HISTORICAL AND CONTEMPORARY CONDITIONS FOR COMMUNICATION AVIATION DEVELOPMENT IN POLAND

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Abstract

This article has presented conditions and criteria which have determined the development of passenger aviation throughout the course of aviation history. The author, basing upon the statistics data analysis and the historical and contemporary generalisations in the area of aviation, assumes that the criteria for aviation development remain unchanged and arise from the operational (commercial) needs, existing economic potential, socio-political situation existing in the country, as well as from the affluence of the society and its willingness to communicate and to develop political relationships, business and economic relations with other societies. In the article, the author substantiates the adopted research hypotheses, basing on historical determinants, typical for the history of Polish aviation.

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Introduction

The aim of presented study indicate the conditions accompanying the development of transport aviation. The conditions constitute the object of theoretical deliberations on aviation development throughout the course of history, from its origin and subsequent stages of development, to the present. The main portion of this study refers chiefly to the development of Polish transport aviation, in particular to the course of its evolution and the development of Polish Airlines PLL LOT. The adopted research assumptions, in the context of axiological criteria for development of communication aviation, require an explanation of what communication aviation is. In general, it is a type of civil aviation that provides services with regard to transport of passengers, goods, mail and other cargo of particular importance. Therefore, it is in fact an extensively developed field of aviation services, subject to the regulations of

the International Civil Aviation Organization (ICAO) and other aviation organisations[1].

From an encyclopaedic perspective, aviation is seen as the entirety of issues and activities connected with the use of aircraft. It is also an important branch of the economy, with all of the traits of innovation. Therefore, it can be theoretically assumed that aviation combines modern technology, specialized materials and processes manufacturing, as well as dedicated software systems for aviation, development of aviation architecture and investment, construction of large complexes of the aviation industry, airports, transport network, commercial facilities, social facilities and entertainment facilities. Is there any other branch of industry that would be as varied and complex whilst also having undergone such dynamic development?

Fundamental Research Assumptions

The historic flight of the Wright brothers in December 1903 was the watershed event in the aviation development all over the world. The historical flight, if a 40-metre long jump of a biplane can be called a flight, in fact proved to be the most important event (milestone) in aviation development. In Europe, the historical event which had a big impact on aviation development, belongs to a Frenchman, Louis Bleriot, a pioneer of aviation development, who flew over the English Channel on 25th July 1909. That flight began the dynamic process of aviation development in Europe. In 1914, planes stop being the advanced hobby. Aviation began its dynamic carrier in military service, where all of their positive applications were noticed and very quickly implemented for production, also dynamizing the development of the aviation industry. By the end of the war, planes had already become complex, technologically advanced and, most importantly, relatively reliable aviation systems and structures.

The most symbolic act of the air law that starts the dynamic development of transport aviation in Europe was the adoption of the Paris Convention on 13th October 1919, which regulated air navigation and introduced a new legal order in the aviation regulations and in the nationality of aircraft. Originally, in the twenties, three models for development of transport aviation were proposed, based upon legal and economic criteria, including: 1)the freedom to use the airspace, which guaranteed open access to air navigation routes; 2) licensing of air services, which would require payment of transit and operational fees for the use of airspace; and 3) the use of airspace under the principle of reciprocity and equal interests. Ultimately, the third criterion, recorded in the Paris Convention, was adopted as the rule for air navigation and thereafter confirmed in the Chicago Convention, adopted in 1944. The need to determine the following problems was assumed: 1) what are the general conditions which determine the development of transport aviation; 2) are those criteria universal; 3) what are the relations at each stage of aviation development; 4) what factors determine the economic effects of aviation activities. It may be hypothetically assumed that the development of transport aviation is a simple consequence of the adoption of advanced aviation technologies, which had previously been developed and used for the military, in times before and during I and II World Wars, to the civilian uses during the peace time. Such an assumption may lead to

