



**AUTOKLASTR**

# Clusters as platforms for business – research relations

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SGH Warszawa 9.6.2022



# Autoklastr location

- 15 OEM in 250km radius

společně v automotive



Moravskoslezský automobilový klastr z.s.  
Business centrum VŠB-TU Ostrava,  
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[www.autoklastr.cz](http://www.autoklastr.cz)



# Autoklastr members - June 2022

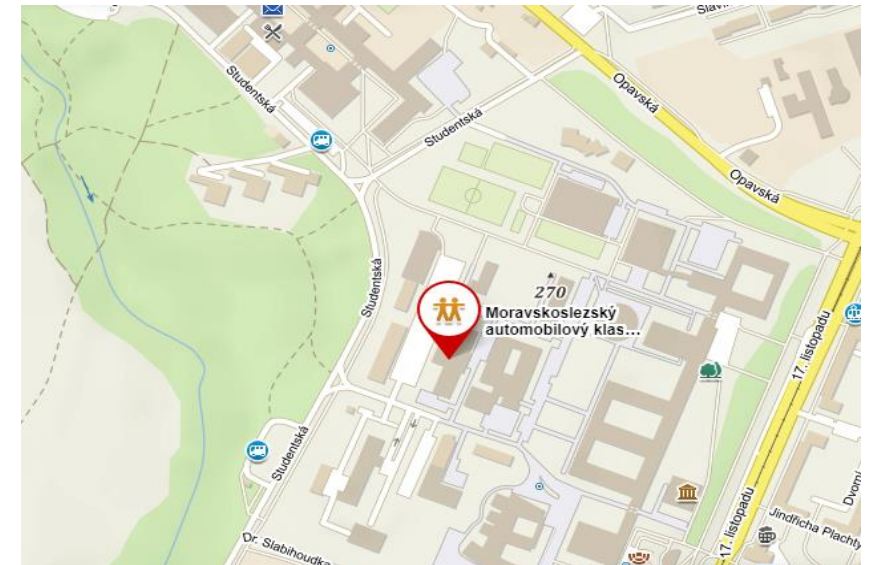
společně v automotive



93 members

Out of which :

- 82 Production and service companies  
(14 Tier-1, various T-2, T-3 and support SW)
- 5 Technical and 1 business universities
- 5 High schools



## Structure of Members

14 Tier-1members and 6 Universities in total of 93 members



# Czech automotive industry at a glance

společně v automotive

- The largest industry in the Czech Republic Over 10% of GDP
- Around 270 production companies in CZ and 800 companies in total linked to the CZ autoindustry
- More than 180 000 direct automotive employees and nearly 500 000 employees linked to the automotive business
- 26% of manufacturing output and 24% of Czech export
- 80% of the production is exported
- Annual Revenue over EUR 40 billion

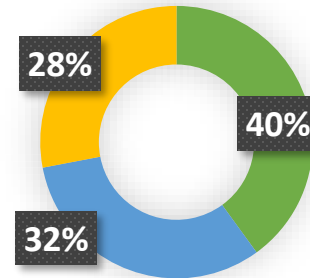
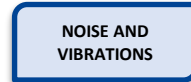
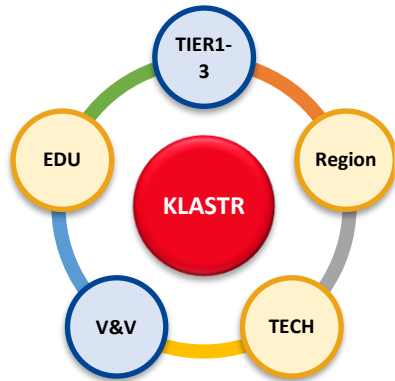




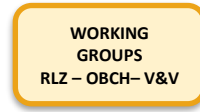
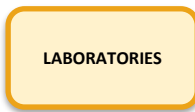
# AUTOKLASTR



ZLATÝ KLASTR 2014  
ZLATÝ KLASTR 2017



Public Private Own



# TRAINING	# WORKSHOPS	# WORKING GROUPS	# NETWORKING	# PLASTIC	# METALS	# TECHNOLOGIES	# DIGITALIZATION
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2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021

# 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

# 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



# 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 DEVELOPMENT OF HUMAN RESOURCES

Training and developing competencies

### KNOWLEDGE NETWORKS:

- Centrum of experts
- Training of employees and students, cooperation with universities: Thesis, career days, internships
- Special trainings for technicians
- Development of polytechnic educations

