

E-Procurement for PPPs and Concessions:

Current Trends and Opportunities

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Recently, also due to the COVID-19 pandemic, the issue of using e-procurement is becoming more and more relevant for all countries around the world, and especially for EU Member States implementing the requirements of the Directives on public procurement. The substantial advantages of the use of electronic procedures for public procurement for reduction of tender costs and better prices, the possibility to avoid misuse, collusion and corruption, led some countries to explore opportunities to adapt the traditional e-procurement experience for public-private partnership (PPP) and concession tenders. Today, the regulation in this field is practically absent and the experience is very limited. This article presents: an analysis of the situation regarding current regulation, experience in electronic PPP procurement implementation, and trends; the peculiarities of PPP procurement compared to traditional public procurement; the difficulties related to PPP procurement as e-procurement; and the recommendations of authors on the use of electronic procurements for PPPs and concessions based on the peculiarities of a project implemented using relevant mechanisms.

Keywords: public-private partnership; PPP; public procurement; electronic procurement; e-procurement; digitalisation

I. Digitalisation Trends in the World Before and After COVID-19

Digitalisation is a part of the general modernisation trend which has taken place in recent years worldwide and which is presently accelerating with the boosting effect of the COVID-19 pandemic imposing the need for remote working and less paperwork. It is also the result of the trend for more transparency in public procurement as a part of the fight against corruption.

This trend toward digitalisation is particularly noticeable concerning the development of e-procure-

ment for traditional public procurement along the lines of the best standards for public procurement developed by UNCITRAL, UNECE, OECD and Multilateral Development Banks such as World Bank and EBRD. Digitalisation is also encouraged by the EU legislation but less noticeably with respect to PPPs where there is much room for improvement.

During these difficult times, most countries worldwide are facing the pandemic with their budget and borrowing capacity concentrated on the urgency of alleviating people desperate conditions and trying to save what can be saved of their economy. Regrettably, there is no room for the time being for public investment initiatives so necessary for the future of the country, except through private financing of infrastructure and public services enhancement via public-private partnership.

With the restrictions on proper transportation means and border crossings, usual business trips and physical contacts are disrupted. Digital communication remains the sole unaffected means of communication and attractive area for foreign investment

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which should be used to accelerate and boost the development of PPPs. This can be achieved with the assistance of International Financial Institutions, more than ever eager to support such constructive projects. Thus, there is an opportunity to develop e-procurement, including for PPPs and concessions, that can allow the prompt rebound of the country.

II. E-Public Procurement

1. Definition

Electronic procurement is the electronic process of implementation of a part of a procurement procedure that enables the use of electronic communication for, eg, tender announcement, collection and registration of documents, exchange of information and submission of bids, as well as for evaluation and bid ranking by using automated evaluation methods.

The Preamble of the EU Directive 2015/24/EC (§52) provides among other considerations that:

Electronic means of information and communication can greatly simplify the publication of contracts and increase the efficiency and transparency of procurement processes. They should become the standard means of communication and information exchange in procurement procedures, as they greatly enhance the possibilities of economic operators to participate in procurement procedures across the internal market. For that purpose, transmission of notices in electronic form, electronic availability of the procurement documents and after a transition period of 30 months fully electronic communication, meaning communication by electronic means at all stages of the procedure, including the transmission of requests for participation and, in particular, the transmission of the tenders (electronic submission) should be made mandatory.

2. Goal of Utilisation

Electronic procurement ('e-procurement') is supposed to bring substantial advantages, including reduction of tender costs and better prices, and to reduce the possibility of misuse, collusion and corruption facilitating a more transparent and cost-efficient procurement for the considerable public procure-

ment needs of public administration and public services.

a. Reducing Tender Costs

The experience in the UK demonstrates that the projected savings can be substantial. A specific case was an online auction for IT hardware (desktop PCs and laptops) for a group of National Health Service Trusts. According to the Office of Government of Commerce, the achieved projected savings were worth around 30% of the purchasing costs.¹

b. Providing for Better Prices and Resultative Indicators, Securing the Public Interest

Electronic procurement opens the door to all potential competitors worldwide which increases competition and the chances to get better bids with increased bidder participation. The electronic auction mechanism, as with all auctions but working in reverse, is also a useful tool for bringing prices down and delivering significant financial benefits because of the increased competition. These benefits are also a direct consequence of the use of the iterative bidding process overall at a time when number of projects offered for bidding is lower than usual.

c. Allowing More Transparency

The advantages of e-procurement with respect to transparency stem from the fact that under the electronic procedure and communication process, the danger of the procuring entity favouring a particular firm by supplying it with information on other tenders or unduly reducing the number of participants is limited. E-auctions, if properly used, could limit fraud and corruption, and eliminate the possibility for human misuse.

However, even with the e-auction there is a risk to favour money laundering where the bidder's price can be reduced artificially in order to be awarded a project even on negative profit basis. This risk is usually mitigated by the involvement in many jurisdictions of commercial banks and IFIs with their own qualified advisors that are deemed to be aware of

¹ R Beuter, 'Preliminary Assessment' in *European Public Procurement Reform: Main Innovations in the Public Sector Directive* (EIPA 2005) EIPASCOPE 2005/3.

such fraud and carry the responsibility to denounce this situation.

d. Reducing the Possibility for Misuse, Collusion, and Corruption

The real motivation with respect to e-procurement in many countries is the reduction of corruption by manmade interference and human decisions during the procurement process. This advantage is even more important than the benefits of paper savings and price reductions.

Numerous countries, for example, Ukraine, Georgia and North Macedonia are using e-procurement not so much for the financial advantage but as an instrument to fight corruption. They consider e-auctions or reverse auctions as the main tools for increasing transparency and limiting the risk of collusion through an automatic treatment of the selection process. They are interested in developing this technique with respect to large and long-term concessions and PPP contracts for which excessive profits are often reported or alleged.

3. Regulation

E-procurement has been promoted at the universal level by the UNCITRAL Model law on Public Procurement of 2011 and was part of the OECD Council Recommendation on Public Procurement of 2015. It has been the subject matter of the MDBs' Handbook on e-Government Procurement and the EBRD Guide to Electronic Procurement Reform. The 2004 EU Procurement Directives have shown the road toward digitalisation of the procurement process and the new Directive of 2014 has made the electronic communication process compulsory for EU Member States and associated countries for public procurement above the threshold amount fixed by the EU.

This trend is particularly noticeable concerning the development of e-procurement for traditional

public procurement along the line of the above-referred best standards for public procurement developed by UNCITRAL, UNECE, OECD and Multilateral Development Banks including EBRD and also encouraged by the EU legislation. The EU Concession Directive² goes one step further compared to the other regulations in promoting the mandatory use of electronic means of communication. Still, even that Directive makes no reference to e-auctions or other means of electronic selection of the concessionaires.

4. Experience of Implementation, Including for Non-Concession PPPs Procured in Accordance with the EU Public Procurement Regulation

As a result of these trends and the EU compulsory measures e-procurement has been adopted by many recent public procurement legislations. However, it still seems to be underutilised in many EU Member States and associated countries where paper treatment of public tenders prevails at least for complex contracts such as EPC contracts.

a. The Croatian Experience

This is apparently the case in Croatia where e-submission through the online tendering platform *Elektronički oglasnik javne nabave* (EOJN) has been available since 2014 and mandatory for contracts above the EU threshold since 1 January 2015, and below the EU threshold since 1 July 2015. Information on tenders is accessible on the internet and bids can be tracked in real time. The platform is free of charge for economic operators, but contracting authorities have to pay a fee to use it. The new Public Procurement Act adopted by the Croatian Parliament in December 2016 deals with electronic auction. According to the Croatian statistical report on public procurement, and research made with respect to electronic auctions in European and Croatian public procurement law in 2017³ e-auctions have not been used at all. Only two Croatian public procurements used the e-auction in 2018: one city used the e-auction technique for the procurement of natural gas while another city applied it to an electric energy tender. Despite the analysed positive aspects of e-procurement, according to the above-referred study the e-auction is underused in the Republic of Croatia, as well as in

2 Directive 2014/23/EU of the European Parliament and of the Council of 26 February 2014 on the award of concession contracts Text with EEA relevance [2014] OJ L 94/1.

