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Zwirko an der Spitze ...

**On the 90th anniversary of the victory of the Polish crew in the 1932 Berlin Challenge
International de Tourisme**

“While the final event, the 300-kilometre triangle near Berlin race was underway, I was in the radio room at the Mokotów airport with Stach Rogalski and a few other colleagues. Two operators were listening in and holding a radiotelegraph dialogue with their fellow radio operators at the Berlin airport. They were relaying the latest news from the announcer in Morse code. The loudspeaker emitted nervous ‘ti-ti-ta-ta’ sounds, and our radio operator’s pencil was quickly drawing letters which morphed into a text.

‘Z-w-i-r-k-o - a-n - d-e-r- S-p-i-t-z-e - Żwirko in the lead’, was the last message. ‘Warten, warten – wait, wait!’ After an annoyingly long, moment, looking over the telegraph operator’s shoulder, we could see him writing a text sent by his German colleague:

‘E-s-k-o-m-m-t, e-s - k-o-m-m-t... z-u-m- T-e-u-f-e-l... k-o-m-m-t... Coming, coming... damn it, he is here’.

Pause! We clench our crossed fingers. Rogalski dug his fingers into the telegraph operator’s arm.

- D-e-r- P-o-l-e. Z-w-i-r-k-o w-i-n-n-t. Żwirko is the winner”.[1]

Such electrifying moments were described by engineer Witold Rychter when, on 28 August 1932, the entire world of aviation heard about the victory of the flying duo: Lieutenant Pilot Franciszek Żwirko and Engineer Pilot Stanisław Wigura in the prestigious Challenge International de Tourisme, or the International Tourist Aircraft Competition held in Berlin.[2]

During the interwar period, aeronautical competitions attracted millions in Poland, Europe, and around the world, and drew much greater attention, prestige and importance in the media at the time than the Olympic Games. This is why the achievements of Polish airmen were considered historic national triumphs in Poland and abroad.[3]

In 1929, at the Academic Aero Club located at the Pole Mokotowskie Airfield in Warsaw, Franciszek Żwirko, an experienced aviator from the 111th “Kościuszko” Fighter Squadron, and a well-known flight instructor, since 1928 a liaison officer acting on behalf of the Aeronautics Department at the Ministry of Military Affairs at the Aero Club, met Stanisław Wigura, a young student, one of the founders at the Aviation Section of the Mechanics Students Club of the Warsaw University of

Technology, a constructor of sports aircraft. This acquaintance quickly turned into a friendship which flourished when future Engineer Wigura was learning how to fly a plane under Żwirko's supervision, followed by numerous successes achieved by the pair in domestic and international aviation competitions. Their crowning glory was the victory at the Challenge International de Tourisme in 1932 in Berlin. They flew RWD-6, a sports plane custom built for this event.[4]

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Franciszek Żwirko, the future “icon of Polish wings”, was born to a Polish family on 16 September 1895 in Świąciany in the Vilnius Region (today *Švenčionys* in Lithuania). At his family home, there is a memorial plaque in Lithuanian and Polish, informing about the birthplace of the famous aviator. It is proof that the character of Żwirko also finds its place in the contemporary Lithuanian culture of collective memory. In 1913, as a young man, he left for St. Petersburg, where he wanted to fulfil his dream of flying, he enrolled in a pilot school, but his mother's intervention interrupted his academic adventure with aviation. In 1915, having passed the matriculation exam in Vilnius, the young subject of the tsarist state was conscripted into the Russian army where, having graduated from the officer school, he fought on the Eastern Front. When the Bolshevik Revolution broke out in Russia in 1917, Second Lieutenant Żwirko joined General Józef Dowbor-Muśnicki's 1st Polish Corps, fighting against the Bolsheviks in Belarus. He was on the staff of the Aviation Division of the 1st Corps. After the demobilization of the Corps, he tried to return to Poland being reborn, but due to the chaos caused by the civil war in Russia, he ended up in the Russian anti-Bolshevik General Anton Denikin's 'White Army'. In the 'White Guards service', he began a course at the school of aviation observers and, in the mid-1920s, after the Bolshevik victory in the Russian civil war, he managed to escape from the Crimean Peninsula to Constantinople. In 1921, he reached the territory of now independent Poland and joined the Polish Army. His dream to serve in the air force was soon to come true.[5]

