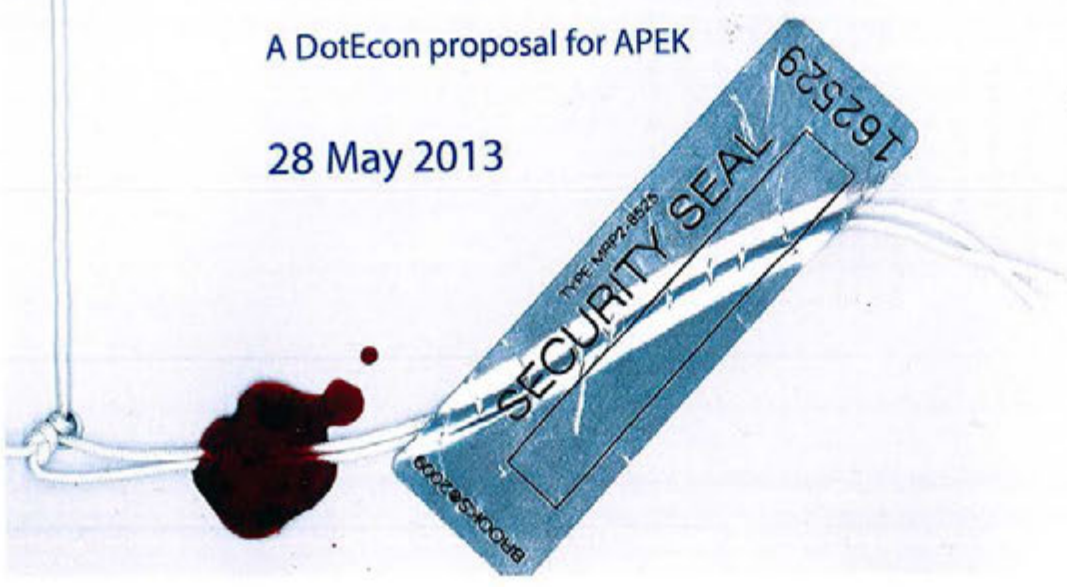
dot·econ

Optimal reserve prices for the 800MHz, 900MHz, 1800MHz, 2100MHz and 2600MHz frequencies bands in the Big Bang auction (4301-9/2013/2)

A DotEcon proposal for APEK

28 May 2013



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1 Introduction

DotEcon is pleased to present this proposal to the Post and Electronic Communications Agency of the Republic of Slovenia (APEK) in response to its request for tender for support in the determination of optimal reserve prices for the award of frequencies in the 800MHz, 900MHz, 1800MHz, 2100MHz and 2600MHz bands in the upcoming multi-band auction in Slovenia (tender number 4301-9/2013/2).

In recent spectrum auctions, reserve prices have increasingly been set at levels that reflect market value, often in the expectation of weak competition. There have been a couple of notable instances where very high reserve prices have been publicly criticised. For instance, in the recent Australian 4G auction, Vodafone has cited a high 700MHz reserve price as the main deterrent to participation, and 2x15MHz of the available 2x45MHz of spectrum subsequently went unsold.

Given the large amount of spectrum in the key mobile bands that will be auctioned in the upcoming process, it is vital that the reserve prices are set at a level that meets APEK's objectives for the auction and ensures efficient use of this spectrum for the effective provision of mobile services to consumers in Slovenia.

DotEcon has developed, and constantly maintain and update, an in-house Spectrum Awards Database. The database currently holds information on nearly 300 awards across 67 countries. We have used this data to perform benchmarking studies for other regulators, such as the Office of Communications (Ofcom) in the UK and the Commission for Communications Regulation (ComReg) in Ireland. The output of our benchmarking work for ComReg has also been cited by regulators such as Greek regulator, EETT, and the Department of Telecommunications (DoT) India in the context of setting market value reflecting reserve prices in their respective 900MHz and 1800MHz auctions. Our spectrum award data has also been used in a number of academic research studies[1].

Our comprehensive understanding of auction theory and our hands-on experience in spectrum auction design provide us with a

[1] For instance, M Zaber and M Sirbu's study on the effects of various spectrum management policies on 3G diffusion rates (http://www.sciencedirect.com/science/article/pii/S0308596112001176) and E Bohlin, G Madden and A Morey analysis on the factors that affect 3G spectrum valuation (http://ideas.repec.org/s/rsc/rsceui.html) both utilized data from DotEcon's Spectrum Awards Database.

good background for interpreting the spectrum award data available from our database. Therefore, we are well placed to advise APEK on optimal reserve prices for awarding radio frequencies in the 800MHz, 900MHz, 1800MHz, 2100MHz and 2600MHz bands in Slovenia.

In the remainder of this document we set out our proposal as follows.

- Section 2 outlines our qualification criteria in accordance to requirements set out in the tender document as well as details our relevant experience;
- Section 3 presents our understanding of the task at hand and describes our proposed approach to determining optimal reserve prices for the upcoming multi-band auction. This section provides our response to requirements set out in Paragraph 2.15.4 of the tender document;
- Section 4 describes our proposed time schedule for this project;
- Section 5 introduces the core project team with full CVs attached in Annex F; and finally
- Section 6 presents our commercial proposal.

As required by the tender document, we have prepared all the documents listed in Section 2.2 of the tender documents in various Annexes to this proposal. Table 1 below provides the location of these various documents.

This proposal is valid for a period of 180 days from 30th May 2013. For any queries or communication in relation to this proposal, please contact [redacted] at:

[redacted]
Email:
Mobile:
Direct line:
Fax:

Table 1: Documents provided with the offer

Document	Provided in
Filled-in and signed Form 1: Offer;	Annex A
Filled-in and signed Form 2: Pro forma Invoice;	Annex B
Filled-in and signed Form 3: Contract Sample;	Annex C
Evidence in accordance with Point 2.12 of instructions in the tender documentation;	Annex D
Filled-in and signed Form 4: Declaration of Suitability;	Annex E
Filled-in and signed Form 5: Authorization for the acquisition of personal data (in case the Tenderer is established in Slovenia);	Not applicable
List of Subcontractors stating the particulars referred to in point 1.4.2. of the tender documentation (in case the Tenderer will participate with Subcontractors);	Not applicable
Authorization for payment for the work undertaken directly to the Subcontractor (in case the Tenderer will participate with Subcontractors, see point 4.2. of the tender documentation);	Not applicable
Consent for direct payments (in case the Tenderer will participate with Subcontractors, see point 4.2. of Chapter I the Tender documentation);	Not applicable
Proof in point 1.4.4 of the tender documentation (in the case of references to the capacity of another legal entity).	Not applicable

2 Qualification conditions and relevant experience

This section details our suitability to advise APEK on optimal reserve prices in the upcoming multi-band auction. Section 2.1 provides an overview to DotEcon's economic consultancy services, Section 2.2 presents our response to the suitability requirements listed in Paragraph 2.12.1, 2.12.2 and 2.12.3 of the tender document and finally Section 2.3 details our relevant experience in the relevant categories set out in Paragraph 2.15.2 of the tender documentation.

2.1 About DotEcon

DotEcon is an economic consultancy advising private and public sector clients in:

- competition cases, regulatory proceedings and commercial litigation;
- public policy design and regulatory impact assessments;
- design and implementation of auctions and trading mechanisms;
- bidder support for high-value transactions;
- econometric analysis and data mining; and
- business strategy and decision support.

The company focuses on providing high-value advice to governments and leading companies using rigorous economics techniques. DotEcon works for clients across the world, and is involved with many high-profile policy debates and business decisions. In particular, DotEcon specialises in supporting network industries such as telecommunications, transport, energy, post and payment systems.

DotEcon Ltd was founded in June 1999 by Dr. Christian Koboldt and Dr. Dan Maldoom and has grown substantially since this time. Christian and Dan remain the owners and the company maintains a distinctive and independent approach, which is free from the burden of outside shareholders.

A majority of DotEcon's consultants are economists from leading universities from around the world. DotEcon's team consists of fourteen full-time economists based at its London office and a number of associates including academic advisors who work with the team on a project-by-project basis. Together, the team has in-depth understanding of many different industries and can apply a wide range of specialist skills, including:

- econometric and statistical analysis;
- financial modelling;
- applied game theory and merger modelling;
- auction design;
- software development;
- design and analysis of market research;
- forecasting and demand modelling;
- market definition and competition analysis; and
- regulatory analysis, modelling of price control and access pricing.

DotEcon's clients include blue-chip companies and government agencies around the world. Since its incorporation, the company has been heavily involved with applying market mechanisms to allocating public resources such as airport slots and radio spectrum. DotEcon is responsible for significant innovation in auction design and implementation, such as the combinatorial clock auction (now used for auctions by the UK Government and increasingly elsewhere) and the *WebBidder* auction platform. The work undertaken by DotEcon has resulted in billions of pounds of revenue being generated for governments globally. In 2011, these achievements were acknowledged when DotEcon was conferred with *a Queen's Award for Innovation* for the design and implementation of online auctions.

DotEcon is also very active in competition and regulatory matters. Consultants at DotEcon have worked on many of the leading debates, especially the economics of interconnection and two-sided markets that are central to both telecommunications and financial systems. DotEcon has produced many research reports for the UK Office of Fair Trading on leading issues in competition policy, as well as assisting private clients around the globe in competition and regulatory disputes.

