



State Road Research Institute (DerzhdorNDI), Kyiv, Ukraine



The history of the institute starts from 1926 as a Kharkiv research road workstation.

On its base in 1930 the office of road and transport research institute was founded.

The 80-year history of the institute is exhibited in the museum of road science development.



Nowadays DerzhdorNDI is a part of road administration of Ukraine. Our institute is the main research organization of Ukraine for construction, repair and maintenance of road and bridges.

Our institute is the leader in creation of national normative-technical basis, regulatory and legal state and brunch documents.



Currently DerzhdorNDI is a contemporary research complex, consisting of 18 structural scientific sub-divisions in Kyiv and 3 in regions.

There is a main testing center, agency for certification of road-building materials and road machinery in our institute.

The staff of the institute consists of 160-170 people. 10 Doctors and 18 Candidates of Science work in the institute.



Every year the state budget allocates near 3 million UAH for reconstruction of buildings and structures of institute, as well as for the purchasing of modern devices and equipment.

The annual volume of researches, that were performed in 2006, is more than 10 mill. UAH.



Scientific and technological leading developments

- Development of state and branch normative and regulatory documents aiming to create national normative basis harmonized with European requirements.

For example, in 2006 in DerzhdorNDI there were developed state construction norms “Motor roads”, “Survey and testing of bridges and pipes. ”, state standard “Polymer modified bitumens”.



Scientific and technological leading developments

- **Design of new materials and processes for road-building.**

Adaptation of more effective cross-border developments to environmental and climatic, crude and technical capacities of Ukraine.

The researches are mainly focused on creation of long-life motor road pavements with high durable deformities behavior and performance attributes.

In the context of JTRC project “Long-life pavements”, DerzhdorNDI performed researches according to the development of compositions and processes of epoxy asphalt and HPCM application.



Scientific and technological leading developments

When reconstructing of Ukrainian roads there are widely used the technology of 'cold recycling', worked out for the set of Wirtgen Group machines, with employment of our stone materials and binders.



Over the recent years the institute gives rise to the development of materials and techniques for protection and repair of concrete, reinforced concrete and metal structures with employment of efficient chemical additives, polymer materials, reinforcing fiber.



Scientific and technological leading developments



- **Creation of new modifying additives for bitumens.**



Scientific and technological leading developments

- **Development of requirements and norms for special materials and products , such as geotextiles and geosynthetical nets and linen.**



