

# SELECT CONTRACTORS PROCEDURES IN EUROPE

**Edyta Plebankiewicz<sup>1</sup>, Renata Kozik<sup>2</sup>**

*1 Cracow University of Technology, Kraków, Poland, edyta.plebankiewicz@pk.edu.pl*

*2 Cracow University of Technology, Kraków, Poland, renata.kozik@pk.edu.pl*

## Abstract

Using data available on the opentender.eu platform, information for 2022 was compiled regarding the size of the public procurement market, the procedures used in public procurement for construction works in European countries and performance of public procurement system. In order to distinguish groups of European Union countries characterized by a similar structure of public procurement for work, the joining (tree-clustering) algorithm was used. This will provide insights into the strategies of countries in this area. According to cluster analysis, in the largest group of countries the most common procedure is open procedure (on average, 91.03% of the number of procedures). This is a procedure that is the most competitive providing potentially the widest access to participation in public procurement. According to cluster analysis, the most of the analyzed countries have Integrity and Transparency Indicators at good and very good levels.

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**Keywords:** public procurement, European Union, construction.

## 1. Introduction

The legal basis for public procurement in the countries of the European Union (EU) is Directive 2014/24/EU of 26 February 2014 [1]. EU regulations define the general principles and also specify the components included in the public procurement system. In particular, national authorities then invite tenders to provide offer for works, supplies or services, must treat all applicants equally and not discriminate between them. They must also be transparent in their dealings. According to regulations, a contracting authority can use one of several procedures. Various procedures have different options for selecting the contractor and evaluating the tender, and each has different advantages and disadvantages [2].

According to researchers, the selection of an appropriate procurement procedure is the first step toward construction project success [3]. On the other hand, an inadequate procurement system can result in poor-quality buildings, delivered with delays, at overestimated costs and by an antagonistic executive team [4,5]. For this reason, many researchers use various mathematical tools to evaluate procurement systems [6–8]. Public procurement is an important policy instrument of innovation, especially eco-innovation [9, 10]. However, in order for the public procurement system to work properly, it is essential to include mechanisms to protect it from corruption and abuse.

In the paper, data from 2022 on the use of public procurement procedures in individual EU countries were analyzed. Using the cluster method, EU countries were grouped depending on the use of public procurement procedures for construction works, as well as indicators monitoring the performance of the public procurement system. Procurement systems in EU countries are constantly improving, and the results of the research presented in the article can help with this.

## 2. Procurement system in EU countries

### 2.1. Procurement procedures

According to the EU Directive, the public owner can use one of the following procedures: an open procedure, a restricted procedure, a negotiated procedure with prior calls for competition, a competitive dialog, an innovation partnership or a negotiated procedure without a prior call for competition.

In open procedures, any interested contractor can submit a tender in response to a call for competition. An open procedure is a “one step” procedure—the selection of contractors and tender evaluation are in one step. Contractors submit both qualification (selection) information and tender at the same time. The public owner can assess the competence of contractors but only in a “zero-one” way, that is, to check whether the contractor meets the basic, specified requirements. There is no stage of pre-selection of contractors. The tender is selected only on the basis of criteria relating to the bid.

In restricted procedures, any contractor can submit a request to participate in a response to a call for competition. Next contractor provides the information for qualitative selection. Only contractors invited by the public owner can submit a tender. A restricted procedure is a “two-step” procedure. The contractor selection is clearly separate from the evaluation of the tender. The contracting authority has the opportunity to pre-qualify contractors and limit their number. No negotiations are permitted with contractors.

In negotiated procedures with prior call for competition, any contractor can submit a request to participate in response to a call for competition by providing the information for qualitative selection that is requested by the contracting entity. Only contractors invited by the contracting entity following its assessment of the information provided may participate in the negotiations. Competitive dialogues mean a “two-steps” procedure similar to negotiated procedures with a prior call for competition. The difference is this during the competitive dialogue phase, all aspects of the project can be discussed with the contractors and the number of solutions can be reduced as part of the process. Under this procedure, tenders can only be evaluated on the basis of the best price-quality ratio. In innovation partnerships, in the procurement documents, the contracting entity shall identify the need for an innovative works that cannot be met by purchasing works already available on the market. The difference between this procedure and the negotiated procedure with a prior call for competition, is the abandonment of a public announcement of the procedure and limiting contractors only to those invited by the contracting authority..

