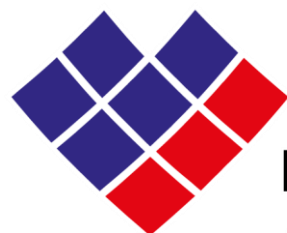


Final Conference

V4 ClusterPol Project

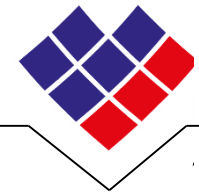
Prague

8. 12. 2016



**MORAVSKOSLEZSKÝ
AUTOMOBILOVÝ KLASTŘ**





Introduction of Moravian-Silesian Automotive Cluster

- Main focus
- Development of Cluster
- Our members

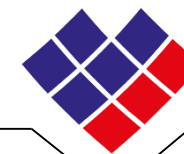
Automotive Cluster Activities

- Human Resource Development
- Business Relations
- R&D Activities
- New projects

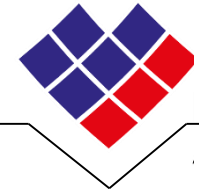
New ideas generator -TRIZ

- Theory of Inventive Problem Solving
- Goldfire Software

Location of Moravian-Silesian Automotive Cluster



Introduction of Moravian-Silesian Automotive Cluster



- › Association established in 2006 to promote innovations, to increase competitiveness and to develop capabilities of its cluster members

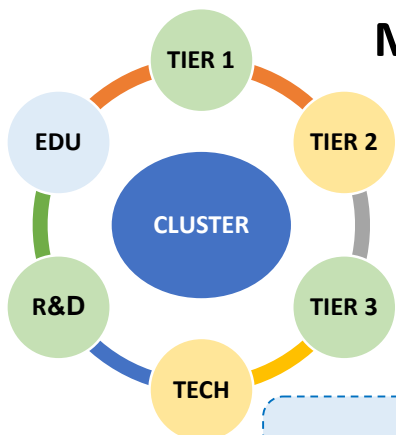
Main focus – mutual interest in following areas:

- **DEVELOPMENT OF HUMAN RESOURCES**
 - › education and developing students as well as employees competencies
- **BUSINESS RELATIONS**
 - › money saving and new markets entering
- **R&D ACTIVITIES**
 - › products testing and processes innovation encouraging