[1] International Air Transport Association (IATA)-global trade organisation based in Montreal and Geneva, Switzerland, consisting of 260 carriers that use airlines; ECAC is a regional consultative intergovernmental organisation dedicated to cooperation in the field of civil aviation in Europe, based in Paris, France; Airports Council International (ACI) is a global association of airport operators.

believe that all modern technological solutions and advanced technologies go to the armed forces first. Such thinking it is not always true, it may only confirm the assumptions with regard to the period of World Wars I and II, but no further than the 1980s. Nowadays, the fundamental direction of technology transfer has been reversed. It is the military that generally receives selected and well-tried solutions used in civil aviation, following their adaptation for military needs. Naturally, this does not apply to aviation weaponry systems. The weaponry systems are directly produced for military aviation.

Assumed Criteria for Aviation Development

So, what can be assumed as an axiological criterion for the development of transport aviation throughout the course of history? Such criteria includes the scientific, technical and technological progress in aviation; needs on aviation market at a given stage, socioeconomic demand for a specific product; the dynamization of the economic development, and the improvement of the society's economic situation resulting in higher interest in tourism and in communication between different societies. These criteria interact with one another, as well they complement and inspire one another.

Fig. 1. Selected criteria for development of transport aviation

No.	Criteria for development	First half of the 20th century	Second half of the 20th century
1.	Operational/Social needs	X	X
2.	Scientific and technological progress	X	X
3.	Aviation industry development	X	X
4.	Production capacities	X	X
5.	Economic situation improvement	X	X
6.	Social communication development	X	X

Source: Author's own research based upon the analysis of each stage of aviation development.

The criteria for development of transport aviation throughout the course of history was presented in the figure 1, and confirms the existing connection between the development of military and non-military technologies in aviation, chiefly in Europe, because military conflicts, especially large-scale, involving large forces, have occurred in Europe most frequently so far.

Organisational and Technological Determinants

The wartime experiences were utilised in the aviation industry, by creating new structures of aerodynamic robust planes, using multi-engine drive (2,3,4 engines). This created the conditions for developing passenger aviation supported by the first fully professional airlines, using passenger aircraft; at that time the first airlines known to this day were established, such as Wizz Air, Central Wings, Pan AM and PLL LOT. Passenger transport developed particularly rapidly in the United States, which is where Boeing, a company known up to this day, was established, building the first passenger aircraft already in the '30s.

The first brave airman, who crossed the Atlantic on his own, was Charles Lindbergh. His name became synonymous with pioneering achievements in aviation. Charles Lindbergh was originally known chiefly for organising air shows for an audience. However, he constantly needed extra adrenaline. Apparently, he did not have enough. Although in his live, he had already res-

cued himself by parachuting four times before. It is worth noting, at the time, the aviation incidents occurred almost every day. He was a great man, with passion for aviation, for which he had devoted the whole his life. Polish airmen also have a significant contribution to the aviation development. Their achievements include records in flight durability and the achievement of aviation industry, techniques and technologies. Sometimes, however, due to the "young" and rather poor country, after more than over one hundred years of captivity, these attainments are underestimated, so it is difficult to compare Polish achievement to other countries. Stanisław Skarżyński's flight over the Atlantic should definitely be counted among the historic great flights. The flight started on 7th May 1933, past 11:00 p.m., from the Saint Louis airport in Senegal, and finished after 20.5 hours of flight, on a tiny airport in a provincial town of Maceio, Brazil. This flight was also the international flight distance record (3582km [2226 miles]) in the category of touring planes with a tare weight below 450kg (1000lbs). This flight was also a significant step in the history of aviation. It is worth adding that these flights boosted the development of transatlantic passenger flights that connected two most important continents, America and Europe and have served for people for nearly a century. The development of aviation symbolically brought two continents-Europe and North America-closer. As early as in December 1935, regular (weekly) air mail flights were established over the Atlantic. The first passenger plane flight over the Atlantic took place on 8th July 1939. Boeing 314 "Yankee Clipper" of Pan American Airways did a first passenger flight on the New York-Azores-Lisbon-Marseille-Southampton route (12 crewmen and 18 passengers). Boeing 314 Clipper constituted a flying boat used as a passenger aircraft. This solution arose from the need to provide security to the passengers, and primarily to overcome the sea-related psychological barrier. Hence, a flight by a flying boat appeared safer. It is worth noting that Pan American Airways announced their readiness for passenger flights as early as in 1935, but the actual flight did not occur until four years later[2].