### 2.2. Indicators monitoring the performance of the public procurement system

#### Integrity Indicators

The Integrity Indicators assess openness and integrity in public procurement which reduces the risk of corruption. Integrity is one of the 12 principles included in the 2015 Recommendation of the Council on Public Procurement, which build on the 2008 OECD Recommendation in Enhancing Integrity in Public Procurement. The Integrity Indicators are evaluated by different elements of the contract awarding process such as:

- Bidder number - a risk in the case of single bidding,
- Call for tenders - a risk when no call for tender or prior information notice for a procedure is published,
- Procedure type - a risk of using procedures types which are less open for competition (no open or restricted procedure),
- Advertisement period - a risk of suspiciously tight bidding deadlines or when advertisement period is excessively long,
- Length of decision period – a risks when the decision period length is either suspiciously short or long,
- New company - a risk of a very young company winning a tender.

## Transparency Indicators

Transparency Indicators measure availability of information in the public procurement notices. It is important for monitoring the performance of public contracts. If information is missing, it makes the procedure less transparent and harder to monitor. The Transparency Indicators are evaluated by availability of information such as:

- Implementation location,
- Award criteria,
- Duration,
- Eligible bid languages,
- Selection method,
- Bidder name,
- Contract value.

### **3. Application of public procurement procedures for construction works in EU countries**

#### *3.1. Statistical data*

Using data available on the opentender.eu platform [11], information for 2022 has been compiled regarding the size of the public procurement market and the procedures used in public procurement for construction work in EU countries as well as Indicators monitoring the performance of the public procurement system. The results are summarized in Table 1.

Table 1. Public procurement for construction work in EU countries.

		<b>Volume</b>	<b>Number</b>	<b>OP <sup>(1)</sup></b>	<b>RP <sup>(2)</sup></b>	<b>other <sup>(3)</sup></b>	<b>II <sup>(4)</sup></b>	<b>TI <sup>(5)</sup></b>
1	Austria	406.6	5881	57.0	0.5	42,5	71.51	19.63
2	Belgium	114.5	456	72.0	1.0	27.0	85.11	66.30
3	Bulgaria	1800.0	4390	72.0	1.0	27.0	79.79	45.55
4	Croatia	3600.0	2690	97.0	0	3.0	83.97	65.82
5	Cyprus	11.6	23	96.0	3.5	0,5	81.52	70.72
6	Czech Republic	1800.0	3545	24.0	7.0	69.0	93.66	51.34
7	Denmark	244.2	238	19.0	35.0	46.0	82.70	67.44
8	Estonia	651.1	1373	88.0	7.0	5.0	95.42	68.04
9	Finland	389.7	391	77.0	7.0	16.0	84.12	61.39
10	France	3800.0	18,610	44.0	1.0	55.0	86.43	34.20
11	Germany	8300.0	13,881	93.0	1.0	6.0	70.91	64.21
12	Greece	32.4	117	96.0	0	4.0	83.97	68.73
13	Hungary	2900.0	3598	58.0	0.5	41,5	78.21	81.10
14	Ireland	181.8	1591	35.0	46.0	19.0	68.05	22.17
15	Italy	979.1	536	92.0	4.0	4.0	79.32	72.68
16	Latvia	64.4	1876	96.0	1.0	3.0	78.22	67.81
17	Lithuania	58.2	120	92.0	3.0	5.0	74.06	72.34
18	Luxemburg	30.4	417	95.0	2.0	3.0	88.36	68.84
19	Malta	6.6	36	89.0	3.0	8.0	85.65	69.17
20	Netherlands	207.1	354	35.0	51.0	14.0	75.49	50.50
21	Poland	1100.0	941	97.0	1.0	2.0	88.11	66.55
22	Portugal	66.8	80	86.0	11.0	3.0	82.45	66.53
23	Romania	2800.0	12,732	4.0	0	96.0	76.01	61.44
24	Slovakia	237.7	1492	27.0	0.5	72,5	78.79	58.45
25	Slovenia	788.7	1685	88.0	2.0	10.0	67.27	42.20

