

Applications of fire monitors and robotic fire suppression system for protection of various facilities

Hangar for BOEING 737 NG aircraft technical maintenance at the international airport named after Yu. A. Gagarin in Russia, Orenburg city

2015

Object: A hangar for BOEING 737 NG aircraft technical maintenance.

Type of equipment: Automatic system of foam fire extinguishing and water cooling based on fire robots – 12 fire robots.



FR Fire robots protecting an airplane hangar, Russia, Orenburg city

Transformers production plant “Power Machines – Toshiba. High-Voltage Transformers”, LLC. Fire suppression of a railroad trestles and oil facilities. The city of Saint Petersburg.

2014

Automatic fire suppression system is applied for foam firefighting and water cooling of a railroad loading/unloading trestles and above ground reservoirs in oil facilities. The automatic fire suppression system includes 9 pieces of FR-LSD-S60(20)U-Ex fire robots in an explosion-proof design produced as a unit with control boxes SHU-Ex EP and mounted on fire towers 8 m in height.



Transformers production plant “Power Machines – Toshiba. High-Voltage Transformers”, LLC.

Fire monitors on “Shkotov”-, “Princessa Caspia”-ships Kazakhstan

2014

Manufacturing and supply of fire monitors in marine modification for the ships “Shkotov” and “Princessa Caspia”, Kazakhstan. These ships belong to the company “Caspian Offshore Construction”. In the year of 2014 the ships were repaired and modernized; they were rebuilt from floating hotels into rescue ships for work on the territory of Russia.



Fire monitors on “Shkotov”-, “Princessa Caspia”-ships Kazakhstan

Open storage of timber located in Russia, the Republic of Tatarstan, Yelabuga town.

2014

LSD-S100(80,90)U fire monitors with a flow rate of 90 l/s have been mounted on fire towers 12 m in height for the protection of open timber storage. Operation of the fire monitors is carried out with the help of a remote control console from a control room located at a distance. The ring main line is not more than 1 km in length.

Hangar for aircraft at the Minsk National Airport

2013

Automatic fire suppression system with the use of FR-LSD-S60V(20)Ue-IR fire robots 26 pieces in number for the protection of airplane hangar.



OJsc “Concern Rosenergoatom”, “Leningrad Atomic Station”, Leningrad region

OJsc “Concern Rosenergoatom”, “Leningrad Atomic Station”, Sosnovy Bor, Leningrad region

2013

System of stationary manually operated fire monitors LS-S20(15;25)U on fire towers with height of 2,5 m.



Scientific-research station, i. Samoilovsky

Scientific-research station, i. Samoilovsky

2012

The remote-controlled fire monitor LSD-S40U in marine modification, on the 6 meters high tower, installed on the Samoilovsky-island, for fire protection of the scientific-research station.

Ojsc “GOZ Obukhovskiy plant”, reconstruction of industrial shops, the City of Saint-Petersburg

2012

The robotic fire suppression system RFSS-25FR-LSD-S40(20;30)U-Ir with application of fire robots with IR-scanners for protection of industrial shops of the total area 30000 m².



*Ojsc “GOZ Obukhovskiy plant”,
reconstruction of industrial shops,
the City of Saint-Petersburg*

Kirishi petroleum processing plant

2012

Fire monitors in explosion-proof modification LSD-S60(20)U-Ex with flow rate 20 l/sec.



Kirishi petroleum processing plant

Kurakhovskaya Heat-and-Power Plant (Donetsk region)

2012

14 fire robots FR-LSD-S60U and 6 fire robots FR-LSD-S40U for protection of 7 energy units of heat electric station “Kurakhovskaya” (Donetsk region).

Project year: 2010. Work progress: 2011-2012.

Automotive fire-fighting barge KSP PNS

2012

The automotive fire-fighting barge KSP PNS with pumping station and water jets is using for supply of a big amount of water or foam solution to shore along fire-fighting lines, for fire extinguishing and for emergency and rescue works in offshore strips, as well as for water supply for people, civil and industrial units in case of emergency.

The FR Engineering Centre has elaborated and supplied the water jets of big flow rate for pumping station of KSP: LSD-S200Ub and LSD-S60/100U with flow rates 200 l/sec and 60/100 l/sec accordingly.



Rosneft units

Rosneft units

2011-2012

Application of explosion-proof fire monitors of the types LSD-S60(40)U-Ex, LSD-S60(20)U-Ex, LSD-S40U-Ex on the Rosneft units: Syzran, Moscow, Tuapse petroleum processing plants and others.

