Body of European Regulators
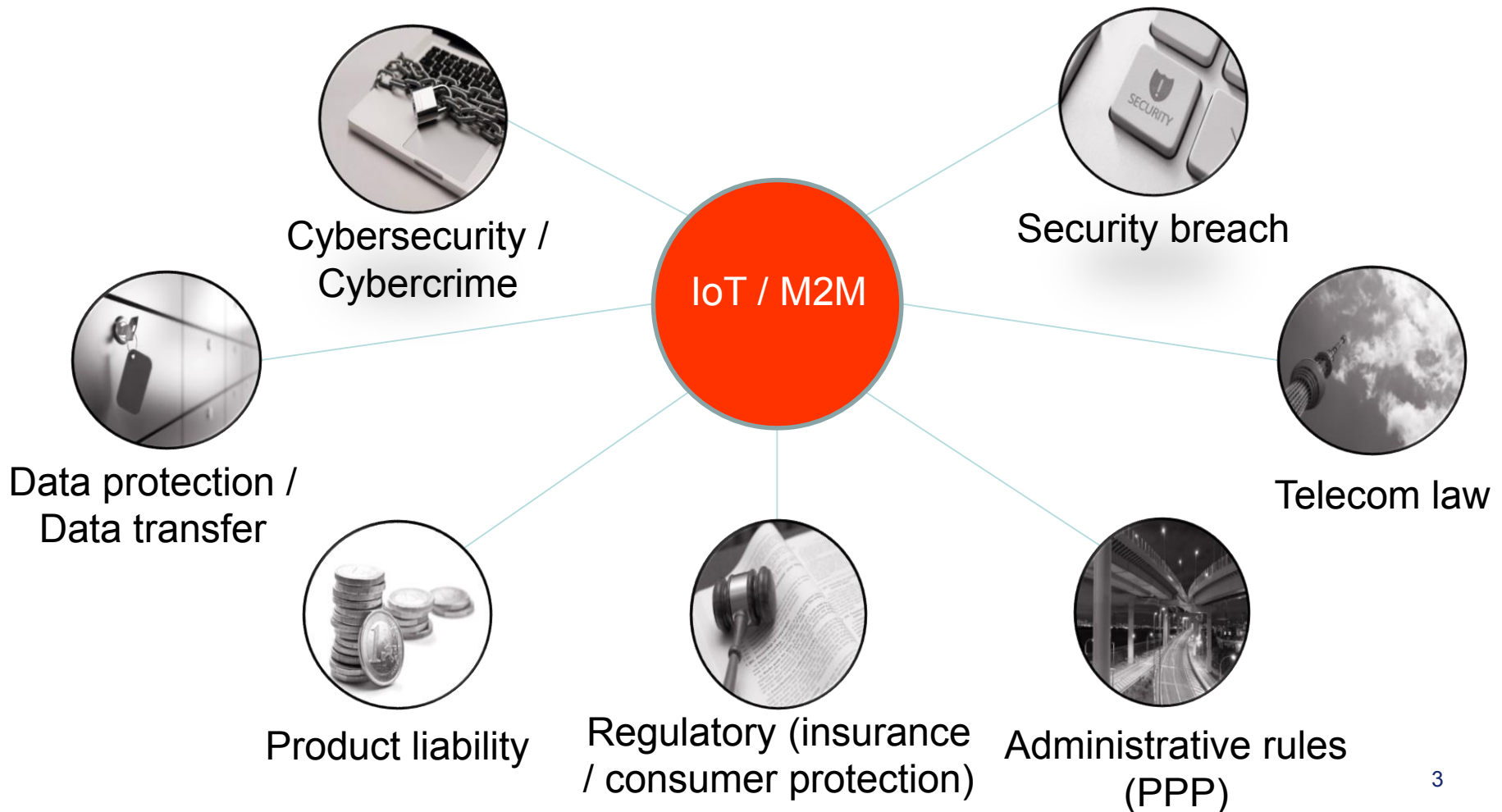for Electronic Communications

BEREC

BEREC Report on
"Enabling the Internet of Things"

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Brussels

BEREC work on IoT / M2M

- 2010: BEREC paper on convergent services (description of M2M)

