

THE DYNAMICS OF THE AIR TRANSPORT DEVELOPMENT IN THE WARMIA AND MAZURY REGION

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ABSTRACT

Motives: Regional passenger airports are an important component of a developed transportation system that reflects the broader development of the region and the country. Due to the small number of studies examining air transport at the regional micro-scale, it is important to carry out a diagnostic of this mode of transport to determine the possibility of regional development. The article presents the reasons for the creation, stages of construction and transformation of selected airports of northeastern Poland.

Aim: The main aim of the study was to determine the impact of the COVID-19 pandemic on the dynamics of air transport development in the area of northeastern Poland. The entire air transport system in the region was analyzed with a detailed inventory of the largest airport Olsztyn-Mazury.

Results: As a result of the study, data on the number of passengers and directions of travel for the past six years were compared. It was determined that Olsztyn-Mazury Airport has a significant development potential, providing an opportunity to rebuild passenger air traffic in Warmia and Mazury hampered by the effects of the COVID-19 virus pandemic.

Keywords: airports in north-eastern Poland, sustainable regional development, COVID-19

INTRODUCTION

The air transport system is the main factor stimulating the proper functioning of continents, countries or regions (Schäfer & Waitz, 2014; Golbe, 1986), and that a well-organized air transport system has a positive influence on the economic, social, and political effect of the connected countries (La Porte, 2019; Path, 1968). In the past, the problem was viewed

mainly from the perspective of the flow of material resources, such as raw materials and products (Hesse & Rodrigue, 2004). Nowadays, to a large extent, we also consider transporting people who participate in economic and production processes, as well as passengers who travel for tourism, health, and research purposes (Duval, 2013; Spasojevic et al., 2018; Hakuć-Błażowska & Kupren, 2022).

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Despite the fact that air transport is the most expensive type of transport (Brons et al., 2002; Onghena et al., 2014), its development rate is the fastest. It performs a significant role in the economy of every country (Barnhart et al., 2003), strengthening international relations in the fields of culture, tourism, trade, and science. It has the largest range, is the fastest and it is hard to imagine further intensive development of interpersonal relations or coexistence of nations in the 21st century (Young, 2020; Prussi & Lonza, 2018).

There is a lot of research in the literature on the subject of air transport and its essence in terms of economics, energy or environment, and pandemic COVID-19, on global development (Magniszewski, 2022; Zawajska, & Siudek, 2021; Nižetić, 2020; Arena & Aprea, 2021). Also, many authors undertake an evaluation of air transport in international-transregional terms, e.g. the Baltic Sea region (Lindholm & Behrends, 2012), in Europe (Van de Vijver et al., 2016). However, there is a lack of approaches geared towards analyzing this transportation system on a micro scale to determine its importance in a country's region. To such a narrow extent, the topic is described in the branch magazines and popular periodicals (Lasociński, 2022; Tłoczyński et al., 2021).

Therefore, we undertook to study the level of development of air transport by answering the following research question: To what extent did the COVID-19 pandemic affect the directions of passenger traffic and the dynamics of air transport development carried out using the technical infrastructure of Olsztyn-Mazury Airport? For this purpose, quantitative (number of passengers in relation to maximum service capacity) and qualitative (directions of preferred flights, the state of the port infrastructure and the type of additional use) data were analyzed. The methodological approach adopted in the study stems from earlier research by Bieger & Wittmer (2006) that the determinant of the development of the port and the entire region is the number of passengers (users of transport services) and was supplemented by primary data obtained in the field.

MATERIALS AND METHODS

The problem addressed in this study, due to its niche, local nature and difficulties in accessing open data on regional air passenger traffic, required the selection of specific research methods and techniques. In order to carry out the research in the planned methodological approach, information was sifted from various sources, such as locally obtained annual reports of the port and collection of data from industry national statistics on flight directions and number of passengers by period from before and during the pandemic. Some of the data was obtained from censuses and industry records provided by the Civil Aviation Office in Warsaw as well as the Olsztyn-Mazury Airport website. The rest of the qualitative data needed for the planned approach, as primary information, was collected in the field through a face-to-face interview (interview conducted with facility managers) and a field visit (taking photographic material documenting the technical condition of the facilities, and taking an inventory of the way they are developed and currently used). The subject of analysis was passenger airports in the region of Warmia and Mazury (Fig. 1), with a detailed focus on Olsztyn-Mazury Airport.

Therefore the study of the dynamics of passenger air traffic in the area of northeastern Poland included a comparison and interpretation of the data obtained from 2016–2021.