### PROJECTS:

- Education - a common way to development
- World in moving
- Auto academy
- POSPOLU



společně v automotive



# COOPERATION

## IN BUSINESS RELATIONS

Save money and open space for new markets

### CREATING SUPPLIER-CUSTOMER CHAINS:

- Meetings with TIER 1 and TIER 2 suppliers
- Business days of TIER1 companies
- Information about new projects
- Searching for potential investors
- Joint purchasing

### PROJECTS:

- Development of the cluster
- Automotive without borders
- Autonot
- Safedrive
- Cerada
- <IMPACT> Connected Car
- Cardemy
- GreenWheels



CERADA



## COOPERATION

### IN RESEARCH AND DEVELOPMENT ACTIVITIES

Testing components and supporting innovations

#### RESEARCH AND DEVELOPMENT NETWORKS:

- Integration of companies to the projects for purpose of joint development
- Coordination work during joint development and testing
- Support for companies without R&D
- Support for companies in area of patent research a TRIZ methodology

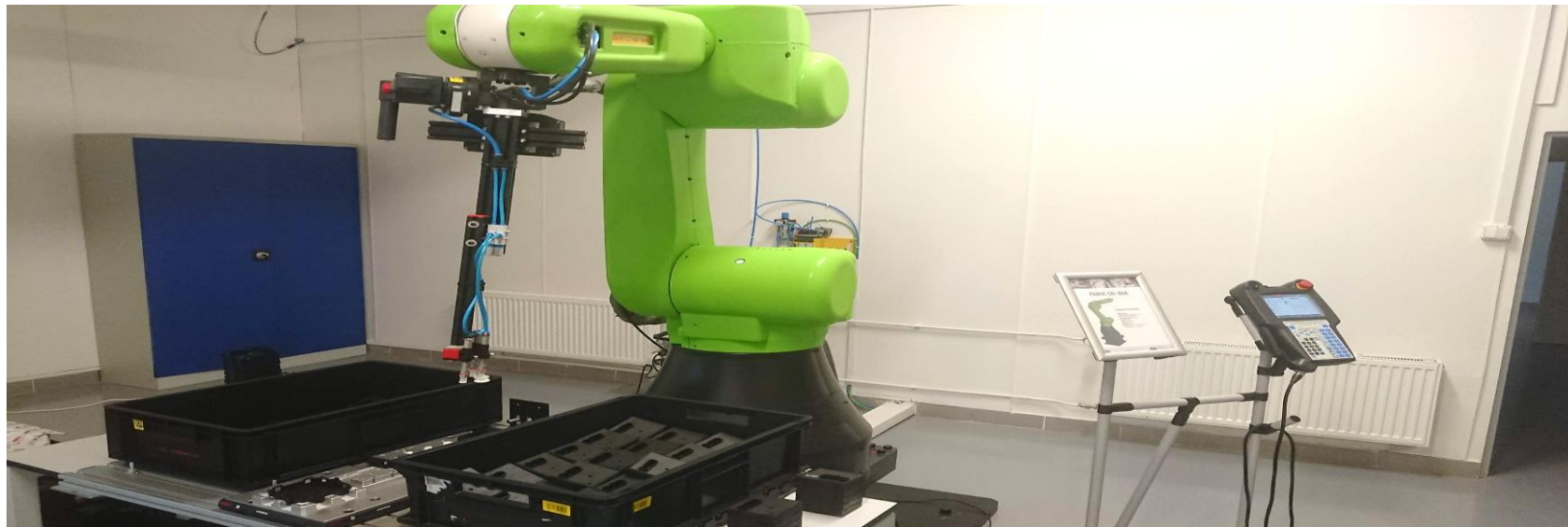
#### PROJECTS:

- Laboratories: pulsation, vibration, noise, thermal
- Knowledge e-catalogues in area of plastics, metals and technologies
- Ergonomic measurings
- Cobots centrum



## Autoklastr - cobots laboratory

- **Fanuc cobot** – aim: analyze manufacturing process at the member client site, modelling, simulations and pilot verification of the robotics solutions.
- Cooperated with robotics centre of VŠB TUO Ostrava Faculty of Mechanical Engineering, based on contract signed between Autoklastr and VŠB TUO.
- Cobot with Fanuc Vision System integrated into the production line in bin picking tasks. More new applications are being developed in 2022



## Autoklastr - cobots laboratory

- **ABB robot application:**
- Integration of two-handed cobot into existing production line. One hand of cobot manipulates with bare motors and install bushing on it. The second hand of cobot installs a couple on the motor and put the motor into pallet with correct rotation and position.



