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Troubled road to the first spectrum auction in Poland

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Abstract

So far no general exclusive frequency licenses have been granted in Poland through an auction. In the *Regulatory Strategy until 2015*, the President of the Office of Electronic Communications pointed to auction as a method of choosing companies which will be granted frequency licenses from 800 MHz band (so called digital dividend). Initially, the auction has been scheduled to take place at the turn of 2013 and 2014, and was considered the biggest event of 2014 on the Polish telecommunications market. The article presents the main assumptions of the first ever spectrum auction in Poland on the basis of materials for auction assumptions' consultations, auction documentation, opinions of entities involved that have been submitted during consultations as well as the position of the President of UKE. The author focuses on threats to execution of the auction itself as well as implementation of its results. The text is preceded by a short description of the Polish telecommunications market, especially in terms frequencies owned by the main players on this market, including their joint ventures and capital connections.

Key words: regulation, spectrum auction, mobile services, LTE

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1. Introduction

So far (mid-October 2014) no general exclusive frequency licenses have been granted in Poland through an auction. Amendment of the Telecommunications Act (POLAND, 2004) which came into effect in January 2013 pointed to auctions as one of the possible ways of choosing entrepreneurs who will obtain frequency licenses. Earlier, the only approved methods in this respect have been: a contest (in the case of licenses for digital broadcasting or re-broadcasting of radio or television programs) and a tender (in the remaining cases). Even though the ordinance of the Minister of Infrastructure of 2009 (MI, 2009) allows for the possibility of holding an auction within a tender, this solution has never been applied in practice.

In her *Regulatory Strategy until 2015*, the President of the Office of Electronic Communications (UKE) pointed to auction as a method of choosing companies which will be granted frequency licenses from 800 MHz band (range of 791-821 MHz and 832-862 MHz) and 2.6 GHz band (range of 2500-2570 and 2620-2690 MHz). The auction has been scheduled to take place at the turn of 2013 and 2014 (UKE, 2012). The first of the above-mentioned frequency ranges belongs to the so-called digital dividend, that is, frequency resources that have been released as a result of the switch from analog ground television to digital version. This process was completed in Poland in the middle of 2013. Due to its propagation properties, 800 MHz band is considered one of the best bands to ensure availability of wireless broadband services in large areas of low population density, e.g. in rural areas. 2.6 GHz band, on the other hand, is fit for ensuring appropriate network capacity in areas of high population density where services must be provided to a large number of users and significant capacity must be guaranteed. Releasing of frequencies from the digital dividend range as well as obliging operators to invest in non-urbanized areas are to lead to new investments in data transfer networks and contribute to implementing of one of the goals of the Digital Agenda, that is, making sure that all inhabitants of the European Union have access to broadband internet of the capacity of at least 30 Mb/s until 2020.

Considering frequency licenses that have been granted before and, thus, resources owned by the main players on the market, as well as attractiveness of the offered frequency ranges for LTE network development, expectations of the telecommunications market, users and the

state, this auction stirs emotions and controversy. The auction was considered the biggest event of 2014 on the Polish telecommunications market.

The article presents the main assumptions of the first ever spectrum auction in Poland on the basis of materials for auction assumptions' consultations, auction documentation, opinions of entities involved that have been submitted during consultations as well as the position of the President of UKE. The author focuses on threats to execution of the auction itself as well as implementation of its results. The text is preceded by a short description of the Polish telecommunications market, especially in terms frequencies owned by the main players on this market, including their joint ventures and capital connections.

This paper is a significant development of the author's paper (KUBASIK, 2014) presented at the Regional ITS Conference, Brussels (Belgium) 2014.

2. Background

2.1. Spectrum auctions in the Polish telecommunication law

By 2013 the Polish Telecommunications Act (POLAND. 2004) has not assumed directly the option of choosing a company which would be granted a frequency license. By then the only methods applied to this end were: a contest (in the case of licenses for digital broadcasting or re-broadcasting of radio or television programs) and a tender (in the remaining cases). Even though the ordinance of the Minister of Infrastructure of 2009 (MI, 2009) allows for the possibility of holding an auction within a tender, this solution has never been applied in practice. The possibility of holding an auction was introduced with modification of the Telecommunications Act (POLAND, 2004) which came into effect in January 2013. Following that modification, in July 2013 the Minister of Administration and Digitization (MAC) issued an ordinance specifying detailed course of an auction (as well as other procedures) whose aim is to select entities which will be granted frequency licenses. The ordinance also specified in detail requirements regarding content of documentation as well as terms and method of organizing, conducting and completing of an auction, including appointment and work of auction commission and the process of paying and returning bid bond (MAC, 2013).