26	Spain	7900.0	26,059	22.0	0	78.0	66.40	90.80
27	Sweden	1100.0	611	88.0	3.0	9.0	86.75	56.99

(<sup>1</sup>)open procedure; (<sup>2</sup>) restricted procedure; (<sup>3</sup>) other procedures; (<sup>4</sup>) Integrity Indicators; (<sup>5</sup>) Transparency Indicators

Column 3 in the Table 1 provides the value of public procurement in millions of Euros, and column 4 shows the number of these contracts. Columns 5 to 7 contain the percentage share of contracts carried out under a given procedure in terms of the total number of contracts in a given country. Columns 8 and 9 show the value of indicators (Integrity and Transparency).

Table 2 presents basic statistical data on construction contracts in EU countries in 2022.

Table 2. Statistical data on construction contracts in EU countries in 2022.

		Mean	Median	Sum	Minimum	Maximum
1	volume [million Euro]	1465.59	406.60	39570.9	6.60	8300.00
2	number	3841.59	1373.00	103723.0	23.00	26059.00
3	OP	68.11	86.00	-	4.00	97.00
4	RP	7.11	2.00	-	0.00	51.00
5	other	24.78	10.00	-	0.50	96.00
6	II	80.45	81.52	-	66.40	95.42
7	TI	60.41	66.30	-	19.63	90.80

The presented data (Tables 1 and Table 2) show that the total value of construction contracts in 27 EU countries in 2022 amounted to almost EUR 40 million, and over 103,000 proceedings were conducted. In terms of the number of proceedings, Spain is the record holder, with over 26,000 proceedings carried out, with a relatively low value (EUR 7900 million). For comparison, in Germany, where the value of proceedings was the highest (EUR 8300 million), there were approximately half as many proceedings as in Spain. One of the main reasons may be the specificity of the procedures used in Spain, namely, a small share of open tendering, while a significant number of procedures were conducted in the modes, which are usually related to low-value orders.

The average Integrity Indicators remain fairly good at around 80. The record belongs to Estonia and stands at 95.42. The average level for the Transparency Indicators is 60. The best is Spain with Transparency Indicators 90.80. Table 3 shows the correlation coefficients between all analyzed parameters related to public procurement procedures. It shows that, in general, the data are weakly correlated.

Table 3. Correlation coefficients.

	Volume	Number	OP	RP	other	II	TI
Volume	1,0000	0,8520	-0,1999	-0,2609	0,3467	-0,3259	0,2092
Number	0,8520	1,0000	-0,4391	-0,2364	0,5952	-0,3649	0,0259
OP	-0,1999	-0,4391	1,0000	-0,3998	-0,8913	0,2348	0,2416
RP	-0,2609	-0,2364	-0,3998	1,0000	-0,0592	-0,1838	-0,3215
other	0,3467	0,5952	-0,8913	-0,0592	1,0000	-0,1648	-0,1041
II	-0,3259	-0,3649	0,2348	-0,1837	-0,1648	1,0000	0,1924
TI	0,2092	0,0259	0,2416	-0,3215	-0,1041	0,1924	1,0000

### 3.2. Cluster Analysis

In order to distinguish groups of EU countries characterized by a similar structure of public procurement for works, a joining (tree-clustering) algorithm method was used. The goal of the joining algorithm is to join together objects into successively larger clusters, using some measure of similarity or distance. Ward's method and the Euclidean distance measure were used for the analyses.

Ward's method uses an analysis of variance approach to evaluate the distances between clusters. This method attempts to minimize the Sum of Squares (SS) of any two (hypothetical) clusters that can be

formed at each step. All calculations were performed in the Statistica program. The obtained results are presented in Figure 1 and Table 4.

