SEMINARE
vol. 40 * 2019, no. 4, p. 103-116
DOI: http://doi.org/10.21852/sem.2019.4.08

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THE CENTRAL INDUSTRIAL DISTRICT AS AN EXAMPLE OF THE SOCIOLOGICAL IMAGINATION OF ITS CREATORS

Abstract

In defining the place and significance of the Central Industrial District (COP) in Polish history and economy, it is impossible to overlook the numerous components of this complex economic undertaking, the plan whose main purpose was to increase the level of defence capabilities of the Second Polish Republic and to offset the differences in the economic sphere of particular areas of Poland. In addition to a few historical issues, the article presents the achievements of the Aviation Valley, an association listed among the key national clusters, created as a result of a specific organizational culture implemented in Sub-Carpathian Region since the beginning of the COP.

Keywords: economic program, industrialization, aviation industry

CENTRALNY OKRĘG PRZEMYSŁOWY PRZYKŁADEM SOCJOLOGICZNEJ WYOBRAŹNI JEGO TWÓRCÓW

Abstrakt

Przy definiowaniu miejsca i znaczenia Centralnego Okręgu Przemysłowego – COP w polskiej historii i polskiej gospodarce nie sposób nie zauważyć licznych elementów składowych tego skomplikowanego przedsięwzięcia gospodarczego, planu, którego zasadniczym celem było zwiększenie poziomu obronności II RP i zniwelowanie różnic w sferze gospodarczej poszczególnych obszarów Polski, począwszy od 1937 r. Na uwagę zasługuje także fakt, że działania zapoczątkowane w tamtym okresie w dalszym czasie przekładają się na to, co dzieje się w życiu gospodarczym i społecznym województwa podkarpackiego, na przykład powstanie i działalność Stowarzyszenia Dolina Lotnicza.

Słowa kluczowe: program gospodarczy, uprzemysłowienie, przemysł lotniczy

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Introduction

Development plans for the regions of the Central Industrial District (COP), i.e. areas located in the interfluve between the San and Vistula rivers, assumed achieving two key strategic goals. The first of them consisted in building a number of modern factories in the central part of the country in areas located at a safe distance from unstable borders, which would allow to achieve the primary goal, i.e. strengthening Poland's defence potential. This postulate was subordinated to all logistical activities initiated in 1937 by the government which focused on the reconstruction and modernization of Polish industry, mainly defence. The second goal was industrial development of the Sandomierz district (social goal), a region which was economically neglected compared to, for example, Silesia or Greater Poland. In addition, it was assumed that thanks to these initiatives it would be possible to intensify the migration of native industry to the east and south, thus triggering processes aimed at eliminating civilization differences in the country (Grata, Ostasz and Pasterski 2018, 34) The purpose of the article is an attempt to present the undoubtedly phenomenal character of the COP and the impact of this economic enterprise on the contemporary face of the socio-economic situation of the region, which is reflected in the establishment and functioning of the Aviation Valley Association.

1. Historical context of the Central Industrial District

The Central Industrial District is a concept that has taken on a special significance in the history of Polish statehood. The COP bears two connotations: firstly, in the geographical sense, it refers to the area located in the Warsaw – Krakow – Lviv triangle, an area characterised by increased investments for the country's defence. Secondly, in the economic sense, it means the area where the anachronistic structure of the Polish economy of the end of the 1920s was to undergo transformation into a more efficient system, based on modern technologies modelled on the economies of the Scandinavian countries (Samecki 1998, 110; Kwiatkowski 1939, 373).

The Central Industrial District was part of the so-called triangle of security; this concept was put forward in 1928, but due to the opposition of Marshal Józef Piłsudski, it was not implemented. The list of people who are credited with authorship of COP plans is opened by Prime Minister Eugeniusz Kwiatkowski (Landau and Tomaszewski 1991, 57). Władysław Kosieradzki and General Mieczysław Maciejowski, head of the armaments department of the Ministry of Military Affairs are two other important figures to be mentioned here. The initiative consisted in designating forest areas, located far from the western and eastern borders, and having a properly developed logistics structure. The creator of the COP plan was the Minister of the Treasury, Eugeniusz Kwiatkowski, who in 1935 established a planning office reporting to the Treasury Minister. The office was to coordinate plans and programs for the construction of individual constituent areas of the district (Strachold 2003).

