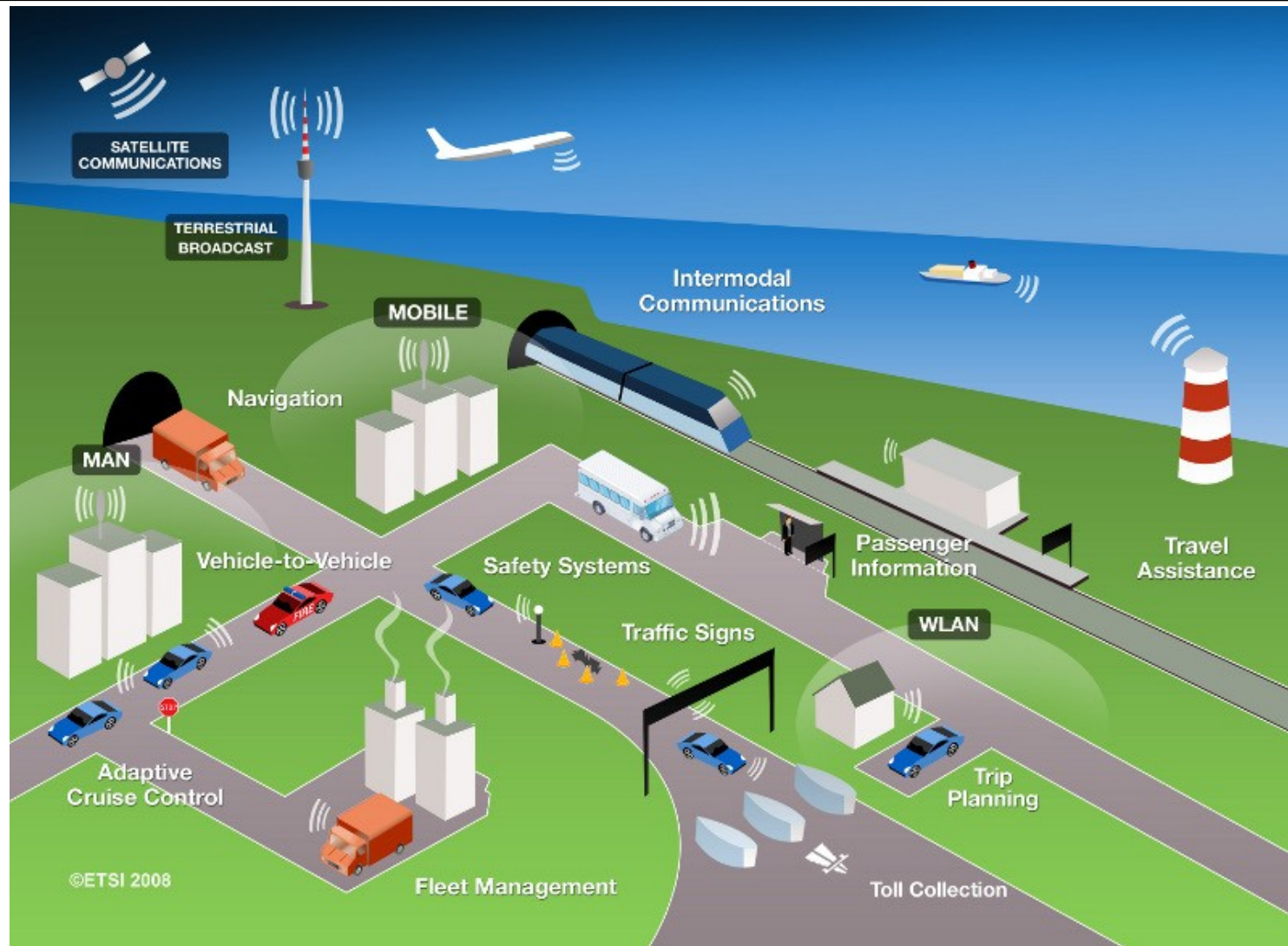
- Association of European Privacy and Human Rights Associations
  - founded in 2002
  - 27 Member Organisations
  - 17 European Countries
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- The map shows Europe with 17 countries highlighted in red, representing EDRI member countries. These include the United Kingdom, Ireland, France, Spain, Portugal, Italy, Greece, Austria, Czech Republic, Slovakia, Hungary, Poland, Lithuania, Latvia, Estonia, and Malta. The remaining European countries are colored blue, indicating they are not members. Small yellow dots are scattered across the red-colored countries.
- bi-weekly newsletter EDRI-gram since 2003
  - German edition since 2006 at [www.unwatched.org](http://www.unwatched.org)

# Internet of Things

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- network of interconnected objects
  - books, cars, electrical appliances, food, cloths, sensors, ...
- integrated in complex systems
  - health monitoring, intelligent transport systems, forest management, smart metering / grids, ...
- possibly with independent infrastructure
  - not necessarily connected to the Internet
- integrated in existing infrastructure
  - toll systems, facility management systems, ...

