



Institution profile 

TRANSPORT FOR FUTURE

sustainable, safe and successful,
smart, user and environmentally friendly



TRANSPORT
RESEARCH
CENTRE



“There is no more important mission than sharing co-responsibility for creating acceptable conditions for future generations. That is why the support of transport sustainable development is the main goal of our work.”

*Ing. Josef Mikulík, CSc.
founder of the Transport Research Centre
and director from 1992 to 2007*



Dear readers,

in your hands you are holding a profile of our **research institution**, which is, as the only one in the Czech Republic, fully **focused on transport**. Counting in our predecessor, we may see our history starting in after-war years of the 20th century.

Three generations of our researchers have initiated and completed inconceivably wide range of research tasks and have overcome many obstacles. Experiencing lean years in the beginning, they kept coming with new ideas, carefully verifying their benefits, and patiently promoted their use in practice. It is also their credit, that we can, these days, introduce ourselves as a modern European, professional, independent **research institution** of international renown.

It is of interest that average age of our employees is 39 years. Despite predominantly technological focus of CDV, 42 % of women are working here, together with 58 % of men. I particularly appreciate that many of them have been awarded prestigious international awards. Furthermore, most of them, as well as me, spend substantial parts of their professional lives with research.

will be delighted if you become absorbed reading our brief brochure and find some points in common for cooperation with us, or at least get an idea **what transport research means** and what impact it has on our everyday lives.

*Ing. Jindřich Frič, Ph.D.
CDV director*



Reduction of negative impacts on the environment

Measurements of air and noise pollution, calculations of emission balance, modelling of noise and emissions, formulation of consequent measures

Sustainable transport structures

Diagnostics of transport structures and construction material tests

Reduction of road accident rate

Strategic documents, research of accidents, traffic education, safety management tools, construction-technical measures

Effective transport and planning

Transport modelling and sustainable mobility plans leading to a development of whole regions and improvement of life quality of people

Smart city and intelligent traffic management

Information and communication technologies for towns and municipality administration

Transport engineering

Traffic surveys, analyses, models and transport engineering solutions

Transport telematics

Technological solutions improving traffic flow, implementation of ITS elements

People in traffic

Research of behaviour and needs of people in traffic, education and rehabilitation programmes





About our institution

foundation, tradition, mission, vision, awards

Transport Research Centre (CDV), is a **public research institution**, established upon Act. No 341/2005 Coll., and the only research institution within the Ministry of Transport. The institution was established by decision of the minister of transport as of 1 January 1993 as a legal successor of Czech branches of that time Federal Transport Research Institute in Žilina. CDV follows activities which started in 1954, thus having longer than **60-year tradition**.

CDV's mission is to

- perform research and development activities in the field of transport,
- provide **professional independent expertise and service support** for ministries (particularly the Ministry of Transport, the Ministry of the Interior, the Ministry of the Environment), regional, municipal and local bodies of state administration and public administration for their strategic and tactical decision making,
- be a support and a tool for transfer of knowledge to commercial organizations with the aim to **improve their competitiveness in national as well as international scale**,
- represent the resort of transport in international organizations and be active in the field of education.

Vision

The institution's vision is to be a professional independent institution of European importance, sought for expertise in burning issues of transport and its infrastructure, with the results of work that are acknowledged by professional community as well as by general public.

Awards, certificates

- The receiver of the **Human Resources Excellence in Research Award**. Receiving this award from the European Commission is a sign of quality in human resources care.
- Winner of a European road safety award - **Excellence in Road Safety Award**
- Holder of **Certificates ISO 9001 and ISO 14001** in research, development, and technological activities for the needs of development and optimization of transport system as a whole as well as in individual transport modes, including roads.

OUR HISTORY

What we take for granted today is a result of creative efforts, professional enthusiasm, personal sacrifice and work ethics of several generations of our predecessors.

1954 - 1971

1 August 1954 – establishment of Research & Development Transport Institute in Prague (1954 - 1971) focused on complex transport issues, rail and non-rail transport and transport infrastructure.

By its establishment the history of centrally controlled and conception oriented transport research in Czechoslovakia began.

Brno branch followed the activities of Road research station KNV in Brno in the field of material testing, and developed testing methods and devices for building roads, railways and airports.