The most important factors that were taken into account when deciding on individual plant locations under the new initiative were the following aspects: military,

demographic, communication, energy and raw material supply. The date of launching the COP program was July 1, 1936 (commencement of works on developing the idea of the undertaking), however, final decisions regarding the area of COP were made much later, in April 1938, in the Act on investment concessions, Article 3, chapter 1, Journal of Laws of the Republic of Poland, No. 26 item 224, 09.04.1938.

The COP area covers 59 951 km^2, which corresponded to 1/6 of the area of Poland. The COP was divided into three regions (Table 1).

Table 1. Division of the COP into regions.

No.	District name and designation	Area in km^2	Purpose
1	Kielce district – A	14 188	raw materials
2	Lublin district – B	15 452	food supplies
3	Sandomierz district – C	30 311	processing

Source: Kaczmar 2001, 12.

To this day, there are three main theories regarding the purpose of launching the COP program. According to the first theory, the COP was a regional undertaking (territorially the area of the district lies in the interfluve between the San and Vistula rivers). It was meant to establish a new industrial centre that would positively influence the transformation of the economic structure of a selected part of Poland. The second theory emphasizes the factor of the stimulated economic situation of the country after an economic crisis. The third theory focuses on the aspect of defence, which was to be enhanced through the construction of numerous heavy and defence industry factories in an area removed as far away as possible from dangerous borders in the east and west. The COP was a part of a huge logistic work aimed at long-term activities reaching the year 1954, i.e. a total reconstruction of the anachronistic structure of the Polish economy consisting in transforming the economy of an agricultural country into an industrial and agricultural one. The COP project was a successful attempt to reconstruct Poland's economy with a view to increasing the chances of defending the country alone and in cooperation with allies.

Perfectly organized in terms of defence, the COP also had the advantage of a huge personnel base and relative energy independence (in addition to hard coal, it was planned to use renewable energy, interchangeably natural gas and crude oil). In addition, the location of the COP in areas with unprecedented agrarian overpopulation allowed to the use the potential of excess labour force, while the development and industrialization of the region levelled civilization differences between economically neglected regions of Poland. An additional favourable factor of locating the COP in the interfluve between the San and Vistula rivers was of economic nature, due to attractive prices of construction and investment plots, which enhanced the economics of undertakings already at the beginning of the investment.

Poland at the time of the Second Polish Republic consisted of two parts within the same borders, namely, areas A and B. The first, was the western part of the country cumulating 73% of the overall industry, while the second remained at the other extreme and being almost completely devoid of industry it was neglected in terms of logistics and characterized by a much lower living standard of the inhabitants. The location of the COP in the interfluve between the San and Vistula rivers turned out to be an excellent choice, the implementation of individual stages in cooperation between public and private capital strongly stimulated the local population, who for the first time in the recent history of Poland received the chance to reduce the civilization distance to Poland A.

An additional task for the builders of the COP was to prepare the foreground for expanding the scope of the industrial impact that the region exerted on the country's economy. The creators of individual investment plans aimed at activating to the maximum the areas of eastern Lesser Poland, Volhynia and Podlasie, which they meant to draw into the orbit of Poland's economic activity. The success of the COP, a great pioneering vision of the new Poland, would not have happened had it not been for the fact of adopting the policy of concentrating investment dispositions at the planning and implementation stages, which required entrusting all matters to one responsible entity, namely, the government which pursued the long-term goals of the offensive economic policy of the state (Landau and Tomaszewski 1991, 57).

Implementation of the COP vision implied undertaking many actions aimed at achieving several stabilization goals related to the liquidation of the budget deficit in the mid-1930s and maintaining its balance. This meant that the funds allocated for the implementation of the COP tasks had to be provided from the budget of the state, whose position was strong enough to allow it to give priority to the implementation of productive projects enhancing the country' industrialization level. The next goal was to stabilize the exchange rate and protect internal capitalization, which effectively blocked uncontrolled import of goods and services after launching government investment programs (the so-called foreign exchange regulation).

