KAZAN NATIONAL RESEARCH TECHNOLOGICAL UNIVERSITY
(KNRTU)

COOPERATION BETWEEN KNRTU

AND

YOKOGAWA ELECTRIC CORPORATION

KAZAN NATIONAL RESEARCH TECHNOLOGICAL UNIVERSITY

Kazan National Research Technological University is one of the oldest universities in Kazan. It is the largest Russian education center focusing on chemical engineering. The university runs over 378 academic degree programs of higher education, secondary education and professional development. The university enrolls undergraduate, graduate and PhD students from Russia and other countries.

Education in KNRTU satisfies the requirements of the most severe world standards. Fundamental and applied training offers outstanding opportunities for personal, professional and career development for the university graduates who are strongly demanded by companies from respective industries. Vast experience, great traditions, generations of world famous scientific research teams, highly qualified faculty, and significant achievements in any kind of activities form a firm ground for the university growth in the future.

Among the main tasks of the university is training of the globally competitive professionals whose expertise in research, project development and entrepreneurship is sufficient for a successful career in petrochemical industry.

The university is a partner of largest regional and federal leaders of Russian economy, such as GAZPROM, SIBUR, Aeroflot, Tatneft, Nizhnekamsk neftekhim, TAIF-NK, Kazanorgsintez, TANECO, and etc. Together with these and other companies, KNRTU implements specialist training projects, industrial internship of students, joint research projects and a broad range of project design activities.

The university specialization and cooperation with the largest petrochemical companies of the Republic of Tatarstan was an ideal basis for opening the laboratory for study of control and measuring devices, automation and control systems, and software for process simulations. The laboratory was opened in partnership with Yokogawa at the Institute of Automated Control Systems and Information Technologies.

The Institute of Automated Control Systems and Information Technologies is an academic and research unit of Kazan National Research Technological University.

The research area of the Institute covers control and automation of technological systems and technological complexes, design, installations, set-up and operation of automation systems in the light, food and chemical industries of nearly all Russian regions; computer simulation for chemical processes; complex study and technological design of production systems.

That is why the Laboratory of Automation and Industrial Process Control Systems launched in 2011 is so highly demanded by students studying modern information and computer technologies for system analysis, control, automation and design of optimal chemical engineering systems. The laboratory is mostly equipped with the devices supplied by Yokogawa. This company is primarily interested in introducing the latest achievements of the world industrial automation to future specialists during their study at the university.

YOKOGAWA ELECTRIC CORPORATION

Yokogawa is one of the largest world developers and producers of equipment and software applications for industrial automation, and measurement and control equipment enjoying a trustworthy image among its customers from all over the world, including Russia and CIS countries.

Yokogawa Electric Corporation was established in 1915. Today it incorporates 85 subsidiaries from all over the world and 19 factories. With its over 19,000 employees, the company has been supervising a sustainable work process of thousands largest industrial companies for over a century. Solutions and equipment of Yokogawa are demanded in such industries as production and transportation of hydrocarbons, oil refining and gas processing, petrochemistry, paper industry, food industry, pharmacy, ferrous and non-ferrous metal industry, energy supply, heat and water supply, and wastewater disposal.

Yokogawa Electric CIS Ltd. is a subsidiary of Yokogawa Electric Corporation.

With over ten years of experience in the Russian market, Yokogawa Electric CIS enjoys a success story of collaboration with companies representing such industries as oil, gas, chemistry, petrochemistry, food, paper, energy, and so on.

Close cooperation between KNRTU and the large international Japanese company - Yokogawa Electric Corporation - offers excellent opportunities for the exchange of ideas and technologies together with implementation of joint academic projects and the use of cutting-edge equipment for education and research.

ЛАБОРАТОРИЯ «АВТОМАТИЗАЦИИ И СИСТЕМ УПРАВЛЕНИЯ ТЕХНОЛОГИЧЕСКИМИ ПРОЦЕССАМИ»

The Memorandum of Understanding (MOU) between KNRTU and Yokogawa Electric CIS Ltd. was signed in Kazan National Research Technological University on November 3, 2010. Within the framework of the MOU, one of the world leaders in industrial automation declared its intentions to provide a complete set of equipment for the technological university's industrial process automation laboratory.