In September 1921, Żwirko reported to the air squadron stationed at the Porubanek airfield in Vilnius, where he was accepted as a mechanic with a rank of a private. After demobilization in April 1922, he continued his career in the army – in August of the same year he was called up to the 1st Aviation Regiment in Warsaw. The function of the physical education officer did not suit him and, in June 1923, he was delegated to the Aviation School in Bydgoszcz and, in March 1924, to the Aviation College in Grudziądz. After three months, promoted to the rank of lieutenant, he began to attract the attention of higher ranking officers, and when in 1925 he returned to the Bydgoszcz school as a flight instructor, the prestige of 'his' 3rd Squadron quickly began to grow, and he was presented to other commanders as a role model. Since 1925, his superiors had been sending him to nationwide aviation competitions – his debut was the First Pomeranian Circular Flight which he finished in fourth place. In Polish aviation, he became a pioneer in night flights – he took the first of those in the autumn of 1926, covering the Bydgoszcz–Poznań—Kraków–Warsaw route and back in seven hours. His next service

assignment was again the Warsaw 1st Aviation Regiment, and his first international success was noted in 1927 when, together with Capt. Władysław Popiel in the Breguet XIXB2 plane, he was the fastest to cover the circular route of the 1st Little Entente[6] Flight and Poland, organized by the Yugoslav aviation community (the Polish crew came second in the overall score). His famous 1,800 km long night flight around Poland, a non-stop 10-hour flight on the same type of plane, was applauded in the military circles.

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Stanisław Wigura was most likely born on 9 April 1903 in Żytomierz (today Zhytomir in Ukraine).[7] During the Polish–Bolshevik war of 1920, he enlisted in the Polish Army where he served in the 8th Field Artillery Regiment. After the war, he graduated from the Jan Zamoyski Grammar School in Warsaw, where he passed the matriculation exam, and then studied at the Faculty of Mechanical Engineering at the Warsaw University of Technology. In 1927, together with Stanisław Rogalski and Jerzy Drzewiecki, he set up the famous RWD, a team of designers named after their initials. He designed the RWD series sports planes, a source of considerable accomplishments for Polish crews in individual and team aviation competitions on the international arena. The year 1929 brought a diploma in Mechanical Engineering and a sports pilot licence, issued by the Warsaw Academic Aero Club. Żwirko was the instructor who supervised his training. As regards his professional life, he started working as a lecturer at the State Aviation and Automobile School in Warsaw and as a lecturer at the Department of Airframe Construction at the Warsaw University of Technology, devoting all his time to designing planes and his passion for flying.[8]

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The RWD-2 sports plane was built in 1929 after it was flown in the rally around Poland by two engineers, Jerzy Wędrychowski and Jerzy Drzewiecki, the crew consisting of the pilot Żwirko and the mechanic-navigator Wigura was assigned a grand task of flying around Europe in this plane for the first time. Despite the engine trouble and a short stop in Paris, the crew covered the route of approx. 5,000 km above the Pyrenees and the Julian Alps, providing both pilots with inside knowledge which they could use three years later at the Challenge.[9] The RWD design team gained the confidence of knowing that the RWD-type planes produced in the workshops of the Warsaw University of Technology could compete with European designs produced by renowned plane factories.[10]

