

# CO-CREATION OF PROZORRO

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**AN ACCOUNT OF THE PROCESS AND ACTORS**

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We would like to thank all the individuals who contributed to all stages of the research and preparation of the report.

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# INTRODUCTION

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The ProZorro platform (electronic procurement system) was initiated in Kyiv in May 2014 by a group of anti-corruption activists that focused on developing an electronic procurement platform for all Ukrainian public agencies. Their goal was to provide an accessible public procurement solution to reduce corruption in public procurement in Ukraine. The ProZorro platform was established on a pro bono basis and it was co-developed by a diverse group of stakeholders – including Transparency International Ukraine, the private sector and government champions. The ProZorro platform was launched and started piloting electronic bidding in February 2015.

This case study seeks to assess how the multi-stakeholder co-creation approach affected the design and/or outcome of the e-procurement platform. In order to answer this question we conducted 17 in-depth interviews with activists, politicians, representatives of businesses and non-governmental organisations (NGOs), experts and software developers, all of whom actively participated in the creation of the new procurement system.

The report is structured as follows: Chapter 1 describes the national context, the key characteristics of the procurement system and previous attempts to reform the procurement system. Chapter 2 re-creates the story behind the approach of co-creating a tool to hold government to account and to fight corruption using the public procurement system. Chapter 3 describes how the process of co-creation by various stakeholders shaped the platform design, functionality and adoption of the system, with specific attention given to the role played by different groups of stakeholders.

However, in order to understand the story behind the ProZorro creation, the reader should firstly be made familiar with the institutional environment of the public procurement system, as well as with the architecture of the ProZorro platform.

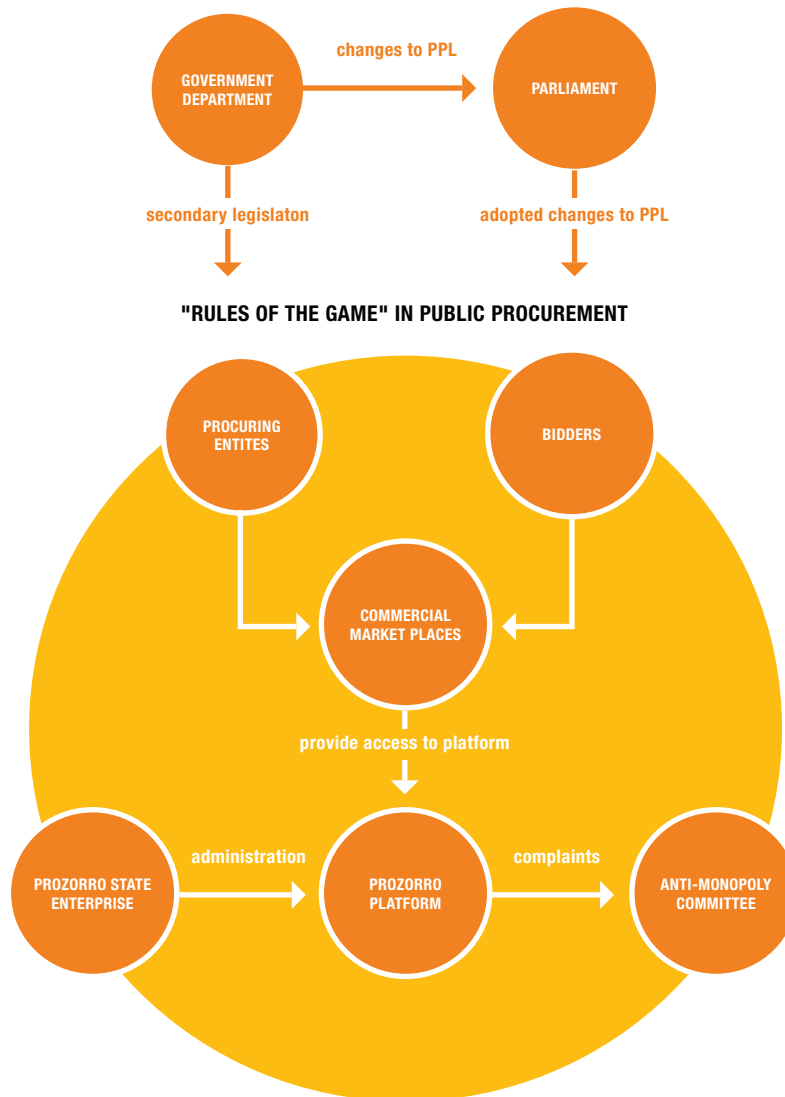
The first key institution in public procurement in Ukraine is the Department of Public Procurement Regulation within the Ministry of Economic Development and Trade, which is responsible for the development of changes to the Public Procurement Law (PPL) and the development of secondary legislation required for implementing changes to the law. In turn, all the changes proposed by the department need to be adopted by the Parliament. The other important body in the institutional environment is the state enterprise ProZorro (formerly Zovnishtorgvydav), which is responsible for administrating the ProZorro platform and the official website of the procurement system. The State Anti-monopoly Committee is a government body that aims to provide state protection to competition in the field of entrepreneurial activity. Bidders<sup>1</sup> can submit complaints to the State Anti-monopoly Committee and receive a verdict within 15 days. Lastly, state institutions and enterprises participate in the system as buyers (procuring entities). According to the law, starting from 1 August 2016, all public procurements should be conducted through the ProZorro platform.

The private sector is represented in the system by commercial marketplaces and bidders. Commercial marketplaces are websites run by private companies that provide access to the electronic procurement system to procuring entities and businesses. These websites existed before ProZorro was developed. In order to participate in the tender, bidders can choose any one of the eight commercial marketplaces that are currently operating. They all provide the same access to the system, however they differ in the range of supporting services they provide (legal support, support with sending complaints to the Anti-Monopoly Committee, etc.). The interaction between the different stakeholders is depicted in Figure 1.

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<sup>1</sup> Bidders are businesses that participate in tenders and eventually may supply goods to state procuring entities.

**FIGURE 1: Institutional environment of the procurement system**



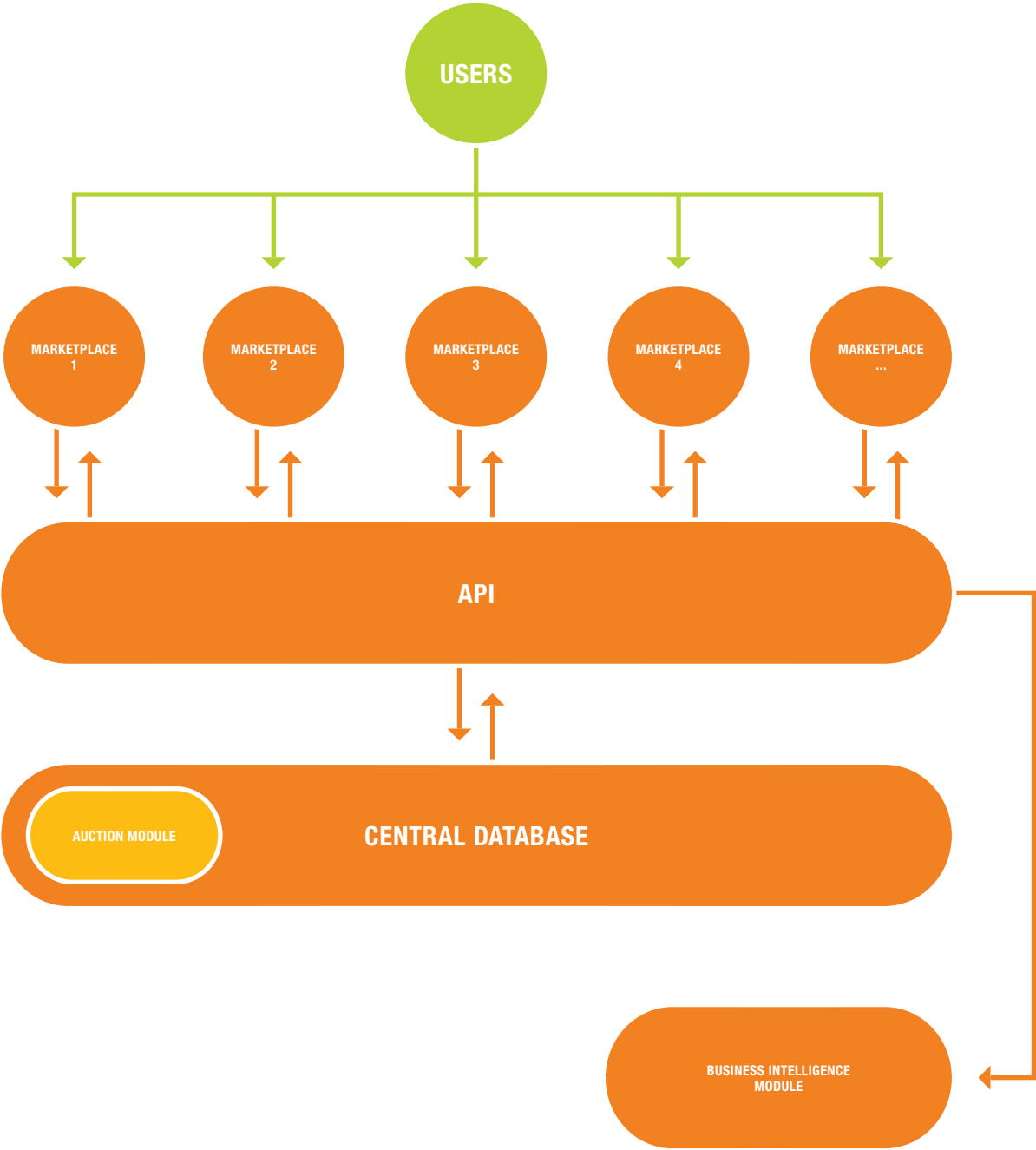
**Source:** own elaboration

The ProZorro platform consists of an application programming interface (API)<sup>2</sup>, a central database, website accesses provided by marketplaces, and a business intelligence module. As mentioned above, each user (either a bidder or a procuring entity) enters the public procurement system through a commercial marketplace. The commercial marketplace connects users with a central database and it is able to insert information into and retrieve information from the