10 years of Autocluster



Members structure



DEVELOPING
OF
INNOVATION
POTENTIAL

CAR ACADEMY
FOR HS

AUTO ACADEMY

SAFE DRIVE

POSPOLU

WORLD IN
MOVING

INAK

PLAKOTECH

AUTONET

NOISE AND
VIBRATION IN
CARS

Safe
DRIVE

66

65

70

75

BUYINGS DAYS

INVESTMENT
FROM ABROAD

CERADA

AutoNet

Goldfire
InventionMachine

METODOLOGY
TRIZ

E-CATALOGUES

POLYTECHNIC
KID FOR KIDS

FOUNDATION
AND
DEVELOPING
OF CLUSTER

CERADA

JOINT PURCHASE

COOPERATION
WITH OTHER
CLUSTERS

PULSATION AND
VIBRATION LAB

COOPERATION
IN REGION

27

31

47

CENTRUM OF
EXPERTS

DEVELOPMENT
OF COOP WITH
UNIVERSITIES

ERGONOMIC
LABORATORY

USING OF
LABORATORIES

IMPLEMENTATION
OF PROJECT
MANAGEMENT

22

WORKING
TEAMS HR, R&D,
B2B

ACOUSTIC AND
THERMAL
LABORATORIES

FIRST
INTERNATION
COOPERATION

BENCHMARKING

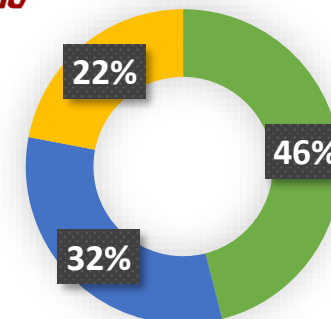
UPDATE OF
STRATEGY

DEVELOPMENT
OF
INTERNATIONAL
COOPERATION

Kit 4 Kid



Funding



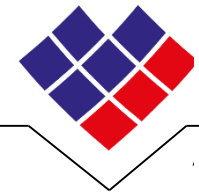
Public Private Own

ESTABLISHMENT 9/2006

ACTIVITIES

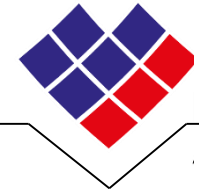
PROJECTS

2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016



› Now Automotive Cluster has 13 TIER 1 members and in total 75





TIER 1

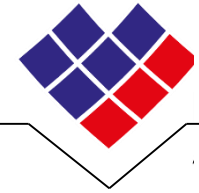
- Brano Group, a.s
- Brembo Czech s.r.o.
- Brose spol. sr.o.
- Continental Automotive
- CROMODORA WHEELS
- CTS Corporation
- Erich Jaeger, s.r.o.
- Hanon Systems s.r.o.
- KES s.r.o.
- KLEIN automotive s.r.o
- Maxion Wheels, s.r.o.
- PHA CZECH s.r.o.
- Varroc Automotive Systems, s.r.o.

R&D

- Argutec, s.r.o.
- Centre of Excellence Prague, s.r.o.
- ČVUT Praha
- FLTC Europe a.s.
- Protocom, s.r.o.
- SimulPlast, s.r.o.
- SMARTPLAST, s.r.o.
- SWELL, spol. sr.o.
- TOP Function
- TÜV SÜD Czech, s.r.o.
- Univerzita Tomáše Bati ve Zlíně
- VŠB-TU Ostrava
- VÚHŽ a.s.
- Západočeská univerzita v Plzni
- VUT Brno

Educational

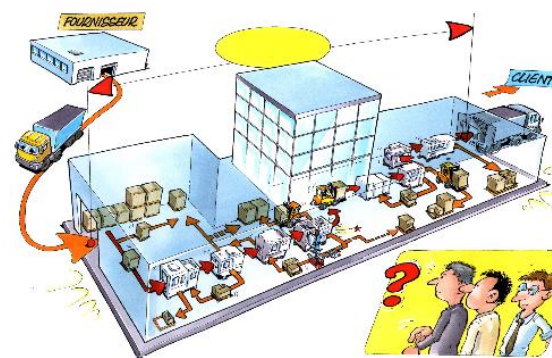
- HM PARTNERS s.r.o.
- RB SOU
autoopravárenské s.r.o.
- Soš a Sou Jablunkov
- Spš-Vítkovice
- SŠTO Havířov -
Šumbark
- VOŠ, SOŠ a SOU
Kopřivnice



- **Auto Academy** – positively interconnected the industry educational requirements with the focus of vocational and training schools coordinated by cluster.
- The **GOAL** is to develop key competencies of students and to support their integration into working processes of these crucial fields in automotive:


New versions of Educational Textbooks in:

- Innovations,
- Lean Processes,
- Logistics,
- Leadership,
- Project management




Standard pracoviška

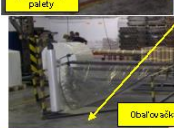
Pracoviško: NGR	Terminum: Balenie	Úst.: 1/1
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1
Priestor pre palety




1
Priestor pre palety



4 5
Obalovačka



4 5
Drviace zariadenie

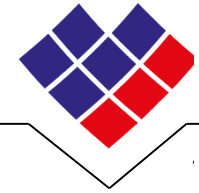


3
Elektrické zariadenie

P.č.	Čo sa deje	Ako sa deje / pomôcky	Hedy	Čas
1.	Usporiadať priestor na palety - Paleta a v Liniu	Vysokozdvíhový vozík	na konci každej zmeny	10 min
2.	Čistenie Liniu	Metla, zmeták, lopatka	1 x 17 dní	60 min
3.	Čistenie elektrického zariadenia od prachu	Vysávač	1 x 17 dní	5 min
4.	Povyšovať podlahu pracoviska	Vysávač	1 x 7 dní	90 min
5.	Pozametávať podlahu pracoviska	Metla, lopatka	na konci každej zmeny	30 min
6.	Čistenie obalovačky	Metla	na konci každej zmeny	5 min
7.	Čistenie drviaceho zariadenia	Metla	na konci každej zmeny	5 min