The first flight of a PLL LOT plane over the South Atlantic took place as early as on 2nd June 1938. Lockheed L-14 was used for the flight, from Natal to Dakar. However, regular passenger links with North America did not come into being until 1973, when links between New York and Warsaw were established. The links were operated by Il-62M planes. Presently, the links with the United States use the newest planes in the world, Boeing 787 Dreamliner, the first of which landed on Okęcie International Airport in Warsaw on 15th November 2012.

General Conditions of Aviation Development in Poland

In Poland, the development of aviation began after the restoration of independence in November 1918. The reborn and sovereign country, previously systematically pillaged by occupiers, enfeebled by uprisings and wars, began to create its own army, including the air force. The period of organisation of transport aviation in Poland came later, coinciding with the twenties, during the interwar period, which is when the first organisational aviation structures and the first enterprises which organised air transport appeared. The beginning of transport aviation were dominated by foreign (English and French) aviation associations, supported by their governments. However, the financial demands of the English were too exorbitant, whereas the

[2] Cf.: http://www.flyingclippers.com/B314.html retrieved: 5 March 2017.

French cared more about the political benefits, hence they were satisfied just with the establishment of the connection between the capitals. The endeavours of German companies, supported by business (with capital, planes and personnel), had the greatest economic significance out of all entries onto the Polish market. The Germans also established Polish companies, supporting them with their capital. One example of this process was the establishment of the airline Aerolloyd in 1922 (since 1925 known as "Aerolot") with the backing of German capital, which obtained the concession and launched a Gdańsk-Warsaw-Lviv link, which was subsequently extended to Malmö and to Bucharest. In 1923, the link between Warsaw and Kraków, extended to Vienna via Brno, and links between Kraków and Lviv were established. In 1925, Aero, a company stationed in Poznań, established a link with Warsaw.

Initially, during the first years after the First World War, the aviation authority in Poland was at the stage of forming. It is worth noting that in 1928, ten years after the war, the Civil Aviation Department was formed, which was transformed into the Civil Aviation Department in 1932, subordinated directly to the minister of communication. So, since 1928, air service in Poland has been the subject to the authority of the Department of Civil Aviation. This allowed the state to become involved in the problems of aviation. Therefore, on 1st January 1929, Polskie Linie Lotnicze LOT (LOT Polish Airlines)-a State Treasury, Silesian Self-Governments, City of Bydgoszcz and City of Poznań joint-stock company with a share capital of 8 million zloty was established. This resulted from a merger of the Aero airline with Polska Linia Lotnicza Aerolot (Aerolot Polish Airline; formerly Aerolloyd), forming the state- and self-government-owned enterprise Linie Lotnicze LOT (LOT Airlines). The enterprise began its activities by taking over 15 Junkerses from Aerolot, which took their first commercial passenger flight as early as on 2nd January. In May, on the occasion of the Polish General Exhibition, LOT's trademark design contest was announced, which was won by Tadeusz Gronowski, a visual artist from Warsaw, who proposed a stylised crane in flight as the company's logo.

