MADI STATE TECHNICAL UNIVERSITY: PAST AND PRESENT

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Abstract — *Moscow Automobile and Roads Institute (MADI State Technical University) was established in 1930 and now celebrates its 80th anniversary. Before 1930 the automobile engineering as a discipline was professed in Moscow Institute for Railway Transport Engineering (MIIT). At present, MADI has developed into one of biggest Russian Technical Universities embracing many fields of modern technologies. Having 8 principal departments with more than 10,000 students, MADI produces about 2,000 young engineers annually for 22 specializations. The MADI is also one of Russian centers for foreign students from many countries of the world who receive there their preliminary training in Russian language and in basic sciences such as Physics and Mathematics. The MADI hosted two symposiums of International Society for Engineering Education (IGIP) and has 46 International Engineering Educators included into ING-PAED Register of IGIP. Some historical aspects and present trends in the development of MADI State Technical University have been overviewed.*

Index Terms — Russian engineering school, MADI State Technical Univerrsity.

INTRODUCTION

A very rapid development of automobile industry in Russia at the beginning of the 20th century and the October Revolution of 1917 resulted in creation of centers throughout Russia to stimulate the rapid development of railway and automobile transport [1, 2].

The railway transport had the priority due to historical reasons. However, the rapid development of automobile transport and its growth in all countries of the world in 1920s caused the corresponding response in the Soviet Union.

At the beginning of Russian automobile industry, only licensed foreign cars were produced and no regular education of professional engineers in this field existed. A little department established in 1920s at Moscow Institute for Railway Transport Engineering became a forerunner of the future Automobile and Road University

The parent Institute for Railway Transport Engineering was established in 1896 by Czar Nicolas the Second to promote the research in railway transport to the benefit of Russia. The Institute still exists and does its best to follow Nicolas' instructions.

NEW ERA IN AUTOMOBILE AND ROAD ENGINEERING IN THE SOVIET UNION

The history of MADI State Technical University goes back to 1930. The institute came to being as an offspring of Moscow Institute for Railway Transport Engineering and Higher Automotive School of TSUDORTRANS. The latter abbreviation stands for "Central Administration for Roads and Transport". Such awkward abbreviations, difficult to pronounce, were quite common in Russian language of 1920s. Their goal was to reflect new revolutionary social changes in Soviet society.

So, the MADI (Moscow Automobile and Roads Institute) was established by the Decree #748 of People's Commissars' Council (SNK) from 13th December 1930.

Its main objective was stated as "preparation of highly educated engineers for automobile transport, roads, bridges, aerodromes, tunnels, road machines and automatic control systems in the integrated transport complex". The objective had to be achieved in the conditions of humanitarization of the higher technological education to develop the social activity and creative backgrounds of future engineers.

One of the first departments of the institute was the department "Automobiles" established in 1930 just when the institute itself came to being. The first chief of this department was Prof. Nikolai Briling.

Later, since 1936 the department was headed by Prof. E. Chudakov and the department became "Automobiles and Tractors". A separate department called "Internal Combustion Engines" was then created as an off-spring of "Automobiles and Tractors" department. In 1950s this department begins to occupy the leading positions in the institute. Four new laboratories were organized for students to study the principles of work of contemporary Soviet cars and tractors. These laboratories were furnished with best contemporary equipment.

For the first time in the Soviet Union several movable laboratories were created in 1950-1960s in the buses produced for public use by the Soviet Industry. In these laboratories some special laboratory works having purely educative objectives were prepared for students. The works had to be performed in real road conditions. Some important parameters such as speed-traction and braking characteristics

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or fuel consumption data in various regimes of motion could be readily received and analyzed.

Also in 1950s MADI moves to a new luxurious building (Fig. 1) originally intended for some departments of State Security Committee (then KGB).

FIGURE 1
NEW BUILDING OF MADI (BUILT IN 1950S)

A new specialization "Automobiles for Sports" was instituted in 1986. A special laboratory was created for this purpose.

LATEST HISTORY

Beginning from 1961 a well-developed system of training works in MADI was created to increase the qualification level of its professors. The special departments were created with respect to secondary special schools and to the institutes of higher education.

Another special department was created in 1972 to increase the educational level of professors in branches dealing with advantageous special technology.

A new MADI Business-school was opened in 2007 to meet the modern requirements for entering Russia into the world market .

The following 8 principal departments now exist in MADI to meet all the requirements in specialists of the modern automobile and road engineering:

- Motor Transport
- Energy &Ecology
- Road Construction
- Economics
- Management
- Natural Sciences
- Design and Mechanical Engineering
- Faculty of Humanitarian Sciences.

Besides many other facilities and auxiliary departments exist to assist the principal departments in their activities:

- Faculty of Military Training – to give students a chance of getting a military specialization within the institute premises as an option to be free from the obligatory military service
- Faculty for Foreign Citizen Preparation – a two year course for foreign students to learn Russian as a subject together with backgrounds of Physics, Mathematics and other disciplines to prepare the students for further basic studies jointly with students from Russian Federation
- Center of Engineering Pedagogy – stimulating research in didactics in engineering education
- Center of Innovations in Engineering Education

and other departments and sections.

At present, more than 10,000 students take their studies in MADI. The Institute produces about 2,000 young engineers annually for 22 specializations

In November 1987 a new Educational and Methodical Association was established in MADI. Its concern was tractors and roads. The association integrated 104 higher educational institutes and universities representing 9 major and 9 minor specializations. Its professors are authors of many textbooks and guide-books. Many of those were approved as the basic ones. Some of them were translated into foreign languages.

Beginning from 1989 a new educational center acts in MADI. It has been founded as a base for the profound professional training in the field of automotive machinery and transport.

In September, 1998, MADI hosted the 27th Symposium for Engineering Education organized by International Society for Engineering Education (IGIP). For the first time this annual Symposium took place in Russia. Representatives of about 30 countries participated in this event and about 200 presentations were made by the participants at plenary and working sessions.

The 37th Symposium IGIP was also hosted by MADI ten years later, in 2008.

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