CEPT ECC
Electronic Communications Committee

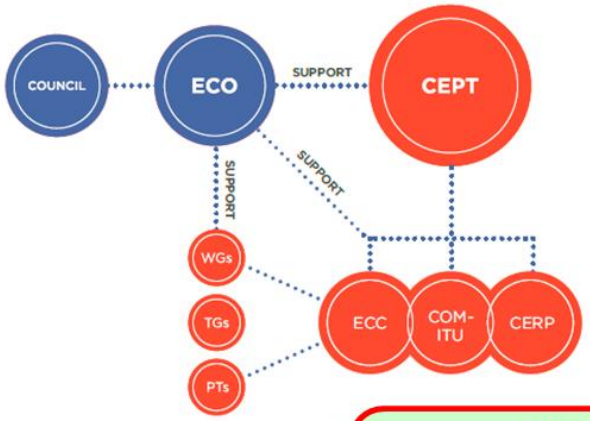
CEPT WORKSHOP ON
MACHINE-TO-MACHINE (M2M) COMMUNICATIONS
MAINZ 21-22 MARCH 2016

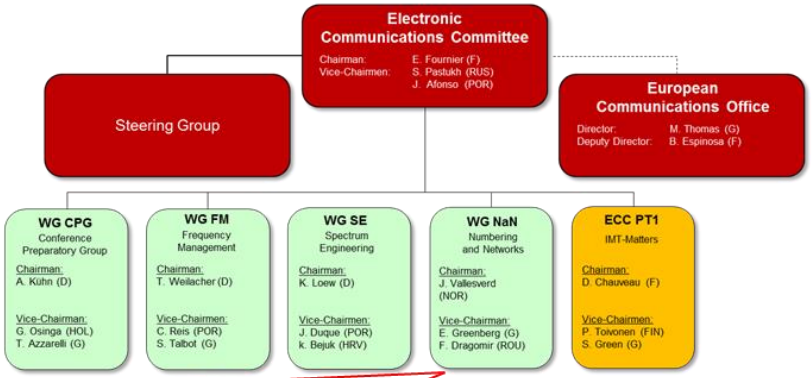
Working Group Numbering and Networks

Johannes Vallesverd
CEPT ECC WG NaN Chairman

Norwegian Communications Authority

Organisation map





WG NaN

Numbering & Networks

Chairman: J. Vallesverd (NOR)
Vice-Chairman: E. Greenberg (G)
F. Dragomir (ROU)

PT TRIS
Technical Regulatory Issues
Chairman: V. Stundzia (LTU)
Vice-Chair: D. Voisard (SUI)