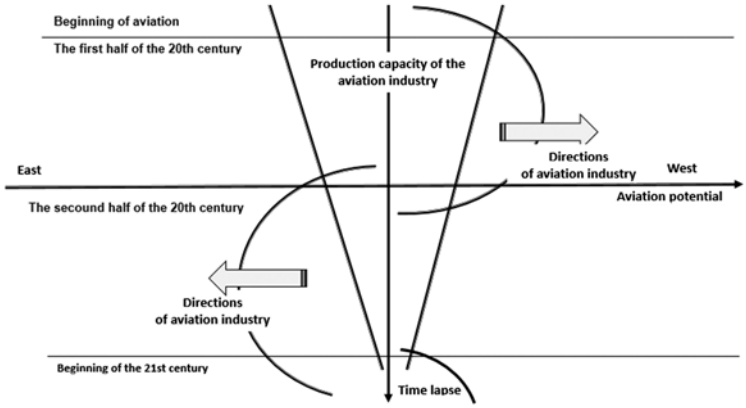
In 1930, when the effects of the Great Depression were not yet such distinctly perceptible, the Polish transport aviation was doing well. It served routes of 2798km (1739 miles) of airspace per day. In general, during its annual functioning, it flew 1,300,000km (807,783 miles) and transported nearly 12,000 passengers and 271,300kg (598,114lbs) of luggage and goods, and 74,514kg (164,275lbs) of mail, with flight regularity reaching up to 94.9%. However, the emerging economic problems necessitated subsidisation of air services by the state. As part of the services, the State Treasury paid PLL LOT subventions for every kilometre flown: 2.92 PLN by a single-engine Junkers, 3.40 PLN by a single-engine Fokker, 5.40 PLN by a three-engine Fokker, respectively. The working expenses amounted to 5,300,000 PLN. At that time, Polish air links became connected to European link network, becoming part of international air routes. In 1930, PLL LOT was accepted into the International Air Transport Association (IATA), and on 1st April, the airline opened its first international link between the Mokotów Airport and Bucharest. Subsequent international links were Athens, Beirut and Helsinki.

In 1934, the carrier moved to its new headquarters in the newly-built Okecie Airport. It was large and outfitted with modern devices and facilities: hangars, workshops and warehouses. PLL LOT's fleet was supplemented with new machines. These were

Douglas DC-2, Junkers Ju 52/3m and Lockheed L-10-A Electra. Douglas DC-2 planes, purchased from the American concern, constituted the technological breakthrough, as they enabled transport of twelve passengers and covering of the distance of 1750 kilometres (1087 miles). Due to the properly implemented owner supervision over LOT, government assistance and financing of major tasks from the state budget, Polish transport aviation was developing well, planes and modern technologies were being purchased, and the first plane assembly shop was established in Lublin.

With regard to the one hundred years development of the Polish aviation industry, it can be concluded that said development occurred sinusoidally, leaning either on westward or eastward aviation achievement, depending upon the political determinants. Hence the Polish aviation was originally developing based chiefly upon French and German models, and thereafter, in the second half of the 20th century, chiefly upon Soviet deliveries. The 21st century is dominated by American deliveries. This resulted in a large diversity of equipment in the transitory periods between the two directions of development. Throughout the course of history, the production capacities of Polish aviation industry were also decreasing. Originally, in the beginning of XX century, Poland had many aircraft factories and experimental units that manufactured aircraft. However, those capacities were systematically decreasing, and in the XXI century practically nearing to zero. Currently, Poland has rather limited production capabilities of aviation industry. It can be said that the national capabilities of aviation production have been replaced by obtaining the license for aviation production, as well on the assembly aviation products at Polish production plants. Polish research units set up research cooperation and in this way they exploit the opportunities for research and development. The aviation development model has been presented in the figure 2. The production capabilities of Polish aviation industry, presented in Figure 2, depicted in the form of a kind of funnel, indicate that these possibilities are systematically decreasing, while the level of dependence on foreign aviation industry is growing, which is indicated by intersecting lines of curves, depicting the dependence on western or eastern partner, depending on the development of the political situation.

Fig. 2. Polish aviation industry development model



Source: Author's own work, based upon an analysis of the aviation potential.