Scientific and technological leading developments

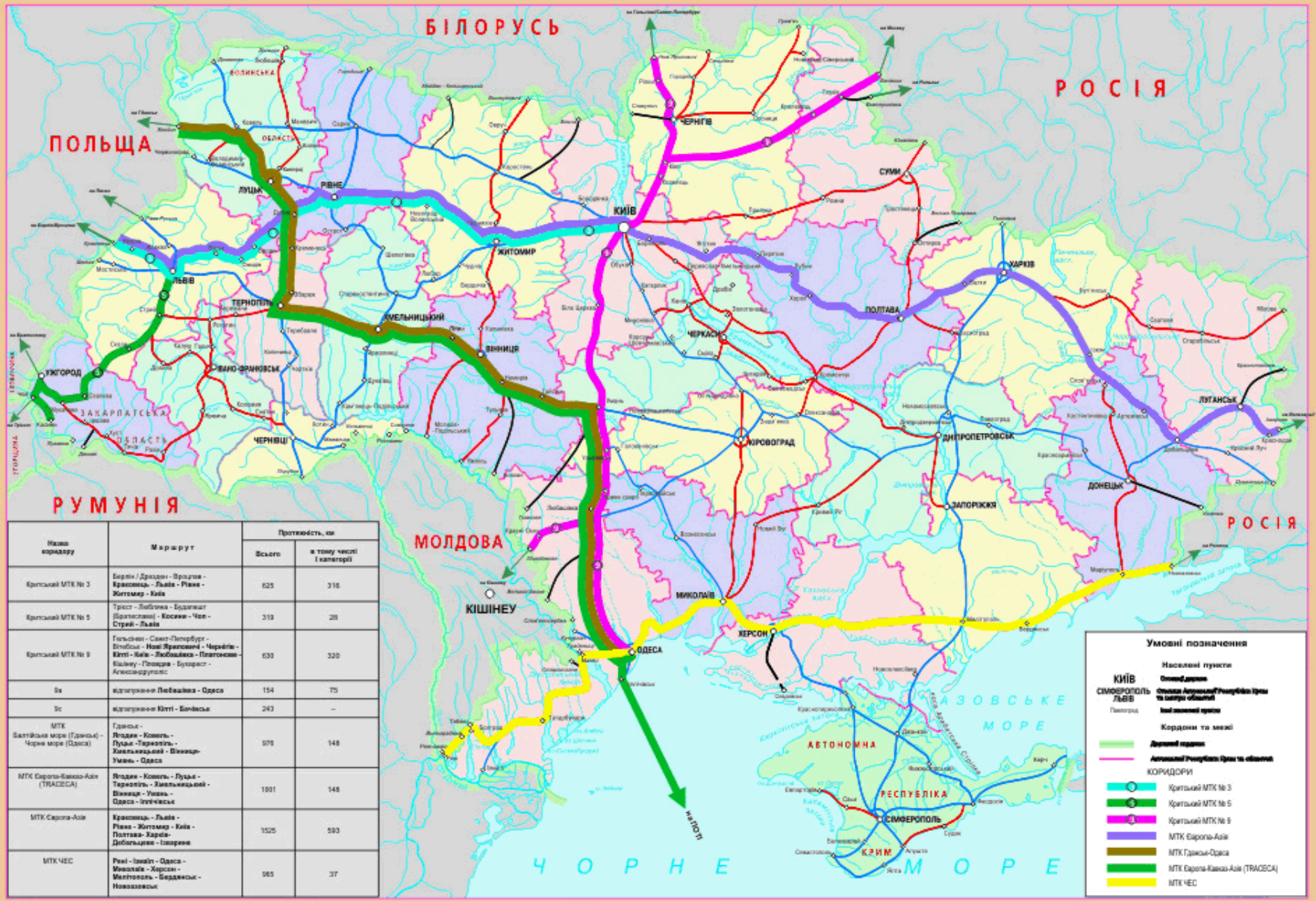
- The expert mark of the quality of material and product for road construction.



Scientific and technological leading developments

- **Scientific and technological validation of implementation of institute developments** is realized by specialists directly on the most important objects of reconstruction of highway in the direction of national network of international road corridors:
Helsinki-Sankt Petersburg-Kyiv-Odesa-Aleksandria,
Berlin-Vrotslav-Lviv-Kyiv,
Kharkiv-Symphëropol-Krasnodar-Tbilisi-Baku,
Kyiv-Kharkiv-Volgograd-Chardzhou,
Kyiv-Brjansk-Moscow.





Scientific and technological leading developments

- **Survey and status evaluation** of pavements and earthwork of roads is carried out in accordance to the requirements of TACIS.

The obtained results supplement the database Pavement Status Management Systems act in Ukraine and allow making substantiated solution at work production for repair and maintenance.

With especially responsibility are fulfilled the survey, static and dynamic testing, determination of technical condition of bridges and tunnels for roads and railways. We use the most advanced non-destructive methods, including acoustic emission method.



Scientific and technological leading developments

- **Development of new types of road pavement designs, methods of their strength analysis and longevity.**

In connection with the increased loading and road traffic volume the institute develops new standard construction manuals for road pavement of different purposes and environmental and climatic conditions.



Scientific and technological leading developments

- Working out, economical analysis of using, testing, monitoring of road machinery indicators.



Scientific and technological leading developments

- Questions of **economics**.

The institute develops schemes of managing structure updating, systems of financing, determination of priority directions of investment in road industry.



Scientific and technological leading developments

- **Energy saving.**

We work out and implement methods on reduction of power inputs on enterprises of road sector.



Scientific and technological leading developments

- **Safe environment.**

We performed full-scale surveys of environmental health conditions of roads and production plants territories.

There developed measures on reduction of pollution of environment.



Scientific and technological leading developments

- **Safety road traffic.**

In the institute fulfilled accident rate analysis on roads and detect the areas of concentration of road accident incidents and work out measures to their eradication.



The institute develops and cooperates with colleagues of different countries. To participate in traditional international scientific and technical conference ‘Modern problems of highway complex’ specialists from Europe, Asia and America come to visit us.

A special collection of scientific articles “Roads and bridges” is published in the institute.



Since foundation the working out of the institute were awarded

a State premium of Ukraine in the field of science and technology

22 diplomas and 150 medals of Exhibitions

more then 300 inventions were certified.



