

2015



e-health solutions in European countries project report, part 2

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DESK STUDY RESEARCH

Aim

The aim of the desk study part of the research is to recognise the state of the art as well as to build a basic model of comparison of innovation procurement between researched countries, based on secondary data analysis. Doing so will enable the EPP Project Consortium to formulate the basis for qualitative research. Analysed aspects include legal regulations, national plans for development as well as barriers and opportunities of development.

Innovation procurement

Public procurement occurs when a public institution purchases products or services from an outside institution. Innovation can be defined as an introduction of a new idea, device, service, product, process or system.

Public procurement of innovation (PPI)¹ is sometimes defined as procurement of something that does not yet exist². However, as Rolfstam³ points out, what is a regular, off-shelf product or service in one society, can easily be considered an innovation somewhere else. In addition to **demand-side** PPI, there is a possibility of **supply-side** PPI, when potential suppliers approach a public institution with unsolicited innovative solutions⁴. Exploitation of these two sides' potential for driving innovation in the public sector through various instruments is a subject of debate.

National plans for future of innovation procurement development

Introduction

Public procurement represents a significant demand. Therefore, its potential to influence market trends is widely recognised. PPI may in fact be a more influential trigger for innovation than subsidies for research and development, because it reduces supplier's risks

¹ Also referred to as Public Procurement of Innovative Solutions, Public Innovation Procurement and Innovative Public Procurement. Similar, although narrower concept, is public technology procurement or government technology procurement. For more, see: Rolfstam, M., 2008. *Public Procurement of Innovation*, Lund University Publications, <http://lup.lub.lu.se/luur/download?func=downloadFile&recordId=1150781&fileId=1150785>, access: 11 April 2015.

² Uyarra, E. & Flanagan, K., 2010. Understanding the Innovation Impacts of Public Procurement. *European Planning Studies*, 18(1), pp.123–143, doi: 10.1080/09654310903343567.

³ Rolfstam, M., Phillips, W. & Bakker, E., 2011. Public procurement of innovations, diffusion and endogenous institutions. *International Journal of Public Sector Management*, 24(5), pp.452–468, doi: 10.1108/09513551111147178.

⁴ Uyarra, E. & Flanagan, K., op. cit.

and helps create a critical mass for the use of a given solution⁵. The need for innovation is driven by multiple factors and the public sector faces many challenges, many of which are not only expected to intensify in the future, but are also considered unprecedented. For example, a growing ageing population, shrinking tax base and achieving environmental sustainability⁶. Consequently, innovative solutions become a necessity. However, PPI in some cases is an innovation policy tool used by government with the goal of stimulating innovation within the economy (especially in private sector). Public agencies, being big market players, are supposed to be able to stimulate private companies to invest in research and development, and to launch otherwise risky innovation projects⁷.

EU

Responsible for about 19.4% of GDP in 27 member states (data from 2009)⁸ public procurement is a powerful tool for reaching other goals (so-called secondary or strategic goals), like employment, environmental protection, social equality and technological development. Prior to the formulation of the *Lisbon Strategy* in 2000, EU policies on public procurement were largely informed by neo-classical economics, i.e. prioritising cost efficiency and European market free from national markets protection⁹. However, the millennium shift set the new vision of the EU as the most competitive and knowledge-based economy in the world. Reaching this vision required a strong stimulus: public procurement of innovation. To facilitate PPI, new tools were given to contracting authorities to use during tendering and procurement.

- **Competitive dialogue** was introduced in *Directive 2004/18/EC*¹⁰ and replaced by *Directive 2014/24/EU*. It is mainly meant for complex projects, where technical and legal aspects are not easily specifiable by the contracting authority. Therefore, there is a need for a more flexible process, during which the project can be discussed in detail with each potential supplier. Due to its potential to interfere with the rules of free market, the use of competitive dialogue is limited to specific types of projects and the procedure must be conducted according to prescribed rules. Competitive dialogue involves several rounds of discussions between the contractor and potential suppliers. It shifts emphasis from the

⁵ Amann, M. & Essig, M., 2015. Public procurement of innovation: empirical evidence from EU public authorities on barriers for the promotion of innovation. *Innovation: The European Journal of Social Science Research*, (April 2015), pp.1–11, doi: 10.1108/09513551111147178.

⁶ Knutsson, H. & Thomasson, A., 2014. Innovation in the Public Procurement Process: A study of the creation of innovation-friendly public procurement. *Public Management Review*, 16(2), pp.242–255, <http://www.tandfonline.com/doi/abs/10.1080/14719037.2013.806574>, access: 4 April 2015.

⁷ Rolfstam, M., 2012. An institutional approach to research on public procurement of innovation. *Innovation: The European Journal of Social Science Research*, 25(3), pp.1–19, doi: 10.1080/13511610.2012.717475.

⁸ Amann, M. & Essig, M., op.cit.

⁹ Rolfstam, M., 2009. Public procurement as an innovation policy tool: the role of institutions. *Science and Public Policy*, 36(5), pp.349–360, doi: 10.3152/030234209X442025.

¹⁰ European Commission, 2005. Explanatory Note – Competitive Dialogue – Classic Directives, http://ec.europa.eu/internal_market/publicprocurement/docs/explan-notes/classic-dir-dialogue_en.pdf.

input demanded from suppliers to the outcome desired by the contractor¹¹. It is supposed that the procedure is innovation-friendly, since more alternative solutions can be presented or even devised in the process.

- **Technical dialogue** procedure is regulated by EC directives 2014/24/EU and 2014/25/EU. The technical dialogue allows a procurer to request consultation or relevant information before starting tendering process in order to specify requirements of the offer (important details about the product description, conditions of an agreement etc.) The dialogue should not impede free competition. Contrary to what the name suggests, the dialogue may encompass all aspects of a desired product/service, not only technological ones¹². It is deemed innovation-friendly because it increases the odds that the contracting authority becomes aware of previously unknown solutions.
- **Pre-commercial procurement (PCP)** is described as procurement of research and development of solutions before they are commercially developed, with 'different suppliers competing through different phases of development. The risks and benefits are shared between the procurers and the suppliers under market conditions'¹³. The law applies to offers of a certain value, although in some countries (e.g. Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Hungary, Italy, Lithuania, Poland, Romania, Slovenia, Sweden) it also applies to procedures below the EU thresholds¹⁴. Those values are updated by the European Commission every two years. The relevant thresholds applicable since January 2014 are as follows¹⁵:

Figure 1. Financial thresholds for public procurement that impose an obligation to follow directives 2014/24/EU and 2014/25/EU.

Financial value (net of VAT)	Area of application
5 186 000 €	Construction services.
134 000 €	Contests involving services or deliveries held by public sector organisations, excluding local and regional authorities, organisations set up or overseen by local and regional authorities, as well as public organisational units without separate legal personality.

¹¹ Hoezen, M., Voordijk, H. & Dewulf, G., 2012. Formal and informal contracting processes in the competitive dialogue procedure: a multiple-case study. *Engineering Project Organization Journal*, 2(3), pp.145–158, doi: 10.1108/09513551111147178.

¹² UZP, 2014. Komentarz do regulaminu dialogu technicznego, <http://www.uzp.gov.pl/cmsws/page/GetFile1.aspx?attid=8149>, access: 2 April 2015.

¹³ European Commission, 2015. Pre-Commercial Procurement. Digital Agenda for Europe, <http://ec.europa.eu/digital-agenda/en/pre-commercial-procurement>, access: 10 May 2015.

¹⁴ Bianchi, T. & Guidi, V., 2010. *The Comparative Survey on the National Public Procurement Systems Across the Ppn*,

¹⁵ UZP, 2013. Rozporządzenie Prezesa Rady Ministrów z dnia 23 grudnia 2013 r. w sprawie kwot wartości zamówień oraz konkursów, od których jest uzależniony obowiązek przekazywania ogłoszeń Urzędowi Oficjalnych Publikacji Wspólnot Europejskich (Dz.U. z 2013 roku, poz. 17, <http://www.uzp.gov.pl/cmsws/page/GetFile1.aspx?attid=7282>, access: 8 July 2015.

207 000 €	Contests involving services or deliveries held by local and regional authorities, organisations set up or overseen by local and regional authorities, as well as public organisational units without separate legal personality.
414 000 €	Utilities procurement (so-called WETT: Water, Energy, Transport, Telecommunication).

