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AERODROMES IN REPUBLIC OF NORTH MACEDONIA

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Abstract: The regulatory body for aerodromes and its infrastructure in Republic of North Macedonia is Civil Aviation Authority of North Macedonia (CAA). CAA is responsible for the certifying and oversight of the aerodromes around the country. In North Macedonia we have 2 international aerodromes, 5 sport airfields and 6 airfields for agricultural aviation. The international airport Skopje, located in vicinity of the capital Skopje and the international airport St. Apostle Paul in Ohrid. Both of the airports are operated by TAV Macedonia Ltd. since 1st March 2010 and its passenger turnover and capacities increased drastically in the last 5 years. Taking into account their current infrastructure, possibilities for renovation and future increase of their capacity we can say that International airport Skopje is near its maximum capabilities in both terms of infrastructure capacity and possible upgrade to a higher level of classification for instrument approach and runway extension or strengthening to accommodate larger aircrafts. Additionally, both airports in Skopje and Ohrid suffer from specific meteorological condition during the winter months with a foggy days mainly due to their geographic location in valley surrounded by high terrain. Resulting from the foggy days, many flights are delayed or cancelled, with foggy days accounting 7-9 days per month during January and February in Skopje. As a comparison, some of the airports in the region such as Belgrade airport, Sofia airport or Thessaloniki airport have better infrastructure, longer runways with higher PCN characteristics able to accommodate heavier fleet of aircraft and higher level of classification for instrument approach – CAT IIIB or CAT IIIC, allowing them to continue operations even during heavy fog or no visibility at all. As a comparison, our international airport in Skopje has a classification of CAT I for instrument approaches and due to high terrain in the final approach and the resulting steep glide path of 3.3° is not able to upgrade to CAT II instrument approaches or higher. In order for us to be able to keep up with the airports in our region and be able to offer more on the market and be competitive, the only solution is to build a new airport on a location that will not be affected by obstacles, without the valley effect and foggy days. The new location will need to offer expansion possibilities allowing for new, longer runways to be built and certified for CAT III approaches in order to attract more airlines to open new routes to our country.
Keywords: airport capacity, infrastructure facilities, landing flight path, aircraft

1. INTRODUCTION

Aerodrome is an airport or part of an airport equipped and open mainly for public air transport in Republic of North Macedonia. (Aviation Act , Official Gazette no. 42/2014).
The aerodromes have big influence on daily life and migration, tourism as well as the economy through the fast and efficient transport of passengers and cargo. Main regulatory body for the aerodromes and their infrastructure in Republic of North Macedonia is the Civil Aviation Authority (CAA) and the decisions made under its jurustiction are totally politically, financially and functionally independent from another state body.

2. TERMS DEFINITION USED FOR AERODROMES

When discussing for a description or defying terms, we tend to give explanations of the most common used terms for aerodromes.
„Airport“ is a defined land or water area with a maneuovering areas and areas for taking off, landing, aprons, buildings, tools and equipment for a safe movement, landing, takeoff and stay of aeroplanes; (Jasenka Rakas 2014)
„Destination aerodrome“ is an aerodrome at which the aircraft finishes the flight in accordance with the determined flight plan; (Aviation Act, 2006)
„Aircraft“ is a vehicle which can move or hover in the air, fulfilling the strict conditions for safe air operations; (Eurocontrol, 2001)
„Aerodrome“ is an airport or part of an airport equipped and opened mainly for public air transport; (Aviation Act, 2006)

„Air transport“ is flying or movement of aircrafts on the maneouvering areas or the aprons on the aerodromes; (Aviation Act, 2006)

„Airway“ is a controlled area or part of the airspace defined in a form of a corridor; (Aviation Act, 2006)

„Aeronautical Information Publication“ (AIP) – is a publication which consists aeronautical information of non expiring character, essential for the air transport, published by the air navigation provider (M-NAV) and approved by CAA; (Eurocontrol-Guid-165, 2017)

„Airfield“ – is a defined land or water area which fulfilling the strict conditions for safe take off or landing of aircrafts for specialised operations, by definition used for agriculture, forestry, etc.; (Mary Wisniewski, 2018)

„Aerodrome operator“ – legal person which, with or without other activities, has правно лице кое, со или без други активности, aims to rule and manage the airport infrastructure, to coordinate and control the activities of the operators present at the appropriate aerodrome or systems of aerodromes, in accordance with the legislation of the Republic of North Macedonia; (Eduardo A. Flores, 2008)