3 M Rašić, M Milenković and G Vojković, 'Electronic Auction in European and Croatian Public Procurement Law' (2019) <https://www.researchgate.net/publication/333293926_Electronic_Auction_in_European_and_Croatian_Public_Procurement_Law> accessed 6 March 2021.

Table 1. *Competitive and non-competitive procurements in Ukraine, 2019*

Procurement procedure	Number of competitive procurements, % of total number of public procurements	Value of competitive procurements, % of total value of public procured goods and services
Competitive procurement including up to threshold procurement	18.2	58
Non-competitive procurement (negotiation procedure and reports on concluded contracts)	81.8	42

Source: Report on the analysis of the functioning of the public procurement system for 2019, the website of the Ministry of Economic Development, Trade and Agriculture of Ukraine <<https://bit.ly/3h9bTm8>> accessed 6 March 2021.

many other EU Member States. It is difficult to obtain an accurate and honest conclusion as to why this trend is observed within the EU.

b. The Georgian Experience

In Georgia - an EU accession candidate country - the use of the e-procurement system is mandatory by law through two procedures: electronic tendering and simplified electronic tendering, including a reverse electronic auction. It is now one of the few countries in the world where paper-based tenders have been fully eliminated and 100% electronic tender rules were introduced within a particularly short period of time. According to Transparency International 'Georgia's E-procurement platform is one of the most transparent in the world but because of loopholes, too many contracts bypass the system'⁴. There is however still a high percentage of direct contracting by the government, but this is more related to political decisions than the existing capacity for using only electronic tenders for all public procurement in Georgia.

c. The Ukrainian Experience

The Prozorro system developed in Ukraine is a fully online public procurement platform and a collaboration environment that ensures open access to public procurement (tenders). Fully implemented in 2016 as a hybrid system (both centralised public and decentralised private marketplaces) it has since been globally recognized as one of the most innovative public procurement systems delivering government

services in a stakeholder-focused, transparent, effective, fair, and low-cost way.

At the same time, as of 2019, competitive procurement procedures in the Prozorro system were carried out only for 18.2% of all public procurements, and contracts awarded with use of competitive procurements cover 58% of the total value of public procured goods and services (Table 1).

The open tender procedure of the Prozorro system, which is the main one in the competitive procurement, and up to threshold procurements conducted with the use of simplified open tender procedure (see Table 2 below), applies 70% weight to the price factor (price or life cycle cost) for the evaluation of bids. The qualification of a winner (if appropriate requirements exist) is checked additionally by a tender committee after the system has determined such a winner. That is why, the Prozorro system is well adapted for procurement where the price is a key factor. Using it for procurements where the quality of the goods or services is an essential factor still requires significant improvement despite the fact that Prozorro is one of the most advanced e-procurement systems on the planet.

For more wide and effective use of this system there is still the need to develop new, more sophisticated instruments to quantify quality factors. This will allow the system to be more adapted to complex and not purely price-based selection processes. The de-

⁴ <<https://transparency.ge/en/post/report/georgia-s-e-procurement>> accessed 6 March 2021.

Table 2. *Competitive procurements in Ukraine, 2019*

Procedure of competitive procurement	Number of competitive procurements		Value of competitive procurements
	% of total number of competitive procurements (for relevant procedure)	% procurements of services in total number of competitive procurements (for relevant procedure)	% of total value of all competitive procurements (for relevant procedure)
Open tender	38.1	17.7	42
Open tender with publication in English	1.9	24.4	46.4
Negotiation procedure for defence needs	0.7	9.41	3.7
Up to threshold procurement	59.3	14.72	7.2

Source: Report on the analysis of the functioning of the public procurement system for 2019, the website of the Ministry of Economic Development, Trade and Agriculture of Ukraine.

velopment of new modules for submitting complaints (e-review), procurement planning (e-planning), electronic payment, and its integration with the Treasury are also needed, especially for e-procurements for PPPs/concessions.

III. E-Procurement Regulations for PPPs and Concessions

1. Limited E-Procurement Trend in PPPs/Concessions

We could imagine that this modern trend toward e-procurement in the PPP sector would have anticipated the trend toward digitalisation of the traditional public procurement like it has been the case upstream for the e-selection of projects applying the value for money (VfM) quantitative criteria with the use of comparators and digitation of qualitative criteria (time and money saving through PPP for example). This method, which tends to be objective for the selection of goods projects in the form of PPPs, is now applied to all types of public investment with the Public Investment Management (PIM) programme developed by the IMF and the World Bank. However, it appears that it is just the reverse with traditional public procurement opening the road to PPPs as far as e-procurement is concerned.

This digitalisation trend is nevertheless reaching PPP and concession tenders but rather at a slower pace than for public procurement because of PPP/concession specificities. It has been recommended until now, including by the international organisations, to use an electronic selection approach only when: i) price is the prevailing criteria, ii) the technical specifications of the items of procurement can be accurately determined with detailed technical specifications, and iii) for repetitive contracts through a framework purchase agreement. The international best standards consider that e-selection shall not be used for complex contracts involving potentially intellectual performances, such as the design of works, which cannot be ranked via automatic evaluation methods.

This is the reason why the review of the relevant best international practices for regulating e-procurement for PPP/concession projects has to start with a review of e-procurement regulation for public procurement which plays a pioneering role in the development of e-procurement for PPPs. The development of both is however sometimes interrelated as in some countries the procurement of PPPs or concessions has to follow the public procurement rules and their e-procurement provisions.

The extension of the e-procurement trend to PPP/concession however remains for the time being limited in the international legal practice to some ref-

erences in national PPP/concession legislation to electronic treatment of communication, exchange of information and recording of documentation.

This is also the case in the EU where since 18 October 2018 all contracting authorities and contractors had to move entirely to online handling of public procurement procedures above the EU threshold amount. With respect to EU Member States or accession candidate countries, this compulsory electronic treatment of public procurement does not apply to the procurement for concessions. That is governed by the Concession Directive except for a few countries, eg Germany, where public procurement rules (and therefore e-procurement) apply both to public procurements and concessions, or countries, eg North Macedonia, with specific PPP/concession laws that either refer to public procurement rules as far as procurement is concerned, or countries, eg Ukraine, that apply e-procurement only to concessions.

2. Standards and Regulations for E-Procurement for PPPs

We have not found any internationally accepted standards and approaches to e-procurement for PPPs and concessions except with respect to the basic exchange of information and communication or recording but not for submission of bids, their evaluation and bid ranking using automated evaluation methods.

The new UNCITRAL Legislative Guide on PPP 2019 and its associated model legal provisions only contemplate the possibility of e-communication without addressing the issues related to an automatic awarding process. The Concession Directive 23/2014 takes the same prudent position. The CIS PPP Model Law approved in 2014 and the UNECE/EBRD draft 'People First' PPP Model Law are silent about digitalisation of the awarding process.

Nowhere in the most recent PPP/concession legislation in Asia⁵, Africa⁶ or Europe did we find provisions concerning e-auction or other forms of automatic bid evaluation in concessions or public private partnerships legislation, with the sole exception of North Macedonia and Ukraine. A recent Ukrainian implementing regulation of their 2019 Concession Law provides for the use of an e-procurement system for concessions, including for the full e-selection

process for relatively small concession projects not requiring a pre-qualification process⁷.

It has further been noticed that non-concession PPP legislations have even fewer provisions on electronic treatment. The EU approaches to e-public procurement should nevertheless have an indirect impact on the e-procurement treatment of non-concession PPPs. The EU does not recognize the specificity of non-concession PPPs and except for concessions as precisely defined in the Concession Directive 23/2014 all types of work or service contracts are to be considered as public procurement as far as the contract award is concerned. Non-concession PPPs for EU Member States and associated countries are therefore subject to national public procurement law and have to follow the digitalisation trend of the public procurement market imposed by the 2014 Directives.

