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## **Air transport accessibility in business tourism destinations in the COVID-19 pandemic – A Central and Eastern Europe perspective**

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**Abstract:** The purpose of this article is to examine the role and indicate the changes caused by the pandemic in the differentiation of the level of air transport accessibility for meetings in selected countries of Central and Eastern Europe. Using a network analysis of air connections between the selected largest airports in Central and Eastern Europe (over 1 million passengers), the accessibility of the most important cities in the meetings industry was investigated. The research is based on data sources (Eurostat, Scyscanner.com, International Congress and Convention Association – ICCA reports) in pre- and post-COVID times. The analysis is based on seven cities that host the largest number of association meetings. The study identifies three key observations: slow recovery of lost organizational powers, qualitative changes in the processes of meetings organisation, which is connected with the third conclusion – the dominant position of Warsaw as a regional hub for meeting participants in this part of Europe.

**Keywords:** meeting industry, MICE, air transport, air accessibility, COVID-19 pandemic

**JEL classification:** L93, R41, Z32

## **Pristupačnost vazdušnog saobraćaja u destinacijama poslovnog turizma tokom pandemije COVID-19 – Perspektiva Centralne i Istočne Evrope**

**Sažetak:** Ovaj rad ima za cilj da ispita ulogu i ukaže na promene izazvane pandemijom COVID-19 u razlikovanju nivoa dostupnosti vazdušnog saobraćaja za kongresni turizam u odabranim zemljama Centralne i Istočne Evrope. Koristeći mrežnu analizu vazdušnih veza između odabranih najvećih aerodroma u Centralnoj i Istočnoj Evropi (preko 1 milion putnika), ispitana je dostupnost najvažnijih gradova u industriji sastanaka. Istraživanje je zasnovano na izvorima podataka (Eurostat, Sciscanner.com, International Congress and Convention Association – ICCA izveštaji) u vremenu pre i posle pandemije. Analiza je zasnovana na sedam gradova koji su domaćini najvećem broju sastanaka udruženja. Studija

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identifikuje tri ključna zapažanja: spor oporavak izgubljenih organizacionih moći, kvalitativne promene u procesu organizovanja sastanaka, što je povezano sa trećim zaključkom – dominantnom pozicijom Varšave kao regionalnog centra za učesnike sastanaka u ovom delu Evrope.

**Ključne reči:** kongresni turizam, MICE, vazdušni transport, vazdušna pristupačnost, pandemija COVID-19

**JEL klasifikacija:** L93, R41, Z32

## 1. Introduction

Tourism would practically not exist without transport, which results in a close connection of these services with the market offer of hotel, restaurants, tourism attractions, etc. (Lohmann & Duval, 2015; Papatheodorou, 2021; Spasojevic et al., 2018). These industries have always stimulated mutual development (Spasojevic et al., 2018). Transport, especially air transport, has a great impact on the tourism destinations economy (Efthymiou et al., 2016; Henderson, 2009; Njoya et al., 2020; Ripoll-Zarraga & Raya, 2020), while tourism implies the development of new connections to new destinations, development of transport infrastructure, and the emergence of new carriers (Koo et al., 2013, Lohmann & Duval, 2014). Along with the types of tourism, the forms of travel and types of transportation means also change. However, it is an indisputable fact that the role of air transport increases with distance. Over a half of international tourists (58%) traveled by air (ATAG, 2022). This type of transport becomes even more important in the case of business travelers. The best proof of this is the fact that in March 2022 business flight bookings exceeded 2019 levels for the first time since the start of the pandemic (MasterCard Economics Institute, 2022). It is therefore the only group of travelers that has so far returned to the sizes recorded in pre-COVID times.