# e.g. Intelligent Transport Systems



# Data Protection Issues

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- Collection & processing of personal data
  - vast amounts of data collected & processed by various IoT-systems
  - personal data, location data, communication data, sensitive data (health information, ...), ...
- Legal basis of processing
  - How to obtain informed consent when IoT-systems are expected to operate unrecognised “in the background”?
  - interconnected services: who is responsible for the overall result of processing, DP, security?

# Data Protection Issues

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- Data controller / processor
  - how to identify the data controller / processor of a given IoT-system?
  - interconnected services: how to determine & report data flows when they depend on external factors (e.g. movements of a car)?
  - how to exercise data subjects rights (access to data, correction / deletion of data, ...)?

# Data Protection Requirements

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- Individuals need to be in control
  - information on available IoT-systems
  - free choice of participation without discrimination (right to silence of the chips)
  - wherever possible: anonymous interaction with IoT-systems
- Privacy, Data Protection & Security by Design
  - early recognition of DP requirements saves money!
  - proper protection of fundamental rights is possible when considered in the design phase

# Data Protection Requirements

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- Strict data minimisation
  - collect & process only absolutely necessary data
  - anonymise or delete data as soon as possible
  - implement **proper** anonymisation mechanisms (this is a challenging task!)
- Strict purpose limitation
  - limit processing strictly to the pre-defined purposes, the potential for misuse is huge
  - legal definitions of processing purposes should be very precise (e.g. Intelligent Transport Systems)

# Data Protection Requirements

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- DP enforcement
  - DP enforcement needs to be improved
  - DPAs need to be sufficiently funded and staffed
  - mandatory data breach notifications
  - better DP education
- International data flows
  - better harmonisation of DP legislation to ensure interoperability and consistent levels of protection
  - required: global DP standards for a global world

# Summary

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- IoT processes vast amounts of (personal) data
- Data protection issues need to be resolved
  - individuals need to be in control
  - privacy by design, data minimisation, purpose limitation
  - DP enforcement needs to be improved
  - global data protection standards are needed

ANEC, BEUC and EDRI  
work together in the EC RFID group to  
**make the Internet of Things the Internet for People**

# References

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- Article 29 Data Protection Working Party, Opinion 4/2007 on the concept of personal data  
[http://ec.europa.eu/justice\\_home/fsj/privacy/docs/wpdocs/2007/wp136\\_en.pdf](http://ec.europa.eu/justice_home/fsj/privacy/docs/wpdocs/2007/wp136_en.pdf)
- Opinion of the European Data Protection Supervisor on the communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on Radio Frequency Identification (RFID) in Europe: steps towards a policy framework COM(2007) 96.  
[http://www.edps.europa.eu/EDPSWEB/webdav/site/mySite/shared/Documents/Consultation/Opinions/2007/07-12-20\\_RFID\\_EN.pdf](http://www.edps.europa.eu/EDPSWEB/webdav/site/mySite/shared/Documents/Consultation/Opinions/2007/07-12-20_RFID_EN.pdf)
- Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions Internet of Things — An action plan for Europe, COM(2009) 278 final
- Communication from the Commission Action Plan for the Deployment of Intelligent Transport Systems in Europe COM(2008) 886 final
- Opinion of the European Data Protection Supervisor on the Communication from the Commission on an Action Plan for the Deployment of Intelligent Transport Systems in Europe and the accompanying proposal for a Directive of the European Parliament and of the Council  
[http://www.edps.europa.eu/EDPSWEB/webdav/site/mySite/shared/Documents/Consultation/Opinions/2009/09-07-22\\_Intelligent\\_Transport\\_Systems\\_EN.pdf](http://www.edps.europa.eu/EDPSWEB/webdav/site/mySite/shared/Documents/Consultation/Opinions/2009/09-07-22_Intelligent_Transport_Systems_EN.pdf)
- The Madrid Privacy Declaration: Global Privacy Standards for a Global World  
<http://thepublicvoice.org/madrid-declaration/>





**Thank you for  
your attention!**

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