A Memorandum of Understanding between the Republic of Tatarstan and Yokogawa Electric Corporation was signed on November 24, 2010 by Rustam Minnikhanov, the President of Tatarstan, and Shuzo Kaihori, the President and CEO of Yokogawa. The signing ceremony was held in Kazan Kremlin, during the meeting of Rustam Minnikhanov with the company delegation members.

The document demonstrated the intentions of the Parties to further develop long-term and mutually beneficial cooperation between industrial companies of the Republic of Tatarstan and Yokogawa Electric Corporation. Considering cooperation with Kazan National Research Technological University, it was agreed that Yokogawa Electric Corporation is to establish the Yokogawa Laboratory to follow the labor market demand in qualified specialists and enhance professionalism of university graduates (September 2011). It was decided that the best graduates will be invited to work in the Yokogawa-CIS Solutions Centre.

On September 1, 2011, the President of the Republic of Tatarstan, Rustam Minnikhanov, and the President of Yokogawa Electric Corporation, Shuzo Kaihori, launched the Laboratory of Automation and Industrial Process Control Systems in KNRTU.

The Laboratory of Automation and Industrial Process Control Systems includes:

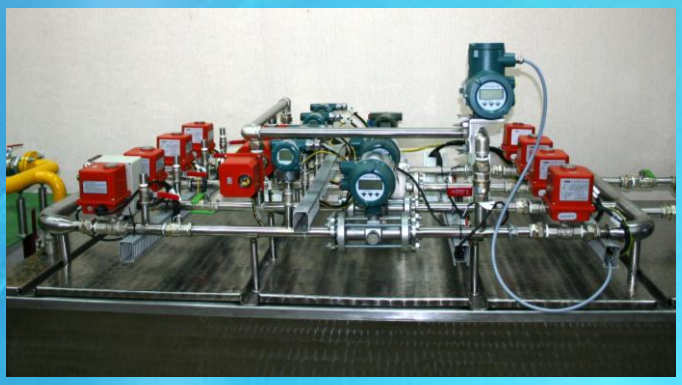
- *a classroom with control and measuring equipment;*
- *a classroom with computer control systems;*
- *a classroom with equipment simulating metering units for heat, liquid and gas flows;*
- *a classroom with systems for computer simulation of chemical engineering processes;*
- *a research laboratory.*

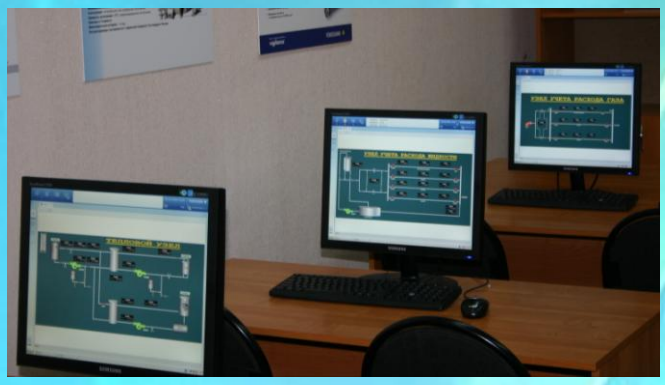
The classroom with control and measurement equipment is intended for the study of devices, principles and metrological maintenance of control and measuring equipment. The laboratory incorporates eight specialized stands equipped with the Yokogawa measuring devices and automation facilities.

The classroom with computer control systems is intended for gaining knowledge in the modern soft- and hardware complexes for automated control of technological processes including their design principles, composition, hardware, software, and functionality. Students are taught modern technologies of information exchange in the automatic process control systems, application of standard interfaces and industrial networks in modern automation systems.

This laboratory complex incorporates equipment and software based on the STARDOM FCN network controller.

The classroom with equipment simulating metering units for heat, liquid and gas flows is intended for studying the structure and design principles of the automatic process control systems; set up and configuration of equipment and its coupling with the process control and safety controllers; the study of hardware and software for programmable logical controllers, distributed control system controllers, and emergency shutdown system controllers; the study of human-machine interface implementing control and visualization algorithms of technological processes; the study of data transfer interfaces.