Sources: Prigan, A., 2013. Zamówienia publiczne: nowe progi z początkiem 2014 roku. *Co do zasady* and European Commission, 2015. Single market and Standards. Current rules, thresholds and guidelines. Growth. Single Market and Standards,

Implementation of the recent directives *2014/24/EU* and *2014/25/EU*, along with *Directive 2014/23/EU* on the award of concession contracts is expected in January 2016, so their effect cannot be assessed as of yet (May 2015)¹⁶. In addition to making the procedures more flexible, they also:

- Introduce life cycle costing (LCC) as a basis for cost assessment,
- Give public contractor more control over subcontracting,
- Honour Agreement on Government Procurement, which goes beyond EU,
- Promote innovation partnerships.

Denmark

In 2013 the government introduced *Strategy for Intelligent Public Procurement*¹⁷. The Ministry of Finance prepared the strategy in cooperation with the Ministry of Industry and Growth, the Ministry of Economics and Internal Affairs, the Ministry for Research, Innovation and Higher Education and the Ministry for Environment. The Association of Danish Local Governments and the Association of Danish Regions, which also participates in the strategy implementation, all support the strategy. The strategy presents three objectives for the intelligent public procurement¹⁸:

- Effectiveness; competitive prices, low total costs, low transaction costs and useful solutions,
- Innovation and quality development; based on new ways of thinking and market development including development of new solutions sustaining growth and job creation,
- Sustainability; via environmental and energy related requirements and by enforcing corporate social responsibility and taking into account social and environmental consideration through social clauses.

In the same year, the Government established the national Market Development Fund¹⁹. The Parliament adopted the bill for setting up the Market Development Fund on 20th February 2013²⁰ and the law came into force on 1st March 2013.

¹⁶ European Commission. Innovation Procurement: Legal framework. Procurement of Innovation Platform, <http://www.innovation-procurement.org/about-ppi/legal-framework>, access: 10 May 2015.

¹⁷ Regeringen, 2013. Strategi for intelligent offentlig indkøb, http://oim.dk/media/524939/Strategi_for_intelligent_offentlig_indk%C3%B8b.pdf, access: 28 April 2015.

¹⁸ Ibidem.

¹⁹ Market Development Fund, 2015. The Market Development Fund, http://markedsmodningsfonden.dk/file/369859/market_development_fund.pdf, access: 2 May 2015.

Danish Business Authority (part of the Ministry for Industry and Growth) provides staff working for the Fund. The Fund's objectives according to its strategy²¹ are to promote growth, employment and export through research and innovation. The Fund's focus is on both the supply side (expertise in research institutions and enterprises and demand side (end-users, enterprises, public sector and international markets). The national budget allocates approximately 17 million euro annually to the Fund. The Fund has three target areas:

1. Market development through financial support to enterprises,
2. Market development through innovative public demand,
3. Market development through enterprises' establishment or participation in industrial partnerships.

The main vehicle for target areas 1 and 2 are financial grants, whereas the main vehicle in target area 3 is an encouragement for enterprises to enter into joint partnerships. The joint partnerships focus on fast-tracking development projects, mentoring programmes, cooperation between small and large enterprises and increased level of internal competences in business development. Target area 2 supports the Governments *Strategy for Intelligent Procurement* and promotes application of methodologies for intelligent public demand. Within target area 2 public authorities may apply for financial support to innovation procurements and pre-commercial procurements. 10-20% of the Fund's annual financial allocation is expected to be spent within target area 2. The Fund's grant scheme for target area 2 has already attracted some interest among regional and local governments and more projects have obtained support from the Fund.

In order to support public-private sector innovation, in 2011 the Business Authority initiated a project called *the Laboratory for Public-Private Innovation*²². The project was completed in late 2014, having produced an elaborate guide on public-private innovation²³ with tools for those engaged in public-private innovation.

In addition to the Danish Government's initiatives, several initiatives were launched by the Council of Ministers for the Nordic Countries (the official intergovernmental body for Sweden, Finland, Norway, Iceland, the Faroe Islands, Åland, Greenland and Denmark)²⁴.

In cooperation with different partners from its member states and territories, the Council has initiated and funded the Nordic PPI NET (Nordic Public-Private Innovation Net) focusing on public procurement of innovation in the health sector. The PPI NET has hosted several conferences on innovation in health care as well as published a step-by-step guide²⁵.

²⁰ Erhvervs- og Vækstministeriet, 2015. Lov om ændring af lov om fond til grøn omstilling og erhvervsmæssig fornyelse, <https://www.retsinformation.dk/pdfPrint.aspx?id=145417&exp=1>, access: 12 May 2015.

²¹ Markedsmodningsfonden, 2014. Strategi for Markedsmodningsfonden, http://markedsmodningsfonden.dk/file/456861/strategi_mmf.pdf, access 12 April 2015.

²² OpiLab, 2012. Home. OpiLab.dk, <http://www.opilab.dk>, access: 12 May 2015.

²³ OpiGuide. Samarbejde om vækst og velfærd. OpiGuide.dk, <http://www.opiguide.dk>, access: 12 May 2015.

²⁴ Norden. The Nordic Council of Ministers — Nordic cooperation. [norden.org](http://www.norden.org), <http://www.norden.org/en/nordic-council-of-ministers>, access: 12 May 2015.

²⁵ Nordic.net, 2015. Innovation Procurement: Home. [Nordic.net](http://www.nordic-net.com), <http://www.nordic-net.com>, access: 12 May 2015.

National E-health Authority (NSI, National Sundheds-it) is responsible for setting national standards for e-health and overall strategy for its development²⁶. Regional E-health Authority²⁷ (RSI, Regionernes Sundheds-it), established jointly by the five regions, formulated a common strategy²⁸ for digitalization of the Danish health care system for the period 2013 – 2019. The strategy includes 25 points of orientation²⁹ for the period 2013 – 2016. In order to ensure compliance with regional policy, certain financial thresholds for procurement at hospital or departmental levels were set according to regional decision. For instance, in the region of Zealand, a hospital department can only carry out procurements of e-health solution of value under 13 300 euro, hospital management may decide on procurements of value between 13 300 and 66 000 euro. Public contracts above the latter sum may only be granted by the regional authority.

Poland

Among EU countries Poland ranks lowest in relation to percentage of innovative enterprises (28% according to 'Community Innovation Survey')³⁰. Public procurement and public-private partnerships are going to be integral parts of the overall strategy³¹. The rules governing public procurement in Poland are specified in the Act of 29 January 2004 (last amended in 2014³²) known as *Public Procurement Law (Prawo zamówień publicznych)* which is in compliance with EU *Directives 2004/17/EC, 2004/18/EC and 2007/66/EC*.³³ The law applies to contracts with a value over 30000 euro³⁴. The notices for contracts below the threshold can be published in Public Procurement Bulletin or Official Journal of the EU, while those

²⁶ Danish Government, Local Government Denmark & Danish Regions, 2013. *Making eHealth Work. National Strategy for Digitalisation of the Danish Healthcare Sector 2013-2017*, Available at: <http://www.ssi.dk/~media/Indhold/DK - dansk/Sundhedsdata og it/NationalSundhedsIt/Om NSI/Strategy2013-17.ashx>, access: June 2015.

²⁷ Danish Regions, 2013, RSI: Regionernes Sundheds-it. Sundhed, <http://www.regioner.dk/sundhed/sundheds-it/rsi>, access: June 2015.

²⁸ Danish Regions, 2013, Sammenhængende, effektive og ensartede digitale muligheder, <http://www.regioner.dk/~media/RSI%20strategi/strategi%2027-05-2013%20www.ashx>, access: June 2015

²⁹ Danske Regioner, 2013. Regionernes fælles pejlemærker for digitalisering af sundhedsvæsenet for perioden 2014 – 2016. <http://www.regioner.dk/~media/RSI%20strategi/pejlemærker%2021-05-2012%20www.ashx>, access: June 2015.

³⁰ Nieć, Melania. 2013. Działalność innowacyjna przedsiębiorstw w Polsce na tle krajów Europy, in: *Świt Innowacyjnego Społeczeństwa*, Warsaw, 114–43, <https://www.parp.gov.pl/files/74/81/626/15959.pdf>, access: 2 April 2015.

³¹ Ministerstwo Infrastruktury i Rozwoju. 2014. Program Operacyjny Inteligentny Rozwój Na Lata 2014-2020, http://www.mir.gov.pl/ministerstwo/Serwis_prasowy/multimedia/biuletyn_informacyjny/Documents/POI_R_19_01_dokument.pdf, access: 10 April 2015.