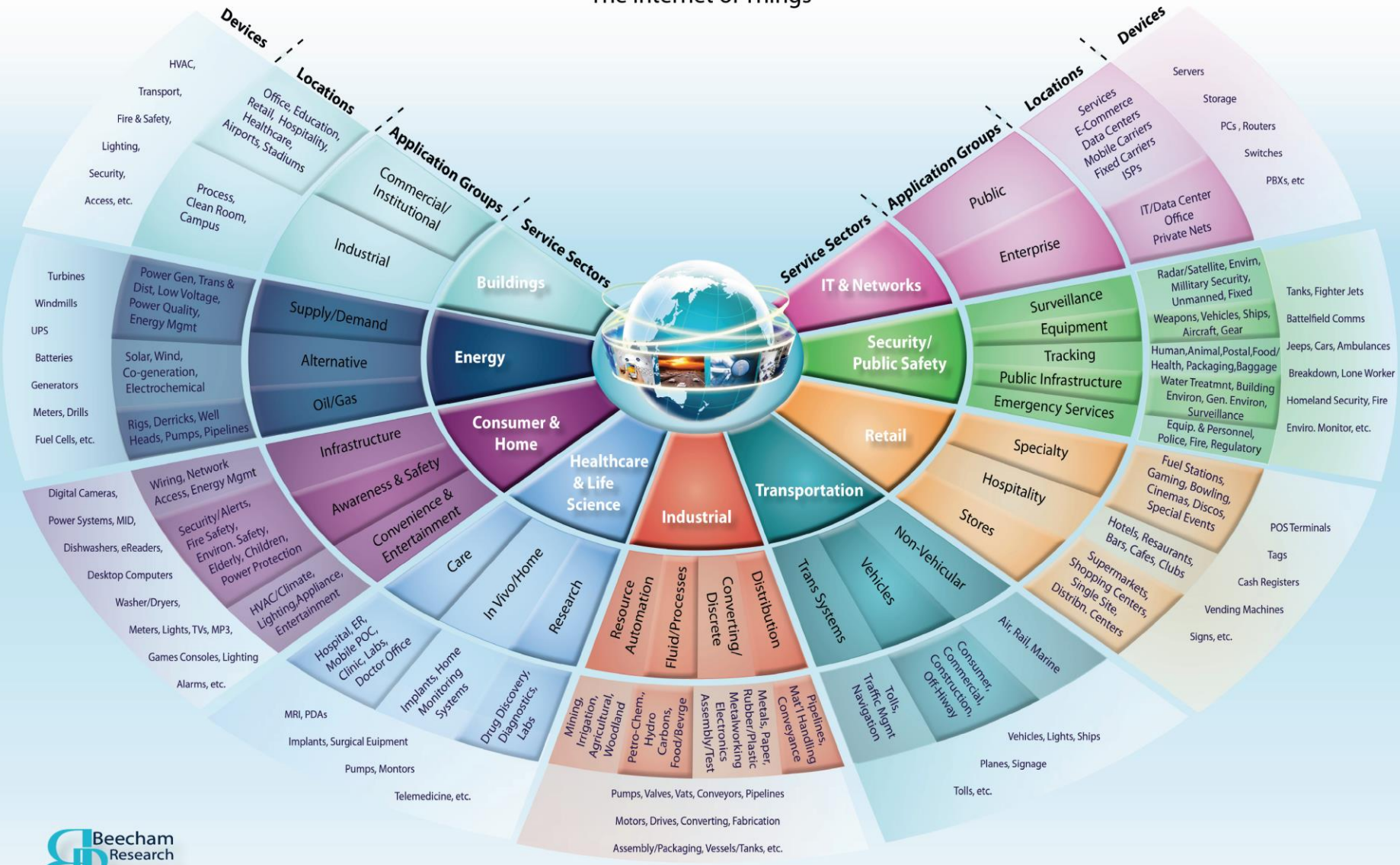
PT FNI
Future Numbering Issues
Chairman: F. Bernabei (ITA)
Vice-Chair: B. O'Brien (IRL)

PT NP
Number Portability
Chairman: J.F. Silva (POR)
Vice-Chair: B. Overvad (DNK)

PT ES
Emergency Services
Chairman: F. Dragomir (ROU)

M2M World of Connected Services

The Internet of Things



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Relevant Deliverables

M2M & MNC	NP	CLI	112
ECC Report 153 Numbering and Addressing in Machine-to-Machine Communications (2010)	ECC Report 155 Number Portability efficiency: Impact and analysis of certain aspects in Article 30.4 of the USD and general remarks on NP efficiency (2010)	ECC/REC(05)09 Customer Protection in Case of Misuse or Unauthorised Use of International E.164 Numbering Resources	REC/T/SF-1 Long Term Standardisation of National Numbering Plans – Recommendation on 112 (from 1972)
ECC/Rec(11)03 Numbering and addressing for Machine-to-Machine Communications	ECC/REC(12)02 Number Portability Best Practices	ECC Report 133 Increasing Trust in Calling Line Identification and Originating Identification (2009)	ECC Report 193 Emergency Calls in VoIP Environment - Compilation of Recent Studies (2012)
ECC Report 212 the Evolution in the use if E.212 Mobile Network Codes (2014)	ECC Report 196 Abuse, delay and compensation mechanisms in number portability (2013)	ECC/REC(11)02 Calling Line Identification and Originating Identification	ECC Report 225 Establishing Criteria for the Accuracy and Reliability of the Caller Location Information in support of Emergency Services (2014)
ECC Report 194 Extra-territorial Use of E.164 Numbers (2013)	ECC Report 213 Impact of number portability between fixed and mobile services (Service portability) (2014)	ECC Report 248 Evolution in CLI usage - decoupling of rights of use of numbers from service provision	
ECC/REC/(16)02 Extra-territorial Use of E.164 Numbers - High level Principles of Assignment and Use	ECC/REC/(16)01 3rd party access to Number Portability Data (NP Data)		

