

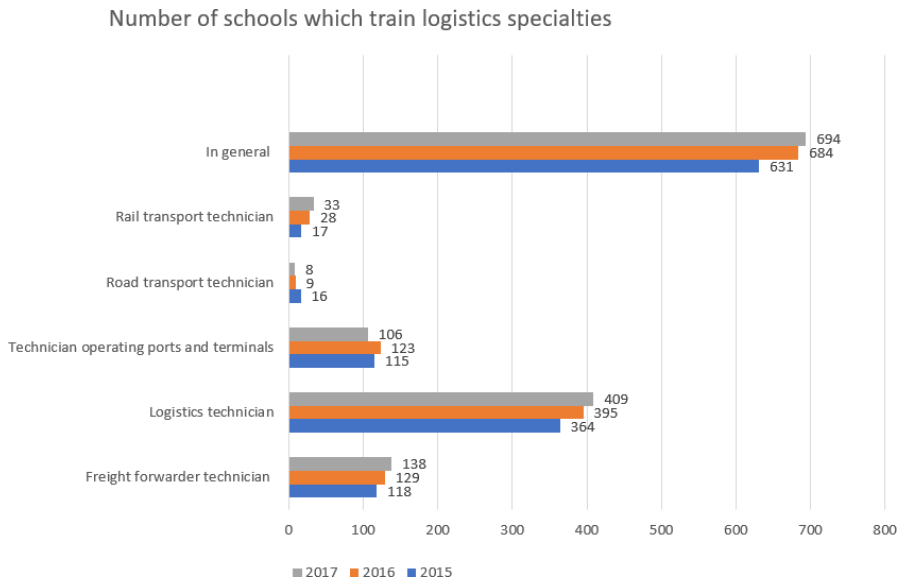
# 2

## Logistic education

### 2.1 Logistic education at the secondary level

Poland is a country which, not only because of its geographical location, but also its educated staff, is a perfect place for the development of broadly understood logistics. The demand for transport and storage services increases the processes of internationalization of business activities, creating jobs for logistics at the same time. In Poland, the system of vocational education is based on the thesis saying that it should be educated both in the area of theoretical and practical knowledge. It results from the fact that in a rapidly growing economy it is necessary that people have a better chance of changing jobs. Poland offers a wide range of logistic training opportunities, not only at the higher level, but also secondary education and further training in the form of courses or certifications. The three most popular logistic professions among young people are: freight forwarder technician, logistics technician and port and terminal operation technician. Teaching in these tracks took about 49 thousand pupils, and about 5,000 graduates. In the span of 2010-2017, systemic changes in vocational education took place, technical schools gained 5 years of study. In addition, since 2017/2018 school year, recruitment to the first level of industry schools has begun, for which the profession of warehouseman logistics technician has appeared in the list of professions. (In all post-secondary schools, logistic training is extinguished). Chart 2.1 shows the number of schools that are trained in logistics specialties.

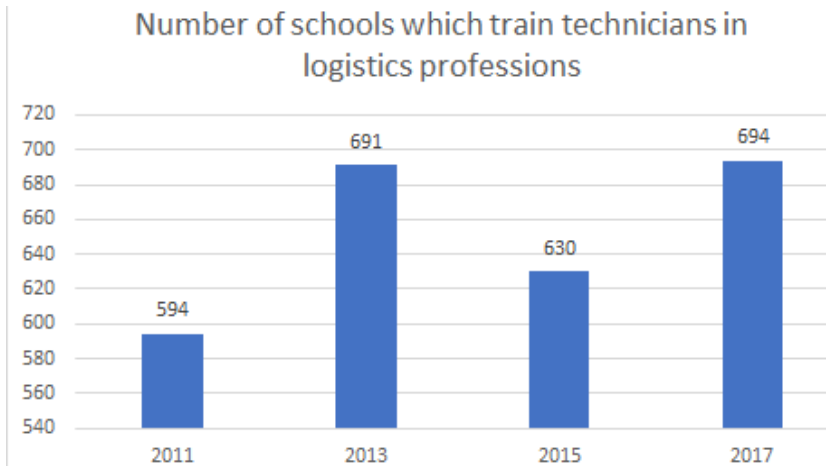
In high schools in 2016 and 2017, significant systemic changes occurred, as a result of which the education in a technical school lasts 5 years, and not 4 as in previous years. From the perspective of the amount of knowledge acquired by students, this is a good change. During 5 years, students can learn a lot of practical skills. At the end of education in a technical school one gets a certificate and a diploma confirming qualifications in the profession – issued by the Regional Examination Commission. After such education, the title of a technician can be found in the market.