3. Implementation Experience

Despite the perceived advantages of e-procurement for PPPs and concessions, mostly with respect to fighting corruption, the progress of e-procurement for PPP/concessions has been limited to electronic communication and excludes e-selection.

The use of electronic communication does not face any specific problem or difficulty. It is just a matter of developing a proper e-communication system and integrating it with other systems.

In practice, the present use of a full e-procurement process, including automatic selection of the private partner/concessionaire, is extremely limited worldwide. The only exceptions are the several successful reverse auction sales in the renewable energy sector

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- 5 With respect to Asia: no reference to the use of electronic means in concession or PPP law, except reference to the website for publication or electronic record of minutes of meeting or electronic signature (Timor Leste Public Private Partnership Decree Law 2011, Japan Act on Promotion of Private Finance Initiative 1999); no such reference in most other countries (Kazakhstan, Philippines, Vietnam, South Korea, Thailand, Cambodia, Mongolia).
 - 6 With respect to Africa: no reference to the use of electronic means in concession or PPP law, except reference to the website for publication or electronic register (Tunisia, Kenya, Senegal); not even such reference in most other countries (Morocco, Madagascar, Tanzania, Uganda, Burkina Faso, Mauritius, Guinea).
 - 7 Cabinet of Ministers of Ukraine, 'Some Issues of Using the Electronic Trading System for Concession Tenders' Resolution No 1210 dated 9 December 2020 <<https://www.kmu.gov.ua/npas/deyaki-pitannya-vikoristannya-elektro-a1210>> accessed 6 March 2021.

(eg in Jordan) where noticeable success was achieved at a relatively low price.

Another form of electronic selection - exclusively price based with auction sale - has been put in place also for renewable energy by the World Bank using an integrated solution for projects with the experience of the 'Scaling Solar' projects initiated in Zambia and then exported to Ethiopia, Senegal, Madagascar and Afghanistan. We will consider this solution in detail further in this article as it may give a practical way forward without the need for specific adaptation of the PPP legislations to extend e-procurement to PPPs.

Certain countries, eg North Macedonia and Ukraine, have however already prepared their PPP legislation to take the risk of non-optimum but transparent selection to fight against the ongoing scourge of corruption.

a. The North Macedonian Experience

The North Macedonian Law on Concession and Public Private Partnership 2012 tried to advance the digitalisation of public procurement with respect to PPPs. The North Macedonian Parliament through a Decree for proclamation of the law on amendment of the 2012 Law on Concession and Public Private Partnership dated 24 September 2014 added eight paragraphs dealing with electronic auctions (Article 15 a-h)). These new paragraphs imposed the use of electronic auction as the final phase in an open procedure and in restricted other procedures under certain circumstances with mostly similar provisions used for public procurement. The government is however presently reconsidering this advanced approach and is working on a new draft of the PPP law. The new version aims to adapt its ambition with respect to digitalisation to the development of the new Single Public Private Partnership Electronic System enabling provisions on communications to align with the requirements of the EU Concession Directive with full e-procurement becoming possible under specific circumstances, similar to those in Ukraine.

The following information systems and evidence related to PPPs are presently used in North Macedonia pending the starting of the Single Public Private Partnership Electronic System:

- the Electronic System for Public Procurement⁸ (ESPP) is the information system for Public Procurement of goods and services in general, consisting of:
 - e-auction (an auction system for selecting the best bid among private partners in PPPs);
 - the register of PPP projects (an MS Excel Worksheet);
- the e-auction system has limited functionality, but it enables the submission and evaluation of bids using MKD (Macedonian denars), euros or percentage flexible, and at the end of the auction process the system generates reports. The system already has possibility and supports both positive and negative bidding depending on the needs and the subject of public-private partnership;
- the e-auction system is based on mathematical formula for calculation of the best economical offer from the values of parameters submitted by bidders during auction. The system must ensure that bids cannot be seen by the competitors;
- in the case when the evaluation of the best bid is not performed using this system, but by evaluation of the bids by members of commission manually, the task of a tender commission is to write the evaluation report in which they explain the way of evaluation of each bid. In some cases, the tender commission may suspend the procurement process even during an initial review process. The issue in review, and the possibility to redress and efficiently challenge an improper decision during the procurement phase, is essential to PPP projects and for the confidence of potential bidders in view of the large development cost usually necessary to answer such tenders and their negotiations;
- when an e-auction process is implemented, the commission members agree on selecting the list of parameters, weight factor for each parameter and mathematical formula for selecting the best bid. Then the selected bidders can submit values of their bids and when the auction time elapses the system will pronounce the winner. The commission will include the system report of auction in the evaluation report.

b. The Ukrainian Experience

Ukraine has developed one of the most sophisticated electronic system Prozorro that is a fully online platform and a collaboration environment ensuring

⁸ <https://www.e-nabavki.gov.mk> accessed 6 March 2021.

open access to public procurement (tenders). As the digitalisation is one of the main priorities of the state policy of Ukraine, the legislators have decided to implement the similar approach to the selection of concessionaires.

In accordance with the Ukrainian Law On Concession 2019, e-procurement may be applied for the designation of a concessionaire by holding a concession tender or a competitive dialogue, and only for publishing documents in the procedure of direct negotiations with the lessee of state assets transferred to the concession.

The Ukrainian Concession Law of 2019 makes 22 references to the word 'electronic' and 76 to its 'electronic trading system' (ETS) including the following:

- Designation of a concessionaire by holding the concession tender or the competitive dialogue may be arranged in the ETS. The procedure for operation, the events of using the ETS for holding the concession tenders, the procedure for holding the concession tender and the competitive dialogue in the ETS, size, procedure, terms of payments and repayment of remuneration of the electronic platform operator shall be established by the Cabinet of Ministers of Ukraine (CMU).⁹
- ... when holding the concession tender in the ETS, in the events determined by the Cabinet of Ministers of Ukraine, the concession tender may be held without preliminary selection of the bidders (prequalification). In this case, documents of the winner of the concession tender shall be reviewed and verified.¹⁰

The ETS can be used for e-procurement in the appropriate tender processes and the CMU regulations of this process should enter into force by the date of operation of the ETS, but no later than 1 September 2021.

In pursuance of the Concession Law, on 9 December 2020, the Cabinet of Ministers of Ukraine approved Resolution No 1210 'Some Issues of Using the Electronic Trading System for Concession Tenders'. The Resolution stipulates that the ETS is used for concession tenders when the value of the property that is the object of concession is less than 250 million hryvnias¹¹, as well as if the expected value of the newly created (newly built) object of concession is less than 250 million hryvnias and the tender documentation approved by the concessionaire does not provide for preliminary selection of bidders (prequal-

ification). The ETS can be used from the moment of the appearance of the corresponding technical possibility.

In accordance with the resolution, the following information for all concession tenders and competitive dialogues conducted in accordance with the Concession Law (except for those identified by a bidder as confidential and / or secret in accordance with the law) must be published (before the commissioning of the new ETS system – in the Prozorro system):

- announcement of a concession tender and tender documentation;
- changes to a tender documentation;
- clarifications on a tender documentation;
- decisions and conclusions on admission / non-admission of bidders to participate in the tender;
- minutes of meetings of tender commissions;
- requests for clarifications and elimination of violations in the process of competition (not personalised);
- scanned copies of concluded concession agreements;
- applications of bidders for participation in preliminary selection procedure;
- competitive proposals of bidders.

Until this new deadline, several additional sub-laws must be adopted by the CMU. In particular, the following issues should be established in these regulations:

- the procedure for holding a concession tender and competitive dialogue in the ETS, including for submission and publication of tender's documents, additional requirements to the announcement of a concession tender in the ETS, evaluating bids, peculiarities of conducting a competitive dialogue in case of its holding in the ETS;
- size, procedure, terms of payments and repayment of remuneration of an electronic platform, a procedure for distribution of a registration fee, its amount, terms of its payment and transfer.