The period of dynamic development of LOT were interrupted by the Second World War. In 1938-1939, just before II World War, the airlines purchased Lockheed L-14-H Super Electra planes. Super Electra aircraft were quite modern, as evidenced speed of 400 kph (249 mph), and capabilities for transporting eleven passengers on the distance of 3300 kilometres (2051 miles). No European manufacturer at that time, was able to boast such performance. However, the machine also had some flaws-at low speeds, it lost its carrying power and its fuselage was too weak against strong gusts of wind. One machine self-ignited on the airstrip of the Bucharest airport, another crashed during a storm in Romania. LOT's management demanded that the manufacturer reconstructed the anterior parts of the aerofoil in all of LOT's Super Electras. The Polish carrier also used PWS-24 and PWS-24 bis machines, which were manufactured in Poland.

The end of May and the beginning of June 1938 saw a considerable image success-LOT's crew, under the command of the then Director and pilot Wacław Makowski, performed successful experimental flight by a Lockheed L-14H from Los Angeles to Poland. It flew over Latin and South America, South Atlantic, North Africa, to Rome and Warsaw. The success brought about plans to open that route in 1940, but the outbreak of World War II forced the airlines to suspend their operation.

General Assessment of LOT's Operations

The pre-war LOT was not an European or global aviation power. Nevertheless, it was one of the largest air carriers in Europe[3]. In 1939, its fleet comprised of 25 modern planes (see the Table).

Fig. 3. Fleet of aircraft owned by LOT in 1939

No.	Aircraft type	Passenger seats	Number of aircraft
1.	Lockheed L10A Electra	10 seats	10
2.	Lockheed L14 Super Electra	14 seats	12
3.	Douglas DC-2	12 seats	2
4.	Junkers Ju-52	15 seats	1

Source: Author's own work based upon PLL LOT's data (history).

It is worth noting that the greatest aviation fleet of the time, Air France, had 259 machines at its disposal; the Swiss company Swissair had over 100 passenger aircraft (according to various data). The British and Italian airlines were also important players on aviation market, each having approximately 100 planes. The Dutch company KLM, which at the time had 43 passenger aircraft, and the Belgian company SABENA with its 18 machines were also the forces to be reckoned with. The main directions of LOT's pre-war expansion were a natural result of the foreign policy of the time and the developing situation of Poland. During World War II, LOT's operations were suspended; domestic flights were not resumed until 1st April 1945, and international flights were not resumed until after 11th May 1945.

Regular passenger flights were not possible until the end of World War II. The restoration of Polish passenger fleet began after war, by the receipt of 9 Douglas DC-3 planes and 10 Li-2 planes. Acquiring these aircraft had again created the right conditions for the launch of LOT airlines. The

[3] M. Baran, *Ostatni przedwojenny rozkład lotów PLL LOT [The Last Pre-War Flight Schedule of PLL LOT]*, https://histmag.org, retrieved: 6 October 2015.

status of a state-owned enterprise was granted by the Resolution of the Council of Ministers of 8th August 1946, which established the status of the state-owned enterprise named Polskie Linie Lotnicze LOT. The seventies were the crucial stage in the LOT development. The appearance of the long-range aircraft, such as Il-62 and Il-62M in Polish airlines enabled the establishment of transatlantic flights to Montreal (May 1972) and thereafter, chiefly due to the needs of Polish community in America, regular air links with New York (April 1973).