Before 1932, the Żwirko and Wigura aviation duo won several awards in Polish competitions. On 16 October 1929, Żwirko and Antoni Kocjan, flying an RWD-2, broke the flight altitude world record in the light aircraft category, rising to the altitude of 4,400 m. In 1931, Żwirko, together with Eng. Stanisław Prauss, set the world altitude record of 5995,5 meters on an RWD-7 aircraft (the FAI International Aviation Federation refused to recognize it). In 1930, the Żwirko and Wigura duo,

becoming ever more famous in Poland, was preparing to participate in the Challenge de Tourisme International, which was to be held in Berlin. The first edition of this prestigious competition was organized in 1929 by the FAI Aero Club of France. The competition was won by a German pilot, Fritz Morzik, flying a BFW M.23b plane. In July 1930, the next edition of the competition was held in Berlin. Among the 12 Polish participating crews were also Żwirko and Wigura's, competing on an RWD-4 plane. After three days of sports rivalry, the Polish airmen took third place. The real chance for their success was compromised on 25 July because of a serious engine failure. After a forced landing 60 km from Zaragoza in Spain the flight could not be continued. Participation in the 1930 Challenge was another valuable experience for the Polish crew.[11]

In 1931, Żwirko was nominated to the position of commander of the School Squadron of the Aviation Officers Training Centre in Dęblin. It was in April 1932, that Żwirko as the flight instructor of the 'School of Eaglets' received an offer to participate in the Polish representation in the 1932 Challenge. When asked about the selection of the other crew member, he had no hesitation in recommending Wigura. Six specially designed and built planes were prepared for the competition: three metal PZL-19s and three mixed RWD-6 aircraft. The Żwirko and Wigura duo was to use the latter. The plane was built in accordance with the requirements of the competition regulations, but Drzewiecki's accident on the first tested prototype caused a temporary delay in the building of the next two aircraft, and the Aeronautics Department of the Ministry of Military Affairs approval for Żwirko's participation in the Berlin event contributed to the delay. Corrections introduced in two subsequent models and their successful flight tests allowed for the final approval to participate in the Challenge and, on 11 August 1932, Żwirko sat at the instruments panel of an RWD-6 SP-AHN sports plane and, together with his mechanic, took off from Warsaw to Berlin. Five Polish crews – altogether 10 pilots – flew to Poznań and Berlin in a V formation: the outer positions in the formation, led by Captain Pilot Jerzy Bajan were taken by two RWD-6 planes. After landing at the Berlin–Staaken airport, the Polish team planes, led by Major Adam Wojtyga, were hauled into the huge airship hall. The competition began on the next day. Żwirko flew to Berlin in a bright windbreaker he bought just before take-off from Warsaw, a windbreaker in which he was to fly, to win and ... to die.[12]

Skrzydłata Polska monthly, informing about the course of the Challenge, described the struggles of Polish aviators as follows:

“The competition begun on 14 August with technical tests, then there was a circular flight (21–27 August) and to finish, a maximum speed trial (28 August) ... The best score for equipment and practical usefulness was attained by our RWD-6: 86 points each. They obtained the maximum possible scores. The Polish PZL-19 followed, scoring 84 points, and the Bredas [the Italian team] came third. Żwirko took first place in the minimum speed trial. Initially, he achieved 59 km/h, then he improved this result to equal a record