However, it should be emphasized that business tourists, especially those traveling to participate in all kinds of organized business meetings (congresses, conferences, fairs, exhibitions, and others) need frequent (time-flexible) direct flights to cities hosting the meetings. The frequency of connections, the network of connections, and the location of airports are key elements determining the air accessibility of cities, which is an important component of a city's potential for meeting industry (Borodako & Rudnicki, 2014). Thus, these factors become one of the strategic measures to boost air transport development (Marques & Pinho, 2021), as the basic criteria for selecting venues hosting events and increasing their competitiveness in the meetings industry market. Various stakeholder groups (managers, policymakers, service providers) are particularly interested in acquiring association meetings, since the positive impact of this type of tourism industry on the local economies of the host regions is multiplied (Borodako et al., 2019, 2021). It is estimated that the expenses of business tourists in places of stay are at least 50% higher than, for example, those of leisure tourists, at the same time accounting for 75% of an airline's revenues (Brock, 2022).

The continuous global development of both the aviation industry and the meetings industry has abruptly stopped as a result of the outbreak of the COVID-19 pandemic. The overall losses for the economy, including tourism, are extremely difficult to estimate. UNWTO (2022) estimates that only in 2021 there were 1 billion fewer international tourist arrivals and noted loss of US\$ 1.0 trillion in total export revenues from international tourism. The pandemic and the lockdowns announced in its wake caused unprecedented effects widely described in the scientific literature and reports on the economies of countries around the world (Aburumman, 2020; Disimulacion, 2020; ICCA 2021; Rwigema et al., 2020). It led to the complete and temporary closure of many industries, especially the tourism and air

transport industries. Despite this, the pandemic is also perceived as an opportunity for a reset (Nepal, 2020), verifying previous actions, strategic assumptions, and the way entire industries function. In this context, the analysis of the transport accessibility of the cities hosting association meetings to return to normality as soon as possible becomes important.

Although the issues of transport and tourism are closely related and widely studied in the literature, there is a need for a deeper analysis from the perspective of the different levels of transport accessibility of selected destinations and their impact on the development of individual forms of tourism, especially in the face of the crisis caused by the COVID-19 pandemic. This study investigates these issues.

The main objective of this research is to examine the role and indicate the changes caused by the pandemic in the differentiation of the level of air accessibility for business tourism (meetings industry) in selected countries of Central and Eastern Europe. The research objective was based on the following research questions:

- Which destinations in Central and Eastern Europe have the greatest potential for the meetings industry?
- How did the pandemic affect the meetings industry and the position of individual destinations hosting the largest number of association meetings?
- Which destinations in Central and Eastern Europe are characterized by the largest number of air connections with other cities analysed, determining the air transport accessibility?
- Which destinations in Central and Eastern Europe have rebuilt their connection networks the fastest in the period of post-COVID, creating conditions for rebuilding the potential of the meetings industry in selected regions?

On the one hand, the realization of the main goal requires analysing data on the meetings industry to identify leading destinations hosting the largest number of association meetings (based on International Congress and Convention Association – ICCA reports). On the other hand, it is necessary to analyse air connections between these locations to determine the level of their transport accessibility (regarding air accessibility - based on Eurostat data and the authors' analysis using the Skyscanner meta engine). This analysis of connections for locations from different countries could show the possibilities for potential meeting participants to easily attend the event by air. To achieve the main objective, a network analysis was used between seven selected cities with airports serving more than 1 million passengers per year (in 2017) from 6 countries of Central and Eastern Europe (the Czech Republic, Estonia, Hungary, Lithuania, Poland, and Slovenia). This duality of the conducted analysis additionally takes into account the changes that have taken place in the meetings and air connections industry caused by the COVID-19 pandemic. Despite the popularity of the topic of the consequences of COVID-19 for tourism, there was a lack of sufficient empirical research linking the issues of air accessibility and the potential of the meeting industry from a regional point of view. This article attempts to fill this gap.

The present paper consists of a literature review, including a discussion devoted to issues of air accessibility and the meeting industry, followed by the research methodology and analysis of the results. Subsequently, these results are discussed leading to specific conclusions which have consequences and implications for different groups of stakeholders. In the final part, information concerning the limitations of these analyses is highlighted, and further research directions in this area suggested.

## **2. Theoretical background**

### **2.1. The importance of transport accessibility in the area of air transport for the meeting industry**

The importance of air accessibility is a key factor and prerequisite for the development of the meeting industry. It gains in importance, especially in the case of destinations aspiring to become the most recognisable and competitive tourist centres that host the association meetings (Marques & Pinho, 2021). One can even notice a kind of polarization of cities due to their transport accessibility. Cities with a high degree of connectivity develop, while those with a low level of accessibility stagnate (Henderson, 2009; Njoya et al., 2020).