³² Komunikaty.pl, 2015. Znowelizowana Ustawa Prawo Zamówień Publicznych. Komunikaty.pl, http://www.komunikaty.pl/komunikaty/1,80849,5837232,Znowelizowana_Ustawa_Prawo_Zamowien_Publicznych.html, access: 2 July 2015.

³³ Authority for the Supervision of Public Contracts, 2011. *The Comparative Survey on the National Public Procurement Systems Across the Ppn*.

³⁴ UZP, 2014. Prezydent podpisał Ustawę o zmianie ustawy - Prawo zamówień publicznych oraz niektórych innych ustaw. *Portal. BIP. BZP*, <http://www.uzp.gov.pl/cmsws/page/?D;2903>, access: 9 July 2015.

above the threshold must appear in the latter. While the awarding entity has more flexibility in terms of choosing a procedure in the case of below-the-threshold contracts, the criteria for exclusion from the procedure is the same³⁵. The Public Procurement Office is an independent central government body responsible for policy and coordination of public procurement. The Polish public procurement system may be considered de-centralised: institutions spending public funds adhere to the law and make their own decisions³⁶.

Regulation and promotion of innovative public procurement is a part of *Strategy of Innovation and Economic Effectiveness Dynamic Poland 2020 (Strategia Innowacyjności i Efektywności Gospodarki Dynamiczna Polska 2020, SIEG)* and part of so-called third priority axis. It is worth mentioning that innovative procurement is treated as a means to achieving a more innovative economy rather than a target in itself, similar to pre-commercial procurement and public-private partnership. As with the previous *Innovative Economy Programme (Program Innowacyjna Gospodarka)*, which lasted 2007-2013, it is meant to intensify cooperation between public institutions-business-science. Innovative public procurement is planned to be a tool to implement innovations related to the specialties deemed key for the future of the country³⁷. *SIEG* mentions:

- Spreading awareness of the mechanisms of innovative procurement (competitive dialogue),
- Using procurement to increase SMEs' contributions to innovations as strategy tools.

POIR (Program Operacyjny Inteligentny Rozwój, Operational Programme Intelligent Development) has a complementary programme named *POIŚ (Program Operacyjny Infrastruktura i Środowisko, Operational Programme Infrastructure and Environment)*, which promotes sustainable development. Therefore, public procurement is envisioned to be supportive of both innovation and sustainable development. The current *Operational Programme Intelligent Development (Program Operacyjny Inteligentny Rozwój)*, is set within the timeframe of 2014-2020.

Spain

The *National Innovation Strategy (Estrategia Estatal de Innovación, e2i)*³⁸, incorporated in the *Law of Science, Technology and Innovation*³⁹, was designed as a long-term stable point of reference for all political, social and economic agents seeking to achieve the common goal of promoting innovation to transform the Spanish economy into a knowledge-based economy. To this end, the Law of Science, Technology and Innovation articulated instruments such as PPI, territorial cooperation and internationalization. The *e2i* includes 5

³⁵ Bianchi, T. & Guidi, V. *op.cit.*

³⁶ Ibidem.

³⁷ Ministerstwo Gospodarki. 2013. SIEG. Strategia Innowacyjności i Efektywności Gospodarki, http://www.mg.gov.pl/files/upload/20046/SIEG_PL_wersja_ksiazkowa.pdf, access: 9 April 2015.

³⁸ Ministerio de Economía y Competitividad, 2012. Guía sobre Compra Pública Innovadora, p.3, www.idi.mineco.gob.es/stfls/MICINN/Innovacion/FICHEROS/Políticas_Fomento_Innv./Guia.CPI.pdf, access: 30 April 2015.

³⁹ Jefatura del Estado, 2011. *Ley 14/2011, de 1 de junio, de la Ciencia, la Tecnología y la Innovación*, <http://www.boe.es/boe/dias/2011/06/02/pdfs/BOE-A-2011-9617.pdf>, access: 3 May 2015.

axes of actions conducive to achieving the conducive to achieving the following general objectives:

- Recognition and promotion of talent in R+D+i (research, development and innovation), through improving training capacities and employability,
- Promotion of excellence in scientific research,
- Industry leadership in R+D+i,
- Promotion of R+D+i activities oriented towards answering global social challenges.

Axis 1⁴⁰, *Fostering Financial Framework for Innovation*, aims to provide finance for innovative projects. Axis 2, *Promoting Innovation through Public Demand*, seeks to enhance the growth of innovative markets through public procurement to achieve a convergence between social priorities and innovative markets. Axes 3 *International Projection* and 4 *Strengthening Regional Cooperation*, emphasize importance of exchange of ideas and scope of activity among regions and countries. Axis 5, *Human Capital*, is about providing skills and education. The *Law on Public Sector Contracts* from 2007⁴¹ facilitates innovative public procurement and was subsequently included in the *Sustainable Economy Act*⁴². In the same vein, the agreement of the Council of Ministers from October 2010 encourages PPI in the framework of the National Innovation Strategy.

The *Law of Science, Technology and Innovation* from July 2011 establishes a procedure for PPI. In the same vein, the Ministry of Science and Innovation has published the 'Guide on Innovative Public Procurement'⁴³. Public procurement is harmonised through a unitary national legislation, but it is operated in a decentralised way at different levels.

Decisions of the CISNS (Consejo Interterritorial del Sistema Nacional de Salud) aiming at coherent policy across autonomous communities are similar to recommendations as they must be adopted consensually⁴⁴.

The Spanish Ministry of Health is responsible for ensuring interoperability, data flow of health records and electronic prescriptions between regions and through the Health Intranet and the day-to-day running of the infrastructure. It also hosts the national information nod. Additionally, the Quality Agency of the National Health Service, which was established by the Ministry of Health, coordinates all autonomous regions. In addition, every region has its own institution.

Regions differ in their approach to e-health. For example, the Balearic Islands and Valencia have a unified EHR system. Catalonia on the other hand developed a *Strategic Plan for the*

⁴⁰ Gobierno de España Ministeria de Ciencia y Innovación, Estrategia Estatal de Innovación. Spanish innovation strategy, <http://www.idi.mineco.gob.es/stfls/MICINN/Innovacion/FICHEROS/pentagono03.pdf>, access: 30 April 2015.

⁴¹ Ministerio de Economía y Hacienda, 2013. *Real Decreto Legislativo 1 / 2001 , de 20 de julio , por el que se aprueba el texto refundido de la Ley de Aguas*, www.boe.es/buscar/pdf/2011/BOE-A-2011-17887-consolidado.pdf, , access: 12 May 2015.

⁴² Jefatura del Estado, 2011. *Ley 2/2011, de 4 de marzo, de Economía Sostenible*, www.boe.es/boe/dias/2011/03/05/pdfs/BOE-A-2011-4117.pdf, access: 3 May 2015.

⁴³ Ministerio de Economía y Competitividad, 2012., op cit.

⁴⁴ Ministerio de Sanidad Servicios Sociales e Igualdad, 2012. *Sistema Nacional de Salud. España 2012*, www.msssi.gob.es/organizacion/sns/docs/sns2012/SNS012_Espanol.pdf, access: 23 July 2015.

*ICT in Health in Catalonia for years 2008 -2011 (Plan Estratégico SITIC para ámbito de la Salud en Cataluña 2008 -2011).*⁴⁵ Andalusian strategic plans for healthcare^{46,47} prove commitment to development of telemedicine and to building systems that ensure interoperability of healthcare units within the region. Multiple strategies and levels of coordination require special measures to keep all the institutions on track.

In the interest of public thrift and ensuring compliance with policies, the *Public Procurement Law* stipulates that individual hospitals can be decision-makers in procurement procedures only up to certain value⁴⁸. Above these sums, adjusted yearly, a higher-level authority is responsible for running the procedure.

Figure 2. Contract values and corresponding decision-making institutions according to the Spanish Public Procurement Law.