All these devices form the autonomous systems providing a scaled-down simulation of a structure and operation of automated metering units. This is a functionally complete set of process equipment and brand new field automation facilities.

All the equipment is set up in a separate room and connected to the common automated measurement processing and control system based on the CENTUM VP DCS controller, the ProSafe-RS SIS controller and Stardom FCN/FCJ programmable logical controllers.

A classroom for computer simulation of chemical engineering processes offers tools for the development of computer training complexes based on OmegaLand integrated software environment.

OmegaLand is an efficient software product offering a broad range of specialized applications for simulation of technological processes and graphical emulation of an operator's workbench.

This software product was used to create a computer training complex based on a mathematical model of an atmospheric oil refining process. This complex is intended for teaching students the basics of process control and supervision, safety operation principles for technological processes including analysis of various operation modes and emergency situations.

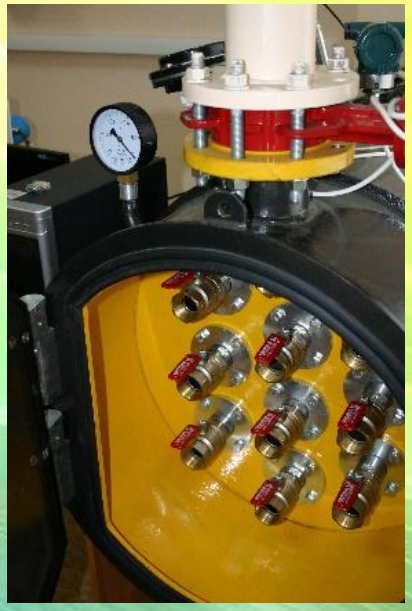
An educational software complex "Automated Company Control System" was developed to aggregate data from all the classrooms. This is an integrated control system based on ExaQuantum.

This complex is suitable for an educational process dedicated to automatic production control system operation and for the entire production management system. It also offers practical training in interaction of various units of control systems and their influence on the entire system functioning.

The laboratories provide practical training for BSc ad MSc students in the following disciplines: “Automation and Control Equipment”, “Sensors of automated data processing and management systems”, “Computers, Systems and Networks”, “Control Computer Interfaces”, “Automation and Control Systems”, “Automation of Technological Processes and Production Facilities”, “Distributed Computer Information Control Systems”, “Programming of Logical Controllers”, “Modern Industrial Technical Complexes”, and “Technical Measurement and Equipment”.

The Laboratory of Automation and Industrial Process Control Systems is also ***the center of research activities*** involving experimental research devices equipped with Yokogawa measuring units.

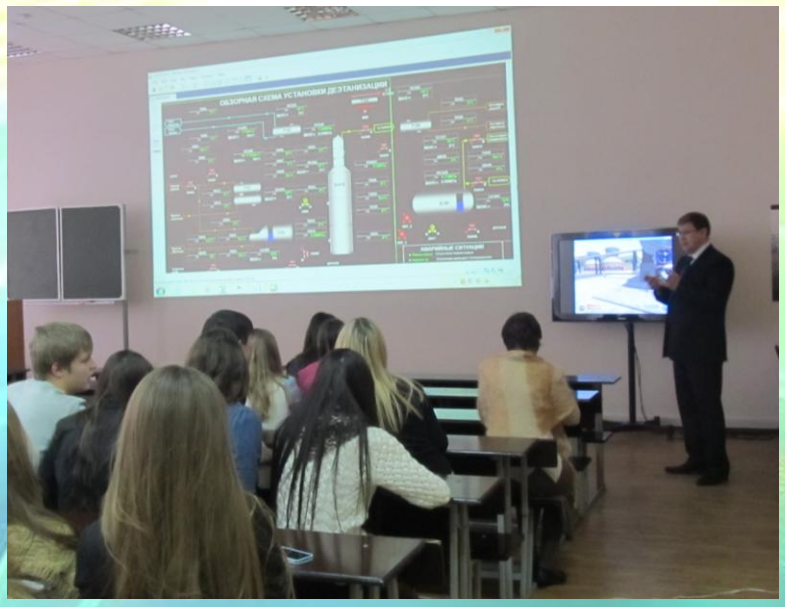
The experimental hydrodynamic unit is intended for research in hydrodynamics, attestation of liquid flowmeters with a special measuring tank used for reference, calibration of liquid flowmeters and heat meters, testing of various measuring devices in abnormal operation modes (the influence of temperature factor on the flows of controlled media, hydrodynamic non-stationarity, increased turbulence and other external perturbations).



