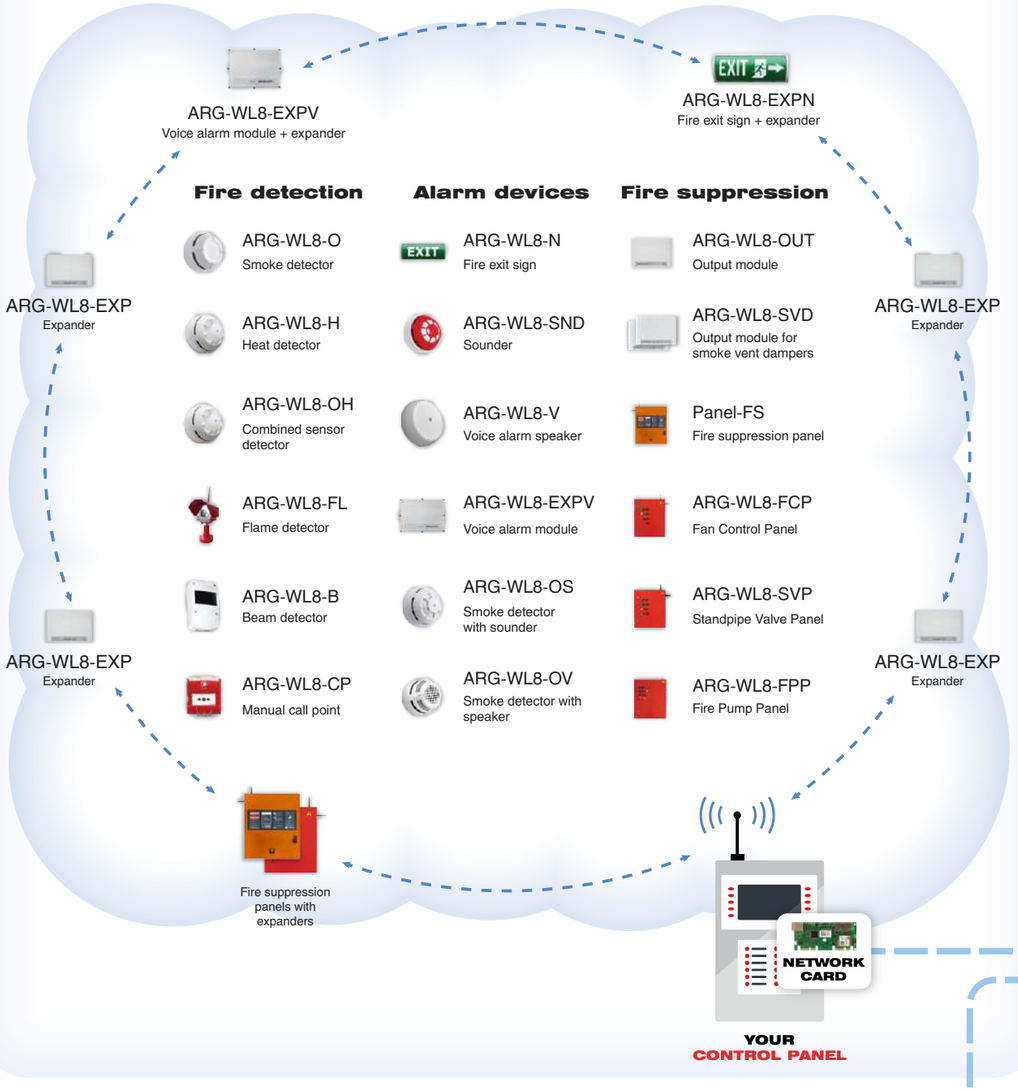
ARGUSSPECTRUM

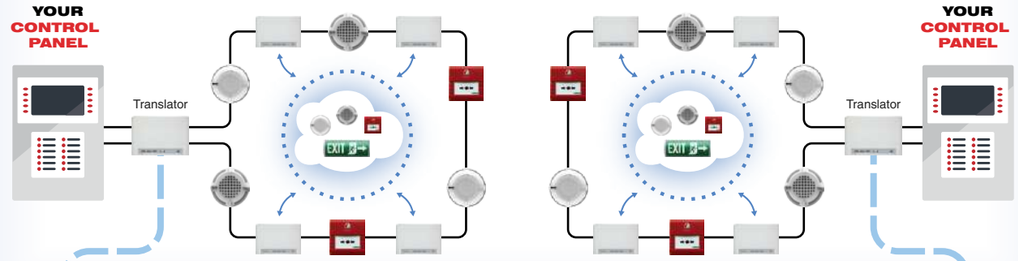

# THE BOOK OF WIRELESS

## Wireless and Hybrid Fire Alarm Solutions from Argus Spectrum

## WIRELESS CARD + PSU POWERED EXPANDERS

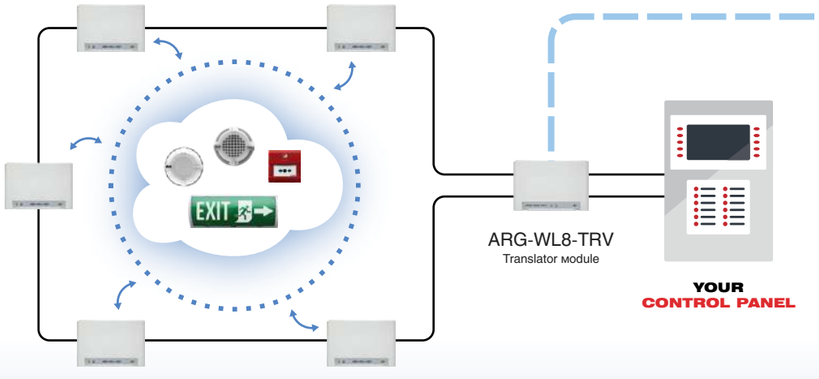



## HYBRID SOLUTION

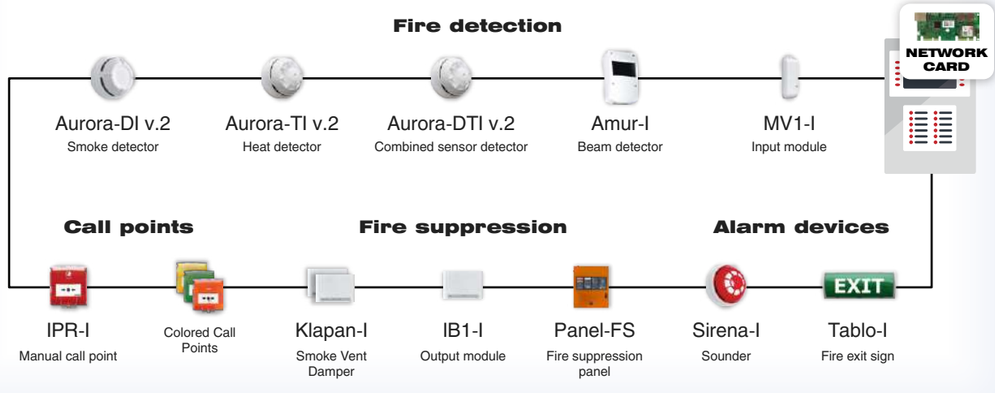



## CLOUD SERVICE


## TRANSLATOR + LOOP POWERED EXPANDERS

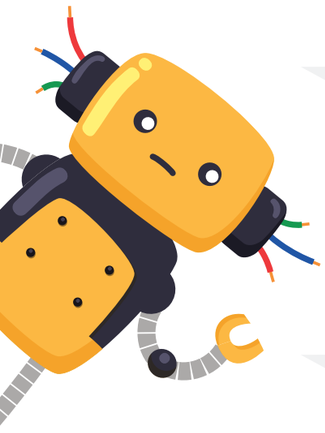



## INTELLIGENT FIRE DETECTION



# Contents





I want to try wireless, but I don't want to deal with **batteries**

Batteries in Streletz-PRO last for 10 years!
**See pages 13, 46, 52**

Wireless systems are vulnerable to **interference**

Wireless is more reliable than wired!
**See pages 12, 14, 54, 61**

Wireless systems are a niche and **expensive** product

Wireless will help you boost your business!
**See pages 44-48**

# About Us

Argus Spectrum was established in 1993 in St. Petersburg by scientists from the local Polytechnic University. The factory covers an area of 8000 $m^2$ and houses four lines of surface mounting with automatic optical inspection systems, featuring robots from major global manufacturers. Additionally, the factory's test laboratory is well-equipped with a smoke channel testing equipment, conforming to both Russian and international standards.

As of today, Argus Spectrum boasts impressive achievements:

- Producing 100,000 devices per month.
- Employing 350 individuals with 50 specialists in the R&D department.
- Owning over 100 patents.
- Selling a remarkable 10 million wireless devices.

Argus Spectrum equipment has been successfully installed in more than 200,000 locations. Our products are protecting significant and high-profile installations including the world-famous Hermitage and the newly constructed Medical Academy in Saint Petersburg incorporating more than 20,000 wireless devices.

In the year 2020, an extraordinary achievement was accomplished when the Moscow Clinical Center for Infectious Diseases "Voronovskoye" was constructed in just one month. Ensuring the fire safety of this unique hospital involved the use of 15,000 wireless devices from the Streletz-PRO system.

We operate strict quality management systems in accordance with ISO9001. We have been recognized by and awarded the Toyota Bronze Medal for our Production Management System.

**About Argus Spectrum International**

A video about our company, our team and our work.