DotEcon is currently on various government frameworks for procurement and consultancy services including amongst others the following:

- UK Pan-Regulator Framework for Economics;
- UK Office of Fair Trading (OFT);
- UK Office of Communications (Ofcom);
- UK Department of Health;
- Post and Telecom Agency (PTS), of Sweden;
- Civil Aviation Authority (CAA);
- European Commission: ICT and competition cases;
- Australian Communications and Media Authority (ACMA); and
- Commission for Communications Regulation (ComReg), of Ireland.

2.2 Qualification conditions

2.2.1 DotEcon's legal suitability

In accordance with Paragraph 2.12.1 of the tender document, DotEcon confirms that:

- DotEcon's legal representatives have never been the subjects of a conviction by final judgement of crimes listed in The Criminal Code (Official Gazette of the Republic of Slovenia, No. 50/2012; hereinafter: KZ-1).
- DotEcon has never been disqualified from being awarded public contracts due to the inclusion in the record of Tenderers with negative references in accordance with Article 77a of the Public Procurement Act (Official Gazette of the Republic of Slovenia, No. 12/2013 – UPBS, hereinafter : ZJN-2).
- DotEcon has no outstanding, unpaid obligations relating to the payment of social security contributions or in connection with the payment of taxes in the amount of 50 euros or more, in accordance with the regulations in the United Kingdom.

For evidence of the above, please see the completed Form 4 in Annex E, which was signed under oath and witnessed by a notary.

2.2.2 DotEcon's economic and financial suitability

In accordance with Section 12.2 of Chapter II of the tender document, DotEcon confirms that it ***does not have any outstanding liabilities to Subcontractors in previous public Procurement procedures.***

For evidence, please see the filled in Form 4, under oath and witnessed by a notary, provided in Annex E.

2.2.3 DotEcon's suitability to pursue professional activity

In accordance with Section 12.3 of Chapter II of the tender document, DotEcon confirms that it ***has a valid registration to do business, which is the subject of this procedure (consulting services in the field of mobile industries and /or regulatory affairs) pursuant to the regulations of the United Kingdom.***

For evidence, please see the filled in Form 4, under oath and witnessed by a Notary, provided in Annex E.

2.2.4 DotEcon's technical and professional eligibility

DotEcon has extensive experience in the field of spectrum management, auction design and the regulation of telecommunications markets. In the area of auction design for instance, we have designed and implemented auctions where one of the prime auction objectives was to ensure that the final allocation of spectrum would allow for a competitive mobile market.

We have actively supported and are currently supporting telecommunication operators around Europe on various telecommunication regulatory issues regarding mobile and fixed termination rates[2] and the impact of on- and off-net price differentials on mobile market competitiveness. Most recently, DotEcon advised the Commission for Communications Regulation (ComReg) in relation to the regulation of mobile termination rates in Ireland.

In accordance with Paragraph 2.12.4 of the tender document, we provide Client Certificates as evidence of our relevant experience in Annex D. Table 2 below provides a list of the relevant DotEcon projects for the various categories set out in Paragraph 2.15.2 of the tender document. A more detailed description of our benchmarking, reserve price setting and auction design and implementation experience is presented in Section 2.3 below.

[2] See http://www.dotecon.com/news/court-of-appeal-rejects-everything-everywhere-appeal-of-cat-decision-on-mtrs/

Table 2: Completed DotEcon projects demonstrating selection criteria

Criteria	Projects/Evidence
The tenderer has led a project similar to the subject of the tender (designation of optimal reserve prices for awarding radio frequencies in the 800MHz, 900MHz, 1800MHz, 2100MHz and 2600MHz frequency bands) in the last 5 years.	• Auction design and implementation for a multi-band spectrum award / *Client certificate provided by ComReg, included in Annex D* • Auction design and implementation for the award of 26GHz spectrum / *Client certificate provided by ComReg, included in Annex D* • Study to estimate the market value of 800MHz and 2.6GHz in the UK/ *Client certificate provided by Ofcom, included in Annex D* • Support on design and implementation of an auction for the award of 800MHz spectrum band with flexible coverage obligation / *Client certificate provided by DBA, included in Annex D* • Support on design and implementation of an auction for the award of 2010MHz and 2.5GHz spectrum / *Client certificate provided by DBA, included in Annex D*
The tenderer led a project whose subject was consulting European governments on projects related to promoting the competitiveness of the economy in the last 5 years	• Auction design and implementation for the 800MHz and 2.6GHz award / *Client certificate provided by Ofcom, included in Annex D* • Swiss Multi-band Auction / *Client certificate provided by BAKOM, included in Annex D* • Implementation of multi-band auction / *Client certificate provided by Agentschap Telecom, included in Annex D* • Implementation of 3G and 4G spectrum awards / *Client certificate provided by BIPT, included in Annex D*
The tenderer led a project whose subject was to advise a European regulator in the field of mobile services in the last 5 years.	• Advice in relation to regulation of mobile termination rates / *Client certificate provided by ComReg, included in Annex D*

Criteria	Projects/Evidence
The tenderer has worked on projects in the field of complex spectrum auction for a European regulator for electronic communications in the last 5 years.	• Auction design and implementation for a multi-band spectrum award / *Client certificate provided by ComReg, included in Annex D* • Auction design and implementation for the award of 26GHz spectrum / *Client certificate provided by ComReg, included in Annex D* • Swiss Multi-band Auction / *Client certificate provided by BAKOM, included in Annex D* • Support on design and implementation of an auction for the award of 800MHz spectrum band with flexible coverage obligation / *Client certificate provided by DBA, included in Annex D* • Support on design and implementation of an auction for the award of 2010MHz and 2.5GHz spectrum / *Client certificate provided by DBA, included in Annex D* • Auction design and implementation for the 800MHz and 2.6GHz award / *Client certificate provided by Ofcom, included in Annex D* • Implementation of multi-band auction / *Client certificate provided by Agentschap Telecom, included in Annex D* • Implementation of 3G and 4G spectrum awards / *Client certificate provided by BIPT, included in Annex D* • Auction design and implementation for the L-band auction / *Client certificate provided by Ofcom, included in Annex D* • Auction design and implementation for 2.6GHz spectrum award / *Client certificate provided by Ofcom, included in Annex D* • Auction Design and implementation for the DDR interleaved auction / *Client certificate provided by Ofcom, included in Annex D* • Award of UHF Spectrum / *Client certificate provided by Ofcom, included in Annex D* • Design and implementation of the 2.6 GHz auction / *Client certificate provided by Agentschap Telecom, included in Annex D* • Support and design for the multi-band auction / *Client certificate provided by Anacom, included in Annex D*

We confirm that we will submit the report 60 calendar days after signing the contract with APEK as set out in our proposed project schedule in Section 4 below, ***provided that all relevant information regarding the spectrum to be auctioned and the auction format and rules (set out in Section 3) is provided to us in a timely manner.*** In accordance with Paragraph 2.12.4.3 of the tender document, we provide as evidence the requested declaration in Annex D.

2.3 DotEcon relevant experience details

DotEcon has undertaken numerous projects involving benchmarking analysis, many in the context of setting market value reflecting reserve price in spectrum auctions. For instance, we provided a benchmarking analysis of 800MHz, 1800MHz and 2.6GHz spectrum for Ofcom as part of the study to recommend appropriate reserve price for the 2013 4G auction in the UK. We also completed a similar study for ComReg (Ireland) pertaining to setting reserve prices of 800MHz, 900MHz and 1800MHz in the Irish multi-band auction. In Table 3 below, we provide a sample of our relevant experience in this field.

Table 3: DotEcon benchmarking and reserve price setting detailed experience

Project	Description	Duration
Private client (Canada) Canadian 700MHz Auction Support	DotEcon provides support for an incumbent mobile operator participating in the 2013 Canadian auction of spectrum in the 700MHz band. The tasks include advice on regulatory responses and benchmark valuations, competitor analysis, development of bid strategy, training of the bid team and testing of bid strategies using DotEcon's WebBidder auction software, plus real-time support throughout the auction.	On-going
ComReg (Ireland) Multi-band auction	DotEcon provided support as lead contractor implementing an auction in the 800MHz, 900MHz and 1800MHz bands. DotEcon delivered multiple benchmarking reports assessing the value of spectrum in these bands. These utilised different countries at different time periods to inform reserve price setting for the multi-band auction in Ireland. The project also included other award and design issues such as setting appropriate coverage obligations and mechanisms to liberalise existing GSM spectrum holdings in the award process.	June 2009-April 2013
Ofcom (UK) Study to estimate the market value of 800MHz and 2.6GHz spectrum bands	As lead contractor in collaboration with Aetha Consulting, DotEcon advised Ofcom on appropriate reserve prices for 800MHz, 1800MHz and 2.6GHz spectrum 2013 multi-band award. DotEcon carried out a benchmarking analysis to estimate the value of spectrum concerned and advised on appropriate reserve price levels based on Ofcom's objectives for the award.	September 2011- June 2012