Another task of COP designers was to put a stop, quickly and effectively, to the process of lowering internal consumption and maintain the trend of restoring profitability of economic activity first observed in 1934. An additional stimulus for improving market absorption was a successfully implemented debt conversion project, which mitigated the effects of the agricultural crisis in Poland. Another impulse stimulating the undertaking of planning activities was the so-called French loan from 1936, granted for the development of the Polish arms industry (Gołębiowski 2000, 92). On February 5, 1937, the Polish government decided to present in the forum of the Sejm Budget Committee a project entitled "Central Industrial District Plan" as a public investment focused in one government centre of planned investments implemented on the initiative of the Ministry of the Treasury, funds and other public and private organizations. The effect of these efforts (actions of the Polish government) was obtaining in March 1936 a cash and material loan in France for a total amount of 2 250 million francs. The greater part of this loan was to be allocated to the purchase of French armaments, the remainder for armament

investments in Poland. The government's investment program assumptions implied a clear geographical indication, namely that the Sandomierz district was designated as the best location meeting the expectations of designers and it was to become in the near future the most important pillar of modern economy.

The COP's plans envisaged during the implementation of individual tasks full cooperation between the public and private capital. Government investments financed from budget funds were to ensure logistic security of the investment, point investment directions to the private capital and determine the desired locations for future investments. The private capital in the COP plan was intended to fully cooperate with government units and participate in ventures promising a return on capital employed (Kostrowiecka, Landau and Tomaszewski 1984, 355). A law introducing tax breaks for investors intending to invest under the COP plan, passed on April 9, 1938, was an excellent tool encouraging private capital to participate in the implementation of economic investments. Tax breaks were granted to those taxpayers (legal or natural persons) who decided to invest in eastern Poland and within the borders of Gdynia. In this way, the legislator mobilized investors to start a business in the indicated areas. An additional stimulus for establishing new companies was a property tax exemption for a period of 15 years, which led to decreasing real manufacturing costs.

Consequently, the Planning Bureau at the Cabinet of the Minister of the Treasury planned to target private investments at specific areas (Table 2). The combination of public and private investments proved to bring the expected results and the first industrial plants initiated under the COP project entered the production cycle as early as 1938.

Table 2. Planned directions of private investment.

Lp.	Use	Location
1	Metal industry	along the belt of: Końskie – Skarżysko – Wierzbnik – Ostrowiec – Mielec – Baranów Sandomierski – Tarnobrzeg – Nisko
2	Metal processing industry	As above, together with individual centres in Kielce, Radom, Kozienice, Puławy, Włodowio, Zamość, Rzeszów, Tarnów and Sandomierz
3	Metal precision industry	Sandomierz and Lublin
4	Mineral industry	Areas around: Kielce, Chmielnik, Busk, Annopol, Kazimierz on the Vistula river, Oparów and other places with natural resources
5	Timber industry	Konecki, Opoczno, Kielce and Leśno poviats and in the triangle of Vistula – San – Tczew
6	Paper industry	Zaklików and Tarnów regions
7	Textile industry	southern poviats of districts B and C
8	Chemical industry	wooded poviats, northern poviats of region A
9	Leather industry	areas of regions B and C
10	Food industry	areas of regions B and C

Source: Samecki 1998, 269-270.

2. Effects of implementing the COP plans

Initiatives launched by Eugeniusz Kwiatkowski, who undertook bold economic ventures and managed to bring together an excellent group of enthusiasts supporting the rapid transfer of the Polish economy from the period of stagnation to the phase of dynamic development, allowed to implement the assumptions of a perfectly prepared economic plan. The first symptoms of economic recovery were observed as early as in 1939. A clear proof of positive changes taking place in the Polish economy in the years 1936-1939 was the enhancement of the country's productive capital and the rise of employment. Those two factors brought about well-known socio-economic phenomena, namely: enhanced labour productivity, increased technical level of products, improved professional qualifications of employees, a balance between global demand and supply, production and consumption as well as material and financial capitalization.