RESULTS

Chronology of the location of chosen airports in the region of Warmia and Mazury

In 1926, it was decided to build an airport 5 km from Olsztyn, which was originally a civil facility and later also a military one. In order to launch the investment, the largest possible flat area was chosen (3.75 km²). Soon after finishing construction works, on 1st June 1926, the first regular passenger flights to Gdansk started. During the war, the airport

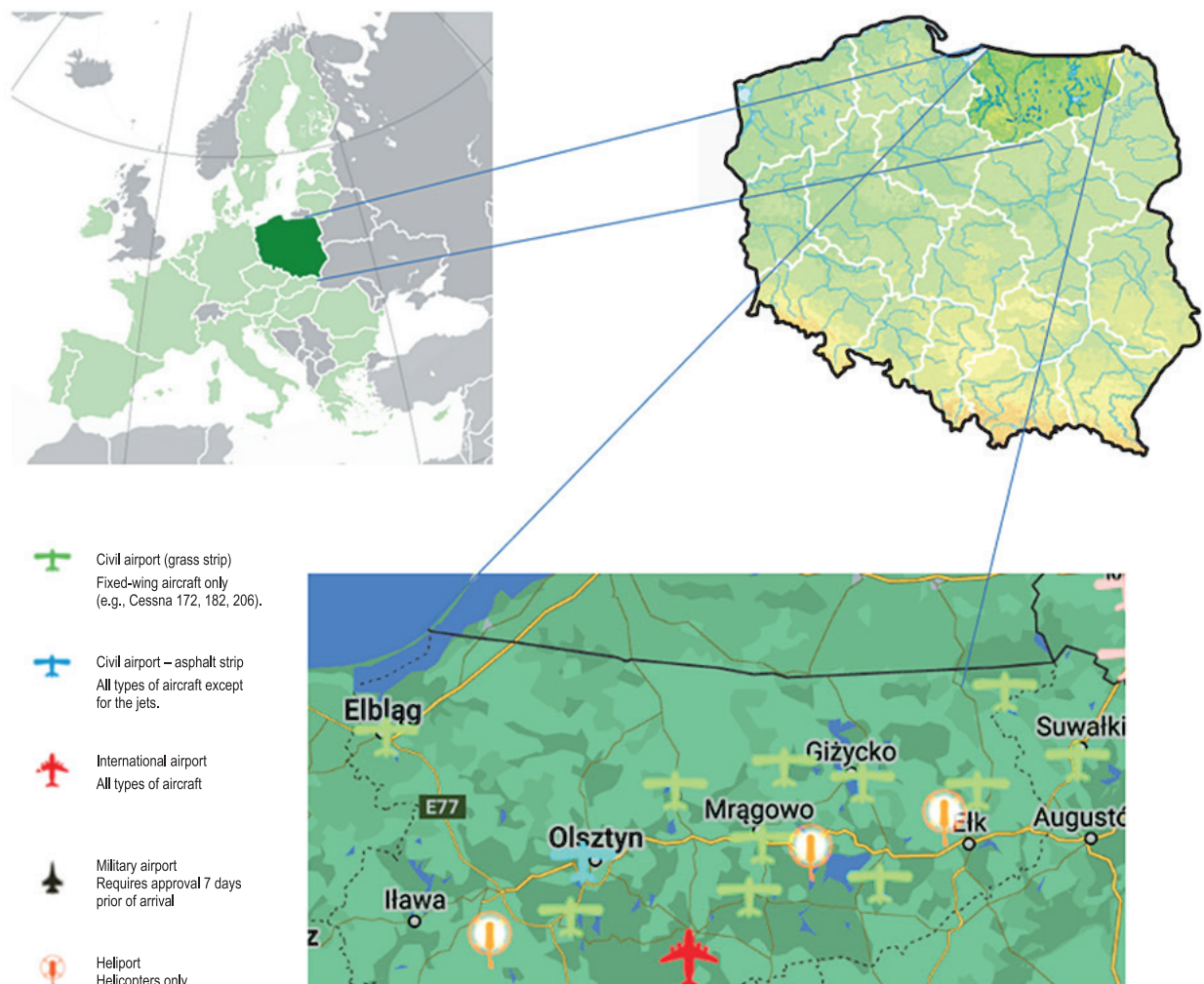


Fig. 1. Location of Warmia and Mazury region in Poland
Source: own elaboration.