Project	Description	Duration
Danish Business Authority (formerly NITA, Denmark) 800MHz auction	As lead contractor, DotEcon along with Analysys Mason advised the National IT and Telecom Agency in the award of digital dividend spectrum (800MHz) in Denmark. The work involved considering the role of the 800MHz spectrum in meeting broadband goals of the Danish government and structuring the coverage obligation to achieve these goals. DotEcon also advised NITA on the design and implementation of the 800MHz auction in Denmark including the setting of appropriate reserve prices for the 800MHz band. In setting reserve prices, benchmarking analysis was carried out.	October 2010- June 2012
Danish Business Authority (formerly NITA, Denmark) 2.5GHz auction	DotEcon advised NITA on the design and implementation of an auction for the 2.6GHz band. As part of this project, DotEcon undertook an international benchmarking exercise to inform the setting of reserve prices for this award.	January 2008- June 2010
NBTC (Thailand) 3G auction advice	DotEcon provided advice to the Office of the National Telecoms Commission of Thailand in relation to award of 3G spectrum in the 2.1GHz band. This included an international benchmarking exercise to inform the setting of reserve prices for this award.	April 2008- October 2008
ComReg (Ireland) 26GHz auction design and reserve price setting	DotEcon designed an auction for the award of spectrum in the 26GHz band. This included advice on detailed rules, procedures, and the requirements for auction software. The project included a review of methodologies for setting reserve prices and an international benchmarking exercise. The setting of reserve prices was particularly important aspect in this auction as this spectrum was previous unsold at reserve prices.	March 2007- June 2008
Danish Business Authority (formerly NITA, Denmark) Danish 3G auction	DotEcon provided advice and assistance to NITA, the Danish telecoms regulator, in the auction of a 3G licence that had been returned as a result of a merger. The project covered all aspects of the award, including business modelling, licence terms, marketing, auction rules, consultations and auction implementation. DotEcon also undertook an international benchmarking exercise to inform the setting of reserve prices for this award. This project was led by DotEcon and supported by Analysys.	July 2005- January 2006

In order to set optimal reserve prices, it is important to understand how reserve prices interact with other aspects of auction design in achieving a regulator's auction objectives. DotEcon has designed and implemented many spectrum auctions across Europe over the last decade. We have developed bespoke auction format and rules to help regulators to achieve their specific objectives, such as to

ensure a demanding coverage obligation is assigned efficiently, or to improve market competitiveness either through the use of a spectrum floors or spectrum reservations for new entrants. Table 4 below presents a sample of the auctions we have designed and/or implemented which have had a specific focus on ensuring or improving market competitiveness.

Table 4: DotEcon auction projects with a focus on ensuring or improving market competitiveness

Project	Description	Duration
Ofcom (UK) Auction design and implementation for the 800MHz and 2.6Ghz spectrum award	DotEcon provided support on the design and implementation of a combined auction of spectrum in the 800MHz and 2.6GHz bands. Working for Ofcom, DotEcon provided advice on draft auction rules and produced software for the allocation of spectrum in multiple bands. The auction rules included the use of minimum portfolio packages an a restriction on auction outcomes to ensured that at least four operators in the market would have sufficient spectrum holdings to compete as a national wholesaler hence ensuring that the UK mobile market would remain competitive.	July 2009- February 2013
Agentschap Telecom (Netherlands) Multi-band auction	DotEcon lead a consortium of companies to implement a multi-band auction of spectrum in the 800MHz, 900MHz, 1800Mhz, 1900MHz, 2100MHz and 2600MHz bands in the Netherlands. This included the provision of customised software for rules, which used a spectrum reservation for new entrants in order to increase the competitiveness of the mobile market in the Netherlands.	May2011- December 2012
Agentschap Telecom (Netherlands) 2.6GHz auction	Support in the design and implementation of the 2.6GHz auction, using DotEcon's WebBidder auction software. The auction constituted the first implementation of a combinatorial clock auction with flexible band plan (with the allocation of paired and unpaired spectrum being determined as part of the auction process). There was a primary objective of introducing new entry to the market to improve market competitiveness hence tight spectrum caps were set on existing incumbents which effectively set aside spectrum for at least two new entrants.	November 2008- July 2010

In terms of advising an European regulator on topics relating to mobile services, we note that our auction experience listed in the tables above as well as in Table 5 below are mostly auctions of mobile frequency bands. The auction outcomes would therefore have a direct impact on the mobile market. As noted above, many of these auctions have been designed to ensure competitiveness in the mobile market. In terms of supporting a regulator on regulatory issues relating to the mobile market, we have advised ComReg between October 2012 and March 2013 in relation to the regulation of mobile termination rates in Ireland.

Finally, Table 5 below presents our remaining auction experience. Most of the auctions we have worked on are complex spectrum auctions where more than one lot was auctioned. Note that some of the auction projects listed in Table 3 are also complex auction where we have advised on other aspects of auction design in addition to setting optimal reserve prices. This is detailed in Table 3 above.

Table 5: DotEcon complex auction experience

Project	Description	Duration
RTR (Austria) Multi-band auction	Support on the design of an auction of spectrum in the 800MHz, 900MHz and 1800MHz bands, including an assessment of possible improvements to the combinatorial clock auction with regard to the pricing rule and governance issues. DotEcon also provided review and adjustment of rules in light of the Orange/H3G merger.	May 2011-January 2013
BIPT (Belgium) 3G and 4G auctions	As part of a consortium with Analysys, support to the Belgian Institute for Postal Services and Telecommunications (BIPT) in implementing two separate SMRA auctions for auctioning 3G and 4G spectrum licences. The main aspects of auction design and rules were laid down in a Royal Decree. DotEcon provided the auction software for running the auctions.	January 2011-December 2011
Ministerio de Industria, Turismo y Comercio (Spain) Multi-band auction	Implementation of an SMRA auction for a multi-band spectrum award including spectrum in the 800MHz, 900MHz and 2.6GHz bands, and a second auction to re-auction the spectrum that went unsold in the first auction.	January- July 2011
Anacom (Portugal) Multi-band auction	Provision of a report exploring the options for the award of frequencies in a number of different bandwidths which included the digital dividend band (800MHz), the established GSM bands and the 2.6GHz band through an auction.	July 2010-March 2011
MCA (Malta) 900MHz and 1800MHz auction	Support on the implementation of a sealed bid auction for 900 MHz and 1800 MHz radio spectrum in Malta.	July 2010-April 2011
RTR (Austria) 2.6GHz auction design	Support on the design of an auction for the 2.6GHz band. The project included a review of auction format options and the drafting of detailed rules for two alternative options: the SMRA auction and the combinatorial clock auction (CCA). Based on DotEcon's recommendation, RTR adopted a CCA format with fixed boundaries between the 2.6GHz paired and unpaired spectrum.	May 2009-August 2010
Anacom (Portugal) BWA auction (3.4-3.8GHz)	Support in the selection of auction format, followed by the implementation of a sealed bid combinatorial auction for the award of spectrum in the 3.4-3.8GHz band.	June 2008-March 2010

Ofcom (UK) Award of UHF spectrum	Support on assessing the alternative design options for the award of digital dividend spectrum in the UHF band. The proposed auction was put on hold following a decision to auction 800MHz spectrum in conjunction with 2.6GHz spectrum.	June 2007-March 2009
Ofcom (UK) 2.6GHz auction	Support on the design of an auction of spectrum in the 2.6GHz band. The proposals for the award provided the basis for the first implementation of the combinatorial clock auction, including the provision for a flexible band plan (with the allocation of paired and unpaired spectrum being determined as part of the auction process). The proposed auction was put on hold following a decision to auction 800MHz spectrum in conjunction with 2.6GHz spectrum.	April 2006-July 2009
Ofcom (UK) DDR Interleaved auction	DotEcon assisted Ofcom in the design and implementation of the DDR interleaved spectrum auction, including the provision of software for running the auction.	[January2008-February 2009]
Ofcom (UK) L-band auction	Provision in the design and implementation of the 1452-1492MHz (L-band) auction, including provision of auction software.	January 2006-2008

3 Our understanding and approach

In this section, in accordance with paragraph 2.15.4 of the tender document, we present our understanding and approach to determining optimal reserve prices for the upcoming multi-band auction.

We understand that all of the available frequencies in the 800MHz, 900MHz, 1800MHz, 2100MHz TDD and 2600MHz bands will be auctioned in the upcoming "Big Bang" auction. It is therefore vital that the auction achieves an efficient outcome that supports the effective provision of mobile services to Slovenian consumers. Indeed, APEK notes that the objective for this Big Bang auction is to achieve the most efficient use of spectrum and ensure that spectrum is awarded at market prices.[3]

There are four mobile operators in the Slovenian market at present. These operators have rather asymmetric market shares (see Figure 1 below), with the two largest operators accounting for approximately 80% of the market. Radio frequencies are one of the key inputs for the provision of mobile services and APEK has noted the importance of using spectrum caps to prevent an asymmetric distribution of spectrum in the Big Bang auction in its consultation document on frequency management.[4] Specifically, band specific spectrum caps as well as a cap on overall holdings may be used. It is not clear at present, however, at what levels these caps will be set.