In addition, one more important, if not the most important, goal was achieved, i.e. the improvement of the situation in industry and agriculture (Kozłowski 1989, 338). By implementing the COP plan, Poland entered the path of improving the country's economic situation and beneficial structural transformations. Evidence of the country's economic recovery initiated in 1936-1939 was the fact that the 1938 recession affecting most world economies remained unnoticed in Poland.

A characteristic feature of implementing the COP plan was maintaining the ratio between the level of economic growth, including an increase in industrial production, and the level of consumption, which was associated with a maximum rapid increase in production enabling the increase of the country's defence potential, with a balanced increase in the living standard of citizens. In the very beginning of the plan's implementation, namely in 1937, the level of industrial production was higher than the one recorded in 1928, so far the best for the Polish economy. This meant a very quick positive market response to the changes related to the COP (Kozłowski 1998, 338). Polish enterprises began rapidly to mark an increase in the level of profitability, in most cases recorded not due to an increase in product prices, but due to a rise in the level of production and the constantly growing market needs. The results obtained by the economy were immediately reflected in reports to tax chambers, which in 1936-1939 recorded raised net profits from the activities of Polish business entities.

In the social dimension, the implementation of the COP plan was aimed at reducing unemployment and including masses of people from areas characterised by agrarian overpopulation to the group of people living on gainful employment. The long-term goal was to increase the level of education, including general technical education, thus significantly increasing the attractiveness of locating future investments. In total, as many as 188.1 thousand people found work in the segment of large and medium-sized enterprises thanks to the commencement of activities under the COP.

This means that, compared to 1928 (employment of approx. 800,000 people), in the course of three years (1936-1939), employment rose by 23.5%, which was a major achievement in the social dimension. Rapid development of investments, especially in the years 1937-1939, upheld the tendency of falling unemployment rate (Kostrowiecka, Landau and Tomaszewski 1991, 355). In addition, from mid-1939, industrial plants which were built from 1937, started production which allowed to mitigate the effects of natural increase rate and agrarian overpopulation.

The presented content indicates that the creators of the COP well demonstrated their imagination and ability to predict the economic effects of their decisions. It seems justifiable to state in congruence with the opinions expressed by representatives of such a theoretical orientation as structuralism, that the most valuable changes in the social structure were those constituting primacy over all other categories of analysis, including the individual. Since, is it not a change of the social structure when non-governmental organizations are created, and what is more, those organizations gather representatives of the aviation industry, an industry that had no tradition in the Podkarpackie Voivodeship, and yet it has become the dominant industry in the region's economy? These changes were made possible because the energy of individual entities gifted with practical sense (as Pierre Bourdieu used to say) was released. It is those entities acting within the structural boundaries, who create constructs, giving them a specific shape that is not simple sums of entities, but constituting a collective, it is them who have specific competences to create situational transformations. An example of such a structure is, for example, the Aviation Valley Producers Association, which would not have been created without the initiatives of the COP creators who, endowed with imagination, which the author of this study defines as sociological imagination, created a structure which was extremely effective in the fight for capital, which determines access to specific benefits. According to Anthony Giddens, a social structure is a complex system, a system functioning on the basis of clearly formulated principles. In the case of the Aviation Valley, the operating principles had been clearly defined in the Association's statute. The next part of the article will present the structure of the Aviation Valley Association, which with its achievements perfectly fits in the model proposed by contemporary sociology, i.e. structuralism.

3. COP legacy – Aviation Valley and its impact on the economic face of the region

The aviation industry represented in the Aviation Valley constitutes an important part of the national economy, which has successfully completed all adaptation processes to the requirements of the modern market, including restructuring, privatization, modernization of existing equipment and technology. Around 25,000 people are employed in the entire Polish aviation industry, and

95% of production is exported (Darecki 2015, 17-18). Those are mainly products of an extremely high degree of processing. Essential export directions include the USA, Canada, or members of the EU, but also Japan. The Polish aviation industry, due to its specific character, was able to propose universal production solutions, thus meeting a significant part of the technological requirements of customers for engine parts. Besides ultralight planes, also transporters, the so called Skytrucks, are produced in the Aviation Valley. The offer is completed by gliders manufactured in Podbeskidzie and helicopters manufactured by PZL Świdnik and one of the currently best helicopters in the world, namely, Black Hawk, manufactured in PZL Mielec.