*https://catalog.argus-spectr.ru/video/en/about*

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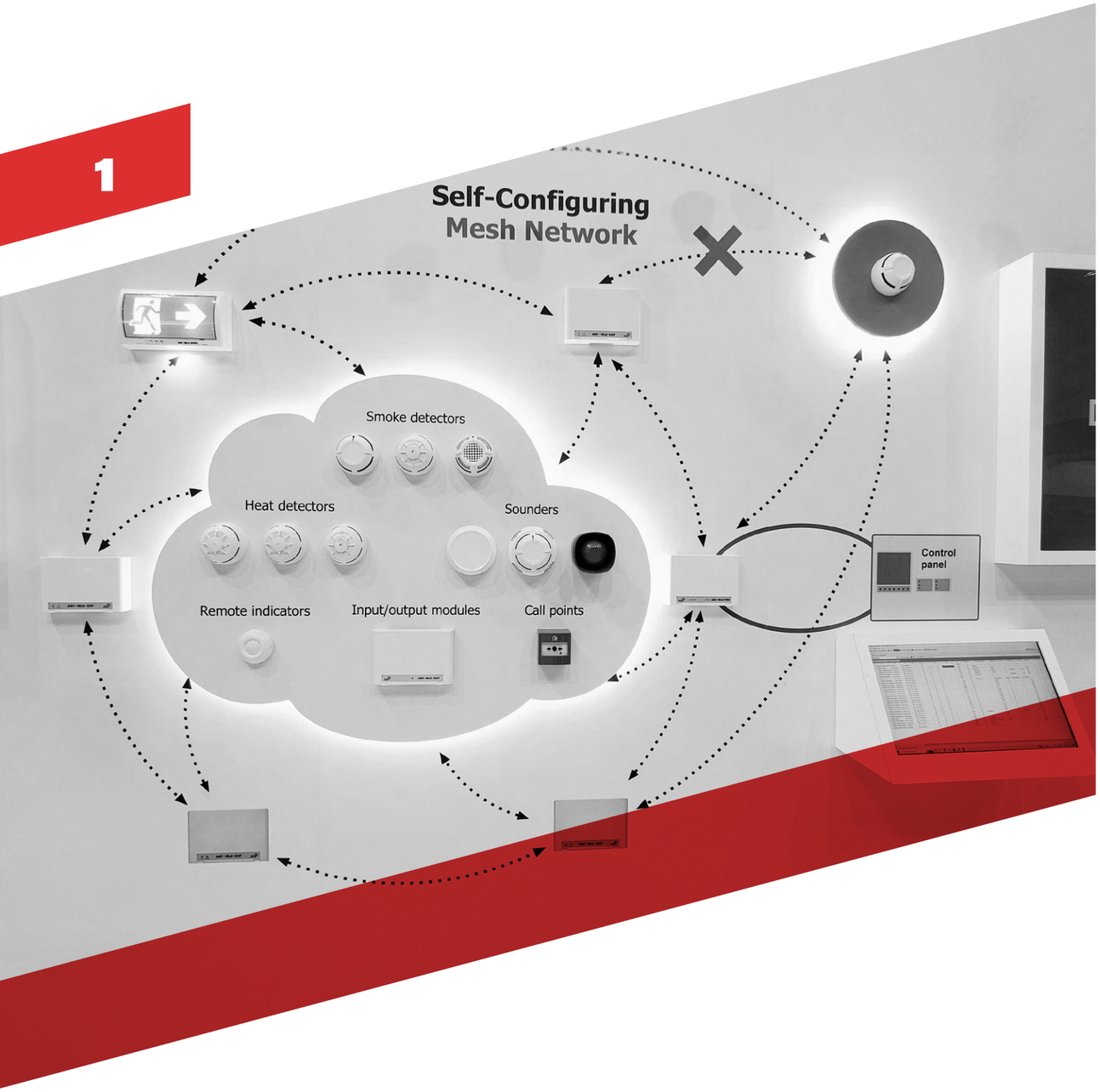
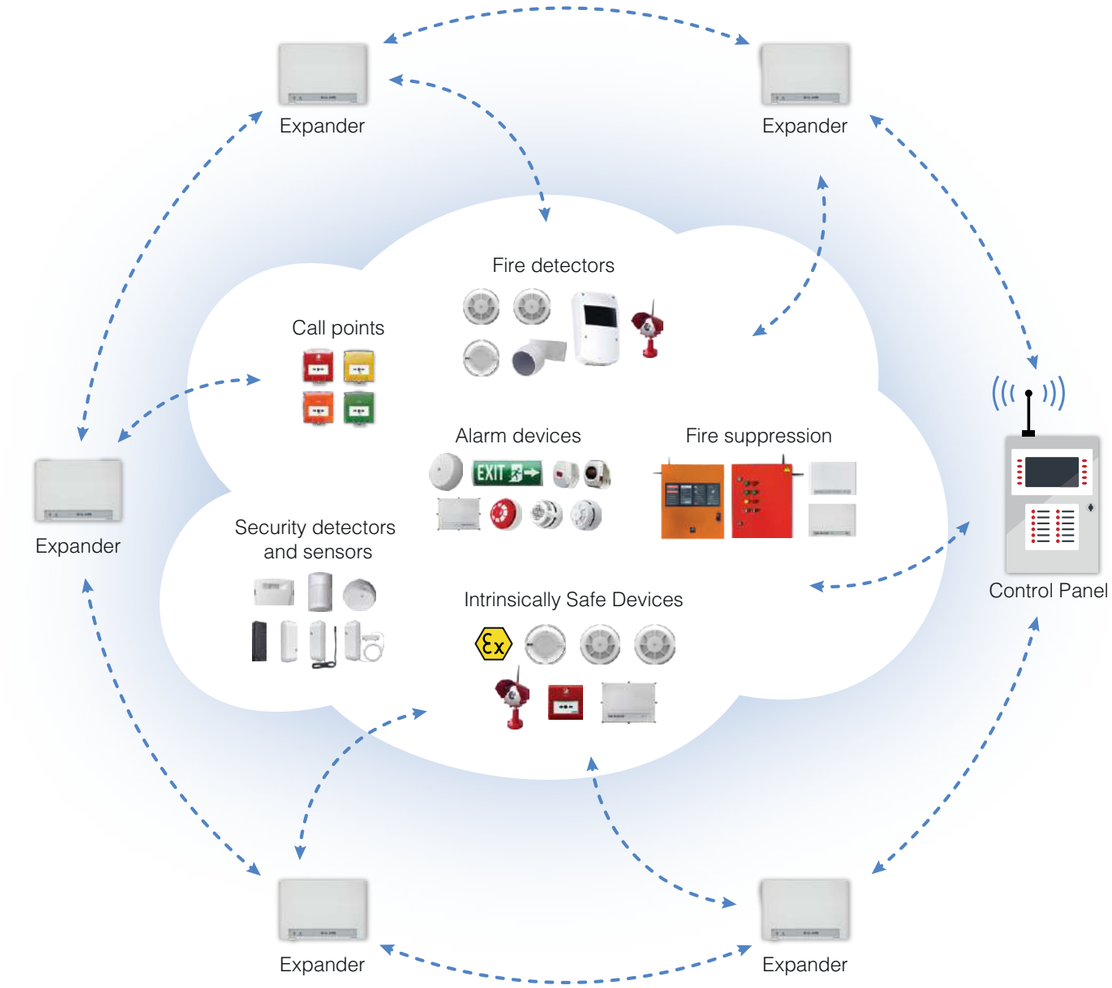



# THE SYSTEM OVERVIEW

Introduction to the products and solutions offered by Argus Spectrum, as well as diagrams showing how the system is built and the features it supports.

# Streletz-PRO Devices

Streletz-PRO is a brand of wireless fire alarm equipment. “PRO” means that this is the second generation of our wireless solution, based on the old Streletz system developed more than 10 years ago. Streletz-PRO includes all the necessary equipment for a comprehensive fire protection setup. It covers fire detection, notification, fire suppression and much more. Our wireless system has no limitations in this aspect and can match the capabilities of wired systems.



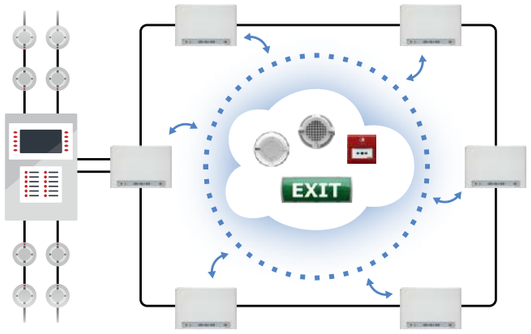

## Streletz-PRO Features

- Fire detection
- Security alarm
- Sound, voice, and visual alarm
- Temperature sensors and leak detection
- Fire suppression
- Remote access and monitoring

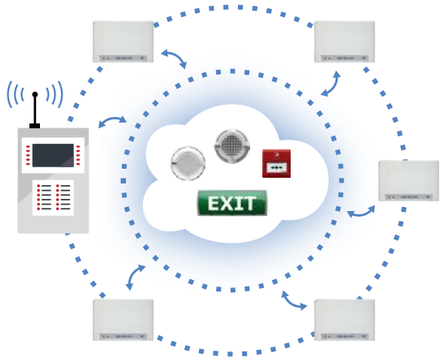
# How It Works

There are two ways of connecting a wireless network of Streletz-PRO devices to a control panel. You can connect a translator to the loop or use a special wireless card installed in the panel. Either way, the additional module will serve as bridge between the control panel and the wireless network. Signals from wireless devices are received by the translator or the wireless card and then get recognized by the panel. In order to expand the range of the network, expander modules are placed throughout the building. These expanders create a wireless network, similar to Wi-Fi. Within this network, detectors and other devices can seamlessly switch between expanders, much like a smartphone switches between Wi-Fi access points. Expanders can be powered by the loop or an external PSU.

**Translator + loop powered expanders**

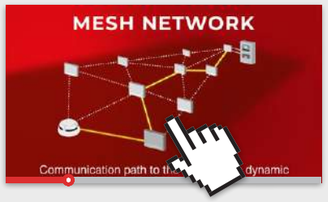



**Wireless card + PSU powered expanders**




Traditional wireless fire alarms usually have a limited range of use due to poor connection strength and small network coverage. But that's not the case with Streletz-PRO: a communication range of 1200 meters in free air ensures that even the thickest walls can be penetrated by wireless signals. The translator supports up to 126 expanders, which allows you to build a very robust and dense network. The communication protocol is designed in such a way that up to 2000 wireless devices can work in the same building. All this means that the Streletz-PRO system is suitable for almost all kinds of projects.

- Public buildings
- Medical facilities
- Appartment buildings
- Transport infrastructure
- Logistics and storage
- Industrial facilities




**Streletz-PRO Wireless fire detection**

A video about features and technical specs of Streletz-PRO

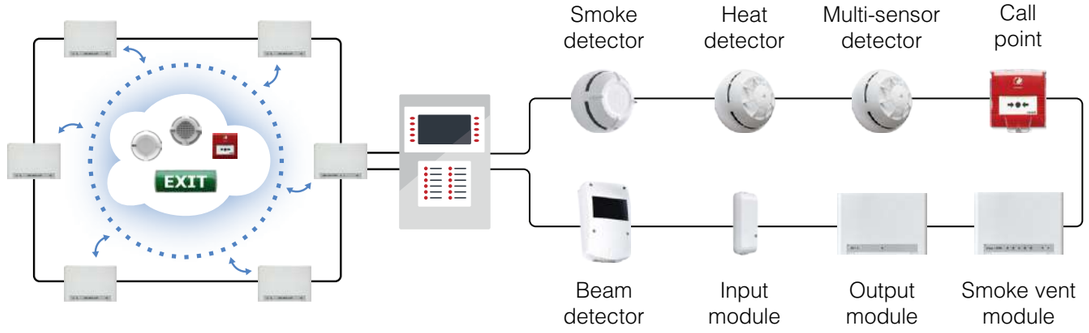
*https://catalog.argus-spectr.ru/video/en/system*



# Hybrid Solution

Argus Spectrum offers a comprehensive product range, including analogue addressable devices. The fact that our main specialty is wireless, doesn't mean that our wired solution is compromised in any way. In fact, it is just as good as other intelligent fire systems from popular manufacturers.