2.2. Frequency licenses granted to mobile networks until 2013

Frequency ranges owned by individual companies operating on the mobile market in Poland on the basis of earlier frequency licenses granted by the President of UKE and her predecessors until 2013 are presented in Table 1.

Table 1 Frequency ranges granted to mobile operators

Operator	900 MHz band	1,8 GHz band	1,9/2,1 GHz band	2,6 GHz band
T-Mobile (former PTC)	2 × 9 MHz	2 × 10 MHz 2 × 9,6 MHz	2 × 14,8 MHz 1 × 5 MHz	×
Orange Polska (former PTK Centertel)	2 × 6,8 MHz	2 × 9,6 MHz	2 × 14,8 MHz 1 × 5 MHz	×
Polkomtel	2 × 9 MHz	2 × 9,6 MHz	2 × 14,8 MHz 1 × 5 MHz	×
Aero 2	2 × 5 MHz	2 × 5 MHz	×	50 MHz
CenterNet	×	2 × 9,8 MHz 1 × 0,2 MHz	×	×
Mobyland	×	2 × 9,8 MHz + 1 × 0,2 MHz	×	×
P4	2 × 5 MHz	2 × 15 MHz	2 × 14,8 MHz 1 × 5 MHz	×

Source: UKE

It is worth drawing attention to the fact that T-Mobile and Orange share some of their frequencies within NetWorkS! company and Polkomtel, Aero2, Mobyland and Centernet are all a part of capital group created around Cyfrowy Polsat by a Polish businessman, Zygmunt Solorz-Żak.

The picture stemming from Table 1 may be disturbed by the Supreme Administrative Court's verdict of May 2014 saying that the tender of 2007 during which CenterNet and Mobyland were granted frequency licenses within 1.8 GHz band, should be annulled as a whole. Theoretically, CenterNet and Mobyland may be deprived of the frequencies which will be subsequently put up for sale. Meanwhile, Cyfrowy Polsat and Polkomtel use these frequencies to provide retail LTE services. Their annulment would be an unprecedented event on the Polish telecommunication market.

2.3. *The case of Sferia*

The procedure of granting frequency licenses within digital dividend range (800 MHz band) was influenced by the fact that on July 16, 2013 the Minister of Administration and Digitization concluded a settlement with Sferia and its investors under which the latter withdrew a claim against Poland from the International Court of Arbitration in Paris. In return Sferia was granted frequency license for 2×5 MHz block within 800 MHz band valid by the end of 2018. The company will not apply for other frequencies from that band before 2016.

The subject of that dispute was Sferia's inability to use radio frequencies within 850 MHz band efficiently (the company wanted to use them to develop LTE network). The value of the dispute's subject was estimated at USD 475.2 million (ca. PLN 1.5 billion). The source of the row are decisions made more than 10 years ago. On December 31, 2003 the President of Office of Telecommunications and Post Regulation (URTIP), predecessor of the President of UKE, granted frequency license within the range 838-843 MHz and 883-888 MHz to use for landline telephone network in Poland, valid until December 31, 2018. Due to discovery of harmful electromagnetic interference, the license has been altered under the URTIP President's decision of October 20, 2005. Sferia was granted the right to use the range 824-830 MHz and 869-875 MHz that the company has been using in the past years. On March 19, 2009 Sferia obtained the right to use the frequencies in both mobile and fixed service. At the same time the President of UKE refused to issue radio licenses on the basis of the above-mentioned decision as usage of the granted frequencies would generate interference in the radio band embracing digital dividend and within frequencies that the EU allocates to GSM-R system, which would be a real threat to the security of rail transport.