1972 - 1979

1 January 1972 - establishment of Transport Research Institute in Žilina as a leading centre of research and development for complex transport of issues in Czechoslovakia.

Extension of a separate branch in Brno in fields: roads, air transport and measuring technology, development of measuring devices for diagnostics of materials and road pavements, evaluation of road building economy, assessment of transport impacts on the environment, prognoses of traffic volumes, determination of road capacities, assessment of energy consumption for road building. Construction of laboratory building in the town of Tišnov began.

1980 - 1989

1986 – relocation of six Brno workplaces into a new premises in Botanická 68, Brno

Development of transport and engineering activities, methodology for dealing with accident localities, research of speed impact on road safety.

Production of devices: functional design of a floating vehicle for measuring of construction and traffic characteristics of roads, TATRA RUNWAY TESTER for measuring road surfaces, portable strain gauges for measuring road loading by heavy vehicles. Creation of technical conditions for performance and inspections of earth works, subbases and subgrades, concrete and asphalt pavements.

1990 - 1995

31 December 1992 – establishment of Transport Research Centre (CDV), state allowance organization, with the seat in Brno, with divisions of: road pavements, civil aviation, measuring technology, road traffic safety, transport policy and economics, road and urban transport, voyage and waterways.

Ing. Josef Mikulík, CSc., appointed CDV Director

Establishment of contacts with research institutes in Europe and entering international associations, involvement in international research projects.

1996 - 2000

1 July 1996 – Transport Research Centre becomes the only allowance R&D organization within the Ministry of Transport and takes over selected activities from Czech Transport Development Centre and Brno Transport Centre.

Complex solutions for environmental impacts of transport, established departments of transport planning, transport telematics and legislation in transport. Launching every year evaluation of losses from road traffic accidents. Studies on development of transport in terms of the environment in the Czech Republic.

Construction of a new building in Líšeňská street and its opening in June 1999.

2001 - 2005

2001 – implementation of quality system in accordance to standard ČSN EN ISO 9001:1995 and establishment of a branch in Olomouc (cycle and pedestrian transport).

Opening of a Laboratory of Transport Infrastructure in Tišnov, production of the National Road Safety Strategy, development of transport prognoses and modal split, production of Unified Transport Vector Map, production of Technical Specifications for Designing Safe Road Infrastructure, system of road management, beginning of traffic education.

2006 - 2010

1 June 2006 – decision on a change in CDV's legal form to a public research institution

1 July 2007 – appointment of a new Managing Director, doc. Ing. Karel Pospíšil, Ph.D., MBA

Accreditation of transport infrastructure laboratories, establishment of Road Safety Observatory, new information technologies in transport. Assessment of transport impacts on the environment, cycle transport development, research of driving under influence of alcohol and drugs. Production of eTests (in relation to changes in Act No. 361/2000 Coll. on road traffic), performance of national traffic census in 2010.

2011 - 2015

2011–2014 – construction of Transport R&D centre with modern research facilities and laboratories

5 research programmes were included: In-depth Analysis of Road Accidents, Humane Synergy in Transport, Road Traffic Safety, Transport Infrastructure, Transport and the Environment. CDV enlisted among expert institutes and awarded European Road Safety Charter. Further development of traffic psychology, traffic behaviour and modelling.

Accreditation of laboratories of the environment, road signing and marking, and road traffic accidents.