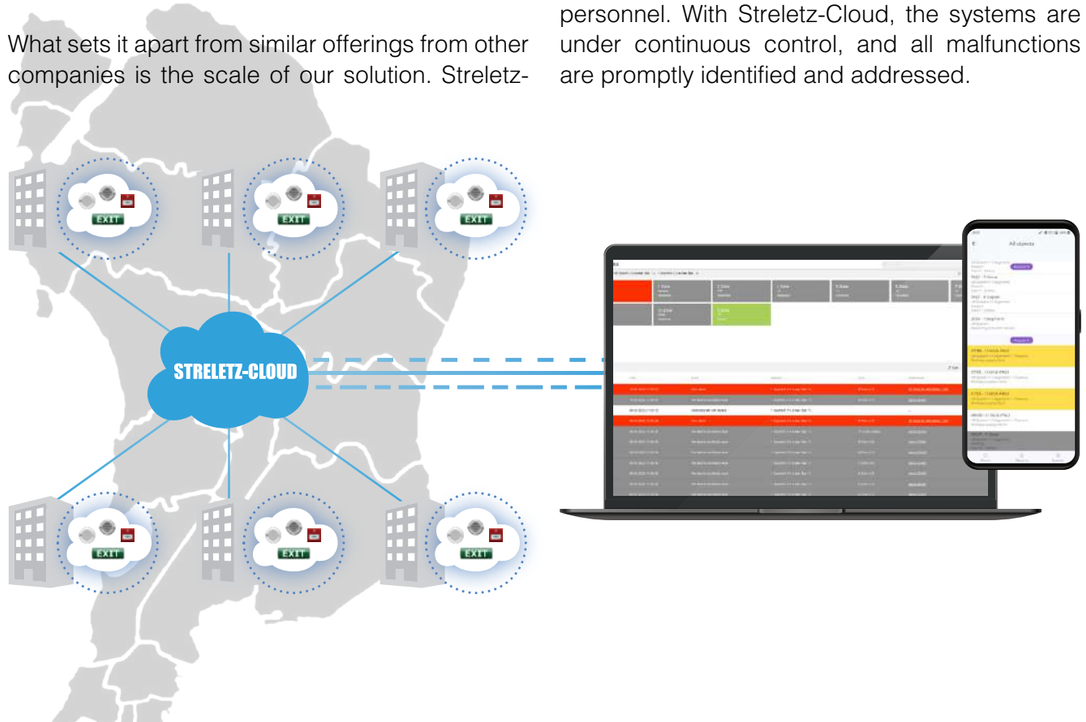
Our addressable product line includes smoke, heat, multi-criteria and beam detectors, manual call points, sounders and VAD's, output and input modules. All devices come equipped with an integrated short circuit isolator. Addressable detectors by Argus Spectrum use a modification of a popular system protocol and compatible with different types of control panels.




# Cloud Service

Argus Spectrum doesn't just make fire detectros, we also offer a unique and groundbreaking technology called Streletz-Cloud. It is a cloud service that provides remote access to the fire system for fire alarm engineers.

What sets it apart from similar offerings from other companies is the scale of our solution. Streletz-Cloud servers support practically unlimited number of fire systems connected to one account. This enables the setup of a monitoring center that provides access to installed systems for service organizations and other authorized personnel. With Streletz-Cloud, the systems are under continuous control, and all malfunctions are promptly identified and addressed.



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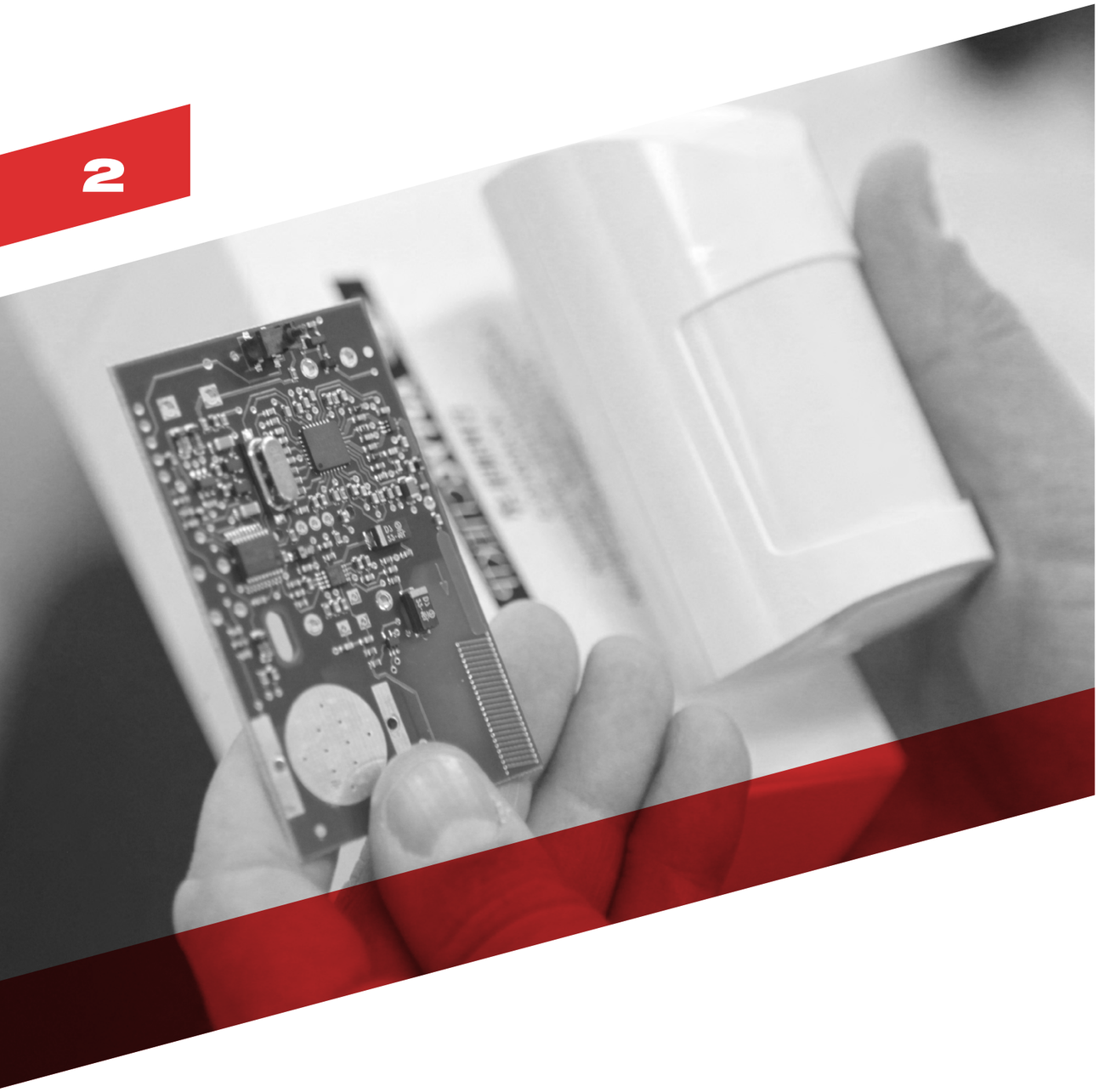


# STRELETZ-PRO FEATURES

Mesh network, 10-year battery life, 1200-meter communication range and everything else that makes Streletz-PRO one of the most advanced wireless fire alarm systems on the market.

## Mesh Network

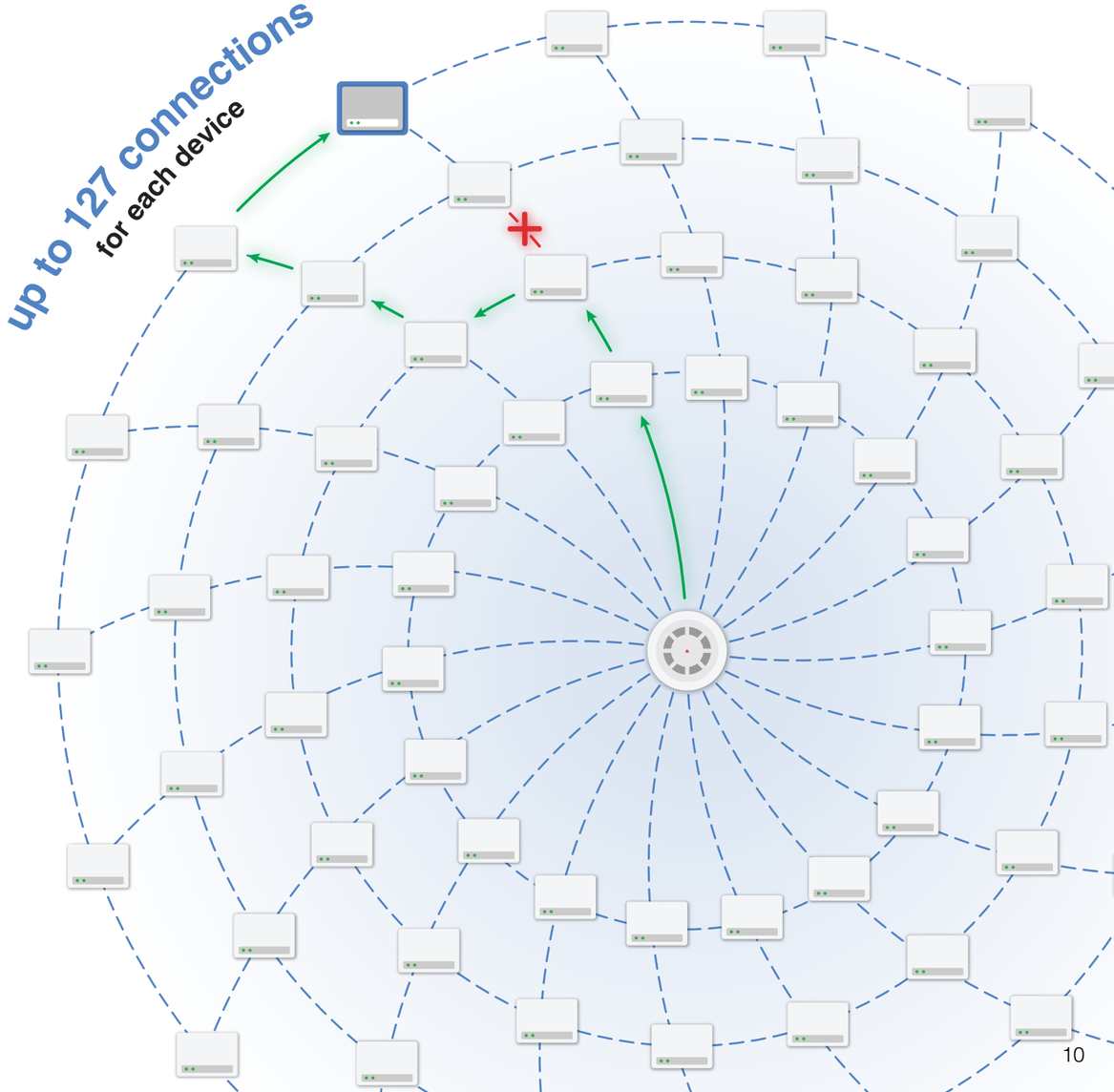
Mesh network is a clever technology that allows wireless systems to automatically create and adjust the network topology. The Streletz-PRO system uses expanders positioned at different spots in a building, overseeing subordinate devices. This mesh routing tech has two main parts:

- Each device automatically chooses its parent expander;
- Expanders automatically form a network for delivering information to the translator.