Fig. 4. State of aircraft used by PLL LOT until 1989

No.	Aircraft type	Number of aircraft	Years of operation	Number of passengers
5.	Lisunov Li-2	39	1945-1967	14-28
6.	Douglas DC - 3	14	1945-1959	21-28
7.	SNCASE SE - 161	5	1947-1950	33-44
8.	Ilyushin Il-12B	5	1949-1959[4]	32
9.	Ilyushin Il-14	13	1955-1961	18-24
10.	Convair CV – 240	5	1957-1966	40
11.	Vickers Viscount	3	1962-1969	75
12.	Ilyushin Il-18	9	1961-1990	28-32
13.	Antonov An-24	14	1966-1991	44-50
14.	Tupolev Tu-134	13	1968-1994[5]	72-96
15.	Ilyushin Il-62 / Il-62M	6/10	1973-1992	168-195
16.	Yak-40	1	1982-1989	27-32
17.	Tupolev Tu-154M	14	1985-1996	114-180
18.	Douglas DC 10-30	3 (2 leased)	1994-1996	265-380
19.	Lockheed L 1011	1 (leased)	1995-1998	234
20.	DC-8-62H	1 (chartered)		Up to 259
21.	Boeing 767-300ER	7	1990-2013	181-375
22.	ATR 72-202	8	1991-2013	72-74
23.	Embraer – 145	14	1999-2011	37-50
24.	ATR – 42	13 (Eurolot)	1998-2013	50

Source: Author's own work based upon PLL LOT's informational materials.

Following the systemic transformation, which took place in Poland and in other Central and Eastern European countries, PLL LOT's orientation with regard to the used equipment changed as well. This resulted in a slow but systematic replacement of the aircraft fleet, replacing the previously used planes, which had been made chiefly in the Soviet Union, with American planes.

In 1990-1991, two last pre-ordered Tupolev Tu-154M planes were added. At the same time, in 1989, the acquisition of American planes began. These were Boeing 767-200ER and Boeing 767-300ER; subsequently, in August 1991, ATR 72-200 planes of the Franco-Italian company ATR and more Boeing planes were purchased-Boeing 737-500 planes were delivered in December 1992, and Boeing 737-400 planes were delivered in April 1993. That was not the end of the equipment replacement. In 1999, PLL LOT's fleet was supplemented with Brazilian planes: Embraer 145 (March 2004), Embraer 170 (May 2006) and Embraer 175 (June 2010). Embraers

[4] Planes handed over to the Ministry of National Defence after 1959.

[5] Following the crash of Tu-134 SP-LGB on the Okecie Airport on 23 January 1980, all Tu134 planes were replaced with Tu-134A2 planes (modernised, equipped with an APU and engine reversers), after: http://www.lot.com, retrieved: 26 January 2018.

also became the foundation of the fleet for transporting the most important people in the country. In 2010, the Ministry of National Defence chartered two Embraer 175 planes from PLL LOT. The contract was renewed in 2013 for four more years, until planes for transporting VIPs were purchased by the Law and Justice government after their victory in the 2015 election[6].

However, the greatest aviation crisis that afflicted the national carrier occurred after 2012. At that time the possibility to sale the airline also was seriously considered. The Prime Minister of the Republic of Poland, Donald Tusk spoke out on the PLL LOT subject in that way: "We aren't going to save LOT at all costs". He also added that "if it turns out that the company can't get out of the problems, it's not going to become a black hole devouring hundreds of millions zloty". The company's activity was not a big issue for LOT's management at the time either, as LOT's governing bodies had already been planning to remove the crane logo from the plane tails in 2010.

In 2012, it was apparent that LOT would not be able to survive on its own. Hence, the information on the intent to sell the national carrier appeared; a strategic investor was also being sought. This begets the fundamental question: why cannot the national carrier be profitable? The first attempts at answering that question were made by Fundacja Republikańska in a report prepared by aviation experts. The report was presented to the public in February 2013, at a session of the parliamentary State Treasury Committee.

The main critical comments contained in the report include gross neglect in the functioning of the owner supervision over PLL LOT. In fact, nothing had been done to ensure the improvement of the company's operations. The first and only decision of the owner authority (Minister of the Treasury) had been to dismiss PLL LOT's president of the board. As was noted in the Report, the State Treasury had no implemented efficient ownership policies, and its only ideas had come down to rushing the privatisation by way of public offer. The State Treasury had not been reacting to the changes on the aviation market and had not consolidated aviation entities like other European aviation companies, e.g. the Lufthansa Group, Air France/KLM and British Airways, had. Mistakes in the ongoing management of the company had been repeated, its president had been replaced multiple times, and mistakes had been repeated with regard to the property management. The company's assets had been disposed of for the purpose of acquiring financial resources for covering the company's current liabilities. The cumulative loss on economic activities for 2008-2011 had amounted to over 1.2 billion PLN. Irrespective of that assessment, LOT SA had all of the organisational conditions to operate efficiently.