Datum: 24.6.2004
Vypracoval:
Schválil:
Číslo: 12/004

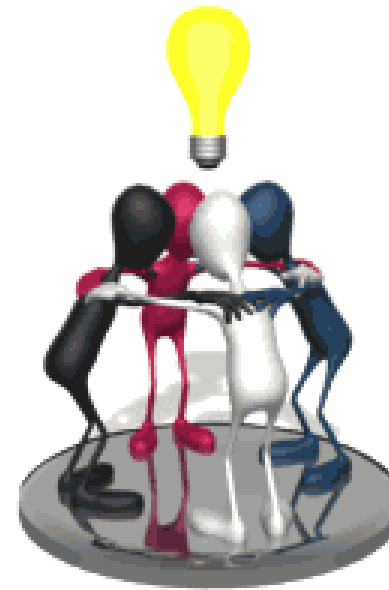


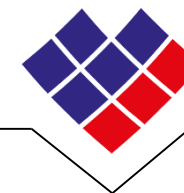


- › **Experts Centrum/Community** leading to the build knowledge excellence in agreed areas.
- The **GOAL** is to share key competencies, experience and practices of expert employees in their fields of interest and occupation

Existing Experts Centers in:

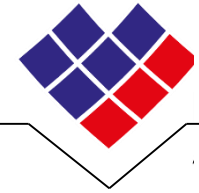
- Plastics
- IT
- Industry engineering
- Technical solutions - TRIZ
- Ergonomics
- Project management





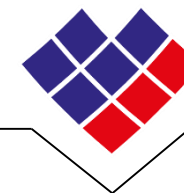
- **Joint Purchase Center** – activity enhances synergic effects resulting from common methodology and e-auctions in overheads and services
- The **GOAL** is to secure cost effectiveness of cluster members
- Tangible results in:

	<i>Total amount in EUR</i>	<i>Total saving in %</i>
<i>Oil and lubricants:</i>	302k	8%
<i>Stationary:</i>	148k	24,8%
<i>Technical gases:</i>	160k	13,2%
<i>Labels:</i>	72k	12,6%

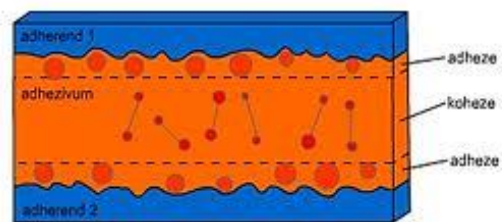


- › **Laboratories** – products testing, processes and supports Innovations – covering R&D capacities for special projects
- › **The GOAL** is to integrate university potentials with business and to enhance joint research
- › **Laboratories for:**
 - › Research – experimental noise testing
 - › Laboratory for cooling and heating devices testing
 - › Laboratory for objects testing exposed to liquid pulsations pressure
 - › 3 axis vibration testing

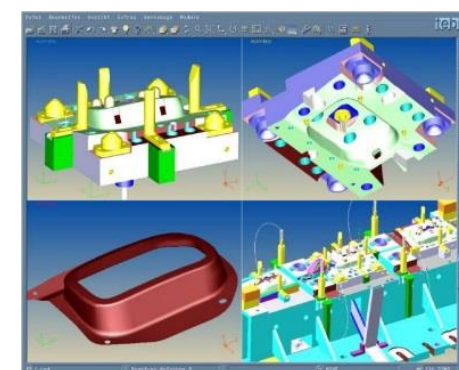
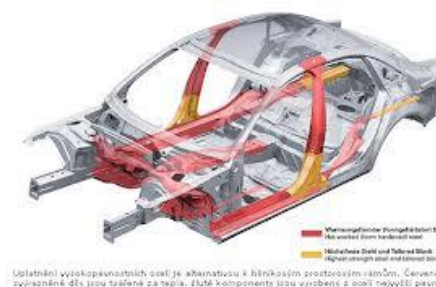
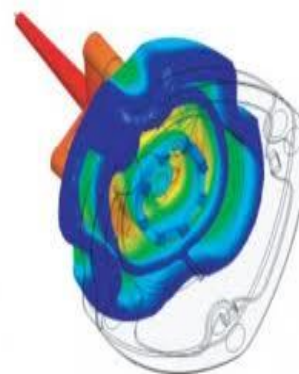


