

# 1. Consultation report on APEK's Frequency Management Strategy

## 1.1. Introduction

The Consultation document on APEK's Frequency Management Strategy (short Consultation Document), was published on APEK's website on 22 March 2013. Due date for the interested public to provide comments and answers was 22.4.2013. Upon request of one participant the public consultation was extended until 8.5.2013. Within the defined consultation period APEK received written comments, suggestions and answers from four mobile operators: Telekom Slovenije d.d., Si.mobil d.d., Tušmobil d.o.o. and T-2 d.o.o. APEK also received comments from the Community of Municipalities of Slovenia (SOS).

The purpose of this public consultation was to receive the comments, suggestions and answers to the questions posed in this document, as well as comments and opinions to the general subjects of the document regarding future dealings with the frequency spectrum, also in the light of the requirements of the EU Digital Agenda. Basically, the Consultation document provided general information on the state of the frequency spectrum situation in Slovenia as well as on the current and predicted state of the development of the mobile market, primarily the expected growth of data traffic and therefore the growing need for the provision of the necessary frequency capacities. APEK asked the interested public to provide their opinion on the published Consultation document, particularly on the questions asked at the end of the document. Those questions are covering all relevant issues connected to the upcoming frequency assignment procedures, including auction format, spectrum caps, reserved spectrum, coverage and roll out obligations, any special coverage obligation for assigned frequencies on 800 MHz and network cooperation between operators. APEK will take into account in the further steps of in the process of the upcoming frequency assignment procedures all relevant comments, views and answers given in the responses to the Consultation Document.

Below, APEK provides the summary and a discussion of the received comments and answers to individual questions. All general remarks of the interested public are integrated within this discussion.

## 1.2. Summary of questions and comments received

### 1. Do you think that combining all frequency assignments in one assignment procedure is efficient and will contribute to more transparency and certainty for investors? Please give reasons.

One contributor expresses its doubts on auctions as the proper procedure to assign frequencies and suggests to use coverage and rollout as additional, criteria; one contributor points at the principal procedural requirements as transparency, non-discrimination and competitiveness; two contributors support an assignment procedure as proposed by APEK. In addition, one contributor points at the financial load of a simultaneous auction of several frequency bands, putting operators under financial stress and suggests to auction sub 1GHz frequencies separately from all other frequencies in higher frequency bands and prefers not to have a combinatorial auction. Another contributor places a list of suggestions, which do not refer to this question and will be dealt with on the proper places later on.

Although one contributor does not believe that auctions are the proper procedure to assign frequencies, APEK recognizes support for combining all upcoming frequency assignments in one assignment procedure. APEK will provide the detailed auction rules and all requested information in time and will give all interested parties ample opportunity to comment on these. Nevertheless, APEK keeps up its position that staggered auctions are suboptimal, because they require duplication of procedures and are highly inefficient. In addition, they may lead to the well-known "exposure problem", which creates risks to existing operators to be able to successfully bid on vital frequencies. There is not yet a decision on the auction design (CCA, SMRA or other), but all comments will be considered in the decision process.

**2. Where would you see more benefits if the frequency bands in question would be assigned separately?**

There are two contributions dealing with related topics. One contributor fears that the simultaneous procedure could lead to a reduction of existing license periods, one other contributor claims that TDD spectrum and 3GHz spectrum should also be released, but should be auctioned separately.

**APEK** is not planning to shorten existing licenses. Furthermore, **APEK** repeats its plans that TDD spectrum will be included in the auction, but **APEK** has not yet considered to release 3GHz spectrum.

**3. Does the alignment of expiration dates of frequency assignments contribute to regulatory certainty and better planning conditions for mobile network operators? Please give your reasons.**

There is only one contribution to this question, which does not directly address the issue at stake. The contributor claims that alignment is practically impossible. In addition, this contributor mentions that additional costs caused by restructuring of networks will hit operators and that operators need clear conditions and circumstances of renewal and sufficient time to adjust. As a consequence a 2 years adjustment period is requested. Furthermore, changes in ownership and new market entry will change conditions and will make business planning very complex, if changes in expirations dates occur. Therefore, a stable and clear environment is requested.

**APEK** takes the fact of no direct answer to Q3 as a position of indifference with respect to this question. **APEK** has not suggested a complete alignment of expiration dates, only those alignments mentioned in the Draft Frequency Management Strategy were at stake here. The concerns of the contributor with regard to adjustment cost and other issues will be dealt with in the Information Memorandum.

**4. Should all described alignments of expiration dates be considered?**

There is only one response to this question, which expresses concerns that license periods of 2,1GHz frequencies might be reduced in the course of the alignment procedures.