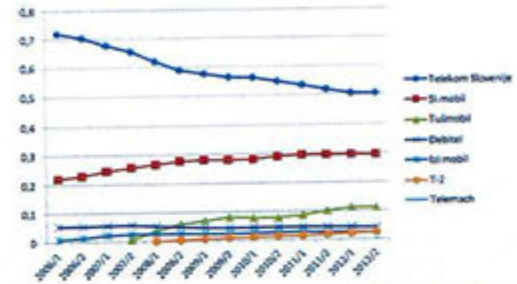
The auction format proposed in APEK's consultation document on frequency management is described as *"simultaneous, multi-frequency, combinatorial, multi-round clock auction"*[5]. Further, we note that it is likely that there will be a general roll out obligation that will apply to licensees in all bands, though the licensee may use frequencies in any band to fulfil this obligation. Further, it is also likely that there will be a separate coverage obligation on one 800MHz licensee to provide a basic mobile broadband service coverage in "white spots" where such a service is currently lacking.

[3] See http://www.apek.si/apek-pripravlja-razpis-frekvenc-za-mobilne-storitve-cetrte-generacije

[4] APEK, 2013, Consultation Document regarding APEK's frequency management strategy, available at: http://www.apek.si/files/APEK_eng/Telecommunications/Consultation-document-regarding-APEKs-frequency-management-strategy.pdf

[5] ibid

Figure 1: Market share of mobile operators in Slovenia



Source: APEK – Consultation Document regarding APEK's frequency management strategy 2013[6]

Optimal reserve prices need to be set in line with a regulator's objective of the auction. In the case of the Big Bang auction in Slovenia, efficient allocation of spectrum as well as ensuring that the spectrum is awarded at market value are likely to be key objectives of the auction. It is therefore important that reserve prices are set at a level that does not inefficiently choke off demand for spectrum while ensuring that an appropriate value of spectrum is realised and potential collusion risks are minimised.

If the auction can be expected to be sufficiently competitive and there are no market failures in the downstream market, moderate reserve prices would be most appropriate. Such reserve prices should not deter entry nor ultimately preclude an efficient outcome, and competition in the auction will ensure that spectrum will ultimately be sold at market value. This would require that spectrum caps not be overly tight or prescriptive. More moderate reserve prices are therefore in line with loose spectrum caps where the auction is competitive and market forces within the auction can be expected to result in an efficient outcome.

It may, however, be necessary to use tighter caps to prevent outcomes where larger players seek to preclude a smaller player or new entrant from access to spectrum in order to reduce future mobile market competitiveness. Such a risk may exist where current market positions are very asymmetric.

Tighter caps however, may reduce competitiveness in the auction, particularly where the number of bidders is small. In this case, higher reserve price may be necessary to ensure that spectrum is awarded at a price that reflects market value.

[6] ibid.

The level of competition in the auction may also depend on the format chosen, and the specific rules of the award. Some formats are more prone than others to strategic demand reduction or tacit collusion, and the incentives for bidders to engage in such behaviour are larger the lower reserve prices. In these cases, reserve prices that are set closer to market value should also reduce the incentives for strategic bidding because the potential gain from collusive behaviour is substantially lowered.

On the other hand, setting reserve prices too close to what can only ever be an estimate of market value – and thus subject to uncertainty – creates the risk of pricing off efficient demand or discouraging participation.

There are therefore different risks that need to be considered when setting reserve prices. Spectrum caps and other details of the chosen design as well as market conditions and auction objectives need to be taken into account when setting suitable reserve prices.

We would propose to estimate market value of the spectrum bands concerned from benchmarks of international spectrum awards, and use these benchmarks to develop suitable reserve price proposals based on APEK's objectives for the auction and taking into account other aspects of the auction design (such as the proposed auction format and rules).

3.1 Benchmarking spectrum value

We will undertake a benchmarking analysis based on the prices achieved for comparable spectrum in awards completed in other jurisdictions. This analysis should provide an indication of the likely market value of comparable spectrum available in the upcoming auction in Slovenia.

Such a benchmarking exercise needs to ensure that, as far as possible, differences in market characteristics and conditions are controlled for. This involves choosing an appropriate sample of comparators, and taking account of factors that may influence spectrum value (including population, population density, competitiveness of the mobile market, competitiveness of the award process, geographical region, etc.).

Ideally, one would look at prices achieved in competitive awards in markets that are broadly comparable to Slovenia in relation to these key characteristics. However, it may not be possible to find a sufficiently large sample of comparators, and we will therefore need to use a wider sample and make appropriate adjustments based on the specific details of the award in question (e.g. level of participation, reserve prices, licence conditions etc.). This requires a certain amount of judgment, but will help to provide lower and upper bound estimates of market value, subject to a certain level of

uncertainty. The degree of uncertainty over the estimates will need to be taken into account when setting appropriate reserve prices.

In order to carry out this task, we expect APEK to provide DotEcon with appropriate market information such as market shares, current, existing frequency holdings of all active operators in the Slovenian market as well as Average Revenues Per User and a mobile operator's estimated Weighted Average Cost of Capital in the Slovenian mobile market. This information should be provided ***within one calendar week*** of the award of the contract to ensure that DotEcon can deliver the final report within 60 calendar days as required by the tender document. Delays in the provision of this information to DotEcon may result in a corresponding delay in the delivery of the final report.

3.2 Reserve price recommendations

As noted above, we will make recommendations for the setting of reserve prices based on the quality of the value estimates, the auction objectives and taking into consideration other aspects such as the proposed auction format and auction rules.

Where the auction format or auction rules proposed may have a negative impact on auction competitiveness, a higher reserve price more closely reflecting market value may be appropriate. On the other hand, where the auction is likely to be competitive, then a more moderate reserve price may be most likely to ensure an efficient auction outcome. More moderate reserve prices may also be relevant when encouraging new entry into the market is a prime auction objective.

Here, we expect APEK to provide us with all relevant information about the current auction proposals for the Big Bang auction ***within three calendar weeks*** of the award of the contract for determining reserve prices. in order to ensure that DotEcon is able to deliver the final report 60 calendar days from the contract of award. Here at the minimum, we expect APEK to provide:

- details on the proposed auction format;
- if a combinatorial clock auction format is proposed, whether lot-specific or package-specific reserve prices will be applicable;
- spectrum cap proposals – per frequency band and the overall spectrum cap;
- whether any spectrum in any band will be reserved for a new entrant and if so how much; and
- any other proposals that may have an impact on the competitiveness of the auction.

Any delays in the provision of this information to DotEcon may result in a corresponding delay in the delivery of the final report.

Further we note that specific licence conditions that may be applied to particular frequencies may have a negative impact on the value of the licence. Where this impact is significant it may be necessary to set separate reserve prices for these specific lots in the auction. For instance, in the 800MHz band, the blocks at the lower end of the band may be subjected to substantial usage restrictions in order to protect DTT users adjacent in the band, and depending on the severity of these restrictions, the value may be substantially diminished. This should be reflected in the reserve price.

Similarly, where specific blocks (such as one lot in the 800MHz band) may be subject to coverage obligations, an adjustment may be appropriate to the extent that the cost of discharging the coverage obligation is non-trivial.

In this context, we would rely on APEK to provide details on the proposed licence conditions for all frequencies to be auctioned as well as an assessment of the likely impact that these licence conditions will have on the value of spectrum concerned. For example, we expect APEK to provide us with information about:

- whether the edge blocks in each band are subject to additional usage restrictions to protect neighbouring use (including whether some part of the licensed spectrum has to be used as a guard block) and what impact these usage restrictions have on licence value;
- what coverage obligations are being attached to specific frequency blocks, and the likely cost of discharging these coverage obligations;
- whether there are technological or service restrictions on specific frequencies, and how this might affect licence value; and
- whether the licences will be tradable post auction.

Again, we expect APEK to provide this information above ***within three calendar weeks*** of the award of the contract for determining reserve prices in order to ensure that DotEcon is able to deliver the final report 60 calendar days from the contract of award. Any delays in the provision of the above information will result in a corresponding delay of the delivery of the final report.

4 Project Schedule

Figure 2 below presents our proposed project schedule. In accordance with the tender document, the schedule is set to complete the report within 60 calendar days of award of the contract.

We propose a meeting with APEK in Ljubljana post the delivery of the report to present our findings and recommendations.

Please note that this schedule is contingent on DotEcon receiving all relevant information described in Section 3 above from APEK in the times set out.

5 Project team

For this project we propose a core team with rich experience in benchmarking spectrum value and setting reserve prices.

This core team includes [redacted] Partner at DotEcon, who will be Project Director, responsible for ensuring the quality and timeliness of all deliverables.

[redacted] will act as project manger, responsible for the day to day interaction with APEK and will lead the analysis and research for this study.

[redacted] both of whom are responsible for the day to day maintenance of the Spectrum Awards Database and are familiar with the data, will assist her.

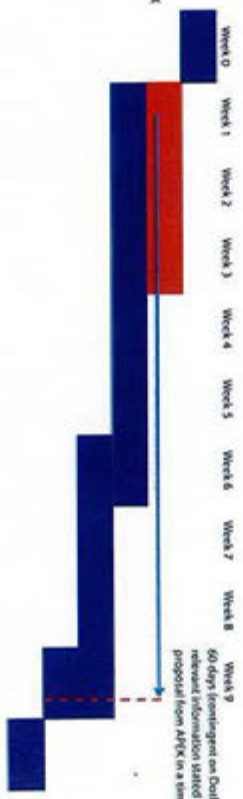
Other members of DotEcon staff may also be called upon where necessary for further input or assistance.

