



Response to

RSPG17-034 Final

Radio Spectrum Policy Group

Strategic Spectrum Roadmap Towards 5G For Europe

8 January 2018

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I. About MVNO Europe

1. MVNO Europe represents various types of Mobile Virtual Network Operators (MVNOs), with different business models, addressing retail consumers, business users, the public sector, machine-to-machine (M2M) and Internet of Things (IoT), etc.
<http://www.mvnoeurope.eu/members>
2. Our members provide mobile-only offers, fixed-mobile convergent offers and offers incorporating audio-visual media content, financial services, machine-to-machine communications including connected mobility, embedded data SIMs for tablets, laptops and other devices, etc. Our members are also active on wholesale markets as MVNE (Enabler) / MVNA (Aggregator). Some of our members hold rights-of-use over radio spectrum while also being an MVNO. MVNO Europe does not represent branded resellers.
3. MVNOs currently represent +/- 10% of SIM cards in the European Union.
4. MVNOs contribute strongly to competition and provide clear Business to Consumer (B2C) and Business to Business (B2B) end-user benefits. MVNOs also contribute to financing mobile networks through payment of wholesale charges which assure revenues to Mobile Network Operators, whilst avoiding costly duplication of network assets.

II. Introduction

5. MVNO Europe welcomes the RSPG's initiative to consult interested parties on its draft Strategic Spectrum Roadmap Towards 5G For Europe (hereafter 'draft 5G Roadmap'). MVNO Europe is pleased to provide this brief contribution.
6. 5G is positioned (including by the European Commission) as a breakthrough in technological terms, in business model terms, in socio-economic terms, etc., notably with regard to Internet of Things, embedded devices, connected mobility, and so-called industry 'verticals' which may rely on 'network slicing'.
7. MVNO Europe recognises that the RSPG's mandate concerns radio spectrum policy in the strict sense, and does not cover the entirety of the EU legal and regulatory framework. However, the RSPG's activity, and certainly the European Commission Decisions based on RSPG deliverables, influence or even determine market structures, notably in terms of the number of Radio Access Network operators that are entitled to be present in a given geography, and in terms of the number of Radio Access Networks that can viably exist in a given geography.

8. In this context, we wish to place emphasis on the effect of market structures on overall socio-economic welfare, and the importance of enabling competition, notably competition between Radio Access Networks in terms of supplying wholesale markets (e.g. markets for MVNO access, roaming access (which can be international, national, regional, local, indoor), future markets based on 'network slicing', future markets based on network sharing and spectrum leasing (geographically and in time), etc. We highlight that MVNOs have usually (by necessity) been innovation leaders, inject additional competition on often highly concentrated markets, and that our members are long-standing leaders in Internet of Things, including connected mobility.

III. Expression of Concerns

9. The draft 5G Roadmap is clearly a document which has influence on market structures, and this raises concerns for our members, notably because the 5G roadmap appears largely to promote a 'business as usual' view of the world, with national authorities in charge of spectrum authorisation, a propensity to mostly nation-wide spectrum assignments for 'sweet spot' spectrum - which favours the incumbent Mobile Network Operators - and limited opportunities created for innovators and new market entry.
10. MVNO Europe is concerned that the draft 5G Roadmap, as put forward by the RSPG, would lead to cementing existing market structures (i.e. 3 or 4 large Mobile Network Operators per country, which in several cases do not compete vigorously on wholesale markets, and a small fringe of MVNOs where the Mobile Network Operators choose to supply wholesale access), and might even lead to a reduction of competition between Radio Access Network operators. Creating a situation in which 5G would be mainly deployed and operated by the existing large Mobile Network operators entails risks of failing to unlock the breakthrough innovative potential that new entrants/new challengers and companies with entirely different business models can bring to the market. By this we mean not only MVNOs, but also companies that would acquire spectrum and position themselves quite differently on wholesale markets compared to the large Mobile Network Operators (e.g. openness to new forms of active network sharing, new forms of spectrum trading/leasing, potentially wholesale-only providers, openness to Full MVNO access – and access on different technical and economic conditions, etc.)
11. Indeed, we observe that the draft 5G Roadmap basically sets out as assumptions/premises that:

- a) The incumbent Mobile Network Operators are expected to be the main operators of 5G Radio Access Networks, using the very large 'sweet spot' spectrum resources already individually licensed to them (or soon to be additionally individually licensed to them) on a nation-wide basis (Introduction, bullet point 3), and,
 - b) The incumbent Mobile Network Operators are expected to be the ones meeting the overwhelming majority of market demand, including for business-specific applications and new industry 'verticals' (Annex A2.2, bullet point 2, and Annex A2.3, bullet point 2), with others being relegated to being niche players.
12. In addition, the draft 5G Roadmap's references to the 3.6 GHz band, in terms of 'defragmenting' the band (Opinion 8), and in terms of 'authorising sufficiently large blocks of spectrum by 2020' (Opinion 9, bullet point 3) suggests that individual licensing, possibly on a nation-wide or very geographically wide basis, is seen as the preferred approach. Such an approach would likely enable the incumbent Mobile Network Operators to extend their already very large spectrum holdings to the 3.6 GHz band, to use this spectrum as a 'bolt-on' (possibly with carrier aggregation) to their existing Radio Access Networks.
13. An additional concern is that current holders of 3.6 GHz band spectrum could be expropriated, or would stand essentially no chance in spectrum assignment proceedings that would pit them against the incumbent Mobile Network Operators in large-scale auctions.
14. Furthermore, opportunities for innovative new operators (in technical terms and in business terms) to secure an appropriate spectrum portfolio, addressing both coverage and capacity requirements, appear severely restricted in the draft 5G Roadmap. Indeed, opportunities for new market entry are virtually proposed to be limited to the 26 GHz and higher bands, and a general authorization system is only considered in earnest for the 66-71 GHz band (Opinion 10).
15. Finally, we express our surprise that 'network slicing' is only mentioned in passing, in Annex A.1, and not in the main body of the RSPG's draft 5G Roadmap. 'Network slicing' is an essential feature of 5G, is a way of promoting new forms of sharing, new forms of competition and innovation more generally. It would be a pity if 'network slicing' were not to materialise, or would not become available under fair and reasonable conditions. We ask the RSPG to address 'network slicing' under pro-competitive conditions as an additional RSPG Opinion.
16. Overall, our assessment of the draft 5G Roadmap is that it appears to roll out the red carpet for the vertically integrated incumbent Mobile Network Operators to extend their existing 2G/3G/4G networks and business model with 5G 'bolt-ons', and that 'network slicing' is at risk

of turning out to be a buzzword that will not become a genuine stimulant of competition and innovation. We express serious doubts that the RSPG's approach will enable the realisation of the 5G vision of the European institutions.

IV. Another Way Forward is Needed on Spectrum Authorisation

17. Agile and specialist innovative companies, existing ones and new ones yet to emerge, need to have a fair chance to secure appropriate spectrum holdings for new 5G-based businesses. This includes companies being genuinely able to secure an appropriate spectrum portfolio across <1 GHz and higher bands, to enable them to meet both coverage and capacity requirements. This is necessary to stimulate genuine innovation, in technical terms and in business model terms, to achieve the transformational 5G vision.
18. This requires a different approach to spectrum licensing to the one which has been practiced for in the past decade (preponderance of pure auctions for a limited number of nation-wide spectrum blocks), in terms the number of spectrum blocks made available, the size of spectrum blocks, spectrum caps, the geographical units made available, and authorisation conditions/procedures.
19. MVNO Europe would favour authorisation conditions which entail:
 - a) Clear rights and encouragement to engage in spectrum trading and leasing.
 - b) New entrant preference, as for instance practiced for <1 GHz spectrum in Austria, Cyprus, Slovenia, The Netherlands, and the UK.
 - c) An across the board obligation, or beauty contest (component), which:
 - i) mandates or rewards binding commitments to engage in active network sharing under fair and reasonable conditions in specific circumstances,
 - ii) mandates or rewards binding commitments to offer 'network slicing' under fair and reasonable conditions in specific circumstances,
 - iii) mandates or rewards binding commitments to provide wholesale Full MVNO access under fair and reasonable conditions in specific circumstances.

The rewards could be in terms of points in a selection procedure, but other forms of rewards are imaginable, e.g. lower one-off and/or recurring spectrum fees (this has been

applied in some cases in exchange of stronger coverage commitments, e.g. in Sweden), and conceivably also a longer license duration that could give more certainty to investors.

20. We wish to emphasise that whilst the above might seem creative, EU Member States/NRAs have included wholesale access obligations in radio spectrum assignment proceedings, notably in Germany (historically only airtime resale), Ireland (where the 2100 MHz spectrum assignment proceeding included offering a licence which required MVNO access¹), and France.

We draw particular attention to the much more recent French cases, where the 4G spectrum assignment proceedings were a hybrid beauty contest/auction, in which candidates could win points by committing to providing Full MVNO access. In the 2011 2.6 GHz proceeding, 3 out of 4 winning bidders committed explicitly to providing Full MVNO access². In the 2011 800 MHz proceedings, 3 out of 3 winning bidders committed explicitly to providing Full MVNO access³, not only on the 800 MHz spectrum won in the proceeding, but also on their other previously licensed spectrum. Details on the Full MVNO nature of the licence condition are contained in Section 5 of the spectrum licences⁴. Strong focus is placed in the spectrum licence conditions on the ability for Full MVNOs to be able to: (i) switch between Host Mobile Network Operator networks, (ii) rely on multiple host Mobile Network Operators in parallel, (iii) have full commercial autonomy on all retail markets and distribution networks, and (iv) own their customer base, and not be subject to restrictions on changes in their shareholding structure, or selling the wholesale access rights they contractually acquired. In addition, the spectrum licence conditions provide for: (v) technical non-discrimination in favour of MVNOs on quality of service, compared to the Host Mobile Network Operator's own services, (vi) an explicit right for the Full MVNO to own and operate its own core network and its own interconnections with third party operators, and (vii) reasonable economic conditions, compatible with effective and loyal competition on wholesale and retail markets.