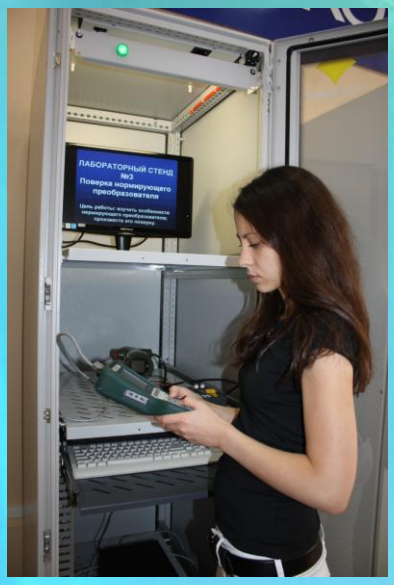
An experimental open type aerodynamic apparatus with air heating for obtaining experimental data about the microstructure of turbulent flows and its transformation (evolutions) under dynamic and heat non-stationarity and non-isothermicity; changes of turbulent flow pulsation intensity at the channel input; changes of channel walls state and other perturbations that may exert a negative influence on the operation of flow metering units.

The apparatus is equipped with a working channel section made of quartz glass offering additional experimental research opportunities for contactless measurements of turbulent flow kinematic structure parameters by laser Doppler flowrate meters or by digital tracing visualization.

The laboratory is also equipped with ***the metrological classroom*** for calibration and attestation of various devices measuring temperature, pressure, current, resistance, and etc. The classroom is equipped with high precision devices including ones supplied by Yokogawa.



Over 80 BSc and MSc students study in the Laboratory of Automation and Industrial Process Control Systems during an academic year. Their degree programs are: “Control in Technical Systems”, “Automation of Technological Processes and Production Systems”, “Informatics and Computer Science”. The equipment and software of Yokogawa is also used for the presentation of graduate student’s projects and Master’s dissertations.



In addition, the Laboratory offers educational tours to BSc and MSc students of the Volga Region Federal University in the degree program “Oil and Gas Chemistry”.

The Laboratory of Automation and Industrial Process Control Systems held the first international scientific school “Modern Automation Technologies for Oil-and-Gas Complex Companies” on November 12-16, 2012. Yokogawa Electric Corporation participated in this event, where President and CEO, Shuzo Kaihori, gave the opening speech.

The plenary session was marked with the Agreement signing ceremony. The Agreement implies further funding for the “Yokogawa-KNRTU” Laboratory and creating a special scholarship fund to support the best university students involved in research and project development in automation and control and also to support joint research activities, conferences and workshops for young people.

On October 1, 2013, the representatives of Yokogawa Electric Corporation took part in launching a new process unit in the Laboratory of Automation and Industrial Process Control Systems. This unit is used for research in hydrodynamics and gas dynamics, attestation of flowmeters for liquids and gases.

On October 2, 2014, another Yokogawa Automated Control Systems for Chemical Technology Processes laboratory was opened at KNRTU Nizhnekamsk Remote campus by Takashi Nishijima, the President and CEO of Yokogawa Electric Corporation, Rinat Sabirov, Advisor to the President of the Republic of Tatarstan, German Dyakonov, KNRTU Rector, Vitaly Elizarov, Director of the Nizhnekamsk Remote campus, and the representatives of Nizhnekamsk petrochemical companies. The laboratory in Nizhnekamsk is equipped with a technological stand with a rectification column that provides a scaled-down modeling of a complete technological cycle of a chemical company, including all the elements of production process.

The students of the Institute of Automation Control System and Information Technologies take part in the annual conference “Modern Automation Technologies and Control Equipment of Yokogawa”. BSc and MSc students who give the best reports are given awards and certificates.