Short CVs of the core project team are provided in the remainder of this section below, and full CVs are available in Annex F. Please note that the availability of all of the above staff is dependent on the exact project timescale. In the event of a delay, or for other reasons outside our direct control, we reserve the right to substitute the above team members with alternative staff with similar levels of experience.

[redacted] – Project Director

[redacted]

Figure 2: Proposed project schedule



[redacted] – Project Manager

[redacted]

[redacted]

6 Commercial offer

We propose a fixed price of **€35,608** (excluding VAT) for the proposed benchmarking analysis including drafting of findings and reserve price recommendations in a report and presenting these findings and recommendations to APEK in Ljubljana. This fixed price constitutes our fees totalling €34,558 and travel and accommodation expenses of €1,050 for the presentation in Ljubljana. VAT in the UK is not applicable to APEK.

In addition, in accordance with Paragraph 2.15 of the tender documentation, our price per consultancy hour applicable to further ad hoc work in relation to the determination of optimal reserve prices is **€346** per hour (excluding VAT, derived assuming a 7-hour day). At this hourly rate, eighty hours of consultancy services will amount to a sum of €27,680 (excluding VAT).

This commercial offer is specified in Form 1, Form 2 and Form 3 of the tender document as required and attached to this proposal in Annex A, B and C respectively.

Annex A Form 1: Offer

See separate page.

CONFIDENTIAL.

APEK

FORM-1

TENDERER
DotEcon Ltd
17 Welbeck Street
London, W1G 9XS, UK.

OFFER

1. Subject of the Public Contract: **DETERMINATION OF OPTIMAL RESERVED PRICES FOR AWARDING RADIO FREQUENCIES IN THE 800 MHz, 900 MHz, 1800 MHz, 2100 MHz AND 2600 MHz FREQUENCY BANDS**
2.1 Offer price in EUR without VAT: Fixed price 35,608 EUR.
2.2 Offer price in EUR including VAT: 35,608 EUR. (VAT Rate zero - Reverse charge supply customer)
3. Offer validity until ..180.. Days from 30th May 2013
4. Tenderer's Data
4.1 Company name: DotEcon Ltd
4.2 Legal representative: Dr Christian Kobolde.
4.3 VAT ID: GB 736356322-
4.4 Registration Number: 3783016-
4.5 International bank account Number: IBAN GB18 LOYD 30963886339763
4.6 Address: 17 Welbeck Street, London, W1G 9XS, UK. BIC: LOYDGB21119
4.7 Telephone Number: [redacted]
4.8 Fax Number:
4.9 Contact person: [redacted]
4.10 E-mail: [redacted]
4.11 Person responsible for signing the Contract: Dr Christian Kobolde.

Date: 28/05/2013

Stamp and signature [redacted]

Annex B Form 2: Pro forma Invoice

See separate page.

CONFIDENTIAL.

APEK

TENDERER
Detecon UK
17 Welbeck Street
London W1G 9XJ, UK.

FORM-2

PRO FORMA

SUBJECT OF THE PUBLIC CONTRACT: DETERMINATION OF OPTIMAL RESERVED PRICES FOR AWARDING RADIO FREQUENCIES IN THE 800 MHz, 900 MHz, 1800 MHz, 2100 MHz AND 2600 MHz FREQUENCY BANDS

No.	*Description of supply/service*	*Unit*	*Quantity*	*Price per Unit without VAT:*	*VAT (%)*	*Price without VAT:*
1.	a. Preparation and submission of the report with detailed, independent and expert study with result of calculation and determination of optimal reserve prices b. Presentation of the independent, expert study and its results with detailed explanation at the location of Contracting Authority (including costs of transport and accommodation)	Piece Piece	1 1	35,608 EUR	0 %	35,608 EUR.
2.	Consultancy Services	Hour	80	346 EUR	0%	27,680 EUR
				Total price without VAT:		63,188 EUR
				The amount of VAT:		0 EUR
				Total price in EUR including VAT:		63,188 EUR.

Delivery term 60 (in days).

Date: 28/05/2013

[redacted]

Annex C Form 3: Contract Sample

See separate pages.

APEK

FORM-3

DRAFT CONTRACT

Post and Electronic Communication Agency of the Republic of Slovenia, Stegne 7, 1000 Ljubljana, Registration No. 1332899, Tax ID SI10482369, represented by the director Franc Dolenc(hereinafter: "the Contracting authority")

and

DotEcon Ltd., Company Registration No. 5783016, Tax ID GB736856332, represented by Dr. Chris Knight (Hereinafter: "the Provider"). Kobelt

hereby enter into

CONTRACT No.: _____

INTRODUCTORY PROVISIONS

Article 1

JN 4401/2013

(1) The Contracting authority and the Provider establish that:

- the Contracting authority carried out the procedure to award a public contract for »*DETERMINATION OF OPTIMAL RESERVED PRICES FOR AWARDING RADIO FREQUENCIES IN THE 800 MHz, 900 MHz, 1800 MHz, 2100 MHz AND 2600 MHz FREQUENCY BANDS*«, on the Public Procurement Portal under publication No. ..... on 19/04/13 17/04/2013 and in the EU Official Journal under publication No. ..... on ..... pursuant to Article 25 of the Public Procurement Act (Official Gazette of the Republic of Slovenia No. 12/2013 – UPB5; hereinafter: ZJN-2); 2013/S 077-129852
- based on the public procurement referred to in the first paragraph and the tenders received, the Contracting authority selected the Provider as the most favourable tenderer for the award of the contract referred to in the first paragraph under Public Contract Award Notice No. ..... dated _____,
- the Provider has the necessary professional and technical competences for providing the Service as defined by this contract.

(2) The subject of this Contract shall be financed based on the provisional twelfths of the Contracting Authority's approved Financial Plan for year 2012 or based on the Financial Plan of Contracting Authority for the relevant year that forms the basis for the implementation of activities. The funds have been allocated to account No. 4020.

Article 2

Under this Contact the Parties shall define the general and specific conditions of the provision of the Service.

SUBJECT OF THE CONTRACT

Article 3

(1) The subject of this Contract shall be determination of optimal reserved prices for awarding radio frequencies in the 800 MHz, 900 MHz, 1800 MHz, 2100 MHz and 2600 MHz frequency bands.

(2) The Provider agrees and allows to Contracting Authority to publish on its web sites the entire study which is the subject of this Invitation to Tender.

(3) The tender and complete contract documents shall form an integral part of this Contract.

Article 4

(1) The Contracting authority may, under this Contract, order additional services to the Provider that were not included in the initial contract award but have become necessary for the provision of the Service due to unforeseeable circumstances, or when such activities cannot be technically or economically separated from the main Service without causing difficulties to the Contracting authority, or in the event of services which the Contracting authority could award separately from the initial contract award but has decided not to do so due to their critical role in the subsequent phases of the implementation of this Contract and the successful provision of the Service defined by this Contract.

(2) In cases stated above, the Contracting authority shall implement a negotiated procedure without prior publication of a contract notice and add an Annex to this Contract or sign a new Contract with the Provider pursuant to Item 1 of the fifth paragraph of Article 29 of the ZJN-2.

OBLIGATIONS OF THE CONTRACTING AUTHORITY AND THE PROVIDER

Article 5

The Contracting authority undertakes to:

- make available to the Provider all necessary information, data and documents available to the Contracting authority and related to the provision of the Service under this Contract,
- cooperate with the Provider's authorised representative,
- submit its requests to the Provider in due time to enable the normal implementation of contractual services,
- ensure the human, informational and financing resources required for the implementation of services,
- give the Provider all the support necessary for the provision of services according to the requirements of this Contract,
- inform the Provider of any and all changes and new conditions that could affect the provision of the contractual services,
- check the report of the Provider together with specifications of performed tasks according to technical requirements specified in the Tender documentation,
- pay for services within the agreed deadlines.

Article 6

The Provider confirms that it has familiarised itself with the subject of this Contract as defined in the technical specifications that are an integral part of this Contract before submitting its tender and signing this Contract and undertakes to:

- perform the services in compliance with all the applicable regulations of the Republic of Slovenia and the European Union governing the subject of this Contract and according to professional standards,
- perform the services under this Contract in a professional and perfectly manner, at a high level of quality and in accordance with good business practices,
- ensure the highest quality of services regardless of the time and location of their implementation,
- perform the services in the most economical manner within the Contracting Authority's specifications,
- use advanced information technologies and methods in the implementation of the services.

- cooperate with the Contracting authority's staff and other advisors employed by the Contracting authority,
- provide assistance in preparation of the auction according to the Client's technical requirements, which form and integral part of this Contract,
- provide assistance in support and related services connected to the subject of this Contract,
- fulfil all foreseen obligations in due time and in the required manner,
- notify the Contracting authority in written form of any circumstances that could make the correct and high-quality provision of the services difficult or impossible,
- notify the Contracting authority in written form of any new circumstances that could affect the substance or time aspects of the provision of the services,
- draw up a report with specifications of completed tasks according to the technical requirements of the tender documentation after each completed phase,
- observe and implement the Contracting authority's requests as defined in the tender documentation pursuant to Article 1 of this Contract, comply with its tender dated _____, on the basis of which the Provider was selected, and act in accordance with the provisions of this Contact for its entire duration,
- issue invoices for the services performed in accordance with the prices stated in its tender following the completion of such services and upon the Contracting authority's approval of its report.

