



Research case study: ALMET

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June 2021

Abstract: The ALMET company is a traditional Czech manufacturer of pistons for combustion engines and compressors, based in Hradec Králové, belonging to the PROSPERITA holding. The main activity of the ALMET company is the production of pistons up to a diameter of 350 millimetres, while the size of the company is among medium-sized enterprises. The analysis of a semi-structured interview and the results of a questionnaire survey conducted on a sample of company managers clearly reveals an effective approach to company management. The firm relies on its traditional resources and expertise and tries to take advantage of market opportunities where it can use these resources. At the same time, it is a very conservative company that changes only very slowly and to a limited extent and does not have its own resources for development and research.

Keywords: ALMET, pistons, effectual approach, causal approach, innovations

Company presentation

Company ALMET a. with. (hereinafter ALMET) is a traditional Czech manufacturer of pistons for combustion engines and compressors with headquarters in Hradec Králové. The history of the company dates back to 1933, when it was founded under the name RIAL. Production of automobile and motorcycle pistons began in the company in 1946, and after nationalization the company was incorporated into the state-owned enterprise Metalurgické závody n. Mr. Týnec nad Sázavou. A year after the fall of socialism, the current form of the company ALMET a. was founded in 1992. s., whose majority owner became the PROSPERITA holding in 1997. Holding PROSPERITA is the majority owner of the company to this day, controlling 99.7% of all shares in the company through various entities.

The main activity of the ALMET company is the production of pistons up to a diameter of 350 millimetres, while it specializes in pistons made of various aluminium alloys. In cooperation with an external supplier, the company is able to produce forged pistons as needed. The company produces pistons for trucks and tractors, for aircraft engines, for ship and stationary engines, for motorcycles, compressors and locomotives. ALMET also has a wide range of universal castings that can be used for small series and piece production of pistons. The company supplies pistons for primary production as well as spare parts for engine service (Table 1).

From the point of view of classification by size, ALMET belongs to medium-sized enterprises, since in 2020 the company had 63 employees and achieved a turnover of EUR 5.8 million (CZK 149.5 million). The number of employees of the company is stable, compared to 2018, only a slight decrease can be observed, when the number of employees decreased from 69 employees to the aforementioned 63 in 2020. In that year, 38 employees worked in production and 28 employees outside of it. In addition to regular employees, ALMET also employs agency workers, who mostly come from Ukraine.

The research case study was developed as part of the Research and teaching case studies project as a tool for the transfer of current knowledge from business practice to the academic sphere (2020-1-CZ01-KA203-078348). The project was supported by the ERASMUS+ program (KA203 – Strategic partnerships in the field of higher education). The research case study is one of eight research case studies. Based on the analysis of individual research case studies, a multiple comparative case study is developed. The theoretical and methodological framework for creating case studies is presented in a multiple case study.

Figure 1: Development of the ALMET companyi



Source: www.almet.cz

Table 1: Main products of the ALMET company

Product type	Key areas
Pistons for trucks and tractors	Exclusive manufacturer for diesel engines for Zetor tractors, pistons for engines for agricultural machines, pistons for engines for Tatra, Liaz, Avia, Kamaz and Multicar trucks
Pistons for aircraft engines	Supplies for American aircraft engine manufacturers Lycoming and Continenta
Pistons for marine and stationary engines	Large pistons for shops servicing engines in marine transport and in the energy industry
Pistons for motorcycles	Deliveries for JAWA, ČZ, Simson, MZ and Babeta engine service points
Pistons for compressors	Pistons for compressor manufacturers Orlík compressors, Sauer and other brands
Pistons for locomotives	Production of large pistons for companies servicing locomotive engines

Source: Annual reports of ALMET a.s. for 2018-2020

The organizational structure of the company corresponds to its size, when the management of the company consists of the general director and four directors of departments (quality department, commercial and technical department, financial department and production). In addition to the production itself, the key departments are the quality department, which ensures the quality control of the produced pistons and covers the certification process according to the ISO 9001:2015 standard, and the commercial and technical department, which, in addition to sales officers, also includes technologists and designers of the company

The financial results of the ALMET company (Table 2) over the last years prove that it is a financially stable company. After 2018, there was a slight decrease in sales of its own products, but financial data

from 2020 indicates that the company overcame the global recession caused by the COVID-19 pandemic without a decrease in sales. It should be noted that in 2020 there was a significant increase in the total revenues of the companies, which resulted from the sale of shares in the company PROSPERITA investment company a. with. in the total value of 61.68 million CZK. The financial stability of the ALMET company is also proven by the fact that the company is able to repay its obligations within the due date and at the end of 2020 it had no outstanding obligations for a period of more than 60 days.