In recent decades, many studies have been devoted to the issue of air transport accessibility, representing several different approaches in its measurement: the distance approach, the gravity approach, the cumulative opportunity approach, and the space-time approach (Geurs & van Wee, 2004). Accessibility is a complex category, since it is related to and determined by many different social, economic, technological, and environmental factors (Geurs & Ritsema van Eck, 2001; Toth & David, 2010). Therefore, measurements of air accessibility of regions characterised by high activity of the meetings industry should take into account various variables, considered both from the perspective of the transport and tourism industries.

Air transport and tourism, including the meetings industry (business tourism), are subject to strong cyclical changes (e.g. seasonality of demand) and are very sensitive to changes in the economic, social, and political environment. There are numerous links between these industries characterised by non-linearity and bidirectional causality (Brugnoli et al., 2018; Poulaki et al., 2020). The improvement in accessibility as a result of the expansion of airport infrastructure and the development of the network of connections causes the development of tourism in a given destination by reducing financial and time costs for travellers (Koo & Papatheodorou, 2017). There is also a feedback effect in these relationships: an appropriate scale of tourism development is a signal for potential investors and other stakeholders to fully use the potential of a given destination, which in turn further enhances the increase in tourism demand (Papatheodorou, 2021). At the same time, in the event of a crisis situation, such as a pandemic, one industry directly affects the other, deepening the downward trend.

The analysis for the last full statistical year, i.e. 2021, show that COVID-19 caused huge losses to the aviation industry. In 2021, there was still a 50% drop in the number of passengers compared to 2019, followed by over 54% and 45% drop in airport and airline revenues, respectively, and 21% reduction in aviation jobs (ATAG, 2021). Recent UNWTO reports estimate 172% rise in international tourist arrivals from January to July 2022 compared to the same period of 2021, which means that the aviation industry recovered by almost 60% of pre-pandemic levels. Europe showed one of the fastest recoveries in January-July 2022, with arrivals reaching 74% of 2019 level (UNWTO, 2022). Although a gradual return to normality is observed within the industry, these increases are slower (shifted in time).

From the perspective of the meetings industry, the pandemic has exposed and highlighted the need for better stakeholder management at the destination level (UNWTO, 2020). This governance should include a more effective dialogue between destination managers, meeting industry stakeholders and air transport companies to support joint development (Lohmann & Vianna, 2016; Spasojevic et al., 2019). Given interdependencies, the important factor contributing to the effective development and return of industries to the results recorded before the pandemic is such cooperation at the level of a given destination.

## **2.2. The condition of the meetings industry in post-COVID: Future directions of activities in the area of air accessibility for Central and Eastern Europe**

On a global scale, one of the most important organisers of conferences, congresses, and training events are international industry associations and international organisations (Jo et al., 2019). The role of these entities in generating prestigious events is monitored by two organisations: the Union of International Associations (UIA) and the International Congress and Convention Association (ICCA). Every year, they publish reports, i.e., the UIA International Meetings Statistics Report and the ICCA Statistic Report and rankings of countries and cities that organise international conferences and congresses. Both lists affect the recognition, reputation, and image of the organising cities and the decision-making process of association decision-makers who make key decisions regarding the location of their annual conference and congress meetings.

Until March 2020, conference and congress tourism and the broadly understood meetings industry were one of the key service activities of world tourism (Alananzeh et al., 2019; Bueno et al., 2020), generating approximately 21.5% of total tourism receipts (WTTC, 2019) and year by year, it was characterised by dynamic growth (UNWTO, 2017; 2022). The COVID-19 pandemic has abruptly stopped this growth and severely affected the meeting industry on a global scale. ICCA published data showing that up to 94% of international meetings in 2020 were affected by the pandemic. Some of these events were cancelled, and more than 64% were held in virtual or hybrid form (ICCA, 2021).