at 57.6 km/h, scoring the whole 50 points. [Tadeusz Karpiński's RWD-6 SP-AHL] was right behind Żwirko at 60 km/h, and then the Italians. The German Heinkel had the fastest disassembly time. [Wolfgang] Stein assembled his plane in 50 seconds, Żwirko disassembled his RWD in 2 minutes and 27 sec., scoring 1 point less. Planes that failed to be disassembled within 15 minutes each received 15 penalty points. German planes again dominated in the engine start trial where the number of points to be scored was marginal anyway. The Klemms [KL 32] ([Wolf] Hirth 91.5 m) and Italian Breds ([Francesco] Lombardi 97.5) scored the highest in the short take-off and landing trial, followed by the RWDs (Żwirko 115 m). This trial was performed as follows: the pilot declared the closest distance from the 8 m high gate and set off from the point marking his chosen distance in an attempt of flying above the gate. The distance from 100 to 300 m was scored. This trial, requiring great dexterity, could be repeated. The first ones in the landing trial were: Mr. [Winifred] Spooner on the Breda [33] (92.4 m) and [Reinhold] Poss on the Klemm [KL 32 V] (97.8 m). Żwirko reached 105.8 m as a result of the instinctive acceleration while the plane was landing. The RWD obtained much better results in Warsaw. Karpiński stopped his RWD at 152 m. The landing took place in the same conditions as the take-off trial. The pilots were expected to fly above the 8 m high gate and stop the plane as close as possible to the obstacle. Someone rightly said that it was rather an endurance test of the chassis. Indeed, some were damaged during this trial. The fuel consumption rates gave the Germans an advantage".[13]

After the technical trials (i.e. take-off and landing trials, minimum speed trial, minimum fuel consumption trial) carried out at the Berlin-Staaken airport, the Żwirko and Wigura crew, doing their best to finish with the highest score (maximum of 500 points) was in the lead. The main rivals of the Poles were the Italian pilots. The German team of 15 pilots was in spitting distance from both teams, trying their best to perform well in front of their supporters. *Lot Polski* reported: "The dismissive Germans focused only on the Italians. However, they faced an unpleasant disappointment when, as we scored more points, we promptly moved to the front of the table." [14] During the 7363.2 km circular flight around Europe, the participating crews from six countries had to complete the distance in six days. In order to score the maximum number of points, it was necessary to achieve an average travel speed of 200 km/h along the entire route, and land at 24 designated airports. During the circular flight that began at Berlin-Tempelhof, one of the largest airports in the world at the time, [15] on Sunday 21 August 1932 at 7 a.m., due to the failure of a Breda 33 aircraft, the Italian team withdrew from the competition. In consequence, the German crews were just behind the Poles. The flight over the Alps in clouds and fog was a true test for Żwirko and Wigura. The failure of one of the two spark arrestors in the British Genet "Major" engine which proved perfect for the competition caused another major headache. [16] Every day, the German and Polish press reported the latest from Berlin. Żwirko and

Wigura's RWD-6 SP-AHN aircraft was in the lead in the competition of a dwindling group of aviators.

On Sunday, 28 August 1932 at 3:15 p.m., Żwirko, as the Challenge leader, took off first in the third and last competition, which was the speed test along a 300 km long triangular route (the control waypoints were Frankfurt on the Oder, Dobriluk in Lusatia and Berlin-Tempelhof).

German pilots, taking off at different time intervals, using more powerful engines in Heinkel He-64c, Klemm KL 32 V, X, and XII planes, hoped to improve their positions in the overall classification, scoring points for higher speed, and began to reduce the distance to the Polish crew en route. It was clear to the spectators at the Berlin-Tempelhof airport that if a low-wing aircraft appeared on the horizon, it would mean success for the German crew, and if it was a high-wing aircraft, the Polish crew would win the Challenge. When a rapidly growing point materialized in the sky flying towards the landing strip, more than 50,000 eyes of the Berliners at the airport and a small Polish team turned towards it. After a while, Major Adam Wojtyga watching the plane through binoculars, and recognizing a high-wing aircraft, exclaimed: "This is our crew, this is Franek flying! Keep it that way!" After a while, he added tearfully: "So we have won!". The first of the German competitors arrived 83 seconds after the Polish crew.[17] The top ten included as many as seven German and two Polish crews – the best of the German pilots, Morzik and Poss, came second and third, however, in the team classification, the Żwirko and Wigura team also took first place. The crowd of spectators soon heard that the Polish pilots scored 461 points out of 500, and saw a red and white flag hoisted on the mast. After a while, the Polish anthem, *Mazurek Dąbrowskiego*, resounded at the Berlin airport.