central database, which is administrated by the state enterprise ProZorro. The central database stores all the data of the public procurement system and contains an auction module, which is a special program for conducting online auctions. Lastly, the business intelligence module also uses the API to retrieve, analyse and provide open access to all the procurement data. The architecture of the ProZorro platform is summarised in Figure 2.

<sup>2</sup> The API is an intermediate program that mediates the communication with the central database, in other words, it is a set of programming instructions and standards that allows a web-based software application or Web tool to access a database

**FIGURE 2: Architecture of the ProZorro platform**



Source: own elaboration

# THE CONTEXT OF PUBLIC PROCUREMENT REFORM

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## CIRCUMSTANCES THAT CALLED FOR A BETTER PUBLIC PROCUREMENT SYSTEM

According to the results of Transparency International's Corruption Perceptions Index, the Ukrainian public sector is highly corrupted: Ukraine ranks 130 among 168 countries and territories included in the index in 2015. This was one of the factors that, in November 2013, sparked massive protests, which later were labelled the "Revolution of Dignity". After three months of demonstrations and violent clashes with police, President Yanukovich fled to Russia, along with a number of other high-ranking officials and massive changes in the political environment and governance seemed imminent. During those three months a strong volunteer movement formed. Many people from the private sector were ready to work for free to help to rebuild all the state systems and to make them effective.

In March 2014 Russia annexed Crimea, and thereafter Russia-backed armed insurgents seized control of many cities and towns in the Donetsk and Luhansk regions, resulting in armed conflict with Ukrainian forces. By October the conflict had claimed the lives of over 4,000 combatants and civilians and wounded over 9,000. The economy was hit by the unprecedented double shock of the conflict in the east of Ukraine and lower global commodity prices for key Ukrainian export products, grains and steel.

Real GDP contracted by 6.8 per cent in 2014 and by a further 10 per cent in 2015. The currency depreciated sharply in 2014–15, while the consolidated fiscal deficit reached 10.1 per cent of GDP in 2014. Public and guaranteed debt spiked at 82 per cent of GDP in 2015. The banking sector experienced deposit outflows, rising levels of non-performing loans, and large numbers of bank failures. This resulted in an ever-constrained government budget – which created additional incentives to look for ways to reduce corruption.

During that time government failed to take adequate steps to prosecute officials who had abused their power during the reign of President Yanukovich, resulting in a climate of impunity. However, having no trust in the authorities, citizens and non-governmental organizations – together with international observers and international financial institutions – pushed politicians to reform the system. In this situation the procurement sector was seen as an obvious source of substantial leaks in the budget, and it attracted the attention of activists.

## HISTORY OF PUBLIC PROCUREMENT IN UKRAINE DURING THE LAST 10 YEARS

Ukraine had started to develop procurement legislation in 1997. This was done to harmonise legislation with the World Trade Organization (WTO) requirements. This first public procurement law was adopted and entered into force in 2000. Its set up was generally in line with international practices, but regulations regarding the tender process still lacked detail and clarity. In subsequent years a number of such regulations were developed mimicking European Union (EU) procedures and following WTO rules and recommendations. However, in December 2005, after Parliament overrode the President's veto of a new Public Procurement Law, procurement started to be regulated mainly by the new platform for public procurement, the Tender Chamber of Ukraine<sup>3</sup> (a non-governmental body). The publication of information about procurement contracts took place exclusively through the Tender Chamber website, subscription to the Tender Chamber bulletin was made mandatory for bidders, they were forced to use "services" provided by the companies connected with the Tender Chamber (consultation and attorney services provided by specific companies, with royalty payments to them), and the Tender Chamber participated in the corrupt approval of procurements from a single supplier. According to a journalistic investigation based on an anonymous source in the Security Service of Ukraine (Lutsenko, 2008) the illegal activities of the Tender Chamber and its affiliates in 2007–2008 cost the Ukrainian state US\$1 billion. Numerous allegations of corruption made by journalists, activists and politicians led to the suspension of the Tender Chamber's activities in 2008.

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<sup>3</sup> Officially, the Tender Chamber of Ukraine was a non-profit union of civil society organizations that existed to promote the development of the public procurement system and the transparency of public procurements. According to the law it was not allowed to provide paid services.

In 2008 the procurement law was repealed, and during 2008–2010 all processes were controlled by temporary regulations approved by the Cabinet of Ministers of Ukraine. In 2010, after long and tedious work, a new law was finally developed and adopted. It generally followed the pre-2005 laws, with the addition of a clearly defined mechanism for making complaints to the Anti-Monopoly Committee of Ukraine (previously this was the responsibility of the Ministry of Economy). However, the new law also increased the number of

exceptions (the purchase of energy, housing and utility services) whereby procurements were to be conducted according to special procedures not specified in the main procurement law. In 2011, in an attempt to harmonise the law with EU practices (EU Directive 17, 2004), the legislation was developed further, with flexible rules established for procurement in sectors deemed important to the public (energy, water, heat, etc.). Moreover, the law was amended to allow framework agreements/contracts<sup>4</sup>.

### BOX 1: KEY FEATURES OF THE PROCUREMENT SECTOR IN UKRAINE AT THE BEGINNING OF 2014

Public procurement involved more than 16,000 contracting authorities and more than 25,000 tender committees (central and local government, state-owned companies).

- the total procurement spending was US\$12 billion in 2014, half of which was above the threshold<sup>5</sup> for using an auction for procurement
- 43 types of public contracts were exempt from competitive tendering
- there were more than 1.5 million transactions, of which about 100,000 were above the threshold

- 44.7 per cent of tenders were non-competitive, which amounted to 41 per cent of total procurement spending
- five procurement methods were prescribed by law, with open tendering and negotiation with one supplier being the most frequently used
- e-procurement: procurement notices and contract awards were published on the government web portal: [www.tender.me.gov.ua](http://www.tender.me.gov.ua). No electronic bidding was used

Source: European Bank for Reconstruction and Development (EBRD) report, 2014

The period 2011–2014 saw even greater instability as regards the procurement framework: 35 changes to the procurement law were made during this period. These changes added more exceptions to the main law (state and municipal enterprises, which did not receive budget support and perform procurement on account of their own working capital, were allowed to independently decide whether to use the tender process or to use other procurement procedure). As a result, in March 2014 there were 43 exemptions to the law. These amendments have led to a lack of clarity regarding whether the procurement law is mandatory for state and public enterprises.

In 2012 the first piece of legislation regulating e-procurement was adopted by the Parliament. It mandated the use of reverse auctions as a separate procedure for listed goods (the list was to be approved by government), and envisaged subsequent development of other needed legislation. This law concentrated on regulating commercial marketplaces<sup>6</sup> and gave exclusive power to the chosen platforms. For example, the operators of these platforms were empowered to verify mandated registrations and trading permits and they had the right to limit access or to guarantee tender participation. This law stipulated that 11 additional

<sup>4</sup> Framework contracts are special contracts in which selected contractors undertake to accept orders under predetermined conditions, with additional conditions in regard to the sum, quantity, or deadline for application. Framework contracts are successfully used in the EU.

<sup>5</sup> Buyers are not obliged to use an auction for public procurements if their value is below a certain threshold (currently UAH 200,000 for goods and UAH 1.5 million for services; before 1 October 2015 it was UAH 100,000 and UAH 1 million, respectively).



regulatory acts should be developed, which complicated the rules even further. Ultimately, these 11 regulatory acts were not developed and the law was never applied. The experience did however have the effect of creating a quite significant negative attitude towards the idea of e-procurement as a whole.

To conclude, at the beginning of 2014, despite numerous attempts to harmonise Ukrainian procurement legislation with the WTO and EU standards, the Ukrainian public procurement

system was plagued by three main problems. Firstly, numerous changes to public procurement law created a complex legislative environment, with many loopholes and exemptions. Secondly, the non-transparent paper-based procurement procedure encouraged corruption (as in the case of the Tender Chamber). Lastly, unsuccessful attempts to reform the system discouraged businesses from participating in public procurements. This state of the procurement system made it an attractive target for anti-corruption initiatives by civil society actors.

