

AUTOKLASTR AS A LEADER IN THE AUTOMOTIVE SECTOR AND A PROJECT EXPERT

On 3 March 2023, we met with the Autoklastr representatives, Libor Dobes, Cluster Executive Director, Jana Nevrelouva, Project Manager and Adam Priechodsky, Project Manager. We discussed Autoklastr's operation, activities and achievements.



Can you introduce Autoklastr?

Autoklastr was established in 2006 with the aim of supporting member competitiveness and the region's development, initially in North Moravia. We are an industry cluster, and our focus has been on the automotive sector. As the number of members has grown, so has the scope of our activities, and it can be said that today we operate throughout the Czech Republic. **We are the only automotive cluster in the Czech Republic, and we cooperate with similarly focused clusters in Europe.**

We currently have **89 members, about half of which are manufacturing organisations**, suppliers of products, systems, subassemblies and parts for vehicle assembly in the Czech Republic, EU and globally. Our members are Tier-1 to Tier-3 companies in the supply chain, most of which have their own R&D departments for product and manufacturing technologies. We maintain a close relationship with vehicle manufacturers (OEMs), but they are not members. The other half of our membership base consists of companies that provide **services to the automotive sector**, e.g. TPM (total and preventive maintenance), digital transformation of companies, implementation of Industry 4.0 elements, use of AI, neural networks, process modelling and simulation, process analysis, quality management, inventory management, strengthening the circular economy, etc. **Our membership base has five industrial high schools, five technical universities and five business universities in our membership base.**

Our mission is to contribute to increasing the competitiveness of our members and to interact between our members' external and internal environments, facilitating member interaction, exchange of experiences, and sharing of best practices and development trends.

Cluster's main activities and projects focus on the development of 3 key areas:

Development of human potential - training, education, increasing knowledge and skill levels, strengthening competencies, lifelong learning, cooperation between schools and companies...

Development of business relations - best business practices, establishing direct business relations, development of business models, exchange of experience, learning about trends in automotive and mobility, which is particularly beneficial for small and medium-sized companies that are not part of large corporate groups...

Joint research and development - R&D projects involving consortia of member companies, technical universities and Autocluster as the governing body.

We focus on developing cluster activities in the Czech Republic, the EU and worldwide. The automotive sector is one of the 14 industrial ecosystems defined by the EU. Today,

our ecosystem is strongly intertwined with mobility in general terms. We cooperate with authorities and associations at the national level (e.g. AutoSAP, Confederation of Industry of the Czech Republic, Chamber of Commerce, NCA, etc.); at the European level we are a member of the European Auto Cluster Network EACN (where we serve on its board of directors), and we cooperate with many Czech and European clusters. We are a member of the global cluster network TCI. We have the ESCA Bronze label certification and are working towards the Silver label. (EDIT: [Cluster achieved the ESCA Silver Label](#)).

We create conditions and support the competitiveness of our members for the sustainable development of the wider Czech region.

Describe the functioning of the cluster.

We are a registered association which means that we act in the interest of our members and for the benefit of our members. The primary focus is discussed with members at general meetings, at meetings of the Autocluster Executive and in working groups. We set a three-year strategy for the development of the cluster, annual objectives with activity plans and initiate and manage joint projects. **Maintaining a lively flow of information between us and the membership, personal contact with members and between members and each other is essential for the cluster's activities.** We visit member companies, e.g. in the framework of general assembly meetings, executive board meetings or sharing best practices with practical demonstrations in companies and institutions. We publish regular **weekly newsletters** and maintain a knowledge database in our information system (e.g. data on the development of the automotive sector, the preparation and development of legislative acts in the Czech Republic, regulations, subsidy opportunities, especially for SMEs from national and EU sources, etc.).

Evaluate the performance of the cluster from 2006 to 2023.

Since 2006 we have been in a growth phase in terms of membership. We have gone through periods when the car industry has done well beyond expectations, as well as periods of decline and stagnation in the car industry in the Czech Republic and the EU. **The cluster has worked for the benefit of its members in good times and bad. To grow the competitiveness of member companies, it is important to use productive production and service technologies, efficient data processing and have well-set processes and practices.** After 2011, when the automotive crisis ended, we became more involved in international projects. Today, under the leadership of Project Manager Adam Priechodsky, we are involved in several European projects, acting as members of consortia and in management roles. We use the outputs from international projects to develop members and cluster staff. National projects focus on developing staff knowledge and skills, reskilling and upskilling, increasing competencies, and sharing best practices among members.

It is essential to enable SMEs, in particular, to work with cutting-edge technology and techniques, supported in particular by shared R&D costs in specific projects (e.g. R&D on production processes and defect analysis in metal casting, plastic and rubber moulding, use of high-strength plastics as a substitute for metals, visual inspection of products using neural

networks, introduction of robotic workplaces, etc.). The Autocluster owns test equipment for various products and part tests, which members can use on discounted terms and does not have to invest in the equipment themselves (e.g. pulsation, vibration, climate, shock tests, etc.) Throughout the Autocluster's lifetime, we work with selected members on R&D projects, with all members on human resource development and strengthening business relationships.