Year	The number of participants	The number of prize winners
2012	8	4
2013	12	9
2014	14	6
2016	15	5
2017	17	6

2012.

2013

2014

2016

Student competition participants with the Yokogawa representatives

KNRTU has signed a cooperation agreement with the Academy of Standardization, Metrology and Certification to use the software and equipment of the Laboratory of Automation and Industrial Process Control Systems to organize classes for the Academy students.

Year	Persons attended the courses
2014	30
2015	88
2016	90
2017	105

Professional development and continuing education courses are held for employees of petrochemical companies including the following programs: “Verification and Calibration of Meters of Flowrate, Quantity and Parameters of Liquids and Gases”, “Verification, Calibration and Attestation of Measuring Information and Control Systems”, “Accounting of Flowrate and Quantities of Liquids and Gases”.

KNRTU Institute of Additional Professional Education organizes the following professional training courses for GAZPROM specialists in the Laboratory of Automation and Industrial Process Control Systems: “Accounting of Gas Consumption”, “Metrological Support for Automation Equipment”, “Automation of Technological Processes and Production Systems”. Professors from the Process Automation and Control and Automated Data Acquisition and Processing Systems Departments take an active part in professional development of specialists from industrial companies.

The laboratory tours are organized for secondary school students of the Republic of Tatarstan every year during the University Open-Doors Day. The visitors get acquainted with the basics of technological process automation, modern equipment, laboratory software and hardware.

Kazan National Research Technological University is an active participant of the annual Tatarstan Oil-and-Gas Forum held at Kazan Trade Fair. It is always emphasized at this fair that the equipment and software in the Laboratory of

Automation and Industrial Process Control Systems make a positive contribution to the training of specialists for companies focusing on oil and gas chemistry.

The President of the Republic of Tatarstan Rustam Minnikhanov welcomes the Forum participants

The President of the Republic of Tatarstan Rustam Minnikhanov visits the KNRTU exposition

Since its opening, the Laboratory has been visited by high rankers and university delegations from the Republic of Tatarstan, the Russian Federation, CIS and other countries.

12.11.2011 – Tikahito Harada, Ambassador Extraordinary and Plenipotentiary of Japan to the Russian Federation;

06.06.2012 – Yukio Edano, Japanese Minister of Economy, Industry and Trade;

27.07.2012 – Igor Fedyukin, Deputy Minister of Education and Science of the Russian Federation;

12.11.2012 – Shuzo Kaihori, the President and CEO of Yokogawa Electric Corporation, and the delegation of company representatives;

09.04.2013 – professor of Computer Science School at Carnegie Mellon University David Garlan (USA, Pennsylvania, Pittsburgh);

26.09.2013 – a delegation of professors from the East China University of Science and Technology (China, Shanghai)

01.10.2013 - President and CEO of Yokogawa Electric Corporation Takashi Nishijima, Chairman of the Board - General Director of Yokogawa Electric Corporation Shuzo Kaihori;

09.10.2013 – a delegation of professors from the University "Lucian Blaga" (Romania, Sibiu);

07.07.2014 – manager of Technopolis Khimgrad Alexei Grushin, director of Technopark Idea Sergey Yushko, chairman of the Republican Scientific and Methodical Association of Chemistry Teachers of the RT William Barabanov, director of Boarding School for Talented Children with Advanced Program in Chemistry named after Academician Kirpichnikov Lilia Ibrasheva;

01.10.2014 – Takashi Nishijima, President and CEO of Yokogawa Electric Corporation;

08.09.2015 – Minister of Informatization and Communication of the Republic of Tatarstan, Roman A. Shaihutdinov.

THE RESULTS OF COOPERATION WITH YOKOGAWA

Opening of the Laboratory of Automation and Industrial Process Control Systems in KNRTU in 2011 intensified academic and scientific activities of faculty and students.

Within the framework of KNRTU Faculty Training Program, professors of the Institute of Automated Control Systems and Information Technologies took part in the training organized by the Yokogawa's European Training Center (Netherlands, 16-28.04.2012).

The training included the study of modern automation solutions for technological processes and production systems developed and produced by Yokogawa Corporation. Training participants were awarded with international certificates on completion of three courses: CENTUM VP. Essentials; CENTUM VP. Operation; and CENTUM VP. Engineering.