Responsible Body	Procedure Type	Upper Limit
Hospital	minor	18'000 €
Hospital	negotiated	60'000 €
Hospital Director Manager	tender	200'000€
Regional General Manager	negotiated	100'000€
	tender	500'000€
Regional Government Board	tender	1'200'000€
Source: Ministerio de Economía y Hacienda, 2011		

UK

The Office of Government Commerce (OGC) is the key institution in England, Wales and Northern Ireland, while the Devolved Scottish Administration implements the law on its own. Additional institutions, e.g. the Regional Centres for Excellence for Procurement, also play a role in shaping the procurement policy⁴⁹. Until recently (2015), public procurement in the UK was governed by the *Public Contracts Regulations 2006* (for England, Wales and Northern Ireland) and the *Public Contracts (Scotland) Regulations 2006*. These Regulations implemented into UK law the European Commission's Directive on public procurement

⁴⁵ Red.es, Ministry of Health Social Services and Equity & Regional Health Authorities, 2010. *ICT in the National Health System. The Health care online program*, www.msssi.gob.es/profesionales/hcdsns/TICS/TICS_SNS_ACTUALIZACION_EN_2010.pdf, access: 23 July 2015

⁴⁶ Consejería de Igualdad Salud y Políticas Sociales, 2014. *IV Plan Andaluz de Salud (4th Andalusian Health Plan)*, Consejería de Igualdad, Salud y Políticas Sociales, www.juntadeandalucia.es/salud/sites/csalud/galerias/documentos/c_1_c_6_planes_estrategias/IV_plan_andaluz_salud/IV_PAS_v9_english.pdf, access: 23 July 2015,

⁴⁷ Consejería de Salud, 2011. *Plan de Calidad del SSPA 2010-2014 (Quality Plan of the Andalusian Public Health System)*, www.juntadeandalucia.es/salud/export/sites/csalud/galerias_ENG/documentos/planCalidad/planCalidad_ENG.pdf, access: 23 July 2015,

⁴⁸ Ministerio de Economía y Hacienda, 2011. Real Decreto Legislativo 3/2011, de 14 de noviembre, por el que se aprueba el texto refundido de la Ley de Contratos del Sector Público. *Agencia Estatal Boletín Oficial del Estado*, <http://www.boe.es/buscar/act.php?id=BOE-A-2011-17887>, accessed: 23 July 2015.

⁴⁹ Bianchi, T. & Guidi, V., *op. cit.*

(2004/18/EC), adopted in March 2004⁵⁰. The revision from 2011 influenced innovation procurement as it aimed at achieving more flexibility with the rules, facilitating access to contracts for SMEs, supporting strategic use of public procurement for environmental and social policy goals and providing more legal clarity on the application of the rules. The directive should help NHS organisations to procure innovative products and services adapted to their specific needs and to achieve best value in public contracts.

Additionally, there are several key public procurement initiatives in the UK including:

- The Small Business Research Initiative (SBRI)⁵¹. It was first established in the UK in 2001 to increase access of small and medium-sized enterprises (SMEs) to public sector procurement, and to support the procurement of R&D with a potential to procure the innovation generated in the R&D contract. It is now a well-established process to connect public sector challenges with innovative ideas from industry, supporting companies to generate economic growth and enabling improvement in achieving government objectives.
- Forward Commitment Procurement (FCP)⁵² – is a procurement model introduced in 2006 designed to satisfy future outcome-based needs instead of purchasing for the immediate perceived needs. FCP consists of three stages: 1. identification of need, 2. market engagement, and 3. Procurement. In stage 1, the purchasing authority signals to the market that they have a need for innovative solutions to a particular problem using a Prior Information Notice. The notice defines the requirements in terms of particular performance outcomes. The second stage involves engaging with potential suppliers, followed by the third stage which is the formal procurement stage. The procurement may incorporate a forward commitment, which is an agreement to purchase the developed solution at a price that is relative with its benefits. FCP is therefore used to make the market aware of government needs and requirements. The objective is to buy solutions that meet these needs once they are available and their functionality demonstrated, at a price that is proportionate to their benefits⁵³.
- Public-Private Procurement Compacts⁵⁴. In 2012 Procurement Compacts were launched. The scheme is for large public and private organisations to join forces to buy products and processes that help reduce the carbon footprint of private and public actors. The

⁵⁰ Uyarra, E. et al., 2014. UK Public Procurement of Innovation: The UK Case, V. Lember, R. Kattel, & T. Kalvet, eds. Public Procurement, Innovation and Policy. Springer Berlin Heidelberg, pp. 233–257, doi: 10.1007/978-3-642-40258-6.

⁵¹ Innovate UK, 2014. Small Business Research Initiative. Home, <http://sbri.innovateuk.org>, access: 29 May 2015.

⁵² Department for Business Innovation & Skills, 2013. Forward commitment procurement know-how programme, <http://www.gov.uk/government/publications/forward-commitment-procurement-know-how-programme>, access: 29 May 2015.

⁵³ Department for Business, Innovation & Skills, 2011. Delivering best value through innovation. Forward commitment procurement: practical pathways to buying innovative solutions, http://www.gov.uk/government/uploads/system/uploads/attachment_data/file/32446/11-1054-forward-commitment-procurement-buying-innovative-solutions.pdf, access: 18 April 2015.

⁵⁴ University of Cambridge, 2015. Cambridge Institute for Sustainability Leadership. About the Compacts, <http://www.cisl.cam.ac.uk/business-action/low-carbon-transformation/clg/innovation-and-learning/uk-procurement>, access: 29 May 2015.

outcome being a joint statement of demand which would send a clear signal to the market of the need, thus encouraging new innovations and induce the generation of new innovations and accelerate the spread of new products and services.

The regulations have been replaced by the *Public Contracts Regulations 2015 (PCR 2015)* in February 2015 in England, Northern Ireland and Wales, with Scotland planning to implement its regulations later⁵⁵. The new regulations seek to introduce directives 2014/25/EU, 2014/25/EU and 2014/23/EU. They will also help the NHS⁵⁶ to improve the way it purchases goods and supplies, making the procurement process more efficient and flexible. The new rules also provide clarity on how to conduct market consultations prior to the launch of the tendering process, to assess the structure, capability and capacity of the market. In addition, they will introduce a new procurement procedure, called Innovation Partnership, specifically for the development and subsequent purchase of innovation. This procedure will allow NHS bodies to launch a single procurement process to cover both the research and development phase and the purchase of any resultant successful innovation.

Barriers to public innovation procurement development

Introduction

PPI is a relatively new notion. It evolved from the concept of 'public technology procurement' yet it goes beyond technology⁵⁷ and is perceived as a strategic public policy tool, employed with a final goal of satisfying human needs and solving societal problems⁵⁸. Achieving this requires diffusion of a single devised innovation. If it is to play its role, PPI requires changes in public procurement legislation in the first place, nevertheless, its successful adoption demands that mind-sets and institutional set-ups⁵⁹ change as well. Rolfstam's research emphasizes the role of institutional mismatch among different stakeholders, at both formal and informal levels, in failure of some innovation procurement attempts. The public administration way of seeing goals and tasks is still fragmented, which goes against the paradigm underlying PPI.

⁵⁵ CMS, 2015. *Guide to the EU public procurement rules in the UK. Contract award procedures for public sector bodies in England, Wales and Northern Ireland*, <http://webcache.googleusercontent.com/search?q=cache:g-ApLv8vrhAJ:www.cms-lawnow.com/ealerts/2015/05/guide-to-the-public-contracts-regulations-2015+&cd=9&hl=en&ct=clnk&gl=pl>, , access: 3 July 2015.

⁵⁶ NHS Confederation, 2015. Changes to procurement rules open up new possibilities for the NHS, says Elisabetta Zanon. NHS Voices blogs, <http://www.nhsconfed.org/blog/2015/03/changes-to-procurement-rules-open-up-new-possibilities-for-the-nhs>, access: 12 May 2015.

⁵⁷ In fact, social innovation is very much part of the EC's policies (http://ec.europa.eu/enterprise/policies/innovation/policy/social-innovation/index_en.htm). However, these initiatives are outside the scope of this paper due to their complexity.

⁵⁸ Edquist, C. & Zabala-Iturriagagoitia, J.M., 2012. Public Procurement for Innovation (PPI) as Mission-oriented Innovation Policy. *Research Policy*, pp.1–30, doi: 41.10: 1757-1769.

⁵⁹ Rolfstam, M., 2009, op cit.