The Ukrainian Public-Private Partnership Law 2010, as substantially amended in particular by the Con-

9 Concession Law of Ukraine, art 6 <<https://zakon.rada.gov.ua/laws/show/155-20#Text>> accessed 6 March 2021.

10 Concession Law of Ukraine, art 10 <<https://zakon.rada.gov.ua/laws/show/155-20#Text>> accessed 6 March 2021.

11 Approximately \$8.5 million.

cession Law 2019, makes no reference to e-communication or e-auction.

IV. PPP Procurement Peculiarities Compared to Public Procurement

1. Innovations

One of the important reasons for using a dedicated PPP/concession mechanism for the implementation of infrastructure projects is the promotion of innovation, both technological and institutional.

It is impossible to effectively conduct a procurement process for PPP/concession projects containing an innovative component with an e-procurement system, not even theoretically. The reason being that the approach to such competition organisation, in particular regarding bid evaluation, should also be innovative. Here we are talking about an institutional innovation.

It is difficult even to imagine how to automatically select applicants for including them in the short list through e-procurement system in case of a competitive dialogue for PPP/concession projects. After all, a competitive dialogue should normally be carried out if public authorities are unable to clearly define technical and qualitative characteristics of the project carried out on the conditions of a PPP/concession, and consequently they cannot know which companies may offer the best innovative technical solutions. How can a public authority establish clear qualification criteria that can be formalised in conducting e-selection of bidders? The question is rhetorical. If a formula approach is used for prequalification in a competitive dialogue, nobody can guarantee that the companies that could offer truly innovative and modern solutions will be among the shortlisted bidders.

Furthermore, within the framework of PPPs and concessions, private business can submit their own innovative proposals for consideration by the public authorities (unsolicited proposals). If the selection of a private partner/concessionaire uses a competitive procedure¹², the approach to the evaluation of bids

should also be innovative. That could hardly be possible with e-procurement.

Therefore, if we do not want to deprive the PPP mechanism of its advantage of promoting innovation, using e-procurement to select private partners for projects that may contain an innovative component, is not the best solution.

For contracts where the design or the innovative use of a space are the major criteria, an automatic e-selection mechanism is not workable in the present state of art technology. We need to wait for future developments of artificial intelligence (AI) that can make complex algorithms suitable for such types of procurement.

But again, it should be possible to publish in the e-procurement system all decisions that are made by the tender commission to determine the optimal technical solution for the implementation of the project or to select a private partner/concessionaire for an innovative project with appropriate justifications (for the part that does not contain confidential information).

2. Varieties of PPP Forms

Another important factor that narrows the possibilities of using the e-procurement for PPP/concession projects, in particular for bid evaluation, is the wide variety of PPP forms, each of which with its own characteristics, including those related to the choice of a private partner.

PPP is an innovative mechanism, and this feature favourably distinguishes it from other methods of implementing infrastructure projects. The principles laid down in the PPP mechanism make it possible to structure a project in many ways depending on the characteristics of the project itself, the implementation expectations of the private partners and public authorities, the existing restrictions (legal, institutional, environmental, social), as well as the country/territory/investment climate risks. Therefore, today there are many types of PPPs around the world and their number is constantly increasing in response to emerging challenges. For example, a new category of PPP projects has recently been created, based on the UNECE 'People First' PPP model. This model was created with the aim of increasing the involvement of private business in achieving the 2030 Sustainable Development Goals. For new challenges, new

¹² In some countries private partners for implementing such innovative proposals might be selected on a non-competitive basis through a negotiation procedure, in other countries, for example in Ukraine, it will still be done through a competitive tender, but the initiator of the unsolicited proposal has sufficient preferences in the tender.

models and new forms of private business participation in infrastructure development, both physical and virtual, will emerge. Accordingly, new requirements will arise for the formalisation of relations between partners in the implementation of certain projects.

Various basic types of PPP contracts exist which could be grouped as follows:

Concession based paid by users that could have the following features:

- used for utilities distribution (electricity, water, sewage), toll roads/ bridge/ irrigation/ satellites;
- based on final user paid - tariff/tolls based and not cost based (toll and tariff often fixed under government control);
- quality of the required service to be fixed by the contracts with associated fine/bonus (*cahier des charges*/ terms of reference);
- adjustment revision/formula for tariff /tolls depending on cost variation/ foreign currency variation/ productivity factor.

Concession based directly and indirectly paid by users that could have the following features:

- used for airports/ports/economic and other zones;
- based on several tariffs for corresponding services (example for airport: runway charges, parking charges, passenger charge, baggage handling, commercial proceeds, others);
- concession fee to be paid by the concessionaire as in traditional concessions;
- different weighting in the concessionaire turnover depending on concessionaire commercial strategy and applicable rules.

Take or pay based contract that could have the following features:

- used for power purchase or water purchase agreement or other output based associated with the concession agreement (for example, waste);
- one single potential buyer, tariff based (not cost based);
- based on tariff for dispatched and non-dispatched quantities, not due to producer default;
- possible price variation due to quality of inputs (fuel quality; water to be treated; wastewater, etc);
- price fixed based on assumptions or data provided by the public partner (grantor) or at the bidder own risk affecting the production: water flow for hydro project or natural resource for renewable energy (wind, water, sun, etc);

- adjustment revision/formula for tariff depending on cost variation/foreign currency variation/productivity factor;
- quality fixed for output requirements (quality/specification, etc);
- tariff adjustment formula for fuel price (or other input) except for tooling type of Take or pay agreement (not including the price of the fuel to be provided by the off-taker - 70% of production cost for traditional thermic energy power plants with large variation);
- payment guarantee/ security scheme to be proposed by each buyer at lender request for payment of the production (bank guarantee; delegation of payment of main users; trustee bank account with direct payment from users and cascade of proceed distribution, others);
- payment security scheme like for utility distribution concession usually resulting from direct agreement with lenders.

Government pays non-concession PPP:

- based on availability and services performed (bonus/penalties);
- payment guarantees to be offered by the beneficiary public entity (state guarantee, other).

The difficulty of procurement for such different types of PPPs is to define and properly weigh the importance of various factors, including those that cannot be digitised, and to evaluate them with a multi-criteria analysis. It is extremely complicated to create one or even several 'formulas' to use for evaluating bids for PPPs that are completely different in nature when it comes to complex infrastructure projects. Even tender commissions have difficulties in doing such assessments; that is why they engage for these external experts/consultants with sufficient experience and qualifications.

3. Responsibilities of Public Authorities

Additionally, we would like to mention, that the use of e-procurement systems for the full range of PPP/concession procurement, ie, including the assessment of bidder's qualifications at the first stage of the competition and evaluation of bids from those who were included in the short list, does not always guarantee the achievement of public interest and pre-

vention of fraud and corruption. Everything depends on which qualification criteria and criteria for evaluating bids are selected, as well as which formulas are to be used for their evaluation and incorporated into the e-procurement system. After all, both the criteria and formulas for their evaluation could be selected in such a way as to provide preferences to individual bidders, or to make impossible to take part in the tender for some companies. To combat fraud and corruption in competitive procurements for PPP/concession projects, the criteria and formulas (if any) applied for evaluation of qualification of bidders and bids are even more important than the selection procedure itself (electronic or based on human decision).

Besides, under traditional PPP/concession procurement procedure the public authority has a higher level of responsibility for any decisions adopted. In e-procurement, it simply approves such decisions solely based on the values calculated in the automatic way with the use of criteria and formulas from the tender documentation, without going into details, who participated in the tender, and without deliberating why a particular participant is best suited to provide a public interest in the contract performance.

If the assessment is made by an independent tender commission based on the methodology provided for in the tender documentation (not necessarily exclusively on a formula), the compatibility of the bidders' qualifications with the criteria as well as the comprehensive evaluation of bids can be assessed in more depth, and if necessary, with the involvement of independent experts. All evaluation reports with detailed explanation of the reasons for taking decisions should be prepared by the tender commission, adopted by the procurement authority, and published in the e-procurement system. In this situation, the head of the public authority, before approving a commission decision about a short list or on determining the winner, will carefully review all justifications, as he understands that all decisions signed by him will be published and can be challenged, and he will be held personally responsible for them.