The Laboratory hosted two international scientific schools: "Modern Automation Technologies for Oil-and-Gas Complex Companies" and "Computer Simulation and Optimization in Chemical Engineering".

The annual competition of students' projects is held by the Laboratory. The projects are evaluated by a special commission with invited Yokogawa representatives. The best projects' authors are awarded with certificates and prizes by Yokogawa.

The following projects were presented at the Competition "Modern Automation Technologies and Control Equipment of Yokogawa":

- Development of Models of Separation Processes and the Study of Their Dynamic Characteristics with the Universal Modeling Software “OmegaLand” (2012);
- Chromatographs (2012);
- ROTAMASS 3 Series Coriolis Flow Meters by Yokogawa Electric Corporation (2012);
- PID Controller in the Modern Automated PCS. Implementation of a Classical PID Controller in Centum VP (2012);
- Organization of Data Transfer by the Modbus Protocol with Stardom Centum VP Controllers (2013);
- Methodology of Mathematic Model Development for the Heat Metering Station Imitator in the OmegaLand Software Environment (2013);
- Verification of Heat Meters with the Centum VP Information Processing System (2013);
- The Method of Contactless Diagnostics of Kinematic Flow Structures During Hydrodynamic and Gas Dynamic Studies of Flow Metering Equipment (2013);
- The Study of Heat Exchange in a Heat Exchanger of a Heat Metering Unit. Automated Information Retrieval and Calculation of Heat Exchange Parameters with the DCS Centum VP Hardware (2013);
- The Use of Yokogawa DX2020 to Study Dynamic Properties of Thermocouples (2013);
- The Study of the Network Architecture and Main Hardware of DCS Centum VP (2013);
- Modeling and Setting of Automated Control Systems in the DCS Centum VP Software Environment (2013);
- Development of a Graphic Operator Interface in the DCS Centum VP Software Environment (2013);
- Development of a Metrological Complex for Verification of Pressure Measuring Devices (2014);
- Flow Measurement by Varying Pressure Drop with the FieldMate Software (2014);

- Verification of Yokogawa ADMAG AXF Electromagnetic Flowmeter with Yokogawa AM-012 Verifier (2014);
- Development of Methodological Instructions for a Heat Metering Station (2014);
- Development of a Production Data Control System in the ExaQuantum Environment for a Propane Removal Unit (2014);
- ProSafe-RS Emergency Shutdown System (2014);
- DLM 4000 Mixed Signal Oscillograph (2016);
- Structure, Principle of Operation and Metrological Service of YEWFLO DY Series Vortex Sensors – Flowmeters (2016);
- Development of Laboratory Practicum Instructions for the Study of an Open Control System Based on Stardom Network (2016);
- Integration of a ProSafe-RS Emergency Shutdown System and CENTUM VP Distributed Control System (2016);
- Development of a Virtual Laboratory Bench for the Study of Static and Dynamic Characteristic of Controlled Objects (2016);
- Development of a Virtual Training Simulator for a Methanol Regeneration Unit (2017);
- Development of a Virtual Training Simulator for the Study of Pump Performance Regulating Circuits by Stabilization (2017);
- Development of a Virtual Training Simulator for the Study of Various Conditions Influencing Mixing of Liquids (2017);
- Development of a Virtual Training Simulator for the Study of Various Conditions Influencing Rectification (2017);
- Flow Rate Calculation Algorithm by the Varying Pressure Drop Method (2017);
- Integration of a Centum VP Distributed Control System with OmegaLand (2017);
- Exaquantum Integrated Factory Control System (2017);
- Implementation of an Algorithm Determining the Primal Cuase of an Emergency Shutdown System Activation (2017);
- Development of a Study Guide for the Centum VP Engineering Course (2017).

Yokogawa organizes annual trainings for the faculty of the Institute of Automated Control Systems and Information Technologies. Professors attending the courses obtain theoretical information about modern automation solutions from Yokogawa. They further use this information to develop laboratory practicums and lectures for the disciplines taught at the following departments: Automated Data Acquisition and Processing Systems, Process Automation and Control, and Process Systems Engineering. The Yokogawa equipment in the Laboratory of Automation and Industrial Process Control Systems enhances the quality of education of KNRTU undergraduate and graduate students.