At the end of 2011 Sferia's investors took the first steps against the Polish government in the Court of Arbitration. Poland delegated the Minister of Administration and Digitization as the minister competent for telecommunication issues to handle that case. Analyses of the Ministry of Administration and Digitization showed that the problem lies in incorrect decision regarding granting of frequency licenses in 2003 and their subsequent modifications. It was observed that the problems with frequencies that formally remained at Sferia's disposal may in the future deepen and affect:

- European Commission's plans regarding extension of frequency bands for GSM-R system,

- planned EU regulations regarding allocation of the range 821-832 MHz to PMSE systems (*Programme Making Special Events*) for exclusive use,
- predicted interference in Sferia's network resulting at LTE-related BTS which will start operating after granting of frequencies from the digital dividend.

As a consequence of that settlement, at the end of December 2013 the President of UKE changed Sferia's license, but the whole procedure was sued by T-Mobile which had obtained court guarantee for the frequency use. Sferia's rival operators question the unprecedented method of signing the settlement – the market has not been notified that such a settlement was even under negotiation. They also criticize the fact that Sferia was granted effective radio frequencies within the precious 800 MHz band without any additional payments. Dissatisfied operators brought that case to the European Commission's attention which asked the Ministry of Administration and Digitization for explanations.

The second problem regarding Sferia in the context of the first ever spectrum auction in Poland and possible limitations for capital groups is related to controversy around its alleged affiliation with Zygmunt Solorz-Żak's holding. Officially, Sferia is not tied to the businessman's companies. But the telecommunication sector is convinced that it is not so in practice. The operator cooperates elaborately with companies from Midas group that is controlled by Zygmunt Solorz-Żak. He sold Sferia in 2011, which was supposed to help him obtain permission to take over Polkomtel and avoid any related problems in the process. Details of the deal have not been revealed. In the beginning of 2013 Sferia rejected all suggestions that the company's operations could affect the result of tender proceedings regarding 1.8 GHz frequencies announced by UKE and assessed by the President of Office of Competition and Consumer Protection (UOKiK). A Management Board statement which was published at the time declared that the company was not controlled by Zygmunt Solorz-Żak and the only thing it had in common with Midas group were business relations.

Influence of Sferia's suspended settlement and controversy around its ties to the capital group controlled by one of the main players on the mobile market should not be underestimated. Lack of solution to the first problem and no full transparency in the second issue may lead to long-term court battles which, in turn, could freeze the auction itself or make it impossible to implement its results for years to come.

3. The first consultations

Under article 118 of the Telecommunications Act (POLAND, 2014), the President of UKE announces an auction immediately after closing related consultations. Information on commencing of consultations regarding frequency licenses from 800 MHz and 2.6 GHz bands, covering the whole country and allocated to provide telecommunication services in mobile or fixed networks, was published on August 21, 2013 in the Official Journal of the Office of Electronic Communications. The deadline for completing consultations was set at October 1, 2013 and later it was extended until October 8, 2013 (UKE, 2013a).

According to draft auction documentation that was subject to consultations, the first Polish auction embraces 12 frequency licenses, including:

- 5 blocks¹ of 2×5 MHz bandwidth (range of 791-816 MHz and 832-857 MHz) – the so-called 800 MHz band,
- 7 blocks of 2×10 MHz bandwidth (range of 2500-2570 MHz and 2620-2690 MHz) – the so-called 2.6 GHz band.

The frequency ranges that will be offered within the auction are allocated to telecommunications services over mobile or fixed networks all around Poland. Licenses will be valid for 15 years and winners of the auction are obliged to launch services at the acquired frequencies within 12 months for 800 MHz band and within 36 months for 2.6 GHz band. Investment obligations of companies selected during the auction have been specified in detail. They are to lead to the soonest possible launching of services based on the granted frequencies as well as implementation of essential investments in up-to-date mobile internet network all around Poland.

It has been established that one entity can get no more than two frequency blocks (20 MHz) within 800 MHz band and three frequency blocks (60 MHz) within 2.6 GHz band. Additionally, spectrum cap has been introduced for participants of the auction that already have frequency licenses within digital dividend range or 900 MHz band (880-95 MHz and 925-960 MHz). They could apply only for such an amount of frequencies from 800 MHz band that

¹ It has been earlier planned to grant 6 blocks, but as a result of the state's settlement with Sferia, one of these blocks was granted to the company outside the action, which is mentioned in section 2.3.

would prevent them from exceeding a total of 40 MHz within digital dividend and 900 MHz per company.