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The winning crew returned home on 29 August 1932.[18] Crowds of Varsovians waited for the winners of the Challenge (more than 50,000 according to press reports) at the Pole Mokotowskie airfield. Żwirko, having flown the victorious RWD-6 SP-AHN low above the airport, soared vertically upwards, then, made a circle and landed. Following Wigura's advice, he walked towards the running fearing the plane might be destroyed by the enthusiastic crowd. Thousands of people who greeted the pilots broke through the police cordon and headed for the plane. Żwirko, carried by the crowd, lost a shoe, a sock, and his wallet. After hugging their families and Żwirko's emotional speech from the terrace of the Academic Aero Club, both pilots travelled in an open limousine to the seat of the Aero Club of the Republic of Poland. *Lot Polski* described this return to Warsaw as follows:

"Solemn and excited, filled with unusual joy and great pride, Warsaw and the whole Poland awaited the moment when the winged winners of this year's Challenge would land at the Warsaw airport. Countless crowds of spectators, every citizen was aware of the great feat of our pilots at the International Challenge. Everyone already knew exactly

how many and what obstacles our leading, heroic pilots had overcome to achieve one of the most splendid victories of the Polish team. They came smiling and happy. They fell into the hands of enthusiastic fans. The entire Mokotów airport shuddered with cheers, the crowd carried the winners on their shoulders and were ready to carry them like this for hours ... Those who, thanks to their great victory, filled each of us with the sense of greatness – the greatness of Poland's name. They brought their victory with them and enchanted the whole of Poland with their deed. They won the first international award but they won something more: our minds, our hearts, our worship!”[19]

From then on, Żwirko and Wigura were in the spotlight of many press and radio interviews, meetings with the highest representatives of military and civilian authorities, joint photographs, flights to the “School of Eaglets” in Dęblin, Bydgoszcz, and Vilnius, they even appeared in feature films. The success of the duo echoed abroad: the English press praised the British Genet “Major” engine as the foundation of Polish success, while the German press was delighted with the German on-board clocks with which the winning RWD-6 was equipped. The airmen returned to Warsaw on 9 September 1932 to receive an invitation from a representative of the Polish Aero Club to an air show in Prague.[20] The winners of the 1932 Challenge took off from the Warsaw Mokotów Airport on Sunday, 11 September 1932, at around 6 a.m., heading towards Brno in Czechoslovakia.

At around 8 a.m. in the vicinity of Cieszyn, the first signs of the approaching storm were visible. In strong gusts of wind, after reaching Czechoslovakia, the light RWD-6 SP-AHN was thrown around in the air like a feather. The pilot, having returned from the area of Moravian Ostrava, headed towards Poland, but a tragedy occurred when they flew over the mountainous and wooded area. The wing of the plane broke off over Kostelec Hill in Dolní Těrlicko (16 kilometres from Cieszyn). The machine hit two tall spruce trees at the edge of the forest. The first person at the scene of the accident was Franciszek Klimsza, who found the massacred body of Żwirko together with his famous jacket jacket and a passport in his name. After a while, he also discovered Wigura’s body. Both pilots were dead.[21] Soon after, Józef Stebel, who lived nearby, arrived at the scene of the accident. Both inhabitants of Dolní Těrlicko notified the Czechoslovak authorities about the tragedy.