A group of cooperating plants produces turbine and piston engines, which are the domain of the former WSK Rzeszów, but also an entire range of components and elements for jet engines used by such manufacturers as: Pratt and Whitney, UTC, MTU, Airbus, Boeing (Darecki 2015, 23). Polish plants located in the Aviation Valley, producing parts for aircraft engines, ready-made propulsion units for aircraft and other aircraft parts, are perfectly integrated. Over the past few years, two independent structures have been created in this way. In Poland, it is the Association of the Polish Aviation Industry (SPPL), associating 35 companies, which are part of the European organization ASD (AeroSpaceDefence), and through SPPL the native aviation industry has become an integral part of ASD, AeroSpace and Defence Industries Association of Europe. In turn, local producers grouped into another structure, namely the Aviation Valley cluster, currently associating 120 companies employing over 23,000 people. Thus, 90% of the aviation industry are companies operating in the Aviation Valley cluster, which is considered the fastest growing entity of this type in Poland and Central Europe.

The Aviation Valley Association of entrepreneurs was established on April 11, 2003. The Aviation Valley is the first unique high-tech cluster in Poland, which includes such a large number of entities (Darecki 2015, 15). Its main goal is to turn Poland into a leading supplier of a wide range of products and services for the aviation industry in Europe.

The Aviation Valley cluster pursues several goals: first, it provides support for the regional aviation industry. Another task is to enlarge and develop the base of sub-suppliers who have their plants in the Podkarpackie Voivodeship. These are mainly small family businesses that manufacture components for other plants from the Aviation Valley. The third task is to promote investment areas. As a result of these activities, several dozen different workplaces were created in several economic zones, which only in the vicinity of Jasionka near Rzeszów invested over PLN 1.2 billion, creating at least 3.2 thousand jobs (Zawada 2015, 69-91). Conducting production activities was parallel to the construction of an education system preparing future employees for the aviation industry. A special role was played here by universities, especially the Rzeszów University of Technology, which, having specialized laboratories, are able to accept orders for conducting research and implementation works. The last goal is the development

of international cooperation, which can be a development platform for conducted operations (Zawada 2015, 69-91).

The Aviation Valley cluster is located in the Podkarpackie Voivodeship, which has for several decades been known for the developed aviation industry and pilot training centres. The region is characterized by a high concentration of aviation industry companies, research centres and well-developed educational and training facilities. The organization and development of a cost-effective chain of subcontractors or the creation of favourable conditions for the development of aviation industry enterprises in the region are examples of only some of the cluster's numerous activities. Through its ventures, the Aviation Valley strives to develop the region and increase the number of workplaces, but it also sets itself important social goals (Tabisz 2014, 21).

The Aviation Valley Association goals include:

- organization and development of a cost-effective supplier chain,
- creation of favourable conditions for the development of aviation industry enterprises,
- further development of aviation research, skills and qualifications,
- cooperation and development of the aviation industry and universities which will promote new concepts and develop the research and development sector in the aviation industry,
- promotion of the Polish aviation industry,
- supporting aviation industry enterprises,
- influencing the economic policy of the Polish government in matters related to the aviation industry (Darecki 2015, 16-17).

The Valley comprises three main types of enterprises creating a pyramid structure. At its apex, there are the largest enterprises - such as WSK Rzeszów and PZL Świdnik, employing from 3000 to 4000 employees; in the middle of the pyramid there are medium-sized companies like Goodrich with 600 employees, MTU with 500 employees and Hispano-Suiza, employing 600 people. At the base of the pyramid there are about 50 small family businesses, which are the base of sub-suppliers for larger companies.