infrastructure was used by the German army (mostly for gliders' training). It was taken over by the Red Army on 22nd January 1945. Before the end of the war, on 18th April 1945, Polish Airlines LOT launched regular Warsaw–Olsztyn–Gdansk–Bydgoszcz–Warsaw flights (Łukaszewicz, 2006). In the post-war period, the airport continued to be a gliding training center. From 1955 to 1956, Regional Aeroclub councils were established, which in 1957 led to the founding of an independent Polish People's Republic Aeroclub, dealing with training and air sport. During that period, the aeroclub changed its name from the League of Soldier's Friends Aeroclub to the Warmia-Masurian

Aeroclub, used to this day (Areoklub Olsztyn, 2022). In 1966, the poor technical state of the airfield and the inability to organize passenger flights were used as an excuse to create Aviation Economic Services, providing services for agriculture and forestry. In 1990, after the political-economic transformation in Poland, the aeroclub found itself in a very difficult situation. Due to the lack of income and the need to maintain the infrastructure, equipment and staff, some steps had to be taken, which ended in obtaining a concession and certification for aviation services. The aeroclub started earning money on tourist flights; contacts were developed with pilots from

Germany, for whom flights were organized, using the Dajtki airport infrastructure (Fig. 2). Currently, the employees and members of the Aeroclub are still organizing recreational, as well as training flights for young parachutists and motor gliders. Despite some organizational changes, the airport does not operate commercial passenger flights.



Fig. 2. Part of the area of Dajtki Airport
Source: own resources (26.06.2022).

The first reports on aviation activity in Masuria come from 1910. They reveal the fact of manufacturing a plane designed by engineer Bloess from Kętrzyn at the factory owned by Friedrich Fest from Rachel. 18 years later, as part of the rapid development of air transport, flights between the Reich and Eastern Prussia started (Great Masurian Lakes District), using a then-modern water plane, landing on Niegocin Lake (by the city of Giżycko), (Kętrzyn Airport, 2022). In 1929, it was one of the largest passenger aircraft in the world, which could board up to 100 people. Unfortunately, after six years of flying, in 1935, due to a number of safety problems, it was withdrawn from use. In the same year (1935), the first airport providing service for the region in question (Masuria) was open. Initially, the facility functioned as a sports airport, bearing the name of the destination where it was situated – Weischnuren (presently Wajsznory). The location of the investment was largely determined by the area physiography: the runway was built on an elevation that formed a kind of plateau, which made

take-offs considerably easier. As a result of military operations at the outbreak of World War II, the airport changed its character to military. This change was a consequence of the decision taken in July 1940, to build Hitler's secret quarters, called "Wolf's Lair" (German: *Wolfsschanze*), 8 km away from the airport (presently Gierłoż). From that moment, the Weischnuren airport served as a transport base for the "Wolf's Lair" and the "Anna" quarters in Mamerki, as well as operated the military passenger flights. Being a military facility, the airport became a part of the protection system for the main and the other quarters. The runways which handled the passenger and cargo traffic were situated in the southern section of the airport. They were two intersecting concrete belts, which made it possible to adjust take-offs to the wind directions. Changing the airport from sports to a military facility required reconstruction. After finishing modernization works in December 1941, the airport was capable of receiving passenger planes (Ju-52) and four-engine ones (Focke-Wulf 200 FwCondor).

In 1945, the Weischnuren airport (currently Kętrzyn-Wilamowo) was taken over by the Polish Army, the Institute of Aviation, and Polskie Zakłady Lotnicze (Polish Aviation Works), Warszawa-Okęcie. From 11th June 1973 to 1983, the facility was administered by the Kętrzyn Aeroclub (Fig. 3). Unfortunately, after it was dissolved, the airport underwent gradual degradation, until 18th September



Fig. 3. Part of the area of Kętrzyn-Wilamowo Airport
Source: own resources (25.06.2022).

1998, when the application for reactivating the Kętrzyn Aeroclub was approved by the Aeroclub of Poland. It started to function as the Lake District Aeroclub, the present owner of the facility. As of today, the airport is used mostly by tourists who arrive in their private planes for recreational purposes, as well as, once a year, pilots who take part in an annual event, Mazury AirShow.

The decision to build another airport in the Masuria region was not taken until the 1930s. The location included the area of Szymany – a large village, which in the early 20th century was inhabited by 1100 people (Orłowicz, 1991) was chosen for its sustainable distance to selected cities in the region and to the Polish capital (Table 1).