2016 - 2018

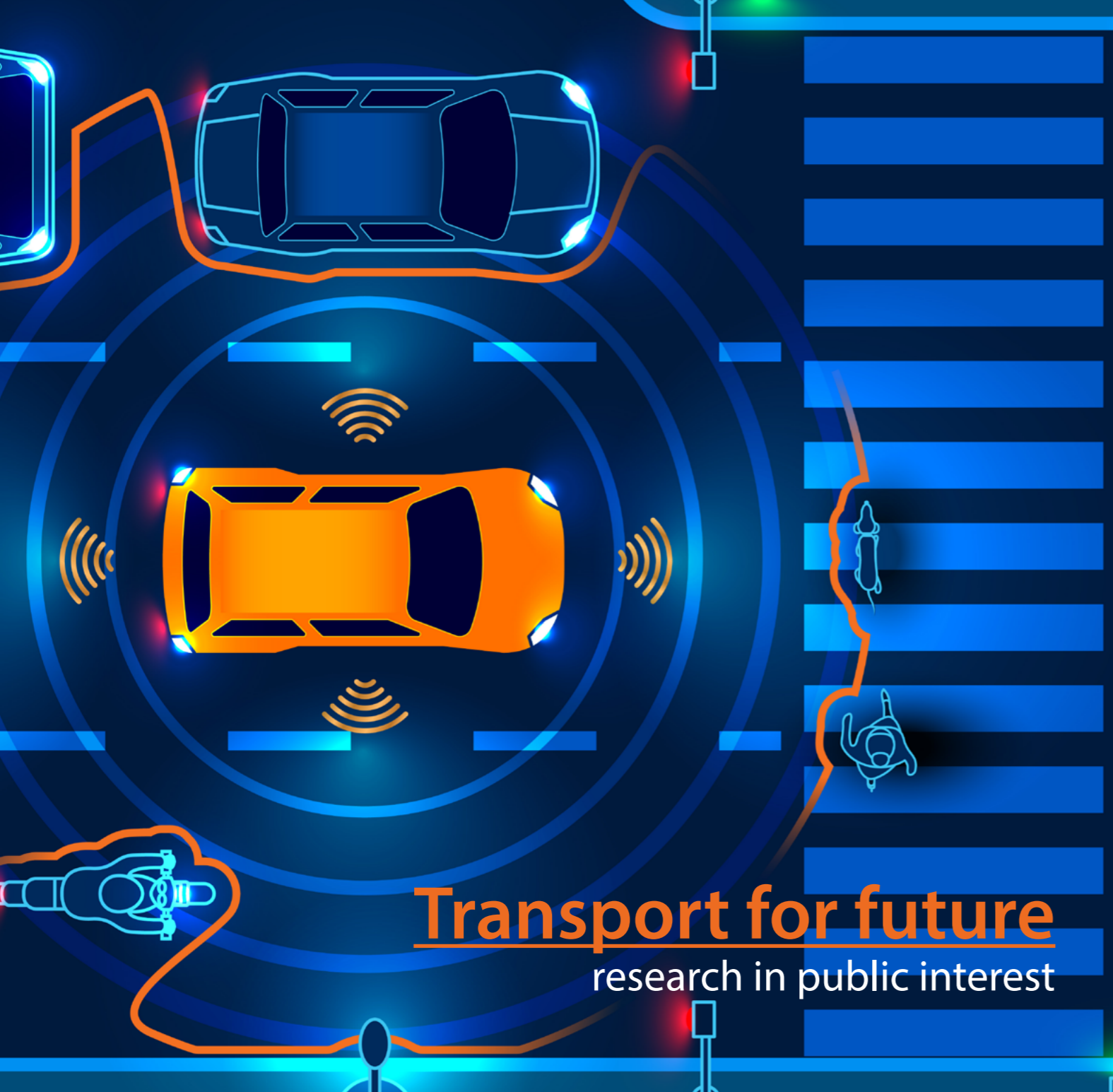
2016 – involvement in project National Sustainability Programme for supporting research, experimental development and innovations (2016 – 2020), in the same year, a new CDV's Director, Ing. Jindřich Frič, Ph.D., is appointed.

Directive EP 2008/96/ES on road infrastructure safety management, and production of related methodologies; training of Czech prison service staff. Development of intelligent systems in transport and production of sustainable mobility plans for individual towns and cities. National traffic behaviour survey "Česko v pohybu", commencement of activities related to testing of autonomous vehicles and beginning of a project to build CDV Technology Transfer Centre (2017-2020).

since 2019

Continue in core research areas of CDV:

- I. Fast, effective, safe and environmental connections
- II. Transport demand, modelling and economics
- III. Conception of smart mobility and new technologies (SMART CITIES)



With its research focus, Transport Research Centre covers **key needs of transport development in the Czech Republic**, at national, regional and local levels.