The Polish aviation industry today exhibits a global level of technology and it uses the latest technologies. The production of Black Hawk helicopters in Mielec, parts used in the production of the latest models of Airbus, Boeing and super modern turbine engines, has become possible due to the recapitalization of the Polish aviation industry over the past 10 years by $ 1.5 billion. Investments were made in areas of unknown technologies, for the purchase of the most modern machinery park, for training and changing organizational and management techniques based on lean manufacturing principles.

Polish aviation industry underwent a complete restructuring process, and then it was privatized. New strategic investors, selected on the basis of compatibility with the existing operations, are able to place purchased companies on the path of

long-term growth. Operating in such structures allows access to investment capital and giant sales markets, because in the next 20 years an annual increase in turnover of up to 20% can be expected. A feature of the Polish aviation industry is the highly competitive cost structure, including labour costs. Employee man-hour costs are several times lower than those incurred by employers in Europe, the Americas and Japan. High skilled workforce is also of great importance.

The production environment in the Aviation Valley is characterised by the fact of large companies providing technological support to small and medium-sized enterprises, members of the Association, thus creating an organized and mobile system of supplying parts used for aviation. The organizational culture of the Aviation Valley is particularly efficient because it has the advantage of having an innovative cluster, which is a modern technology platform, a perfectly connected network of cooperation with universities and research institutes (Darecki 2018). This is particularly important because Poland is too small a country to build a strong aviation industry based on domestic needs.

Due to the volume of production, the Aviation Valley ranks sixth in Europe, compared to the largest operators on the aviation market, the aggregate potential of Polish factories is an average. Over the past few years, the largest Polish aviation factories operating as part of global aviation concerns have started design work on launching large research and development centres. These programs are financed under the Eastern Poland Operational Program, with financial support at the national level. The WSK in Rzeszów, and the PZL factory in Świdnik have scientific centres that have been retrofitted with equipment enabling certification of complete aviation products: helicopters, aircraft and aircraft engines. The industry program called Innolot (Darecki 2018), is a great achievement. The program, which is worth PLN 500 million is entirely dedicated to the Polish aviation industry. The state transferred funds in the amount of PLN 300 million, and the entrepreneurs undertook to invest PLN 200 million. This is the money that will be allocated to the creation of modern technologies completed by the construction of demonstrators, and therefore not to conceptual work, but to specific technologies that will be created as a result of this initiative.

The Polish aviation industry is particularly interested in commencing work aimed at reducing harmful emissions, mainly by reducing fuel consumption by at least 15%. Design work has begun on the modern generation of "green" turbine engines, which will be produced by two major competitors - General Electric and Pratt & Whitney, which have their factories in Poland. The share of the Polish aviation industry in the production of a new generation of green turbine engines will be high, estimated at least at a dozen or so percent. This is a great breakthrough in the functioning of the Polish aviation industry. Another very important ecological aspect is the very functioning of factories in Poland. Since most of these factories are parts of large corporations, the highest ecological standards have been transplanted into Poland. Another activity in the Aviation Valley is specialization in the renovation of

aircraft engines as well as entire flying structures. The first example of such activity is the Helione company, which in 2014 began its statutory activity.

A few years ago, actions were taken in the Aviation Valley to build a unique education system in 12 selected locations of the Podkarpackie Voivodeship, at a cost of PLN 112 million. 80% of the budget was support from the EU, 15% was provided by local governments, the rest was supplemented by own contribution. The new school centres were equipped with the world's most modern educational devices and machines. The centres provide training for operators, production process controllers and the so-called specialists in special processes.

Special Economic Zones are created in cooperation with plants associated in the Aviation Valley, which, by offering attractive investment areas, provide interested entrepreneurs with complete logistics services. Financial support for those economic entities is significant as they will benefit from preferential tax rates by 2026 (their amount may even reach 70%) (Zawada 2015, 69-91). The support of companies located in the Aviation Valley, helps in the development of new ideas aimed at creating new cluster initiatives and focusing on light and ultralight aviation.