Unlike “static” wireless systems, where a detector sticks to one expander with no backup, mesh tech elevates wireless security with these benefits:

- Unmatched reliability: If an expander falters or loses communication, the detector swiftly connects to another one.
- Easy setup: The system figures out which expander a detector needs and how expanders link up in the network. This means simpler design, setup, and operation.

Wireless devices do not need to be assigned to a specific expander nor do the expanders need to be specified how to communicate with each other.



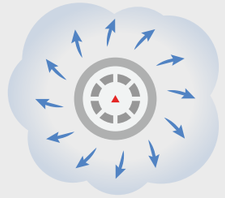
## Unprecedented reliability

In addition to multiple communication paths, a detector can also send its signals via 6 different frequency channels. And expanders have two orthogonal antennas to improve reception of signals with different polarization. This provides an extra level of communication reliability.

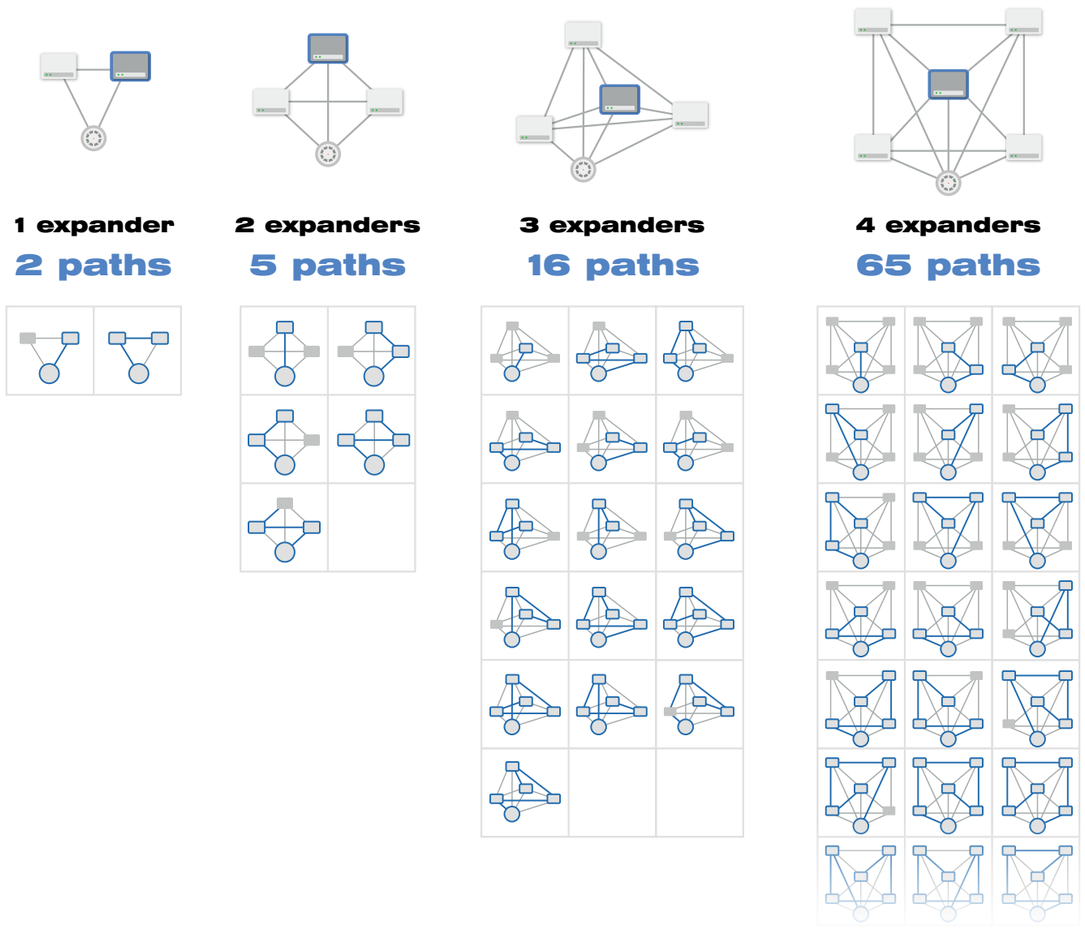
**2**
orthogonal antennas

**6**
frequency channels


**127**
communication paths



The number of communication paths in the wireless system depends on how many expanders are in the detector's range, and how the expanders are interconnected with each other. With every expander added to the network, the variability of communication routes from a detector to the translator grows exponentially. This is a part of what makes the Streletz-PRO system so robust and reliable.



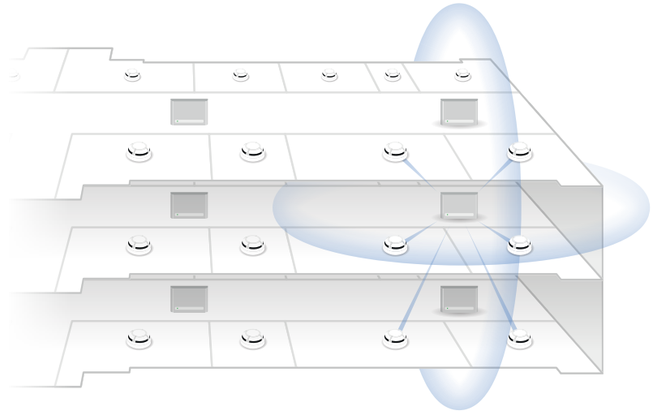



## Communication range

1200 m in open air
30-50 m in a building

The number of expanders needed depends on the communication range, and each expander carries a cost and requires a suitable location. Sometimes, installing expanders too frequently isn't practical. So, here's the simple idea: a wider range means fewer expanders, reducing costs for setting up the wireless communication system on the premises. A larger range also makes it easier to maintain solid wireless coverage across the whole facility, preventing communication problems while using the system. Of course, the range depends on the material and number of walls, but on average, you can expect a value of around 30 meters.

Remember, expanders radiate signals in a sphere. This means detectors can stay connected, even if they're on another floor, above or below. This multi-path communication brings redundancy to devices and maximizes system dependability.



## Operating frequency – 865 to 867 MHz.

The operating frequency tells us if the Streletz-PRO system can work alongside other wireless devices in the area. The system uses frequency bands specifically set for security purposes. Stuff like consumer walkie-talkies and remote controls use the 433 MHz range, while Wi-Fi uses 2.4 or 5 GHz. This cleverly avoids any clashes – the Streletz-PRO frequency bands are interference-free.

## ERP – up to 25 mW

Effective radiated power has two main aspects:

- Ensuring safety for both people and the environment.
- Guaranteeing enough power to cover the needed range.

We can ensure safety through system certifications. Take the example of a mobile phone – its maximum ERP is roughly 2 watts. This is way higher than the Streletz-PRO, which is about a hundred times lower. Also, consider how a phone is close to the head, unlike a fire alarm detector mounted on a ceiling. The system even has an automatic power control, so radiation is usually below 25 milliwatts. Earlier, we talked about the range aspect. This power suffices for the required communication range.


**Designing the Streletz-PRO network**

How to calculate the right number of expanders in and find the proper places in the building to install them.

*https://catalog.argus-spectr.ru/video/en/expanders*

## System capacity – 1920 devices

A wireless system's stability depends on its capacity. If several low-capacity wireless systems are set up on the same floor, more devices mean disruptions in network operation. Streletz-PRO is a solution – it accommodates up to 1920 devices in one network without interference. This capacity lets you tackle intricate tasks and equip different facilities. The system can also handle up to 127 expanders for a robust network.

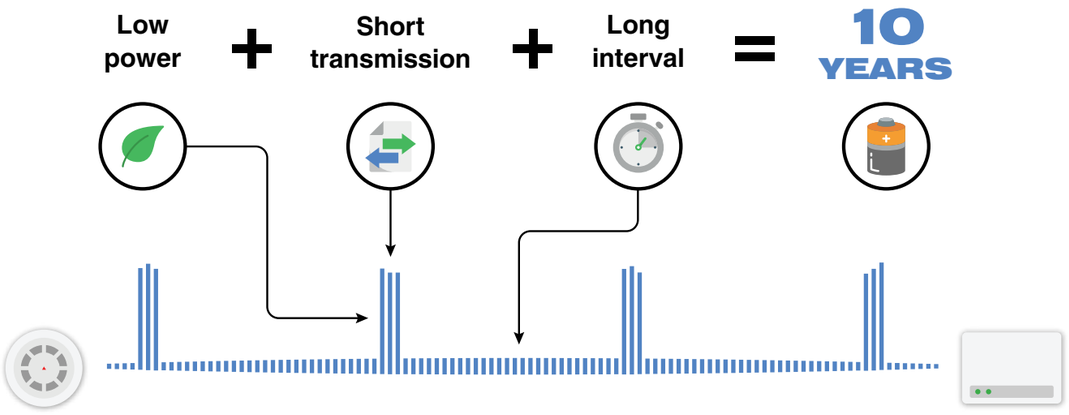
## Activation time – 3 seconds

While this detail may not seem crucial at first glance, its importance shines through during real-world operation. In a mere 3 seconds, VAD's, sounders, EVAC, and bracelets all spring into action – a rapid reaction unmatched by other wireless systems. It's also worth noting that this factor holds significant weight under fire alarm standards.

## 10-year battery life

Significant increase in battery life has become possible due to the optimization of the data exchange protocol in the Streletz-PRO: mesh network technology allows each device to automatically select the shortest and most energy efficient communication route. Plus, electronic components have also become more energy-efficient and the advancements in the electric vehicle industry led to a new perfomance level of batteries. This means wireless Streletz-PRO devices now boast a 10-year battery service life. This extended lifespan of the batteries lowers the overall ownership cost of the system, as the batteries will last throughout the devices' entire usage span.

Every device connected to Streletz-PRO keeps both the main and backup batteries under control. If either battery runs low, the LED on the device will start blinking, and this data gets sent to the control panel. Thanks to the software-driven current state monitoring service, you can plan ahead and replace batteries before they become a problem.