Unfortunately, in many countries this system which has been used for decades and which would

be intellectually the most efficient in the absence of sufficiently developed artificial intelligence in this field, has proven to be unreliable, expensive, lengthy and subject to collusion and corruption risk. That is why the attempt to change to e-procurement is completely justified in those countries, even if this procedure has imperfections approach and requires adaptation.

V. PPP Procurement Difficulties of Adaptation to E-Procurement

1. Complexity, Size and Types of Projects

As we can see from the review of the current best standards and regulations, an automatic e-selection public procurement process should not be used for complex contracts involving potentially intellectual performances. These include the design of works, which cannot be ranked using automatic evaluation methods and which are depending on several criteria including qualitative ones which are difficult to quantify and digitise to enter into a mathematical formula.

This is particularly true for projects with extreme complexity where the public partner does not know how to technically or financially respond to the needs of the project and the private sector's innovative spirit may bring solutions through the competitive dialogue procedure of the tender process. In this case, the use of e-procurement appears problematic as the evaluation of different technical and financial solutions can be maintained until final bidding. It is difficult to compare in automatic mode what is better - 'apples' or 'pears'.

It should be mentioned that the complexity of PPP/concession contracts is the main argument given for the limitations of e-selection of a private partner for PPPs and concessions. It comes from the widely shared view, among lawyers in particular, that PPPs are so complex that they have to be tailored to the project's specifics and that no model contract should apply. In principle, that is true.

Unfortunately, no official, internationally recognized model concession or PPP contracts exist for different types of projects, unlike as it exists for sophisticated EPC and other types of construction contracts developed by FIDIC, ICC, ICE, EIC, ENA¹³ or other organisations. On the other hand, the World Bank

13 FIDIC - Fédération Internationale des ingénieurs conseil; ICC -International Chamber of Commerce; ICE - Institution of Civil Engineers; EIC - European International Contractors; ENA - Engineering Advancement Association of Japan.

Guidance on PPP Contractual Provisions¹⁴ in three different editions (2015, 2017, 2019)¹⁵ provides guidelines for the drafting of around ten specific PPP provisions that can be found in virtually every PPP contract and are recognized as necessary for project's financing. There is also experience of the use of the same canvas and of many similar provisions in different types of concession contracts like it has been in case under the auspices of ONIDO for the very first build-operate-transfer (BOT) contracts in China¹⁶, the Laibin B Power plant¹⁷ and the Changsha N°6 water treatment plant which were also used for the first RASCOM African satellite PPP project¹⁸. At least two thirds of the contract provisions of these three contracts are the same or very similar despite the different concession assets.

If we talk about PPP/concession procurement, these contracts' complexity results in that the assessment of bids and the selection of the winner in them may appear as more complicated than in traditional public procurement. The difficulty comes from the necessity to use a multi criteria approach for a complex project and not only the price or the price with few other percentages or objective factors which can be quantified and translated into arithmetic data to be incorporated in a formula. This technical difficulty can be solved by system engineers but still some non-quantifiable factors will escape or will not be accurately assessed, digitized, and taken into account in an automatised process for the selection of private partner as it is the case with the use of comparator for the selection of a project.

There is always a potential risk that the value for money may be reduced or exaggerated because non-economic factors may not be properly and objectively considered. In some countries however there is so much abuse of the current manual tender process that even if it is not perfect automatic selection might still bring real progress with respect to transparency and cost reduction as well as increasing competition, that it might be preferred despite this risk of underperforming.

Effectively, the use of e-procurement for complex PPPs/concessions in some cases can lead to less effective decisions. But this is not true for all PPP projects.

For instance, the off-take types of PPPs based on a take or pay commitment for electricity production or treated water, sewage or waste has the price as the most important selection criteria. Of course, provid-

ed that the quality of the delivery satisfies the required standards and specifications and that it can be easily combined with some other important factors such as consumption through well mastered mathematical formula. For such projects there is no reason to select another more expensive bidder based on any other quality criteria if technical and financial qualifications of all bidders are sufficient and if the contract contains the necessary provisions with respect to environmental and socio-economic requirements. Opening a beauty contest based on subjective factors to determine which bidder is the most attractive in this case of off-take agreements would not be a good idea.

The situation for transport projects like highways, ports or airports is slightly different as there is a grid of tariffs or numerous different services to be paid in them. In such cases the total turnover is of great importance in order to allow to pay back the investment. A digitalised approach to the tariff grid will allow to fix a reliable arithmetic formula for the contract award. Due respect to standards and contracting authorities' requirements can be ensured if necessary with a system of penalties to compensate for a potential operational default.

Sophisticated tender techniques with two or multiple stages of the tender process, including competitive procedure with negotiation and the famous 'competitive dialogue', also leaves some space for e-selection. Such sophisticated forms of multi-stage tender processes are part of the 2011 UNCITRAL Public Procurement Model Law's new proposed awarding procedure and can also be found in the EU Public Procurement 2014 Directive.

One of the above referred sophisticated tender modes can be used when a sufficiently precise information exists. It enables the competitors to identify

14 World Bank Group, 'Guidance on PPP Contractual Provisions, 2019' <<https://ppp.worldbank.org/public-private-partnership/library/guidance-ppp-contractual-provisions-2019>> accessed 6 March 2021.

15 To be noted that the 2015 edition is more civil law friendly than the two later ones.

16 <https://www.gem.wiki/Laibin_power_station> accessed 6 March 2021.

17 EDHEC, 'China Water Market 2004' (2004) 85-89 <https://edhec.infrastructure.institute/wp-content/uploads/publications/blanc-brude_2004g.pdf> accessed 6 March 2021.

18 African Development Bank, 'RASCOM' <https://www.afdb.org/fileadmin/uploads/afdb/Documents/Project-and-Operations/Project_Brief_RASCOM_2007.pdf> accessed 6 March 2021.

the nature and scope of the procurement for the completion of which they can adopt different approaches and compete on non-fixed technical or qualitative factors. The contracting authority uses these discussions with candidates to refine aspects of the description of the procurement's subject matter and to formulate them with sufficient detail in order to allow the procuring entity to obtain the most satisfactory solution to its procurement needs. If in such cases the objective is to arrive at a single final solution for a final bidding by all remaining bidders without any further negotiation, we can arrive to a best and final offer (BAFO) which could even be subject to an auction or reverse auction.

Even if the negotiation process deeply involves human contact and parallel negotiation once the object is finally fixed with more precision the automatic treatment of BAFO will be possible and no further negotiations shall take place between the procuring entity and a bidder with respect to their BAFO.

Actually, in many cases for very complex contracts where the contracting authority hardly knows what it needs or the way to satisfy its needs, the automatic selection process can be applied at least for part of the awarding process. Highly complex contracts which deserve a competitive dialogue are a small part of the problem. For the overwhelming majority of concessions/PPPs the contracting authorities know what they need and the way to get it and can be well advised by external experts if needed to find the appropriate technical solutions to their problems.

2. Prequalification Requirements and Pre-Selection Difficulties

The fact that the recent Ukrainian regulation has made compulsory e-selection for small project perfectly reflects the above statement on project size and complexity. It should be noted that projects requiring prequalification are also excluded even for small contracts.

Prequalification is a major obstacle for the use of e-selection of a private partner for PPP as it raises serious difficulties.

The main problem with a pure e-selection process as for an auction sale is that the best bidder is selected mostly on the basis of the proposed financial terms. Therefore the prequalification must be sufficiently strict that all prequalified bidders will be ca-

pable to deliver and implement the works and services to be provided during the long-term contract period without interruption and with the proper standing of quality as there will be no other real chance to review the technical capability of the bidder or any technical proposal during the tender process unlike it is the case with traditional tenders with the predominant notation of the technical proposal and the possibility to adjust technical matters during the final negotiations.