## BOX 2: KEY FEATURES OF A SUCCESSFUL PROCUREMENT SYSTEM

The following are the key features that characterise a sound and efficient public procurement system according to the 2006 Ukraine Governance Assessment (OECD, 2006 p. 161):

- well-developed and credible central structures with sufficient administrative capacity for the effective implementation of laws and other national policies
- clear strategies and policies for the allocation of responsibilities and establishment of structures for public procurement decision-making, for public expenditure accountability, for improving efficiency, and for combating fraud and corruption
- appropriate means for monitoring so that a contracting authority can be made accountable for its decisions

A public procurement system should aim to create a public sector market that is open, sound and competitive, and from the bidders' perspective, attractive and credible, with fair and reasonable conditions for participation.

Regarding an electronic procurement system, such a system can provide a transparent and effective method for choosing a bidder. However, the effectiveness of other stages of the procurement process, specifically planning the procurement and specifying the required features of goods/services before choosing the bidder and controlling the supply after doing so, must be ensured by increasing the capacity of state employees and implementing public control over procurements. Using global best practice to publicly disclose open data on the procurement process, such as the Open Contracting Data Standard, provide a schema that can ensure such effective monitoring.

<sup>6</sup> A commercial marketplace (in the context of the 2012 Law) is a website together with all the hardware and software that is used by an operator to conduct public procurements via the electronic reverse auction procedure. Operators of commercial marketplaces are legal entities – i.e. companies – that own the commercial marketplace.

# THE STORY OF PROZORRO'S CREATION

## INTRODUCTION

From its beginning in 2015 the reform of the Ukrainian public procurement system by transforming it from a paper-based procurement process into an e-procurement process was not planned ahead by the government. On the contrary, this reform was the product of the post-Maidan enthusiasm and an auspicious meeting of volunteers, Georgian and European experts, businesses and middle-level state officials interested in changing the system. Only in February 2016 did the Council of Ministers of Ukraine adopt the Public Procurement Strategy (road-map), which mostly aims to implement Ukrainian obligations under the EU–Ukraine Association Agreement<sup>7</sup>. During the first half of 2014, reform plans were frequently changed as a result of new ideas, discussions between participants and chaotic shifts in Ukraine's political life. However, with time the reform started to take shape. The core team of what is now known as a ProZorro was formed, with certain people responsible for management, for programming, for improving legislation, for relationships with the Parliament and for all the other aspects of the reform. With time, the ProZorro project was noticed by the general public and received support from ministers and the President, resulting in the reform of the procurement system we see today.

Thus the reform of the procurement system was akin to the process by which a living organism finds an optimal path through trial and error, rather than taking the form of a usual neat technical support project. Noticeably, contrary to many other reform attempts, the reform of the public procurement system was successful in bringing about real and beneficial changes. Despite the specifics of the procurement system, many of the challenges faced in the reform are not unique to the public procurement system and, moreover, not unique to Ukraine. These challenges included dealing with active opposition from participants that take part in corruption schemes, passive opposition from a disheartened public, conflicts of interest between politicians, difficulties in securing the financing and many others. The attempt to, post-factum, formalise and provide a written record of the steps of the procurement reform will be of use for Ukrainian reformers as well as reformers from other countries.

## LONG-TERM GOALS

At its beginning in the spring of 2014, implementation of the electronic system for public procurements was primarily seen as an instrument for fighting corruption. However, as the reform progressed its participants started to see a bigger picture: it became clear that the electronic system alone will not be enough to fight corruption in public procurement, and should be complemented by other measures. Also, the procurement system is a crucial part of the state – it can and should be improved in other aspects, apart from decreasing corruption risk. Thus, the goal of reforming the procurement system can be summarised in five points:

- **Corruption-free:** according to a Ministry of Economic Development and Trade of Ukraine estimate, Ukraine was losing US\$2 billion, or 2.2 per cent of GDP, per year due to different corruption schemes/inefficiency in the procurement sphere (Nefyodov, 2015)<sup>8</sup>. The new system is expected to decrease these numbers significantly.
- **Transparent/accessible:** in order to promote competition, facilitate optimal decision-making by procurement participants and enable public control, the new system should be transparent (all operations and decisions should be as public as possible) and accessible (the monetary and time costs of using the system should be minimised).
- **Reliable/secure:** if all public procurements are conducted through one electronic system, the system should be robust in order to sustain a large number of simultaneous users and secure to prevent the misuse by unscrupulous businesses and corrupt officials.
- **Cost-efficient:** in an environment of a constant deficit of budgetary resources due to war in Eastern Ukraine and economic crisis, an electronic system for public procurements should be as self-reliant as possible or, even better, totally independent from budgetary resources.
- **Scalable/elastic:** as the system evolves the number of participants will increase considerably – the system should be scalable. Also, in the case of successful reform, the electronic system can be used to organise auctions by other state institutes/companies (e.g. the sale of the assets of insolvent banks organised by deposit guarantee funds). Thus, the system should be elastic.

<sup>7</sup> Resolution of Cabinet of Ministers #175 of 24 February 2016.

<sup>8</sup> See [http://reforms.in.ua/sites/default/files/upload/docs/7.1\\_20150514\\_nrc\\_public\\_procurement\\_presentation\\_v9\\_a4\\_dr\\_0.pdf](http://reforms.in.ua/sites/default/files/upload/docs/7.1_20150514_nrc_public_procurement_presentation_v9_a4_dr_0.pdf).

## STEPS TAKEN TO IMPROVE THE PROCUREMENT SYSTEM

Reforms designed in the "top-down" manner encounter several typical problems. Firstly, politicians and officials have limited creativity and error tolerance. Politicians keep in mind their approval ratings while officials are constrained by their assigned duties. Secondly, officials responsible for "top-down" projects often lack knowledge of low-level nuances. Moreover, "top-down" reforms usually start with the adoption of a new law, which often turns out to be impossible to put to practice. Contrary to this approach, ProZorro was implemented as a "bottom-up" reform initiated by volunteers. These volunteers were able to try different approaches, not being constrained by the need to win the next set of elections.

In the spring of 2014 Pavlo Sheremeta headed the Ministry of Economic Development and Trade of Ukraine. At his initiative, several groups of volunteers were organised to research different possibilities for reforming different aspects of the state. The procurement system was one such aspect. At the beginning the group gathered in public locations for open discussions. This made it possible to connect unrelated people who were interested in reform; these people became the core of the future ProZorro team. Unlike politicians, after Maidan volunteers were not treated with distrust by the society. This allowed them to initiate productive discussions between business and officials, as well as between Parliament and the Ministry of Economic Development and Trade. Thus, receiving public trust was the first intermediate goal of the public procurement reform.

Shortly thereafter, volunteers contacted experts from the Harmonisation of the Public Procurement System of Ukraine with EU Standards project and procurements experts from Georgia. The Georgian model of public procurement became the template for developing the Ukrainian system. At the same time, with the assistance of Minister Sheremeta, volunteers and employees of the Department of Public Procurement Regulation at the ministry began cooperation within the framework of a working group. Remarkably, the reform initiative did not receive the support of the head of the department but employees of the department continued the cooperation at their own initiative. The dialogue that was established with the ministry and the use of international experience made it possible to develop, in August 2014, the Concept of the Reform of the Public Procurement System in Ukraine, a planning document which guided the next steps of the reform.

The concept envisioned the implementation of a pilot project for procurements under the threshold<sup>9</sup> (for commodities with a value of less than UAH 100,000 or services with a value of less than UAH 1 million) which were not regulated by the law. With the concept at hand volunteers approached commercial marketplaces. Seven commercial marketplaces agreed to participate in the project, motivated by the possibility of entering a huge new market and the desire to support improvement in the state structures. In such a way a "golden triangle" between civil society, state and business was established. Up to the time of writing, decisions regarding further development of the electronic system continue to be decided via a dialogue between these three parties.

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<sup>9</sup> It was increased to UAH 200,000 and UAH 1.5 million, respectively in October 2015, after eight months of the pilot project. This decision gave an opportunity to make much bigger the share of below-the-threshold or possible "pilot" public procurements.

<sup>10</sup> The pilot project only allowed three stage auctions, currently it allows for other options such as engaging in a framework agreement and negotiations.

The first module of the pilot project included three key features. Firstly, the Ukrainian electronic system was to be a hybrid system. A hybrid system of electronic public procurements consists of a central database and any number of front-end accesses. The central database stores all the procurement data and includes an auction module. The central database is owned and controlled by the state. Access to the central database for both buyers and bidders is provided by commercial marketplaces. Each marketplace develops its own front-end access to the central database. Buyers and bidders are free to choose any marketplace. The choice of the particular marketplace does not affect the ability of a bidder to participate in the auction. In such a system marketplaces compete with each other by improving the front-end access and by providing better services. Marketplaces also actively advertise their services and, as a result, advertise the electronic procurement system as a whole. It was decided that a hybrid system would be developed on an open source basis (see box 5 below for the implications of using open source in e-procurement). Such licensing allowed all interested parties to review the code and propose improvements. These two features created a self-improving system and thus contributed to increased cost-efficiency, accessibility and security.