**Batteries in Streletz-PRO: all you need to know**

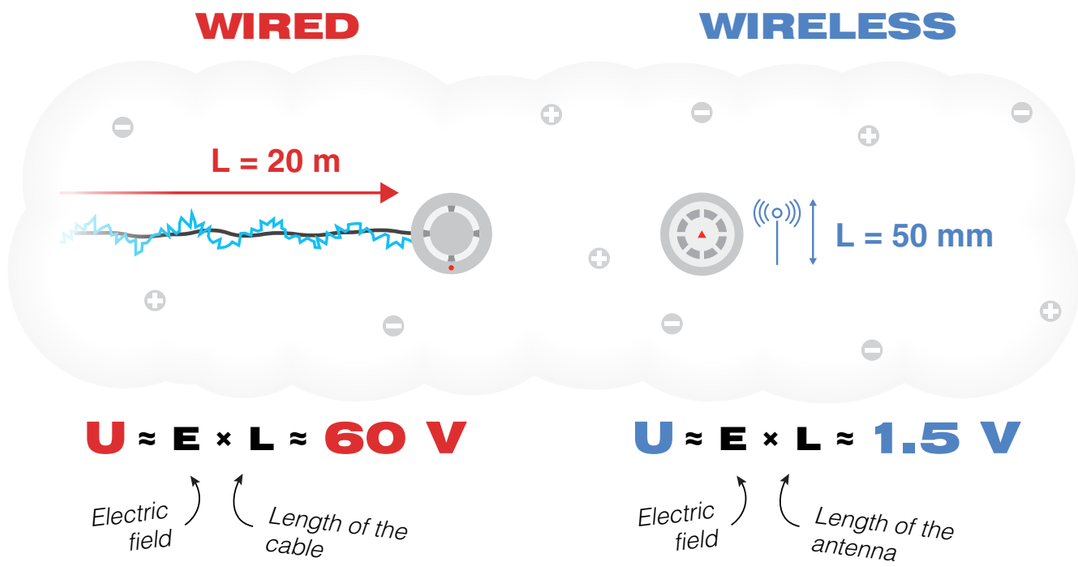
The video breaks down all the factors that contribute to the 10-year battery life in Streletz-PRO

*https://catalog.argus-spectr.ru/video/en/batteries*

## Resistance to interference

Wireless systems are protected from electromagnetic interference even better than wired counterparts. The voltage that occurs due to EMI is directly proportional to the length of the conductor. Therefore, long cables essentially act as antennas for interference. In wireless systems, you don't have long electrical currents that capture electromagnetic interference, making them much less troublesome to maintain.

Streletz-PRO has been installed at a number of industrial facilities, so high-voltage power lines and equipment don't usually affect wireless communication in the system.




Our engineers took all the measures to protect the system from radio noise and bad signals:

**Smart Timing:** Devices communicate less frequently in standby mode to save energy. But when the connection is weak, they swiftly intensify communication to the expander for a rapid response.

**Signal Strength:** The transmission signal is usually dialed down for battery conservation, but when interference strikes, the signal strength amps up to ensure a dependable connection.

**Frequency Flexibility:** Operating across 6 frequency channels within the 865-867 MHz range, the Streletz–PRO system automatically switches to backup channels when interference shows up. This secures consistent signal delivery.

These strategies combined bolster the system's resilience against a variety of interference types.

**Interference in Streletz-PRO: all you need to know**

The video breaks down the myths and facts about the reliablility of wireless communication in Streletz-PRO

*https://catalog.argus-spectr.ru/video/en/interference*

## Secure connection

Streletz-PRO goes the extra mile for security. It uses dynamic information encoding and a two-way authentication mechanism. This technology suppresses unauthorized tampering with the wireless system and device swapping. Such measures guarantee top-notch security and integrity throughout the wireless network.

## Temperature range – -30 to +55 °C

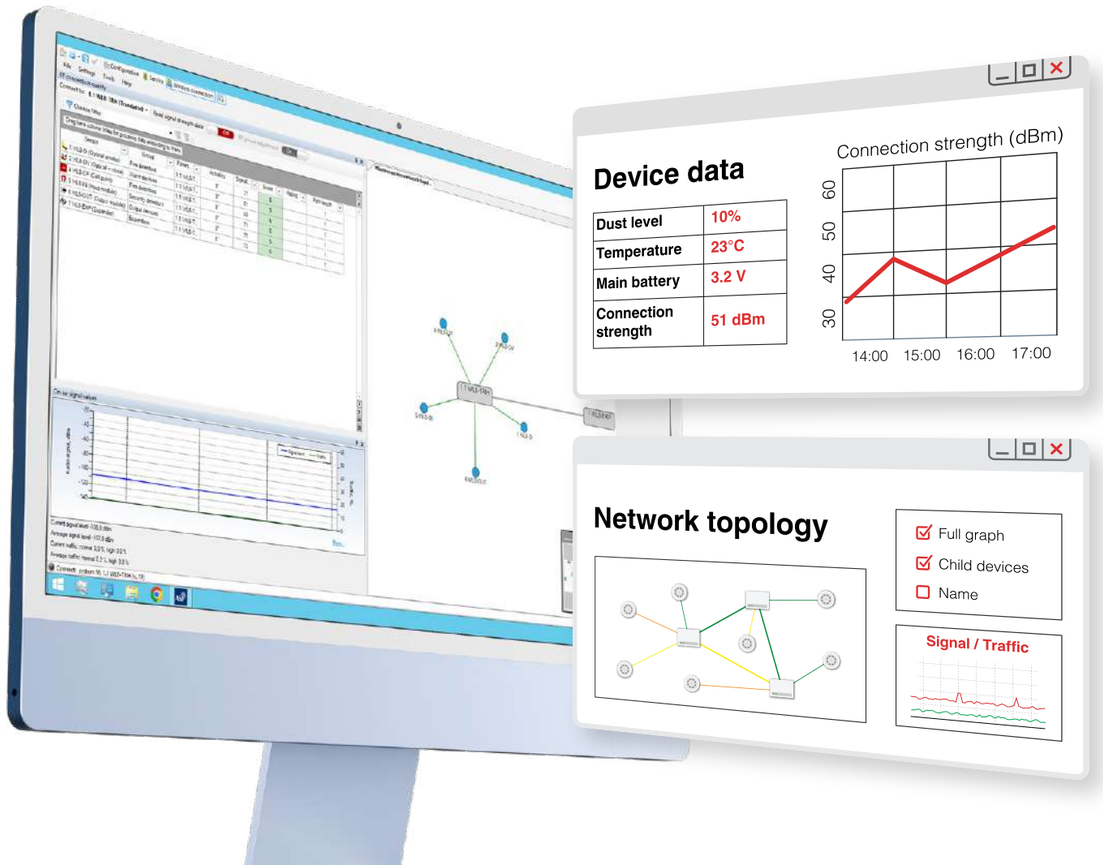
Streletz-PRO operates within a temperature range of -30 to +55 degrees Celsius. Additionally, the system incorporates an automatic frequency adjustment principle to account for devices operating in varying temperature conditions. This feature ensures optimal performance and communication stability across different temperature environments.

## Programming and software

Linking wireless devices to the network is incredibly easy in Streletz-PRO. All you need to do is press one button on the device so that the translator will recognize it and establish the connection. Mesh network technology takes care of the rest: the device will connect to the expander with the strongest signal and find the communication path to the translator.

After the initial programming, all the settings you change can be applied “over the air”. This makes it a lot easier to configure the system and make adjustments during setup.

The software provides full control over the wireless system. You can see the various measurements that the wireless devices make, such as battery voltage, the dust amount in the smoke chamber or the air temperature in the room. Plus, the software allows you to analyze the network topology and connection strength with wireless devices in real-time.








# PRODUCT CATALOGUE

A list of all equipment developed and manufactured by Argus Spectrum, with a few highlights of the main features for each device.

# Translator


## ARG-WL8-TRV

Translator module. Serves as a bridge between the wireless network and a control panel from a different manufacturer.

- Up to 126 linked devices/expanders
- Up to 10 translators connected to the loop
- Loop powered
- Screen and buttons for setup and maintenance
- MicroUSB port for firmware update

# Expanders


## ARG-WL8-EXP

Expander module

- 2 low current outputs and one switch rated for 30V, 1A
- =12/24V power version
- ~220V power version


## Devices with Built-in Expanders

- Fire exit sign ARG-WL8-EXPN
- Voice alarm module ARG-WL8-EXPV
- Fire suppression panels: Panel-FS, ARG-WL8-FPP, ARG-WL8-SVP, ARG-WL8-FCP



# Fire Detectors


## ARG-WL8-O

Smoke detector

- Patented smoke chamber: protection from dust, insects, and light
- Supports drift compensation


## ARG-WL8-H

Heat detector

- 3 different modes of analysing the temperature


## ARG-WL8-OH

Combined sensor detector

- Patented smoke chamber
- Supports drift compensation
- 3 different modes of analysing the temperature


## ARG-WL8-OV

Smoke detector with speaker

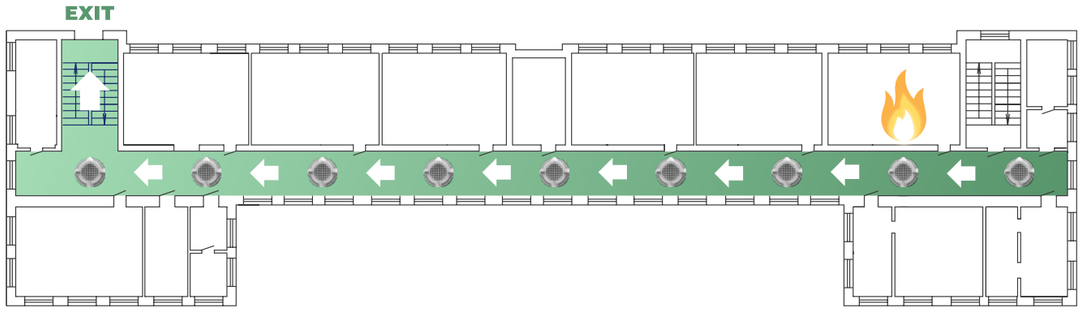
- Several detectors can be programmed as a dynamic evacuation system
- Memory storage for 3 voice messages
- Supports custom audio files
- Sound pressure level at 1 m – 86 dB


## ARG-WL8-OS/HS

Smoke or heat detector with sounder

- Sound pressure level at 1 m – 98 dB
- Selection of 3 tones

## Ariadne's thread




**1** Fire is detected in the building, alarm devices are triggered


**2** The detectors with built-in speakers initiate evacuation with a warning message

**3** The devices one-by-one generate a short multi-frequency sound signal along with a light flash, showing the way to a safe evacuation exit

**4** The system can reverse direction and activate independently on different floors, allowing for a adaptive evacuation strategy

