Dear guests!

We are glad to welcome you to the Museum of the History of Communications.

The idea of creating a museum arose in the district amkah preparation for the 100 - anniversary of the Kazan City Telephone Network. The creation of the museum has become a common undertaking of all communications workers of the republic : Poisk groups were created at all communications enterprises, and the museum was intensively replenished with exhibits in all branches of communications. On November 27, 1988, the museum opened its doors to visitors.

The two exhibition halls of the museum are united by a single architectural and artistic solution , but each hall has its own face, its own idea. The exposition of the first hall begins tsya to "History in the faces" of the company Tattelecom , where with the help of pictures, you can trace the history of the creation and development of the largest in the Republic of Tatarstan operator of telecommunication services with more than 130 - year history and experience.

Further, the exposition of the museum is built according to the industry principle . H achinaetsya section dedicated to the ancient branch of communication - e-mail. Above the showcases and in chronological order, documentary information about the development of the postal service in Russia and the Republic of Tatarstan , from 1712 to our times , is presented . In the late 17th - early 18th centuries, postal routes passed through Kazan from Moscow to Perm and Orenburg, to the Urals and Siberia. And today the names of these routes have been preserved in the names of the streets of our city - these are the Siberian and Orenburg tracts.

In 1866, a city post office was established in Kazan at the Provincial Post Office. 13 mailboxes were installed in the city. In the summer, in the city center, mail was delivered 4 times a day, in remote parts - 3 times. All mail processing operations were then performed manually. In 1869 there were 48 post stations in the Kazan province , which had 1179 horses. Mail is delivered 2 times per week yu Guzhev th vehicles th .

The window displays models of a postal carriage and postal sleigh. Next to the showcase are a trunk and a chest with a safe for transporting mail , uniforms of postal workers of the 19th and early 20th centuries, and on the opposite side are bags and uniforms of Soviet postmen . On the podium there is a Felix counting machine , in the glass showcases there is a large selection of calendar stamps, a collection of stamps, the rules of the regional post office . On the left column there is an automatic machine for the sale of postcards and envelopes, and on the right column there is an automatic machine for registered letters. In the center of the hall there is a device for packing parcels, next to the podium there is an electronic cash register "Onega" 1978 .

Exhibits from different periods are presented along the wall on the podiums: postal scales, cash register, electric wax pot, stamping machine. The final showcase - bills, post-bags , calculators 19 70 - 80 -x 's, mail correspondence of the Soviet period, layouts boxes for parcels with wax seals and letter-triangles - a symbol almost time of the Great Patriotic War . They arose as a result of an acute shortage of postage envelopes, stamps were not glued to them. The triangles were not sealed, they were easily checked by the NKVD censors, who looked through all the correspondence, checked the letters for any statements against the system or any references to secret data, such as the location and movement of military units. Such letters were delivered from the front free of charge.

**The next section of our museum is devoted to telegraph communication.**

In Kazan, the first telegraph station was opened on December 28, 1859, and immediately acquired the importance of a hub on the communication lines created at that time. So it is written in the newspapers of the time: " 43 days were dispatches to London from Shanghai by K and Nton , Calcutta and Alexandria. Not surprisingly, the Russian telegraph line was stretched to Kazan in C ankt- Petersburg began **before** receiving a dispatch from Beijing by land through Ufa , than in London - sea through K and nt of n "

Above the windows, in chronological order, information about the development of telegraph communication in Russia and the Republic of Tatarstan is presented . Initially, the telegraph was a means of communication for wealthy people - officials, merchants, wealthy citizens .

In 1862 in Kazan already worked 5 telegraphs, and in the same year telegraph starts in Kazan province , in the cities of B and Stopol and La and shevo .

In 1876, a telegraph cable was laid across the Kama River, telegraph stations were built in the districts, the Chistopol merchants covered the costs of installing poles and maintaining the station premises . On the initiative of the shipping companies and at their expense, the Kazan Coastal Telegraph Station was built. It was connected to the Central Station by an air line and opened the reception of telegrams in June 1870.