NB: DRAFT
Public consultation ended 18 January 2016)

Planned 2016/2017:

- ECC Report on *Facilitating Switching and Competition in the M2M sector.* Embedded SIM.
- Numbering for OTT

Other activities:

- WG NaN is also actively following the numbering and networks-related issues concerning the implementation of pan-European eCall.

Implementation year of the M2M range

ECC report 153 from 2010

M2M	NP	CLI	112
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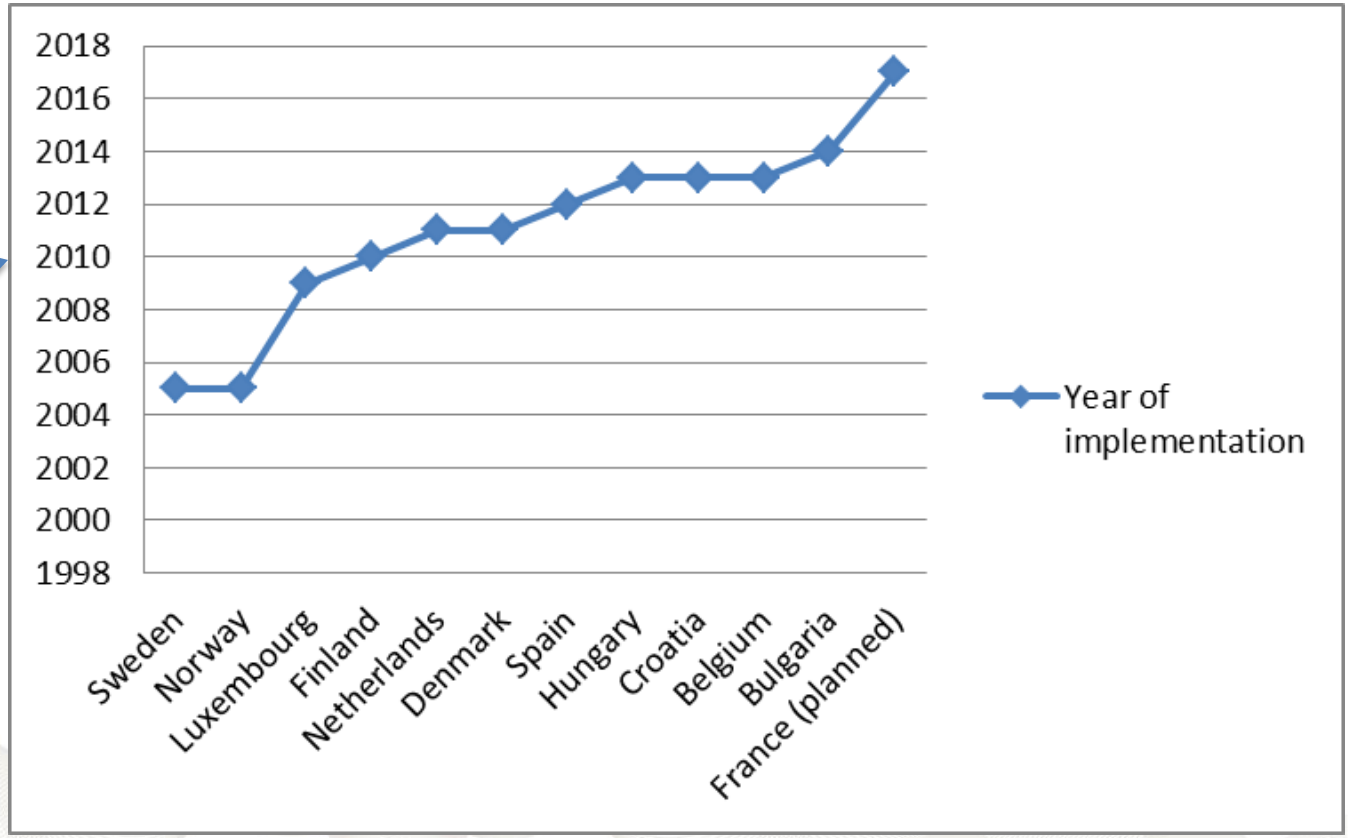
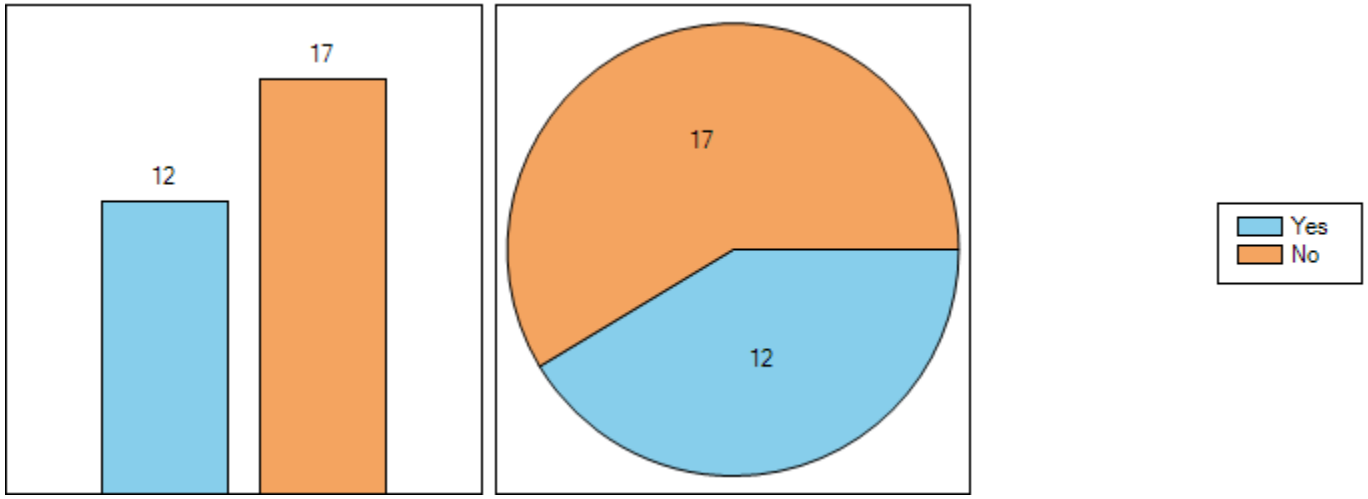
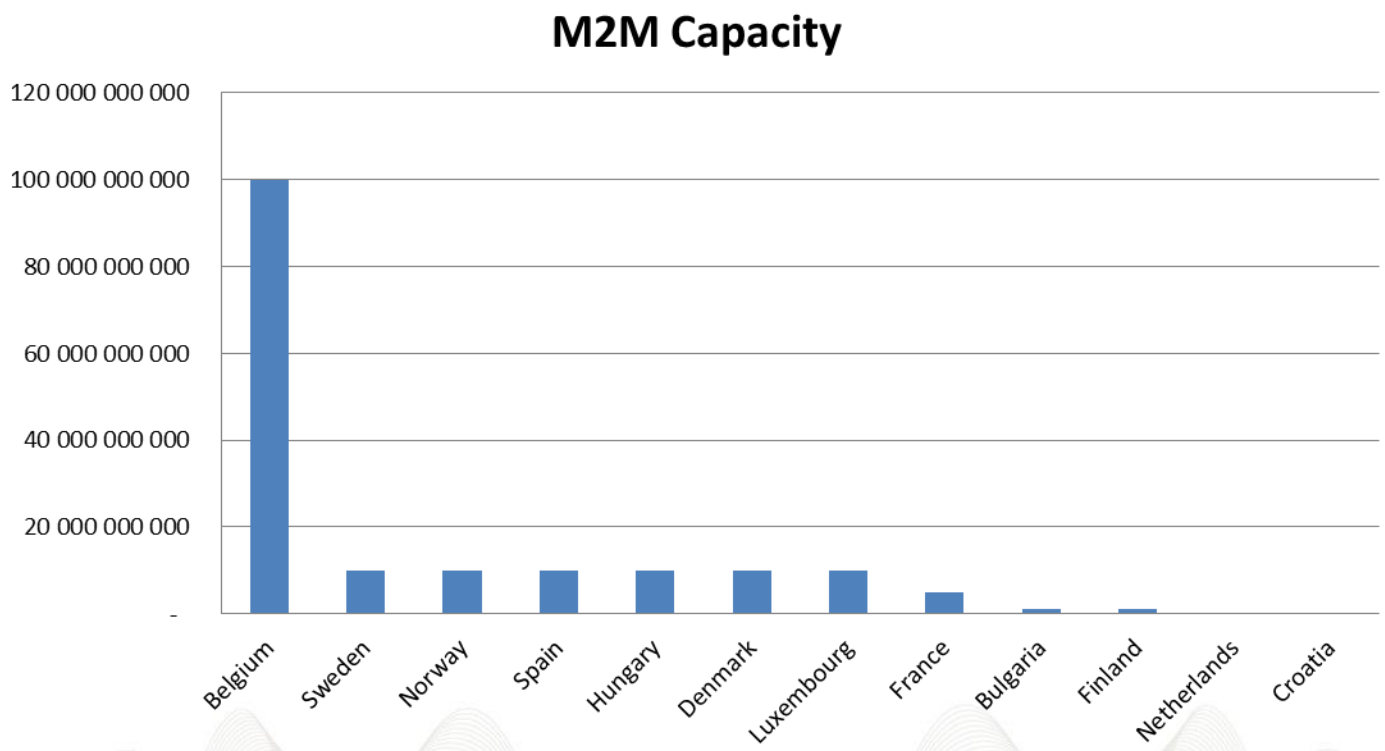