Table 1. Distance by road and the predicted time of travelling from the village of Szymany to selected towns in the region and to the capital of Poland

Destination	Distance by road/road marking	Predicted time of travel
Bezledy	107 km/DK57	1h 52m
Białystok	188 km/DW645	2h 48m
Łomża	101 km/DW645	1h 41m
Olsztyn	57 km/DK53	1h 2m
Ostrołęka	72 km/DK57	1h 17m
Suwałki	186 km/DK58	2h 46m
Szczytno	9.7 km/DK57	11m
Warsaw	162 km/DK57	2h 58m

Source: authors' elaboration based on (Targeo Map, 2022).

The main assumptions of investment pointed to the need to build a temporary airport of military type, prospectively handling aircraft used in a blitzkrieg. The original idea to build a temporary facility is noticeable in the type of the material used for constructing buildings that were permanently connected with the ground (the buildings near the landing site consisted mainly of wooden sheds). The role of the airport was performed by a station installed on a lorry, STAR 66 (Fig. 4).

During intensive training, there were additional radiolocation stations at the airport, also fitted on lorries. Due to the lack of an on-site meteorological station, weather reports were received by phone, from Olsztyn or Warsaw.



Fig. 4. Star 66
Source: own resources (25.06.2022).

Identification of the current state of airports in the Warmia and Mazury region

After a detailed analysis of the history of the location and use of airports in the Warmia and Mazury region, the following airports were identified (Table 2).

There are 19 airports of varying development and character in the region. Most of them are active airports used regularly for various purposes, but only one Port Olsztyn-Mazury offers permanent passenger flights within the country and abroad.

Airport Olsztyn – Mazury

The end of the 1980s brought huge changes in Poland. On 4th June 1989, the talks of the Round Table began, which led to the first, partly free elections. Soon after coming to power, the Prime Minister together with the Minister of Finance announced a program of reviving the Polish economy, which started to be implemented from 1st January 1990.

As a result of profound political-economic transformations, the airport in Szymany, performing the military function from the start, was not needed anymore. On 16th January 1996, it was decided that the facility would be used for civil purposes, and on the strength of the decision of the district court

Table 2. Airports in the Warmia-Masuria Province

Facility	Location	Airport profile	Airport type	Runway	Runway length	Runway width	Airport status (working)
Olsztyn – Mazury Airport	Szczytno (Warmia-Masuria Province)	irregular air traffic airport	civil	concrete	1988	60	yes
Elbląg Airport	Elbląg (Warmia-Masuria Province)	sports	civil	grass	600	100	yes
Giżycko – Mazury Residence Airport	Giżycko (Warmia-Masuria Province)	sports	civil	grass	700	50	yes
Grunwald Airport	Grunwald (Warmia-Masuria Province)	undefined	undefined	grass	300	undefined	no
Gryżliny Airport	Łańsk (Warmia-Masuria Province)	multifunctional, formerly military, governmental	civil	grass	800	60	no
Kętrzyn – Wilamowo Airport	Kętrzyn (Warmia-Masuria Province)	sports	civil	grass	1105	80	yes
Kikity Airport	Kikity (Warmia-Masuria Province)	multifunctional	civil	grass	800	35	yes
Muszaki Airport	Muszaki (Warmia-Masuria Province)	military	military	asphalt-concrete	500	30	no
Mrażowo Airport	Mrażowo (Warmia-Masuria Province)	multifunctional	civil	grass	600	50	yes
Olsztyn – Dajtki Airport	Olsztyn (Warmia-Masuria Province)	sports	civil	concrete	850	23	yes
Orneta Airport	Orneta (Warmia-Masuria Province)	undefined	civil	asphalt-concrete	2000	30	no
Prejłowo Airport	Muszaki (Warmia-Masuria Province)	sports	civil	grass	330	23	yes
Rostki Airport	Rostki (Warmia-Masuria Province)	air force base	military disbanded	grass	870	20	no
Stare Juchy Airport	Stare Juchy (Warmia-Masuria Province)	multifunctional	civil	grass	560	undefined	yes
Giże airstrip	Giże (Warmia-Masuria Province)	multifunctional	civil	grass	700	50	yes
Babięta airstrip	Babięta (Warmia-Masuria Province)	undefined	undefined	grass	600	50	yes
Mikołajki airstrip	Mikołajki (Warmia-Masuria Province)	multifunctional	civil – for helicopters	damaged concrete/ grass	undefined	undefined	yes
Niewodnik - Święta Lipka airstrip	Niewodnik (Warmia-Masuria Province)	multifunctional	civil	grass	420	undefined	yes
Wielbark airport road sector	Wielbark (Warmia-Masuria Province)	airport road sector	airport road sector	asphalt-concrete	200	undefined	no

Source: authors' elaboration based on (Planes, 2022).

in Olsztyn, the Mazury-Szczytno Airports Company was established. It functioned until 2003, being the only airport in Warmia-Masuria Province.