All telegraph communication is carried out on a steel single-wire lines and served at first only devices M of Rza , invented in 1837 . The exposition of our museum presented telegraph "Morse" 1943 the year .

Samuel Finley Breese Morse - and merikansky artist, founder of the National Academy of the United States drawing, painting and drawing professor at New York University, the inventor of the electromagnetic telegraph and writing code - Morse code . By the 20th century, 45,200 Morse devices were installed in 9 European countries , of which 8,200 were in Russia.

Hughes and Winston's telegraphs also appeared in the 19th century. The first direct-printing apparatus of Hughes was installed in Kazan in 1868. In the 1880s, Winston's devices began to be introduced, when working on them, the text was pre-punched on a paper tape using a punch , and then the tape was passed through an automatic transmitter (transmitter) and the message was transmitted at high speed by Morse code to the receiving station. If the speed of transmission by the Om Morse apparatus was 500 words per hour, then by the Hughes apparatus - already up to 1000, and by the Winston apparatus - up to 3000 words per hour.

Power supplies on the telegraph stations were chemical sources of electricity, electricity is first appeared in Kazan postal and telegraph office in 1901.

Since 1905, in Kazan, two -time direct - printing devices, more perfect for that time, began to be used , and since 1917 - four-time Bod o. In the center of the room stands a telegraph key device Bodo. Original 1937 .

Jean Maurice Émile Baudot is a French engineer and inventor of the Baudot code ( character encoding for teletypes ) . In 1872, Bodo created an apparatus that made it possible to transmit several telegrams simultaneously along one line , and the data was no longer received in the form of dots and dashes (alphabet and Morse code), but in the form of letters of the Latin alphabet (after revision by domestic experts - and the Russian language ). Such a device and all subsequent devices created nye on the same principle, are called start-stop. In honor of Bodo, the unit of signal transmission rate is named - baud. The Baudot apparatus operates in duplex mode (in total, it was possible to connect up to six work stations to one transmitter) - the response data was printed on paper tape, which had to be cut and pasted on the form. P roizvoditelnost so th unit , depending on the number of posts ranging from 2 , 5 to 4, 5 of thousands of words per hour. And Bodo devices became widespread and were used until the 19 50s .

The showcases ah opposite - a collection of measuring x appliance s first half of the twentieth century , as well as unique photos 1916 collective "post and telegraph office," the city of Kazan. Here you can touch the printed word - stereotypes of newspapers, which are a monolithic embossed copy from a typographic set - a cliché . In 1971, a newspaper reception workshop was organized at the telegraph office, which conducted constant phototelegraph communication for receiving central newspapers and printing them in a publishing house.

Along the wall on the catwalks, there is a collection of five-digit telegraph start-stop devices with a typewriter-type keyboard, all of them have three registers - Russian, Latin and digital. Conveyor teleprinter n rednaznachen s for reception and transmission of information by radio telegraph channels, microwave and wireline , either in the field or in stationary conditions. Next is s Soviet machine 's fax : "Bar-M" in 1979 and "Isotope 2D» 1985 release .

The center is, the hall presented samples ka whiter - from the telegraph and telephone to fiber. In the last showcase and on the podium there is a selection of the equipment of the second half of the 20th century necessary for telegraph operation , as well as models of modern faxes .

**The city pay phone takes us to the next section dedicated to the development of telephone communications in Kazan.** Above the windows, in chronological order, there is information on the development of telephone communications in Russia and the Republic of Tatarstan.

Kazan city government telephone network began operating on November 27, 1888. A single-wire switch of the MB system (local battery) for 100 numbers was installed at the telephone exchange , initially 72 telephones were switched on . The list of the first subscribers was published in Kazan newspapers. And after 12 years, the number of subscribers increased Kazan already to 1000.

In the center of the room in Hashem can appreciate a Corded phone MB switcher system for 20 subscribers late 19 th century as well . Such switches were served by young ladies. The telephone ladies were polite, educated and required to speak foreign languages.