The auction for frequency licenses will be conducted via Electronic Auction System (ESA) that is used for submission of offers and exchange of information between bidders and auction committee. It will be a Simultaneous Multiple Round Ascending (SMRA) auction. It means that all frequency blocks will be available at the same time and the price per block will increase after every round with multiple rounds anticipated.

The starting price suggested during consultations amounts to PLN 250 million per frequency block within 800 MHz and PLN 50 million per block within 2.6 GHz. It means that if the whole procedure turns out to be successful, the Treasury will post total revenues of at least PLN 1.6 billion. However, there are doubts whether all blocks within 2.6 GHz band will be sold. Revenues from this auction have been included in Poland's budget for 2014 and later postponed until 2015.

Consultations' results were announced at the end of December 2013, two and a half months after their completion. On its website UKE published only opinions submitted by 20 companies during consultations. For the first time in history, the office has not commented on the parties' postulates in a separate document.

4. Auction announcement

The auction was announced on December 30, 2013 (UKE, 2013b). The deadline for submitting initial bids was set for February 13, 2014. The published documentation did not bring any significant changes to the consulted project. One of the most important modifications regards fragmentation of frequency blocks in 2.6 GHz band (14 blocks of 2×5 MHz bandwidth, not 7 blocks of 2×10 MHz, as planned before). As a result of this change, the starting price per block dropped by half – to PLN 25 million. At the same time the limit for frequency licenses within that band was cut from 60 to 40 MHz. The minimum fee of PLN 250 million per block in 800 MHz band and the limit of no more than two blocks per one company was maintained. The spectrum cap (the limit of 40 MHz per bidder including the frequencies it already owns within 800 and 900 MHz bands) still applies as well. This is a significant limitation for the group that includes, among others, Polkomtel – it could fight for only one block, while its rivals – for two. Besides, the President of UKE softened some investment obliga-

tions, deciding that the range of networks would be measured in areas of 7 km radius (instead of 5 km), which means that companies will have to install fewer transmitters in order to obtain the required coverage.

According to the auction documentation announced in December 2013, the subject of the first Polish auction are 19 frequency licenses, including:

- 5 blocks of 2×5 MHz bandwidth (range of 791-816 MHz and 832-857 MHz) – the so-called 800 MHz band,
- 14 blocks of 2×5 MHz bandwidth (range of 2500-2570 MHz and 2620-2690 MHz) – the so-called 2.6 GHz band.

Participants will bid abstract bands of 10 MHz bandwidth; there will be no specified information on which frequencies are in question exactly. It means that operators will not know exactly which block of frequencies they will eventually get. It will be specified at the stage of issuing license decisions „*consistently with the rule of maximally effective radio spectrum usage*”. It is important as one block could collide with channel 60 of DVB-T system.

The auction documentation does not include obligations regarding wholesale provision of networks using auctioned frequencies or pressure on operators to develop infrastructure together. But there is an incentive to such activity stemming from a regulation that suggests implementation of investment obligations within cooperation with other operators. Such cooperation would consist in sharing frequencies and infrastructure on condition that the shared band does not exceed total bandwidth of 30 MHz. There is a suspicion that the aim of this limitation is not to let T-Mobile and Orange develop 2×20 MHz block (in case each of them won 2 blocks in 800 MHz band), which no other operator would be able to do. Such objections were worded by competitors of both operators during consultations (DEC, 2014b). The President of UKE commented on the rules of the auction, stating that cooperation between operators may result from voluntary agreement and suggesting that two national LTE 800 networks could be developed at the offered frequencies. At the same time, the fact that blocks are anonymous could make it easier to create market alliances during and after the auction.

Minimum revenues from the auction should amount to PLN 1.6 billion. UKE assumes that the total revenues will amount to at least PLN 1.8 billion.