„Certification“ is a procedure for issuing, revalidation, renewal, change and transfer of an airport or airfield certificate or for issuing approvals and approvals related to the safe use of the airport or airfield, which consists of a certification audit and supervision in which the CAA determines whether the applicant meets the prescribed safety requirements for the use of an airport/airfield;

3. CIVIL AVIATION AGENCY OF REPUBLIC OF NORTH MACEDONIA

The Civil Aviation Agency (CAA) is organized as the aviation authority of the Republic of North Macedonia whose organizational structure ensures the quality and timely execution of the security regulatory functions described in ICAO Annex 19 and Doc.9734 (Safety Oversight System) as well as other functions related to surveillance of security, economic supervision, flight rights, etc.

The purpose of the establishment of the Civil Aviation Agency as a civil aviation authority is to implement the regulatory functions specified in the eight critical elements of which the security oversight system is composed in one State described in ICAO Doc.9734.

The Aviation Authority in the Republic of North Macedonia was established in 1995 with the Law on Directorate for Civil Aviation as a body within the Ministry of Transport and Communications. The Directorate was established to perform both the aviation regulatory functions and the functions related to the provision of air navigation services.

In 2001, the name of the aviation authority changed to the Administration for Civil Aviation without significant changes in its status and competencies.

With the new Aviation Act in 2006, the Administration for Civil Aviation has been transformed and continues to operate as a Civil Aviation Agency. In accordance with the Aviation Act, the Civil Aviation Agency has the status of an independent state body outside the Ministry of Transport and Communications directly responsible to the Government of the Republic of North Macedonia and does not perform the functions related to the provision of air navigation services.

In June 2009, a complete separation of the functions related to the provision of air navigation services by the Civil Aviation Agency was carried out, for which the joint venture M-NAV was formed.

In May 2010, with the amendments to the Aviation Act, the Civil Aviation Agency was transformed from an independent administrative body under the Government of the Republic of North Macedonia to an independent regulatory body with public authorizations, directly in charge of the Assembly of the Republic of North Macedonia.

The Agency, in its work in the decision-making process within its competences, is fully political, financially and functionally independent from another state body, other public legal entity or company that performs activities in the field of aviation and is impartial towards them.

3.1. Competences of the Civil Aviation Agency in relation to the aerodromes

The Civil Aviation Agency has regulatory responsibilities related to the safety and security of the aerodromes, airfields, terrains and airport services:

- Certification of aerodromes, airfields and terrains;
- Approval of airport services;
- Approval of airport facilitation programs, security programs, current and investment maintenance plan for airports and other plans, programs, manuals, airport and airport operators instructions;
- Continuous inspection supervision:
  - Inspection at aerodromes and airfields;
  - Inspection of airport departments and services; and
  - Inspection of security services at airports, air carriers and other entities from acts of unlawful conduct.

- Registration of aerodromes, airfields and terrains;
- Issue of consents with conditions for construction of objects and plans in terms of air traffic safety;
- Protection of air passengers rights.

4. AERODROMES IN REPUBLIC OF NORTH MACEDONIA

The airspace of the Republic of North Macedonia (hereinafter: the Macedonian airspace) is inviolable. The network of aerodromes in the Republic of North Macedonia consists of two airports for international air traffic: "International Airport - Skopje" and "St. Paul the Apostle - Ohrid "; from five sport airfields with grass runways: Skopje - Stenkovec, Kumanovo - Adzi Tepe, Stip - Susevo, Bitola - Logovardi and Prilep - Malo Konjari, adequate for all types of sport aviation; and from six airfields for speciliased operations, which provide services mainly for agriculture and forestry: Logovardi - Bitola, Dame Gruev - Bitola, Sarandinovo - Prilep, Crveni Bregovi - Negotino, Karatmanovo - Veles and Peshirovo - Sv. Nikole.

4.1. Skopje International Airport – Skopje

The Skopje International Airport, Code: (SKP, LWSK), is located 17 km south-east of the center of Skopje, the capital of the Republic of North Macedonia. The airport elevation is 238 meters above sea level, with a reference temperature of 35°C in July and the magnetic variation is 4 ° E (2013). The airport is of mixed character, military-civilian, open for traffic 24 hours, category 4D with equipment for precision and non-precision instrument approach of aircraft - ILS CAT I, GP of 3.3°, with minimum runway visual range (RVR) of 650 m and a decision height (DH) of 214 ft with a minimum climb gradient of 5%. The aerodrome reference point is in the middle of the runway with the following coordinates: 41 57 42N 021 37 17E.