EU

Amann and Essig point out that 'Public procurement goals such as cost efficiency, legal conformity as well as the advancement of environmental protection, and the promotion of innovation often represent **competing priorities**'⁶⁰. PPI is also time-consuming due to the requirement of coordination between many stakeholders. Risk aversion of public officials responsible for the procurement is perhaps the barrier most often cited in the literature on the subject. However, findings suggest that risk aversion may not be the main factor; instead, **complexity** plays the biggest role, with **time limitation** being the second⁶¹. The authors point to the potential of monitoring systems in facilitating the procurement procedures. **Risk management** emerges as an important barrier: naturally risk-averse public contractors try to shift it back to suppliers or to third-party institutions when possible.⁶² Studies suggest that mainstreaming PPI may require further innovations in the procurement process itself in order to manage bigger risks as compared to procurement of ready-made services and products⁶³. Despite the fact that the new instruments (technical and competitive dialogues, pre-commercial procurement) were introduced with the purpose of making PPI easier, the law is perceived as complicated, which is discouraging potential suppliers from participation. This is true especially where SMEs are concerned. Complicated legislation holds back the contracting authorities as well, because fearing court appeals, they 'play it safe'⁶⁴. Last but not least, lack of cooperation between public institutions prevents them from benefitting from joint size and financing projects together⁶⁵.

Denmark

According to the strategy for the Market Development Fund⁶⁶, the most important barriers for development of innovation public procurement in Denmark are:

- A public sector's need for reliable products and services as well as for competitive prices. This means that innovative products or services that have not yet been tested in an operative environment are less likely to be accepted by the contracting authority than products with proven and documented reliability. Further innovative products and services that were only produced in small quantity are generally more expensive than existing mass-produced products.
- The classic requirement specifications prepared by the contracting authority are often detailed in order to control the supplier's production of the product or service tendered for. This means that the requirement specification offers no or very little incentive or opportunity for bidders to offer innovative products or services.

⁶⁰ Amann, Markus, and Michael Essig, op. cit.

⁶¹ Ibidem.

⁶² Kalvet, T. & Lember, V., 2010. Risk management in public procurement for innovation: the case of Nordic-Baltic Sea cities. *Innovation: The European Journal of Social Science Research*, 23(3), pp.241–262, doi: 10.1080/13511610.2011.553509.

⁶³ Ibidem.

⁶⁴ Knutsson, H. & Thomasson, A., op. cit.

⁶⁵ Ibidem.

⁶⁶ Market Development Fund, op. cit.

- The contracting authorities see innovation procurement procedures as involving more costs than the classic procedures for public or restricted tenders. This means that the contracting authorities prefer to stick to non-innovative procurement procedures.

In addition to the above points, there are legal restraints to application of innovation procurement. The national Appeal Board for Public Tenders has stated in its rulings that use of the competitive dialogue is an absolute exception compared to public and restricted procedures. Consequently, the contracting authority has to prove that the product or a service tendered for through the innovative procedures is not already available on the market. The Appeal Board's ruling means that the competitive dialogue has come to a nearly complete stand-still in Denmark. The proposed *Bill for Public Tendering*⁶⁷ (implementing the new European public procurement directive) is envisaged to open for a wider use of innovative procurement procedures.

Poland

Awareness of innovation public procurement is not wide-spread in Poland⁶⁸, which in itself may be a barrier. Enterprise Europe Network⁶⁹ cites a general climate of discouragement among medium, small and micro enterprises when it comes to public innovative procurement; they feel they cannot compete in this area with big enterprises. Wiktorowicz⁷⁰ adds the following:

- Lack of experience in such procurement on both sides,
- Domination of short-term procurement strategies,
- Difficulties on the side of procurer in defining features/conditions/criteria of choice of a solution,
- Aversion to risk that characterises public officials and mechanisms that they operate within,
- Small scale of procurement is also blamed,
- Over-reliance on the criterion of price is an oft-cited problem in Polish public procurement.

Unpopularity of alternative tendering tools, like competitive dialogue and technical dialogue bear witness to the presence of the above-mentioned factors.

⁶⁷ Høringsportalen, 2014. Forslag til udbudslov, http://prodstoragehoeringspo.blob.core.windows.net/0119e29d-c5ba-45b2-9d8b-c2f0b621e922/Ministerens_forslag_til_udbudslov.pdf, access: 20 April 2015.

⁶⁸ Enterprise Europe Network. 2013. Enterprise Europe Network W Polsce - Czy Zamówienia Publiczne Mogą Być Innowacyjne? http://www.een.org.pl/index.php/zamowienia-publiczne---spis/page/2/articles/zam%C3%B3wienia_publiczne_innowacyjne.html, access: 3 March 2015.

⁶⁹ Ibidem.

⁷⁰ Wiktorowicz, J., 2011. Zamówienia publiczne motorem innowacyjności przedsiębiorstw — szanse i bariery. Nowe podejście do zamówień publicznych – zamówienia publiczne jako instrument zwiększenia innowacyjności gospodarki i zrównoważonego rozwoju. Doświadczenia polskie i zagraniczne. Część I, www.uzp.gov.pl/cmsws/page/GetFile1.aspx?attid=3942, access: 2 April 2015.

Figure 3. Use of competitive dialogue and technical dialogue as tendering method within public procurement in Poland in the years 2012-2014, according to the Public Procurement Office.

	Competitive dialogue		Technical dialogue
	Initiated proceedings	Contracts granted	
2012 ⁷¹	0.02% BZP 0.20% TED	0.02% BZP 0.11% TED	No data for this year
2013 ⁷²	0.02% BZP 0.13% TED	0.01% BZP 0.10% TED	0.19%
2014 ⁷³	0.02% BZP 0.12% TED	0.01% BZP 0.05% TED	0.19%

BZP – Biuletyn Zamówień Publicznych (Bulletin of Public Procurement)

TED – Tenders Electronic Daily (Supplement to Official Journal of the European Union)

Innovative actions need some prerequisites^{74,75} to be developed. Those include support of risk taking actions and tolerance for mistakes⁷⁶ Organizational culture of the majority of public institutions (also the auditing ones) in Poland however is conservative and risk averse⁷⁷. Hence it does little to support innovation⁷⁸.

Spain

Some barriers slowing down the deployment of innovation procurement in Spain were identified by researchers⁷⁹ and public authorities^{80,81}:

- Research and Development (R&D) does not focus on commercialization options.

⁷¹ UZP, 2012. Informator Urzędu Zamówień Publicznych 12/2012, pp.1–69.

⁷² UZP, 2013. Informator Urzędu Zamówień Publicznych 12/2013, pp.1–62.

⁷³ UZP, 2014. Informator Urzędu Zamówień Publicznych 6/2014, pp.1–102.

⁷⁴ Adams, K., Galens, G.J., 2006, Communicating in Groups, Applications and Skills, McGraw-Hill.

⁷⁵ Caldwell, D. F., O'Reilly, C.A., 2003, The Determinants of Team-Based Innovations in Organizations: The Role of Social Influence, Small Group Research 34.

⁷⁶ Bain, P.G., Mann, L., Merlo, A.S., 2001, The Innovation Imperative: The Relationship Between Team Climate, Innovation, and Performance in Research and Development Teams, Small Group Research 32.

⁷⁷ Kapil, N., Piatkowski, M., Radwan, I., Gutierrez J. J. (not dated), Poland Enterprise Innovation Support Review: From Catching Up To Moving Ahead, The World Bank, http://www.mg.gov.pl/files/upload/17484/RaportWB_final.pdf, accessed: 4 March 2014.

⁷⁸ Kautsch, M., Lichoń, M., Whyles, G., Innovative public procurement in healthcare in Poland, Innovation: The European Journal of Social Science Research (paper accepted for printing)

⁷⁹ Luis, M., Alvarez De Sotomayor, C. & Garrido, J.M., 2013. Compra pública innovadora: Fundamentos e instrumentación, http://www.suschem-es.org/docum/pb/asambleas/2012/bloque_1_compra_publica_innovadora_MINECO.pdf, access: 1 May 2015.

⁸⁰ Ministerio de Economía y Competitividad, 2012., op cit.

⁸¹ Ministerio de Economía y Competitividad, 2015. Inicio - Ministerio de Economía y Competitividad, <http://www.mineco.gob.es>, access: 12 May 2015.