5. Auction cancellation

On February 11, 2014 the President of UKE cancelled the auction announced on December 30, 2013. The official reason for that was a delay of a few hours in the access to explanations regarding auction documentation. Even though they appeared on UKE's website on February 6, 2014 at 10.11 pm (within the assumed time frame) potential bidders could not access this information due to technical problems. It was concluded, then, that publication of accessible explanations took place a day later. The President of UKE immediately modified auction announcement of December 27, 2013 so that the deadline for filing initial offers was extended by one day (until February 14, 2014). Despite that, the auction has been eventually cancelled by the President of UKE who made that decision *„keeping in mind how significant it was for the whole telecommunication market to conduct the auction process in a way that minimizes all formal and legal risks”*. The President's rhetoric was *„both, the necessity to guarantee formal and legal safety of the auction process and related care for securing interests of potential bidders”* (UKE, 2014c) with an emphasis put on the fact that *„the auction process itself as well as accompanying documentation have been prepared correctly and in consistence with the law”*. UKE's spokesperson was blamed for the whole situation and was immediately laid off.

In the light of further events related to the planned auction (at least two more rounds of consultations over significantly modified documentation), cancelling the auction for a trivial reason may arouse doubts about actual causes of that step.

6. New consultations

Immediately after cancellation of the auction, on February 17, 2014, the President of UKE opened another round of consultations regarding auction for frequencies from 800 MHz and 2.6 GHz bands (UKE, 2014b). The deadline for submitting remarks was set for March 19, 2014. The main assumptions of the auction (prices, division of blocks, coverage requirements) remained unchanged. Despite assurances of the President of UKE who claimed that the previous documentation had been prepared correctly, a number of changes have been made. They modify the auction's mechanism in a significant way. One of them is lifting the ban to return to blocks that a company has been bidding earlier. Another one regards announcements on the number of bids submitted for individual blocks. A new definition of capital group has been introduced – different than the one specified in the Telecommunications Act, based on the Act

on Competition and Consumer Protection. This definition may be questioned as there are no regulations that allow the President of UKE to define notions whose detailed descriptions are included in the acts.

Soon after those consultations had been completed, the President of UKE opened the second round of consultations on the same issue (UKE, 2014d). They lasted from April 4 until May 5, 2014. The President of UKE justified announcing of the second round of consultations with significant changes in the draft documentation postulated by participants of the first round of consultations which was held at the turn of February and March 2014. The goal of these modifications is to create such a framework of the auction to encourage operators to cooperate with the use of frequencies acquired during the auction. However, such cooperation must not disturb market competition and has to be conducted under specified regulatory terms.

To this end, more significant changes were made in the documentation. One of them is transfer of a provision about limitation of frequency co-sharing to 30 MHz maximum, to sections of offer model which describe obligations of auction participants regarding frequency licenses within 800 MHz band. Thus, limitation of co-sharing frequencies from the digital dividend range will be included in license decisions for companies that will manage to obtain frequencies during the auction.

Another important change is modification of spectrum cap rules within 800 MHz band. Provisions referring to frequencies from 900 MHz band and digital dividend that companies owned earlier have been removed. The President of UKE believes that the former change (the one transferring provision which limits frequency co-sharing to 30 MHz to license decisions) will be a sufficient guarantee of maintaining competitive balance between companies that currently have frequencies within 900 MHz band and will, potentially, acquire frequencies within 800 MHz band. It was emphasized that the President of UKE had such regulatory tools at her disposal that will make it possible, once frequency licenses are granted and the usage of frequencies from the auction commences, to guarantee implementation of goals set for the regulator in the context of shaping proper market development and securing adequate environment for functioning of both, telecommunication companies and consumers.

A more important argument for removing spectrum caps is surely inconsistency of that solution with the law, which has been confirmed by the opinion of the Bureau of Research

(Chancellery of the Sejm) at the request of a deputy. Under the Telecommunications Act, it is possible to exclude a potential bidder, but not limit them². Even though the President of UKE disagrees with that provision, she decided to respect it for the sake of auction's legal safety.

At this occasion it is worth paying attention to other conflicts of the auction documentation with the Telecommunications Act. One of them is an additional criterion for offer assessment, while article 118a sec. 2a of the Telecommunications Act states that „*the only criterion for assessment of offers submitted during auction is the price declared by bidder*”. Similarly, an ordinance of the Minister of Administration and Digitization of 2013 (MAC, 2013) refers to a *criterion* (singular) of an auction. Meanwhile, paragraph 6.22.6 of the contest documentation which was under consultations in April 2014 states that „*in case a few offers with the same price for the same block are submitted, their position in the ranking will be determined by ESA through drawing...*”. It means that the list of criteria must be extended by the random factor.