“Plesezka”-launch-vehicle site, test facility.

2011

Robotic fire suppression system with fire robots FR-LSD-S60(40)U-IR-TV-Ex in an explosion-proof modification with electric drives of direct current, with marki explosion proof IExdIICT4, with flame annunciators FV312SC with TV-camera.

Customer: Federal State Unitary Enterprise “Special construction bureau of fire-preventive defense”



“Plesezka”-launch-vehicle site, test facility

Lugansk HPP (Donetsk region)

2011

Fire robots FR-LSD-S40U (16 pc.) for protection of 6 energy units of Lugansk heat energy station.

Project year: 2009.

Work progress: 2010-2011.

“Ust’-Luga”-trade harbor

2009-2012

- Installing of the remote-controlled fire monitors in an explosion-proof modification of the type LSD-S20U-Ex;
- Installing of the stationary manually controlled fire monitors LS-S20(15;25)U with hydraulic oscillator of the type LS-P60(40;50)U-OM;
- Installing of portable fire monitors in marine modification of the type LS-P60(40;50)U-OM;
- Installing of fire towers.



Lugansk HPP (Donetsk region)

Crocus Expo”-centre, the concert hall of the exhibition pavilion #3, the City of Moscow

2009-2010

Robotic fire suppression system with fire robots of “in box” modification (in a niche). In a duty mode the fire robot is located in the niche behind an end panel making no changes to the design of the auditorium. In an “Alarm” mode it stands to the fighting position, operates monitoring, finds the heat source, operates automatic extinguishing. Switching into a duty mode it hides behind the niche and closes the aperture.

Quantity of fire robots: FR-LSD-S40U-IR - 4 pc.

Protected area: 3500 sq.m



“Crocus Expo”-centre, the concert hall of the exhibition pavilion №3, the City of Moscow

Service point for locomotives in Elezkaya-depot. Coaling station, the City of Kostroma

2010

Automatic fire suppression system based on fire monitors with oscillators and ejector nozzles means to disclose a heat source and to extinguish with alarming about work and condition of the system into duty room at the same time.

VNUKOVO AIRPORT, Moscow.

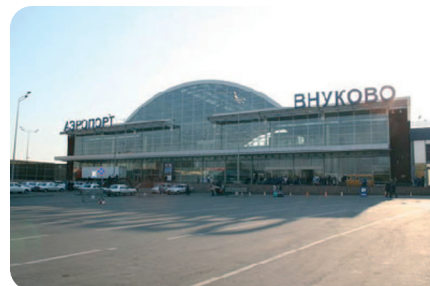
Hangar complex of Rossiya State Transportation Company

2008-2009

Robotic fire suppression system consisting of 17 fire robots based on fire monitors and the complex control system is used for automatic extinguishing of fire areas and cooling of structures according to preset programs in areas controlled by fire detectors and with automatic targeting of fire robots at the fire area.

Protected area: 11000 sq.m

Quantity of fire robots: FR-LSD-S20Uv-IR - 17 pc.



“Vnukovo”-airport, the City of Moscow

Reconstruction of Severomorsk-1 Airfield

2009

Automatic foam fire suppression system with RFFC robotic firefighting complex and sprinkler water fire suppression system are designed for fire detection and extinguishing with simultaneous signaling on the system operation and status in the dispatcher room. Water fire suppression system with RFFC robotic firefighting complex is designed to cool aircraft and load-bearing structures of buildings in close proximity to the fire.



Reconstruction of Severomorsk-1 Airfield

Plant “SP SEL-Tairiku”-Ltd. The building of adzing plant, Irkutsk region, settlement Novaya Igirma

2008-2009

Robotic fire suppression system for unit's protect with firer robots. Application of fire robots of high pressure with dispersed water and discharge 6 l/sec

“Ostafyevo”-airport, the City of Podolsk

2008-2009

Hangar complex for 5 airplanes Robotic fire suppression system, consisting of 22 fire robots with foam former ejector device on base of fire monitors and system of complex control, which is used for automatic extinguishing of heat sources and constructions' cooling, according to beforehand made program per zones with fire alarm sensor control, and with automatic directing of fire robots onto the heat source.

Protected area: 8000 sq.m

Quantity of fire robots: FR-LSD-S20Ue-IR - 22 pc.



“Ostafyevo”-airport, the City of Podolsk

PC “European sulfur terminal” Commercial port, Leningrad region. The City of Ust’-Luga

2008

Robotic fire suppression system with fire robots for protection of sulfur storage.