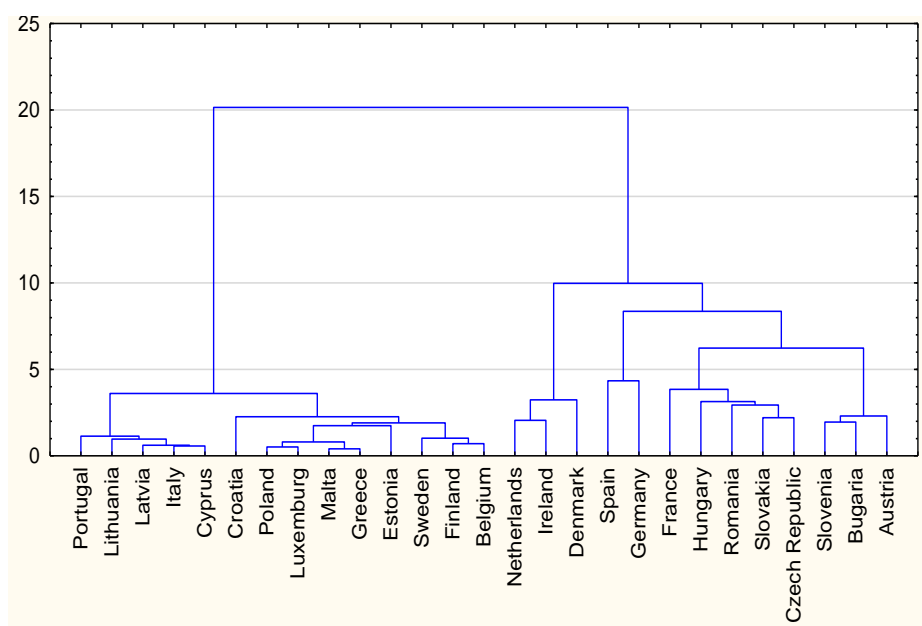


Fig. 1. Tree diagram.

Table 4. The results of cluster analysis.

		Volume	Number	OP	RP	other	II	TI	Cluster
<b>CLUSTER 1</b>									
1.1	Austria	406.6	5881	57.0	0.5	42.5	71.51	19.63	1
1.2	Bulgaria	1800.0	4390	72.0	1.0	27.0	79.79	45.55	1
1.3	Slovenia	788.7	1685	88.0	2.0	10.0	67.27	42.20	1
<b>Mean</b>		<b>998.43</b>	<b>3985.33</b>	<b>72.33</b>	<b>1.17</b>	<b>26.50</b>	<b>72.86</b>	<b>35.79</b>	
<b>CLUSTER 2</b>									
2.1	Denmark	244.2	238	19.0	35.0	46.0	82.70	67.44	2
2.2	Ireland	181.8	1591	35.0	46.0	19.0	68.05	22.17	2
2.3	Netherlands	207.1	354	35.0	51.0	14.0	75.49	50.50	2
<b>Mean</b>		<b>211.03</b>	<b>727.67</b>	<b>29.67</b>	<b>44.00</b>	<b>26.33</b>	<b>75.41</b>	<b>46.70</b>	
<b>CLUSTER 3</b>									
3.1	Belgium	114.5	456	72.0	1.0	27.0	85.11	66.30	3
3.2	Croatia	3600	2690	97	0	3	83.97	65.82	3
3.3	Cyprus	11.6	23	96.0	3.5	0.5	81.52	70.72	3
3.4	Estonia	651.1	1373	88.0	7.0	5.0	95.42	68.04	3
3.5	Finland	389.7	391	77.0	7.0	16.0	84.12	61.39	3
3.6	Greece	32.4	117	96.0	0	4.0	83.97	68.73	3
3.7	Italy	979.1	536	92.0	4.0	4.0	79.32	72.68	3