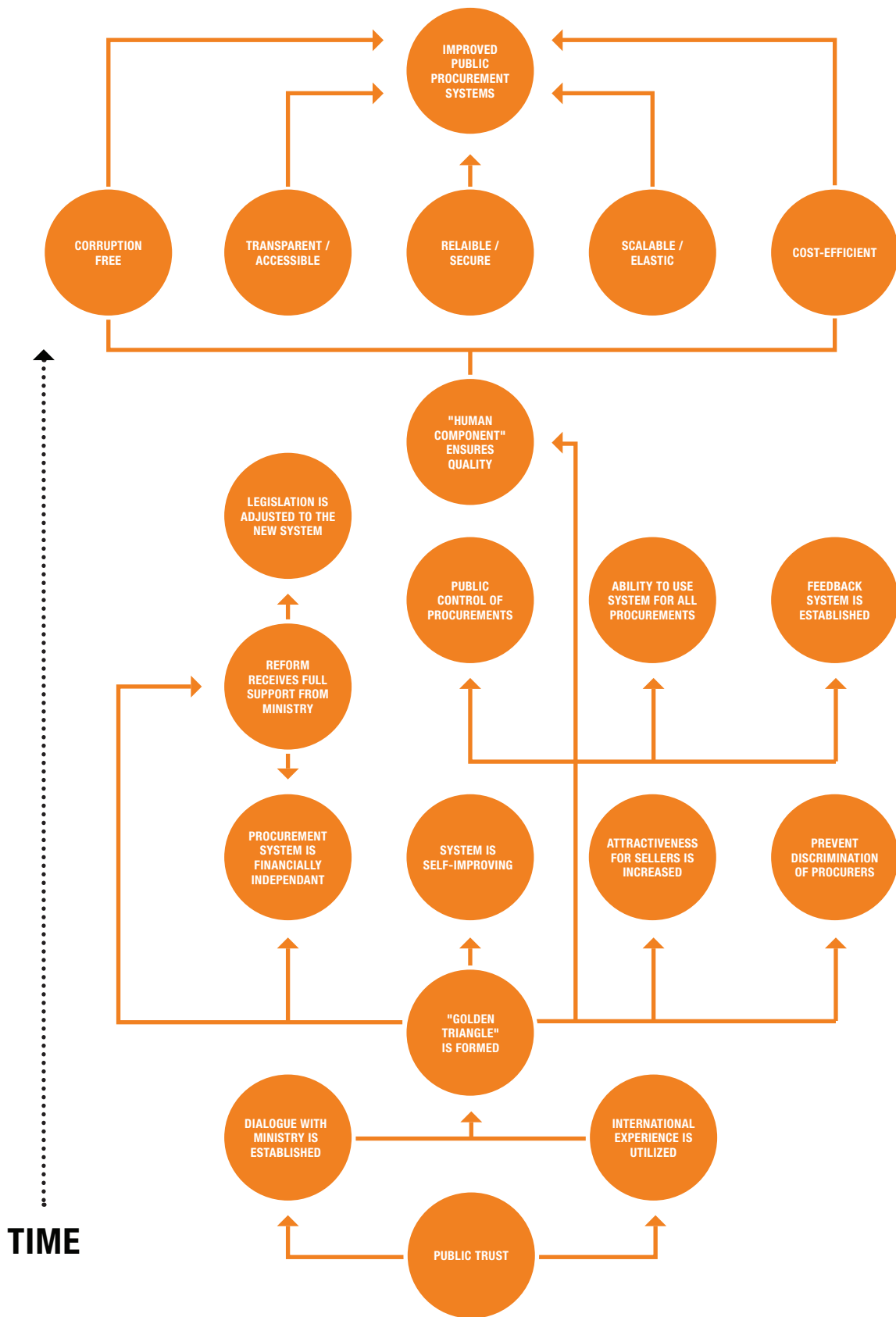
Secondly, the pilot project implemented an obligatory three-stage auction as the only way to conduct procurement<sup>10</sup>. A three-stage auction implies the automatic evaluation of tender propositions over three stages. At every stage each bidder participating in the auction can reduce his proposed price. The bidder with the lowest price at the end of the third stage wins the auction. The auction is performed online with all the price proposals disclosed in real time. After the auction, documents submitted by all the auction participants are published. In this way only the bidder with the best price offer can be a winner. This form of auction prevents the discrimination of bidders before the auction begins.

Thirdly, a post-qualification procedure was implemented in the pilot. When this procedure is used, all the bidders are allowed to participate in the auction. The verification of documents is performed after the auction and only to the winning bidder. This decreases the risk of corruption through not allowing bidders to participate in the auction by claiming that the submitted documents are inadequate. However, the primary goal of this approach was to increase the attractiveness of public procurement for bidders, by lowering the entrance barriers.

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<sup>10</sup> The pilot project only allowed three stage auctions, currently it allows for other options such as engaging in a framework agreement and negotiations.

**FIGURE 3: Intermediate and long-term goals of the ProZorro development**



Source: own elaboration

The first module of the pilot project was financed by the contributions of marketplaces. Each marketplace contributed US\$5,000. The resulting US\$35,000 was used to create a central database. Additionally, marketplaces spent on average US\$40,000 each on the development of their front-end accesses. Such a financing scheme made the development of ProZorro **financially independent** from the state budget. The pilot project became functional in February 2015. The first buyers were the State Management of Affairs, the Kyiv Municipal Administration, the Ministry of Defence and the National Nuclear Energy Generating Company of Ukraine.

At this point the development of the reform was hampered by two issues. In order to move from the pilot project to a full-scale system of public procurements, the Ukrainian Public Procurement Law had to be changed. However, the previous attempt to adopt the new law had failed in February 2015. The new draft was being developed by the Department of Public Procurement Regulation. Also, despite the existence of a successful pilot project, the ProZorro system still lacked official status. This fact meant that all the attempts of the ProZorro team to seek additional financing from international donors were unsuccessful.

The situation changed in March 2015 when Oleksandr Starodubtsev, a key representative of the volunteers, became the head of the Department of Public Procurement Regulation. This, as well as the support of the new Deputy Minister Max Nefyodov and dedicated work by department employees, resulted in the adoption of amendments to the procurement legislation in November 2015. Also, with the **full support of the Ministry of Economic Development and Trade**, the ProZorro team found additional financing for the system development. Western NIS Enterprise Fund was the first donor to provide financial support, shortly followed by United States Agency for International Development, the German Corporation for International Cooperation and others. Even before this, Transparency International Ukraine had provided crucial administrative support and the Open Contracting Partnership provided support in relation to using the Open Contracting Data Standard for the pilot project (for more details see Section “Developers’ point of view”).

Additional financing made it possible to complement the electronic system with new features. Specifically, it was now possible to analyse all the procurement data using the business intelligence module. Such a module is the keystone of a **public control of procurement system**. The other feature was an improved **feedback mechanism**. It became possible for a bidder to lodge an online appeal with the procuring agency, which must be answered within a three-day period. Lastly, an auto-scaling feature was adopted. This mechanism allows the regulation of the amount of computational resources used by the system (measured in the number of active servers) in accordance with the current needs. Thus, the computational resources of the electronic procurement system change in accordance with the number of simultaneous tenders/ users in the system. When the number of users increases, the computational resources of the system are increased accordingly. This option was crucial in order to enable **usage of the system for all procurements** in a full-scale mode, with a greatly increased number of operations.

Lastly, it should be mentioned that the effectiveness of any electronic system is determined by the professionalism of its users. Thus, in the public procurement reform a lot of attention was given to improving the professionalism of the personnel who work with the system. In particular, the ProZorro team developed a website dedicated to the educational support of anyone interested in public procurement. Also, with the support of the Harmonisation of the Public Procurement System of Ukraine with EU Standards project (the EU Standards Project), a free online course entitled “Public procurements” was created in May 2016, and around 100 training events dedicated to the new e-procurement system were organised in cooperation with Transparency International Ukraine, the EU Standards project, and the EBRD. Additionally, constant educational work is carried out by the commercial marketplaces as a part of their marketing campaigns.