In 2012, the company was employing over 2000 people, and its planes operated nearly 100 routes. Since 2015, the Chopin Airport has been operating as a hub for Central and East European countries. PLL LOT's current fleet is presented in the figure 5.

[6] On 31 March 2017, the Armaments Inspectorate signed with Boeing Company a contract of purchase of three medium-sized VIP planes for a total net cost of USD 523.6 million (PLN 2.05 billion).

Fig. 5. State of aircraft used by PLL LOT[7]

No.	Aircraft type	Number of aircraft	Number of passengers
1.	Boeing 737 (various versions)	11 (4 ordered)	162/186
2.	Boeing 787-8 (Dreamliner)	8 (4 ordered)	252/294
3.	Bombardier (CRJ-900, Q-400)	16	78/90
4.	Embraer (170, 175, 195)	24 (6 ordered)	70-112
Total		59 (14 ordered), optionally another 11	

Source: Author's own work based upon LOT's informational materials.

After the change in approach of the State Treasury toward the national carrier, PLL LOT has seen profit. By the end of 2017, the profit from the company's main activities, i.e. passenger transport, amounted to over 283 million PLN. From January until December 2017, PLL LOT transported nearly 7 million passengers. It is estimated that by 2020, LOT will have reached 10 million passengers, which means doubling the number of passengers transported as compared to 2015, when the company's restructuring began.

Summary

Summarising the content of this study, it is worth noting that the assumed criteria for the development of aviation remain virtually unchanged. Presently, the development of transport aviation is determined by factors similar to those from the early 20th century-the early years of its development-including chiefly the operational needs, technological capacities of the industry, economic development level, general political situation and social demand. These criteria are, as mentioned before, immutable and universal, irrespective of the historical period and geographic region in which aviation is developing and conducting aviation operations, transporting passengers and goods. Over the course of the past 100 years of the development of transport aviation, some influence from military operations has been observed, with regard to both World Wars. Therefore, it can be assumed that a certain regularity occurs here, indicating that development of the military potential of aviation in the period preceding a war and in the course of military operations translates into subsequent aviation functioning.

What is more, it is evidenced by the periods of time both World Wars, both in European countries such as France, Germany and the United Kingdom and in the aviation industry of the United States. It is also worth noting that over the course of 100 years of development of air transport, the criteria for its economic efficiency have remained virtually unchanged. This is very clearly observable in the activities of PLL LOT throughout the last three years. Its development and economic successes confirm the research assumptions entirely. The foundation of economic success in both the interwar period and at present lies chiefly in proper owner supervision, which comes down to efficient management of property as well as the investments that suit the company's needs and the customers' requirements, which increase as the society becomes more affluent. The determinants presented have allowed PLL LOT to turn from an aviation company that was on the brink of bankruptcy as recently as on the threshold of the second decade of the

[7] The average age of PLL LOT's machines is over 8 years; moreover, LOT is the first European airline which had Boeing 787 Dreamliner in its fleet. The newest plane (Boeing 737-8 MAX SP-LVB) was delivered on 20 December 2017. In addition, PLL LOT is the co-owner of two ATR 72-600 planes, two Bombardier CRJ-700 planes and two Bombardier CRJ-900 planes (operating for Nordica), after: informational materials of PLL LOT, https://www.planespotters.net, retrieved: 26 January 2018.

21st century into an example of successful economic reorganisation. Its current annual profit from just its main activities nears 300 million zloty, which is comparable to being capable of reaching the purchase price of the majority shareholding of a company that is on the verge of collapse and selling its properties in parts.

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