3.8	Latvia	64.4	1876	96.0	1.0	3.0	78.22	67.81	3
3.9	Lithuania	58.2	120	92.0	3.0	5.0	74.06	72.34	3
3.10	Luxemburg	30.4	417	95.0	2.0	3.0	88.36	68.84	3
3.11	Malta	6.6	36	89.0	3.0	8.0	85.65	69.17	3
3.12	Poland	1100.0	941	97.0	1.0	2.0	88.11	66.55	3
3.13	Portugal	66.8	80	86.0	11.0	3.0	82.45	66.53	3
3.14	Sweden	1100.0	611	88.0	3.0	9.0	86.75	56.99	3
3.15	Hungary	2900.0	3598	58.0	0.5	41.5	78.21	81.10	3
<b>Mean</b>		<b>586.06</b>	<b>690.5</b>	<b>90.07</b>	<b>3.32</b>	<b>6.61</b>	<b>84.07</b>	<b>67.28</b>	
<b>CLUSTER 4</b>									
4.1	Czech Republic	1800.0	3545	24.0	7.0	69.0	93.66	51.34	4
4.2	France	3800.0	18,610	44.0	1.0	55.0	86.43	34.20	4
4.3	Hungary	2900	3598	58	0.5	41.5	78.21	81.1	4
4.4	Romania	2800.0	12,732	4.0	0	96.0	76.01	61.44	4
4.5	Slovakia	237.7	1492	27.0	0.5	72.5	78.79	58.45	4
<b>Mean</b>		<b>2307.54</b>	<b>7995.40</b>	<b>31.40</b>	<b>1.80</b>	<b>66.80</b>	<b>82.62</b>	<b>57.31</b>	
<b>CLUSTER 5</b>									
5.1	Germany	8300.0	13881	93.0	1.0	6.0	70.91	64.21	5
5.2	Spain	7900.0	26059	22.0	0	78.0	66.40	90.80	5
<b>Mean</b>		<b>8100.00</b>	<b>19970</b>	<b>57.5</b>	<b>0.5</b>	<b>42</b>	<b>68.655</b>	<b>77.51</b>	