## ARG-WL8-B/B1

Beam detector

- Two versions with 80 or 100 meters max distance
- Laser pointer for easier adjustment
- Automatically adjusts to accumulating dust

## ARG-WL8-FL

Flame detector

- Max range – 25 m
- Dual sensor
- Detection angle 90°
- Adjustable bracket

# Alarm Devices


## ARG-WL8-IN

Input module

- One programmable input for conventional detectors and other equipment

## ARG-WL8-V

Voice alarm speaker

- Sound pressure level at 1 m – 87 dB
- Memory storage for 3 voice messages
- Supports custom audio files

# Call Points


## ARG-WL8-CP

Manual call point

- Reliable mechanism
- Water-proof version available


## ARG-WL8-SND

Sounder

- Two versions: standard and compact
- Sound pressure level at 1 m – 92 dB
- Selection of multiple tones
- Works in sync with other sounders

## Colored Call Points

- Green – emergency door release
- Orange – smoke & vent control
- Yellow – suppression system activation


## ARG-WL8-N

Fire exit sign

- Powered by a PSU or batteries
- Additional insert signs included: fire, alarm, go left/righ
- 4 brightness levels
- 4 modes of operation


## ARG-WL8-EXPV

Voice alarm module

- Supports 4Ω and 8Ω speakers
- 2 outputs, 10W on a 4Ω load
- Built-in battery
- Memory storage for 3 voice messages
- Supports custom audio files
- Built-in expander


## ARG-WL8-SVD

Output module for smoke vent dampers

- Two versions rated for ~220V or =24V
- Max current – 3A
- Monitors the actuator and power circuits
- 4 inputs for monitoring the state of the damper

## ARG-WL8-PNBD

Electronic bracelets

- Personal emergency notification
- Man down alert
- Location control
- Text message alerts
- Panic button
- Two versions: with and without a screen

## Panel-FS

Fire suppression panel

- 5 discharge circuits
- 4 alarm device outputs
- 6 relay switches
- 3 zone inputs
- Door control, agent discharge control, AFP equipment fault control
- 5 programmable inputs
- Built-in power supply and battery

# Fire Suppression


## ARG-WL8-OUT

Output module

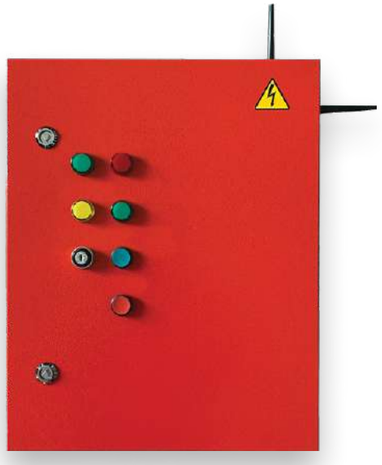
- One output ~250V / =30V, 8A
- External fault input


## Start-8

Expansion module for Panel-FS

- 8 discharge circuits
- 4 relay switches
- Agent discharge control, AFP equipment fault control
- 2 manual launch inputs

# Intrinsically Safe Devices



## ARG-WL8-FCP

Fan Control Panel

- Manual and automatic mode
- Can be equipped with a frequency converter
- Modifications for controlling a fan or an electric heater
- Built-in expander

## ARG-WL8Ex-O

Smoke detector

- Patented smoke chamber: protection from dust, insects, and light
- Supports drift compensation
- IEC classification:
  0Ex ia op is IIC T6 Ga X

## ARG-WL8-SVP

Standpipe Valve Panel

- Automatic, manual, and fault mode
- Two modifications for single-phase or dual-phase motors
- Built-in expander

## ARG-WL8Ex-H

Heat detector

- 3 different modes of analysing the temperature
- IEC classification:
  0Ex ia op is IIC T6 Ga X

## ARG-WL8-FPP

Fire Pump Panel

- Automatic and manual mode
- Modifications for low-power and high-power electric motors
- Built-in expander

## ARG-WL8Ex-OH

Combined sensor detector

- Patented smoke chamber
- Supports drift compensation
- 3 different modes of analysing the temperature
- IEC classification:
  0Ex ia op is IIC T6 Ga X

# Security Detectors

## ARG-WL8Ex-CP

Manual call point

- Reliable mechanism
- Water-proof version available
- IEC classification:
  0Ex ia IIC T6 Ga X / Ex ta ia IIIC $T_{200}$50°C Da X

## ARG-WL8Ex-FL

Flame detector

- Max range – 25 m
- Dual sensor
- Detection angle 90°
- Adjustable bracket
- IEC classification:
  0Ex ia IIC T6 Ga X / Ex ta ia IIIC $T_{200}$80°C Da X


## ARG-WL8Ex-EXP

Expander module

- Ingress protection rating – IP65
- IEC classification:
  0 Ex ia IIC T6 Ga X / Ex ta ia IIIC $T_{200}$80°C Da X

## RIG-PRO

Door sensor

- Two versions: standard and compact
- Programmable input

## Ikar-PRO

Passive infrared detector

- Adjustable bracket
- Does not respond to animals under 20 kg
- Max range – 12 m

## Arfa-PRO

Glass break detector

- Works with 6 types of glass
- Max range – 12 m
- Input for a conventional window sensor

## Metka-PRO

Inertial sensor

- For detecting movement of objects
- Compact size – 78×26×11 mm
- Built-in reed switch
- Can be used as a panic button

## Special Detectors

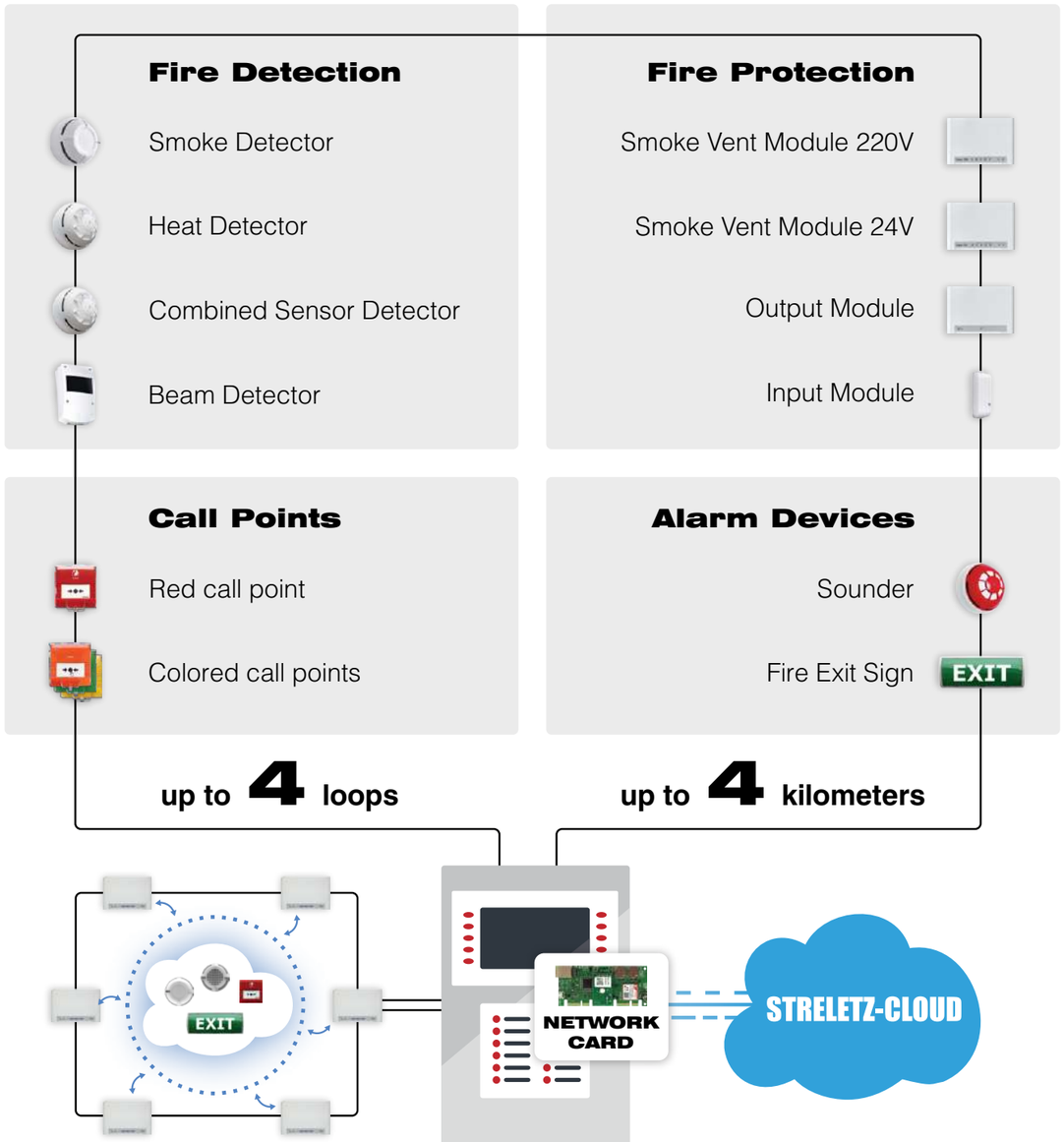
- Water leak detector Voda-PRO
- Temperature sensor Gradus-PRO

## Brelok-PRO

Wireless Key Fob

- 4 buttons, 12 combinations
- 15 programmable actions

# Product Range




## INTELLIGENT FIRE DETECTION

Addressable fire equipment by Argus Spectrum – the features, the advantages, and the product range.

Argus Spectrum offers a comprehensive product range, including analogue addressable devices. The fact that our main specialty is wireless, doesn't mean that our wired solution is compromised in any way. In fact, it is just as good as other intelligent fire systems from popular manufacturers. Our addressable product line includes smoke, heat, multi-criteria and beam detectors, manual call points, sounders and VAD's, output and input modules. All devices come equipped with an integrated short circuit isolator. Addressable detectors by Argus Spectrum use a modification of a popular system protocol and compatible with different types of control panels.

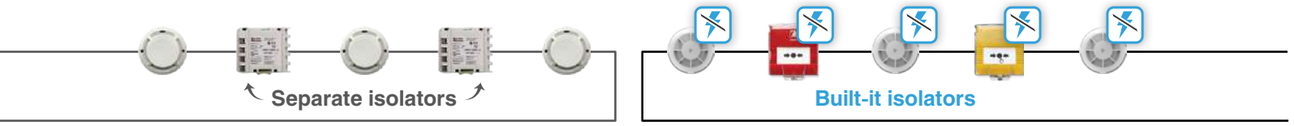
# Built-in Isolator

Short Circuit isolator is a device that stops an entire control panel loop from going down when a short-circuit happens. It does this by isolating the part of the loop where the short occurred, keeping it separate from the rest of the circuit. Once the short-circuit issue is fixed, the isolator automatically reconnects the loop, ensuring smooth operation. Fire detectors, alarm devices, and I/O modules by Argus Spectum all come with an integrated short circuit isolator. This solution has several important advantages:

**No separate devices are required.** This means reduced equipment costs, and installation becomes slightly more convenient and faster.