The COVID crisis, which affected the entire economy, changed consumer behaviour, the behaviour of car companies, the behaviour of the market and completely changed the view of global supply chains.

In the car industry, there has been a radical change in planning stability, which has been replaced by a high degree of required flexibility and achieving excellent results at a minimum cost. The environment in the automotive industry is currently very turbulent due to the dramatic increase in raw material and energy prices over the last year. Therefore, we actively seek to support our members by sharing best business practices, providing education and outputs from our joint R&D projects. We are working with other cluster organisations and associations in the Czech Republic.

What benefits do you see in your participation in projects in the past, and how does this translate into invitations to new projects?

The future is created in the present; with good work today come opportunities in the future, or we also make greater robustness to external influences in the future. We operate in networks and structures in the Czech Republic and beyond. If a partner has a good experience with our work in consortia and working teams, more offers are likely to come in to join activities in other projects. We are looking for participation in projects taking place in the Czech Republic. We work on our projects or participate in regional and national partners' projects in the Czech Republic. At the same time, we actively seek partners both in the Czech Republic and abroad to strengthen our projects and achieve better results in their evaluation. We are delighted that we are located on the campus of VŠB-TUO, as it allows us to be close to essential partners who influence our activities. Whether they are part of the university environment, the regional environment, the Moravian-Silesian Innovation Centre, the Moravian-Silesian Academy of Technology or other entities, **we are open to cooperation at all levels.** At the same time, we need to be focused on achieving concrete results for the benefit of Autocluster members.

Can you tell us something about your members?

We have a broad portfolio of products, technologies and services represented by our members, united by our presence in the automotive industry. This is a very innovative sector; for example, one-third of R&D expenditure in the European Union comes from automotive projects. Companies in this sector in the Czech Republic have a strong R&D focus, are very innovative, flexible and the vast majority of them have their own R&D. From this point of view, the automotive sector is not an assembly plant, but already today, broadly a brain trust. The member companies employ active, educated and experienced people with whom it is possible to operate in an open market. **The companies have their commercial policy and can position themselves**

in the markets in European competition, to follow the latest technical and technological developments and to apply their products in comparison with the European-wide competition; some even have their production and development branches in different countries. We appreciate the cooperation between companies, the cluster and technical universities.

How do your members perceive you?

It is essential for our members that we bring them tangible results from different projects. To maintain a suitable environment for members to work with each other and to create business opportunities for members that come from being a member of a more significant number of companies.

Smaller firms benefit from knowledge and skills derived from the practices of larger firms. Corporate firms have more excellent capital resources and are closer to the latest technical and technological expertise. Small and medium-sized firms, in particular, benefit from Autocluster's role as an informant and integrator. For example, as part of a company day, we visit a member's manufacturing facility with advanced technologies and processes that Autocluster members can "touch" on-site, learn about the benefits of implementation, the pitfalls of the implementation process itself, keeping at peak performance, and see continuous improvement in action.

How have you helped, and are you helping your members? Please give specific examples.

The startup [Tasty Air](#) is based in Ostrava, where they used to program games for mobile phones. They wanted to expand their scope and focus on the industry. Thanks to their involvement in the Moravian-Silesian Innovation Centre, they came to us and became members of Autocluster. They were given the opportunity to work on an international project as a project partner responsible for the design and programming of an application for teaching Lean principles in the Lean 4.0 project, which is an electronic variant of the classic Lego game for teaching lean material flows on a tablet. They have expanded their activities in industry, although their primary area of expertise is augmented and virtual reality for training and education. They have learned the business processes in the automotive industry, understanding the learning tools and their application in schools and companies.

We strive to help small and medium-sized companies, in particular, to be prepared for the new legislative requirements of the future and to know their impact on company operations (e.g. the draft Euro 7 standard, ESG reporting, etc.).

We use networking with clusters in the Czech Republic and cluster exchange programmes in the EU (Cluster Exchange - e.g. with cooperating clusters in Bologna, Italy (high-tech processing of high-strength plastics, aluminium castings, etc.) and Heilbronn, Germany (development of regional hydrogen economy, etc.).

We focus on creating good conditions for startups and their involvement in R&D tasks and activities in the automotive sector through Tier1-3 suppliers.

We offer help in three important areas:

Cooperation in the development of human potential

Harnessing and developing human potential is a priority and a competitive advantage

- We educate and develop skills in areas related to trends in the automotive industry.
- We build knowledge chains and networks
- We facilitate the use of human potential
- We initiate and implement joint projects



Human resource development - we develop soft and hard skills, training of operators and production workers (new skills and abilities for production, operators, shop supervisors, problem analysis, teamwork, problem-solving, finding technical solutions, management skills and many more).