Since the data are weakly correlated, it is difficult to characterize the breakdown into homogeneous clusters. For the most numerous group (cluster 3), it is characteristic, arguably, of a high average percentage of proceedings carried out in the open procedure (an index of more than 90) and of indicators at close to average values (Integrity Indicators – 84 and respectively Transparency Indicators – 67).

In order to carry out a more precise study, the cluster analysis was carried out separately for the parameters characterizing bidding procedures (results in Table 5) and indicators (results in Table 6).

Table 5. The results of cluster analysis (procedures): a) the breakdown into 3 clusters; b) the breakdown into 4 clusters

a)					b)						
		OP	RP	other	Clus			OP	RP	other	Clus
<b>CLUSTER 1</b>						<b>CLUSTER 1</b>					
1.1	Croatia	97	0	3	1	1.1	Czech Republic	24.0	7.0	69.0	1
1.2	Cyprus	96.0	3.5	0,5	1	1.2	Romania	4.0	0	96.0	1
1.3	Estonia	88.0	7.0	5.0	1	1.3	Slovakia	27.0	0.5	72,5	1
1.4	Finland	77.0	7.0	16.0	1	1.4	Spain	22.0	0	78.0	1
1.5	Germany	93.0	1.0	6.0	1	<b>Mean</b>		19.3	1.9	78.9	
1.6	Greece	96.0	0	4.0	1	<b>CLUSTER 2</b>					
1.7	Italy	92.0	4.0	4.0	1	2.1	Croatia	97	0	3	2
1.8	Latvia	96.0	1.0	3.0	1	2.2	Cyprus	96.0	3.5	0,5	2
1.9	Lithuania	92.0	3.0	5.0	1	2.3	Estonia	88.0	7.0	5.0	2
1.10	Luxemburg	95.0	2.0	3.0	1	2.4	Finland	77.0	7.0	16.0	2
1.11	Malta	89.0	3.0	8.0	1	2.5	Germany	93.0	1.0	6.0	2
1.12	Poland	97.0	1.0	2.0	1	2.6	Greece	96.0	0	4.0	2
1.13	Portugal	86.0	11.0	3.0	1	2.7	Italy	92.0	4.0	4.0	2
1.14	Slovenia	88.0	2.0	10.0	1	2.8	Latvia	96.0	1.0	3.0	2
1.15	Sweden	88.0	3.0	9.0	1	2.9	Lithuania	92.0	3.0	5.0	2
<b>Mean</b>		91,3	3,2	5,4		2.10	Luxemburg	95.0	2.0	3.0	2
<b>CLUSTER 2</b>						2.11	Malta	89.0	3.0	8.0	2
2.1	Denmark	19.0	35.0	46.0	2	2.12	Poland	97.0	1.0	2.0	2
2.2	Ireland	35.0	46.0	19.0	2	2.13	Portugal	86.0	11.0	3.0	2
2.3	Netherlands	35.0	51.0	14.0	2	2.14	Slovenia	88.0	2.0	10.0	2
<b>Mean</b>		29,7	44.0	26.3		2.15	Sweden	88.0	3.0	9.0	2
<b>CLUSTER 3</b>						<b>Mean</b>		91.3	3.2	5.4	
3.1	Austria	57.0	0.5	42,5	3	<b>CLUSTER 3</b>					
3.2	Belgium	72.0	1.0	27.0	3	3.1	Austria	57.0	0.5	42,5	3
3.3	Bulgaria	72.0	1.0	27.0	3	3.2	Belgium	72.0	1.0	27.0	3
3.4	Czech Republic	24.0	7.0	69.0	3	3.3	Bulgaria	72.0	1.0	27.0	3
3.5	France	44.0	1.0	55.0	3	3.4	France	44.0	1.0	55.0	3
3.6	Hungary	58.0	0.5	41,5	3	3.5	Hungary	58.0	0.5	41,5	3
3.7	Romania	4.0	0	96.0	3	<b>Mean</b>		60.6	0.8	38.6	
3.8	Slovakia	27.0	0.5	72,5	3	<b>CLUSTER 4</b>					
3.9	Spain	22.0	0	78.0	3	4.1	Denmark	19.0	35.0	46.0	4
<b>Mean</b>		42.2	1.3	56.5		4.2	Ireland	35.0	46.0	19.0	4
						4.3	Netherlands	35.0	51.0	14.0	4
						<b>Mean</b>		29.7	44.0	26.3	

With both the breakdown into 3 and 4 clusters, the largest group (15 countries - Cluster 1 in Table 5a and Cluster 2 in Table 5b), is primarily characterized by a high share of open procedures (on average, 91.03% of the number of procedures). The remaining procedures for countries in this group are used sporadically. This is a procedure that does not allow for the pre-selection of contractors or a thorough evaluation of their competence. However, this is the most competitive procedure, providing potentially the widest access to participation in public procurement. The largest share of this procedure, amounting to over 95% of all proceedings, is in the countries Croatia, Cyprus, Greece, Latvia, and Poland.

The least numerous clusters containing only 3 countries (Denmark, Ireland and Netherlands) are those in which the restricted procedure is used relatively often (more than 40%). In this procedure the contracting authority has the opportunity to carefully assess the competence of contractors (pre-qualification) and limit their number to only the best (most qualified) ones.

Table 6. The results of cluster analysis (indicators): a) the breakdown into 3 clusters; b) the breakdown into 4 clusters