Table 1. Physical characteristics of the runway

Markings	True and magnetic heading	Runway dimensions	Pavement strength and type
RWY 16	165°	Length: 2950m	PCN 76 F/D/W/T ASPH
	161°	Width: 45m	
RWY 34	345°	Length: 2950m	
	341°	Width: 45m	

Table 2. Runway declared distances

RWY	TORA (m)	TODA (m)	ASDA (m)	LDA (m)	Remarks
16	2450	2450	2450 2800*	2450	/
34	2950	2950	2950	2450	/
	2450	2450	2450	-	Intersection with taxiway H

*300 meters from the runway extension during stopping may be used during daytime only as no lighting provided.

Skopje international airport has terminal capacity of 3.000.000 passengers and 40.000 tons of cargo per year. The optimal number of take-off and landing operations per hour is 25, and this figure only applies when RWY 34 is in use, as equipped with an instrument landing system, while RWY 16 can only be used in visual meteorological conditions by day and night trips and landings are prohibited. With a strong southern wind > 5 m/s, the airport operates at day only according to the visual flight rules due to the use of RWY 16 which is not equipped with an instrument landing system and can not be used at night.

4.2. International airport St. Paul the Apostle

International airport St. Paul the Apostle, Code: (OHD, LWOH) is located 10 km northwest of the center of Ohrid. The airport elevation is 700 meters above sea level, with a reference temperature of 29°C in August and the magnetic variation is 4 ° E (2013). The airport is category 4D , equipped with a precision and non-precision instrument approach for aircraft - ILS CAT I, GP of 3.2°, with minimal runway visual range (RVR) of 1500 m and a decision height (DH) of 1053 ft with a minimum climb gradient after missed approach of 4.5%. The runway at the

airport St. Paul the Apostle in Ohrid is equipped with the CAT I instrument landing system for RWY 01 only, while RWY 19 is for visual landing only. The aerodrome reference point is in the middle of the runway with the following coordinates: 41 10 48N 020 44 32E.

Table 3. Physical characteristics of the runway

Markings	True and magnetic heading	Runway dimensions	Pavement strength and type
RWY 01	018°	Length: 2548m	PCN 76 F/B/X/T ASPH
	014°	Width: 45m	
RWY 19	198°	Length: 2548m	
	194°	Width: 45m	

Table 4. Runway declared distances

RWY	TORA (m)	TODA (m)	ASDA (m)	LDA (m)	Remarks
01	2548	2548	2548	2548	/
19	2548	2548	2548	2548	/

The airport in Ohrid works with a working time that is published in a separate publication, called NOTAM. Depending on the season and flight plans, the working hours are updated for each season and published to be available to the aviation personnel. The current capacity of the airport is 300 000 passengers per year, while the capacity of the passenger terminal is up to 300 passengers per hour.

4.3. Sport airfields and airfields for specialised operations

The sport airfields in Republic of North Macedonia are with a grass runway with a length between 850 and 1200 meters and a load-bearing capabilities of up to 5.7t. The sport airfields throughout the country are operated by aero clubs and are certified by the CAA. By improving the infrastructure of the sport airfields, they can easily be converted into business or taxi aviation ports and by placing customs and passport control with advance notice, they can also be used for international flights.

The airfields for the specialised operations in the Republic of North Macedonia are with a concrete runway with a length of 300 meters and a grass runway with a length of 500 meters, with a load-bearing capabilities of up to 5.7t. At the moment, only one airfield for specialised operations is certified by the CAA and in use. The airfield is located near the village Peshirovo, Sveti Nikole.

5. ANALYSIS OF THE USAGE OF AERODROMES IN REPUBLIC OF NORTH MACEDONIA

The aerodromes in Republic of North Macedonia noted an increase in the number of passengers and transport in the last 5 years. Most of the number of passengers and transport are transferred from Skopje international airport, while in Ohrid there is a rise in the scheduled airline services as well as charter flights during the summer season. During 2018, Skopje Airport managed to carry over 2 million passengers, had 37 regular lines, operated by 12 airlines and 4 charter destinations in the summer season, operated by 6 airlines. Ohrid Airport had 3 regular lines and 8 charter seasonal destinations, operated by a total of 12 airlines. It is important to note that there are no transit passengers on both airports in Skopje and Ohrid, as both airports do not offer connecting flights. Both airports, Skopje international airport and the airport St. Paul The Apostle in Ohrid have used over 70% of their capacity for serving passengers annually and currently are at their maximum for future upgrades and expansion of their capacities in terms of longer runways, new passenger terminals, higher level of equipment for instrument approach and at the same time, the geolocation of these airports does not allow opportunities due to the complexity of the terrain configuration, which appears as an obstacle in the final approach of the aircraft or as an obstacle after the take-off of the aircraft.