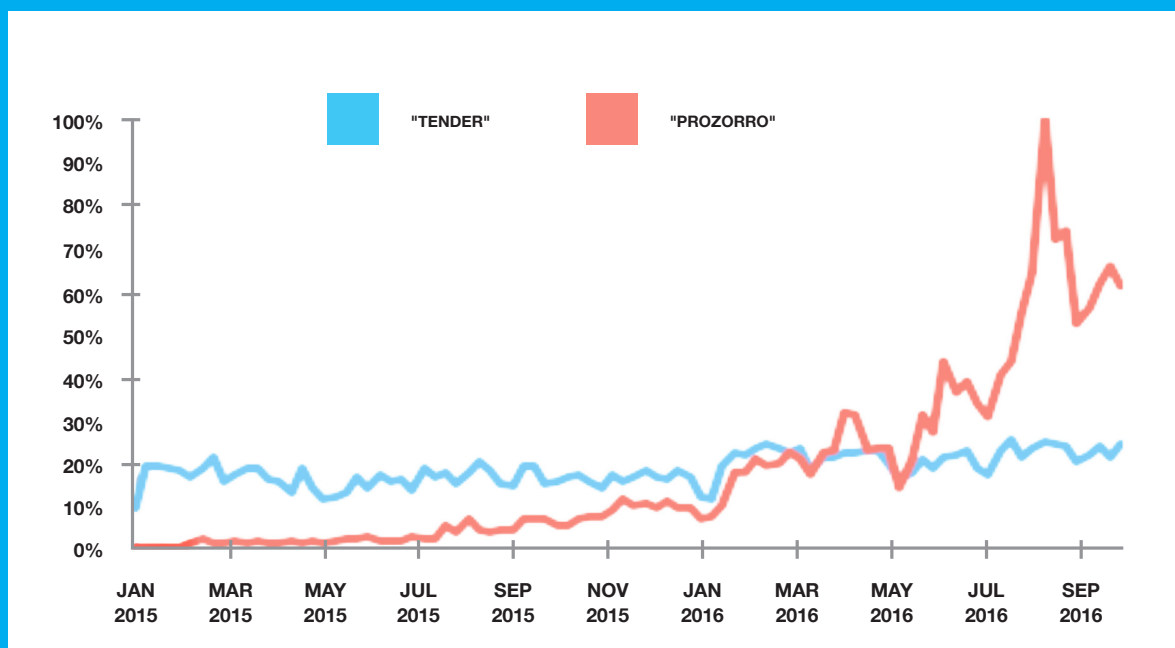
After the addition of these new features, the system was ready for the next steps. In accordance with the changes in procurement legislation, starting from 1 April 2016 all central executive bodies and state-owned natural monopolies started to conduct procurements exclusively through ProZorro. Starting from 1 August 2016 all public procurements are conducted exclusively through ProZorro.

In conclusion it must be emphasised that the e-procurement system alone is not enough to fight corruption in public procurements. Three of the main sources of corruption in this sphere are non-justified procurements, budgets that are exceeded and discriminatory tender requirements. It should be noted that these problems will always plague procurement systems and society can only try to minimise them. ProZorro does this by making public all the procurement information, including the procurement plans. Using this data the public can track the first two problems (for example, state companies that decide to buy luxury automobiles) and pressure the state into changing procurement plans. The third problem can be influenced by bidders themselves who have the option to challenge unreasonable tender requirements by using the formal mechanism for lodging an appeal. Remarkably, the number of complaints to the Anti-Monopoly Committee is increasing each year, in spite of the cost of submitting an appeal (US\$200 for commodities, US\$600 for services). This means that companies are starting to be aggressive in a positive way – they are willing to defend their business interests using legal mechanisms.

### BOX 3: PUBLIC AWARENESS OF THE EXISTENCE OF PROZORRO

The graph on the left shows the relative number of Google searches in the period from the beginning of 2015 to September 2016. The point with the 100% value indicates the day with the highest number of searches in the observed period. According to the graph, public interest in the ProZorro system gradually increased starting from January 2015. Beginning in spring 2016 Ukrainian internet users were more likely to search for “ProZorro” than for “tender”. In July 2016, when all state enterprises were preparing to conduct their procurements through ProZorro, internet users were five times more likely to search for “ProZorro” than for “tender”

#### INDEX OF RELATIVE NUMBER OF GOOGLE SEARCHES



**Source:** Google Trends.



# THE NETWORK OF PROZORRO CREATORS

## INTRODUCTION

ProZorro is a great example of an innovation that was created through a process of dialogue. The bottom-up approach described in the previous chapter and the active role of volunteers as mediators between agents of the public procurement system created a beneficial environment for discussion. In this process key ideas of the ProZorro system were developed: first of all, the utilisation of the Georgian system as a template, the invention of the hybrid system and the usage of pre-threshold procurements in the pilot project.

On a more abstract level, three features of the ProZorro development should be emphasised: self-organisation, emergence and complexity. Firstly, in the spring of 2014 the reform initiative received almost no support from the state. Meetings were organised by volunteers, who expected no compensation for their work. Thus, the initial reform team was formed. The role of each individual in the team was determined by his or her expertise and willingness to take responsibility, instead of by their position in the political or official hierarchy. Thus, the procurement reform was self-organising. Secondly, what began as a group of a few individuals, developed into a system that includes the whole Ukrainian public procurement sector. In other words, the development of ProZorro was characterised by emergence: i.e. a large entity was created through interactions between smaller entities, which resulted in the large entity possessing characteristics not present in smaller entities. Thirdly, ProZorro development was a complex process that included market design, programming, changes in legislation, an educational campaign, and managing relationships between different branches of the state power, as well as relationships between the state and the society.

In order to describe the features of self-organisation, emergence and complexity of ProZorro we conducted 17 in-depth interviews. All the collected material was grouped into five areas: interviews with volunteers, with experts, with NGOs, with developers, and with marketplaces. This division is by necessity artificial – many volunteers in the process of the reform became state employees, and international experts were volunteers who differed only by their understanding of the public procurement system. Each sub-section below describes the role played by a particular group in the development of the procurement system and shines a light on the unique perspective of each group regarding ProZorro's features.

## BOX 4: THE ROLES OF PROZORRO'S CREATORS

### VOLUNTEERS

- Proposing reform concept
- Promoting dialogue between state and the business
- Promoting dialogue between Ministry of Economic Development and Trade and Parliament
- Finding funds for the pilot project
- Becoming state officials and reforming Department and Zovnishtorgvydav

### NGOs

- Providing administrative support
- Providing funds for the development
- Organising training and workshops

### COMMERCIAL MARKETPLACES

- Providing initial funding for the central database development
- Creating their own front-end accesses to central database
- Marketing the electronic procurement system

### EXPERTS

- Sharing international experience
- Developing reform concept
- Developing new Public Procurement Law

### DEVELOPERS

- Developing central database of electronic procurement system
- Developing business intelligence module

### OTHERS

- Employees of the Department (developing new law)
- Members of the Parliament (adopting new law)
- State companies/institutions (participating in the pilot project)
- Zovnishtorgvydav employees (taking over administration of e-procurements system)

**Source:** own elaboration.



## VOLUNTEERS' POINT OF VIEW

**Based on interview with Oleksandr Starodubtsev (Head of Department of Public Procurement Regulation), Andriy Kucherenko (IT coordinator of ProZorro), Oleksandr Nakhod (Zovnishtorgvydav) and Maxim Burenko**

After the Maidan there was a widespread willingness to participate in reforming the state system. However, the dominant point of view was that the state was corrupted to such a degree that there was no point in becoming a public servant. Instead, volunteers planned to change the system from the outside by proposing ideas and pressuring politicians/officials into implementing them. The positive side of this attitude was a critical evaluation of the old public procurement system, which resulted in its radical reformation.

Initially, around 40 people signed a statement expressing their willingness to participate in the public procurement reform. The main activities of this group were studying the international experience and initiating public discussion. Though it lacked immediate effect, this made it possible to gather in one group IT specialists, people with legal expertise, procurement experts and representatives of business. The group was initially met with distrust by the employees of the Department of Public Procurement Regulation, who suspected an attempt to revitalise previous corruption schemes<sup>11</sup>. Mistrust did not last long, however: Department employees became an active part of discussions despite the opposition towards reform from the then Head of department.

Through a chance meeting, the group contacted Georgian procurement experts Tato Urjumelashvili and David Marghania. Influenced by the Georgian experience, the group of volunteers decided to give up their own reform concept (despite the fact that it had already been introduced to the President) and to use the Georgian model instead. Mr. Urjumelashvili and Mr. Marghania at that time were working with the Deputy Ksenia Liapina on adopting new public procurement legislation. Their idea was to adopt a law that copied the Georgian model and to grant the Cabinet of Ministers of Ukraine the right to adopt further changes without the need to present them to Parliament. The initiative did not find support from either Parliament or the department, due to the traditionally high level of mistrust between branches of state power in Ukraine. This resulted in Parliament declining the draft law.

At this low moment, in July 2014 Dmytro Shymkiv, the deputy head of the Presidential Administration of Ukraine, proposed an idea that changed the procurement reform. He suggested creating a pilot project for under-threshold public procurements (for commodities with a value of less than UAH 200,000 or services with a value of less than UAH 1.5 million). Due to this approach, development of the electronic system was not limited by the old legislation. Moreover, the **existence of the pilot project** as a prototype of the system worked as a powerful argument when negotiating required legislation changes.