**Chart 2.1. Number of schools which train logistics specialties**

Source: Fecher I., Szyszka G., Logistics in Poland – Report 2017, Biblioteka Logistyka 2017, p. 150

In Chart 2.2, one can see in how many schools logistics technicians were trained over over the period of six years. This number is not subject to large fluctuations, however, one can notice a slight upward trend.



**Chart 2.2. Number of schools which train technicians in logistics professions in the years 2011-2017**

Source: Own study based on data from Ministry of Education years 2012-2018

## 2.2 Higher logistic education in Poland

In the years 2016- 2017, no significant quantitative changes in the field of logistic education occurred in higher education. Non-public universities have more participation in logistics education than public universities. It is estimated that in the academic year 2016/2017 both at public and private universities in different fields of study, about 61 thousand students studied logistics at the first and second cycle studies (yet, there were about 13,000 graduates). Table 1.1 presents specializations in public higher schools in the span of 2014-2017.

Field of study	2014/2015		2015/2016		2016/2017
	number of specializations		number of specializations		number of specializations
	logistics	with logistic subjects	logistics	with logistic subjects	logistics
<b>Logistics</b>	33	45	34	49	32
<b>Management</b>	38	48	44	50	53
<b>Transport</b>	19	21	21	20	22
<b>Economics</b>	17	23	38	24	46
<b>Finance and Accounting</b>	18	24	21	27	28
<b>International Relations</b>	15	13	16	15	19
<b>Management and Production Engineering</b>	19	23	27	25	36
<b>Eurologistics</b>	7	9	6	8	75

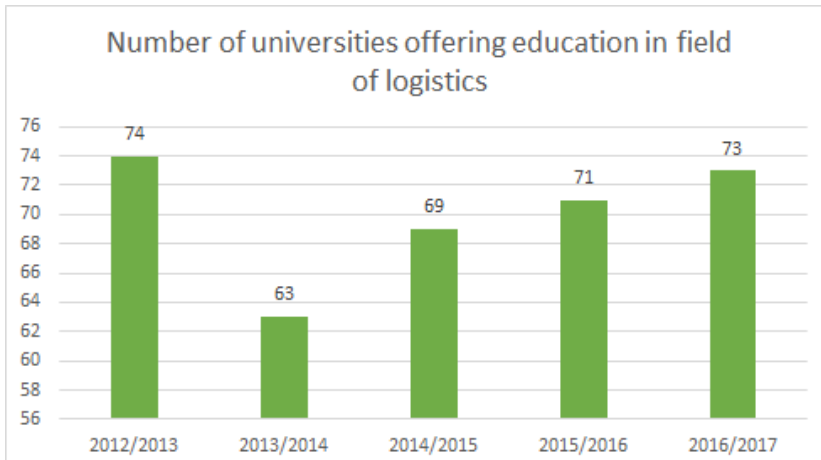
**Table 1.1. Specializations in public higher schools in the years 2014-2017**

Source: Fecher I., Szyszka G., Logistics in Poland – Report 2017, Biblioteka Logistyka 2017, p. 161

Certainly, this gives students many opportunities, but one should also consider whether such a large number of specialisations is really needed. Certainly, in some cases when, for example, very specific knowledge on a given subject is required at work, but in most cases, a broader knowledge of logistics is more useful. This gives a greater overview of the entire logistic process. When opening faculties and specialisations in technical fields, it is important to take care of the market and its needs. Owing to this, university graduates will have a good future at work, which is actually needed. It is also worth considering whether the knowledge transferred at the university will be applicable in future work. Often, knowledge is based only on the theory,

which often does not translate into practice. It seems obvious that theoretical knowledge is very important, especially at a university. Nevertheless, in an industry such as logistics, the skills of practical application of knowledge are extremely important and certainly desired by future employers.

Chart 2.3 shows how many higher education institutions, private and public, offer education in the field of logistics. A slight increase in the total number of universities can be noticed.