The subject of the auction has not changed. It will be five blocks of 2×5 MHz within 800 MHz band and 14 blocks of 2×5 MHz within 2.6 GHz band. Each company involved in the auction (considering provisions on capital group specified in the auction documentation) will have a chance to acquire no more than 2 frequency licenses within 800 MHz band and no more than 4 licenses within 2.6 GHz band.

Even though the deadline for completing consultations was the beginning of May 2014, the President of UKE has not published opinions submitted by interested parties for five months. However, some participants have published the remarks that they had submitted in the process.

For instance, President of UOKiK postulates replacing of the auction with a tender which has been applied before. In his opinion, introduction of significant changes to the auction documentation in the short time proves that the administration is not prepared to grant such important frequency licenses through an auction. A tender would be safer in this context as next to the price criteria, there is also assessment of bidders' influence on competition. Ac-

² Article 118, sec. 4a of the Telecommunications Act states that „*while specifying terms for involvement in auction, the President of UKE may point to frequency ranges of qualities corresponding to frequencies from the band subject to the auction whose ownership excludes company or companies from capital group from the auction...*”

According to the President of UOKiK, the delay in sale of LTE frequencies does not necessarily have to translate into postponement of launching services based on these frequencies. There is a risk that an incorrectly prepared auction could begin soon and last for a very long time, which would make it inefficient (UOKiK, 2014).

In another opinion published in the beginning of April 2014, Business Centre Club expressed its support for the concept of development of a single network within 800 MHz, embracing all frequencies available in this range. BCC believes that it is in all market players' interest (both telecommunication companies and users of services) to develop common, up-to-date network infrastructure that uses all available frequencies from 800 MHz band. A single network will enable optimal use of operators' financial resources allocated to investments in telecommunication infrastructure without the necessity to duplicate it. BCC points to benefits for the environment and landscape as well and to reduction of bureaucracy load for all offices and institutions involved in the process of network development. Thanks to single network entrepreneurs will have equal conditions in competing for end users on the basis of quality of retail offers, not the radio spectrum they have exclusive rights to. BCC suggests that the state, with any available regulatory and political measures, actively supported that initiative instead of passively waiting for entrepreneurs to undertake steps to develop single network on their own. According to BCC, the auction in its current form will result in disturbance to market competition through probable creation of two coalition partners with dominating position of one of them. Additionally, BCC is right to point out that in the long term no more auctions are planned so results of this auction will decide about the balance of power on the market for a long time (BCC, 2014).

The President of UKE categorically opposes resignation from auction in this case. She claims that the decision on granting frequency licenses within 800 MHz band through an auction has been made years ago. She also emphasizes that the idea of development of a single network that was imposed by the regulator in the auction documentation would have to be justified with detailed market analyses conducted over a few years to see how such a concept would affect competition and consumers, but there is no time for that now. The President of UKE also refutes media's allegations that terms of the auction allow participants to bid endlessly (vide the Finnish auction). She believes that the mechanism of bid bond and deposit effectively protect the auction from such a situation and in case one bidder inflates the price and does not apply for a frequency license, the next offer automatically wins.

7. Ministry's analyses

After the second round of consultations was completed in May 2014, all plans regarding the auction fell silent. Media reported that the President of UKE was withholding announcement of the consultations' outcome and possible launching of the auction until the Ministry of Administration and Digitization publishes analysis of the use of free radio spectrum resources in Poland in order to guarantee widespread internet access. It was anticipated that the most important element of that document would be recommendation regarding auction of 800 MHz and 2.6 GHz.

At the end of August 2014 unofficial information about MAC having analyzed three models of use of these frequencies appeared (DEC, 2014a):

- auction under the terms suggested by the President of UKE, that is, allocation of five frequency blocks of 2×5 MHz with limit of 2×10 MHz per one bidder and a ban to merge resources above the threshold of 2×15 MHz,
- division of the available band into regional licenses, which should make operators develop and share local infrastructure with one another,
- sale or provision (free of charge) of the whole available package of 2×25 MHz to a commercial operator or the so-called *national operator* (state-owned company) in order to develop a single LTE 800 network to use by all interested providers of retail services.

According to these reports, the first variant is the one that MAC recommends, including an obligation for the winners to develop infrastructure at the area of white spaces (regions without or with limited Internet access). That recommendation is in line with UKE President's plans that were subject to consultations.