Here again the role of volunteers as mediators became crucial. They contacted the commercial marketplaces and persuaded them to participate in the project by financing a central database and their own front-end accesses. Volunteers also found the state companies and institutions willing to experiment with the new system. Volunteers were also the ones to propose the memorandum mechanism. Memorandums described common vision of the system and detailed further development steps. They were signed by all reform participants in order to prevent perpetual revisions of commitments and plans. The first memorandum was signed in September 2014 and was updated in November 2014.

Another direction in which volunteers worked was making the data on public procurements open. In the spring of 2015 a civic coalition made up of the NGOs Transparent Procurements, the Anti-corruption Action Centre, Transparency International Ukraine and others, received the dataset of all procurements in 2013, 2014 and 2015 (up to March 2015) from the state company "Zovnishtorgvydav Ukrainy", which is responsible for the administration of public procurement information. This coalition also organised the regular publishing of procurement data starting from July 2015. As a result of their efforts, all historical data on public procurements is currently freely available online.

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<sup>11</sup> Some examples of previous corruption scheme include the Tender Chamber and attempts in 2012 to divide the public procurement market between commercial marketplaces controlled by high positioned government officials

Finally, in April 2015 Oleksandr Starodubtsev became the Head of the Department of Public Procurement Regulation at the Ministry of Economic Development and Trade of Ukraine. This marked a new period in the reform, when volunteers started to work in the state structures which they had distrusted so much in spring 2014. This made it possible to overcome the opposition from the state company "Zovnishtorgvydav Ukrainy" (in June 2015 Oleksandr Nakhod, another member of the volunteer team, became the head of Zovnishtorgvydav). It also made it possible to find additional financing for the pilot project and to lobby for the adoption of a new procurement law in the Parliament.

From the inside of the Ministry, volunteers were able to actively participate in the reformation of state institutes. A key part of this process was the reform of the state enterprise "Zovnishtorgvydav Ukrainy" (in July 2016 it was renamed "ProZorro"). Zovnishtorgvydav was responsible for managing the web portal with all of the information on public procurements. According to the previous Public Procurement Law, all the services of Zovnishtorgvydav to businesses should have been provided on a free basis, while all the costs of Zovnishtorgvydav should have been covered by the budget. In reality, the state budget was able to provide only 10 per cent to 15 per cent of the required resources. This forced the state enterprise to look for opportunities to monetise its services.

Employees of Zovnishtorgvydav developed a system of several procedures that can be used by companies to publish their procurement information. The first procedure was free of charge, however it was deliberately made long and tedious, in order to stimulate companies to use other procedures which required payment but provided a much better client service. Secondly, if a company wanted to change something in its submitted documents, Zovnishtorgvydav provided this service, but for a fee (approximately US\$40 per change). Also, on request from a company, Zovnishtorgvydav issued a document that confirmed the "fairness" of the price. Such a document indicated that the prices of goods and services specified in the procurement contract were at a level not higher than the average across the market. Zovnishtorgvydav issued such documents even in those cases when the value of the procurement was clearly above the average market level thus providing a legal "insurance" for corrupt bidders.

The new management changed this situation by closing the departments responsible for issuing "fair" price documents and the correction of documents. Control functions were passed to the State Financial Inspections under the new Public Procurement Law. Service in the "free" cabinet was greatly improved. This, however, greatly reduced Zovnishtorgvydav's revenue, which was primarily used for paying the wages of 100 employees. This problem was dealt with by decreasing the number of employees, cutting unnecessary expenses and developing a new set of services: consulting and training. Further work was centred on preparing the transfer of the electronic system from Transparency International Ukraine to Zovnishtorgvydav and by educating approximately 20,000 state buyers who were supposed to use the electronic system starting from April or August 2016.

## EXPERTS' POINT OF VIEW

### **Based on interview with Oleksandr Shatkovskiy (the Harmonisation of the Public Procurement System of Ukraine with EU Standards project), Tato Urjumelashvili and David Marghania**

The main external experts who contributed to the development of the procurement system were EU procurement system specialists working on the Harmonisation of the Public Procurement System of Ukraine with EU Standards project (EU project) and Georgian procurement system specialists Tato Urjumelashvili and David Marghania (Georgian experts).

Mr. Urjumelashvili and Mr. Marghania were invited to Ukraine to work as advisers with the Economic Policy Committee in Ukrainian Parliament. However, after the unsuccessful attempt to change the procurement legislation they concentrated on cooperation with the Ministry of Economic Development and Trade of Ukraine working group on procurement reforms. They were the principal authors of the Concept of the Reform of the Public Procurement System in Ukraine and played an important role in the technical design of the system, as well as the promotion of the system.

The importance of the example of public procurement reform implemented in Georgia in 2013 for the Ukrainian procurement system cannot be overestimated. After the meeting between Tato Urjumelashvili and David Marghania and Oleksandr Starodubtsev, Andriy Kucherenko and other volunteers in 2014, the Concept of the Ukrainian reform was drastically changed. Consequently, the first edition of the pilot project of the electronic system was a copy of the Georgian model.

The key difference between the Ukrainian and Georgian models lies in the architecture of the system. The Georgian system consists of a single platform owned by the state. This platform is responsible for developing the system and receives payments from bidders for participating in tenders (US\$20 for each tender application). With time, the platform's revenue exceeded the costs of supporting the system by large a margin. The absence of competition undermined the motivation for further development of the web platform. On the other hand, the hybrid architecture of the Ukrainian procurement system ensures constant competition between commercial marketplaces that in this sense is similar to some EU countries with well-developed e-procurement infrastructure, like Portugal, the UK, Denmark and Sweden.

After the first implementation of the pilot project in 2015, e-procurement was constantly improved. The current system is much closer to EU standards than was the pilot; however it still maintains three-step auctions<sup>12</sup> and a post-qualification procedure,<sup>13</sup> as in the Georgian prototype.

The EU project began its work in November 2013 and will operate until November 2016. Its role is to facilitate harmonisation of all aspects of the Ukrainian procurement system with EU directives. This includes legislation, institutional mechanisms and market design. The necessity for such a project is explained by Ukraine's commitments in the Association Agreement with EU and the pro-European sentiments of the majority of Ukrainian citizens. The project works in two main directions. Firstly, it evaluates the public procurement reform initiatives regarding conformity with the international experience in general and specifically with EU directives. In this line of work, experts of the EU project participated in meetings devoted to the procurement reform and commented on the Concept of the Reform of the Public Procurement System in Ukraine. They contributed to the development of the technical specifications of the electronic system for public procurements and the Law on Public Procurements. Together with the Ministry of Economic Development and Trade, the EU project designed the strategy of the public procurement system reform adopted by the Cabinet of Ministers of Ukraine in February 2016 (Resolution #175). According to this strategy, by 2018 Ukrainian procurement legislation should be fully harmonised with the EU legislation.

Besides consulting with the department and proposing changes to the law, the EU project conducts educational work. This includes annual Public Procurement Conferences and educational seminars. Specifically, from October 2015 until April 2016, the EU project together with representatives of the ministry, ProZorro developers and commercial marketplaces, conducted 10 educational seminars in all of the Ukrainian regions. Each seminar lasted two days. The first day of the seminar was designed for state buyers, while the second day for bidders. Finally, together with the ministry the EU project developed a free online course entitled "Public procurements", which began to operate in May 2016.

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<sup>12</sup> Three-step auction: an electronic auction which implies automatic evaluation of tender propositions in three stages. At every stage each bidder participating in the auction can reduce his proposed price. The bidder with the lowest price at the end of the third stage wins the auction.

<sup>13</sup> Post-qualification: all the documents that the bidder must submit to participate in an auction are checked by the buyer only after the auction, moreover only the winner of the auction is checked.

## BOX 5: COMPARISON OF PROCUREMENT SYSTEM OF UKRAINE AND THE EU

Public procurement in the EU is conducted in four stages. Firstly, the buyer announces a tender and publishes tender documentation. Starting from 2004 this is done exclusively through an electronic system. Secondly, the bidders submit their proposals. This stage will be done exclusively through electronic system starting from 2018. Next is the selection of the winner, the signing of the contract and bill payments. Unlike the Ukrainian system, the EU does not require (nor does it plan to make obligatory in the future) an electronic auction as the only methodology for choosing the winner. This allows for a more flexible selection, which is important in the case of, for example, tenders relating to scientific expertise.

Also, the EU system does not employ a post-qualification mechanism, as is used in Ukraine. Both the EU and Ukraine systems allow postponement of the checking of bidder-specific requirements until the winner is selected. However, the Ukrainian (and Georgian) system also postpones the checking of product-specific requirements until the winner is selected. Such a design was motivated by the necessity to avoid discrimination with respect to bidders, and to increase the trust of potential bidders in the new system. In other words, the Ukrainian system (following its Georgian prototype) was designed as an instrument to fight corruption. The European system is not concerned with corruption to such a degree and was designed to find the best price/quality combination. Corruption risks in the EU are regulated through democratic mechanisms: if an official is suspected of misusing her position this will put an end to her career, and criminal liability will arise if a crime took place. In Ukraine, as well as other Eastern European countries, these mechanisms do not work very well, so countries develop monitoring systems instead.