The Laboratory of Automation and Industrial Process Control Systems team published various teaching guides, study guides and scientific papers focusing on the description of operation principles of various physical value sensors, computer control systems, instrumentation for top level automation and required communication tools that are broadly applied at enterprises forming a petrochemical industrial complex. Demonstration of real industrial automation instruments is a great solution for enhancing motivation of students to gain new knowledge and pursue better results in education.

The following scientific papers were published in the “BULLETIN OF TECHNOLOGICAL UNIVERSITY” journal: “A Laboratory Bench for the Study of an Automation System for Gas Energy Carriers Operation Metering and Accounting Units”, “A Laboratory Bench for the Study of an Automation System for Liquid Products Operation Metering and Accounting Units”, “A Laboratory Bench for the Study of Heat Metering Units and Automated Energy Efficiency Systems”, “A Unit for Metrological Service, Dynamic Tests and Gas Dynamics Studies of Various Flow Transducers”, “Contactless Diagnostics of a Kinematic Structure of Liquids and Gases”, “Organization of Data Transfer between Programmable Logical Controllers by the Modbus Protocol”, “A Comparative Review of Digital Tracing Visualization Methods”, “Computer Training Complex as an Innovative Teaching Instrument in Engineering Education”, etc.

The following study guides were published by the laboratory team: “Measurement of Pressure”, “Measurement of Temperature by Thermal Electric Thermometers”, “Verification of a Universal Programmable Normalizing Transducer”, “Realization of Pump Control Circuits in the Workbench Software”, “Review of ProSafe-RS Hardware. Addressing”, “Organization of Data Transfer between CENTUM VP and Stardom FCN Controllers by Modbus RTU Protocol”, “Configuration, Operation and Metrological Service of Automation System Sensors”, etc.

The Laboratory of Automation and Industrial Process Control Systems was the hosting site for the development of the following projects: “Teaching Software-Technical Complex “Automated Production Control System”, “Distance Learning at KNRTU Yokogawa Laboratory”, “The Use Cloud Technologies for Real Industrial Machinery” as the applications to the regional contest “Fifty Best Innovative Ideas of the Republic of Tatarstan” (nominated for the “Innovations in Education” Award).

The Laboratory of Automation and Industrial Process Control Systems hosts professional training courses for the specialists studying at the Academy of Standardization, Metrology and Certification. Such courses are organized together with KNRTU Institute of Additional Professional for the GAZPROM specialists.

A practical training program is organized for KNRTU students at Yokogawa so that they can interact directly with the company specialists. Such training increases motivation of students to gain knowledge necessary for their future professional careers.

BOARDING SCHOOL FOR TALENTED CHILDREN WITH ADVANCED PROGRAM IN CHEMISTRY NAMED AFTER ACADEMICIAN KIRPICHNIKOV

On October 3, 2013, a Boarding School for Talented Children with Advanced Program in Chemistry for the high school students opened in the Orekhovka village, Zelenodolsk district of the Tatarstan Republic. The academic programs of the School combine comprehensive education and additional activities, thus providing a full day school mode. The school teachers work together with the KNRTU faculty members and representatives of the industry, who are interested in training human resources for their enterprises.

The School focuses on teaching STEM disciplines, including chemistry, physics and biology.

The School provides good facilities and resources, including a special computer lab for chemical engineering process simulation from Yokogawa, equipped with modern hardware and software to use in the teaching and learning process. The Director of Yokogawa Electric CIS Ltd. Branch (Kazan), Aleksey Anokhin, is a member of the School Board of Trustees.

On October 1, 2014, during their visit to the Republic of Tatarstan, a delegation of Yokogawa Group headed by its President and CEO, Takashi Nishijima, visited the Boarding School. They had a chance to meet the talented children, and to give a high evaluation to the educational process.

Delegation from Japan in Boarding School for Talented Children with Advanced Program in Chemistry named after Academician Kirpichnikov (Orekhovka)

Yokogawa participates in the Boarding School activities and announces annual contests for the best students in automation, control and safe operation of chemical processes and equipment, using software and hardware.