5.1. Statistical data for the period between 2010 and 2018

According to statistics for passenger traffic, from January to September 2018, the most frequent destinations at the Skopje International airport are: Istanbul (both Ataturk and Sabiha Gokchen airports, with 10.8% market share), Zurich (7.8%), Vienna (5.7%), Basel (5.3%), Malme (4.5%) and Bratislava (3.4%). Regarding the market share of airlines in total passenger traffic, Wizz Air transported the largest number of passengers with a 60.3% market share,

followed by Turkish Airlines (7.8%), Austrian Erlians (5.7%), Germania Flug (4.5%), Pegasus Airlines (3.7%), Croatia Airlines (3.4%).

Table 5. Traffic statistics for Skopje International airport

Year	Passengers	Change	Cargo (t)	Change	Aircraft operations	Change
2010	716,000	18.9%	-	-	-	-
2011	759 918	6.1%	2 376	-	10 977	-
2012	828 831	9.1%	2 297	-3.3%	10 418	-5.1%
2013	984 407	18.8%	2 504	+9.0%	11 276	+8.2%
2014	1 208 359	22.7%	3 422	+36.7%	13 210	+17.2%
2015	1 452 465	20.2%	2 649	-22.6%	14 451	+9.4%
2016	1 649 374	13.6%	3 090	+10.9%	15 407	+6.6%
2017	1 868 272	13.3%	2 744	-11.2%	16 680	+8.3%
2018	2 158 258	15.5%	3 298	+20.2%	18 188	+9.0%

Table 6. Traffic statistics for St. Paul the Apostle airport

Year	Passengers	Change	Aircraft operations	Change
2010	14 095	-58,4%	-	-
2011	78 246	+455,1%	906	-
2012	84 736	+8,3%	866	-4,4%
2013	83 060	-2,0%	1 069	+23,4%
2014	69 984	-15,7%	821	-23,2%
2015	107 916	+54,2%	1 133	+38,0%
2016	145 002	+34,5%	1 446	+27,6%
2017	159 072	+9,7%	1 450	+0.3%
2018	184 283	+15,8%	1 562	+7.7%

In the course of 2019 and 2020, an increase of 5% is expected for the number of passengers carried from the airport in Skopje and the number to reach 2.5 million passengers.

5.2. Comparison with the aerodromes in the region

In order to get a complete picture and show the role of Skopje International Airport in the region, we will make a comparison of our most frequent airport with the airports in Belgrade, Thessaloniki and Sofia. The comparison will be made with regard to the physical and technical characteristics of these airports, their equipment and capacities, as well as in terms of the number of passengers transported during 2018.

From the airports in the region included in this comparison, only Thessaloniki airport has two runways, one of which is equipped with CAT II and the other equipped with CAT I equipment for instrument approach. The aerodrome configuration with two runways has a major impact on the operation of the airport under complex weather conditions, mainly with strong winds allowing aircraft to land without a strong crosswind component. In the case of crosswind components of wind stronger than 15 m/s, most of the aircraft operating from these airports have difficulties or can not carry out landing due to limitations in the manuals issued by the aircraft manufacturers themselves.

Table 7. Comparison of the physical and technical characteristics of the airports in the region

Airport	Reference code	Runway dimensions (m)	PCN	ILS Category
Skopje (LWSK)	4D	2950 x 45	76/F/D/W/T ASPH	CAT I
Belgrade (LYBE)	4E	3400 x 45	3000m: 69/F/A/W/T ASPH 400m: 73/R/C/W/T CONC	CAT IIIB
Sofia (LBSF)	4E	3600 x 45	70/F/B/X/T ASPH	CAT IIIB
Thessaloniki (LGTS)	4D	10/28: 2440 x 50 16/34: 2410 x 60	10/28: 40/F/B/X/U ASPH 16/34: 40/F/B/X/U ASPH	CAT II

Table 8. Comparison of the capacity and the number of transported passengers at the airports in the region