Table 2: Sales development of ALMET in 2018-2020 (thousand CZK)

Table	2018	2019	2020
Revenues from the sale of own products	95 419	87 287	87 913
Of which: Export	54 850	44 209	42 079
Other revenues	3 138	3 722	61 676
In sum	98 557	91 009	149 589

Source: Annual reports of ALMET a.s. for 2018-2020

ALMET operates in a competitive environment dominated by large multinational companies. The most important players at the global level are the German companies Mahle and Rheinmetall Automotive (originally known as Kolbenschmidt). In both cases, these are large corporations that are among the largest suppliers of the automotive industry. The company Rheinmetall Automotive owns the subsidiary KS CZ Motorservice in the Czech Republic, which is a direct competitor of the ALMET company.

In the area of competition, we should also mention Indian and Chinese companies, which in recent years have been gaining ground in European markets thanks to lower prices. ALMET has direct experience with the Indian company Anand Export, which also produces pistons for Tatra, Liaz, Zetor or Avia engines. The products of this company are roughly at half the level compared to the ALMET company, but in the past, they had problems with the quality of delivered pistons. In the past, Anand Export also offered ALMET company cooperation in the field of production, but it ultimately did not materialize.

The basic strategy of the ALMET company is significantly influenced by the structure of the competitive environment and the size of the company itself. Since ALMET is unable to compete with large multinational companies such as Mahle and Rheinmetall Automotive, it concentrates on those market segments that are not worth servicing for large companies. Therefore, it is primarily a small series production, which is not profitable for large companies, while an important pillar of ALMET's activity is the production of pistons for the service of such traditional Czech brands as Zetor, Tatra, Liaz, Avia, Jawa and the like (Figure 2).

Figure 2: Main costumers of the ALMET company



Source: www.almet.cz

The analysis of access to opportunities, the introduction of new and innovative products and operations in foreign markets is based on the examination of whether the management of the company characterizes these issues rather with an effectual or causal approach. The research is based on two basic pillars - a qualitative analysis of a semi-structured interview with the CEO of ALMET and a questionnaire survey conducted on a sample of company managers. As already mentioned, it is a smaller company with a small number of managers, so the sample for the questionnaire survey consisted of 5 managers of the ALMET company (general director, head of the quality department, expert technical director, production director and financial director).

Access to opportunities

ALMET operates in a specific industry, which significantly affects the company's approach to new opportunities. ALMET has been specializing in the production of pistons for combustion engines for many decades, and the management of the company does not feel the need to change the product range even now. The results of a questionnaire survey and also an in-depth interview with the CEO of the company clearly show the signs of an effective approach to new opportunities.

In the case of ALMET, it is a very conservative company that hardly changes at all. In a questionnaire survey, all managers unanimously agreed with the statement that the company produces basically the same products as 10 years ago. If we asked a question with the possibility of an answer of 20 or 30 years, we would get the same answer. Experimentation with new products or business models is not typical for the company, which is also confirmed by the answers of all managers in the questionnaire survey (Table 3).

Table 3: Results of a questionnaire survey in the company ALMET on issues of access to opportunities

	Average	Median	Dispersion
The product/service we now produce/provide is basically the same as the one we produced/provide 10 years ago	5	5	5
We experiment with different products and/or business models	1,8	1	1,7
We try a number of different approaches to find a business model that works	2	1	2
We often try new ideas	3	3	1
We are looking for new ways of doing things	3	3	1
We adapt what we do to the resources (finances, contacts, knowledge, etc.) we have	4,6	5	0,8
We are flexible and take advantage of opportunities when they arise	2,6	2	2,3

Note: Company managers entered their agreement with the statements in the questionnaire on a scale of 1 to 5, with level 1 meaning strongly disagree and level 5 completely agree

It is also clear from the interview with the CEO of the company, as well as from the answers of the managers in the questionnaire survey, that in the case of ALMET it is a company in which the existing resources of the company play a key role in new opportunities. In the questionnaire survey, there was general agreement among all managers on this point. The company is looking for new opportunities, but fundamentally within the company's current activity and experimentation with new products and business models is de facto non-existent. This is also confirmed by the stable structure of the company's most important customers, where we see only relatively small changes. The company's last significant expansion was the production of pistons for aircraft engines, which, according to the CEO, was largely a coincidence. The owner of the American company somehow found out about the ALMET company, which he then personally visited. He was greatly impressed by the company's flexibility, which resulted in orders, and over time, the supply of pistons for aircraft engines became one of the pillars of ALMET's exports.