In 2001 DerzhdorNDI was rewarded with the diploma of Government of Ukraine for notable contribution to the developments of road industry in Ukraine.

DerzhdorNDI performs scientific research in coordination with other scientific-manufacturing organizations and high educational establishments of Ukraine.

In the field of stability of earthwork and water-thermal conditions of road structures, as well as materials for road pavements the institute cooperates with the Kyiv National Transport University.

In the field of road pavement designing, organic binding materials, road machinery - with the Kharkiv National Road Transport University.

In the field of transport utilities - with the university of 'Lviv Polytechnics'.

The institute performs full-scale researches of mode of deformation of road structure status and longevity of different materials. These researches are fulfilled on the one of the first circular stands in the world, which is under the 'State technical center of quality control'

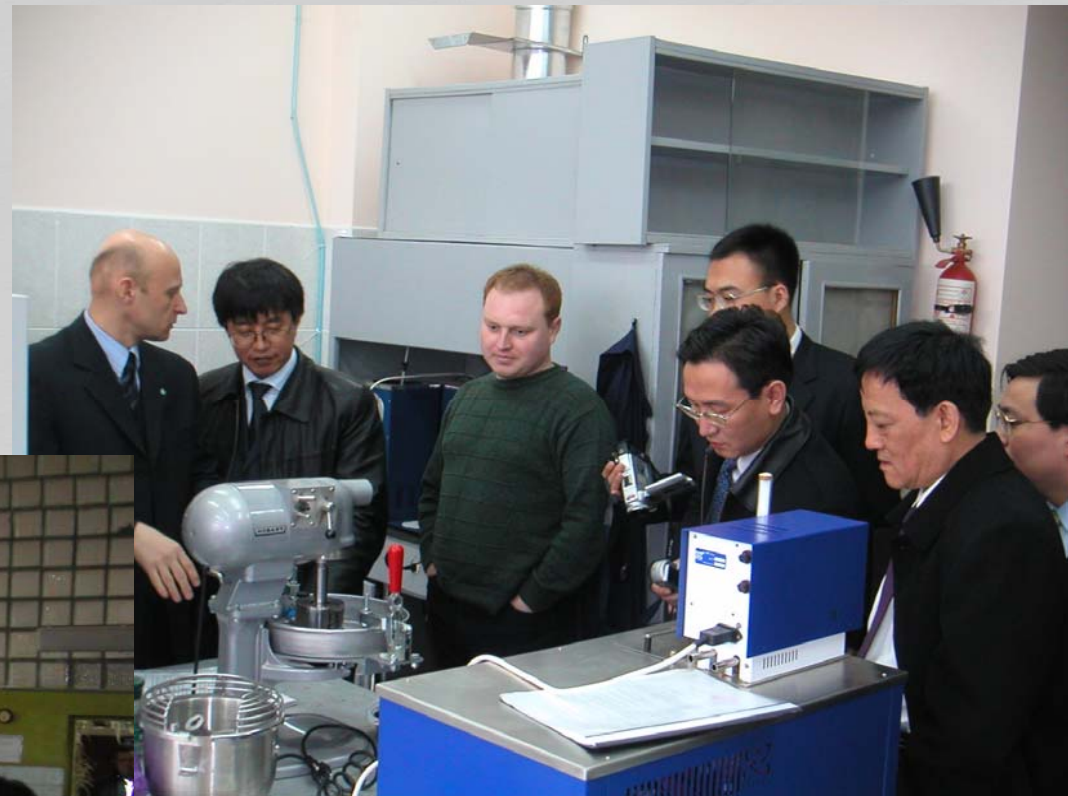


We put into practice the constant data exchange of the results of research with road institutes of Russia. These are the Union (in Balashiha) and Russia (in Moscow) road research Institute, Technical University “Moscow Road Transport Institute”.

We may notice a very tightly contacts with Byelorussia Road Research Institute and Minsk National Technical University.

DerzhdorNDI cooperates and provides exchange of delegates with Road and Bridge Research Institute in Poland.





Deferent Chinese delegates visit our institute from Road Research Institute (Peking) for research results exchange.



We assume that our cooperation with the best road research centers under FEHRL leadership will bring mutual benefit and positive results. We are interested in research program of European road centers. At the same time we are ready to inform our colleagues with the results of our research. We are ready to participate in solving different tasks in road sector. And the problems by the road researcher almost in the whole world are the same.

