

# NOSOV MAGNITOGORSK STATE TECHNICAL UNIVERSITY



**MAGNET FOR TALENTS!  
VECTOR OF SUCCESS!**



Magnitogorsk, 2020



**NMSTU**

NOSOV  
MAGNITOGORSK  
STATE  
TECHNICAL  
UNIVERSITY

## Year of foundation - 1934

## The University today is

- **12 434** students
- **800** – academic staff
- **107**- prof. , D.Sc.
- **530** - associate professors, Ph.D.)
- The average age of the academic staff is 46 years.
- **77** Bachelor's Degree courses;
- **31** Master's Degree programs;
- **18** postgraduate programs;
- **10** academic specialities at Doctorate Courses;
- **5** dissertation councils on 10 scientific specialties;
- more than 100 programs for continuing professional education and development;
- activity according to the principles of ISO and IQNET.





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## **University Structure**

- **Metallurgy, Mechanical Engineering and Materials Processing Institute**
- **Mining Engineering and Transport Institute**
- **Power Engineering and Automated Systems Institute**
- **Civil Engineering, Architecture and Arts Institute**
- **Economics and Management Institute**
- **Education Science, Psychology and Social Work Institute**
- **History, Philology and Foreign Language Institute**
- **Standardization, Chemistry and Bioengineering Institute**
- **Physical Education and Sports Mastery School**
- **“Horizon” Additional Professional Education and Personnel Engineering Institute**
- **Multidiscipline College**



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## Science and innovation infrastructure

- **Research & Development Centrer ;**
- **NanoSteel Research Institute;**
- **Mechanics of Gradient Nanomaterials Laboratory;**
- **Microtopography Laboratory;**
- **Youth Science Center;**
- **Industrial Park;**
- **Office of Patent Information Management;**
- **Small Innovative Enterprises.**





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## **University Strategic Development Directions and Priorities**

- 1. Industry 4.0 technologies**
- 2. Resource-efficient technologies to obtain new grades of steels**
- 3. Design of metalware technologies and products with the unique complex of physical and mechanical properties**
- 4. Energy and resource saving technologies and equipment.**
- 5. Sustainable use of natural resources, industrial and environmental safety management.**
- 6. Standardization and quality control in metallurgy, mechanical engineering and material processing.**



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## **International activity in figures**

- **62 cooperation agreements with the universities from 34 countries;**
- **500 foreign students from 10 countries;**
- **9 student's exchange programs ;**
- **10 international projects TEMPUS , Erasmus funded with support from the European Commission ;**
- **15 grants of the international programs DAAD, Global Education, Russian President ;**







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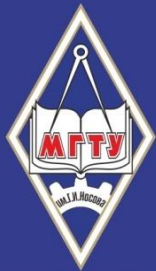
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## Main Industrial partners







**MGTU**

МАГНИТОГОРСКИЙ  
ГОСУДАРСТВЕННЫЙ  
ТЕХНИЧЕСКИЙ  
УНИВЕРСИТЕТ  
ИМ. Г. И. НОСОВА

## OUR ESTEEMED CHINESE PARTNERS



**CHONGQING  
UNIVERSITY**



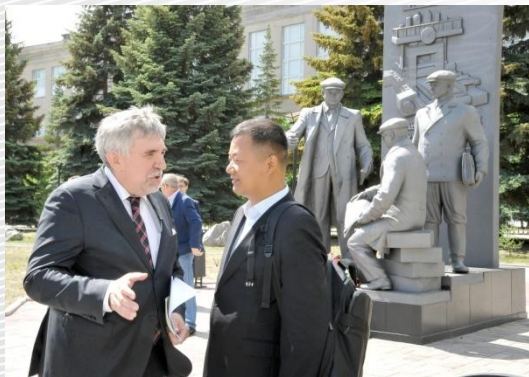
**大连东软信息学院**

Dalian Neusoft University of Information



**河北对外经贸职业学院**

HEBEI INSTITUTE OF INTERNATIONAL BUSINESS AND ECONOMICS

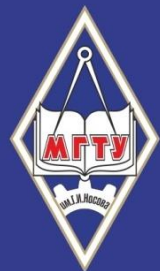


**Prof. Hailiang YU**, Central South University after signing of Agreement in Magnitogorsk with **Prof. Oleg TULUPOV**, Vice Rector for Research and Innovation



**Prof. Aleksey KORCHUNOV**, Vice-Rector for International Affairs, with colleagues from The University of Science and Technology Beijing after signing of Agreement in Beijing





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**iSmArt**  
МЕТАЛЛУРГИЯ

Интеллектуальная  
металлургия

**СПЛАВ НАУКИ  
И ИСКУССТВА**

## MISSION AND STRATEGIC GOALREFERENCE UNIVERSITY

**iSmArt-metallurgy is:**

**i - intellectual;**

**S - Science;**

**m - metallurgy;**

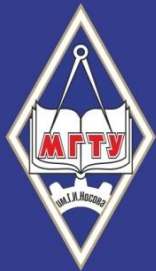
**Art**

### **The mission of MSTU is:**

to create a regional business elite focused on creating scientific and innovative technologies in the field of **iSmArt-metallurgy** for the development of the cross-border South Ural region and Russia.

### **The strategic goal of the MSTU:**

Transformation of the University into a center for creating breakthrough technologies and industries to improve the competitiveness, investment attractiveness and quality of life of the region's population.



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ИМ. Г. И. НОСОВА

# PROJECT «iSmArt-METALLURGY»

## PORTAL OF SCIENTIFIC AND TECHNOLOGICAL ENGINEERING



Promising research schools  
and teams

• Student's science  
• Student Scientific Society  
and business incubator  
• New competencies

### STRATEGIC PARTNERS



### RESEARCH AND DEVELOPMENT

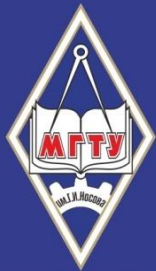
- Industrial exoskeleton
- BIG DATA
- Machine vision, virtual and augmented reality

### NEW PRODUCTS :

- Internet of things
- 3D production
- Predictive analytics
- Data Mining, Process mining







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## R&D CENTER PROJECTS IN INDUSTRY 4.0



**Industrial Exoskeletons**

**Interactive distance learning platform**

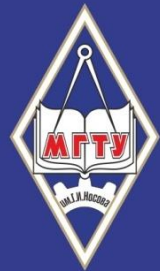
**Digital twin turbo generators**

**Digitalization of power plants**

**Machine vision for rolling Production**

**Digital quality laboratory**

**Big data analysis of steelmaking furnaces**



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## PROJECT «iSmArt-METALLURGY»



### PROMISING EXITS INNOVATION HUB MSTU – DANIELI



**15 years of experience** in human resources engineering allowed us to create the infrastructure of a customer-oriented innovation hub (Innovation Show & Research & Training Hub) and develop a methodology for joint (Mutual Smart Packages) promotion of cutting-edge innovations in the field of production technology, equipment, personnel training, technical support (service) for existing consumers and in the search for new partners.





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**Welcome to the NMSTU!**



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