Preface

In 2015, Moscow State University of Technology STANKIN celebrated the 85th anniversary of its foundation. It was created to assist in the development of the Soviet machine tool industry and to provide the requisite engineers and designers.

From 1930 to 1938, the basic departments were created: metal cutting machines; tool production; production economics and organization; manufacturing technology; physical metallurgy; electrical engineering and automation; theoretical mechanisms; the theory of mechanisms and machines; machine parts; the strength of material; descriptive geometry and drawing; mathematics; and physics. The national significance of this institution is evident in that, during World War II, the staff was supplied with bulletproof vests; this precaution was only taken at twelve Soviet educational establishments.

By 1950, a highly qualified faculty had been assembled, and their scientific achievements were known nationwide. By 1970, the school's focus began to broaden beyond machine tools and cutting tools. In 1980, for its contributions to Soviet industry, the institution was awarded a Red Star. In 1992, it was granted university status.

For more than eight decades, Moscow State University of Technology STANKIN has been the foremost center for the education of pedagogical, scientific, and engineering personnel from Russia and abroad. Enormous contributions to its development have been made by scientists such as I.V. Kharizomenov, I.I. Semenchenko, B.S. Balakshin, N.S. Acherkan, A.S. Akhmatov, V.A. Krivoukhov, V.A. Arshinov, I.P. Tret'yakov, Yu.A. Geller, I.E. Gorodetskii, and others. They have taught a host of students, who have gone on to fame as scientists, inventers, managers of industrial enterprises, and even government members.

Today, STANKIN University is a leading scientific and educational center in the field of manufacturing technology. The University is:

– integrated scientific and educational structure, which seamlessly combines a network of scientific and production centers equipped with up-to-date equipment and infrastructure for high-quality professional training;

–distinguished scientific and pedagogic schools that not only produce graduates, postgraduates, and specialists, but also train scientific and pedagogical staff through their doctorate process;

–focused on the education of highly qualified specialists for manufacturing industries, with comprehensive incorporation of manufacturing innovations, information technologies, and economic competency.

At STANKIN University, more than 5000 students are taught by more than 700 professional and teaching staff. More than two thirds of the professional and teaching staff has scientific backgrounds and degrees. The faculty includes recipients of state prizes, Russian government prizes, and other prestigious awards. The buildings (with total area 44700 m^2) are located in Moscow and the surrounding region; there are also four student residences.

As a result of progressive teaching methods and a highly skilled faculty, graduates from STANKIN University represent the future technical elite of the country. Thanks to the administration's policy of integrating the university into the international educational community and cultivating relationships with institutions in Germany, Britain, China, India, and the United States.

The presented issue is completed by articles of professors and scientists of MSTU STANKIN related to modern advanced technologies as technologies of thin and thick resistant coatings for functional parts and cutting tools, diagnostics of technological processes and innovative technologies for material processing. This issue is devoted to 85 years anniversary of STANKIN University.

Dr., Prof. Grigoryev S.N.

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