Article 7

(1) If the Contracting authority orders a service that in the Provider's opinion would be in contravention of regulations or cause disproportionate damage to the Contracting authority or a third party, the Provider may decline to perform such a service, without infringing the terms of this Contract, if the Provider submits valid argumentation for such a refusal and prove the existence and present facts in support of its refusal. If the request does not allow for the professionally optimal provision of services or requires solutions contrary to professional rules, the Provider shall notify the Contracting authority of this fact and propose a more suitable solution; however, if the Contracting authority insists on its request, the Provider shall be obligated to fulfil its task according to the Contracting authority's request.

(2) The Provider's unsubstantiated refusal to perform a requested task or a deviation from the requested method of implementation shall be deemed a breach of obligations assumed under this Contract, due to which the Contracting authority may terminate this Contract, provided that the Contracting authority has previously notified the Provider of the infringements in writing.

Article 8

The Contracting authority's requests and specifications shall be subject to change, amendment and supplementation by mutual arrangement during the term of the Contract, in which case the Provider shall not in any way be entitled to a reimbursement of any costs that modified requests may cause.

COMPETENT AUTHORITIES

Article 9

(1) The administrator of the Contract for the Contracting Authority shall be [redacted]

(2) The administrator of the Contract for the Provider [redacted], who shall also be responsible for the provision of services under this Contract.

APEK

CONTRACT VALUE CONFIDENTIAL

Article 10

(1) The Provider shall charge the following prices for the services defined in Article 1 of this Contract:
1. Sum total prior to the submission and presentation of the study: 35.608 EUR
2. Price of a counselling hour following the submission and presentation of the study: 346 EUR,

based on the Provider's Offer no. _____.

(2) The Parties agree that this price shall include all of the Provider's costs. The price referred to in the previous paragraph shall include all duties, taxes and costs. The stated prices are DDP (Incoterms 2010).

(3) The price shall be fixed for the entire duration of this Contract

TERMS OF PAYMENT

Article 11

The Provider shall issue invoices for services performed under this Contract to the Contracting Authority based on a report approved by the Contracting Authority and in accordance with the Offer prices as follows:
- the Provider shall issue an invoice following the submission and presentation of the study and based on a report approved by the Contracting Authority;
- the Provider shall issue an invoice for services performed on the request of the Contracting Authority during the period from the submission and presentation of the study to the beginning of the auction, presumably on 31st of January 2014.

Article 12

(1) The Contracting Authority shall pay each issued invoice previously confirmed by the Contracting Authority 's Contract Administrator within 30 days of the official date of receipt of the invoice into the following bank account of the Provider: IBAN GB19 LOYD 3016 3686 339763 held at (name and BIC of the bank) LOYD GB21114. Lloyds TSB.

(2) If the deadline for payment is non-working day, it is considered that the deadline for payment is the first subsequent working day.

Article 13

In the event the Contracting Authority fails to pay the invoice in due time, the Provider shall be entitled to charge penalty interest for late payment from the due date to the date of payment of the invoice.

PROVIDER'S GUARANTEES AND WARRANTY OBLIGATIONS

Article 14

(1) The Provider guarantees to provide high quality services in accordance with applicable regulations and standards and the requests specified by the Contracting authority.

(2) In the event the Provider fails to provide a specific service under this Contract, the Contracting authority may order such services from other providers at the Provider's expense.

APEK

FORCE MAJEURE

Article 15

(1) Force majeure shall mean any unforeseen and unexpected event arising independently from the Parties' intentions that could not have been foreseen on the day of the conclusion of this Contract and which in any way affects the fulfilment of contract obligations.

(2) The Provider undertakes to inform the Contracting authority of any case of force majeure within three days of such an event.

(3) Neither of the Parties shall be held responsible for failure to fulfil any of their obligations due to reasons beyond their control.

BUSINESS SECRET

Article 16

(1) The Parties agree that all data received through the implementation of this Contract shall constitute a business secret and undertake to duly protect such data and use it exclusively for the implementation of this Contract.

(2) The Contracting authority also undertakes to protect all of the Provider's business information received under this Contract.

(3) The Provider undertakes not to publish or use in any manner the Contracting authority's business secrets or confidential information to which the Provider was allowed access during or after the term of this Contract if such materials are designated as confidential or for internal use only, without obtaining prior explicit written approval from the Contracting authority.

(4) The Contracting authority shall be entitled to hold the Provider responsible for the full sum of all damages incurred by the publication or use of the Contracting authority's business secrets or confidential information.

CONTRACTUAL PENALTY

Article 17

(1) In the event that the provider fails to meet the time limit for the implementation of services for reasons that are not caused by the Contracting authority and which cannot be reasonably justified, the Provider shall be obligated to pay 0.5% of the Contractual sum total for each day of the delay, up to a maximum of 10% of the sum total stated in Items 1 of the first paragraph of Article 10 of this Contract.

(2) If a delay or error during the implementation hinders the purpose of this contractual relationship, the Contracting authority shall be entitled to terminate this Contract and request damages.

ANTI-CORRUPTION CLAUSE

Article 18

If it is determined that during the course of the public tender on the basis of which this Contract was signed or during the implementation of this Contract anyone acting in the name or for the benefit of the one of the Parties offered, promised or awarded any undue advantage to a representative, authorised

person or agent of the Contracting authority or another public sector body or organisation in order to be awarded the contract, receive special conditions or omit due supervision over the contractual obligations, or any other action or omission incurring damage to any public sector body or organisation, or allowing undue benefits to any representative or agent of a public sector body or organisation, the other Party or its representative, authorised person or agent, this Contract shall be deemed null and void.

DISPUTE RESOLUTION

Article 19

(1) In case of any dispute relating this Contract, the Contracting Parties shall seek a consensual solution.

(2) If such solution is not found, the dispute shall be resolved by the competent court in Ljubljana.

FINAL PROVISIONS

Article 20

(1) This Contract shall enter into force on the date it is signed by the last of the two Parties.

(2) The Contract may be changed or amended with a written annex agreed upon and signed by both Parties. If any of the provisions of this Contract is held to be invalid or later becomes so, the remaining provisions of this Contract shall not in any way be affected. An invalid provision shall be replaced with a valid provision that fulfils the intent of the provision rendered invalid as closely as possible.

Article 21

(1) Either of the Parties may withdraw from this Contract due to a breach of contractual obligations by the other Party if the breach continues after a written notice. In the event of withdrawal, the parties shall settle all mutual obligations under this Contract and any damages incurred.

(2) Either Party may withdraw from the Contract provided that the Party chooses an appropriate time to withdraw in consideration of the other Party and in view of the reasons for the withdrawal, and settles all costs incurred by such withdrawal.

Article 22

Mutual rights and obligations not explicitly defined by this Contract shall be governed by the provisions of the law regulating obligational relationships and other applicable provisions regulating mutual obligations under this Contract.

Article 23

(1) This Contract shall be entered into force for the period starting from the date it is signed until the date of the issuing of decisions on awarding the relevant radio frequencies, or 31st March 2014, at the latest.

(2) This Contract has been drawn up in four (4) identical copies, of which two (2) copies shall be handed to the Client and two (2) to the Provider.

APEK

PROVIDER:

Date: 28/05/2013

[redacted]

CLIENT

Date:

APEK

Franc Dolenc
Director

Annexes: offer 28/05/2013
- ~~Tender~~, dated ....., including a preliminary cost estimate,
- ~~Contract~~ documents No. ...1... dated ..17/04/2013.
Tender

4301-9/2013/2

Annex D Evidence in accordance with paragraph 2.12 of the tender document

D.1 Client certificates

See separate pages

Hereby I certify that DotEcon Ltd executed the following projects for Ofcom. Furthermore I certify that 5 out of the 6 projects have taken place in the last 5 years :

Project title:	Auction design and implementation for the 800MHz and 2.6GHz spectrum award
Project duration:	July 2009 – February 2013
Project budget:	Above £500 000

This project related to the design and implementation of a complex multi-round auction of multiple lots for the award of spectrum licences, including the 800MHz band.

A key component of the auction design was to promote competition in the UK mobile telecommunications market through ensuring the presence, after the auction, of four effective national wholesale mobile operators.

DotEcon Ltd was the main contractor in the execution of this project. Other contractors were used for testing and verification purposes.

DotEcon developed and provided the auction software for running the auction, and successfully applied this software.

Project title:	Study to estimate the market value of 800MHz and 2.6GHz spectrum bands in the UK
Project duration:	September 2011 – June 2012

This project related to the determination of optimal reserve prices for a complex multi-round auction of multiple lots for the award of spectrum licences in the 800MHz and 2.6GHz bands.

Ofcom contracted with Aetha Ltd and DotEcon Ltd for this project. DotEcon lead on the benchmarking analysis in the execution of this project.

Dotecon carried out benchmarking analysis to estimate the value of spectrum concerned and advised on appropriate reserve price levels based on the results of this work and Ofcom's objectives for the award.

Project title:	Auction design and implementation for the L-band auction
Project duration:	January 2006 – May 2008
Project budget:	£100 000 to £500 000

This project related to the design and implementation of a complex multi-round auction of multiple lots for the award of spectrum licences.

DotEcon Ltd was the main contractor in the execution of this project. Other contractors were used for testing and verification purposes.

DotEcon developed and provided the auction software for running the auction, and successfully applied this software.