¹ The Irish licence was won by Three Ireland, and included specific MVNO access obligations and retail-minus 35% wholesale charges, set out in Schedule 5, Part 7, of its subsequently granted licence: <https://www.comreg.ie/media/2017/02/M3G1011.pdf>

² ARCEP page in English, including the MVNO commitments, which were subsequently included in the spectrum licences of the Mobile Network Operators: https://www.arcep.fr/index.php?id=8571&no_cache=1&tx_gsactualite_pi1%5Buid%5D=1431&tx_gsactualite_pi1%5BbackID%5D=1&cHash=136860fe4eb69ee4fb08ce241c378d76&L=1

³ ARCEP page in English, including the MVNO commitments, which were subsequently included in the spectrum licences of the Mobile Network Operators: https://www.arcep.fr/index.php?id=8571&no_cache=1&L=1&tx_gsactualite_pi1%5Buid%5D=1478&tx_gsactualite_pi1%5Bannee%5D=0&tx_gsactualite_pi1%5Btheme%5D=0&tx_gsactualite_pi1%5Bmotscle%5D=800%20MHz&tx_gsactualite_pi1%5BbackID%5D=2122&cHash=131ed5455f1cccd964db8c91959c0702

⁴ For example, the Orange France licence, pages 14-15 (in French only – we can provide a translation on request): https://www.arcep.fr/uploads/tx_gsavis/12-0038.pdf

An EU Competition Brief (published by DG COMP of the European Commission) in 2013 describes the position of the French Competition Authority on the matter of (Full) MVNO access⁵.

21. We also draw the RSPG's attention to the fact that the European Commission's legislative proposal of 16 September 2016 for a European Electronic Communications Code (which is currently in trilogue negotiations with the European Parliament and Council), contains a 'codification' of Art. 5 of the RSPP, to incorporate pro-competitive measures, including potentially mandating wholesale access, into the core of future EU legislation on electronic communications. This is Art. 52 of the draft EECC⁶. Furthermore, the German Monopoly Commission has recommended in 2017 that wholesale access be mandated in the forthcoming 5G spectrum authorisation proceedings⁷.
22. Several MVNO Europe members highlighted, in an event held at the European Parliament on 28 June 2017⁸, that 5G networks are expected to be intrinsically 'shared', e.g. by way of joint rollout, active network sharing and 'network slicing', involving telecommunications operators, but also other 'vertical' industry and actors from the public sector. New deals are also imaginable for our fixed operator members, in the context of the fixed backhaul requirements for new small cells, etc. We note in this regard that some fixed operators (including MVNO Europe members) have obtained experimental spectrum authorisations for 5G. Fastweb's experimentation with TIM in Italy (and Huawei as the equipment vendor) specifically includes sharing, between two telecommunications operators, and test arrangements with others (52 partners in total)⁹.
23. On the basis of the above, we urge the RSPG to be more forward-looking in its discussion of spectrum bands, and to give serious consideration to including elements on progressive and pro-innovation/pro-competitive authorisation conditions in its final 5G Roadmap.

⁵ EU Competition Brief – extract: http://ec.europa.eu/competition/ecn/brief/01_2013/fr_mobile.pdf

⁶ EC legislative proposal EECC: http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=comnat:COM_2016_0590_FIN

⁷ See in particular points K11 and K12 and paragraphs 42 and 43 of Sondergutachten 78 der Monopolkommission gemäß § 121 Abs. 2 TKG - Telekommunikation 2017: Auf Wettbewerb bauen! http://www.monopolkommission.de/images/PDF/SG/s78_volltext.pdf

⁸ <http://mvnoeurope.eu/project/save-the-date-breakfast-on-5g-and-the-key-role-of-mvnos/>

⁹ <http://www.fastweb.it/corporate/media/comunicati-stampa/tim-fastweb-e-huawei-parte-progetto-per-sperimentazione-5g-a-bari-e-matera/?lng=EN>

V. Specific Issue: Technology Restrictions in MVNO Access, 5G Vision At Risk

24. MVNO Europe wishes to flag to the RSPG that there have been (and remain) situations in which Host Mobile Network Operators do not extend their full Radio Access Network coverage to the MVNOs they host (e.g. lengthy exclusion of 800 MHz 4G coverage in the UK to hosted MVNOs), and situations in which providers of wholesale roaming access/wholesale roaming resale access do not include 4G in the wholesale roaming services they provide (e.g. currently a remaining issue notably in Germany). MVNO Europe has real concerns that this could happen again with 5G, and perhaps even in manners which are more exclusionary. Undue restrictions of a similar nature in the context of 5G would severely damage the innovation potential of 5G, and might leave 'network slicing' a pipe dream. We urge the RSPG to reflect this issue in its final 5G Roadmap.

VI. MVNO Europe Contact Details

Should you require any clarifications or further information on the elements and positions set out by MVNO Europe in this response, please contact:

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