Computer Lab

Aleksey Anokhin, Director of Yokogawa Electric CIS Ltd. (Kazan) during the Best student award ceremony

On October 4, 2015, the President of the Republic of Tatarstan, Rustam Minnikhanov, and the President and CEO of Yokogawa Group, Takashi Nishijima, signed a Memorandum of Understanding including a clause on distributing the best practices in using computer simulation principles in chemical education of Boarding

School for Talented Children with Advanced Program in Chemistry named after Academician Kirpichnikov in other schools of the Republic of Tatarstan. Yokogawa constantly updates the software provided for the Boarding School.

The Boarding School collaborates very closely with the KNRTU Laboratory of Automation and Industrial Process Control Systems where students have meetings and lectures.

Students of Boarding School for Talented Children with Advanced Program in Chemistry in the KNRTU Laboratory of Automation and Industrial Process Control Systems

KNRTU GRADUATES EMPLOYED BY YOKOGAWA

Kazan National Research Technological University is rightfully proud of its graduates. Having received theoretical knowledge and practical skills in the university, many of them became real experts - professionals in their field.

In Kazan, the branch of Yokogawa Electric CIS Ltd also employs graduates of KNITU (KSTU-KCTI), who every day make a significant contribution to the development of automation in the oil and gas industry.

Anokhin Alexey

Director of Yokogawa Electric CIS Ltd., Kazan

He graduated from Kazan Chemical and Technological Institute named after S.M. Kirov Mechanical Engineering Faculty, Department of MACP in 1982. He is Director of the branch of Yokogawa Electric CIS Ltd. in Kazan from 2005.

Sirotkin, Aleksey

PCI Engineer

He graduated from Kazan Chemical and Technological Institute named after S.M. Kirov Mechanical Engineering Faculty, Department of MACP in 2003.

Its main responsibilities are technical support for projects related to supply of instrumentation for the enterprises of Tatarstan and other regions/

Institute of Automated Control Systems and Information Technologies is proud of its graduates who are employed by Yokogawa Group and use the knowledge gained at the university for solving the applied industrial problems.

Denis Ryzhov

PhD in Engineering,

Director of Yokogawa Electric CIS Ltd. Solutions Center

He graduated from Kazan National Research Technological University in 2006, degree program “Automation of Technological Processes and Industries”. He was introduced to the Yokogawa technical solutions during his PhD studies. Being a PhD student, he participated in implementing different projects for Yokogawa. After obtaining his PhD in Engineering, he was employed by Yokogawa for the position of Director for Hi-Tech solutions for process operation automation.

At present, he is the Director of Yokogawa Electric CIS Ltd. Solutions Center. At the same time, he teaches system analysis in chemical engineering as an Associate Professor at the KNRTU Department of Process System Engineering.

Airat Shigapov

Leading Industrial Engineer

Airat graduated from Kazan National Research Technological University in 2012, degree program was “Automation of Technological Processes and Production Systems”. His professional career at “Yokogawa Electric CIS Ltd.” started with a pre-graduation practical training at this company and composing a graduation project inspired by technical solutions of the company.

Airat is among top specialists in designing computer training systems for industrial engineers. He participated in the implementation of over twenty various projects, developed several technical solutions enhancing efficiency of computer training systems. He is awarded with Yokogawa Electric Corporation’s Certificate of Honor.

Apaev Pavel

PCI Engineer

He graduated from Kazan National Research Technological University, Control and Automation Department, Chair of Electrical Actuators and Instruments in 2013, degree program “Electric drive and automation of industrial plants and technological complexes“. Its main responsibilities are technical support for projects related to supply of instrumentation and analytical equipment for the enterprises of Tatarstan and other regions.

Vasil Khramov

Factory Management Integrated Control Systems Engineer

Vasil graduated from Kazan National Research Technological University in 2015, degree program “Automated Information Processing and Control Systems”

Vasil is among top specialists in enterprise operation management and operation management solutions.

He is currently a team member of a large international “Yamal LNG” project dedicated to liquefied natural gas factory automation.