Project title:	Auction design and implementation for the 10-40GHz auction
Project duration:	December 2006 – February 2008
Project budget:	£100 000 to £500 000

This project related to the design and implementation of a complex multi-round auction of multiple lots for the award of spectrum licences.

DotEcon Ltd was the main contractor in the execution of this project. Other contractors were used for testing and verification purposes.

DotEcon developed and provided the auction software for running the auction, and successfully applied this software.

Project title:	Auction design and implementation for the 412-14/422-24 MHz auction
Project duration:	June 2005 – October 2006
Project budget:	£50 000 to £100 000

This project related to the design and implementation of a single round sealed bid combinatorial auction of multiple lots for the award of spectrum licences.

DotEcon Ltd was the sole contractor in the execution of this project.

DotEcon developed and provided the auction software for running the auction, and successfully applied this software.

Project title:	Auction design and implementation for the DDR interleaved auction
Project duration:	January 2008 – February 2009
Project budget:	£50 000 to £100 000

This project related to the design and implementation of two multi-round auctions with a single lot each for the award of spectrum licences, including the 800MHz band.

DotEcon Ltd was the sole contractor in the execution of this project.

DotEcon developed and provided the auction software for running the auction, and successfully applied this software. However, an auction was not required after the application stage, as there was no excess demand.

Project title:	Auction design and implementation for 2.6GHz spectrum award
Project duration:	April 2006 – July 2009
Project budget:	Above £500 000

This project related to the design and implementation of a complex multi-round auction of multiple lots for the award of spectrum licences.

DotEcon Ltd was the main contractor in the execution of this project. Other contractors were used for testing and verification purposes.

DotEcon developed and provided the auction software for running the auction, although the auction did not take place.

Project title:	Award of UHF spectrum
Project duration:	June 2007 – February 2009
Project budget:	£100 000 to £500 000

This project related to the design and implementation of a complex multi-round auction of multiple lots for the award of spectrum licences, including the 800MHz band.

DotEcon Ltd was the sole contractor in the execution of this project.

Name: [redacted]

Organisation, country: Ofcom, United Kingdom

Position: Policy Projects Director, Spectrum Policy Group

Email: [redacted]

Telephone number: [redacted]

Signature: [redacted]

Date: 23/05/13

Commission for
Communications Regulation
Coimisiún Um
Rialáil Cumarsáide

Hereby I certify that DotEcon Ltd executed the following projects for ComReg:

Project title:	Auction design and implementation for a multi-band spectrum award
Project duration:	June 2009 – April 2013

This project related to the design and implementation of a complex multi-round auction of multiple lots for the award of spectrum licences in the 800MHz, 900MHz and 1800MHz bands.

This project delivered multiple benchmarking reports assessing the value of spectrum and the various value drivers of spectrum in the 800MHz, 900MHz and 1800MHz bands in different countries at various times in order to inform reserve price setting for these bands in Ireland.

DotEcon Ltd was the Lead contractor in the execution of this project. Other contractors were used for independent testing and verification purposes.

DotEcon developed the auction software for running the auction, and successfully implemented the auction using this software.

Project title:	Auction design and implementation for the award of 26 GHz spectrum
Project duration:	March 2007 – June 2008

This project related to the design and implementation of a single round sealed bid combinatorial auction of multiple lots for the award of spectrum licences.

The project included a review of methodologies for setting reserve prices and an international benchmarking exercise to set reserves.

DotEcon Ltd was the sole contractor in the execution of this project.

DotEcon developed the auction software for running the auction, and successfully implemented the auction using this software.

Commission for Communications Regulation
An Coimisiún um Rialáil Cumarsáide
Block DEF, Abbey Court, Irish Life Centre, Lower Abbey St, Dublin 1
Bloc DEF, Cúirt na Mainistreach, Ionad Irish Life, Sráid Na Mainistreach Íocht, Baile Átha Cliath 1
Telephone +353 1 804 9600 Fax +353 1 804 9665 Email info@comreg.ie Web www.comreg.ie

Name:	[redacted]
Organisation, country:	Commission for Communications Regulation, Ireland
Position:	Senior Manager – Spectrum Operations
Email:	[redacted]
Telephone number:	
Signature:	[redacted]
Date:	15 May 2013

Hereby I certify that DotEcon Ltd executed the following projects for ComReg:

Project title:	Regulation of mobile termination rates in Ireland
Project duration:	October 2012 – March 2013

For this project, DotEcon advised ComReg in relation to the regulation of mobile termination rates in Ireland. Specifically, DotEcon provided expert economic advice on the appropriate costing methodology for the setting of MTRs.

Name: [redacted]

Organisation, country: ComReg, Ireland

Position: Senior Manager – Regulatory pricing

Email: [redacted]

Signature:

[redacted]

Date: 15/05/2013.

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Federal Department of the Environment,
Transport, Energy and Communications DETEC

Federal Office of Communications OFCOM
Telecom Services Division
Mobile and Satellite Services Section

2501 Biel/Bienne, OFCOM, vau

DotEcon Ltd
Hans-Martin Ihle
17 Welbeck St
London W1G 9XJ

Reference: 523.5/1000334471
Your reference:
Contact person: [redacted]
Biel/Bienne, 15 May 2013

Certificate

Dear Madam or Sir

Hereby I certify that DotEcon Ltd executed the following project for the Federal Office of Communications:

Project title:	Design and implementation of a multi-band auction
Project duration:	October 2010 – May 2012

This project related to the design and implementation of a complex multi-round auction of multiple lots for the award of spectrum licences, including the 800MHz, 900MHz, 1.8GHz, 2.1GHz and 2.6GHz bands.

As part of the project, benchmarking analysis was carried out by DotEcon to set the auction reserve prices.

DotEcon Ltd was the sole contractor in the execution of this project.

DotEcon developed and provided the auction software for running the auction, and successfully applied this software.

Yours faithfully

Federal Office of Communications OFCOM

[redacted]

Head of Section Mobile and Satellite Services

Federal Office of Communications OFCOM
[redacted]
Zukunftstrasse 44, 2501 Biel/Bienne
[redacted]
www.bakom.admin.ch

D/ECM/10278083

Hereby I certify that DotEcon Ltd executed the following projects for the Danish Business Authority (formerly NITA):

Project title:	Support on design and implementation of an auction for the award of 800MHz band spectrum with a flexible coverage obligation
Project duration:	October 2010 – June 2012

Within this project DotEcon Ltd undertook benchmarking analysis carried out in order to set appropriate reserve prices for the 800MHz band.

This project related to the design and implementation of a complex multi-round auction of multiple lots for the award of spectrum licences in the 800MHz band.

DotEcon Ltd was the lead contractor of a consortium for the execution of this project.

DotEcon developed and provided the auction software for running the auction, and successfully applied this software.

Project title:	Support on design and implementation of an auction for the award of 2010MHz and 2.5GHz spectrum
Project duration:	January 2008 – June 2010

As part of this project DotEcon Ltd undertook an international benchmarking exercise to inform the setting of reserve prices.

This project related to the design and implementation of a complex multi-round auction of multiple lots for the award of spectrum licences.

DotEcon Ltd was the lead contractor of a consortium for the execution of this project.

DotEcon developed and provided the auction software for running the auction, and successfully applied this software.

Name: [redacted]

Organisation, country: The Danish Business Authority, Denmark

Position: Special Advisor

Email: [redacted]

Telephone number: [redacted]

Signature: [redacted]

Date: 21 May 2013

Agentschap Telecom
Ministerie van Economische Zaken

> Retouradres Postbus 450 9700 AL Groningen

DotEcon Ltd
t.a.v. [redacted]
17 Welbeck Street
London W1G 9XJ
Groot-Brittannie

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T (050) 587 74 44
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www.agentschaptelecom.nl
info@agentschaptelecom.nl

Contactpersoon
[redacted]

Ons kenmerk
AT-EZ/68 15246

Uw kenmerk
-

Bijlagen
-

Datum 16 mei 2013
Betreft client certificat

Geachte

Hereby I certify that DotEcon Ltd executed the following projects for Agentschap Telecom:

Project title:	Implementation of the multi-band auction
Project duration:	May 2011 – December 2012

This project related to the implementation of a complex multi-round auction of multiple lots for the award of spectrum licences, including the 800MHz, 900MHz, 1800Mhz, 1900MHz, 2100MHz and 2600MHz bands.
The auction used a spectrum reservation for new entrants in order to promote competition in the market for mobile telecommunications in the Netherlands.
DotEcon Ltd was the lead contractor of a consortium for the execution of this project.
DotEcon developed and provided the auction software for running the auction, and successfully applied this software.

Project title:	Design and implementation of the 2.6GHz auction
Project duration:	November 2008 – July 2010

This project related to the implementation of a complex multi-round auction of multiple lots for the award of spectrum licences.
DotEcon Ltd was the sole contractor for this project.
DotEcon developed and provided the auction software for running the auction, and successfully applied this software.

Name: [redacted]
Organisation, country: Agentschap Telecom, the Netherlands
Position: Hoofd Netwerken
Email: [redacted]
Telephone number: [redacted]

Signature: [redacted]

Date: 16.5.2013

Datum
16 mei 2013

Ons kenmerk
AT-EZ/681.5246

Hereby I certify that DotEcon Ltd executed the following projects for the BIPT:

Project title:	Implementation of 3G and 4G spectrum awards
Project duration:	January 2011 – December 2011

This project related to the implementation of two complex multi-round auctions of multiple lots for the award of spectrum licences.