Airport	Terminal capacity (annual)	Number of transported passengers (Year 2018)	Annual increase of passengers (%)
Skopje (LWSK)	3 000 000	2 158 258	+9
Belgrade (LYBE)	7 000 000	5 641 105	+6
Sofia (LBSF)	4 600 000	6 962 040	+7.3
Thessaloniki (LGTS)	4 000 000	6 689 193	+7.1

From the tables above, it is clearly seen that Skopje international airport, although with the largest increase in transported passengers in 2018 due to its physical and technical characteristics, is lagging behind the airports in Belgrade, Thessaloniki and Sofia. The runway is equiped with an instrument landing system of CAT I which does not allow the airport to attract more air carriers and allow operations with reduced visibility during the foggy days in the winter. The configuration of the terrain and the high obstacles in the final approach of the aircraft, result with a steep glide path (GP) of 3.3° and as of this, it can not be equipped with a higher category of instrument landing system such as CAT II or CAT III. Due to the shorter length of the runway and the higher reference air temperature in Skopje, the type of aircraft that can operate at the airport in Skopje is limited. In contrast, the airports in Belgrade and Sofia do not have such a restriction primarily because of the length of the runway, but also due to the larger PCN number, ie the higher load-bearing capacity of the runway.

6. AICRAFT CLASSIFICATION NUMBER & PAVEMENT CLASSIFICATION NUMBER

ACN / PCN (Aircraft Classification Number / Pavement Classification Number) is a standard unified method. This method permits the expression of the interaction of an arbitrary element on an aerodrome pavement over a single unique number for the aircraft, which changes depending on two factors - the type of the pavement and the hardness of the base of the pavement, without unnecessarily determining the thickness of the pavement. That number is called ACN. Load bearing can be expressed through one unified number without specifying a particular aircraft. That number is called PCN.

The ACN number provides information on the mutual structural action of a particular aircraft type on different pavement types (flexible or rigid), based on certain hardness qualities (4 categories) for load of a single wheel with a tire pressure of 1.25 MPa.

ACN determination: In general, the ACN values are given by the aircraft manufacturers themselves. Information tables for both types of pavement are developed: rigid and flexible. Thus, the designated ACN values for different types of aircraft are obtained under the following conditions:

A. For rigid pavements

- on the basis of Winkler's theory of proportionality between the reaction of the soil (basic layers) and the bending of the plate under the load of the aircraft.
- limiting the dangerous tensional bending in the base of the soil to 2.75 MPa.
- calculation of the force acting on the base of the soil for each of the four groups, the ACN values of the standard load on a wheel with a tire pressure of 1.25 Mpa.

B. For flexible pavements

For flexible pavements, the CBR method is used to deploy the load from the aircraft landing gear. The ACN values are divided for the four categories of load bearing of the soil base under the pavement with standard wheel load and tire pressure of 1.25 MPa.

The PCN number represents the capacity of the pavement from the point of view of the load on the same standard single wheel. The PCN number is only for information about the specific qualities of the hardness of the pavement and that number can not be used to design the pavement or to monitor the condition of the pavement.

PCN Determination: When a PCN is required to be published, the number for a certain pavement at the airport is marked with a code, consisting of 5 elements: PCN value, type of pavement, strength of the pavement base, permissible tire load on the carriageway and the method used for evaluation. Thus, the formulated PCN in the form of a code is published and compared with the aircraft planned to operate, to determine whether all aircraft can operate at a given airport without limiting the load.

PCN value: The value of a PCN expressed through numbers is given in integers, rounded to the nearest integer. For pavements with variable strength, the lowest value obtained from the weakest portion of the pavement is taken.

Pavement type: Two types of pavements are distinguished: rigid (R) and flexible (F). Mixed or other type of pavement is identified by rigid or flexible pavement, depending on the method used for measuring of the PCN. For example, in a runway with a mixed pavement type - a rigid base with an asphalt finish, the method of determining the strength and capacity is by transforming the pavement into equivalent of the rigid pavement.
Specifically for this case, when assigning a PCN number, it is designated as (R) - a rigid pavement.
Strength of the base of the pavement: Four categories of load bearing of the pavement base are distinguished and they are defined and coded in the following table:

Table 9. Load bearing categories of the pavement base

Category	Rigid pavement Base coefficient by Westergard, MN/m3	Flexible pavement CBR	Code letter
High	> 120	> 13	A
Medium	61 - 120	8 -13	B
Low	25 - 60	4 - 8	C
Very low	< 25	< 4	D