a)					b)				
		II	TI	Clus			II	TI	Clus
<b>CLUSTER 1</b>					<b>CLUSTER 1</b>				
1.1	Austria	71.51	19.63	1	1.1	Belgium	85.11	66.30	1
1.2	Ireland	68.05	22.17	1	1.2	Croatia	83.97	65.82	1
1.3	Slovenia	67.27	42.20	1	1.3	Denmark	82.70	67.44	1
<b>Mean</b>		<b>68.94</b>	<b>28.00</b>		1.4	Finland	84.12	61.39	1
<b>CLUSTER 2</b>					1.5	Greece	83.97	68.73	1
2.1	Bulgaria	79.79	45.55	2	1.6	Luxemburg	88.36	68.84	1
2.2	Cyprus	81.52	70.72	2	1.7	Malta	85.65	69.17	1
2.3	Germany	70.91	64.21	2	1.8	Poland	88.11	66.55	1
2.4	Hungary	78.21	81.10	2	1.9	Portugal	82.45	66.53	1
2.5	Italy	79.32	72.68	2	1.10	Sweden	86.75	56.99	1
2.6	Latvia	78.22	67.81	2	<b>Mean</b>		<b>85.12</b>	<b>65.78</b>	
2.7	Lithuania	74.06	72.34	2	<b>CLUSTER 2</b>				
2.8	Netherlands	75.49	50.50	2	2.1	Austria	71.51	19.63	2
2.9	Romania	76.01	61.44	2	2.2	Ireland	68.05	22.17	2
2.10	Slovakia	78.79	58.45	2	2.3	Slovenia	67.27	42.20	2
2.11	Spain	66.40	90.80	2	<b>Mean</b>		<b>68.94</b>	<b>28.00</b>	
<b>Mean</b>		<b>76.25</b>	<b>66.87</b>		<b>CLUSTER 3</b>				
<b>CLUSTER 3</b>					3.1	Czech Republic	93.66	51.34	3
3.1	Belgium	85.11	66.30	3	3.2	Estonia	95.42	68.04	3
3.2	Croatia	83.97	65.82	3	3.3	France	86.43	34.20	3
3.3	Czech Republic	93.66	51.34	3	<b>Mean</b>		<b>91.84</b>	<b>51.20</b>	
3.4	Denmark	82.70	67.44	3	<b>CLUSTER 4</b>				
3.5	Estonia	95.42	68.04	3	4.1	Bulgaria	79.79	45.55	4
3.6	Finland	84.12	61.39	3	4.2	Cyprus	81.52	70.72	4
3.7	France	86.43	34.20	3	4.3	Germany	70.91	64.21	4
3.8	Greece	83.97	68.73	3	4.4	Hungary	78.21	81,1	4
3.9	Luxemburg	88.36	68.84	3	4.5	Italy	79.32	72.68	4
3.10	Malta	85.65	69.17	3	4.6	Latvia	78.22	67.81	4
3.11	Poland	88.11	66.55	3	4.7	Lithuania	74.06	72.34	4
3.12	Portugal	82.45	66.53	3	4.8	Netherlands	75.49	50.50	4
3.13	Sweden	86.75	56.99	3	4.9	Romania	76.01	61.44	4
<b>Mean</b>		<b>86.67</b>	<b>62.41</b>		4.10	Slovakia	78.79	58.45	4
					4.11	Spain	66.40	90.80	4
					<b>Mean</b>		<b>76.25</b>	<b>66.87</b>	

Most of the analyzed countries have indicators at good and very good levels. They constitute by far the most numerous clusters. Only 3 countries (Austria, Ireland and Slovenia) have a slightly lower Integrity Indicators and Transparency Indicators at a fairly low level (28 on average). Divided into 4 clusters, there is an additional group of 3 countries (Czech Republic, Estonia and France) where Integrity Indicators is at a very high level (average 91.84) while Transparency Indicators is slightly below average.

#### 4. Conclusions

In the paper, based on the data available on the opentender.eu platform, data for 2022 regarding public procurement for construction works in individual EU countries were presented. Cluster analysis allowed for the designation of homogeneous groups of EU countries with similar policies and characteristics in the field of public procurement.

According to cluster analysis, in the largest group of countries the common procedure is open procedures (on average, 91.03% of the number of procedures). This is a procedure that is the most competitive providing potentially the widest access to participation in public procurement.

Following basic principles such as equal treatment and transparency are the basis for the proper operation of the public procurement system. Evaluation of compliance with the rules of the public procurement system is facilitated by monitoring indicators such as Integrity and Transparency Indicators. According to cluster analysis, the most of the analyzed countries have indicators at good and very good levels. They constitute by far the most numerous clusters.

The results of the research presented in the article allowed us to better determine the differences in the public procurement system that occur in individual EU countries and can help with improving that system.

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