Therefore, the pandemic contributed to the qualitative transformation of the meeting industry. The effects of technological progress, adopted out of necessity during the period of lockdowns and restrictions, will remain in this industry for a long time, smoothly introducing it into the fourth industrial revolution. This combination of technologies in the multistage process of organising and carrying out meetings blurs the boundaries between the physical, digital, and biological spheres, being an example of readiness to expect the unexpected. The data presented in the latest ICCA report confirm these phenomena, showing a 50% share of virtual and hybrid meetings and their double increase compared to 2020 (ICCA, 2021). At the same time, it is worth mentioning that on a global scale Europe holds a market share of 80% in the top 20 cities that host association meetings (ICCA, 2021).

On a global scale, however, the research conducted by UIA shows that the need to meet and exchange scientific and research experiences is still very strong among members of industry associations, i.e. the main clients of international congress events. This is confirmed, for example, by the “Survey on International Meeting Issues – 2020” conducted by the UIA (2020). Therefore, reactivating the meeting industry after the pandemic and returning to the numbers recorded before 2020 is becoming a priority for people responsible for managing tourist destinations. The meetings industry has a direct impact on the wealth of host cities and their inhabitants through the so-called multiplier effect generated based on organised events (Rogerson, 2015). The prestige of the congress city also attracts new investments and the development of highly specialised services (Marais et al., 2017).

The challenges posed by the pandemic are a prerequisite for development and require the participation of many stakeholders. The activities of entities responsible for transport accessibility in the area of air connections are one of the key conditions that enable the redevelopment of destination that host association meetings (Duval & Schiff, 2011; Graham & Dobruszkes, 2019; Hazledine & Collins, 2011; Ivanova, 2017; Koo et al., 2013). It should focus on re-examining the needs of business travellers (Tuan et al., 2019), the potential of individual destinations, developing the necessary infrastructure (Martín-Cejas, 2010), and then recreating the network of connections (Halpern & Graham, 2015; 2016) within the same

time ensuring full-service capabilities. These activities should be strategically planned, coherent, and properly coordinated to bring the desired effects (Lohmann & Vianna, 2016; Spasojevic et al., 2019; Vlasi & Papatheodorou, 2021).

### 3. Materials and methods

The selection of the research sample covering Central-East European (CEE) cities resulted from the purpose of the study, i.e. examining the role and indicating the changes caused by the pandemic in the differentiation of the level of air accessibility for business tourism (meetings industry) in selected countries of Central and Eastern Europe. For this reason, cities from CEE were selected for the study, which in the latest ICCA 2021 report were included in the Top 50 cities in the world and their airports served over 1 million passengers. This limited the number of cities under study to 7 (Table 1). The ICCA (2021) ranking was created based on six types of meetings (planned, unaffected, virtual, hybrid, digitalisation, and business continuation), while in order to present the number of meetings in this study, only the number of planned events was assumed in Table 1 (which, according to the authors, it is best illustrated by the differentiation between cities).

Table 1: CEE cities from the Top 50 cities, ICCA 2021 Ranking (including *planned* meetings only)

Position in the ICCA Ranking	City	Country	Number of meetings (planned)
7	Prague	Czech Republic	95
12	Budapest	Hungary	57
24	Warsaw	Poland	49
33	Vilnius	Lithuania	38
35	Krakow	Poland	45
37	Tallin	Estonia	33
45	Ljubljana	Slovenia	39

Source: ICCA, 2021

The research on the air accessibility of selected business tourism destinations was based on three reliable and up-to-date data sources. The first is Eurostat data on air transport, related exactly to the number of passengers handled by the airports in Central and Eastern Europe selected for the study (2017-2022 Q1 + Q2). The second source of data (on the exact number of direct connections between the pairs of the cities studied) was the [www.skyscanner.com](http://www.skyscanner.com) airline service. This site is currently a metasearch engine and travel agency available in over 30 languages and is used by over 100 million users per month. The third source of data is annual ICCA reports (except for the year of the pandemic outbreak in 2020), which provide a globally recognised source of knowledge about the meetings market.