CEPT perspective on addressing scarcity

Countries with a separate dedicated numbering range for M2M services?

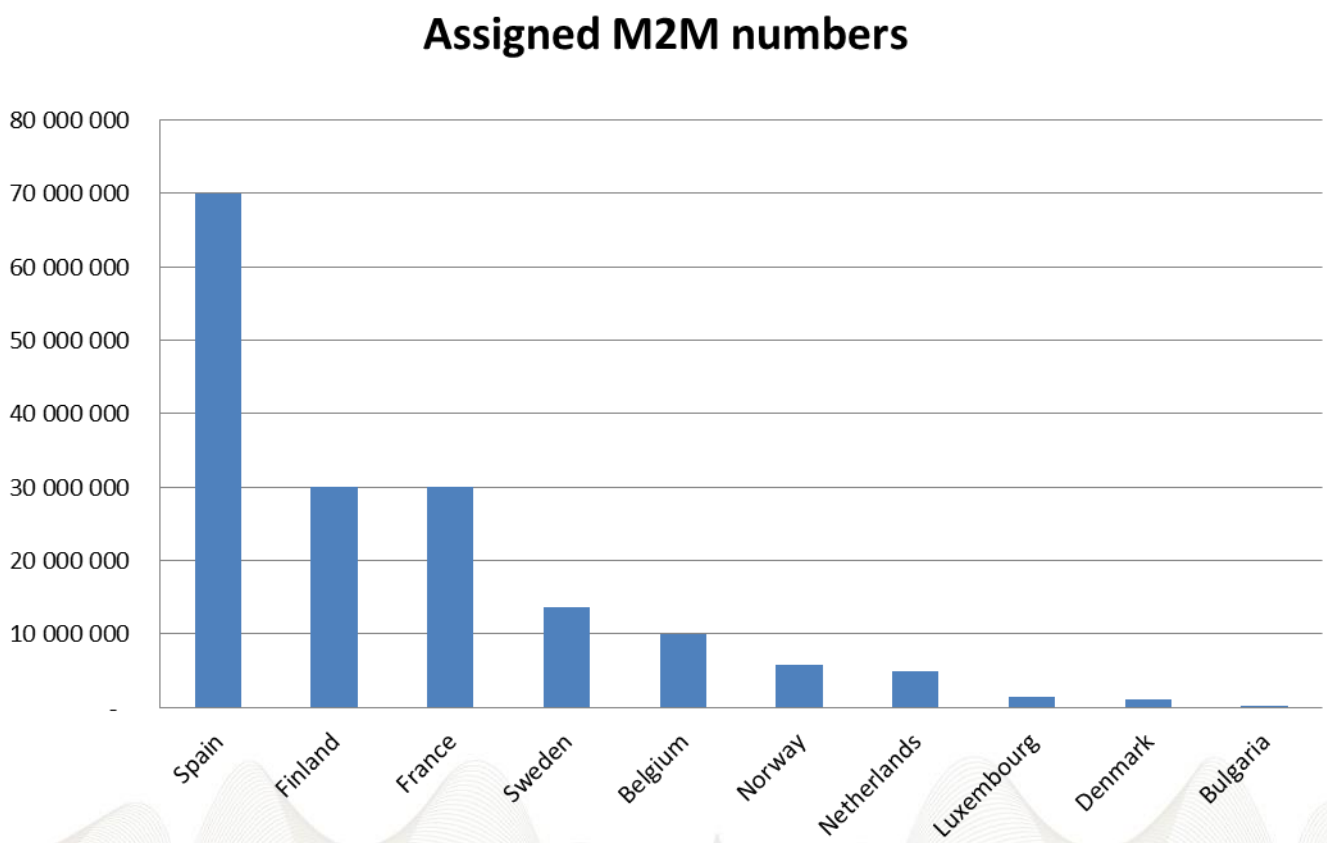


The total amount of numbers designated