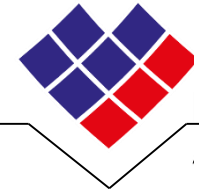


- › **Project Integrator of R&D** – comprises of 11 specific subprojects and currently main tasks of cluster management. External project leader with great experience in the field are employed to supervise the outcomes
- › The **GOAL** is to support R&D in SMEs integrating large enterprises and universities to solve innovative challenges in automotive industry.
- › **4 principal areas of R&D:**
 - › Plastics
 - › High-strength materials
 - › Moulds, tools and equipments
 - › Laboratory support in R&D



Princip lepeného spoje





› **RFID code for forms, molds and tools tracking**

- › Designed system will improve the tracking processes of expensive technologies (tools, apparatus and moulds) and increase effectiveness of the preventive mending.

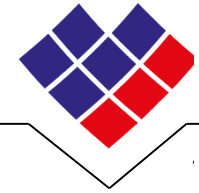


› **Generalized tolerances**

- › Deigned software with use of optical scanner will provide dimensional report that will lead to time saving and cost reduction due to discrepancies elimination between CAD model and real component.

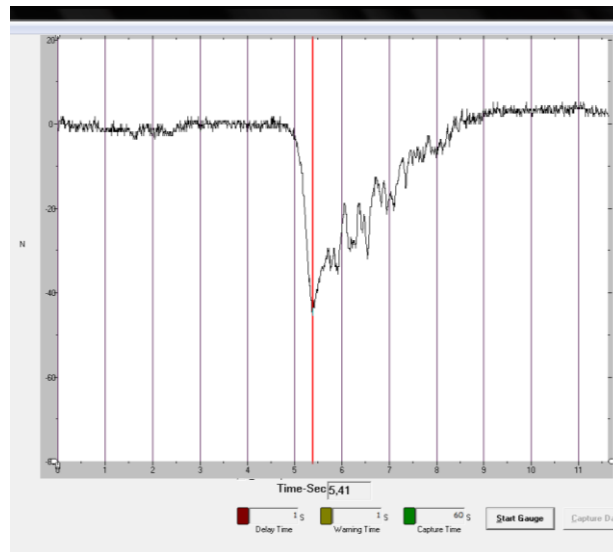
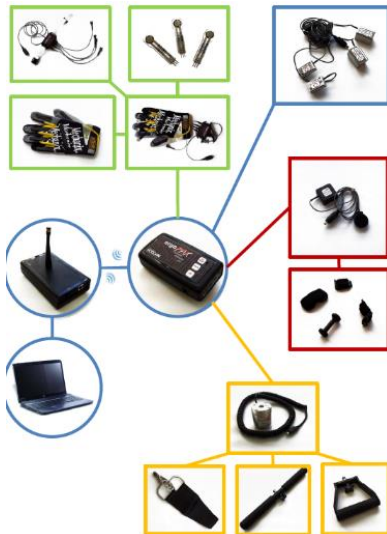
› **Laboratory support for research and development activities**

- › Mobile innovation center base on TIPS methodology will support the constructors, managers, scientists, innovators searching for innovative solutions