Business relations - learning about business models of top companies, sharing best practices, joint purchasing activities, developing international contacts, participating in foreign missions, etc.

Research and development activities - joint research and development projects, which in recent years have been focused mainly on the use of robots and cobots in manufacturing companies, on the development of a catalogue of alternative substitutes for metallic materials with high-strength plastics and composites, or on the application of visual inspection of finished products using neural networks and robotic elements working in the tact of the production line.

Cooperation in R&D and innovation

Collective research and development streamlines and accelerates innovation

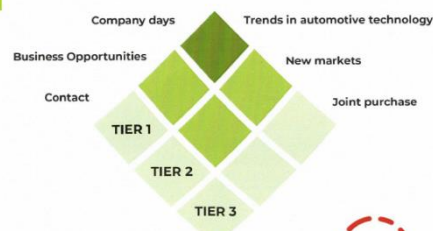
- We support innovation and the circular economy
- We test products and processes in selected areas
- We assist in development capacities
- Initiate and manage joint R&D projects



Cooperation in business relations

Efficient supplier-customer chains strengthen competitiveness

- Opening up space to new markets
- We save money in purchasing
- Helping to solve critical situations
- Initiate and implement joint projects



What did you achieve in 2022?

We appreciate the mutual cooperation and support of the membership; we have met the goals set for 2022, we have completed several projects, we are active in cooperation with the cluster environment in the Czech Republic and the EU, we are active in the regional, national and international environment, and we are pleased that we are approached by partners in the Czech Republic and the EU to join consortia of new projects.

Some specific examples:

LEAN 4.0 project - a learning application for use by high school students. The application is tested and available for teaching lean processes in schools and companies.

We also participated in the **INTONOMOUS** project aimed at supporting SMEs in the field of autonomous mobility. The project involved partners in the EU, USA, Canada and the United Arab Emirates. The project belonged to COSME ESCP4I (European Strategic Cluster Partnership for Internationalisation), and we gained excellent knowledge from a business mission to California (developing start-ups for high-end investment projects) and cooperation with leading clusters focusing on new mobility routes from France and Germany.

In 2022, we worked on three R&D projects and launched a new technology in our laboratory - a climate and shock chamber for testing products and parts for members.

We became founding members of the Moravian-Silesian Technological Academy, where we work together with the Moravian-Silesian Region, MSIC, and SPŠaOA Bruntál on the development of advanced educational tools (Eduboxes) for the education of secondary school students, with the possibility of using them for lifelong learning in companies.

We work closely with EACN, the association of European auto clusters, and are represented on the board of this network of 29 clusters.

We are also participants in the consortium of the National Centre of Competence 2 Polymers for the 21st Century, which operates under the leadership of UTB Zlín and the Plastics Cluster. There are a total of 24 R&D organisations, associations and companies. The sub-projects contribute to the development of the circular economy in the Czech Republic and bring about the development of specific polymer processing technologies with less environmental impact.

We have been involved in the newly established MIH (Mobility Innovation Hub) activities with a nationwide reach. We are engaged in developing startups, setting conditions for their cooperation with corporations, and introducing integrated mobility solutions in the Czech Republic.

One of the latest achievements, from September 2022, is the involvement in the first pilot wave of projects under the **SMP COSME EUROCLUSTERS call with the RESIST project**. Five European clusters from France, Spain, the Czech Republic and Austria have launched the first Eurocluster

approved by the European Commission for the mobility, transport and automotive ecosystem. The RESIST project will support SMEs from the mobility ecosystem across the EU with more than €1 million in open calls.

What are your plans for 2023?

We plan to continue to focus on human relations, business relations and research and development activities. We are preparing new projects to develop the innovation cluster and internationalisation. We will support staff training, regional development and transformation projects (e.g. the Trautom project).

We continue implementing seven national and international projects and are preparing four new ones. We are developing member companies' readiness for digital and green transformation and strengthening their resilience. We focus on developing business opportunities in three countries (e.g. automotive in Vietnam, UK etc.). And we see teamwork of all stakeholders, agility, flexibility and enjoyment of work as a necessary conditions for successful work.

What is the value of the National Cluster Association for you?

Cooperation and lively contacts between clusters have opened up within the Czech Republic as a result of regular meetings under the banner of the [National Cluster Association](#). We are delighted to work closely with [clusters in the Czech Republic](#). We often cooperate with the [Plastics Cluster](#) and the [Czech Optical Cluster](#), and discuss future cooperation with other Czech clusters.

For us, the value is networking, cooperation between clusters, informal relations between clusters and information from the cluster environment.

We have an excellent experience of information exchange at the regular monthly meetings of NCA members, where clusters from different backgrounds have the opportunity to present their activities in a standard form and also share what they are working on, what they offer and what they are looking for. More detailed are the presentations of selected clusters, which are complemented by [Transfera.cz](#) with the possibilities of various applications of innovations from the higher education and research environment.