Contrary to the traditional concession award where there is always a dominant technical notation compared to the financial notation at the bidding stage (usually around 70% technical /30 % financial) in the case of e-selection the weighing between the financial and non-financial notation is usually the reverse with a dominant or exclusive financial notation easier to assess and digitise.

The evaluation of the technical part of an offer is much more difficult for PPPs which are usually output-based with the fixing of functional specifications than for traditional public procurement that is usually input based with the fixing of technical specifications. It is certainly easier to determine the compliance of an offer with technical specification than to determine whether a proposed solution is fit for the intended functional purpose. This adds to the e-selection complexity and renders the prequalification capacity test even more essential. That test should ascertain that the preselected bidders will all be capable to deliver what is expected from them without the chance to ascertain it at the time of final negotiation which no longer exists under e-selection.

The contracting authority's requirements (technical, environmental and social) should be precisely fixed in a balanced way acceptable to professional candidates. The prequalification method has to allow providing for the preselection of a sufficient number of qualified candidates able to deliver the service and/or operate the facility composing the PPP object. Under these conditions the e-auction will allow to determine the candidate offering the best economic conditions without discrimination and in a transparent electronic way with no the risk of undue interference or reduced performance.

However, the global nature of many PPPs involves financing, construction and operation over a long period of time without risk of interruption of the public service and with the necessary adaptation over the contract duration. That is why it might be extreme-

ly difficult to determine the strict requirements for the qualifications of bidders which can be assessed solely on a mathematical formula approach.

In the e-selection mechanism the prequalification is not just a prior selection to exclude non-eligible candidates. It is an essential pass or fail test after which the technical content of an offer will be judged as compliant or not with the granting authority's requirements at the time of the bid selection.

Another difficulty results from the proportionality principle in the EU acquis. It forbids that measures go beyond what is necessary in order to achieve a given objective. This could lead to lower security levels being required in connection with the submission of electronic bids not to be exposed to a cancellation of the bidding process on the ground of excessive qualification requirement paving the way to the sole qualification of major internationals in the field and blocking the access to new entrants.

We see that a real problem exists in the case of new entrants wishing to participate in large projects, as well as for most of the relatively small projects involving local enterprises without sufficient experience. Doubts may exist about their qualification and creditworthiness even if they are ready and able to provide bid bonds and performance bonds. However, new entrants are good for competition, and favouring local SMEs is undoubtedly way to confer a socio-economic advantage and good for popular support for PPPs. Therefore, it is important to have a prequalification process sensitive to this issue while avoiding discrimination.

Prequalification for full e-selection without human interference faces serious technical difficulties in practice.

In most cases for the time being the e-procurement system without human intervention is not able to adequately check the compliance of documents submitted by a bidder to requirements of tender documentation and confirm the qualification of a company and/or its employees. The system is also unable to assess how the experience mentioned in the submitted documents meets the expectations of the procurement authority and whether the candidate has the financial capacity required for such project. It is especially difficult when it relates to the provision of services or works.

In order to minimise this technical problem and the human interference in the tender process, some legislations provide for the final assessment of bid-

ders' qualification by the tender commission after the winner has been selected electronically. For example, in Ukraine, in the framework of the open tender procedure, which is the main one in conducting competitive procurement, the Prozorro system checks the availability of documents submitted by bidders as confirmation of their qualifications, carries out an assessment of price offers and non-price offers (if any), determines the best offer. Then, the tender commission manually reviews the offer determined to be the most economically advantageous to confirm its compliance with the requirements of the tender documentation and in particular the proper qualification of the preliminary winner. In case of a negative result, the same assessment should be made in relation to the offer submitted by the bidder who was the second under electronic evaluation.

The necessity to check only the qualification of the winner obviously reduces the human involvement in the tender process. Also, some techniques exist which should normally prevent non-serious candidates from applying. For instance, there could be a requirement to pay a reasonable registration fee to participate in the tender or for the access to the electronic tender system and the risk of call of the bid bond in case the preliminary winning bidder is found to be insufficiently qualified at the time of checking of the qualification compliance before the official confirmation of the tender result.

The prior certification of qualification by independent experts might also be part of the solution for this prequalification issue, but in the absence of internationally accepted certification for a given technology it will not apply to major projects. At local level for not too complex projects a certification process, or short-listing process, or a framework agreement procurement policy might allow for small projects the automatic qualification of certified/listed bidders of the concerned industry with the proper level of certification. Some human interference would still be needed at the time of certification or for the initial approval of framework agreements.

Another risk with electronic bidding is related to the understanding that the tender process is not used for money laundering or intended collusion purpose. The contracting authority will have to make sure that a qualified bidder has not been deliberately underestimating its proposal in order to launder dirty money or to improve its financial position once selected through amendments or lowering the quality of ser-

vices. Authorities have to be vigilant with respect to abnormally low offers and should ask for a clarification. To lower the risk of fraud specific laws exist in many countries. Without the need for incorporation of specific provisions concerning PPP e-procurement process, contracting authorities should be particularly vigilant about candidates that do not fulfil the ethical requirement stated by law. The authorities should be aware that this risk exists and should provide reports on this issue in an appropriate manner.

We also see that for PPP/concession procurement it is desirable that the documents submitted by bidders to confirm their qualifications and experience be manually checked by a tender or certification commission before including the bidders to the short list. For the evaluation of some bids in large contracts, it might even be necessary to obtain some confirmations/clarifications from authorised bodies and/or to communicate with past cooperation counterparts, listed in the bids.

The problem with the prequalification is that it requires manual treatment and human appreciation based on the relevant expertise and numerous qualification criteria which for the time being are excluded from automatic treatment. This human involvement opens the gate for collusion and corruption even if the prequalification is entrusted to a tender commission that is supposed to be independent.

Does it make sense to assess the qualification of bidders in PPP/concession procurement electronically? We do not think that it is expedient for the time being for large contracts. Only with the development of artificial intelligence will these technical problems be solved. But it is strongly recommended at the present time to publish evaluation reports of tender commissions in which they explain the way of evaluation of bidders' qualifications and reasons of including (non-including) them in the short list.

3. Difficulties in the Selection of the Best Bidder

The selection criteria for determining the winner is probably one of the most difficult tasks in the preparation of tender documentation if the contract cannot be awarded based on a mathematical formula built around the price or tariff of the goods or services with the necessary actualisation or escalation factors of the amounts involved.

One of the issues with the evaluation of bids in respect to PPP/concession contracts compared to traditional public procurement lies in the fact that the former are not cost plus based. Instead they rely on estimation of proceeds over the contract period and on the prices or tariffs with a subjective actualisation factor. This is particularly true with respect to the 'take or pay' form of PPP and for a vast majority of non-concession PPPs based on availability payment, but it remains within the limits of the management capacity of recent electronic procurement systems available in countries concerned by e-procurement.

Moreover, proposals often contain a vision of bidders regarding the technical conditions for the project implementation, the description of technologies or equipment that they intend to use in the project and analysis of their impact on the environment. Evaluation of technological solutions may be one of the important or even the most important tender criteria (and in many cases it is mandatory). Even theoretically it is impossible to assess this criterion without the participation in this process of technical experts and, possibly, environmental experts from the public side.

In complex projects it is always difficult to define, quantify, digitise qualitative or non-financial criteria and to attribute each of them a weight in the overall notation. The assessment of some of these factors may be ambiguous, subjective and requiring the involvement of independent experts for example for the assessment of a proposed technical solutions or the soundness of a financial proposal, the socio-economic impact of a proposal taking into account the ratio of SME involvement or the projection of performances or consumptions during the project life.

For such matters, we face two different types of difficulties. One of them is not dependent on the type of procurement (e-procurement or not). This is the difficulty of finding the right formula to reflect the best economic offer for the concerned contracting authority. The second difficulty is to define what is the best way to properly assess and evaluate each of the factors entering into the formula, either electronically or based on the tender commission's judgement.