The methodology for collecting airport data consisted of three stages. In the first stage, the number of direct connections for each city pair (7x6) for seven days of the week was checked on the above-mentioned website (the date of a potential travel between November 7 and 13, 2022 was adopted in the study). Thus, the number of connections was obtained for a total of 7x6x7 (= 294) travel combinations. In this way, the risk of inaccurate data resulting from a connection network based on one or two days of travel between cities per week is reduced. In the second stage, the collected data for a full week was summed up for each pair of cities (the number of trips from city A to city B and from city B to city A was counted separately). Aggregated data formed a matrix of the total number of connections between the examined cities. In the last step of the analysis with the use of the Gephi program, a network

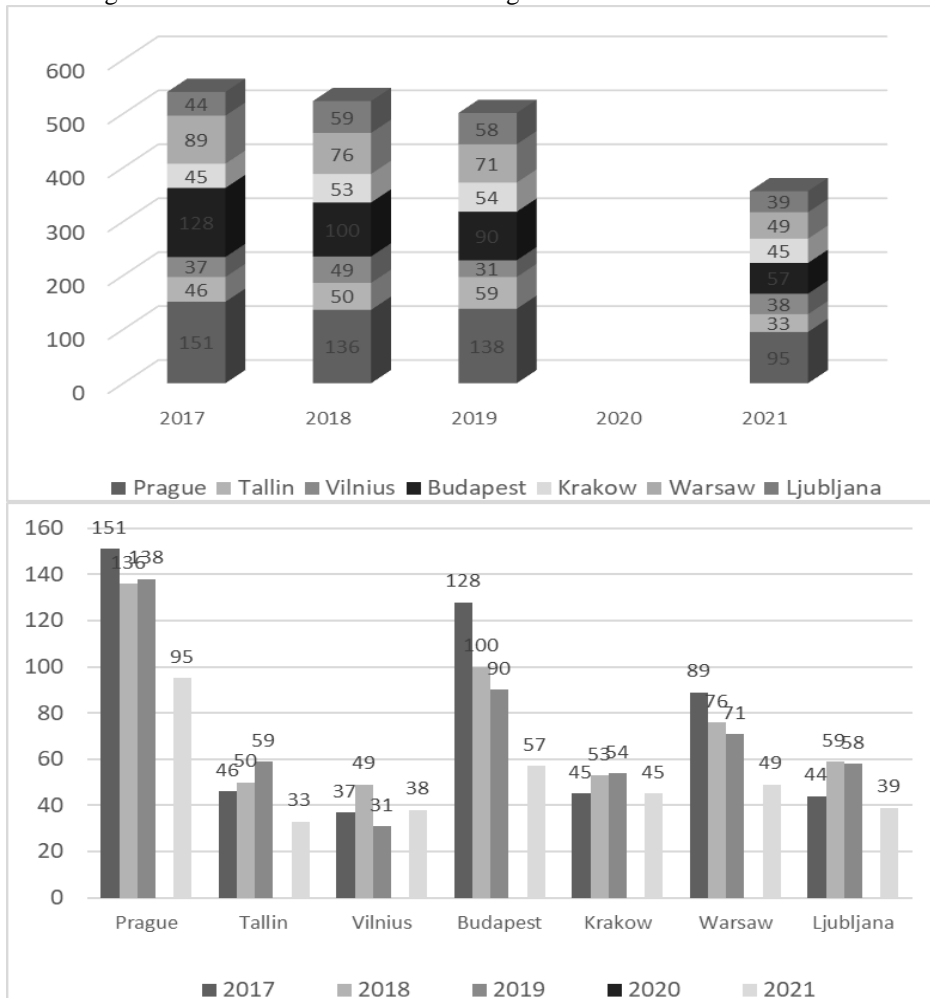
of connections between the cities was created, adding additional information in the edit mode, i.e. the number of planned meetings in each city.

## 4. Results and discussion

### 4.1. Analysis of changes in the two sectors most affected by the pandemic - aviation and tourism

The analysis of air accessibility related to the service of business tourism was started by indicating the changes caused by the pandemic in both areas of the economy - the organisation of association meetings (business tourism) and air transport. Based on the adopted research methodology, seven cities hosting the largest number of association meetings were analysed, and changes in this industry were analysed based on these data. The data provided annually by the world association ICCA point to three key observations.