## R&D project for small&medium size companies

- **Plastics:**

- Modern resins
- Assembly and glueing
- Hi wall thickness mouldings



- **Goal of the project**

- Modern resins – multifunctional use
- Resins assembly and glueing - strenghtness, cycle time reduction
- Technology research and development for the high thickness wall injection mouldings
- Process improvements, EUR savings, part weight savings



# 10 E-katalogs developed with Universities for Autoklastr members

Eg. Modern Plastics ( Moderní plasty) with UTB Zlín:

**Spojování komponentů z materiálů:  
kov-plast, plast-plast**

Prohlédnout katalog →

**Predikce vad vstřikovaných dílů**

Prohlédnout katalog →

**Materiály a povrchové úpravy forem**

Prohlédnout katalog →

**Vysokopevnostní oceli pro komponenty  
v automobilovém průmyslu**

Prohlédnout katalog →

**Náhrada pryže recyklovatelnými  
elastomery**

Prohlédnout katalog →

**Tlustostěnné výstřiky**

Prohlédnout katalog →

**Chlazení a ohřev forem**

Prohlédnout katalog →

**Kovy - lití hliníku**

Prohlédnout katalog →

**Moderní plasty**

Prohlédnout katalog →

**Technologie spojování lepením a  
vulkanizací**

Prohlédnout katalog →



MatDat thermally conductive (EN)



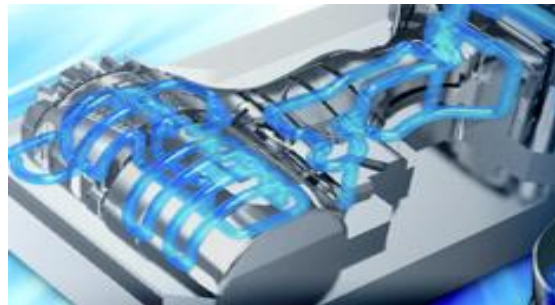
MatDat optically clear (EN)

Typ materiálu	Obchodní název	Výrobce	Hustota [g/cm3]
PC+ABS (Ni-C fibres)	PREMIERTM A240-ST	Chomerics, div. Of Parker Hannifin Corp	1,40
PC+ABS (Ni-C fibres)	PREMIERTM A240-HTHF	Chomerics, div. Of Parker Hannifin Corp	1,40
PC+ABS (Ni-C fibres)	PREMIERTM A230-FRHF	Chomerics, div. Of Parker Hannifin Corp	1,39
PC+ABS (Ni-C fibres)	PREMIERTM A230-ST	Chomerics, div. Of Parker Hannifin Corp	1,31
PC+ABS (Ni-C fibres)	PREMIERTM A220-HT	Chomerics, div. Of Parker Hannifin Corp	1,20
PVDF	Korton FEP	Saint gobain - Norton	2,13



## R&D project for the small companies

- **TECHNOLOGY: tempering of moulds for the injection moulding**
  - Progressive methods of cooling and tempering of moulds
- **Aim:**
  - Develop and implement the new methods of cooling and tempering of moulds and at the end save cost and increase the productivity
- **Cooperating university: UTB Zlín**



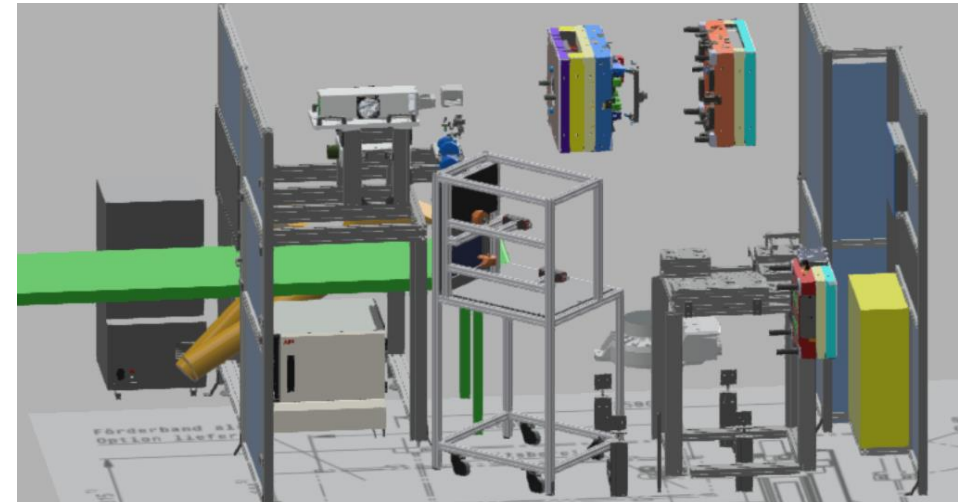
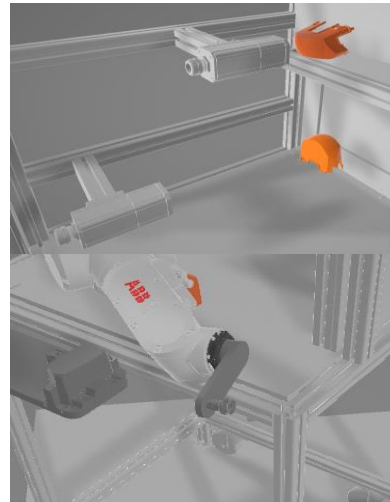
## Current projects - TECHMAT