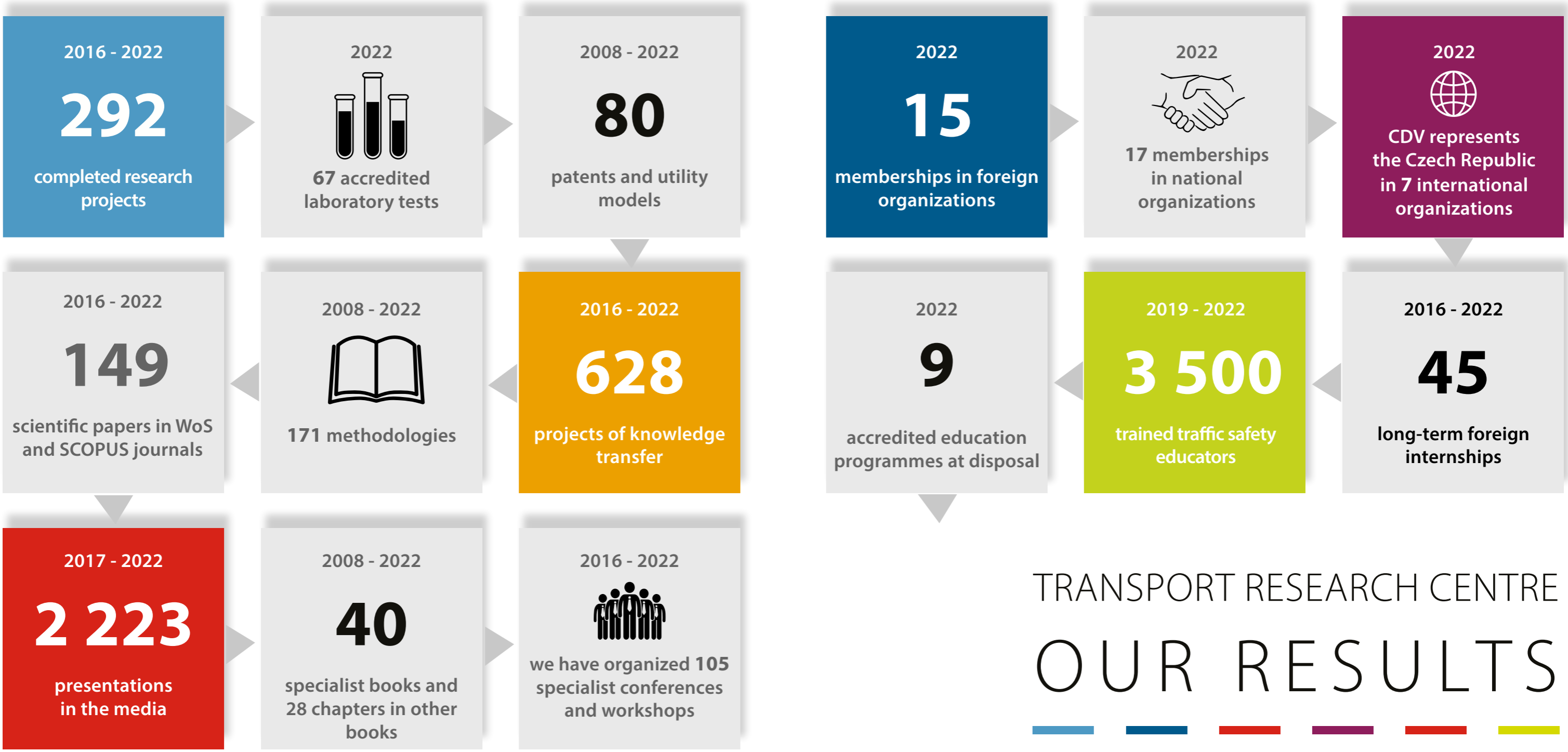
It deals with key fields, such as road safety, technology of construction, maintenance, repairs and reconstructions of transport infrastructure, including geotechnical aspects and diagnostics of transport structures. Furthermore, it deals with impacts of transport and its infrastructure on the environment, transport economics, multimodal transport, traffic psychology, traffic education, transport demand modelling, management systems, geographic information systems, check-in and parking systems, and telematic systems.

In addition, it focuses on smart mobility and **new technologies**, such as autonomous systems, use of hydrogen in transport and other challenges of **transport for future**.

Expert Institute

CDV has been an **expert institute** since 2014 in the following fields:

- urban transport and road transport,
- traffic psychology,
- impact of transport on air quality,
- air protection from impacts caused by transport,
- transport structures, engineering structures, building materials,
- measuring and assessment of traffic noise.