for use by M2M services (i.e. defined in the numbering plan but not necessarily assigned yet):



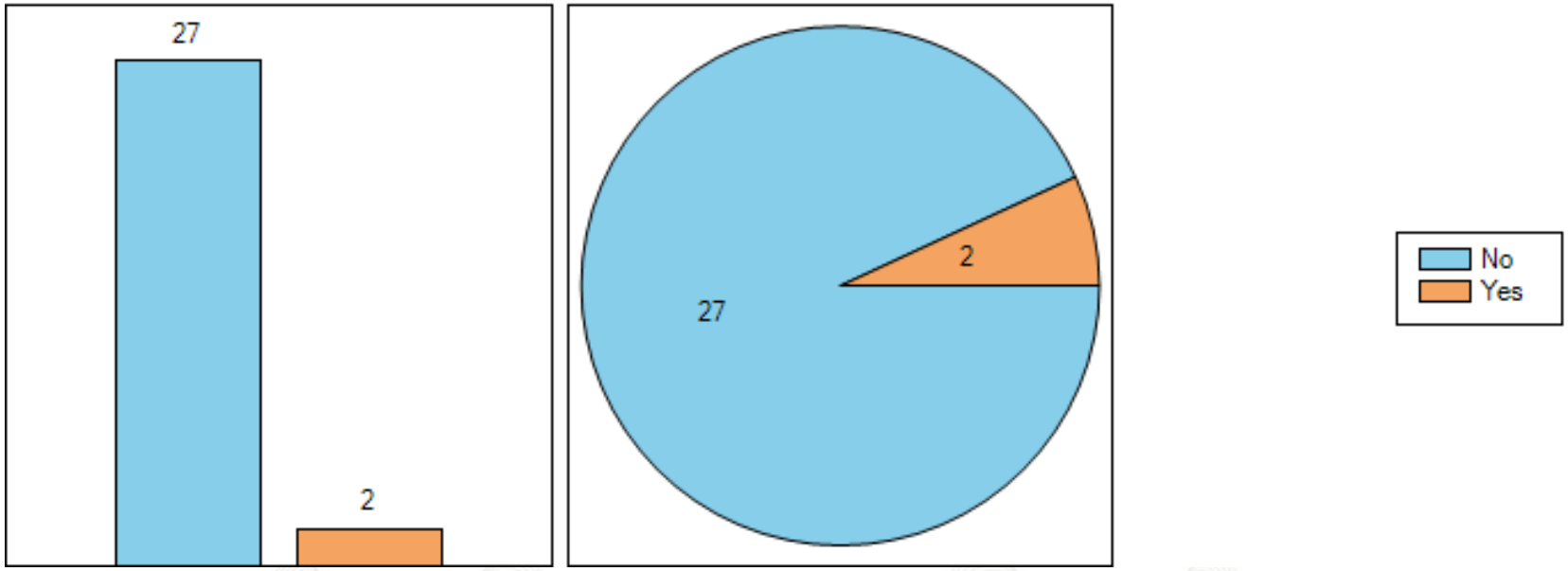
Totally appr. 167 211 000 000 (167 billion)