The news of the tragic accident of the Polish crew spread across Poland and Europe like wildfire. The tragic accident took up a lot of space in the German aviation press. *Przegląd Lotniczy* reported:

“Our Berlin correspondent, Eng. Fritz Wittekind, sent us a letter expressing the feelings caused by the death of, Lieutenant Pil. F. Żwirko and Eng. S. Wigura in aviation spheres and German society will be greatly missed. Sharing the information received from the capital of our western neighbour with our readers, the Editorial Board, on its part, feels obliged to point out that in expressions of sympathy received from around the world, the

exceptionally chivalrous, gentlemanly, and friendly behaviour of the representatives of the German aviation sports world was especially emphasized, in expressing and showing us heartfelt sympathy in the days of mourning, after the loss of late Lt. Żwirko and Eng. Wigura. The representative of the German Aero Club, who came specially from Berlin to express condolences and to lay a wreath on the grave of the tragically deceased winners of this year's Challenge. He gained profound gratitude and recognition from Polish society at large and the world of aviation for his speech. The chivalrous gesture of German airmen was greatly appreciated".[22]

There were numerous articles about the tragic death of Żwirko and Wigura in the Polish press, too. The Polish-language *Gazeta Gdańska* wrote on 13 September 1932:

"Żwirko and Wigura died tragically ... Poland is in deep mourning. On Sunday morning, Lieutenant Franciszek Żwirko's plane, flying to Prague, crashed near the village of Terlicko in Czech Silesia. The pilot died instantly along with the accompanying engineer-constructor Stanisław Wigura. Late Lieutenant Żwirko's and the late Eng. Wigura's plane, on its way to an international aviation event in Prague, crashed during a storm raging over Český Těšín and, as the result of the so-called corkscrew effect, hit the Kostelec hill near Dolní Těrlicko (14 kilometres from Český Těšín), smashing into a tree with all its might. The plane on the ground was shattered."[23]

The nationwide *Ilustrowany Kurier Codzienny* sadly reported: "On 11 September 1932, Franciszek Żwirko, the pilot, and lieutenant-pilot, Stanisław Wigura, the engineer-mechanic, the pride and glory of Polish aviation died in a crash. In the splendour of the brilliant triumph of the wings of Poland, covered with immortal glory, they passed, leaving Poland in mourning".[24]

The funeral ceremonies began on 11 September 1932 in Horní Těrlicko, where the bodies of the airmen were laid in the local cemetery chapel, and Czechoslovak soldiers stood guard at the door. Thousands of people who wanted to pay their last tribute to the heroes of the skies were attracted to the crash site, and the nearby border crossing in Cieszyn was opened especially for this occasion. On 12 September, a ceremonial car funeral procession set off to Poland. At the border bridge on the Olza River, two metal coffins were handed over from car caravans to officers of the Polish Army. Carried on their shoulders, they were transferred to a horse caravan, which, assisted by soldiers from the 4th Podhale Rifle Regiment, accompanied them to the Silesian Hospital in Cieszyn. After the bodies were washed and dressed, the funeral ceremonies began. On 13 September, a funeral mass was held in the local parish church and a black flag was hung above the Cieszyn castle. On that day, a special train set off towards Warsaw, stopping on the way in Bielsko and Kraków. At the Warsaw Main Station, the train stopped at night, on 13/14 September. Throughout the day, the coffins of the airmen were

displayed in the church of St. Cross on Krakowskie Przedmieście Street, from where the funeral procession set off in the direction of the Old Powązki cemetery on the morning of 15 September 1932. Metal coffins were carried upon two fuselages of Ansaldo A-1 “Balilla” fighter planes serving as caravans.[25] The airmen were posthumously decorated with the Knight’s Crosses of the Order of Polonia Restituta, and their coffins were laid in the Avenue of Merit in the Powązki Cemetery. In addition to representatives of the highest state authorities, about 300,000 compatriots came to bid farewell to the aviators. Neither Warsaw nor the Republic of Poland had ever seen such a funeral.