The auction promoted competitiveness in the Belgium telecommunications market allowing a new entrant to enter the market.

DotEcon Ltd was part of a consortium for the execution of this project.

DotEcon developed and provided the auction software for running the auctions, and successfully applied this software. An auction was required only for the 4G award as there was no excess demand for the 3G spectrum following the application stage.

Name: [redacted]

Organisation, country: BIPT, Belgium

Position: Premier ingénieur-conseiller

Email: [redacted]

Telephone number: [redacted]

Signature: [redacted]

Date: 14/5/2013

Hereby I certify that DotEcon Ltd executed the following projects for RTR:

Project title:	Review of auction rules following a merger between two incumbent operators
Project duration:	December 2012 – January 2013

This project related to the design of a complex multi-round auction of multiple lots for the award of spectrum licences, including the 800MHz, 900MHz and 1800MHz bands.

DotEcon Ltd was the sole contractor in the execution of this project.

Project title:	Support on the design of a multi-band auction
Project duration:	May 2011 – September 2011

This project related to the design of a complex multi-round auction of multiple lots for the award of spectrum licences, including the 800MHz, 900MHz and 1800MHz bands.

DotEcon Ltd was the sole contractor in the execution of this project.

Project title:	Support on the design of an auction for spectrum in the 2.6GHz band
Project duration:	May 2009 – August 2010

This project related to the design of a complex multi-round auction of multiple lots for the award of spectrum licences.

DotEcon Ltd was the sole contractor in the execution of this project.

Name: [redacted]

Organisation, country: RTR, Austria

Position: Economic Department

Email: [redacted]

Telephone number: [redacted]

Signature: [redacted]

Date: 14.5.2013

Hereby I certify that DotEcon Ltd executed the following project for the Malta Communications Authority (MCA):

Project title:	Design and implementation for the 900MHz and 1800MHz auction
Project duration:	July 2010 – April 2011

This project related to the design and implementation of a complex multi-round auction of multiple lots for the award of spectrum licences.

DotEcon Ltd was the sole contractor in the execution of this project.

After the application stage there was no need for an auction, so software was not required.

Name: [redacted]

Organisation, country: MCA, Malta

Position: Senior Technical Specialist

Email: [redacted]

Telephone number: [redacted]

[redacted]

Signature:

15/5/2013

Date:

D.2 Declaration of 60 day report provision

See separate pages.

TENDERER:

Dotecon Ltd,
17 Welbeck Street
London
W1G 9XJ

DECLARATION

THIS DECLARATION IS EVIDENCE OF COMPLIANCE WITH THE CONDITION SET OUT IN POINT 2.12.4.3 OF CHAPTER II OF THE TENDER INSTRUCTIONS.

Under criminal and material responsibility we declare that:

DotEcon Limited will submit the report at latest 60 days after signing the contract with the Contracting Authority conditional upon DotEcon receiving all relevant information in relation to inputs required from the Contracting Authority to set optimal reserve prices in a timely manner. The required relevant information is set out in Section 3 of our proposal and our proposed project schedule for completing the report in 60 calendar days conditional upon receiving this information is set out in Section 4 of our proposal.

This Declaration is an integral part of the Offer, which we are applying for a Public Contract "DETERMINATION OF OPTIMAL RESERVED PRICES FOR AWARDING RADIO FREQUENCIES IN THE 800 MHz, 900 MHz, 1800 MHz, 2100 MHz AND 2600 MHz FREQUENCY BANDS".

Public Contract was published on the Procurement portal, publication date 17/04/2013 publication number JN4401/2013 and in the Official Journal of the EU, publication date 19/04/2013 publication number 2013/S 077-129882.

Date: 22/5/13

Stamp and signature

[redacted]

Clifford Harris & Co.
So[redacted]
[redacted]
Tel [redacted] 5031

[redacted]

Solicitor

Annex E Form 4: Declaration of Suitability

See separate pages.

APEK

TENDERER
Dot Four Ltd.
17 Welbeck Street
London W1G 9XS, UK

FORM-4

DECLARATION

This Declaration is an evidence of compliance with those conditions set out in point 12 of the Chapter II of this Instructions, for which the Contracting Authority has indicated that submission of this Declaration is sufficient.

Tenderer shall circle as appropriate if he meets the condition or not.

No.	Under criminal and material responsibility we declare that:	Circle as appropriate	
1.	The Tenderer or its legal representatives in the case of legal persons have never been the subject of a conviction by final judgement of crimes listed in the first paragraph of Article 42 of the ZJN-2: acceptance of bribe during the election; fraud; abuse of a position of monopoly; false bankruptcy; defrauding creditors; commercial fraud; fraud affecting the European Union; deception in obtaining loan or advantages; fraud in securities trading; deception of purchasers; unauthorised use of another's mark or model; unauthorised use of another's patent or topography; forgery or destruction of business documents; disclosure and unauthorised acquisition of trade secrets; abuse of information system; abuse of insider information; abuse of financial instruments market; abuse of position or trust in business activity; prohibited acceptance of gifts; prohibited giving of gifts; counterfeiting money; fabrication and use of counterfeit stamps of value or securities; money laundering; abuse of non-cash means of payment; use of counterfeit non-cash means of payment; fabrication, acquisition and disposal of instruments of forgery; tax evasion; smuggling; disclosure of classified information; acceptance of bribes; giving bribes; accepting benefits for illegal intermediation; giving of gifts for illegal intervention; criminal association.	(YES)	NO
2.	The Tenderer is not on the day of submission of Offer disqualified from being awarded public Contracts due to the inclusion in the record of Tenderers with negative references in accordance with Article 77.a of ZJN-2.	(YES)	NO
3.	The Tenderer has on the date of submission of the Offer, in accordance with the regulations of the country in which he is established or regulations of the Contracting Authority no outstanding, unpaid obligations relating to the payment of social security contributions or in connection with the payment of taxes in the amount of 50 euros or more.	(YES)	NO
4.	The Tenderer has no any outstanding liabilities to Subcontractors in previous public Procurement procedures.	(YES)	NO
5.	The Tenderer has a valid registration to do business, which is the subject of this procedure (consulting services in the field of mobile industries and /or regulatory affairs) pursuant to the regulations of the Member State of his establishment.	(YES)	NO
6.	The Tenderer accepts all the conditions of this Tender Documentation.	(YES)	NO
7.	The information given in this Offer is accurate and not misleading.	(YES)	NO

APEK

Tenderer shall complete:

A. The activity can be done on the basis of entry in the Court or Business Register, under entry number _____ or based on the entry in the Tax Office of the Republic of Slovenia unit in _____, number _____ or an entry in the register _____ number _____ in accordance with the law of the country.

B. To carry out activities covered by this Contract, we have on the basis of being incorporated as a company in England and Wales (law) obtain an authorization, number 3753016 issued at by Companies House on 01 June 1999. (company)

We are members of the following organizations: _____ (write only if the legal entity must conduct its business for the member of a particular organization, chambers of commerce, associations, etc. ..).

C. To carry out activities covered by this Contract we do not need special permission and can perform activity on the basis of entry in the Court or Business Register or based on the entry in the Tax Office of the Republic of Slovenia.

Under criminal and material responsibility we declare that all the above information is true and accurate.

This Declaration is an integral part of the Offer, which we are applying for a Public Contract "DETERMINATION OF OPTIMAL RESERVED PRICES FOR AWARDING RADIO FREQUENCIES IN THE 800 MHz, 900 MHz, 1800 MHz, 2100 MHz AND 2600 MHz FREQUENCY BANDS".

Public Contract was published on the Procurement portal, publication date 19/04/2013 publication number JN 4401/2013... and in the Official Journal of the EU, publication date ..4.... publication number 2013/S 077-124582 19/04/2013

Date: 22/5/13

[redacted]

Clifford Harris & Co.
[redacted] Street
[redacted] 4UA
Tel: [redacted] 0031

22/05/2013

[redacted]

Solicitor

Annex F CV's of proposed Project team

[redacted]

Partner

[redacted]

Competition Policy and Litigation Support

[redacted]

[redacted]

CV's of proposed Project team

[redacted]

[redacted]

Regulation and Public Policy

[redacted]

CV's of proposed Project team

[redacted]

[redacted]

[redacted]

Auction and Market Design

[redacted]

[redacted]

[redacted]

Education and Employment

[redacted]

Publications

[redacted]

[redacted]

CV's of proposed Project team

[redacted]

[redacted]

[redacted]

Senior Consultant

[redacted]

Auctions and Market Design

[redacted]

[redacted]

[redacted]

Regulation

[redacted]

[redacted]

Public Policy

[redacted]

[redacted]

Competition

[redacted]

Education and Employment

[redacted]

[redacted]

Publications

[redacted]

[redacted]

Consultant

[redacted]

Regulation

[redacted]

Auctions and market design

[redacted]

Education and Employment

[redacted]

CV's of proposed Project team

[redacted]

[redacted]

Consultant

[redacted]

Competition

[redacted]

[redacted]

Regulation and public policy

[redacted]

Auction design

[redacted]

Education and employment

[redacted]

CV's of proposed Project team

[redacted]