Introducing new products

From the assessment of access to opportunities, it is clear that ALMET is not a company that appears on the market with new products. This is clearly confirmed by the unequivocal disagreement of all members of the company's management with the statement that ALMET is often the first on the market with a new product (Table 4). The ALMET company has been producing pistons for various types of combustion engines for more than 80 years, and the management is satisfied with this type of production even today. The CEO of the company stated in the interview that even if there is a gradual decline in internal combustion engines, pistons for their maintenance will be needed in the next decades as well. Therefore, he is not worried about the future of the company.

Figure 3: Main products of the ALMET company



Source: www.almet.cz

A certain conservatism in the management of the company can be clearly read from the answers of the ALMET company managers, when in the questionnaire survey all respondents agreed with the statement that the management is careful not to risk too much financial resources. The company also lacks human resources for the development of new products. In the past, ALMET had employees available to develop pistons, which increased the company's flexibility in creating pistons for new customers. However, the company gradually lost this expertise and can currently produce pistons only according to customer specifications. Currently, the development of new pistons would be possible with the help of external suppliers, which makes this process profitable only for a significant order.

Table 4: Results of a questionnaire survey in the company ALMET on issues of introducing new products

	Average	Median	Dispersion
Our company is often the first on the market with a new product/service	1,4	1	0,8
The quality of our new products/services is higher than that of our competitors	3,8	4	0,2
Compared to the competition, our company is successful	3,4	3	0,3
	4,4	5	0,8
We are careful not to spend more resources than we can afford to lose	4,2	5	1,7

Note: Company managers entered their agreement with the statements in the questionnaire on a scale of 1 to 5, with level 1 meaning strongly disagree and level 5 completely agree

In recent years, there has been an investment in new products, but the company still stuck to pistons. In 2019 and 2020, ALMET invested 16 million Czech crowns in creating production capacities for the production of larger pistons. This is a segment with a higher margin, according to the general director, the margin for the sale of large pistons can reach up to 80 percent. According to the general director, in the future, the ALMET company would not be opposed to expanding the production range

beyond pistons for internal combustion engines, but they remain a clear focus for the future.

Introducing innovative products

It is already clear from the previous parts that ALMET is a conservative company for which the introduction of innovative products is not a priority. The management of the company has long been thinking about the production of pistons as the basis of the company's operation, and any innovations remain only in this area. Company managers in the questionnaire survey did not fully agree with the statement that the company's management actively seeks innovative ideas, and statements about new ideas and new ways of doing things were similarly tepidly received (Table 4).

Table 5: Results of a questionnaire survey in the company ALMET on issues of introduction of new products

	Average	Median	Dispersion
The company's management is actively looking for innovative ideas	2,8	3	0,2
We are looking for new ways of doing things	3	3	1
We often try new ideas	3	3	1

Note: Company managers entered their agreement with the statements in the questionnaire on a scale of 1 to 5, with level 1 meaning strongly disagree and level 5 completely agree

Even in the area of innovation, we encounter the fact that ALMET does not have its own capacities for research and development. Even the design of new pistons is currently only possible in cooperation with external companies, which limits the company's possibilities when applying for new orders. In the past, these skills existed in the company, but they were lost due to the gradual departure of specialists from the company. The company therefore largely produces pistons for long-term customers, where the development of pistons is no longer necessary, only their production.

Operating on international markets

Although there has been a gradual decline in exports in recent years, operating in foreign markets is an important pillar of ALMET's existence. In 2020, exports accounted for 48 percent of total sales for own products, with 36 percent of sales coming from the EU and 16 percent from outside the EU. The decline in the share of exports in total sales for own products began before the global COVID-19 pandemic, but it accelerated the decline in exports. For comparison, in 2018, exports still accounted for 58 percent of total sales for own products, and in 2019, 51 percent. Between 2018 and 2020, exports to the EU fell most significantly, which in 2018 still accounted for 47 percent of total sales for own products (Table 6). Part of this shortfall was replaced by exports headed outside the EU.