The place of Żwirko and Wigura’s tragic death on the Kostelec Hill in Dolní Těrlicko was taken care of by the local inhabitants. Initially, next to the preserved spruce trunks, which the plane crashed against, a birch cross with an aircraft propeller was erected and, in 1935, a small mausoleum was built there. In front of its entrance, there is a gate with the inscription in Polish carved in on wooden boards: “Żwirko and Wigura’s take-off to eternity”. In December 1940, the German occupiers destroyed the mausoleum, and even cut down the spruce trunks at the crash site. At their order, the bell funded in memory of both pilots by the Těrlicko Polonia was also melted down. After the end of World War II, the mausoleum was rebuilt and a new monument was erected. The 1932 commemorative stone excavated from the ground was restored to its glory and, in 1957, an inscription in Polish and Czech was carved on the monument: “In memory of Żwirko and Wigura, Polish pilots who died here in a plane crash”. To this day, it is easy to find it thanks to information plaques placed on the road to Dolní Těrlicko, and in the local Żwirko and Wigura Polish House there is a replica of the bell commemorating both airmen.[26]

At the exhibitions devoted to the 90th anniversary of the triumph of the Polish crew during the Berlin 1932 Challenge and their tragic death, artefacts from the past were exhibited at the Jaworzno Museum and the Air Force Museum in Dęblin, as well as numerous photographs. In the Dęblin Museum, there is, among other memorabilia, Żwirko’s passport found at the crash site, his famous pilot’s windbreaker, as well as a replica of the commemorative bell. In the Żwirko and Wigura Polish House in Horní Těrlicko, there are remains of the RWD-6 SP-AHN aircraft structure and numerous memorabilia of its crew.

Both Polish pilots are currently patrons of over 200 streets, several dozen scout teams, and several schools in Poland. On the occasion of the victory in the Challenge in 1932, commemorative medals were minted in their honour, and the Polish Post issued three commemorative stamps. 28 August 1932 is celebrated as Polish Aviation Day in honour of the Berlin triumph of the Polish crew.

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Endnotes

[1] Witold Rychter, *Skrzydlate wspomnienia*, (Warszawa: Wydawnictwa Komunikacji i Łączności, 1980), p. 190.

[2] *Mała encyklopedia lotnicza. Ilustrowany słownik lotniczy* (Warszawa: Zarząd Główny Ligi Obrony Powietrznej i Przeciwgazowej, 1938), pp. 61–62.

[3] Marian Romeyko (ed.), *Ku czci poległych lotników*, (Warszawa, 1933), p. 377

[4] *Mała encyklopedia lotnicza*, p. 100, 383, 392; Tadeusz Malinowski, *Sport Lotniczy*, [in:] *Almanach Polskie Lotnictwo Sportowe*, (Kraków: Krajowa Agencja Wydawnicza, 1987), pp. 76–78.

[5] *Mała encyklopedia lotnicza*, p. 500; Stanisław Januszewski, *Awiacja I Korpusu Polskiego na wschodzie*, (Wrocław: Fundacja Otwartego Muzeum Techniki, 2018), p. 155; Stanisław Januszewski, *Pionierzy. Polacy w siłach powietrznych Wielkiej Wojny 1914–1918*, (Wrocław: Fundacja Otwartego Muzeum Techniki, 2019), p. 533; Jerzy R. Konieczny, Tadeusz Malinowski, *Mała encyklopedia lotników polskich*, (Warszawa: Wydawnictwa Komunikacji i Łączności, 1983), p. 194; data from the author's private archive.

[6] Small Entente was an anti-Hungarian and anti-German alliance between Czechoslovakia, Yugoslavia and Romania, existing between 1920 and 1938. After Munich agreement on 30 September 1938 and refusal of help for Czechoslovakia by alliance members, it ceased effectively to exist.

[7] The day and place of birth of Stanisław Wigura are contested in the scientific literature. Some scholars assume that Wigura was born on 9 April 1901 in Warsaw. Romeyko, *Ku czci poległych*; *Mała encyklopedia lotnicza*, p. 473; „Stanisław Wigura”, [in:] *Encyklopedia PWN*, accessed on 29 May 2022, <https://encyklopedia.pwn.pl/szukaj/Wigura%20Stanis%20C5%82aw.html>.