TRANSPORT RESEARCH CENTRE

OUR RESULTS

Application of research in practice

transfer of research and technologies

The structure of performed research activities allows CDV to cover transport and its infrastructure in complex perspective, so that, apart from purely scientific outcomes, the research work results can be **applied in specific contracts related to research**. They include sustainable mobility plans, general traffic plans, transport behaviour models, assessment of transport impacts on the environment, and other strategic and operative documents used by the state administration, regional, urban, and local authorities, and various types of measurements, laboratory tests and analyses as well as road safety audits and inspections, and specific telematic solutions for motorways, highways and local roads.

There are various ways to directly apply the outcomes from performed research into practice. A newly built **Technology Transfer Centre** plays an important role here. Its task is **effective commercialization of research results** in all fields of transport, open new research and commercial opportunities and conditions to establish effective cooperation with potential partners and application sector.

CDV Laboratories

tests of materials, structures, signs and marking, air and noise

For research and commercial purposes we offer accredited tests of concrete, including non-destructive tests and taking drill bores, tests of aggregates, hardened mortars and coating materials, measurements of road pavement roughness by a georadar,

geotechnical laboratory and field tests of soils, noise measurements, measurements of ambient air (emissions) quality, determination of water quality indicators, ecotoxicological tests, and tests of road signs and road marking.

The offer of laboratory services is complemented with a range of performed non-accredited tests in the field of transport infrastructure as well as the environment.

Social responsibility

in social, environmental and economic fields

One of the ways to spread results of our findings is to organize **specialist conferences** available for wide professional community. We help teachers from the lowest education grades, i.e. from kindergartens, with education towards responsible traffic behaviour in current demanding conditions.

We produced the **National and regional road safety strategy**. We are preparing methodologies for processing and implementing of local strategies that would be beneficial for all towns and cities in the Czech Republic. We cooperate with BESIP (a separate department of the Ministry of Transport).

We have become the **National Coordinator of Road Safety**.

Regarding economics, **Anti-corruption programme** and **Ethical Code** have been implemented in our organization for a long time.

We pay a special attention to transport impact on the environment and spreading awareness regarding the idea of **sustainable mobility for future**. Our employees voluntarily participate in public-beneficial events aiming to improve our environment. They also contribute to charitable collections.

TRANSPORT RESEARCH CENTRE BENEFITS OF COOPERATION WITH US

CDV is an expert institute in the field of transport, transport structures, and related fields.

PI Professional independence



Quality and expertise

We have received excellent rating of quality of our results and effectiveness of our research:
A – excellent. We have expert professional personnel.
We use our own accredited laboratories.

We offer the broadest range of services in the field of transport for public and private sector.



Multi-discipline nature in transport sector



Involvement in research area

We have been cooperating on research projects with numerous foreign and national research institutions, universities and private organizations.

Effective commercialization of our research is provided by Technology Transfer Centre of CDV.

CTT

Transfer of technologies



Education activities

Over the last five years, CDV has organized **72 specialist conferences**. Regarding traffic education, CDV has cooperated with 87 basic schools, 34 kindergartens, several high schools and universities.
CDV has 7 accredited education programmes at disposal.



International cooperation

involvement of transport research
and transport resort in international context

Transport Research Centre is deeply involved in **international research & development cooperation** and is a respected member of many international institutions. Research work results are published in **prestigious world journals and presented in international conferences**. Therefore, CDV receives important feedback for further work and development.

Cooperation on international projects and other programmes and participation in various international committees and boards significantly contribute to development of knowledge in the field of transport, and are key activities for the involvement of Czech transport research and the resort of transport in international context.

CDV is a member of international professional organizations:

- membership in international associations - e.g. ECTRI, FERSI, FEHRL, POLIS, ICTCT, ETSC, THE PEP, HUMANIST VCE, SAE, ERTRAC, ICADTS
- representation of the Czech Republic, or support respectively, of central state administration bodies in international organizations - e.g. JTRC OECD, IRTAD, ISO, CEN, PIARC
- multilateral cooperation with similar European research institutes and organizations active in transport sector is organized within the membership in international associations, e.g. FEHRL, FERSI, ECTRI, ETSC, POLIS
- bilateral cooperation agreements, e.g.: TRL (Great Britain), TOI (Norway), RIOH (People's republic of China), VÚD (Slovakia), BAST (Germany), TTI (Latvian)

Full names of abbreviations of institutions are to be found at our web pages.

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