**Chart 2.3. Number of universities offering education in logistics**

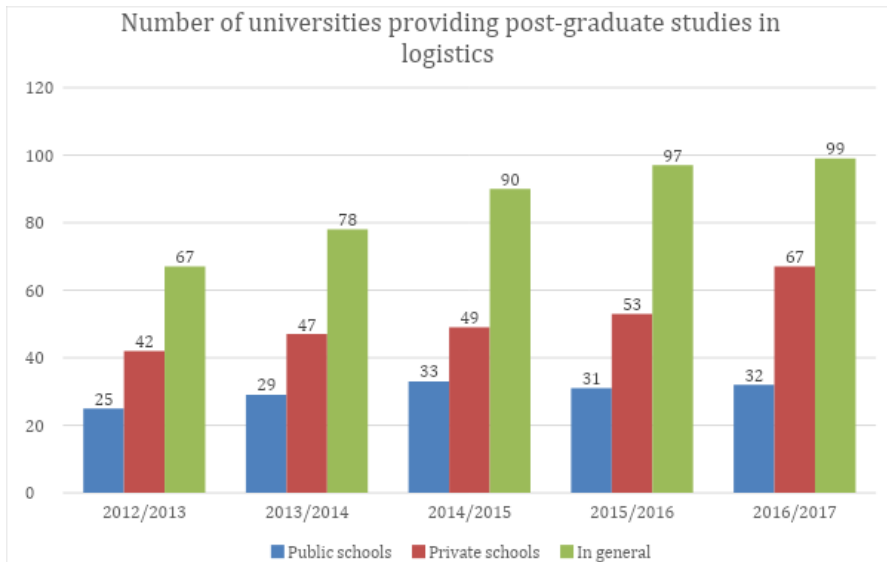
Source: Logistics in Poland – Report 2017, Collective work edited by Ireneusz Fechner and Grzegorz Szyszka

While studying logistics related studies, one can gain a bit more knowledge than in a technical school. The study program (syllabus) includes many subjects not necessarily related to logistics, although this knowledge may be equally useful at work in the profession. Having extensive knowledge of logistics and related to the scientist can better understand the processes taking place in the company and plan them better.

### 2.3 Postgraduate logistic studies in Poland

Postgraduate studies in the field of logistics are often a sufficient source of knowledge and professional preparation, especially for people who have similar track education acquired in the course of previous studies.

Chart 2.4 shows the number of universities providing post-graduate studies in logistics in the period 2012-2017.



**Chart 2.4. Number of universities providing post-graduate studies in logistics in period 2012-2017**

Source: Fecher I., Szyszka G., Logistics in Poland – Report 2017, Biblioteka Logistyka 2017, p. 163

Noteworthy are also post-graduate studies, which are constantly growing in number (Chart 2.4). Over the span of 5 years, the number of public and non-public universities offering this type of study increased by 32 branches. It is a perfect choice for those who plan to expand or deepen their knowledge in the field of logistics.

## 2.4 Possibilities for the future

The market of logistic services is constantly evolving, especially in Poland, where investors are favored by a variety of conditions such as great geographical location in Central Europe, workforce cheaper than in the West or constantly growing warehouse or road infrastructure. In addition, due to the dynamic growth of the share of the e-commerce market in the economy, the logistic industry has to face many challenges in the area of constant optimization of the services of organization of the flow of goods. Currently, not without reason, some junior high school graduates and – for one and a half years – graduates of the extended elementary school, decide to take their first step in a career in research and employment in Logistics. There are many motivations for such tasks: it can be curiosity, ambition to expand one's knowledge from a new field; a graduate

who is aware of the principles of the logistics industry can recognize that they have a predisposition to this type of work; and in the case of other candidates for high schools, the desire for a certain level of earnings may go up.

Regardless of motivation, unique for each candidate to take further steps in education that bring them closer to work in logistics, it is impossible not to notice that the recipe for success is not a repetitive, clearly defined recipe, hence the lack of the only, specific, objectively the best path in the future. However, the lack of education opportunities in Poland towards logistics cannot be complained about.