In our opinion, presently e-procurement systems cannot be used for the assessment of qualitative factors. That is why, if the selection of a private partner needs a lot of qualitative criteria, an e-procurement system should be used mostly for communication: to ensure a transparent and non-discriminatory ex-

change of documents and information between bidders and procuring authority and to make open to the public the decisions and justifications made by the tender commission.

4. Project Financing Requirements and Practice

With respect to major projects the real concern is not so much their complexity or the technical issues above referred to, but rather the project finance.

Many of the PPP/concession projects and in particular the small but numerous ones, eg municipal projects, do not use project financing and are eligible to e-selection. They can be awarded through e-procurement without interference of financiers with traditional corporate finance and with the contracting authority not losing too many chances of obtaining better quality of the works or services to be performed than through traditional tender process.

Large projects generate huge development costs and are very time consuming. That could be substantially reduced by an electronic selection without final negotiation, but this is not the way things work presently where project financing applies.

A major obstacle to e-auction lies in the fact that PPP contractual approach with project financing usually leaves much space for the final negotiations of technical, legal and financial aspects of the deal. Lenders will not directly participate in the tender process except just with a declaration of intention to participate in the financing subject to contract which open all possible gates of negotiations at the final stage of the financial closing.

The multiple parties involved on the private side, such as lenders, credit export companies, guarantors (political risk insurances), insurers, construction contractors, operators, all with their own lawyers, technical and financial advisors, environmental and insurance experts, naturally generate requests for changes. These lawyers and experts on the financial side are usually involved at the last stage of the bidding process, or even after the contract award at the time of the preparation of the financial closing generate discussions and multiples requirements for substantial changes not compatible with automatic e-selection without negotiations.

The last word in this type of projects financed in the framework of PPPs is given to the lenders. They

take the main part of the financial risk in such non-recourse or limited recourse type of financing and nothing can be done without them.

The lenders will generally work on a deal once the contract is awarded. The earlier involvement of lenders in the tender process at a stage when they can have a say on the proposed drafts of contracts prior to an electronic selection without further negotiation would require from each candidate to support substantial lenders advisors' costs. Most players in the PPP field would not be able to afford such financial advisory cost since the inception of the project, at a time the chance of success is limited. This will certainly affect competition. Furthermore, international financing institutions will not be allowed to support any specific candidates and would have to offer their supports to all candidates or none which will also complicate the financing.

At this late stage of involvement in the tender process, the lenders will not only deal with the drafting of loan agreements and security arrangements (direct agreement, pledge of project company shares and assets, assignment of proceeds and contracts, inter-creditors agreements and others). It will also require a review of all the project agreements and impose change to get the financial closing without which the project will not happen, at least not as a PPP.

To sum up, problematic but still workable issues in the use of electronic selection are the complexity of the contract or the technical difficulties inherent to e-selection but to a greater extent the way the project is financed, and its size.

Progress in the electronic award of PPPs/ concessions for large PPP projects could be made only with the development of new international practices with respect to final negotiation provisions and to the lenders approach to project financing without renegotiation of a project agreement at the stage of financial closing. The 'Scaling Solar' projects developed by the World Bank may offer some interesting ideas even if there is significant for improvement of the model.

5. The 'Scaling Solar' Model for Future E-Procurement of PPP Projects

The use of an e-procurement system can be fully justified for simple standard PPP projects, for which in-

dicators to be assessed in the framework of competitive selection are understandable and could be formalised provided project financing is not required. If project financing is to be used which is one of the main reasons for PPP development, it is possible to use standard contracts that have already been approved and/or tested in practice on similar projects for the private financing of infrastructure projects. In this case final negotiations with lenders will not be required.

The World Bank Group 'Scaling Solar' initiative has been designed along this line to enable governments and utilities to execute quick, simple, professional, transparent and competitive tenders through auction sales to procure high quality, privately designed, built, owned and operated solar PV power plants under long-term contracts at competitive tariffs.

As described by the IFC:

after IFC senior management gave the green light to develop the 'Scaling Solar' concept in 2014, project documentation templates were drafted and shared across IFC, the World Bank and the Multilateral Investment Guarantee Agency (MIGA), with inputs from independent legal and technical advisors, as well feedback from selected clients active in the solar space. To facilitate the offer of stapled financing, the IFC investment team first obtained approval for generic programmatic 'Scaling Solar' template documents that could then be used in subsequent country programs. Similarly, the World Bank and MIGA held concept review meetings and developed draft term sheets for their Partial Risk Guarantee and Political Risk Insurance (PRI) products. After this World Bank Group-wide approval process was concluded, the team could offer a pre-baked integrated solution, combining all the relevant products of the World Bank Group and providing certainty to both government and private sector bidders.¹⁹

The 'Scaling Solar' experience which was initiated in Zambia and then exported to Ethiopia, Senegal, Madagascar and Afghanistan may serve as a concrete basis of already existing renewable energy projects

in developing countries with limited PPP experience. These projects show how to face most of the above referred difficulties related to financing of complex contracts.

Based on feasibility studies financed by the IFC and on a 'one stop shop' programme for governments, the World Bank proposes with IFC playing the role of a transaction advisor a full kit of templates for tender documents and contracts for all aspects of the PPP deal. These templates include a concession contract or government support agreement, a power purchase agreement (offtake agreement), finance and security agreements, political guarantee insurance and all other forms of required contracts together with their annexes.

The programme brings together a suite of World Bank services under a single engagement based on a standardised approach to create viable markets for solar power in each client country. The 'Scaling Solar' package therefore paves the ground for a project (the necessary feasibility study, the form of documents to be signed and an option for the credit facilities and the associated political insurance guarantees). MIGA would expect to be able to provide political risk insurance in support of such project financing, and the International Development Association (IDA) would likely be able to provide of a guarantee for financiers against a breach of certain payment obligations by the off-taker. The winner of the award process will be able to use the insurance/guarantee if he cannot get better conditions elsewhere.

The terms of the IFC financing, MIGA insurance and IDA guarantee, and whether these would be made available, would be subject to the terms of detailed agreements and due diligence on the specific project's commercial and other fundamentals, and on the winning bidder and other stakeholders to be involved in the project at the inception phase. This will provide for the availability of the financing and of its enhancement in principle for all selected bidders since the inception of the project which is supposed to avoid the final negotiations with lenders which prevent e-selection for most project financed PPP projects.

A form of e-selection has been put in place for these renewable energy projects by the World Bank, using the proposed integrated solution and draft standard contracts. This form is mainly price based on the proposed tariff for energy generated during the operating period to be specified by bidders as

¹⁹ IFC, 'Scaling Solar: The Complete Package' <<https://bit.ly/3jzXi4P>> accessed 6 March 2021.

part of the tendering proposal through a reverse auction sale without final negotiation.

The essence of the ‘Scaling Solar’ approach is to develop a robust bankable PPP model for a single deal and then replicate it in a standard way not really opened to discussions. This spreads costs, enhances impact, and encourages programmatic, competitive tendering, with faster delivery and lower prices—genuinely creating new markets as advertised by the World Bank. At the same time, this system is not without fault and should be used by governments with the greatest caution and with the assistance of outside councils for the initial adherence to the system, ie council outside the IFC control, in order to avoid any risk of conflict of interest.

It is in fact because many projects under development in Africa were struggling to reach financial closure that the IFC’s ‘Scaling Solar’ programme was launched. It was found that governments had limited capacity to prepare, structure and manage independent power producer (IPP) projects, and they relied on unsolicited proposals and bilateral negotiation to implement them. The idea was to attract the interest of larger, more experienced developers, with lower costs of capital, and existing political and credit risk was driving up prices. According to the IFC:

the program changed the game by putting together mechanisms—a transparent, competitive bid process combined with de-risking, both inside and outside of the project documents, and a financing offer — to shorten the timespan from project development phase to financial close, and to attract larger developers and international banks.²⁰

The problem with such an orientation is that it is always difficult to maintain the balance of all the interests involved and with the objective to attract major players of the PPP market in some remote places, too many advantages were granted to attract them.