Universal sport complex, the City of Jaroslavl

Universal sport complex, the City of Jaroslavl

2007-2008

Automatic system with application of fire robots on base of remote-controlled fire monitors GOST R 51115-97 (including internal fire alarm and system of TV-observation) for protection of inflatable constructions of athletic manege in the City of Jaroslavl

Protected area: 7000 sq.m

Quantity of fire robots: FR-LSD-S20U-IR-TV - 8 pc.

Hangar №2 and airplanes' service station Sheremetyevo-1.

2007

The building of hangar No. 2 and aircraft service station.

Automatic foam fire suppression system with RFFC robotic firefighting complex and sprinkler water fire suppression system are designed for fire detection and extinguishing with simultaneous signaling on the system operation and status in the dispatcher room. Water fire suppression system with RFFC robotic firefighting complex is designed to cool aircraft and load-bearing structures of buildings in close proximity to the fire.

Sport complex "Orenburgye", the City of Orenburg

2007

Robotic fire suppression system consisting of 4 fire robots, with automatic fire detection and automatic targeting of fire robots at the fire area.

Protected area: 3600 sq.m

Quantity of fire robots: FR-LSD-S20U-IR - 4 pc.

Sport Palace of Trade Unions, the City of Nizhni Novgorod

2007

Automatic system of fire alarm with flame address annunciators for start up of robotic fire suppression system

Protected area: 2300 sq.m

Quantity of fire robots: FR-LSD-S20Ut - 4 pc.

Fire tank, Rostov-region

2006

The remote-controlled fire monitors LSD-S100U application on the fire tanks. Fire tanks are indispensable in case of fire extinguishing of explosive factories and storages.

Hangar per 3 airplanes. "Igarka"-airport, Krasnoyarsk region

2006

Automatic foam fire suppression system with RFFC robotic firefighting complex and sprinkler water fire suppression system are designed for fire detection and extinguishing with simultaneous signaling on the system operation and status in the dispatcher room. Water fire suppression system with RFFC robotic firefighting complex is designed to cool helicopters and and load-bearing structures of buildings in close proximity to the fire.

Protected area: 1700 sq.m

Quantity of fire robots: FR-LSD-S20Ue - 10 pc.

The Baltic pipeline systems, Primorsk-city

2006

Remote-controlled fire monitors, supplied with start-up instrumentation of outside explosion-proof construction LSD S60(40)U-Ex for fire prevention of the oil terminals. Possibility of the extinguishing by water and foam using the fire monitor of large discharge in the explosive zones.

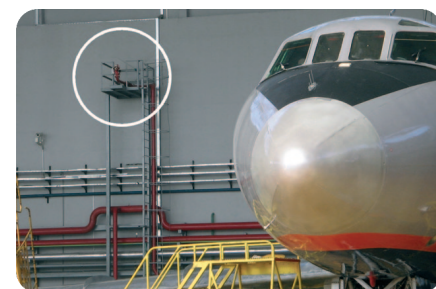
Enlarge of the mooring line №3 of "VITINO"-Ltd. (Murmansk region).



The Baltic pipeline systems, Primorsk-city



Sport complex "Orenburgye", the City of Orenburg



Hangar №2 and airplanes' service station Sheremetyevo-1



Fire tank, Rostov-region



"Kravzovskoje"-deposit's oil platforms

2007

System of automatic fire prevention defence includes:

- automatic fire alarm with flame annunciators
- Automatic foam fire suppression system with application of - remote-controlled fire monitors, cooling and drencher veil with application of fire monitors with oscillator

The building of hangar, SHEREMETYEVO-1 AIRPORT of Aeroflot

2005

Robotic fire suppression system based on 10 fire robots, including fire monitors of LSD-S40(30)U-IR and the complex control systems are used for firesides' automatic extinguishing and for constructions' cooling, according to beforehand completed programs in zones, controlled by fire alarm sensors, or with the automatic erecting of fire robots to the fireside.

Forest-fire tractors, Krasnodar and Khabarovsk territories, Archangelsk region

2005

Tractor of high maneuverability, supplied with the equipment for ditch laying, the pumping reservoir filled with water and foam former, fire equipment: remote-controlled fire monitors LSD-S20U, portable fire monitors LS-S20Up, hand-held fire monitors with the thin-dispersed water and others. Possibilities: fire extinguishing by water or foam, realized by fire monitors, the extensive water-pressure lines' laying from remote reservoirs, work mechanization in case of fire liquidation.