**APEK** reiterates that no such plans exist.

**5. Which auction format do you find more appropriate: SMRA or CCA?**

One of the contributors does not express a definite preference for a certain auction format. This contributor emphasises that the auction should be transparent, non discriminatory and competitive and suggests a two round system one for allocating frequencies and the second for creating the revenues for the Republic of Slovenia.

One operator expresses a weak preference for CCA, whereas two operators do not prefer CCA. One of these operators disagrees with a complex auction procedure, be it SMRA or CCA. From his perspective, complex procedures are simply a waste of time and money and would not contribute to a better allocation.

From the answer of the contributor suggesting a two round procedure to Q11 **APEK** concludes that his suggestions are closely related to the concern that smaller operators may be outbid by financially more powerful operators and therefore need a first round with very strict frequency caps. But this does not say anything about how the first and the second round should be organized, so there is no conclusive position of this contributor on the question, which of the mainly used procedures (CCA, SMRA) should be used.

**APEK** takes note of the diverging position of the three operators directly answering the question. **APEK** will do the utmost to convince all contributors of the advantages of auction designs, which are intensively studied and applied worldwide in a variety of auctions with different auction objects. All considerations and reasoning on the auction design and all related procedural rules will be contained in the Information Memorandum.

**6. To avoid unnecessary rollout costs, APEK might consider to auction exemptions from coverage obligations for a limited number of frequency blocks in the 800MHz band analogue to the frequency auctions in Denmark. Do you think, that auctioning of coverage exemptions be an appropriate way to exempt operators from coverage obligations in the 800 MHz band for certain rural subareas?**

**7. Should APEK consider the Swedish model, which stipulates only one license in the 800MHz band having coverage obligations, but at the same time allows the winning bidder to use a significant part of his winning bid to finance coverage obligations?**

**8. Should APEK consider a model for coverage obligations in the 800MHz spectrum band, where only one 2x10MHz license would carry a coverage obligation (UK-Model)?**

**9. Should APEK consider the Danish model for 800MHz coverage obligations?**

It appears useful to combine the responses to these four closely related questions. Contributors express a series of opinions on the problems behind this question. One operator suggests that only one block of 2x5MHz of 800 MHz should have a coverage obligation. One other operator claims that this special coverage condition on one 800 MHz block may lead to local monopolies in rural areas. The same operator – as all other operators - does neither support the Danish nor the Swedish model and does not support special coverage conditions, instead suggesting equal coverage conditions for all 800 MHz blocks. Fulfilment of coverage conditions should not be tied exclusively to 800 MHz, all available frequencies could be used upon the operator's discretion. A further contributor recommends to only taking into account Slovenian country specifics, in particular country size. In addition this operator claims that the problems of white spots and the achievement of the objectives of the Digital Agenda 2020 have to be solved separately from the assignment of ODRF, in accordance with the national strategy, being not related to frequency assignment. In their opinion, White Spots coverage requires substantial investment, creating the risk of non compliance. One contributor strongly supports high coverage obligations on White Spots areas. One contributor suggests that the discussion on broadband coverage in uncovered rural areas should be based on an updated Slovenian Broadband Strategy, which integrates the Digital Agenda 2020 and which is not available at this point of time.

To avoid any ambiguities in the use of the term »White Spots«, further on APEK will use the term uncovered rural areas, meaning areas, where there is no broadband coverage. APEK is already considering the number of blocks to be designated for coverage and the risks of creating local monopolies. In particular, APEK will investigate access obligations to be placed on this/these designated block/s to avoid competitive distortions. APEK will in any case base its decision on a careful analysis of generic and country specific problems including the question of exclusiveness of frequency ranges for fulfilling coverage obligations. APEK does not share the opinion that the goals of the DA 2020 has no relation to frequency assignments and directs attention to the RSPP, which explicitly empowers NRAs to place special coverage conditions on 800 MHz frequencies. In its consultation document APEK did not imply that any special coverage obligations regarding 800 MHz frequencies would require coverage of uncovered rural areas with 800 MHz frequencies only. APEK is aware of the missing updated Slovenian broadband strategy. But anyway, APEK's frequency management strategy does not heavily depend on the National Broadband Strategy, except for the definition of uncovered rural areas, service level and coverage obligations. APEK's frequency management strategy will be adapted to the National Broadband Strategy of the Republic of Slovenia

**10. Do you see spectrum caps as an appropriate tool in order to guarantee competitive conditions on the mobile market?**

Spectrum caps are seen as an important tool in order to guarantee competitive conditions on the markets by all four contributors. One contributor strongly suggests to have different spectrum caps for »leading« operators and for »other« operators.