The first plane of Polish Airlines LOT (PLL LOT), taking a civil flight with passengers on board, landed at the airport in Szymany on 2nd June 1996. From that moment to 10th October 2001, the airport handled only domestic passenger traffic in the summer season, offering a flight once a week, mainly between Warsaw and Szymany. At the beginning of the fourth quarter of 2001, the facility was put on the list of airports operating international passenger flights. In accordance with the Ministers' Council' resolution of 10th October 2001 on the determination of airports where takeoffs and landings of aircraft in international traffic may be carried out (Resolution, 2001), Szymany Airport and 17 other airports, were put on the list of airports that handled departures and arrivals in international air traffic. In 2002, after creating the customs zone, PLL LOT started to organize flights to some cities in Germany (Olsztyn-Mazury Airport, 2022).

Despite the fact that on 14th May 2003, the Mazury-Szczytno Airports company obtained the Airport Handling Agent Certificate (No PL-15H/03) regarding passenger and luggage service, ground handling of airships, providing aircraft with fuel, as well as handling the ground transport between planes and the airport. In the same year (2003), PLL LOT suspended its flights. On 30th November 2003, the military left the airport, which made it possible to include the facility in the Civil Airports Register as a public utility civil airport, reference code 3C (an airport equipped with a radio navigation system that allows landing in limited visibility conditions) (ILS, 2022; Navigation Systems – Level 3., 2022), known as the ILS System, which allows automatic landing (Sky brary, 2022).

It should be said that despite suspending flights, the facility, equipped with a 2000 m long concrete runway and the ILS System, was capable of handling medium-sized planes.

Closed on 30th November 2003, after 7 years (2010), the airport was taken over by the Warmia-Masuria Province Self-government and just one year

later (2011), a new company was founded, named "Warmia and Masuria". Modernization works started in 2014 and lasted until 2015. As a result, the airport changed its class from 3C to 3D, and became a facility equipped with landing devices: ILS category II and VOR/DME.

The success of the investment shows in the fact that on 18th January 2016, the airport received the Civil Aviation Authority certificate, which confirmed meeting all the requirements for public utility airports, subject to certification (the airport joined the group of 15 largest airports in Poland):

1. Chopin Airport in Warsaw;
2. Kraków – Balice;
3. Katowice – Pyrzowice;
4. Wrocław – Strachowice;
5. Poznań – Ławica;
6. Łódź;
7. Gdańsk – Lech Wałęsa Airport;
8. Szczecin – Goleniów;
9. Bydgoszcz;
10. Rzeszów – Jasionka;
11. Zielona Góra – Babimost;
12. Warszawa/Modlin;
13. Lublin;
14. Radom – Sadków;
15. Olsztyn-Mazury.

Two days later, Warmia-Masuria Province Marshall, Gustaw Marek Brzezina officially opened the Olsztyn-Mazury Airport for passenger flights, and on 20th January 2016, the first charter flight to Berlin took place (ILS, 2022). The inaugural flight from Krakow to Berlin was made one day later (21st January 2016) – it lasted only 105 minutes, which was much shorter than a journey by car, coach or train (The Olsztyn Newspaper, 2022).

Subsequent air connections were initiated in 2016–2017:

1. 21 January 2016 – Berlin-Tegel [6];
2. 22 January 2016 – Kraków-Balice [3];
3. 6 June 2016 – Wrocław [18];
4. 17 June 2016 – Munich [4];
5. 2 July 2016 – Warsaw-Okęcie [5];
6. 20 May 2017 – Oslo-Torp [8];
7. 5 July 2017 – Rodos [7].

From that moment, interest in flights offered by the Olsztyn-Mazury Airport started to grow considerably.

On 7th July 2017, the airport welcomed its 100,000th passenger, travelling from Oslo. In the same year, also the amount of general aviation (small planes) grew significantly – the airport in Szymany became the leader on the Polish market as regards operating this type of flights. The Masurian airport developed, as a result of which the company was able to launch new flights:

1. 27th October 2019 – the first flight to Bremen (Ostróda NEWS, 2022);
2. 7th November 2019 – launching the Szymany – Cologne connection (Passenger, 2022).