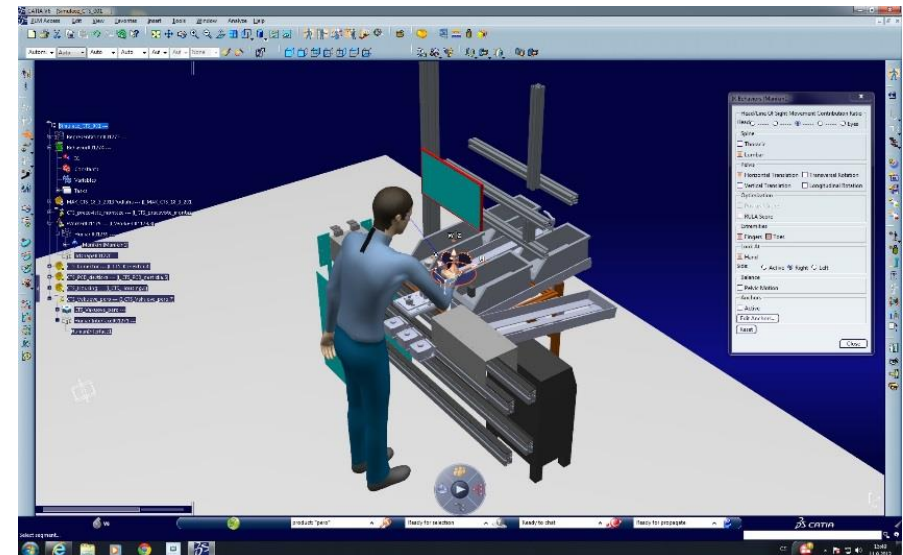


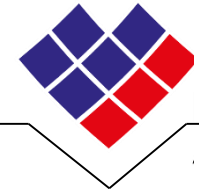
- › Digital factory – design of work places in line with **ERGONOMY**
- › The **GOAL** is to secure that the operations are adequate in point of local muscular stress and to avoid occupational diseases of workers in workplace design phase

ErgoPAK



Delmia V6





› PLASTICS:

- › Modern plastic
- › Plastic joining
- › Thickwall injection plastic part



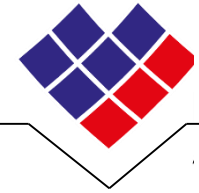
› Aim of the project:

- › Research of modern plastics covered more function.
- › Complexity solution of modern technologies in plastic joining with others materials.
- › Research of technologies for thickwall injection.

› Expectation of the project:

- › More high quality plastics material will be use to cover high quality and cost reduction.





› METALS:

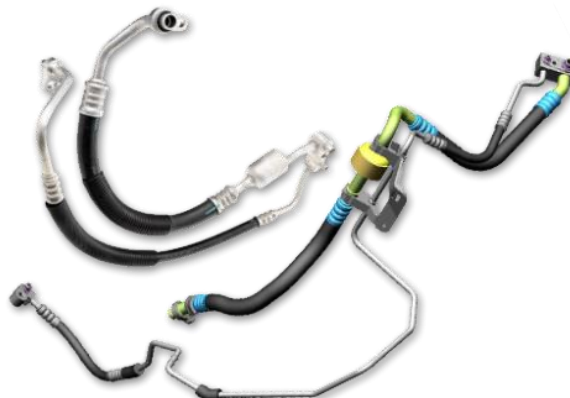
- › Light metals (AL)..develop of technologies for their processing and limits of using

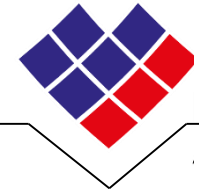
› Aim of the project:

- › Optimization production proces of AL foundry, analysis fatigue fracture of AL materials and identification limits of using AL material.

› Expectation of the project:

- › More often of using aluminium materials and identification of limits for their using





› TECHNOLOGIES:

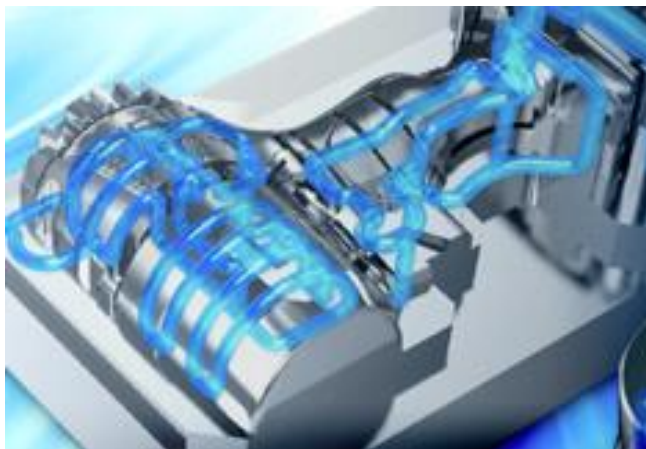
- › Progressive methods of molds heating and cooling

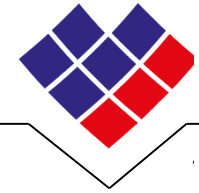
› Aim of the project:

- › Develop and verify new way of cooling and heating molds with using modern technologies like 3D print