The unbalanced solutions proposed by the package of contracts should raise serious issues for the government and off-takers involved. With respect to contingent liabilities as an example, contracting authorities and states have to accept payment of undelivered energy in nearly all possible situations including force majeure affecting the production and totally outside the off-taker’s direct or indirect control.

The contracts were furthermore apparently drafted in such complex way that only senior partners in the law firms working for major companies in the

energy field could really understand them. The major problem is that this complexity hides the imbalances in the contracts. The way these sets of interrelated contracts have been drafted in Washington with the involvement and benediction of the general councils of most World Bank organisations render the change of any comma problematic. Another problem was the change from the initial common law system used for Zambia to civil law countries such as Senegal or Madagascar. The latter only benefited from a French translation of the original American text, but not of an adaptation to the basic legal principles where we can find for instance ‘concession agreement’ with no obligation whatsoever on the grantor side which is not appropriate for a civil law system.

One of the main purposes of the ‘Scaling Solar’ concept involving e-selection was to speed up the awarding process. However, experience has proven that it is not that easy and that there is still resistance to the proposed integrated and global process encompassing all PPP financing requirements. Although the engagements proceeded rapidly with the first project in Zambia from mandate signature to project award in May 2016 (9 months from mandate), the IFC reported extensive delays to commercial close (signature of all key commercial contracts) in March 2017 (19 months from mandate) and financial close, which took place in December 2017 (28 months from mandate) for the Neoen project and June 2018 (34 months from mandate) for the Enel project.

These delays were mainly caused by changes that required unexpected modifications to the ‘Scaling Solar’ project document templates, unforeseen issues related to land availability and quality, accommodation of a government late request to have a minority stake in the project, additional negotiations with winning bidders on differences on interpretation of government incentives, delays in land clearances and unexpected soil conditions. Other significant delays have apparently also been experienced in other concerned countries which proves the resistance of the unbalanced way the projects have been structured.

Most of the initiated ‘Scaling Solar’ projects have however succeeded and brought into the competition major energy actors. Despite the difficult PPP local environment, these energy companies participated

²⁰ *ibid.*

in the e-selection and proposed record low electricity prices for renewable energy, like in Senegal.

There are certainly important lessons to be learned from this interesting experience on many other aspects of PPP preparation and awarding including e-procurement. As far as e-procurement is concerned the proper selection and preparation of good projects, the systematic standardisation of procedures and contracts and the early involvement of international financial institution should eliminate the usual PPP final negotiation process. The model contracts should be drafted in a more friendly and balanced way with due consideration of the legal systems involved in order to be accepted by the major players in the PPP field and in particular by lenders. They should allow to e-select private partners/concessionaires at least for the majority of PPP projects which are not excessively complex with a major price component, subject always to the inevitable man involvement at the pre-qualification stage to ascertain the technical and financial capacity of the candidates.

VI. Conclusions

The purpose of competitive procurement of PPP projects is to select the most attractive proposal, which will allow to achieve high performance indicators for the provision of services using an infrastructure facility created/modernised by a private partner with the least harm to the environment and at the lowest cost for society.

The purpose of applying e-procurement for PPPs is to provide transparency, limit fraud and corruption, save time and money spent by bidders on preparation and submitting tender documentation.

The conclusion on the feasibility of using an e-procurement system for communications and exchange of information in PPP/concession tenders only depends on the capability of the electronic system (used for public procurement or specific to PPPs/concessions).

Taking a decision on the use of e-procurement system in whole range including prequalification and bids final evaluation will depend on the size of the project and its complexity as well as of the use of a project finance technique. Our research shows that this can easily be achieved if the e-procurement system is used for small, simple, and standard or repetitive PPP/concession projects, namely:

1. in case if it does not necessary use pre-qualification of bidders or requirements to their qualification are simple and could be easy evaluated based on formula;
2. if projects do not involve the use of new innovative technologies;
3. if a draft contract included in the tender documentation is simple, understandable, and has been repeatedly used in practice;
4. if the cost of the project is not so high and its financing does not require the attraction of significant funds and, as a result, lengthy negotiations with financing institutions.

The application of the full e-procurement procedure, including the assessment of qualification requirements and bids, cannot be recommended in case of complex projects that involve technological or institutional innovations and have no analogues in the country of procurement. The current practice of PPP financing and the state of the art in this field will not allow to attract the necessary financing and might produce hazardous results.

It is further very doubtful that in this case we can limit fraud and corruption as the selection process will still be subject to risk of human interference at the prequalification stage. It will also depend on what qualification criteria and criteria for evaluating bids, and formulas are included in the tender documentation.

In our opinion, for high value complex PPP projects, the automatic pre-selection without human interference is difficult or hardly possible without taking the risk to involve in the procurement process a candidate which does not deserve to be qualified. Conversely, excessive prequalification requirements may reduce competition or give preference to very few applicants, if not just one. Moreover, once this stage is completed there will be no other mechanism, eg technical evaluation, ensuring that the optimal solution for society is selected through the use of a mathematical formula, even including quantification of quality factors.

At the same time, it is recommended to introduce electronic communications in the procurement process for all PPP/concession projects. The following information should be publicly available: bidding documents, qualification documents of bidders, minutes of meetings of tender commissions with justifications for decisions made in them, PPP/concession

contracts concluded (excluding information that is reasonably considered as confidential). This will increase the transparency of the process and reduce corruption risks.

Finally, providing such transparency should not only serve to satisfy the curiosity of the public but should also limit fraud and corruption through the publicity given to the decisions. It also creates the conditions for market participants to challenge certain decisions made by the procurement body, including those involving the application of sanctions. Unfortunately, these two processes do not always connect with each other. For example, in Ukraine, which has become one of the pioneers in e-procurement for concessions, there is no legal regulation on review process for the challenge of procedural issues. This regulation should nevertheless come with the EU harmonisation process and the application of the Remedies Directive²¹ on the coordination of the laws, regulations and administrative provisions relating to the application of review procedures to the award of public supply and public works contracts.

The analysis performed allows us to draw the following conclusions:

1. We have found no real internationally accepted standards and approaches to e-procurement for PPPs and concessions except with respect to the basic exchange of information and communication or recording but not for submission of bids, their evaluation and bid ranking by using automated evaluation method.
2. For the time being we would recommended a progressive development process with respect to e-procurement for PPPs/concessions. At the same time, e-procurements may be applied if the selection process concerns a PPP/concession project that is below a threshold value, does not need pre-qualification, has price as the prevailing criteria and the technical specifications of the items of procurement can be reasonably inferred from the functional requirements of the contracting authority without much ground for innovation, and for repetitive contracts through a framework purchase agreement.
3. International best standards consider that e-selection shall not be used for complex contracts involving potentially intellectual performances, such as the design of works, which cannot be ranked using automatic evaluation methods. That is why, for complex and large PPP/concession projects only electronic communication would be recommended, and not e-selection (automatic awarding process). For such projects, the evaluation of the bids by members of a commission should be done manually, but the task of the commission is to write the evaluation report in which they explain the way of evaluation of each bid and put this report in the e-procurement system.
4. The introduction of e-procurement systems for PPPs/concessions should be accompanied by the development of a system of legal regulation in the field of review procedure to the award of PPP. For the introduction of such systems to significantly eliminate fraud and corruption in procurement in PPPs/concessions, market participants should be able not only to become familiar with the information about procurement posted in such systems, but also to use it for review and challenge.
5. In the nearest future more and more PPPs considered nowadays as complex and ineligible for e-selection will be structured and prepared in such a way that will allow to procure them electronically. With the progress of the e-procurement systems available worldwide and the standardisation of contracts e-procurement will become the norm and traditional tender process the exception of which will have to be duly justified.

21 Council Directive 89/665/EEC of 21 December 1989 on the coordination of the laws, regulations and administrative provisions relating to the application of review procedures to the award of public supply and public works contracts [1989] OJ L 395/33.