Oil terminals according to the “Sakhalin-1”-plan, Sakhalin-island

2005

Remote-controlled fire monitors with the foam former ejection of Marine Modifications LSD-S40UE-MM are used for fire prevention of the discharge-pouring r.r.-viaduct reservoir parks. Possibilities: fire extinguishing by fire monitors of large discharge, supplied with the batching device and foam former supply in the place of fire monitor installation.

Athletics Palace, Gomel-city, the Republic of Belarus

2005

Robotic fire suppression system using the fire robots, supplied with the technical view, based on remote-controlled fire monitors, applied for the protection of the Athletics Palace, Gomel-city, which arched walls and overlap are made of wood.

“Kravzovskoje”-deposit's oil platforms, Kaliningrad region

2004

Fire monitors of Marine Modification LS-S20U-MM, LS-S40-MM for fire prevention of oil platforms, for seawater and foam extinguishing.

Oil terminals “Lukoil-2”, Visozk-city, Vyborg district, Leningrad region

2004

Remote-controlled fire monitors, supplied with start-up instrumentation, on an explosion-proof modification LSD-S60(40)U-Ex for fire prevention of the reservoir parks and discharge-pouring r.r.-viaduct. Possibility of water and foam extinguishing by the fire monitors of big discharges, on an explosion-proof modification

Reserve-museum “Kizi”

2000-2003

The system of the outside fire extinguishing of the wooden architectural memorials “Kizi”. 9 remote-controlled fire monitors LSD-S20U and LSD-S60U, installed on the fire loop pipeline along the perimeter of the Kizi-churchyard connecting to the maritime pumping station. In summertime the Robotic fire suppression system is under the water pressure, in wintertime – under the dry pipe sprinkler system pressure.



Oil terminals “Lukoil-2”, Visozk-city



Enlarge of the mooring line №3 of “VITINO”-Ltd. (Murmansk region)



Athletics Palace, Gomel-city



RVS-100 000-reservoirs' protection Novorossiysk-city



Reserve-museum “Kizi”

Oil port's sea berths and KTK-R units, Novorossiysk-city

2000-2003

24 fire monitors LS-S100U-o with oscillator and LSD-S60U-Ex on an explosion-proof modification, remote-controlled or manual-operated for water-foam fire extinguishing, installed on towers. RVS-100 000-reservoirs' protection. Foam former supply for foam receiving by ejection.

Extinguishing of the discharge-pouring r.r.-viaduct of gas condensate, the Krasnodar Territory, Grushevskaja-station

2003

Water-foam extinguishing of the discharge-pouring r.r.-viaduct of gas condensate, realized by the fire monitors LSD-S60/40U-Ex on an explosion-proof modification. FR.

Reservoirs and r.r.-viaduct “TNK”, Petrozavodsk-city

2002

Robotic fire suppression system including fire robots, based on program-controlled fire monitors with the system of TV-camera- and PC-control. Reservoirs' subsurface fire extinguishing.

Aluminous industrial complex, Krasnoyarsk-city

2001

Robotic fire suppression system of 6 fire robots, based on fire monitors as per GOST 51115 97 is used for the mill protection in the room, which volume is nearly 100 000 m³.

Petrozavodsk Heat and Power Plant, Petrozavodsk-city

1996

Robotic fire suppression system automatically cool the computer room overlaps, according to the beforehand completed program in case of fire.

Archangelsk timber mill №3, Archangelsk-city

1996

Water-foam fire extinguishing of the Archangelsk pulp and paper mill's timber-preparing shop, realized by remote-controlled fire monitors LSD-S60U, installed on the towers (height is 28 m).

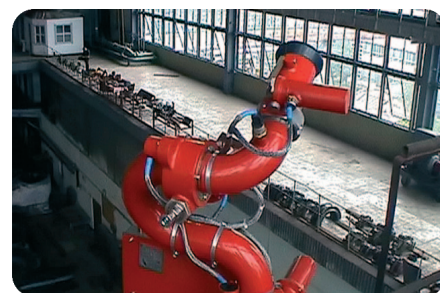
Robotic fire suppression system automatically start realizing the fire extinguishing by dispersed streams in the given section of the export saw-timber storage, according to the beforehand completed program, if the annunciators snap into action.



Reservoirs and r.r.-viaduct “TNK”, Petrozavodsk-city



Archangelsk timber mill №3



Petrozavodsk Heat and Power Plant