The total amount of M2M numbers assigned to operators/service providers (including those not yet in use)



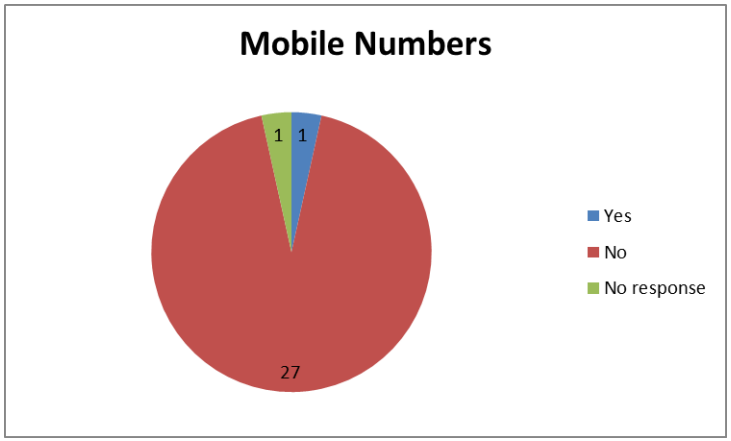
Totally appr. 167 260 000 (167 million)

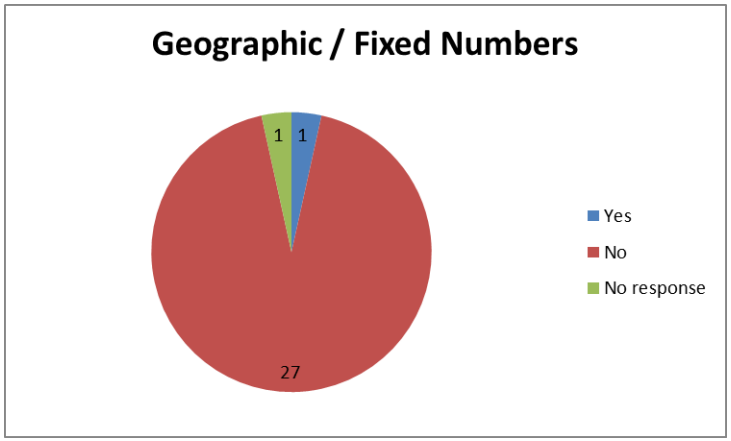
Are you experiencing E.164 numbering scarcity because of an increased demand for numbers for M2M services?