Nearby, behind a glass showcase, are shown : a telephone receiver from the Ordonance apparatus of the First World War and a 1928 UNA field telephone set .

Along the wall on the podium is a collection of telephones 1920-1950 -x years . P poison podium located test ny remote un- 6 0, which served to verify communication paths. Following th showcase dedicated to a radiotelephone m station pits .

Further on the wall you can see the elements of the first in Kazan machine station of the ATS Zh-3 system in 1939, produced by the Krasnaya Zarya plant. The station, which arrived in 1941 from Moscow, was assembled in the shortest possible time and put into operation. It was chaired and kai Patriotic War , Kazan rapidly evacuated the population of and industrial enterprises, scientific institutions, which must be was urgent to provide stable communication.

In 1953, a major reconstruction of the Kazan city telephone network was completed. A new domestic stepping station was assembled, increasing the number capacity by 1.5 times.

The stand presents a working model of a corded pair of a decade-step station A TS-54 and testing devices for it. Layout subkey **e** n and if you remove the tube from the left on your phone and dial the number 5791 on disk dialer phone , you can hear the call to a neighboring right of the phone and hold a conversation .

Nearby at the stand is the oldest of our collection of telephones - an Ericsson wall - mounted telephone from 1898, made in Sweden , with an inductor call and a compartment for 2 galvanic batteries . The General Directorate of Posts and Telegraphs conducted a study of various telephone sets in order to find the best system in technical terms, and the cheapest one. Such devices have been recognized phones Eriksson , in Russia, the first of these devices was provided with the Kazan phone network in 1888 ode . Ericsson's mics only had to be adjusted every six months, while Bell's mics had to be adjusted every 2-3 weeks. Inside the phones, the wires were laid in tracks cut out in the wooden case and embedded in paraffin to protect them from careless handling and the harmful effects of dust and moisture. On the left - the already Soviet analogue of the same telephone, produced in 1929 in Leningrad at the former Ericsson plant , renamed after nationalization to the Krasnaya Zarya plant.

And on the opposite side of the glass cases are presented telephones 1920-1930 -x 's , payphones 70s , the collection of coins for payment . A 1962 long-distance telephone switch was installed nearby , which served to connect subscribers between cities and villages . On the next window presented headset for I telephonists different periods from 1940 -x 's , telephones 50- 60s, and ship, and for hazardous areas.

Between the showcases there is a test device of a decade-step automatic telephone exchange of 1977 and a switching relay of the last analogue station “ Tattelecom ”. In 2008, Tattelecom was the **first** in Russia to switch to digital equipment, and new generation stations replaced coordinate type stations. The last showcase presented the collection's I phone GOVERNMENTAL unit s 1970-2000 's, - office hubs, government communications device with a protective screen of wiretapping and various machines home use category.

W avershaetsya p ECTION Phone Stand "Hardware B-12-2" , designed to seal the Air ear-wire circuits ( about riginal 1972 ) and two racks of automatic telephone stations coordinate type with 50 rooms ATSK 50/200 (o riginal 1986 year as well ) ...

Section telephony closely with elm n a section of the museum dedicated to the Great Patriotic War.

Signalers played a huge role, both at the front and in the rear. In the center of the hall are a soldier's helmet, a flask and a tobacco pouch , embroidered by a girl for a soldier. Nearby is a trophy Imperial radio and a gramophone - a portable mechanical turntable. During the difficult war years, the gramophone served as a loyal front-line comrade, allowing you to forget yourself for a few minutes while listening to your favorite tunes.

Above the windows is information about the Heroes of the Soviet Union, our fellow countrymen-signalmen, who at the cost of their lives provided communications for the management of military operations. And in showcases and on podiums, there is an exposition of military field equipment - switches, military field tubes , army radio stations.

It completed the first hall history in the persons of the Ministry of Public Administration Digital Development, Information Technologies and Communications of the Republic of Tatarstan, which means photos can be traced back to 2008 year and history significant for the Ministry of dates .