[8] *Mała encyklopedia lotnicza*, pp. 473, 391–393; Konieczny, Malinowski, *Mała encyklopedia lotników*, pp. 184–185; Kazimierz Sławiński, *Lotnisko Mokotowskie w Warszawie*, (Warszawa: Wydawnictwo Komunikacji i Łączności, 1981), pp. 70, 84; data from the author's private archive.

[9] *Mała encyklopedia lotnicza*, pp. 473, 500; Malinowski, *Sport Lotniczy*, p. 75; Konieczny, Malinowski, *Mała encyklopedia lotników*, p. 185, 194–195; Henryk Żwirko, *Franciszek Żwirko*, Warszawa 1988, pp. 71–104. *Mała encyklopedia lotnicza* claims, that Żwirko started his aircraft service in 1919.

[10] Rychter, *Skrzydlate wspomnienia*, pp. 118–119; Henryk Żwirko, *Franciszek Żwirko*; Tadeusz Malinowski, *Sport lotniczy*, p. 77; Marian Krzyżan, *Międzynarodowe turnieje lotnicze 1929–1934*, (Warszawa: Wydawnictwo Komunikacji i Łączności, 1986), p. 61.

[11] Krzyżan, *Międzynarodowe turnieje*, pp. 43–44.

[12] Krzyżan, *Międzynarodowe turnieje*, p. 62–65; Żwirko, *Franciszek Żwirko*, p. 149–151. Sławiński (p. 84) incorrectly states that the launch occurred on 12 August 1932.

[13] *Skrzydłata Polska 1932/9*.

[14] *Lot Polski 1932/9*.

[15] *Mała encyklopedia lotnicza*, p. 448.

[16] Krzyżan, *Międzynarodowe turnieje*, p. 94–95; Żwirko, pp. 190–238; Rychter, *Skrzydlate wspomnienia*, pp. 189–190;

[17] *Lot Polski 1932/9*. Bohdan Arct, *Skrzydła nad Warszawą*, (Warszawa: „Nasza Księgarnia”, 1965), pp. 120–125; Rychter, *Skrzydlate wspomnienia*, p. 190; Żwirko, *Franciszek Żwirko*, p. 244.

[18] *Ilustrowany Kurier Codzienny* no. 242 of 1 September 1932 incorrectly states (p. 86) that the return of the winning crew took place on 2 September 1932. According to Rychter (p. 194) the airplane of the winning crew (RWD-6 SP-AHN) arrived at Mokotów Airport in an honorary escort of six P-6 type fighter planes from the 111th “Kościuszko” Fighter Squadron. This information is also incorrect, since the iconographic material in the press reports shows not only PZL P-7a type fighter planes from the Squadron, but also a PZL P-23 A “Karaś” type light bomber and a reconnaissance aircraft.

[19] *Lot Polski 1932/9*.

[20] *Lot Polski 1932/9*.

[21] Krzyżan, *Międzynarodowe turnieje*, p. 98; Rychter, *Skrzydlate wspomnienia*, pp. 197–198; Malinowski, *Sport Lotniczy*, p. 97; Żwirko, *Franciszek Żwirko*, pp. 250–253; Konieczny, Malinowski, *Mała encyklopedia lotników*, p. 185. Sławiński (p. 86) incorrectly states that the crash happened on 12 September 1932.

[22] *Przegląd Lotniczy 1932/9-10*.

[23] *Gazeta Gdańska* no. 210, 13 September 1932.

[24] *Ilustrowany Kurier Codzienny* no. 255, 14 September 1932.

[25] Arct, *Skrzydła nad Warszawą*, p. 125. Among the hundreds of mourning wreaths, wreaths from Marshal Józef Piłsudski and the government of Poland were laid at the very head. Posthumously, Żwirko was promoted to the rank of captain.

[26] Data from the archives of the Żwirko and Wigura Polish House in Horní Těrlicko