The “Warmia and Masuria” Company, which was the airport operator, continued to care for the passengers’ comfort by opening an additional Gate 3 on the first floor of the terminal, on 28th October 2019 (Passenger, 2022).

At that time, it was possible to fly from Olsztyn to six destinations in Poland and Europe.

1. Cologne/Bonn (Ryanair, twice a week – on Thursdays and Sundays);
2. Bremen (Wizz Air, twice a week – on Wednesdays and Sundays);
3. London-Luton (Wizz Air, twice a week – on Mondays and Fridays);
4. Dortmund (three times a week – on Mondays, Wednesdays and Fridays);
5. Stansted (Low-Cost, twice a week – on Mondays and Fridays).

The development of Olsztyn-Mazury Airport in the aspect of the findings of the Airport Master Plan for 2019–2039 and the facility’s affiliation to the TEN-T NETWORK

Implementation of the Airport Master Plan (AMP), is an obligation imposed on the operator of a public-use airport by the Act of July 3, 2002 Aviation Law (Journal of Laws of 2020, item 1970). It is a document that defines the facility’s development plans for the

next 20 years. This document should take into account operational and technical assumptions related to the operation of the facility (airport) and the compatibility of these activities with regional development goals and the principle of sustainable development of transport infrastructure.

In the case of Olsztyn-Mazury Airport, the need to update the PGL resulted directly from Article 55, paragraph 10 of the Aviation Law (Journal of Laws of 2020, item 1970), which stipulates that – The AMP shall be updated in five-year periods or more frequently if the existing or projected technical and operational features of the airport or economic, operational, environmental and financial conditions require significant changes to this plan. Due to the occurrence of the premises necessitating the update (COVID-19) PGL on December 2, 2021. The Minister of Infrastructure approved a new AMP Olsztyn-Mazury for 2019-2039, which is important, including in terms of its compliance with the country’s transportation policy.

The approval of the new AMP in the 2019-2039 outlook confirmed that:

1. The concept of development of Olsztyn-Mazury Airport is in line with the Strategy for Responsible Development by 2020 (with an outlook to 2030) (Resolution, [2017] No. 8 of the Council of Ministers of February 14, 2017 on the adoption of the Strategy for Responsible Development until 2020 [with a perspective until 2030]), especially in the area of “transport”, which is one of the key areas affecting the achievement of the objectives of the Strategy;
2. The operation of Olsztyn-Mazury Airport is in line with the Strategy for Sustainable Transport Development until 2030, the main goal of which is to increase transport accessibility while improving the safety of traffic participants and the efficiency of the transport sector, through the creation of a coherent, sustainable, innovative and user-friendly transport system in the national, European and global dimensions;
3. The concept of development of Olsztyn-Mazury Airport is in accordance with the Program for the Development of the Network of Airports and Aeronautical Ground Equipment adopted by

Resolution No. 86/2007 of the Council of Ministers on May 8, 2007, in particular with the objective: 4.3 Ensure the competitive position of Polish airports in relation to the infrastructure of neighboring countries, taking into account economic and demographic potential, and Objective 4.5 Include Polish airports in the national and EU intermodal transport network. Improve regional and local accessibility of airports (roads, railroads, public transport).

In 2021 year, the regional authorities could boast of yet another major success, related to the development of air traffic in Warmia and Masuria: on 14th December 2021, the Olsztyn-Mazury Airport was incorporated into the trans-European network, TEN-T. It was possible due to the approved application submitted by the Marshal of the Warmia-Masuria Province to the European Commission. The Trans-European Transport Network membership opened new opportunities to receive EU funds, which became an important impulse for the development of the airport. Currently, the airport functions on the strength of the certificate complying with the Commission's resolution No 139/2014 of February 12, 2014 laying down requirements and administrative procedures for airports in accordance with Regulation (Resolution, 2014). On 3rd January 2018, the certificate was handed in by the Civil Aviation Authority Chairman to the Warmia and Masuria Company Chairman.

Table 3. The number of passengers and operations performed in domestic traffic – regular and charter-based, in 2016–2020

The number of served passengers and performed operations	2016	2017	2018	2019	2020	2021
Number of passengers	6 947	4	0	6 630	5 692	No data
Number of pax operations	364	0	0	138	186	No data

The data regards the number of passengers served in Polish airports. NOTE! Every passenger recorded in the statistics is served twice (at the port of departure and arrival).