**APEK** misses any description or definition of the term "leading" operator and at this point APEK does not see the possibility for introducing a differentiation between of operators, without any economic and legal basis. Nevertheless the Information Memorandum will assess this topic as well.

**11. Please describe your suggested options for spectrum caps and give your reasons for your proposed version of spectrum caps.**

The proposed caps vary significantly between very strict – almost no excess demand for frequencies possible – to very generous, allowing two operators to buy all the sub 1GHz spectrum, depending on the market position of the contributor. One operator introduces the topic of changes of actual spectrum allocations induced by the results of the auction, claiming that there are high adjustment costs, risks of service interruptions and long adjustment periods, if certain frequencies now used by this operator cannot be used after the upcoming auction.

**APEK** will carefully analyse the underlying economic situation and potential outcomes to be able to specify a proposal for spectrum caps, which will be part of the Information Memorandum in preparation and which will be consulted. APEK does not see the adjustment problems to be closely related to spectrum caps. These problems will have to be solved in the so called allocation step of the auction, which is used to map generic blocks into real frequency blocks. Again a market oriented procedure will be proposed in the aforementioned Information Memorandum.

**12. In some recent auctions, there were discussions about reserved spectrum for new entrants. Should APEK reserve any spectrum for a possible new entrant or later capacity needs?**

**13. In which frequency band and to what extent do you think should frequencies be reserved?**

Again it makes sense to deal with these two questions in one section. There is broad consensus that in the current market situation there is no case for reserved spectrum to promote new entry into the Slovenian market. Two contributions suggest the higher bands (2,1GHz, 2,6GHz, 3GHz) and one of these two contributions suggests the 700MHz band as possible options for reservations at auctions in the future.

The necessity of spectrum reservations for new entrants will be the subject of a further assessment of competition on the Slovenian mobile communication markets by APEK in the Information Memorandum.

**14. Should the 800 MHz frequencies primarily be used to provide broadband services in the "White Spots" before they are allowed to be used elsewhere and/or for other purposes as »indoor coverage«? Give your detailed reasoning.**

There are three contributions to this question, two of them directly relating to this question, the other only touching upon the basic question, whether there should be special coverage obligations on 800MHz frequency blocks. One of the direct answers regards the provision of the German NRA "German model" as interesting, but not applicable to Slovenia, based on the differences in country size. The same contributor reiterates his opinion that the goals of the DA 2020 should be dealt with elsewhere. The other contributor has a clear negative position on placing priority on the rollout in White Spots, also claiming that coverage obligations restricted to »White spots« would be not optimal, and suggests a general coverage obligation instead, having no objection against special coverage obligations in 800 MHz. White Spots should be defined as in the State Aid rules for broadband rollout.

The third contribution advocates not to differentiate between 800 MHz and 900 MHz frequency bands. "Leading" operators should have special obligations if they succeeded to buy frequencies in the lower bands at the amount of their frequency caps.

The contributor who represents local communities strongly supports APEK's proposals for 800 MHz coverage obligations for white spots.

**APEK** takes from these contributions that there is no strong case for prioritizing 800MHz spectrum for usage in uncovered rural areas. There appears to be no strong resistance against coverage obligations on 800 MHz spectrum, despite the negative statement of one of the operators. The definition of rural uncovered areas and coverage obligations placed on 800 MHz frequencies will also be an important subject of further assessment within the Information Memorandum.

**15. Should the "White Spots" be identified by means of the statistics of regions in Slovenia and should in each statistical region 95% of post addresses should be covered with mobile broadband services? In addition, should 98% of post addresses of all Slovenia be covered with mobile broadband services? Mobile broadband services should allow an effective throughput at the cell edge of 2 Mbit/s. What would be your proposed percentage of post addresses covered? What would be your proposed throughput at the cell edge? Give your reasons.**

**16. Should the "White Spots" be identified by means of the statistics of settlements in Slovenia? A White Spot would be assumed, if 75% of post addresses are not covered with a throughput at the cell edge of 2 Mbit/s (low cell occupation), if the number of households in these settlements is larger than or equal 10 and households do not have broadband**

coverage. The White Spots will be determined by simulating 800 MHz coverage on the already existing 900 MHz base stations.