**We pass to the second hall . 2nd hall begins with "History in Faces" College CIP KTITS .**

The stand features a photo collage revealing the history of the creation and development of the technical school. The urgent need for our own training base for qualified specialists led to the opening of a communications technical school in Kazan (now MCC KTITS). The Interregional Competence Center - Kazan Technical School of Information Technologies and Communications - is one of the largest secondary vocational educational institutions in the Republic of Tatarstan.

For the first admission of students to the technical school on March 1, 1932, courses were opened on the basis of the existing educational and production communications center, and from October 1 of the same year, the Kazan electrical communications college was opened on the basis of these courses .

Busy by day and evening forms of education has begun 217 students as part of

5 training groups. Thanks to the persistent and purposeful work of the teaching staff, by the time of the first graduation, which took place on July 1, 1935, two training and production workshops, 6 laboratories, 4 classrooms were created in the technical school, a library and a red corner were equipped . Since then, more than 3 6 thousand people have been educated within the walls of the technical school , who can be found in all parts of the country. About 80% of middle-level specialists working at Kazan communications enterprises are graduates of the technical school.

**The next section of the museum is dedicated to the development of radio.**

Above the windows, in chronological order, information about the development of radio in Russia and the Republic of Tatarstan is presented.

In 1895, our compatriot Alexander Stepanovich Popov designed a radio receiving device that received signals transmitted using electromagnetic waves. Public radioseans , produced by Popov, May 7, 1895 went down in history, and is celebrated as Radio Day.

Kazan receiving radio station began its regular work in 1918 , and soon such stations appeared in other cities of the province - in Tetyushi and Chistopol . An enormous contribution to the development of e radio made Deut th Kazan bases and wireless telegraphy units of the Red Army, which was transferred from Saratov to Kazan in 1919. H aryadu with providing military personnel of radio and radio communication base spent most uc the interrogation and design work .

In Kazan used yli conducted the first experiments, put in our country, the onset of wired radio . On May 1, 1921, horns were installed on two squares of Kazan , connected to outpost telephones - to amplify the speaker's voice . And only in June of the same year such mouthpieces began to appear in Moscow. So the "Oral newspapers" ROSTA began to emerge, in the evenings a lot of listeners gathered in the squares by the beginning of the program.

In subsequent years, the Kazan radio battalion built its own radio broadcasting station , which carried out the transmission of lectures and concerts. Experienced concert this radio station May 1, 1923 g ode was clearly audible in the Samara, Saratov, Izhevsk and other cities .

Broadcasting in Kazan began on November 6, 1927 . Organizer and initiator of the construction of a radio station has been known so atarsky writer and public figure Shamil Usmanov.

Along the wall, on the podiums, there is a large collection of radios that were produced in different years at the factories of our large country. In the center of the hall on the podium is a kind of musical center: a radio amplifying station for rural radio centers "TU-100". The kit includes a broadcasting : pr oigryvatel records, all-wave radio, remote control loudspeaker Street horn speaker and microphone .

On the opposite side, behind glass display cases, are collections of test equipment, receivers and tubes . Storefronts located between the transmitter oscillating circuit PB-84 - element evacuated in 1941 g ode from Noginsk Kazan the country's largest long-wave broadcasting station . The population did not even suspect that the programs from the Moscow radio studio, the voice of the famous Levitan, the reports of the Sovinformburo were transmitted to Kazan by cable communication and from here were relayed to the air throughout the country. In February 1942, Kazan became the leading radio center and long-distance communication center, as well as a reserve center for government information. The power of the line was subsequently strengthened, which made it possible to receive its transmissions in Europe, which was actively used for counter-propaganda purposes. So, in 1944, from Kazan to Poland, there was a constant broadcast with calls to fight the Nazi regime. The Kazan radio station was tuned through special equipment to the frequency of the fascist Warsaw transmitter and the German speech was interrupted by the voices of our announcers. The Germans had to turn off their transmitter. Their counterintelligence failed to find the source of the "enemy" information. Thought is broadcast from the Warsaw 's or Bel Arous and.