Source: authors' elaboration based on: ULC, 2022 (25.04.2022).

Table 3 below contains data regarding the number of passengers and operations performed in domestic traffic – regular and charter-based, in 2016–2020.

At present, the Olsztyn-Mazury Airport has the airport code 4C, which means that it is adjusted to handle planes with the wingspread of up to 36 m, such as Boeing 737-800 or Airbus A321 (Fig. 5).



Fig. 5. Olsztyn-Mazury Airport
Source: own resources (25.06.2022).

The airport infrastructure and certificate also make it possible to receive larger aircraft, which in such cases is connected with the necessity to use special means.

The main element of infrastructure is the asphalt-concrete runway, 2500 m in length and 45 m wide. Direction 01 runway is fully equipped, which allows operations in limited visibility conditions, i.e. operations category I (CAT I). This makes it possible to approach and land according to the indications at the decision altitude, not lower than 800 m, or within the visibility range on the runway (RVR), not smaller than 550 m. Moreover, the runway is equipped with a number of sensors and devices supplying meteorological and technical information for the airport staff.

The Olsztyn-Mazury Airport offers aprons covering the total area of 27,000 m², aviation fuel AVGAS 100LL and JET A-1, as well as a full range of airliner ground handling. One of the airport services is Fire and Rescue Service, which provides fire protection for airports category 5 (ICAO). It can be raised to category 7 on request. Other services operating at the

airport include air traffic, meteorological services, the customs and Border guard (Olsztyn – Mazury Airport, 2022).

The airport can be reached by bus. Transport is provided by two regular bus lines from Olsztyn and Grajewo, and during the summer season – there is a bus connection with Mikołajki (Table 4).

Table 4. Regular and seasonal bus lines serving the Olsztyn-Mazury Airport

Olsztyn-Mazury Airport	Destination	Transit destinations
Szymany Airport	Olsztyn	Pasym, Szczytno
Szymany Airport	Grajewo	Ełk, Orzysz, Pisz, Ruciane-Nida
Seasonal connection – holiday season		
Szymany Airport	Mikołajki	Mrągowo, Szczytno

Source: authors' elaboration.

The high standard of the airport was also noticed by foreign carriers. Currently, flights from the runway are made by Ryanair, Wizzair and LOT planes.

Tables 5 and 6 present flight times, distances and the times of journeys by car, with the possibility to choose a fast or short route.

Considering the above and analysing the data presented in Table 7, we can see that the number of served passengers and performed operations in domestic and international traffic – regular and charter in 2019, was 147,446; compared to the year 2016, it increased by 106,156 served passengers.

The increase was substantial until 2020, when, due to the occurrence of the first case of COVID-19 in Poland on 4th March 2020, it was decided to introduce the sanitary cordon along the borders of Poland (15th March 2020), which significantly limited border traffic (Resolution, 2020 a. Resolution of the Minister of Internal Affairs and Administration of March 13, 2020 on the reintroduction of temporary border control of persons crossing the state border constituting an internal border; Resolution, 2020 c. Resolution of the Minister of Internal Affairs and Administration of March 13, 2020 on the temporary reintroduction of border control of persons crossing the state border constituting an internal).

In the later period, i.e. from 20th March 2020, following the Minister of Health's resolution, the state of the epidemic was officially announced (Resolution, 2020 b. Resolution of the Minister of Internal Affairs and Administration of March 13, 2020 on temporary suspension or restriction of border traffic at certain border crossings). The situation caused by the COVID-19 virus resulted in a complete, temporary suspension of domestic and international flights, which directly affected the number of served passengers and performed operations in domestic and international traffic – regular and charter (Table 7, 2020 – 56,120 passengers).

A similar situation took place at other airports in Poland. Due to the COVID-19 pandemic, the number of passengers served at Polish airports decreased by 70.3%, compared to the year 2019 (Civil Aviation Authority, 2022).

CONCLUSIONS

Using a descriptive method, the authors of the article presented selected airports in north-eastern Poland, with particular consideration of the historical aspect of building these facilities, as well as their current influence on the transport system of Warmia and Mazury region. The studies and analyses regarded mainly the Olsztyn-Mazury Airport, as an airport handling passenger traffic on the largest scale in the region.

The study indicates that the facilities situated in Warmia and Mazury have performed or may perform the function of both, a civil and a military airport because the decisions to build them have often been strictly connected with prospective or current military operations. It should be noted that the decisions to change the character of these facilities were usually related to the economic situation of the country, which was a consequence of political and social transformations, particularly intense in the 1990s.