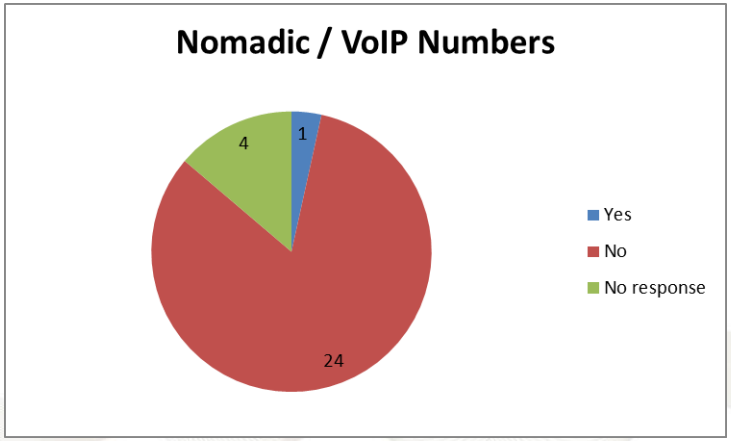


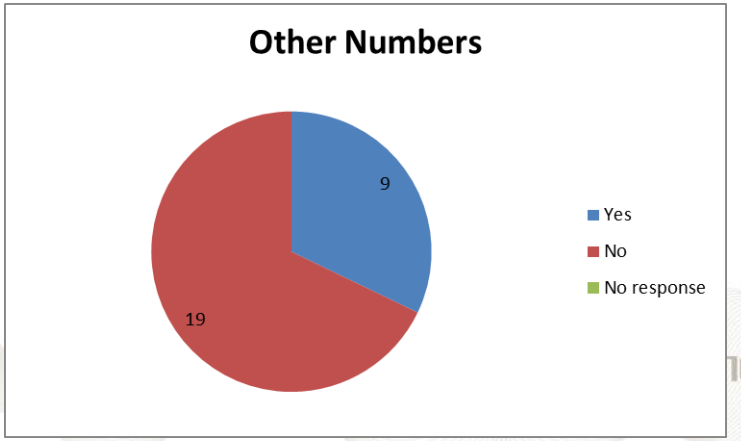
Yes – Netherlands and Denmark

Assignment of numbers
Do you assign E.164 numbering resources to non-ECN/ECS providers?









CEPT considerations on facilitating switching and competition in the M2M sector

- M2M devices using public mobile networks need a form of SIM card for network authentication and communication
- The physical replacing of SIM cards is often economically and logistically unrealistic, and sometimes even impossible
- Easy switching promotes competition and constitutes an important policy objective for NRAs

eSIM

- Enables switching without physical presence
- GSMA has defined an architecture and processes to remotely change SIM profiles, via OTA
- Timeline still unclear

MNC flexibility

- Enables MNC-assignees to produce their own SIM-cards and to more easily switch access provider
- ECC Report 212 on "Evolution in the use of E.212 Mobile Network Codes" was published in April 2014. CEPT proposal to ITU to modify E.212 is going on.
- Scarcity and other issues

Discussion: Competition in M2M

Both paths or one of them?

Timeline: Will eSIM be introduced on a voluntary basis?

Entry into person-to-person/voice market?

Is *Number* Portability (NP) necessary in a M2M environment? What about USD art . 30

No

- Low visibility of the E.164 number
- No or low end user interaction with number
- With eSIM it is easy also to change number
- The use of network internal numbers may be more efficient and preferred for some M2M services
- If not used for any kind of identification or routing (used other addressing schemes (e.g. IP addresses)

Yes

- the number is not visible, but may be used for billing and operational objectives
- NP is a well-established process for which the incremental costs for porting M2M-numbers in surplus of voice E.164 numbers are rather low
- When considering devices with eSIM that are used directly by humans (e.g. tablet or smartphone), other type of applications could use the E.164 number (e.g. SMS), besides the Internet access service
- Aspects regarding synchronizing with OTA provisioning of SIM cards is under study in PT NP

Discussion: Probably not **N**P in M2M
What about the right to **switch?**
Will eSIM come through on M2M and person-to-person?
Is there a need for a right regulatory push? (e.g.to right to switch via OTA in USD art. 30?)

Thank you!

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