## NGOS' POINT OF VIEW

### Based on interview with Viktor Nestulia (Transparency International Ukraine)

Preventing corruption in the public procurement sphere has always been a strategic priority for TI Ukraine. However, prior to the spring of 2014 TI Ukraine did not have the ambition to participate in a radical change of the procurement system, but rather sought to propose specific anti-corruption changes to the Public Procurement Law. The situation changed when the organisation was approached by the volunteer team with the proposal to join the “golden triangle” of cooperation between the state, business and civil society dedicated to reforming the procurement system. The Ukraine chapter of Transparency International agreed and signed the memorandum between the volunteers, businesses, NGOs, the Ministry of Economic Development and Trade and the Ministry of Justice regarding plans to develop the public procurement system in September 2014.

At the same time, the reform team began to develop the pilot project of the procurement system, but the question of who would officially own the electronic system before it can be passed into the ownership of the state remained open. The idea to develop an electronic system on the basis of a state institution or enterprise was unacceptable, such structures being bound by bureaucratic regulation and unable to offer necessary levels of flexibility and speed of decision-making crucial for the reform. The Georgian experts proposed to develop a system on the basis of TI Ukraine – an independent organisation with a worldwide established reputation for fighting corruption. Transparency International agreed to cooperate.

From that time, payments for software development, hosting of the system, administrative expenses and marketing were made exclusively through Transparency International Ukraine. Accordingly, TI Ukraine also collected all the incoming funds for the development: firstly the contributions from the marketplaces and then financial donor support. TI Ukraine provided all of this book-keeping and managerial work on a free basis.

After it became apparent that the initial contribution of US\$35,000 made by marketplaces was not enough for finishing the development of the new procurement system, the Western NIS Enterprise Fund agreed to be the first financial donor by allocating US\$50,000 to pay the wages of the programmers. When the National Reform Council demonstrated its approval of the reform by stating that ultimately all state procurements should be done through ProZorro, the Western NIS Enterprise Fund allocated an additional US\$100,000 of financial help. At the same time, the German Corporation for International Cooperation provided EUR 10,000 in the form of office equipment and EUR 60,000 for financing the ProZorro office. It also provided support in the amount of EUR 363,000 to transfer capacities from the ProZorro team to the Zovnishtorvydav team until the end of 2016. These resources were allocated to pay wages to the ProZorro team (the ProZorro IT coordinator among them), who previously worked for 15 months on a free basis.

In order to manage the allocation of donors' money, a ProZorro steering committee was established. It consisted of one representative per organisation for the ministry, Zovnishtorgvydav Ukrainy, TI Ukraine and two representatives of marketplaces participating in the pilot. At the beginning, the committee gathered every week, but as the development process became less intensive, the committee started to gather once per two weeks. Currently the committee gathers once per month. Each meeting was recorded and at the end of the meeting all the participants signed the protocol. During the meetings participants discussed the value of the development proposals submitted by programmers. At one point marketplaces questioned the tariffs of Quinta, the main software developer. However, upon investigation during the committee meeting it was established that Quinta's tariffs were two to three times smaller than the other alternatives. However, with time it became apparent that Quinta alone could not perform all the needed development work, due to its limited number of programmers. The committee selected other companies or individual programmers who contributed to the development of separate modules/features of the system.

Lastly, the Open Contracting Partnership provided a crucial help in developing the e-procurement system. They are the developers of the Open Contracting Data Standard (OCDS) that enables the disclosure of data and documents at all stages of the contracting process by defining a common data model. This makes it possible to increase contracting transparency, and also allows deeper analysis of contracting data by a wide range of users.

The ProZorro team was developing their platform at the same time as OCDS was first being developed. That meant the ProZorro team could draw upon the consultations and dialogue regarding creating a data standard – and did not need to design a data model from scratch. The Open Contracting Partnership has responded to numerous support requests to assist the team to implement and extend the OCDS for the Ukrainian context and continues to do so on an ongoing basis. Over the course of 2015, the Open Contracting Partnership supported the ProZorro stakeholders with technical advice regarding the publication of OCDS data and with developing extensions to the standard. They also advised on the new Public Procurement Law, which included features of mandatory publication of contracting information and public monitoring. The Open Contracting Partnership offered technical advice on the expansion of the OCDS publication to cover the bulk of tender, award, and contract data for public procurement in Ukraine.

One of the attractive features of OCDS is the option to combine different sources of information. For example, data on a particular bidder or state buyer from ProZorro system, the state treasury, ranking agencies or even Facebook discussions can be found and united in one place. This information can considerably increase the effectiveness of the procurement planning process. However, these opportunities are not yet fully utilised by the ProZorro platform.

In 2016 the Open Contracting Partnership will continue to provide help in relation to the procurement reform. Specifically, it will support the integration of procurement data with budget and treasury data, provide financial support for the development of the public monitoring system and continue to provide technical advice. They are also supporting the ProZorro stakeholders to share their story and technology internationally, and to obtain additional funding to support system expansion and implementation of public monitoring. For example, they have nominated for sponsorship or sponsored ProZorro stakeholders to attend Open Impact Day in Washington DC, the Open Government Partnership Global Summit in Mexico City, the UN Development Programme Clean Construction Workshop in Seoul, the UK Anti-Corruption Summit and Wilton Park meetings in London, and the International Open Data Conference in Madrid. At the UK anti-corruption meeting, the Open Contracting Partnership facilitated Ukraine's joining together with France, UK, Colombia, and Mexico to form the Contracting 5, a group of countries working to advance open contracting.



## DEVELOPERS' POINT OF VIEW

**Based on interview with Myroslav Opyr (chief programmer behind ProZorro development), Julia Dvornyk (deputy IT coordinator of ProZorro), Dmytro Palamarchuk (coordinator of business intelligence module)**

Quintagroup is a software development company from Lviv, Ukraine, with rich experience in developing electronic auctions systems. For instance, in 2014 their software was used in the public sale of 3G licences in Nigeria. In July 2014, Myroslav Opyr, chief technical officer of Quintagroup, tried to contact the Ministry of Economic Development and Trade to propose that his company help in organising the public sale of 3G licences. During this visit Mr. Opyr was introduced to Oleksandr Starodubtsev who shared his interest in electronic auctions – only in another sphere, public procurements.

In September 2014, Mr. Opyr was invited to the first meeting between team of volunteers and electronic marketplaces. During the meeting Mr. Opyr proposed **open source approach to developing the procurement system**, which was enthusiastically backed by the Georgian experts. After the meeting a team of volunteers, programmers and representatives of marketplaces developed the technical specifications of the procurement system in three frantic weeks.

### BOX 6: ADVANTAGES OF USING THE OPEN SOURCE APPROACH FOR THE DEVELOPMENT OF THE E-PROCUREMENT SYSTEM

The decision to make software used in the public procurement system open source had four important consequences. Most importantly, usage of an open source system is free of charge. There are no “owners” of the software – consequently developers cannot demand compensation from the state for the right to use software. Secondly, with the open source system the risk of disrupting the system development is more diversified: any number of developers can simultaneously work with the system, thus if one of them decides to exit the project, development is not threatened. Thirdly, open source allows for re-using system without any obstacles. For instance, currently the initiative of using the ProZorro system for public procurements in Moldova is being considered. ProZorro can also be used for other auctions organised by the state or even for commercial procurements. Lastly, with open source software it is possible to conduct a third-party audit of the system, to verify its security.

The only thing that still held up the development of the pilot was the absence of a company that could be the main developer. Two companies competed for this position: Quintagroup and a large software developer from Kyiv. Quintagroup came out as the winner due to its proposal with a shorter development period and smaller budget (as a result of a smaller number of developers – three instead of 10, and the smaller salaries of Lviv developers in comparison to developers from the capital). By 4 February 2015 both the central database as well as front-end accesses were ready for the first trial. However, system launch was postponed: due to the volatility of the Ukrainian currency, bidders were refusing to participate in auctions. Finally, on 12 February the pilot project was officially presented and began its work. During the first two months the most productive activity was cooperation with the Ministry of Defence. According to data from the business intelligence module, electronic auctions allowed the Ministry of Defence to save US\$75,000 during the first two months of the pilot project. This success encouraged others, specifically the Ministry of Infrastructure and Ministry of Justice, to participate in the pilot.

After the US\$35,000 that marketplaces assigned to central database development there was a serious lack of financing for system development. As at July 2015, only one and a half specialists were caring for the servers – no other work was implemented. At that moment, one of the servers crashed as a result of a large number of simultaneous users interested in procurements related to the Ministry of Defence. This stimulated donors to allocate additional funds to ProZorro's development. In total, approximately US\$500 million was allocated to different companies and experts participating in the development of the central database and project office.

In parallel to the development of the procurement system ProZorro team worked on the business intelligence module, which was intended to supply all the necessary data for public control of procurements. The basic system was provided on a free basis by the US software development company Qlik. The adaptation of software to the ProZorro system was done by the Ukrainian software company RBC group. In 2015 developers worked on a free basis, and in 2016 the EBRD provided additional funds for the module's development.