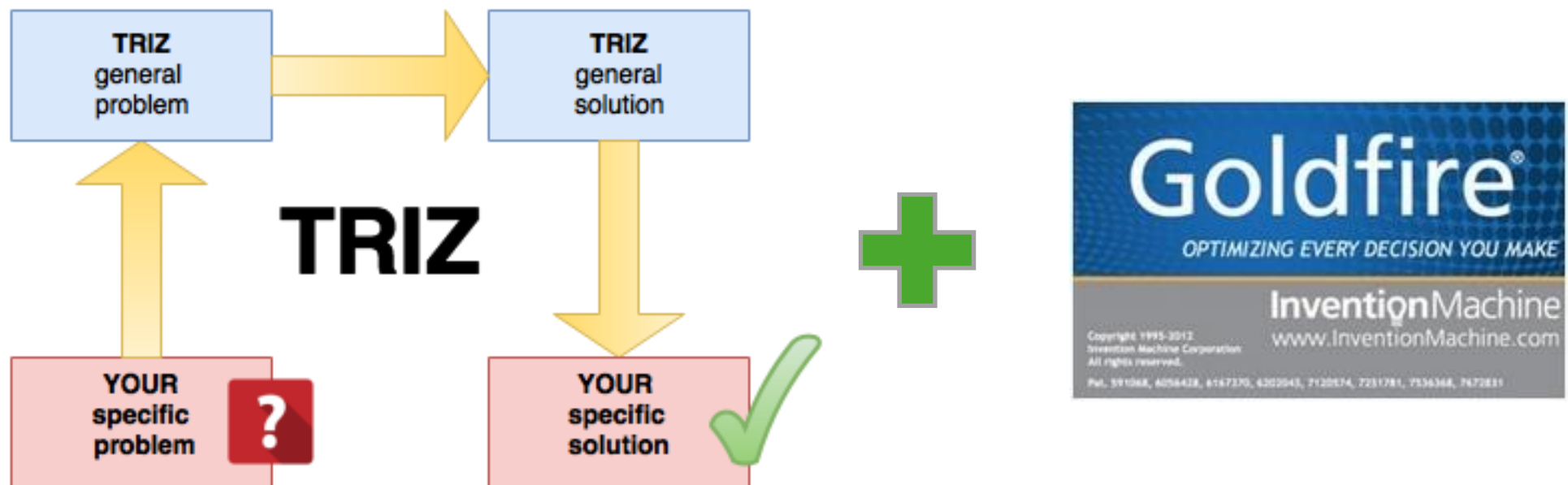
› Expectation of the project:

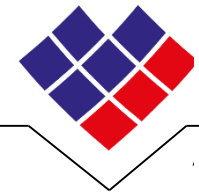
- › Cost reduction and more efficiency in production





- › **Theory of Inventive Problem Solving - *Teoriya Resheniya Izobretatelskikh Zadach***
 - › *English acronym could be occasionally TIPS*
 - › Well developed theory of the resolution of invention-related tasks
 - › Methodology clearly directed task for the defined goal !!
- › TRIZ presents a systematic approach for understanding and defining challenging problems and with software support realized by Goldfire Innovator presenting powerfull tool for Inovations in companies.





› Knowledge system Goldfire Innovator can:



› **Supports:**

- › creation of task in the analysis phase and the search for new solutions in the stage of synthesis products and processes

› **Reduces:**

- › total cost of applying the systems approach is already in the early stages of the innovation object

› **Facilitates:**

- › create, share and mine knowledge from electronically available databases patents / www,

› **Analyzes:**

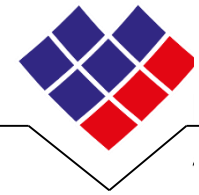
- › patents competition and to track trends in competition and in the field

› **Attracts:**

- › users to the information and knowledge society

› **Repetitive supports:**

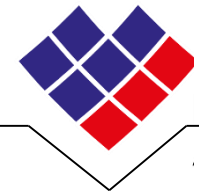
- › systematic and creative work of both contracting authorities and investigators innovation



**„The key to winning, is getting first to
where the puck is going next.“**

W. Gretzky





Thank you for your attention

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**MORAVIAN-SILESIAN
AUTOMOTIVE CLUSTER**

