



M2M Case Study | **BEREC Endorses Practical Solutions to Support the IoT**

Policies for a Connected World

For centuries commercial trade has depended on cross-border cooperation. The benefits of cross-border cooperation have grown over time. Indeed, with the advent of the "Internet of Things" (IoT) and machine-to-machine (M2M) applications, the importance of interoperable policies that facilitate global connectivity has never been more crucial. To support this, regulators around the globe are assessing existing regulations, including numbering and roaming policy, to establish rules that will enable innovation and sustainable competition. In Europe, the Body of European Regulators for Electronic Communications (BEREC) has been engaged with industry stakeholders to review the current IoT state-of-play to ensure Europe is best placed to leverage the enormous transformative growth forecast for the IoT. In fact, the IoT has the potential to accelerate many of the continent's societal, governmental and sustainability ambitions.¹

BEREC Endorses Extra-territorial Use of National Numbers, Permanent Roaming for IoT

Recognizing that the world is on the verge of another industrial revolution, BEREC, after extensive study and industry consultation, issued a report of recommendations, *Enabling the Internet of Things*.² The goal of the report is to foster an "environment that will result in sustainable competition, interoperability of electronic communications services and consumer benefits."³ In this report, which represents a consensus view of the 28 EU national regulatory authorities or NRAs, BEREC addresses many of the topics key to IoT development, and focuses on items of most concern to stakeholders, particularly numbering and permanent roaming ("IoT roaming").

BEREC identifies telephone numbers and addresses as a *fundamental* resource for enabling the IoT. BEREC states that from the outset of IoT/M2M service development for mobile-connected devices, service providers have used existing national E.164 (mobile telephone numbers) and E.212 (IMSI numbers) because of the "relative ease of implementation into existing network infrastructure."⁴ BEREC adds that this use of national numbering resources is not only crucial to the functioning of the IoT at present, but could remain important even after an increased use of IPv6 addresses.⁵

¹ See <https://ec.europa.eu/digital-single-market/internet-things>

² BEREC Report on *Enabling the Internet of Things*, Report BoR 16(39), 12 February 2016 at http://berec.europa.eu/eng/document_register/subject_berec/reports/5755-berec-report-on-enabling-the-internet-of-things

³ Ibid., at p. 5.

⁴ Ibid., at p. 15.

⁵ Ibid.

Notably, BEREC recognized and supported a finding from the consultation that a majority of stakeholders favor the extra-territorial use of national numbers to support IoT services intended for a global market.⁶ In fact, BEREC acknowledges that allowing the extra-territorial use of national numbering resources appears to be central to the economic viability of IoT services.⁷ And according to World Economic Forum Founder and Executive Chairman, Klaus Schwab, IoT services could become central to global economic viability.⁸ Finally, BEREC concluded that using existing number resources, including extra-territorial use, presents a reasonable approach to addressing IoT services while introducing a new European numbering scheme for IoT does not seem to have any significant benefits justifying the cost.

In addition to numbering, roaming is an integral component of many IoT services that are intended for a global market. BEREC agrees with the importance of this, noting that many globally-deployed IoT applications relying on mobile connectivity use IoT roaming to complete the service.⁹ Moreover, BEREC acknowledges that the IoT market is transnational and therefore a significant portion of IoT devices are intended for worldwide mobility and marketed globally on the basis of a roaming platform and commercial agreements. Indeed, without having the option of IoT roaming, provisioning many IoT services could become operationally problematic and more costly.¹⁰ Therefore, as with the extra-territorial use of national numbers, BEREC acknowledges that the extensive use of “[p]ermanent roaming appears to be a key factor for the success of certain IoT models being used.”¹¹

Although at an early stage of development, IoT/M2M communications have already demonstrated the exciting opportunity to massively improve efficiency, productivity and social welfare in diverse areas. Europe’s BEREC should be commended for its comprehensive industry analysis and thoughtful recommendations in support of the extra-territorial use of national E.164 and E.212 numbers and use of roaming platforms for IoT/M2M-type solutions. With its report, BEREC proposes flexible and sustainable solutions that encourage national regulatory authorities within the EU to enable the global trajectory of M2M and the IoT to accelerate.

⁶ *Ibid.*, at p. 16.

⁷ *Ibid.*, at p. 19.

⁸ Klaus Schwab, *The Fourth Industrial Revolution: what it means, how to respond* (16 January 2016): “Like the revolutions that preceded it, the Fourth Industrial Revolution has the potential to raise global income levels and improve the quality of life for populations around the world... [t]echnological innovation will also lead to a supply-side miracle, with long-term gains in efficiency and productivity. Transportation and communication costs will drop, logistics and global supply chains will become more effective, and the cost of trade will diminish, all of which will open new markets and drive economic growth.” See <http://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond>

⁹ *BEREC Report on Enabling the Internet of Things*, Report BoR 16(39), 12 February 2016, at p. 28.

¹⁰ *Ibid.*, at p. 28, FN 87.

¹¹ *Ibid.*, at p. 29.