Figure 1: Number of association meetings in selected cities in 2017-2021

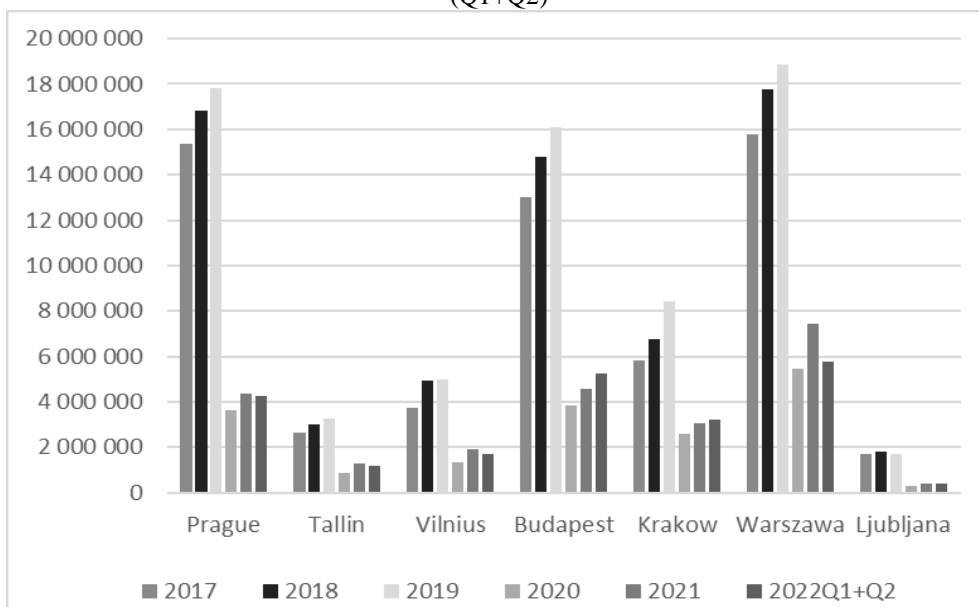


Source: Authors' research based on the data of ICCA annual reports (ICCA, 2017; 2018; 2019; 2021)

The first is the alarmingly declining total number of events organised in 2017-2019, which may be caused, on the one hand, by the growing role of other European cities, as well as global competition from Asian cities. The second phenomenon is the total absence of the number of events for the year of the outbreak of the pandemic when the entire industry in 2020 was closed worldwide and association events were cancelled or carried forward to the following years (Figure 1). We can notice that some destinations (like Vilnius) had better performance after the first years of crises, which can have many reasons - one of them can be the fact of shorter preparation time for hybrid events or the shifted events from 2020. The huge crisis that the event organisation industry is still going through is evidenced by the third phenomenon of the slow resurgence of association meetings in the world in 2021. The lack of data for 2022 does not make it possible to confirm, based on data, a further recovery of the industry, but monthly data from some markets unanimously indicate a strong revival of the industry in the analysed area of Central and Eastern Europe.

Changes in the aviation industry also indicate a very strong impact of the pandemic. Among the seven European cities studied, three capitals dominate - Prague, Budapest and Warsaw (Figure 2). Before the pandemic, in each of them, one could observe a high dynamics of the development of passenger travel from these airports. In the year of the outbreak of the pandemic, lower rates are visible for all examined cities, but at the same time a slow development of the number of passengers served. However, the figures are much lower than in the years before the pandemic. Data for the last available year (i.e. 2022) covers only the first two quarters, which, compared to the data from 2021, are also promising. In the interpretation of aviation data in the light of the organisation of international events (congresses, conferences, etc.), it should be additionally emphasised that 2022 is also the outbreak of war in Europe, which affected air traffic. Despite these two negative factors (pandemic and war), aviation data on passengers handled is getting better, which proves the revival of tourist mobility (covering various forms of tourism, but mainly business tourism from the perspective of this research paper).