The MAC document includes no information on the auction date. However, it draws attention to the fact that Poland is already late in relation to the European schedule of digital dividend band distribution and emphasizes that the European Commission may take legal steps against Poland for that. This is one of the arguments in favor of an auction, not tender which would take months to prepare.

After a month new information appeared on another analysis of MAC and the National Institute of Telecommunications regarding optimal allocation of 800 MHz frequencies (DEC,

2014c) which was unofficial and significantly different than the previous one. It included quite a gentle suggestion to develop a single national LTE 800 network or four regional ones. They would use the whole available band and would be developed under agreement of four operators committed to do that through coverage obligations or additional points granted during examination of offers under a tender (not auction).

The document reads: „*From the technical viewpoint, the best solution in terms of maximum transmission parameters (transmission speed), guaranteed coverage as well as the smallest possible number of BTS necessary to develop a network that meets the requirements of the European Digital Agenda (EDA), is the variant of development of a single radio access network that uses 30 MHz FDD band with aggregation of channels 15 MHz + 15 MHz – that is, the model of a single network of commercial operators. From the point of view of meeting EDA requirements and ensuring sustainable technical potential (which is important due to the need to secure market competitiveness), a good option to consider is also development of two RANs using 15 MHz FDD band each. However, it must be kept in mind that in this case maximum transmission speed available for users will be twice lower, the number of BTS needed for every network will be around 30% higher than in the case of a single RAN and the number of BTS will have to be multiplied by 2 because of the necessity to develop two independent networks*” (DEC, 2014c).

The second MAC analysis examines the possibility to develop network/networks within 800 MHz band that would guarantee the highest coverage of services in NGA standard (30 Mb/s) in the most economical way. Analyses regarded options of development of a single network within 30 MHz, 25 MHz bands (due to 5 MHz block that is at Sferia’s disposal), two networks within 15 MHz band (possible to allocate under the auction proposed by UKE) and six networks within 5 MHz. Partial results were presented in Table 2.

Table 2 Technical and economic analysis of development of a single and six LTE 800 networks

Number of networks	1	6
Frequency bands	1 × 30 MHz	6 × 5 MHz
Number of base stations (thousands)	4.6	11.1
Cost of network (PLN billions)	1.276	2.493

Source: (DEC, 2014c) based on MAC.

During assessment of costs of network development the possibility of using existing infrastructure of operators, which would reduce the costs, was not taken into consideration. Thus, the preferred option in the document is the model of development of a single network by commercial operators (which requires their agreement and cooperation), not by the so-called *wholesale national operator* that would have to develop the network from scratch, without the use of other resources.

An interesting idea is to include in the model license decision a stipulation about a limit of 15 MHz block that can be integrated by winners with a possibility of agreement of all bidders and consolidation of the whole 30 MHz band (or 25 MHz) to develop a single network. Thus, operators could fight for resources in 800 MHz band consistently with their current strategies or could consider cooperation at a later stage. This solution is also interesting in the context of Sferia which has one sixth of the whole available 800 MHz band and will not participate in the tender.

Another idea considered in the analysis is a different arrangement of radio blocks. Instead of 5×5 MHz there could be 3×5 MHz + 1×10 MHz or even 1×15 MHz + 1×10 MHz: „*The variant of 1×15 MHz + 1×10 MHz seems to be the most interesting and daring at the same time. If the regulator cares about consolidation of the band use, this variant fulfils regulative function to the largest extent. It de facto makes operators form consortia and cooperate on development of a network that uses the widest possible band of frequencies and thus guarantees the best technical parameters from the point of view of EDA and transmission parameters available for end users. However, it must be kept in mind that introduction of a new division of frequency blocks is a significant change and it will require amendment of technical conditions as well as announcement of a new round of consultations*” (DEC, 2014c).

The analysis points to profits of a tender as a proven mechanism that enables influence on the shape of the market (non-financial part of offer). It would be possible to e.g. introduce additional points for bidders who decide to share frequencies. On the other hand, replacing of auction with a tender would mean postponing of the whole process by at least a dozen months or so.