- Some public procurement procedures exclude innovative solutions because of their inherent aversion to risk. This attitude is shared by Public Administration and suppliers alike.
- Procurement of innovation may involve delays larger than those in procurement of standard solutions.
- As a solution for unmet needs is still not known, it is more difficult to set the prices in innovation procurement.
- Lack of dedicated budget. It could seem obvious, but this new tool was introduced during one of biggest budget deficits of the last decades.
- Insufficient knowledge about innovation procurement among public managers. It is often the case that managers procure innovation without knowing it, and consequently fail to make use of all advantages of innovation procurement.
- Bureaucratic inertia. It is a lot easier to work with well-known tools than to use new ones.
- Innovation procurement could end up being more expensive than traditional procurement, which could be a huge concern in the context of a financial crisis.

The EU procurement directives have to be applied when project values are above certain thresholds periodically set⁸² by the European Commission. Below the threshold, procurement is subject only to national regulation. Threshold levels are thus an important element of the regulations⁸³. Four types of award procedure are allowed under the regulations. These are: open procedure, restricted procedure, competitive dialogue and negotiated procedure. Public authorities have a free choice between the open and restricted procedures. Competitive dialogue can be used only when neither of the former can be applied. Utilities are free to opt for negotiated procedures but their use by non-utilities is very strongly limited by the regulations.

Over time there is stability regarding the use of the major procedures with the exception of competitive dialogue which has significantly increased in value. The trends that we could identify (in the small number of years covered by the data) indicate that the use of open procedures overall is slowly increasing while the use of restricted procedures has decreased.

UK

Office of Government Commerce (OGC) report⁸⁴ listed the following barriers preventing the public sector from fully 'capturing innovation':

- Inadequate early warning
- Risk aversion
- Client capability shortfalls in the public sector.

⁸² For current values see: European Commission. Current rules, thresholds and guidelines. *Growth. Single Market and Standards*, http://ec.europa.eu/growth/single-market/public-procurement/rules/current/index_en.htm, access: 13 May 2015.

⁸³ PwC, London Economics & Ecorys, 2011. Public procurement in Europe. Cost and effectiveness, http://ec.europa.eu/internal_market/publicprocurement/docs/modernising_rules/cost-effectiveness_en.pdf, access: 9 April 2015.

⁸⁴ Office of Government Commerce, 2004. Capturing Innovation: Nurturing suppliers' ideas in the public sector.

Additionally, the Science and Technology Committee report that there are barriers which generally inhibit the promotion of innovation through public procurement. They can be grouped into the following broad categories⁸⁵:

- Lack of capability, expertise and incentives;
- Risk aversion;
- Need for more effective engagement between procurers, suppliers and academia; and
- Overly prescriptive and burdensome procurement processes.

BIS reports the following barriers to innovation⁸⁶:

- The failure to identify unmet needs until they become urgent problems.
- A lack of practical knowhow in supply chain management and PPI.
- Prevalence of solution-led rather than outcome-led specifications. Dale-Clough underlines relation of this barrier to the financial crisis: 'In the aftermath of the 2008 global financial crisis, and resultant changes to public sector funding, national procurement policy in some settings shows signs of a retreat to efficiency savings and cost reduction as key performance indicators⁸⁷.'
- A disconnect between those responsible for delivering policies and targets and those procuring goods and services.

Opportunities for public innovation procurement development

Introduction

PPI is at the early stages of EU-wide implementation. Rising pressure of social challenges, investments in sustainable development and budget limitations are all to be expected, and they are likely to force more efficient use of resources and closer cooperation among stakeholders⁸⁸.

EU

The new laws which are being enforced may reasonably be viewed as strongly supportive of PPI, provided the national and local authorities make corresponding efforts towards reforming their procurement procedures and harmonising them with their strategic goals.

⁸⁵ House of Lord's Science and Technology Committee, 2011. Barriers to innovation. Public procurement as a tool to stimulate innovation. First Report, <http://www.publications.parliament.uk/pa/ld201012/ldselect/ldsctech/148/14807.htm>, access: 12 May 2015.

⁸⁶ Department for Business, Innovation & Skills, op. cit.

⁸⁷ Dale-Clough, L., 2015. Public procurement of innovation and local authority procurement: procurement modes and framework conditions in three European cities. *Innovation: The European Journal of Social Science Research*, (April 2015), pp.1–23, <http://www.tandfonline.com/doi/abs/10.1080/13511610.2015.1012709>, access: 2 May 2015.

⁸⁸ Semple, A., 2014. *Guidance for public authorities on Public Procurement of Innovation*, https://www.innovation-procurement.org/fileadmin/editor-content/Guides/PPI-Platform_Guide_new-final_download.pdf, access: 2 April 2015.

Recently it has been noticed in the literature⁸⁹ that the potential of smaller contractors (e.g. local governments, cities) was downplayed, with the focus being disproportionately placed on country-level projects. The power of local authorities in triggering and deploying innovative solutions may prove greater than expected, provided they learn from each other's experiences and adapt their tender procedures to the new requirements.

The scale of the challenges that public authorities will be expected to deal with will likely force them to reach for innovation.

Denmark

The Government is committed to PPI through the *Strategy for Intelligent Public Procurement*, the establishment of the Market Development Fund and the *Bill for Public Tendering*. The use of technical dialogue is very limited. This might, however, change in the future as the national Market Development Fund provides grants⁹⁰ for contracting authorities that use pre-competitive dialogue, at least for the period 2014-2016.

The use of outcome-based requirement specifications is becoming increasingly popular even though the use is still at a limited level compared to the use of detailed requirement specification. However, for procurement of services the full or part use of outcome-based requirement specifications has been in use for several years. Denmark has supported in collaboration between science institutions and SMEs and its investments into R&D are increasing⁹¹. The fact that the private sector's investment is at the level of 70% proves that the business is willing to share the risks. It is worth mentioning that the country aims to ensure knowledge exchange beyond its borders, becoming a part of research and science organisations abroad. The list of measures Denmark has undertaken to achieve close cooperation between science and business includes:

- Promotion of an 'industrial PhD', where a PhD candidate conducts research funded by a private company which is interested in the results. The PhD student is typically employed by the company.
- Financial and institutional support for 'match-making' between scientific institutions and companies
- 'Innovation vouchers' for companies investing for the first time in innovative solutions

While the above were aimed at stimulating the supply rather than demand side of innovation, they certainly paved the way for PPI to work and become mainstream.

⁸⁹ Knutsson, H. & Thomasson, A., op. cit.

⁹⁰ The Market Development Fund in March 2015 awarded Region Zealand such a grant in order to facilitate an innovative procurement of a new logistics and warehouse concept.

⁹¹ Adamiec, J., 2011. Rozwiązania wspierające innowacyjność w wiodących krajach Unii Europejskiej. *Studia BAS*, 1(1), pp.133–156, [http://orka.sejm.gov.pl/WydBAS.nsf/0/02B3D923C41B0139C1257A1A003D8F9C/\\$file/25_Adamiec_2.pdf](http://orka.sejm.gov.pl/WydBAS.nsf/0/02B3D923C41B0139C1257A1A003D8F9C/$file/25_Adamiec_2.pdf), access: 15 April 2015.

Poland

Wiktorowicz⁹² notices some positive changes in the country's policies in the recent years. In August 2014, public procurement law was amended. The new act specifically addressed phenomenon of price dumping, obliging the contracting entity to investigate suspiciously cheap offers. It put emphasis on criteria other than price and reduced opportunities for keeping too much information classified as business secret⁹³. Within months, the number of tenders based on price fell from 93% to 31% for tenders with values below EU-thresholds and from 85% to 33% for those with values above the EU-thresholds. Currently, 92% of tenders are based on exactly two criteria⁹⁴. Three criteria were used in 6.19% of the proceedings, four – in 1.18% of the tenders. Tenders with more criteria were very rare (less than 1%). For the tenders below EU-thresholds, the most often used extra-price criteria were execution period (29%), warranties offered (25%) and payment conditions (10%). As for the extra-price criteria with the highest weight, time of execution (11%), technical parameters (18%) and suppliers' experience (18%) led the ranking.

In November 2010, the Public Procurement Office joined Polish Agency for Enterprise Development in an initiative called *New Approach to Public Procurement (Nowe podejście do zamówień publicznych)*, which involved⁹⁵:

- Publication of guides informing about new priorities in procurement and new methods of conducting process of public procurement
- Conferences
- Trainings
- Consulting

The main goal was to improve the odds of micro-, small and medium enterprises in public tenders through raising officials' awareness of the benefits and innovations that they can bring. The influence of both the act and the *New Approach* initiative on innovation in public procurement remains unevaluated.