The scope of the total project is divided into 3 subprojects:

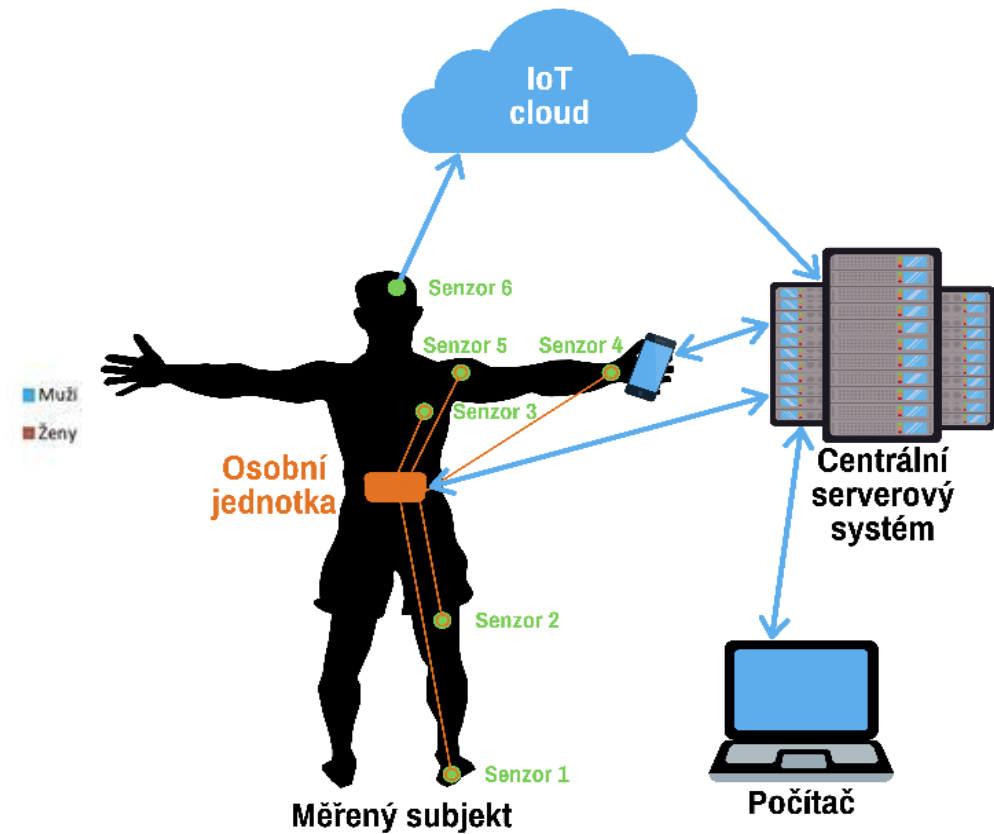
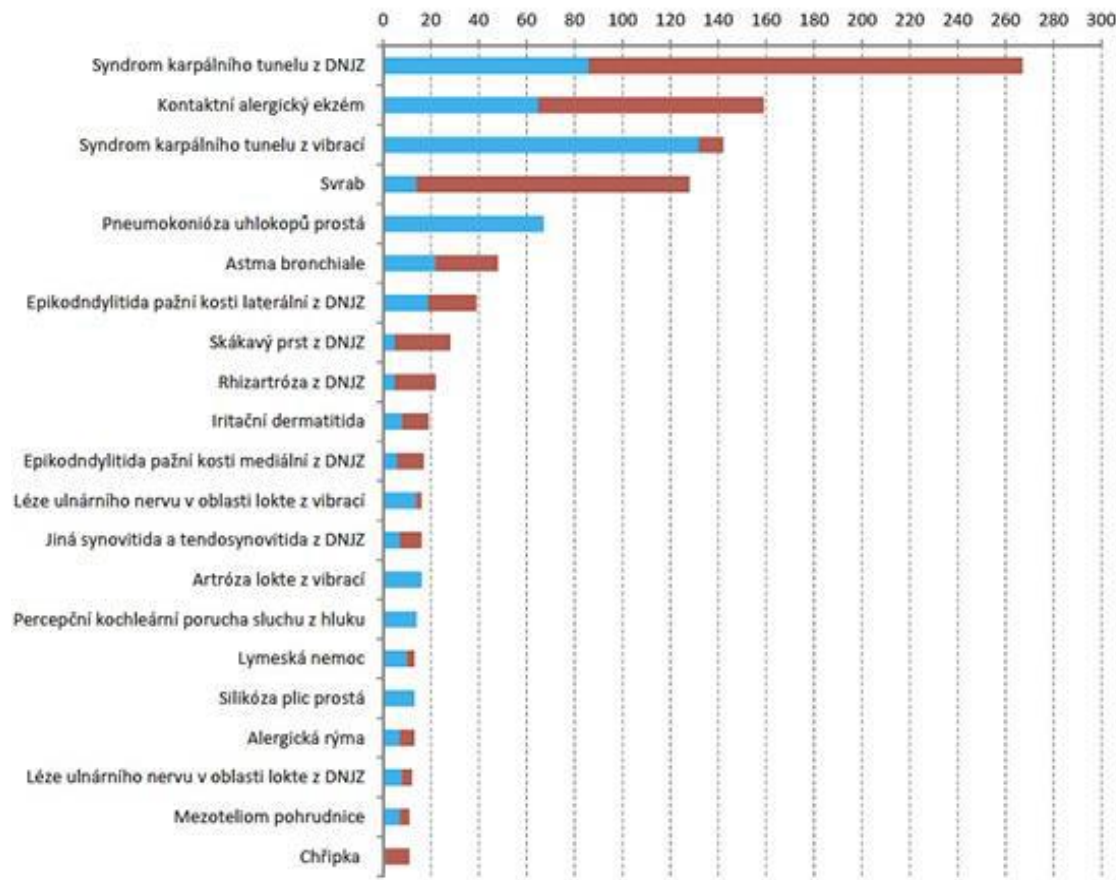
- High strength plastics and composites with UTB Zlín
- Low cost automation with VŠB TUO Ostrava
- Visual control with AI – VUT Brno