Despite the difficult economic situation in the 1990s, the pace of the development of today's Olsztyn-Mazury Airport has always been admired by the tourists visiting the region. It can be seen

Table 5. Time of flight, distance by road and time of journey by car, with a possibility to choose a fast or short route

Departure	Arrival	Carrier	Time of flight	Fast route		Short route	
				Distance by road [km]	Time of journey by car	Distance by road [km]	Time of journey by car
Olsztyn-Mazury [Poland]	Kraków [Poland]	LOT	1h 10m	510	5h 54m	490	7h 58m
Olsztyn-Mazury [Poland]	Kraków [Poland]	Ryanair	1h 10m	510	5h 54m	490	7h 58m
Olsztyn-Mazury [Poland]	Wrocław [Poland]	Ryanair	1h 5m	516	5h 20m	437	8h 33m
Olsztyn-Mazury [Poland]	Rzeszów [Poland]	LOT	1h 10m	549	5h 42m	504	7h 58m

Source: authors' elaboration based on Olsztyn – Mazury Airport (2022).

Table 6. Time of flight, the distance by road, and time of journey by car, with a possibility to choose a fast or short route

Departure	Arrival	Carrier	Time of flight	Optimal route	
				Distance by road [km]	Time of journey by car
Olsztyn-Mazury [Poland]	Dortmund [Germany]	Wizzair	1h 45m	1084	10h 51m
Dortmund [Germany]	Olsztyn-Mazury [Poland]	Wizzair	1h 40m	1084	10h 51m
Olsztyn-Mazury [Poland]	London – Stansted [Great Britain]	Ryanair	2h 25m	-	-
London – Stansted [Great Britain]	Olsztyn-Mazury [Poland]	Ryanair	2h 10m	-	-
Olsztyn-Mazury [Poland]	London – Luton [Great Britain]	Wizzair	2h 30m	-	-
London – Luton [Great Britain]	Olsztyn-Mazury [Poland]	Wizzair	2h 20m	-	-

Source: authors' elaboration based on Olsztyn – Mazury Airport (2022).

Table 7. The number of served passengers and performed operations in domestic and international traffic – regular and charter (Olsztyn-Mazury Airport) in 2016–2021

The number of served passengers and performed operations	2016	2017	2018	2019	2020	2021
No of passengers	41 290	101 306	117 102	147 446	56 120	30 466
No of pax operations	882	680	862	1110	532	430

Source: authors' elaboration based on ULC (2022).

in the increased number of served passengers, traveling on both, domestic and international routes. The close distance to the capital of the region, Olsztyn, as well as the easy and fast access to the city centre, using suburban transport, make the airport in Szymany an

even more attractive place for tourists visiting Warmia and Mazury. Using air transport, passengers also save valuable time, significantly lowering the cost of travel.

Based on the analyses of the number of served passengers and the range of the air flights operated

by the Olsztyn-Mazury Airport, the authors are inclined to claim that the rapid decrease in the passenger-tourist traffic caused by the COVID-19 pandemic, which started on 4th March 2020, will not stop further development of the Olsztyn-Mazury airport.

Although passenger flights were temporarily suspended, Olsztyn-Mazury Airport maintained operational continuity, providing service to training, medical, business, military and transport flights, among others. Despite the difficult situation caused by the COVID-19 pandemic faced by the domestic and global aviation industry, the authorities of Olsztyn-Mazury Airport took measures aimed at further development of the port. Construction work has begun on adapting the airport's infrastructure to the second category of the ILS precision approach system, which in the future will increase the port's traffic accessibility, especially in difficult weather conditions. Recently, the airport's authorities have also established cooperation with PLL LOT S.A. in terms of servicing the carrier's CARGO flights, resulting in the addition of Olsztyn-Mazury Airport to LOT's RFS transport network, thus enabling the Szymany airport to be selected as the so-called "exit port" in the secure supply chain for air shipments. As a result, local entrepreneurs interested in shipping their products by air will be able to send them to Mazury, and the products will continue their journey to the destination airport aboard LOT aircraft.

The effective development of the airport as a tool for the economic and tourist development of the Warmia and Mazury region is also guaranteed by the recently adopted Airport Master Plan for the inclusion of the facility in the TEN-T NETWORK. At the same time, the airport authorities are focusing on the development of services for users of the General Aviation sector, which can largely contribute to the creation of optimal conditions for business development in the investment zone around the airport.

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