These unofficial versions of MAC analyses do not determine the final shape of the procedure of granting frequency licenses from the digital dividend. First of all, they are still unofficial and significant differences between them point to various concepts clashing within the Ministry and affect conclusions of – theoretically objective – analyses. Secondly, the independent President of UKE does not have to take them into consideration, although she publicly reminds that the regulator realizes the government's strategy on the telecommunication market.

8. Relaunch of the auction

After five months of silence, in the beginning of October 2014, UKE unexpectedly published opinions that were submitted during both rounds of consultations – the first one that ended in March 2014 (UKE, 2014f) and the second one that was completed in May 2014 (UKE, 2014e). In both rounds a dozen entities submitted their opinions – from short ones of 2-3 pages to extensive studies of more than 350 pages. Similarly to the auction consultations of 2013, UKE President did not comment on these opinions. According to the law (MAC, 2013), the President of UKE is obliged to announce the auction that was a subject of consultations within 21 days upon announcement of their outcome.

Quite unexpectedly for the market, one day after the outcome of consultations was announced (October 10, 2014), regardless of the 21-day deadline and MAC analyses, the President of UKE announced auction launch (UKE, 2014a).

In principle, the President of UKE decided to conduct the auction in line with the rules suggested in 2013 and modified during spring consultations, but a significant novelty regarding operators' cooperation came up. There are still five blocks of 2×5 MHz to allocate within 800 MHz band and one bidder cannot apply for more than two such blocks. As far as 2.6 GHz band is concerned, operators can apply for 14 blocks of 2×5 MHz, but no more than four of them each. Minimum prices were left unchanged – PLN 250 million for a block within 800

MHz band and PLN 25 million for a block within 2.6 GHz. Provisions regarding frequency sharing were maintained; they are to prevent excessive concentration of resources by cooperating entities. Winners of the auction will not be allowed to share more than 2×15 MHz within 800 MHz band. On the other hand, that limit may be liquidated if *all* holders of the band decide to cooperate in order to develop a single network, which is a new thing in relation to the terms included in auction documentation that has been under consultations recently.

Entities interested in participation in the auction can submit their initial offers by November 24, 2014 and the bidding is to begin on Christmas Eve (sic!).

9. Conclusions

So far almost all procedures, regarding primarily tenders, that aim at selecting companies to be granted frequency licenses in order to provide mobile services in Poland have been opposed by participants of these procedures. In some cases the reason for these protests were minor details, in other long legal justifications were provided. However, it never happened that terms of a procedure were in an obvious way inconsistent with the law. Careless implementation of provisions of the Telecommunications Act which is imperfect in this respect, increases the risk of auction fiasco. Even if the whole process ends with granting frequency licenses, courts will need years to issue legally binding verdicts³. Financial consequences for the Treasury as well as social consequences of the auction after many years may be unimaginable.

The story of the first Polish spectrum auction is long and full of twists and turns. The first edition was annulled for a petty reason in February 2014. In the beginning of October 2014, after months of delay, the auction was relaunched, but who knows if this is the last shot. The President of UKE was waiting for a few months to announce it, arguing that she needed the government's opinion on the matter and completely ignoring it after all. It is unofficially said that MAC analyses were prepared this summer, although their author should actually be UKE and the moment of their occurrence should largely precede the first attempts at the auction. There are a few versions of analyses whose conclusions differ significantly. The first ones

³ It is worth reminding of the Supreme Administrative Court's verdict of May 2014 which, after seven years, revoked the tender in which CenterNet and Mobyland from Midas group acquired radio frequencies within 1.8 GHz band. Theoretically, reopening of the tender could result in depriving these companies of frequencies that they have used for years to provide LTE services.

supported UKE President's vision regarding the auction. The final one is leaning towards tender as a tool that takes better advantage of the issues of competition analysis as well as development of a single or maximum two LTE networks.

It seems that the President of UKE yields to the market pressure, changing concept of the auction and correcting legal inconsistencies in further versions of documentation. The more recent version even includes a loophole enabling development of a single network, which has been postulated by many entities. The pressure on a final solution is big as the market is waiting for the possibility to use new frequencies and the Treasury – for significant revenues. The threat of EU imposing a fine for delay in granting frequency licenses within 800 MHz band is not without significance as well. The solution will take place no sooner than in the beginning of 2015 and its effectiveness remains a great unknown.

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