Table 6: Share of export and sales in the Czech Republic in total sales for own products in 2018-2020 (%)

	2018	2019	2020
Sale in the Czech Republic	42	49	52
Export	58	51	48
Of which the EU	47	36	32
Of which outside the EU	11	15	16

Source: Annual reports of ALMET a.s. for 2018-2020

The changes in ALMET's activities in foreign countries have been influenced by two main factors in recent years. The first was the noticeable loss of the UAZ company as a key customer in the Russian Federation. It was a long-term cooperation, when the ALMET company was a supplier of engine pistons for UAZ cars for decades. In 2018, ALMET supplied UAZ with pistons worth 17 million CZK, which made UAZ the second most important customer of ALMET. However, by 2020, deliveries to UAZ had completely disappeared, which caused a significant drop in export sales for ALMET, which had to be replaced by other customers. The second factor, which partially replaced the failure of the UAZ company, is the increasingly strong cooperation with the American company Superior Air Parts, which in recent years has become the most important customer of the ALMET company. In 2020, supplies for this company accounted for roughly 45 percent of all the company's export revenues. For comparison, the second most important foreign customer of the ALMET company in 2020 was the Belarusian company Ostchim, deliveries to which accounted for only about 10 percent of export revenues.

Even in the case of operating on foreign markets, a similar conservatism can be observed in the case of the ALMET company, as in the case of access to opportunities and the introduction of new products. Although the company tries to acquire new customers abroad, the majority of customers belong to the camp of long-term customers of the company. Operating on foreign markets in 2020 was further complicated by the global COVID-19 pandemic, which made it difficult both to maintain contacts with existing customers and to acquire new customers. It is therefore not very surprising that, according to the annual report for 2020, ALMET failed to acquire a single new customer.

The limited personnel and technological capabilities of the company make it difficult for ALMET to operate on foreign markets. There are only two sales officers in the commercial and technical department, one of whom is in charge of the domestic market and the other of all exports. This indicates a heavy burden on these workers, which is also reflected by the answers in the questionnaire survey, according to which the research of target markets and the performance of competition analysis are not the company's strongest point. As for technological possibilities, the limiting element of operating in foreign markets is the lack of an internal development department. The company is able to produce pistons only according to the customer's models and drawings, it is not able to independently design them according to specifications.

Overall, an effective approach can also be observed when evaluating ALMET's operations on foreign markets. The company's operations in foreign markets are strongly anchored on the company's current technological, production and financial capabilities. The company is conservative in its search for new customers abroad, and most exports are based on long-term partnerships. Acquiring the last big customer (Superior Air Parts) was more of a coincidence than a deliberate approach to foreign markets.

Impact of covid-19

The global COVID-19 pandemic did not have a significant negative impact on ALMET in 2020. Based on the data from the annual report for 2020, it can be concluded that despite the global economic crisis caused by the COVID-19 pandemic, the company managed to maintain the sales of its own products in 2020 at the same level as in 2019. Although there was a slight decrease in exports, but these losses were covered by the growth of domestic sales. As a result of the crisis, there was also a drop-in delivery to primary production, which was compensated for by the growth of sales of spare parts for engine service.

This state of affairs is also confirmed by the company's general director, according to whom the global pandemic did not significantly affect the company's activities. Although the company registered employees who fell ill with COVID-19, the company never had to shut down the entire production activity. Due to the higher level of stock, however, at the end of 2020, the management of the company decided to switch to a shortened 4-day working week. At the same time, as a result of the drop-in orders, ALMET was entitled to use financial assistance from the government, which covered 60 percent of employee wages. In November, the company fired agency employees from Ukraine, but after some time rehired key agency employees, while due to the reduction in orders, they were mainly engaged in maintenance work within the premises of the company. Two months of reduced working hours and a week-long Christmas production shutdown resulted in a decrease in inventory, and at the beginning of 2021 the company had minor problems covering the increased demand after the recovery of the economy, but in the end, it managed to fulfil all orders. Orders in the first half of 2021 have bounced back to pre-pandemic levels, and own product sales this year can be expected to surpass 2020 levels.

Additional information and documents

Notes and sources used

Internal documents of ALMET a.s.

Annual reports of ALMET a.s. for 2018-2020

www.almet.cz

www.justice.cz

www.czso.cz