Further in the showcases there is a collection of loudspeakers and radios from the 1920s - 1990s, as well as the first loudspeakers, which were popularly called “saucers”. The popular radio receiver and " Speedola " often appeared in Soviet cinema - in the films "Prisoner of the Caucasus", "Love and Pigeons", "Resident's Error" and others.

**The next section of the museum , dedicated to television , opens with the communications traveler of the series "Lightning" .** M Aketi 1972 year as well . "Lightning" has the following dimensions: length 4.4 meter, the diameter of the housing 1 , 4 meter scale solar panels 8,6 meters. The main part of the equipment housed in the Sealing Connector ECK th housing.

The launch of the satellite opened up new opportunities for television broadcasting and communications. Since 1965, retransmission of television programs, long-distance telephone and telegraph radio communications were carried out using communication satellites. Communication sessions with one satellite lasted 8-10 hours when it was necessary to track the position of the satellite by the receiving antenna. Only a system of three artificial earth satellites in elliptical orbits provided continuous round-the-clock communication. The last device was launched on February 18, 2004. The satellites of the Molniya series are no longer produced. Currently, several dozen spacecraft are operating in geostationary orbit, which are part of domestic telecommunication and communication systems, as well as missile attack warning systems.

Above the windows, information about the development of television in Russia and the Republic of Tatarstan is presented in chronological order.

Television broadcasting in Kazan began with the creation of a "small" amateur television center.

On February 27 , 1955, his first broadcast took place . A group of enthusiasts from the Kazan Radio Club DOSAAF on the basis of a control and test television installation (KITU) mounted a low-power television transmitter, assembled a television antenna, made an amplifier, and so a small television center was formed. Keith sample 195 4 years Representat claimed in the exposition of our museum . The reception takes place at commercially release VSH REGARD TVs , so Akiha like KVN-49. In the center of the hall on the podium is the original black and white TV set KVN- 49 with a lens filled with distilled water or glycerin. P azrabotka this model was conducted in Leningrad, All-Union Scientific Research Institute of television working groups nd engineers - Kenigson , Warsaw and Nicholas. Hence, the abbreviation (WHC) , which has become the first mark Soviet TV which serially produced from 1949 to 196 2 year . Nearby is a 1973 studio tape recorder that was used in record studios, film and radio studios .

Along the wall on the catwalks, there is a collection of TV sets produced in different periods by enterprises of a large country.

On the opposite side, in the showcases , sound recording equipment is displayed - tape recorders of various modifications, reels and cassettes with magnetic tape . H and the podium is, on the left - TV "Star" in 1953 at the Kazan factory Radiopribor set up the production of the TV s to replace deficient "KVN". Kazan "Zvezda" differed from its famous brother in the size of the screen, which was 2 times larger! When you lift the top cover, the TV turns on and access to the controls opens, the cover also serves as a sound reflector. H and the podium right - a very popular TV "Record" 1956 the year with a huge at the time a screen diagonal of 35 cm, which won a gold medal at the International Exhibition in Brussels.

**The exposition of the Museum of the History of Communication ends with the section " Modern Means of Communication " .**

Above the storefronts in chronological order provides information on the development of modern means of communication, starting with 9 0 -x year s of the twentieth century to the present time in Russia and in the world .

On the catwalks presented - Domestic Monitor Electronics , Computer Alcatel's , laptop Sompaq and monitor Apple 19 90 - ies, modern HD - TV in showcases e - pagers, a large collection of hundreds ovyh phones, one of the first personal computers, modems, clock - radio and an exposition of the evolution of storage media - from punched cards to flash drives . Many of the exhibits are equipped with QR-codes, using a smartphone with the app to scan these codes you can find more information on the exhibit am .

Innovative communications have made it possible for people living not only on neighboring streets, but also on different continents to communicate, which is one of the main achievements of civilization. Wired and wireless communication not only helps to maintain relationships with family and friends, it plays a vital role in the development of various branches of human activity.

This concludes the excursion. All your e obrogo !