At the stage of choosing a school above the secondary level, candidates wishing to continue their education have two basic choices: joining a general or profiled secondary school, where a wide range of learning tracks are based on the diversity of different sciences, selected by the candidate will facilitate further functioning in the education system. Based on their future and success in recruitment on extended subjects selected by the candidate, whose knowledge in the final for high school period will be confirmed by the relevant result of the extended examination, the candidate will open these suffrages to continue the higher education they were asking for. At the same time, such a learning path scheme will provide the candidate with an easier start in studies, for example, a sentence with a good result of extended matura exam will make it easier for the student to "jump" providing the basis for further study, for example technical studies.

The attention of the candidates is also not avoided by the fact that by choosing a high school, they shorten their path to higher education by one year, compared to a technical school, which despite its advantages is a less frequent choice among candidates for junior high schools.

There are many educational centers in Poland in the form of technical schools that carry out the mission of educating generations of young people in a technical spirit, preparing them through four-year education of future graduates and facilitating them to find their place on the labor market by means of a diploma confirming specific professional qualifications and – for those who decide to continue their studies.

Often, it is a specific diploma which after passing the exam confirms the qualifications, attracts students to choose a technical school. While studying in a logistics technical school, students have the opportunity to acquire the following qualifications:

K1 – A. 30<sup>14</sup>. Organization and monitoring of the flow of resources and information in the production, distribution and storage processes – The skills

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<sup>14</sup> K1 – A.30: Students at technical logistic schools can acquire three kinds of qualifications: K1 – A.30, K2 – A.31 and K3 – A.32; Krajowy Ośrodek Wspierania Edukacji Zawodowej i Ustawicznej 2019.

necessary to select the material supply and information systems for the production process are necessary to obtain the first qualification. One also needs the skills to prepare production flow documents and the selection of equipment for transport storage operations. The student decides about the selection of distribution channels for products and contractors.

K2 – A. 31. Management of technical means during the implementation of transport processes – Necessary to obtain a second qualification is the ability to apply legal provisions related to transport and trade and cargo identification standards. Appropriate determination of the price of the transport service and the selection of technical measures and transshipment technologies in transport. The student prepares documentation in Polish and foreign languages.

K3. – A.32. Organization and monitoring of the flow of resources and information in business units – Necessary to obtain a third qualification is the ability to distinguish the tasks of individual business units. Organization of the flow of information resources and adherence to waste management rules. The student distinguishes between types and systems of urban transport, and adheres to the principles of logistic handling of mass events.

Such a detailed description of specific qualifications is a kind of a signpost for a potential employer, so it gains a clear view of the specific areas and skills that the candidate has for the employee. However, one should ask themselves – Who can stand behind the form of a potential employer? There are a lot of answers to this question, just as there are many tasks that a graduate of a technical college can do. A number of positions in various companies, both production and service, are waiting for graduates. However, they most often take on the job of shippers or supply management specialists, where they combine demand forecasting skills with proper purchase planning. For many, this is the beginning of an adventure with a profession, and development opportunities to proceed much further. Usually the rule applies – the higher the level in the company hierarchy, the more managerial tasks. On the other hand, in order to take up a managerial position, undoubtedly recruitment will help appropriate education in the form of higher education. In order to take part in the recruitment of Polish public universities for logistics studies, in most cases an extended secondary school exam is required in a foreign language and one subject from a mathematics / geography pair.

Many universities recognize the future of the logistic industry, and therefore there are many opportunities to undertake logistic studies throughout the country – such offers have many polytechnics and universities. Taking as an example the track of “International Logistics” at the Cracow University of Economics, it can be assessed that these types of studies are interdisciplinary, the knowledge is gained and combined from both the economic and technical

sciences. The result of such a program is adapting a graduate to work in a diverse environment, and for 3.5 years of studies, the student becomes familiar with the impact of globalization on the functioning of the entire logistics system, recognizes the complexity and multifacetedness of the construction of logistics systems and learns the possibilities and conditions for shaping logistics in international perspective. A graduate of this faculty is prepared to work in the area of logistics, supply, production and distribution. They will be able to look for employment in domestic and international transport companies, logistic service centers, distribution centers or consulting companies.

High school, technical college or studies – each of these elements prepares a student to start a career, but the more important it is, the greater the motivation of a student. There is no recipe for success, thus there is not a single concrete path that will guarantee everyone's success in any industry. However, such features as self-discipline, the desire to expand knowledge and experience, ambition are the basis for building a better tomorrow.