**No wasted addresses.** The built-in isolators do not occupy valuable address pool in the control panel.

**Easier design.** System designers don't have to strategically put isolators in the loop to ensure reliability.




# Technical features

### Up to 240 devices in the loop

There are no standalone short-circuit isolators or communication modules that would occupy the address space.

### Detection of duplicate addresses

If devices with the same addresses are connected to the loop, the panel will issue a warning, and the built-in LEDs on the devices will turn on.

### Maximum current in the loop – 300 mA

The greater the maximum current, the more alarm devices can be connected to the loop.

### Interference resistance

This is achieved through high voltage in the signal line (36 V) and pulse width modulation.

### Reliable data exchange

Control panel repeatedly pings the devices ensuring delivery of fire signals without any delays. Connection integrity is constantly monitored and communication parameters are adjusted if needed.

### Comprehensive product range

The range covers all needs of fire protection: smoke, heat, and beam detectors, sounders, MCP's, VAD's, I/O modules and equipment for smoke vent system control.



# Fire Detectors

## Aurora-DI v.2

Smoke detector

- Patented smoke chamber: protection from dust, insects, and light
- Supports drift compensation

## Aurora-TI v.2

Heat detector

- 3 different modes of analysing the temperature

## Aurora-DTI v.2

Combined sensor detector

- Patented smoke chamber
- Supports drift compensation
- 3 different modes of analysing the temperature

## Amur-I

Beam detector

- 100-meter max distance
- Laser pointer for easier adjustment
- Supports drift compensation

# Call points

## IPR-I

Manual call point

- Reliable mechanism
- Weather-proof

## Colored Call Points

- Green – emergency door release
- Orange – smoke & vent control
- Yellow – suppression system activation

# Input / Output Modules

## Klapan-I 220
## Klapan-I 24

Smoke Vent Damper

- Two versions for ~220V and =12/24V
- Max current – 3A
- Monitors the actuator and power circuits

## Panel-FS

Fire suppression panel

- 5 discharge circuits
- 6 relay switches
- 3 zone inputs

## IB1-I

Output module

- One output ~250V / =30V, 8A
- External fault input

## MV1-I

Input module

- One programmable input for conventional detectors and other equipment

# Alarm devices

## Sirena-I

Sounder

- Sound pressure level at 1 m – 92 dB
- Selection of multiple tones
- Works in sync with other sounders


## Tablo-I

Fire exit sign

- Additional insert signs included: fire, alarm, go left/righ
- 4 brightness levels
- 4 modes of operation



# Security detectors

## Arfa-I

Glass break detector

- Works with 6 types of glass
- Max range – 12 m
- Input for a conventional window sensor

## Ikar-I

Passive infrared detector

- Adjustable bracket
- Does not respond to animals under 20 kg
- Max range – 12 m

# Auxiliary Equipment

## Detector base

- Ballast resistor terminal
- Remote indicator terminal
- Locking mechanism for tamper protection

## Programmer

- Backlit display
- Powered by a 9-volt battery
- Can be used to change settings of the devices

5


# APPROVALS

A list of international standards, that were used as the groundwork when developing and testing Argus Spectrum products.



The Streletz-PRO wireless fire alarm system successfully passed tests and complies with the fire regulations of 83 countries including the Russian Federation, EU, the UK, India, Dubai and Australia.

- Argentina
- Armenia
- Australia
- Austria
- Azerbaijan
- Bahrain
- Belarus
- Brasil
- Bulgaria
- Cyprus
- Chech Republic
- Denmark
- Egypt
- Fiji
- Finland
- Georgia
- Gibraltar
- Greece
- Hungary
- India
- Indonesia
- Iran
- Iraq
- Ireland
- Italy
- Jordan
- Kazakhstan
- Kenya
- Kiribati
- Kuwait
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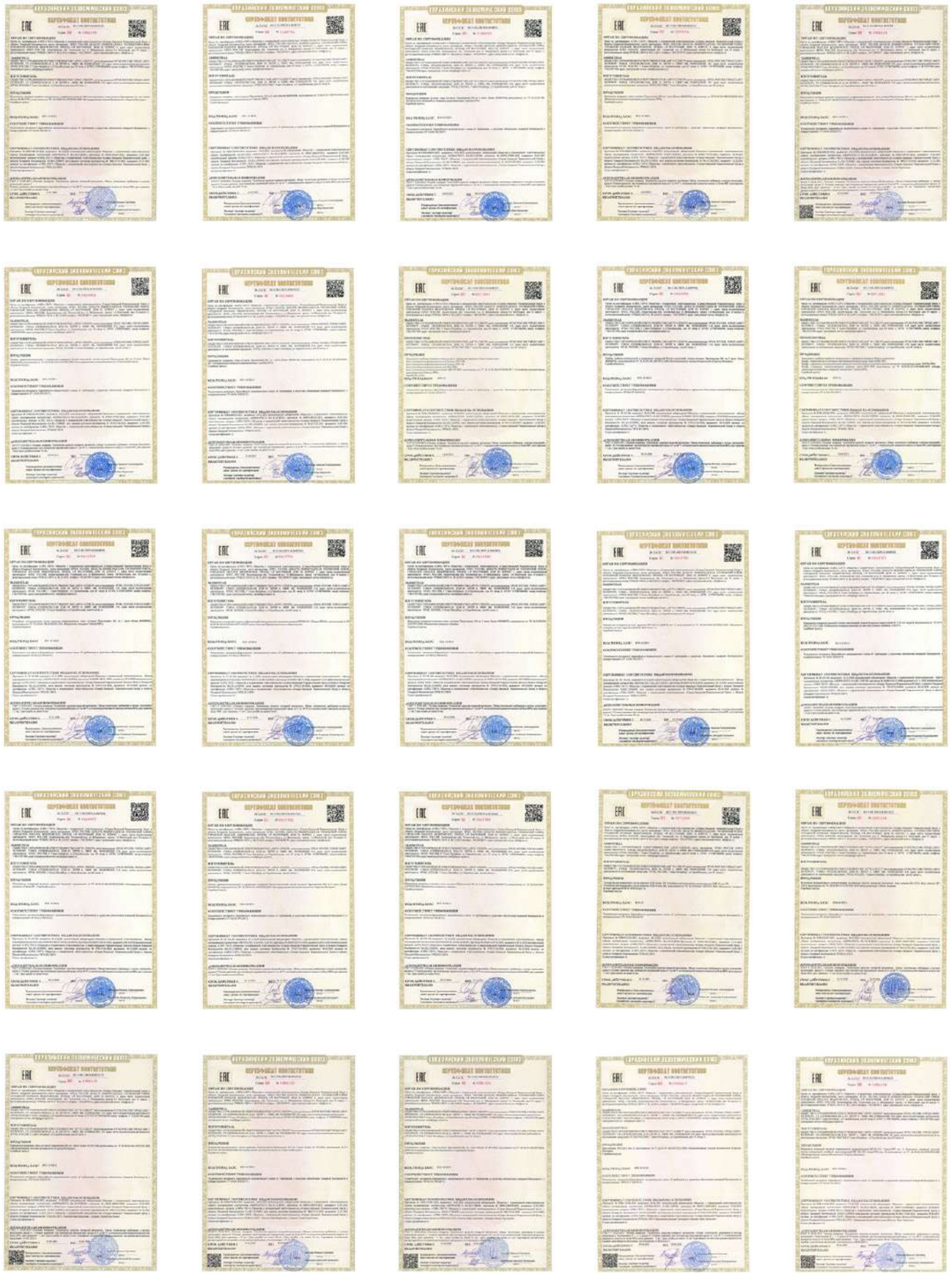
- Nauru
- Netherlands
- New Zeland
- Nigeria
- Norway
- Oman
- Palau
- Papua New Guinea
- Philippines
- Poland
- Portugal
- Qatar
- Russia
- Samoa
- Saudi Arabia
- Singapore
- Slovakia
- Slovenia
- Solomon Islands
- South Africa
- Spain
- Sri Lanka
- Sweden
- Switzerland
- Syria
- Tajikistan
- Thailand
- Tonga
- Turkey
- Turkmenistan
- Tuvalu
- UAE
- United Kingdom
- Uzbekistan
- Vanuatu
- Vietnam
- Yemen

| | |
|---|---|
| EN 54-3 | Fire alarm devices - Sounders |
| EN 54-5 | Heat detectors - Point heat detectors |
| EN 54-7 | Smoke detectors - Point smoke detectors using scattered light, transmitted light or ionization |
| EN 54-11 | Manual call point |
| EN 54-17 | Short circuit isolators |
| EN 54-18 | Input/output devices |
| EN 54-23 | Visual alarm devices |
| EN 54-25 | Components using radio links |
| EN 54-29 | Multi-sensor fire detectors - Point detectors using a combination of smoke and heat sensors |
| EN 301 489-1 | ElectroMagnetic Compatibility (EMC) standard for radio equipment and services |
| EN 50130-4 | Audio/Video, information and communication Technology Equipment - Part 1: Safety requirements |
| 2011/65/EC | RoSH directive including Directive (EU) 2015/863 |
| | Dubai Civil Defense Approval |
| AS ISO 7240.3 | Audible alarm devices |
| AS ISO 7240.5 | Point type heat detectors |
| AS ISO 7240.7 | Point type smoke detectors using scattered light, transmitted light or ionization |
| AS ISO 7240.11 | Manual Call Points |
| AS ISO 7240.15 | Point type fire detectors using scattered light, transmitted light or ionization sensors in combination with a heat sensor |
| AS ISO 7240.18 | Input/output devices |
| AS ISO 7240.23 | Visual alarm devices |
| AS ISO 7240.25 | Components using radio transmission paths |
| TR EAEU 043/2017 | Requirements for Fire safety and Fire Extinguishing Equipment |

# EAEU TR 043/2017

The Streletz-PRO product range is fully compliant to the technical regulations of the Eurasian Economic Union TR EAEU 043/2017 Requirements for Fire safety and Fire Extinguishing Equipment