Figure 2: Number of passengers carried by the airlines in the selected airports in 2017-2022 (Q1+Q2)

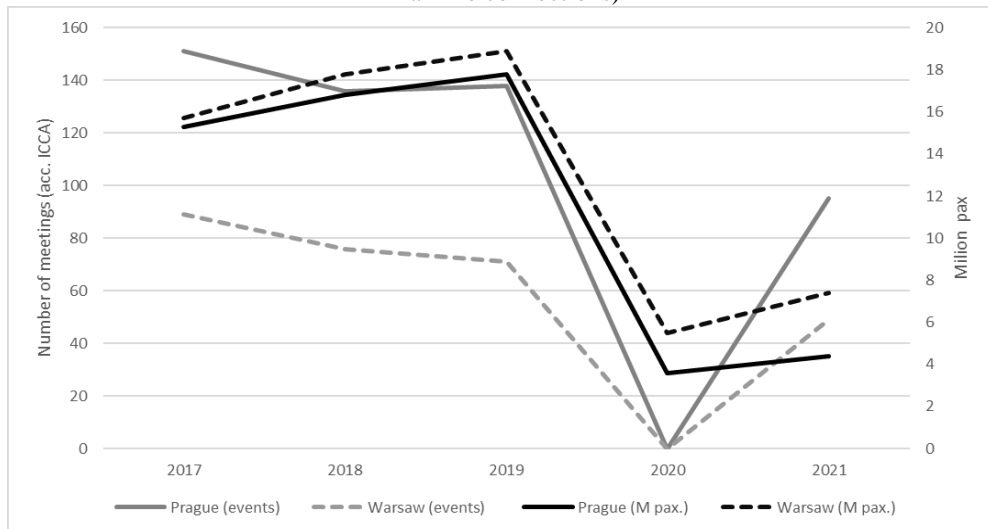


Source: Authors' research based on the Eurostat data (Eurostat, 2022)



The main problem in the data analysis was the inability to obtain historical data for the network of air connections discussed in the further part of the analysis. However, an attempt to combine aviation data and organised meetings is to present changes over time in the two leading cities of the region - Prague (leader in terms of the number of meetings) and Warsaw (leader in terms of the number of passengers served). Figure 3 shows the changes using two axes (the left axis refers to the number of events (according to ICCA), while the right axis refers to the number of passengers in millions). In the case of events, Prague recorded an annual increase until 2019 – in contrast to Warsaw, which recorded fewer and fewer events at that time. Both destinations also recorded increases in 2021, while their relative position did not change (Prague was still the leader). In the case of passenger numbers, the differences were small before the pandemic, while the recovery in 2021 shows faster growth in Warsaw than in Prague.

Figure 3: Comparison of key region cities (Prague – leader in meetings and Warsaw – leader in airline connections)



Source: Authors' research based on the Eurostat data (Eurostat, 2022) and ICCA annual reports (ICCA, 2017; 2018; 2019; 2021)

#### 4.2. Analysis of the flight connection network and the number of meetings

From the perspective of the purpose of this paper, the results of the study of air network connections between the examined seven European cities are of key importance. In this study, the period of 7 days was assumed following the methodological part of this work as regards the number of connections between the cities studied, indicating the number of connections (which is visible in the thickness of the line between the cities), and it is also supplemented by the number of events in each of these cities. The presented network analysis covers only part of Central and Eastern Europe for the cities that are key to the meetings industry (Figure 4).

When interpreting these data, the role of other large airports in Europe (such as London, Vienna, Rome, Paris, Munich, or Istanbul) should also be emphasised, which plays a key role in intercontinental travel in accessing smaller metropolitan centres. Nevertheless, the presented analysis of the network of connections between the examined cities indicates several interesting phenomena. The first observation is the dominant - central position of Warsaw offering many connections both with the northern cities (Vilnius and Tallinn), and

frequent connections with Budapest and Prague. An interesting issue is the very poor network of connections from the capital of Slovenia - Ljubljana, where there are no direct connections to other cities in the region (except Warsaw). The third interesting observation is the position of Prague (dominating in the international association meetings in this region), which has frequent connections only with Warsaw in the region, and many direct connections with Budapest and Krakow (which was the only one non-capital city included in the study due to its strong position in hosting international meetings).