The subprojects are combining the experimental research and development with the industrial application research and development , total budget 18 mils CZK, duration of the project 2021-2023.

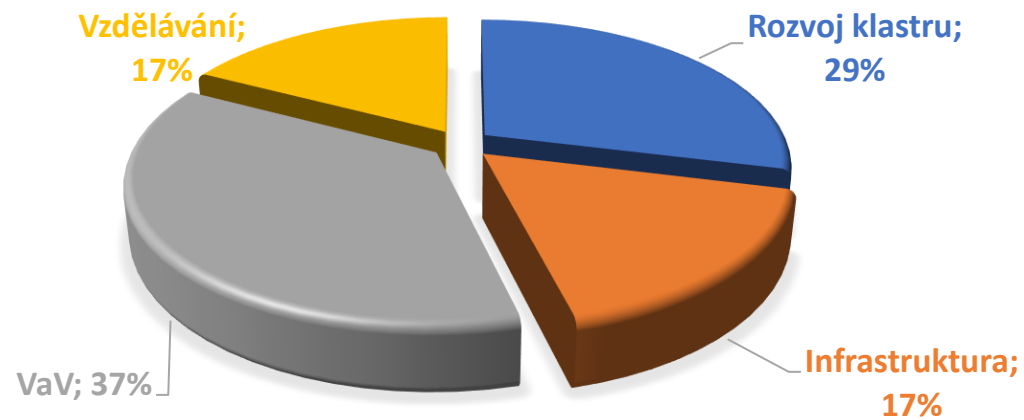
Eg. Visual control with AI:



# Autoklastr – Ergonomic project with ČVUT Praha



All projects 2006 - 2022	Total cost				R&D (VaV)	
SUMA v tis. Kč	<b>187 835</b>				<b>69 499</b>	
%	<b>100%</b>				<b>37%</b>	



Thank you for your attention.

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