Recent changes in Polish law on public procurements underline the intention of legislative authorities to make Polish procurements more 'innovation friendly'. Through an amendment introduced to Public Procurement Law (12th October 2012), since 20th February 2013, a technical dialogue procedure can be used in public procuring. The technical dialogue method aims to facilitate the identification of the best and latest technical, organizational and economical solutions within the subject of the procurement⁹⁶. The use of this tool within the

⁹² Wiktorowicz, J., op. cit.

⁹³ Smart-Grids.pl. 2014. "Nowelizacja Prawa Zamówień Publicznych Przyjęta Ustawą Z Dnia 29 Sierpnia 2014 R. a Rynek Energetyczny." <http://smart-grids.pl/opinie/1341-nowelizacja-prawa-zam%C3%B3wie%C5%84-publicznych-przyj%C4%99ta-ustaw%C4%85-z-dnia-29-sierpnia-2014r-a-rynek-energetyczny.html>, access: 9 March 2015.

⁹⁴ UZP, 2014. Kryteria oceny ofert po nowelizacji ustawy Prawo zamówień publicznych. BIP – BZP, <http://www.uzp.gov.pl/cmsws/page/?D;3088>, access: 9 March 2015.

⁹⁵ UZP, 2014. Nowe podejście do zamówień publicznych. Partnerstwo Polskiej Agencji Rozwoju Przedsiębiorczości i Urzędu Zamówień Publicznych. BIP – BZP, <http://www.uzp.gov.pl/cmsws/page/?F;532>, access: 9 March 2015.

⁹⁶ Prime Minister, The Government, Law from 12 October 2012 concerning the change of law – Public procurement law and law on concessions for works and services, Dz. U. 2012 poz. 1271.

first year of the law being in force was very limited. In the overall number of procurements conducted, technical dialogue was used only in 0.19% cases⁹⁷.

Further amendments to Public Procurement Law were introduced on 19th of October 2014. The changes involved elements that could limit the 'traditional' lowest price based procurements and motivated buyers to procure in a more efficient way. Some of the most important changes included the definition of abnormally low prices and requirement for explanation in case of using it as well as limitation of using single criterion of price⁹⁸. However, it is too early to assess the influence of those amendments on procurement practice in Poland, nonetheless the direction of change and involvement of legislative authorities creates an opportunity for the development of innovation procurements in Poland⁹⁹.

Spain

Innovation procurement procedures in Spain will result in the following opportunities:^{100,101}:

- Companies participating as suppliers in PPI will get funding for R&D that will allow them to market products and technologies with greater competitiveness and market access, making them grow and enabling jobs creation.
- Positive competitive pressure among companies will be maintained.
- Opportunity of unsolicited proposals from the suppliers, suggesting solutions to unmet needs, will be widely offered.
- Best Practice Guides providing 'tender templates' are distributed by the Ministry of Economy and Competitiveness to encourage public organizations to start using this procurement method and overcome bureaucratic inertia.

UK

In the UK, scientists have a permanent place within the government, for example Government Chief Science Adviser liaises with the Prime Minister directly. This role ensures science and innovation remain at the top of the political agenda¹⁰². The UK is one of the most successful countries in terms of acquiring EU grants. The Technology Strategy Board (now changed to Innovative UK) is an institution where science and business meet. One of the points in the current governmental strategy is encouragement of the authorities to take innovation criterion into account when tendering. Another focuses on the creation of

⁹⁷ UZP (2013), Informator Urzędu Zamówień Publicznych 12/2013. , pp.1–62.

⁹⁸ Official Journal of Law (2014), Law concerning the change in the law – Law on public procurement (Dz. U. 2014, 1232).

⁹⁹ Kautsch, M., Lichoń, M., Whyles, G., Innovative public procurement in healthcare in Poland, Innovation: The European Journal of Social Science Research (paper accepted for printing).

¹⁰⁰ Luis, M., Alvarez De Sotomayor, C. & Garrido, J.M., op. cit.

¹⁰¹ Ministerio de Economía y Competitividad, 2012. Guía sobre Compra Pública Innovadora, www.idi.mineco.gob.es/stfls/MICINN/Innovacion/FICHEROS/Políticas_Fomento_Innv./Guia.CPI.pdf, access: 30 April 2015.

¹⁰² Adamiec, J., op. cit.

platforms and networks for business and science to cooperate and exchange ideas internationally. Last but not least, SME's engaging in R&D are offered tax breaks¹⁰³.

Opportunities for public innovation procurement development in e-health

Introduction

Most e-health solutions are – by their nature – innovative: they offer not only new products, but new ways of doing things (whether it is life parameters control or distance consultation). Since the healthcare system is going to face unprecedented challenges related to ageing and burden of care, e-health solutions will be needed, and most likely widely procured by the governments.

EU

EU initiatives in e-health and PPI together create unique opportunities for the development of both. Recent studies suggest that local authorities may play the pivotal role in triggering truly innovative solutions in this area and driving changes in their local markets.

Denmark

There is no national initiative promoting innovative procurement of e-health solutions in Denmark. However, the Association of Local Governments, Association of Danish Regions and the Government published a *National Action Plan for Dissemination of Telemedicine* in 2012¹⁰⁴. The strategy was prepared in cooperation with the Association of Danish Regions, Association of Local Governments, Ministry for Health and Prevention, Ministry for Social Affairs and Integration, Ministry for Industry and Growth, Ministry for Economics and Internal Affairs and the Ministry of Finance. 11 million euro from government sources supported the implementation of the action plan. The action plan was an initiative in the Danish *eGovernment Strategy 2011-2015*¹⁰⁵.

Furthermore, the Association of Local Governments, Association of Danish Regions and the Government published a common public-sector *Strategy for Digital Welfare 2013-2020* in 2013¹⁰⁶. The strategy was a follow-up on the above-mentioned action plan and focuses on dissemination of telemedicine throughout the country.

¹⁰³ Ibidem.

¹⁰⁴ Digitaliseringsstyrelsen, 2014. Telemedicine. digst.dk, <http://www.digst.dk/ServiceMenu/English/Policy-and-Strategy/Strategy-for-Digital-Welfare/Telemedicine>, access: 12 May 2015.

¹⁰⁵ Digitaliseringsstyrelsen, 2014. eGOVERNMENT strategy 2011-2015. The digital path to future welfare. digst.dk, <http://www.digst.dk/ServiceMenu/English/Policy-and-Strategy/eGOV-strategy>, access: 12 May 2015.

¹⁰⁶ Danish Government, Local Government Denmark & Danish Regions, 2013. Digital Welfare, Empowerment, Flexibility and Efficiency. Common Public-Sector Strategy for Digital Welfare 2013-2020, http://www.digst.dk/~media/Files/English/Strategy_for_Digital_Welfare.pdf, access: 24 April 2015.

For a more specific health approach to innovative procurement one has to look to the National Health and Medicines Authority (an agency within the Ministry for Health and Prevention) where the Committee for Medical Equipment has been set-up¹⁰⁷. The Committee has representation from both public sector and the industry.

The Committee's objective is to assist the Minister for Health and Prevention in maintaining an overview over initiatives within the field of medical equipment. The committee members amongst others discuss the opportunities for improved use of Danish medical equipment manufacturers' competitive advantage and discuss the ongoing negotiations on EU legislation and their impact on Danish (and European) industry and thereby the impact on economic growth and jobs.

Poland

Strategies for innovative economy and e-health seem to be largely separate in practice; currently the Ministry of Health and CSIOZ (Centrum Systemów Informacyjnych Ochrony Zdrowia, Centre of Health Information Systems), an institution responsible for digitalisation of Polish healthcare, struggles with deadlines and implementation of (rather traditional) informational systems and computerisation of healthcare facilities. Little attention is given in this situation to innovativeness of the solutions, while reliability and data safety dominate the discussion, no visible progress is being observed. Knutsson and Thomasson suggest¹⁰⁸ that local governments may prove to be more energetic and successful procurers of innovative solutions than central governments, and this notion seems to be true for more complex e-health solutions in Poland. Significant regional differences are to be expected. Since there seems to be quite low support or at least few actions taken in the area of e-health by public authorities, it's difficult to judge the level of real support. Sources that were identified during this study show that, for instance, Bronisław Komorowski, the President of Poland (2010-2015), endorsed the *New Approach to Public Procurement* initiative through honorary patronage¹⁰⁹. Topics of e-health and innovation procurement seem to exist very much separately. Although connected on theoretical plane in official EU document, concepts of cooperation between business and universities, e-health and supporting SMEs through public procurement are not talked about in conjunction. Innovative public procurement as viewed by EU remains controversial in government circles, both in theory and in practice. Nevertheless, isolated instances of successful advanced e-health projects and innovative procurement in healthcare suggest that innovative e-health solutions will occur first on the local level.