- 2013/2014: stakeholder interviews, internal report

- 2015 (M2M within EWG NGN): IoT/M2M draft report
    - Presentation of the report at the Stakeholders' forum
    - Public consultation
    - Presentation of the report at the BEREC Plenary
    - Publication on the BEREC Website

Legal issues related to IoT

Cybersecurity / Cybercrime

Security breach

IoT / M2M

Data protection / Data transfer

Telecom law

Product liability

Regulatory (insurance / consumer protection)

Administrative rules (PPP)

Characteristics of IoT

- Fully automatic (or with limited human intervention) communication of data from remote devices
- M2M communication patterns differ from personal communications
- Usually Low volume traffic, with sporadic/irregular patterns (signals)
- Relatively simple devices (both static and mobile)
- M2M services require connectivity, however connectivity accounts for a relatively low proportion of the overall revenue opportunity in the M2M value chain
- Many M2M devices produced for the world-market, hence many M2M services based on global mobility
- Many M2M devices designed to have a long lifetime
- Usually the business model is B2B, even if devices may be aimed at consumers (B2B2C)

Regulatory Framework

- Applicable framework (e.g. notification regime) depends on the applicability of the definition of electronic communication service (ECS)

- Art. 2 lit. c Framework Directive: an ECS is *"a service normally provided for remuneration which consists **wholly or mainly** in the conveyance of signals on electronic communications networks, […]"*.

- Within the IoT/M2M value chain:
  - Connectivity service provider = ECS
  - IoT/M2M-user   = typically no ECS, unless reseller
  - However, careful case-by-case approach since there are so many different types of packages including connectivity and since business models are just beginning to evolve.

DSM review: Do existing rules (which were construed for voice telephony) also fit to M2M communications?

Numbers and Identifiers

- Many of the numbering issues NRAs currently have to tackle – and which are primarily dealt by CEPT and/or ITU on an international level – concern M2M services based on mobile connectivity:

  - E.164 numbers/scarcity: not a problem. National solutions
  - Migration to IPv6 will solve scarcity issues
  - Global marketing of connected devices:
    - Permissibility of extra-territorial use of numbers?
    - Use of international ITU numbering resources?
    - Use of European numbering resources?

Spectrum

- No major problems of scarcity of frequencies for mobile applications

Roaming

- Many M2M services which use mobile connectivity are currently based on permanent roaming.
    - Is permanent roaming formally allowed?
    - Is Roaming regulation applicable in these cases? 3 scenarios
        - 1: Device travelling periodically (car, kindle….)
        - 2: Device travelling abroad most of time (car sold abroad)
        - 3: Device placed abroad permanently (smart meter) Roaming regulation does not apply

- Permanent roaming might facilitate the creation of a truly European M2M market. But:
    - Competitive advantage of international sim cards
    - New art 3 of Roaming regulation

- <u>DSM review:</u> Special treatment required
    - ➢ Clearer position on the admissibility of permanent roaming in the M2M context
    - ➢ Access right for permanent roaming in the M2M context

Switching / "lock-in" issue

- If a customer intends to change connectivity service provider, it is currently necessary that the SIM is replaced physically. In the M2M-context, the costs and the proprietary standards might prevent switching the connectivity service provider ("lock-in").

- Possible solutions:
    - MNC assignment to IoT/M2M-user (i.e. right to apply for own MNC/IMSI range). Forbidden by several Countries
    - Over-the-air (OTA) provisioning of SIM

- DSM review: Special treatment required
    - Regulatory measures to make MNC assignment more flexible
    - Regulatory measures to foster OTA provisioning of SIM or make it mandatory?
    - No right to number portability required in the M2M-context?

Privacy and security of data

- Personal data may be collected by a number of connected devices.

- Who collects the data? Who own the data? Where is it stored? Does the consumer give consent to the use of the info? How?

- Current legal framework: Privacy Directive (Directive 95/46/EC) and sector-specific ePrivacy Directive (Directive 2002/58/EC as amended by Directive 2009/136/EC); no specific rules with regard to IoT/M2M.

- Revision of EU data protection framework under way, aim also to adapt privacy rules to digital era

- DSM review:
    - No need for special treatment with regard to principles (e.g. principles like consent-based data collection and processing also apply in M2M context),
    - But: Interpretation/Adaption for the M2M-context (e.g. user-friendly information and consent procedures)

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Thank you

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