**17. What would you suggest as a reasonable coverage percentage of post addresses in these White Spots?**

**18. Do you agree that the minimum downlink speed in these areas should be 2Mbit/sec? (If not, please specify whether 1Mbit/s or 5Mbit/s is more appropriate)**

**19. Do you agree that these coverage obligations should be met by the license holders at latest 2 years after the assignment of 800 MHz frequencies? (If not, please specify the roll out obligations)**

These questions are dealt together, because they are dealing with mutually exclusive options and their respective implementation. There is no clear opinion on the geo-statistical approach to the definition of the uncovered rural areas. One contributor clearly prefers a definition based on the statistics of settlements, other do not comment on that. The contributors have a clear opinion of the service level to be reached, which should be 1 Mbit/s at the cell edge initially, with possible increases later.

Three operators supply rollout proposals. One operator stated that White spots should be determined in such a way that almost all citizens will have the opportunity to use the Internet at home. The method should be comparable for mobile and fixed networks.

Where mobile broadband is intended as a substitute for fixed broadband access, the installation of external antennas must be considered.

The operator favouring different frequency caps for "leading" and "other" operators also favours that approach for rollout: for »leading« operators, rollout should be completed 3 years after assignment of 800MHz and 900 MHz frequencies. "other" ops: 30%. The two other operators propose 50% and 65% after two years, increasing up to 90 % in 5 years.

The contributor who represents local communities is supporting the service level of at least 2 Mbit/s.

APEK cannot see a clear opinion of the market parties on the basic questions of coverage obligations and rollout conditions as well as on the principal geo-statistical approach. Consequently, APEK will based on further inquiries, propose a decision on the definition of uncovered rural areas and the service level, coverage obligation and rollout speeds. These will also be part of the Information Memorandum and will be consulted with all interested parties. APEK is planning to use 2 Mbit/s indoor coverage for mobile devices as a reference point for coverage obligations.

**20. Please comment on the general concept of network sharing and the special situation in White Spots!**

**21. Would you support network consortia for covering the White Spots?**

**22. Please, supply your opinion on these issues.**

All respondents are supporting passive infrastructure sharing. There is broad agreement, that commercial and technical sharing conditions of passive infrastructure should be defined and published under cooperation of APEK. Two contributors point towards legal problems of sharing of existent telecom and other suitable infrastructure. Joint ventures are seen by two operators as a tool for network construction and for one operator even for running networks being entitled to use frequencies. These joint ventures should be open for network operators and other interested investors and should be run as »NetCos«, having no right to offer services to end users. One operator advocates »open towers«, i.e. towers constructed by communities, offering the physical structure, power supply and fibre connectivity, open to all interested parties on commercial terms. There is only little discussion on sharing of active components.

APEK takes note of the expressed wish on a further definition of infrastructure sharing and joint ventures. The joint venture concept does not fall under the jurisdiction of APEK, however. APEK will take the necessary steps to initiate a dialogue with the Competition Protection Agency in order to specify clear rules with regard to such undertakings and to create regulatory certainty about possible extent, intensity of cooperation and other related questions.

### 1.3. Conclusions

APEK thanks all contributors for their efforts put into their responses to the Consultation document and will proceed with further steps, in accordance with the “Provisional timetable of the proposed frequency management strategy”, published at the end of the Consultation document. All received comments and answers, provided in this public consultation will help APEK to a great extent when preparing the draft tender documentation for public consultation in the form of Information memorandum, to be published for further public consultation presumably at the beginning of September 2013. APEK will, when appropriate, initiate intermediate public consultations on individual topics in the process of preparation of the Information memorandum. With such an approach, APEK continues to receive opinions, comments and criticisms by the interested and competent public. This will help APEK to be in the position to react to the market and its needs when solving delicate issues and setting the conditions regarding particular questions.

In general terms, APEK recognizes acceptance of their Frequency Management Strategy. Nevertheless, there is a number of topics on which the respondents amongst themselves and the respondents and APEK express different opinions. In addition, there are few topics, where APEK sees the necessity for further clarifications. In this respect APEK takes note of the following important topics:

- 1) Auctions as proper procedure for frequency assignments
- 2) Usage and meaning of the term “White Spots”
- 3) Slovenian Broadband Strategy
- 4) Auction format
- 5) Spectrum caps
- 6) Coverage obligations and rollout obligations in uncovered rural areas
- 7) Broadband service quality in uncovered rural areas
- 8) Network sharing and joint ventures

A closer analysis of these points shows, that with the notable exception of Points 1, 2, 3 and 4 all of the listed issues are compatible with or require only limited adaptations of APEK’s Frequency Management Strategy as outlined in the Consultation Document. The adapted version of APEK’s Frequency Management Strategy will be published in due course. Points 4 to 8 and all other less important issues will be carefully considered in the Information Memorandum, which will specify the detailed conditions and rules for the upcoming auction.

APEK takes the opportunity to thank again all contributors to this consultation for their valuable contributions to the future development of the Slovenian mobile communication markets!