With approximate accuracy, the load on the base of the pavement can be determined by the initial classification.
Wheel tire pressure: The pressure of the tire on the aircraft's wheel does not affect much the rigid pavement made of concrete but drastically affects the asphalt pavement under certain climatic influences. In that case, the permissible tire pressure should be limited. For the publication of PCN, ie the permissible tire pressure, there are 4 categories, which are presented in the following table:

Table 10. Maximum allowable tyre pressure categories

Category	Tyre pressure limit MPa	Code letter
High	No limitation	W
Medium	1.01 - 1.50	X
Low	0.51 - 1.00	Y
Very low	0 - 0.5	Z

Assessment methods: Two methods for assessing the pavement are used to determine the PCN. The first method is based on a technical test, since electronic numbering and technical testing are carried out. This method is encoded with a T letter. The second method is experimental, as the PCN is determined by trial use of an aircraft with an ACN that does not damage the pavement. This method is encoded with the letter U.
Assigning a PCN: As mentioned above, PCN is assigned as a code composed of letters and numbers. An example is the combination 70 / F / B / X / T, where the value 70 denotes the numerical value of PCN, F denotes a flexible pavement, B denotes a medium load bearing category of the pavement base, X denotes the tire pressure and T denotes that the load bearing category was determined with the method of technical testing.
Systematically this is seen in the following table:

Table 11. PCN coding system

PCN	Pavement type	Base strength	Tyre pressure	Method
Numerical value	R - rigid	A	W	T- technical tests
		B	X	
	F - flexible	C	Y	U- experimental
		D	Z	

It must be noted that the ACN / PCN method is not a design or evaluation method, but a classification system itself. Unfortunately, the fact that the ACN calculation method uses two common design and analysis methods (the CBR equation and Westergard theories) has led to a surprisingly high number of people to assume that it is a design and

evaluation method. It is not unusual to mention that PCN is calculated using the ACN / PCN method. In fact, the ICAO's documentation very clearly tells us that it is not a design / evaluation method and that PCN is simply an ACN of the most harmful aircraft that can regularly use the pavement.

7. THE INFLUENCE OF THE METEOROLOGICAL CONDITIONS ON THE AERODROMES

The greatest factor for the operation of the aerodromes are the meteorological conditions that govern the area where the aerodrome is located. Of the meteorological phenomenas that often cause the closure of the airport or its reduced work, the wind and reduced visibility, most often the thick fog, but also the heavy rains in the summer period or the heavy snowfall during the winter period, are especially distinguished. The reduced visibility, that is, the fog also represents the biggest problem at the international airport in Skopje, resulting in 20 days during the year (a total of 100 hours) when this phenomenon is expressed and completely or partially interrupts traffic at the airport. This is particularly highlighted in the winter months, starting from the second half of December to the end of February, when ocassionally can happen that the airport is closed for traffic up to 3 days in a row. Snow and ice are the second factor that have the biggest impact on the operation of the airport in Skopje and because of this the airport has 7 days a year (50 hours in total) difficult or disrupted operation.

CONCLUSION

The aerodromes in the Republic of North Macedonia in the last 5 years have seen an increase in the number of passengers carried annually, especially Skopje international airport, which in the course of 2018 exceeded 2 million passengers annually. According to the increase in the number of scheduled airlines, charter destinations and the higher number of passengers annually, the capacities of both international airports in Skopje and Ohrid are closest to their maximum. The facilities of the runway in terms of categorization for the instrument approach of the aircraft at both airports lag behind the leading airports in the region such as Belgrade, Thessaloniki and Sofia. Therefore, it can be concluded that there is a need to consider the possibility of building a new airport, if we want to respond in a timely manner to the market demand, but also to deal with the competition from the region. The new airport should meet the latest requirements regarding geolocation, the impact of meteorological conditions in that region, but also in terms of terminal facilities and equipment of the runway. It is realistic to forecast that a terminal with a capacity of 4 million passengers annually, a runway with a length of 3400 meters, as well as equipment for an instrument approach of at least CAT IIIA will respond to the needs of our market. The bearing load on the runway should be at least PCN 70 / F / B / X / T ASPH, if it is intended to attract larger aircraft that can operate to distant destinations, cargo transportation, but also an idea that the new airport will offer connecting flights, ie bring transit passengers that have not been the case for our existing airports to date.

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