## BOX 7: ORGANISATION OF THE SOFTWARE DEVELOPMENT PROCESS

The everyday process of ProZorro's development has been conditioned by the fact that all participants, most importantly electronic marketplaces, voluntarily decided to participate. Thus the state is not bending business to its will, instead they are productively cooperating. This is mainly done in the form of weekly online meetings between developers (Quintagroup), coordinators from each of the electronic marketplaces and representative of project office financed by Transparency International Ukraine. Currently, the procurement market includes eight marketplaces. A ninth marketplace is preparing to enter.

When a need to change the system is identified (for example on a request from Ministry of Economic Development and Trade) Quintagroup develops changes to the central database and all the accompanying documentation. These changes are then discussed during an online meeting when everyone has the opportunity to ask a question or comment. After the meeting changes to the system are implemented. Using online communication developers of the central system and front-end developers are in constant communication, which enables tracking and elimination of software problems. Also, in order to test new features in a safe environment an automatic system of testing was developed during the pilot project. This system was also used in the official qualification procedure of electronic marketplaces that want to join the procurement market.

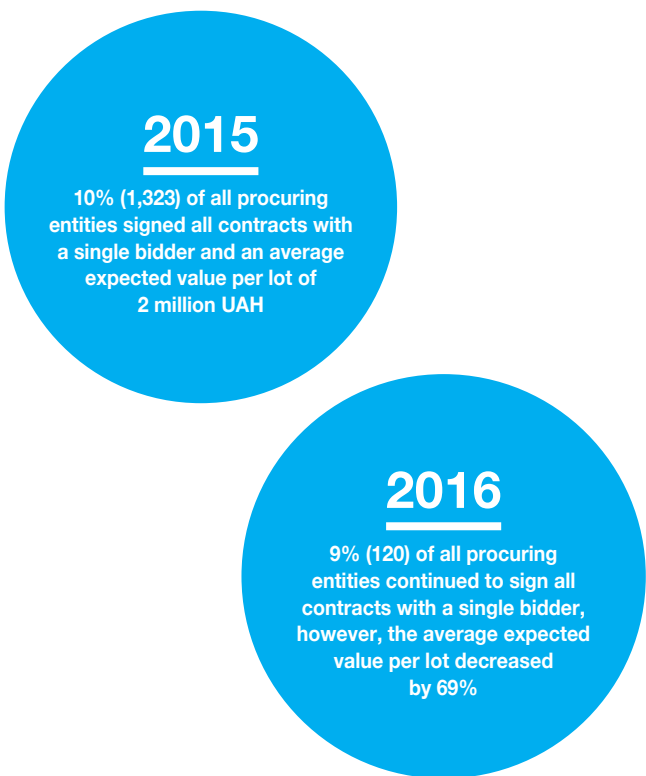
The purpose of the business intelligence module changed with the development of the project. At the time of first release in February 2015 it was used to check auctions in order to ensure the correct work of the pilot project. Then the module was used to prove to state officials, donors and the general public that the usage of the ProZorro system leads to greater economy in respect of state funds. Finally, a set of risk indicators was developed in the business intelligence module which is used to determine whether a particular tender complies with the best procurement practices, or whether there is a risk of corruption.

In 2016 the business intelligence module was extended to include all the data and procedures generated by the above-threshold procurements. Currently, developers are working on adding procurements plans and information on procurement payments to the module, in order to broaden the amount of open procurement data.

The business intelligence module makes it possible to access online, and analyse, all the procurement data stored by the public procurement system. This can be useful for concerned citizens who want to track the procurement activities of a particular public body (for example, parents can track procurements of their children’s school). The business intelligence module is also intended to be used by journalists, activists and NGOs that are investigating the activities of authorities and looking for signs of corruption. The business intelligence module already includes a set of indicators that point at tender specification, irregular activity by bidders during tenders and other factors. Finally, the business intelligence module can be used by suppliers to investigate competition in a particular segment of the public procurement market, as well as by executive bodies, to develop reports on public procurements.

Open access for activists and NGOs to all the procurement data is already affecting the behaviour of state companies and bidders in a positive way (see example in figure 5). However, in order to further develop the system of monitoring cooperation between civil activists performing monitoring and state financial inspection responsible for controlling the procurement process should be improved.

**FIGURE 4: Number of procuring entities that signed all their contracts with the same bidder**



Year	Number of contacting companies	Number of lots	Average ExV per lot, UAH
2015	1,323	3,363	1,964,063
2016	552	1,434	604,934
	-58%	-57%	-69%

The number of procuring entities who signed all contracts with only one bidder decreased by more than half in 2016.

The average expected value per lot decreased by 68% in 2016.

**Source:** ProZorro Business Intelligence module



State auditors are experts at checking the appropriateness of the procurement documentation. Civil activists can support auditors' work by providing data on suspicious/irregular behaviour of procurement participants. Such behaviour can possibly point to corruption schemes, but in order to prove this a simple review of the documents is not enough – auditors need real detective skills. Thus, in order to effectively use the findings of the business intelligence module an increase in state auditors' professionalism is required.

Taking this into account the ProZorro team conducted in 2016 a series of seminars for National Anti-Corruption Bureau and State Financial Inspection detectives. Also, Transparency International provided in September 2016 several grants to activists for monitoring of public procurement through the business intelligence module.

## MARKETPLACES' POINT OF VIEW

**Based on interview with Nikolay Zhandorov (zakupki.prom.ua) and Samvel Akobyan (Derzhzakupivli Online)**

The public procurement system in Ukraine is organised in such a way that the revenue of the commercial marketplace depends on the existence of a number of tender participants. Tenderers pay the marketplace for submitting a proposal. 40% of this payment is received by the state company ProZorro, the rest remains with the marketplace. Consequently, marketplaces try to increase the number of tenderers in the system, and compete with each other for them. This results in an improvement of the system and a revenue increase for the state company ProZorro (which can be used to improve the central database).

Buyers can organise their tender through any of the available marketplaces. They do not pay any fee, thus the state uses the services of marketplaces for free. Which of the marketplaces is selected by the buyer to publish the tender information does not have any effect on the tender and remains unknown to the bidders.

After the initial 10 seminars organised by the Ministry of Economic Development and Trade and the EU project marketplaces continued to regularly organise seminars explaining the mechanics of the procurement system to businesses in the regions. Besides this, they use online advertisements and offline forums and conferences to attract new clients.

Seven electronic commercial marketplaces took part in the public procurement system reform from September 2015 onwards. They provided initial funds for creating a central database and invested in creating their own front-end accesses. Marketplaces participating in the pilot were a heterogeneous group, with expertise ranging from classical marketplaces to digital advertisement. This enriched the project and made it possible to pull their unique set of clients into the procurement market. With the transition from the pilot project to a full-scale public procurement system on August 2016 the marketplaces began to play a central role in promoting the system and drawing new bidders into the system.

Currently the marketplaces that are participating in ProZorro are considering the idea of creating an association of marketplaces working in the public procurement market. The main role of the association would be to represent the marketplaces' position before the state.

## REFERENCES

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EBRD (2015). "Are you ready for eProcurement? Guide to Electronic Procurement Reform." EBRD, London.

Brest, P. (2010). "The power of theories of change." Stanford Social Innovation Review, 8, 47-51.

Lutsenko, I. (2008, June 23) "Again on the Tender Chamber" Ukrayinska Pravda. Retrieved from <http://blogs.pravda.com.ua/authors/lutsenko/485fcf6a7f615/>

Nefyodov, M. (2015) "Reform of public procurement system in Ukraine", [Presentation Slides], Public Procurement Department of the Ministry of Economic Development and Trade of Ukraine. Retrieved from: [http://reforms.in.ua/sites/default/files/upload/docs/7.1\\_20150514\\_nrc\\_public\\_procurement\\_presentation\\_v9\\_a4\\_dr\\_0.pdf](http://reforms.in.ua/sites/default/files/upload/docs/7.1_20150514_nrc_public_procurement_presentation_v9_a4_dr_0.pdf)

Sigma (2006), "Ukraine Governance Assessment 2006", OECD Publishing, Paris, March.

## INTERVIEWS

**Anna Bespalova**, employee at the Department of Public Procurement Regulation.

**Maxim Burenko**, representative of the NGO Transparent Procurements.

**Julia Dvornyk**, assistant IT coordinator of ProZorro.

**Lilia Dudnik**, employee at the Department of Public Procurement Regulation.

**Andriy Kucherenko**, IT coordinator of ProZorro.

**Ksenia Liapina**, former Member of Parliament.

**Lindsey Marchessault**, director of data and engagement at Open Contracting Partnership.

**David Marghanian**, expert on the Georgian system of public procurements.

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**Viktor Nestulia**, senior analyst at Transparency International Ukraine.

**Myroslav Opyr**, chief developer of the central database.

**Anton Poretskov**, chief developer of the business intelligence module.

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