Another interesting proposal is the Subcarpathian Aviation Cluster of the light and ultralight aviation established on January 7, 2008 at the initiative of the B-4 Association (which acts as a coordinator; it is an independent non-governmental organization cooperating with many institutions, enterprises and organizations in the country and abroad) and the Ignacy Łukasiewicz Rzeszów University of Technology, which is a research unit. Initially, 13 enterprises (cooperators) joined the initiators of the agreement. Currently, the cluster consists of 29 entities, including 19 enterprises (SMEs), 6 research units and 4 associations. The Subcarpathian Aviation Cluster brings together companies and institutions involved in the production of ultra-light aircraft structures (Zawada and Duda 2017, 122). These are groups of suppliers and manufacturers of components for the aviation industry, as well as joint production of ecological aircraft and creation of innovative solutions for civil aviation. The idea of the cluster is to bring together smaller companies, so far operating separately, in the light and ultra-light aviation sector (Darecki 2015, 21-22).

Strategic goals include, among others: representing suppliers and manufacturers from the light and ultralight aviation sector from the Podkarpackie, Świętokrzyskie, Mazowieckie, Małopolskie voivodeships supporting the production of ecological aircraft and innovative solutions for civil aviation, implementing research and development ideas and transforming them into a specific product or service. As a Light and Ultralight Aviation Cluster, it also cooperates with other clusters, including the Hungarian Aviation Cluster and the New Zealand Aviation Cluster (Zawada and Duda 2017, 123).

Table 3. List of the major aviation plants being members of the Aviation Valley.

Name	City
WSK "PZL-Rzeszów" S.A. (Pratt& Whitney Canada)	Rzeszów
WSK "PZL-Świdnik" S.A. (AgustaWestland N.V.)	Świdnik
Polskie Zakłady Lotnicze Sp. z o.o. (Sikorsky Aircraft Corp.)	Mielec
Goodrich Krosno Sp. z o.o. (Goodrich Corporation)	Krosno
WSK "PZL-Krosno" S.A.	Krosno
Snecma Polska Sp. z o.o. (Hispano-Suiza Polska Sp. z o.o.)	Sędziszów Małopolski
Wytwórnia Zespołów Kooperacyjnych "PZL-MIELEC" Sp. z o.o.	Mielec
Delphi Chassis Systems Krosno S.A. (Delphi Automotive Systems)	Krosno

Source: own study based on lists published by the management board of the Aviation Valley Association. The author of the study, as the Vice President of the Management Board of RARR S.A., recurrently represented the company which was a founding member of the Aviation Valley Association during the General Assemblies of Members of the Association, under which resolutions were adopted to approve the work of the management board of the Aviation Valley Association.

Conclusions

Investments made in the years 1936-1939 under the COP program, which included both public and private participation in the present Podkarpackie Voivodeship, led to a complete change of the economic image of the region. To this day, the effects of this project have a strong impact on the economic results obtained by plants located mainly around the former technology transfer centres: Rzeszów, Stalowa Wola, Nowa Dęba, Pustków, Dębica, Sanok, Jasło, Nowa Sarzyna and others.

It is beyond dispute that were it not for the successful completion of the activities initiated by the Government of the Second Polish Republic, which spent PLN 2.4 billion at that time, giving a signal to private capital for investments at the level of PLN 2 billion, there would not be such a highly developed aviation industry in Podkarpackie bringing annual revenues at the level of $ 2 billion and providing jobs for 23,000 employees. The emergence of numerous modern workplaces meant that the Podkarpackie Voivodeship joined an elite group of regions that can boast of having the world's most modern industry working for all major aircraft manufacturers. What is also of great importance is the fact of industry's established cooperation with business-related institutions and universities. Especially the latter can rely on significant support of the emerging aviation industry in the use of their scientific and research facilities.

To sum up the topic of the COP's impact on the economic face of modern Podkarpackie Voivodeship, it should be pointed out that without implementing this economic program, it would certainly not have been possible to create so many workplaces in the Aviation Valley over the last 10 years. The established research and industrial facilities will, moreover, enable implementation of planned system activities aimed at realisation of smart specialisations (aviation and astronautics) under the Regional Operational Program for the Podkarpackie Voivodeship.

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