



MODERN TECHNOLOGIES. MODERN ROADS. MODERN RUSSIA.

At present time, Intellectual Transport Systems in Russia are gaining major distribution. On the part of the State, there is formed ITS development politics, including analysis and research on existing world experience, creation of statutory basis, analysis of the existing and perspective technologies to be used in ITS.

Current situation

As the basis of Russian ITS organizational structure it is suggested to take the analogue to actual International ITS associations, European in particular. This format will allow keeping balance of interests of the industry key players; federal, regional and municipal level authorities; service-providers and infrastructure operators; private and collective users of telematic products and services; research institutions; educational establishments. The suggested structure concerning Russian participants involved will allow creating united national platform for development of Russian ITS market and provide integration with international ITS projects.

The project

Currently Moscow-based ITS company TOLLTEC performs work on developing one of the major projects «Constructing of high-speed auto road Moscow - St. Petersburg on km 58 - km 684 (further used as Toll road)» in the part of designing automated Road Management system, Tolling system, Electric power supply system and street lighting implementation; and operational and maintaining guidelines.

The project realization will significantly decrease traffic intensity on public roads. New roads will have some identifying features, such as high-quality road surface, higher level of traffic safety, and higher traffic capacity.

TOLLTEC division held a thorough analysis of existing world experience in ITS field. Due to the analysis results the European ITS model fits Russia the best. However, there is another obstacle concerning introduction of ITS in Russia. The culture of Toll road using is not yet formed, which might make the implementation of the technologies complicated.

This solution is to be sustainable and Europe-oriented, which will allow increasing traffic safety, enhancing traffic capacity, decreasing traffic queues, lower transportation costs, and improve technical characteristics of Paneuropean transport corridor N 9 (Helsinki - St.Petersburg - Moscow - Kiev - South-Eastern Europe states) and International Transport corridor "North - South"; improve road usage conditions on the existing Federal road M-10 "Russia" Moscow - St.Petersburg; and also create enabling environment for socio-economical development on the adjacent territories. Within the project TOLLTEC applies European safety standards. One of the major project realization conditions is application of up-to-date technologies of Road Management and Tolling systems.

On development of GLONASS/GPS it is suggested to use it for monitoring purposes and increasing the work effectiveness of vehicles maintaining the toll road.

Another TOLLTEC's innovation solution is applying modern automated Traffic management system, which represents a complex of software/hardware facilities, based on the mathematical model worked out by TOLLTEC engineers' team.

All the projected ITS solutions provide the following integration to the analogous European systems, in particular allowance is made for free-flow system interaction for all the toll roads in Russia, as well as with European toll roads supporting DSRC (CEN 278 5,8 GHz) standard. Russian engineering companies, however, have an advantage, the possibility to not undertake the entire path of evolution of technologies and regulatory system. We can base on European experience and knowledge, consider missteps, modify models and solutions to legal and regulatory base, making allowances to the existing technical base, using advanced technologies and designs, taking into consideration the mentality and social tasks.

All the technical and operational solutions used in the project, are being chosen due to the interoperability both in Russia and Europe. They have to be interoperable on the level of technical standards, operations and on the level of road operators' agreements.

At this stage there is realized the systems' technical interoperability according to transport standard EU CEN 278. This approach will allow "win-win" strategy implementation; application of unitary technical standards and operations will not only increase Road Management effectiveness, but will also elicit positive response from the users, will increase traffic safety due to understandable, habitual and user's expected actions ●



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