Figure 4: Network of direct flight connections between the cities with number of meetings in 2021 (best performing cities from East Europe according to ICCA, 2022)



Note: the line thickness illustrates the volume of direct flight traffic between cities

Source: Authors' research based on data from [Skyscanner \(2022\)](#) (for direct flight numbers) and [ICCA \(2021\)](#) (for meetings numbers), prepared by Gephi

## 5. Conclusion

Research of the development of air transport and the meetings industry (which are closely intertwined) indicates similarities in terms of the impact of the pandemic on these industries. In each of them, the available data confirm the slow (but stable) recovery of lost organisational powers ([UNWTO, 2022](#)). Certainly, studies of the industry literature in both industries additionally show not only positive changes in the recovery but also qualitative improvements in the provision of services. In the case of air transport, airlines drawn even

greater attention to sanitary safety and non-contact service (Czerny et al., 2021), and in the case of the meetings industry – there was a dynamic development of virtual and hybrid meetings (Wu et al., 2022). Network data relating to air accessibility in the CEE region indicate the dominant position of Warsaw as a regional hub for meeting participants from the surveyed countries. According to the results, Warsaw's meeting planners should stress the powerful position of this city in bid books (offers) and use it as the strong advantage of this destination in the meetings market.

The conducted research allowed us to answer the research questions posed at the beginning. Generally speaking, in light of air transport data and hosted congress events, the three capitals of the region - Prague, Budapest, and Warsaw - have the highest potential. The second research question referred to the impact of the pandemic, which affected all cities to a similar extent, and its occurrence did not show any significant changes in the positions of individual cities – except Vilnius that recorded increased position (of course, causing huge losses in the meetings industry during the pandemic). In the sample of studied cities, Warsaw had the largest number of connections with other cities in the region (from which more than four out of each ten flights in the network were made). The dominant position of this city identified in the study was the answer to the third research question. A detailed analysis of quarterly data for the surveyed airports made it possible to identify leaders in the dynamic rebuilding of their operational potential. Comparing the data from the first quarter of 2022 and 2021, the largest increases were achieved by Budapest (1094%) and Kraków (955%). In the second quarter of both analysed years after the pandemic, the same airports were also leaders. The level of changes was slightly lower, but Budapest still led the ranking (798%), followed by Kraków (600%). However, the third place in the ranking of the airports has changed - in the first quarter - the third place was occupied by Ljubljana (686%), while in the second quarter it proved to be Prague (556%).

The conducted research also has some limitations that prevent the generalisation of the results. The first limitation in making conclusions based on the collected data is the use (by participants of meetings) of other forms of transport - mainly rail transport. In the era of striving for a zero carbon footprint generated by events, participants are encouraged to travel by rail, which in the case of participants from the analysed area seems rational in some cases. The third limitation is the deliberate resignation in this research from the main European hub airports in the study. However, the initial investigation of this aspect of the research indicated that this type of data will not have a significant impact on air accessibility for event participants. This is due to the efforts of event participants to prefer the most convenient, including the shortest (and therefore direct) air connections. Last, but not least limitation is the lack of connectivity data from the pre-COVID term, because the flight connections can be checked only about one year ahead whereas there are no available data from the past. The comparison of air connectivity of the studied cities before and after pandemic could give new insight in this topic.

Future research in the area of meetings industry and air accessibility may go in three directions. The first one could be identification of the network of air connections, distinguishing between low-cost airlines (taking into account price differences in the adopted research period) and regular airlines in context of meetings industry. The second direction of analysis may be research linking transport accessibility (including air and rail transport) with the aim of reducing the carbon footprint of large international events, mentioned earlier in this paper. Both future research avenues relate to the sustainability of the events industry, giving additional knowledge in sustainable meetings, where transportation represents over 80% carbon footprint of the mid-sized international congress. The third direction of future research could be wider context of city potential by including in the study other factors and a bigger sample of all key European cities in the meetings industry.

## Conflict of interest

The authors declare no conflict of interest.

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