As mentioned in the first part of the report, e-health seems to be developing strongly in the private sector in Poland. Potential future acknowledgment of economic feasibility of such solutions by public sector may create an opportunity for development of innovation procurements focused on e-health.

¹⁰⁷ Sundhedsstyrelsen, 2015. Udvalg for Medicinsk Udstyr. sundhedsstyrelsen.dk, <http://sundhedsstyrelsen.dk/da/medicin/medicinsk-udstyr/udvalg>, access: 12 May 2015.

¹⁰⁸ Knutsson, H. & Thomasson, A., op. cit.

¹⁰⁹ Wiktorowicz, J., op. cit.

Spain

There is no nation-wide strategy for e-health using innovative procurement tools. Nevertheless, the regional governments do support e-health through local programs of public procurement. For instance, some regional governments advanced ICT application in healthcare:

- Madrid Regional Government funded a total of five projects in 2014, of which three were related to the application of ICT in healthcare,
- Galician Regional Government got funding for several projects that involved ICT in healthcare, by using innovative procurement tools¹¹⁰.

UK

NHS Scotland. In 2012 'Health and Wealth in Scotland: A Statement of Intent for Innovation in Health' was launched as a joint initiative of NHS Scotland Quality Strategy and the Scottish Life Sciences Strategy¹¹¹. The Procurement Action describes the following strategy: 'NHS Scotland, when faced with products that do not sufficiently meet its needs will go to the market and ask companies to find or develop effective solutions with the possibility of their working in partnership to develop ideas through to products. Mechanisms such as SBRI (a UK Technology Strategy Board initiative) will be used to facilitate this. Supported by the Developmental Technology Review Papers, the NHS will specify arrangements to undertake a strategic approach to procurement and adopt 'developmental procurement'¹¹².

In March 2013, the Scottish Government launched its [Route Map to the 2020 Vision for Health and Social Care](#)¹¹³. This re-emphasised and expanded the vision in the 'Statement of Intent', stressing the importance of pursuing 'opportunities to work with other public sector and business partners to drive transformational innovation' and 'increase investment in new innovations which both increases quality of care and reduce costs, while simultaneously providing growth in the Scottish economy'¹¹⁴.

Additionally, in February 2014, The Health Innovation Assessment Portal (HIAP-Scotland)¹¹⁵ was launched. HIAP is managed by [NHS National Procurement](#) and is the first step in a national process that is being developed (as of 2015) to provide health innovators with feedback, signposting and onward direction from NHS Scotland, including the [Scottish Health Technologies Group](#), and Scottish Government. The portal seeks to encourage prospective providers of new and/or innovative products and solutions to put them forward.

¹¹⁰ Servizo Galego de Saúde, Xunta de Galicia & Consellería de Sanidade, Espazo de saúde. Hospital 2050 – InovaSaúde, http://www.sergas.es/MostrarContidos_N2_T01.aspx?IdPaxina=60447, access: 31 May 2015

¹¹¹ Scottish Government, 2012. Health and Social Care: Innovation in Health. gov.scot, <http://www.gov.scot/Topics/Health/Quality-Improvement-Performance/Innovation-Health>, access: 12 May 2015.

¹¹² Department for Business, Innovation & Skills, op. cit.

¹¹³ Scottish Government, 2013. Topics. Route Map to the 2020 Vision for Health and Social Care, <http://www.gov.scot/Topics/Health/Policy/Quality-Strategy/routemap2020vision>, access: 29 May 2015.

¹¹⁴ Ibidem.

¹¹⁵ NHS NSS, 2013. Health Innovation Assessment Portal. Home, <http://www.hiap-scotland.org>, access: 29 May 2015.

The HIAP-Scotland provides information, guidance and support to help innovators present their ideas, so that NHS Scotland can assess them and evaluate how products or technologies would support their strategic aims.

Scotland also has *A National Telehealth and Telecare Delivery Plan to 2015*¹¹⁶. The plan sets out the vital contribution that telehealth and telecare was supposed to make to implement key health, care and housing strategies in Scotland over the next three years (2012-15).

NHS Wales. Although there is no specific e-health PPI strategy in place, there is a number of activities which may influence and/or feed into e-health procurement. For example, the *Shared Services Partnership Wales' Corporate Social Responsibility Policy* states that they aim to 'Support and stimulate innovation that provides sustainable solutions and reduces the consumption of resources by working with and encouraging our supply chain'¹¹⁷.

Likewise, in September 2012, Swansea University (in partnership with Cardiff University and MediWales) was tasked by the Welsh Government to lead a Knowledge Exchange Project (KEP) for the Welsh Life Sciences and Health area. The Life Science Exchange¹¹⁸ was a result of the KEP programme and the object is to allow participants to interact with other stakeholder communities (clinical, academic, business, governmental), exchanging perspectives, and then to support them by thinking about how Wales could improve its performance. There is a dedicated e-health Focus Group which highlights the following opportunities and strategies that could influence e-health procurement:

- *Annual Life Science Research Priority Strategy* reviews coordination of the development of health informatics,
- *Procurement of e-health software*; NHS Wales procurement processes are a significant issue for e-health SMEs operating and innovating in Wales. The focus group are reviewing procurement models with aim of creating a competitive environment for the SMEs.

NHS England. The *National Innovation Procurement Plan* (2009)¹¹⁹ set out a number of recommendations and from April 2010 onwards (long-term) the focus is on implementation of the regional *Innovation Procurement Strategies*. 'Working collaboratively with the National Innovation Centre, Commissioning Support Units will develop pre-commercial procurement programmes and take resulting needs for a call for competition to the market. The Commissioning Support Units will support system management and the Innovation Lead to identify and break down the resistors to adoption and diffusion of compelling innovative technologies, where appropriate utilising the regional Innovation Fund and the

¹¹⁶ Scottish Government, 2012. *A national Telehealth and Telecare Delivery Plan for Scotland to 2015. Driving Improvement, Integration and Innovation*, www.gov.scot/resource/0041/00411586.pdf, access: 30 May 2015.

¹¹⁷ NHS Wales, 2011. Procurement Services: Sustainability. Shared Services Partnership, <http://www.procurement.wales.nhs.uk/supply/sd-policy>, access: 12 May 2015.

¹¹⁸ Life Science Exchange, 2015. Home, <http://lifesciexchange.com>, access: 29 May 2015.

¹¹⁹ Department of Health, 2009. National Innovation Procurement Plan, http://webarchive.nationalarchives.gov.uk/20130107105354/http://www.dh.gov.uk/dr_consum_dh/groups/dh_digitalassets/@dh/@en/@ps/@sta/@perf/documents/digitalasset/dh_110178.pdf, access: 18 April 2015.

Commissioning for Quality and Innovation framework (CQUIN). Working with the commercial landscape on one hand, and the NHS landscape on the other, the CSU will then put in place the necessary arrangements to speed diffusion.’

NHS England also established the *Technology Enabled Care Services (TECS) Resource for Commissioners*¹²⁰. TECS refers to the use of telehealth, telecare, telemedicine, telcoaching and self-care in providing care for patients with long-term conditions that is convenient, accessible and cost-effective. The TECS programme is focused on delivering a set of practical tools and resources to address the demand from health and social care professionals for support and guidance on how to commission, procure, implement and evaluate so as to maximise the value of these types of solutions and services.

Summary

It is clear that there are considerable differences regarding e-health and innovation procurement among countries subject to the research. A variety of barriers and challenges that particular countries need to face in those fields underline their different levels of development and diversity of starting points. However, as we move forward to assess opportunities and national plans for future development it becomes clear that despite those differences, their ideas and targets are quite similar as they aim for a common goal. It is therefore important to acknowledge that all countries face their difficulties and to develop strong cooperation mechanisms in order to learn from one another and support each other in this difficult but important path.

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¹²⁰ NHS Commissioning Assembly, 2015. *Technology Enabled Care Services. Resource for Commissioners*, http://www.england.nhs.uk/wp-content/uploads/2015/04/TECS_FinalDraft_0901.pdf, access: 30 April 2015.

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