## STRELETZ-CLOUD

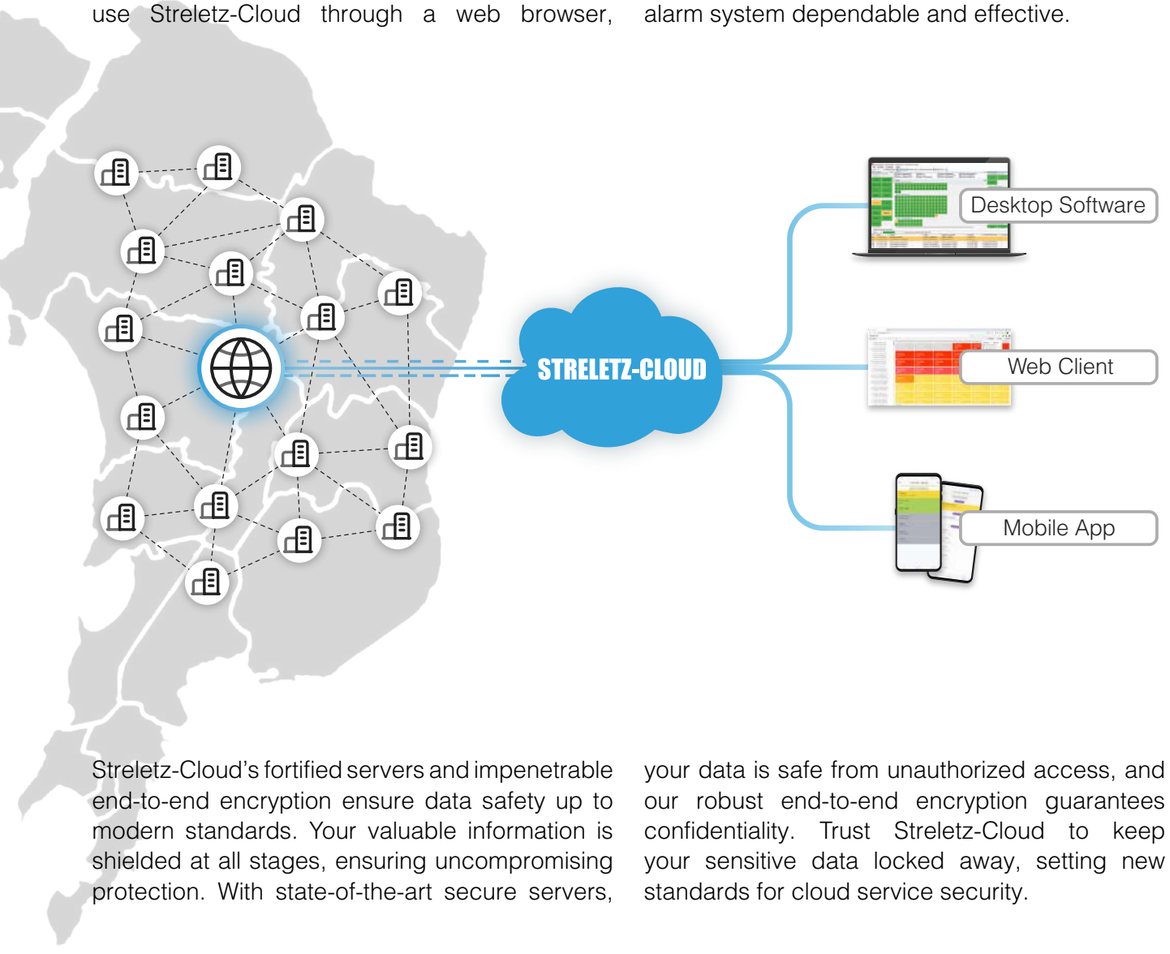
The technology that puts Argus Spectrum at the forefront of the fire alarm market: a cloud service for monitoring, controlling, and programming a fire system on-the-go.

# Cloud Service

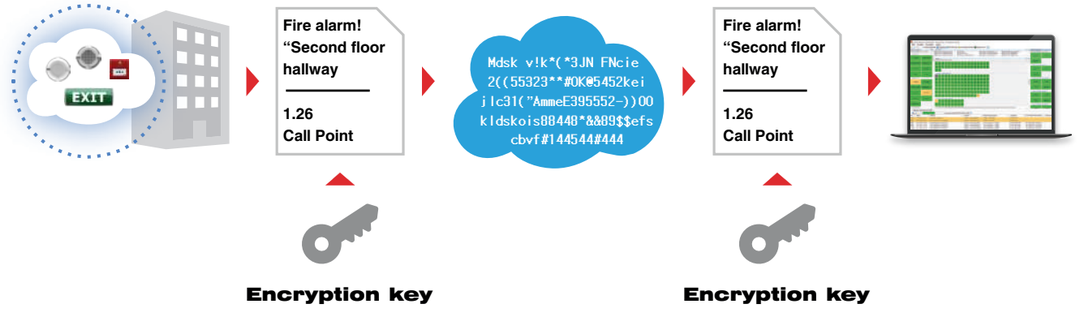
When discussing Argus Spectrum technologies, particular attention should be given to the Streletz-Cloud cloud service. This service provides access to installed systems for the servicing organization and other authorized personnel.

Through the cloud service, installed systems are continuously monitored, and any malfunctions are promptly identified and resolved. You can use Streletz-Cloud through a web browser, mobile app, or software, and your data remains encrypted and secure on servers. You can even remotely track things like smoke, temperature, dust levels, and more.

The fire alarm system's real-time status is just a smartphone away for those in charge of safety. This cloud-based approach assures steady supervision and quick action, keeping the fire alarm system dependable and effective.

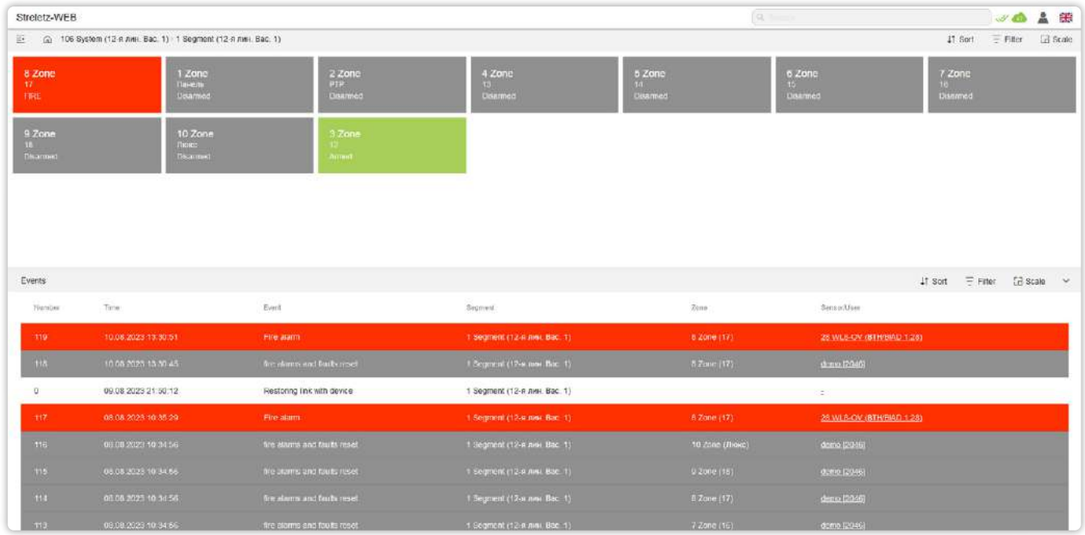



Streletz-Cloud's fortified servers and impenetrable end-to-end encryption ensure data safety up to modern standards. Your valuable information is shielded at all stages, ensuring uncompromising protection. With state-of-the-art secure servers, your data is safe from unauthorized access, and our robust end-to-end encryption guarantees confidentiality. Trust Streletz-Cloud to keep your sensitive data locked away, setting new standards for cloud service security.



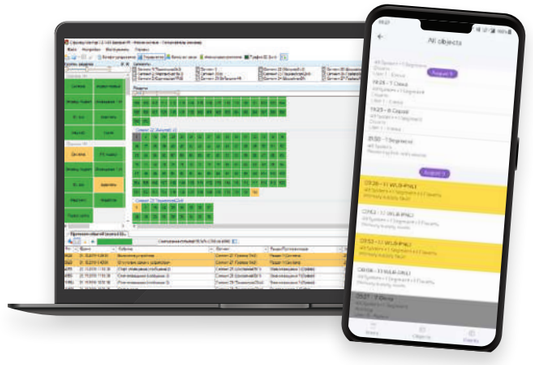



To get going with the service, simply log in to the web client from your workstation using the address cloud.streletz.ru. This becomes your control hub for systems in different buildings. As you arrive at the main page, you'll see all your connected systems. With color-coded elements, it's a breeze to see how each system is doing. This layout offers a handy way to overview all connected systems, letting you efficiently monitor and handle various premises.




Put the mobile client on your phone for on-the-go help. This app guides you and your client through any hiccups, even if you're not at the office. When there's an alarm or issue, you'll instantly know thanks to push notifications.

For a deeper look into the system's status, communication, and analog values, the software comes into play. To make this happen, save a configuration file from each installed system. This boosts your power to keep a close eye on and handle systems, making sure you swiftly tackle and solve any problems.



**The Streletz-Cloud Service**

A video about the fearures of the cloud service, where you can use it and what you need to get started

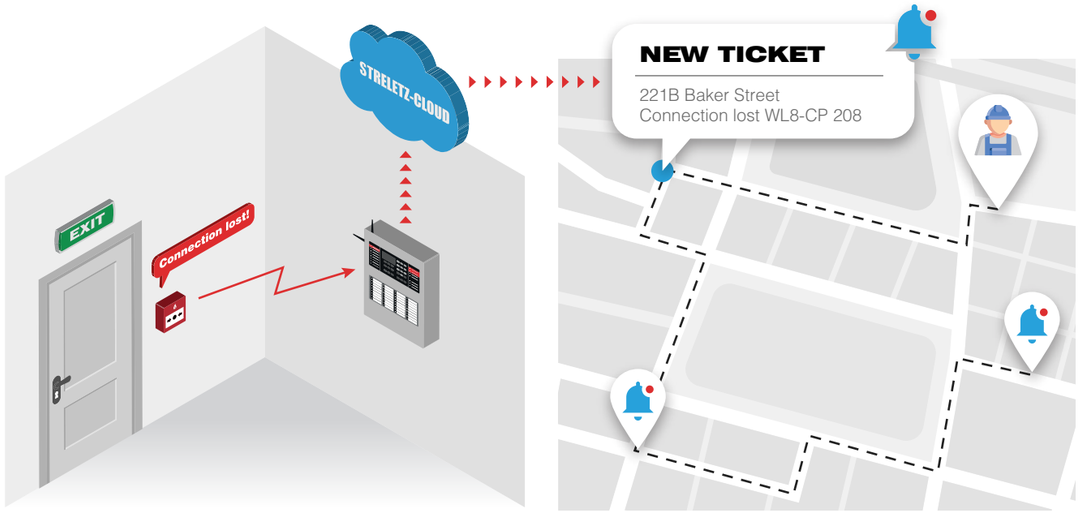
*https://catalog.argus-spectr.ru/video/en/cloud*

# Maintenance reimagined

A call is received from the building. The client complains that something in the alarm system is broken, but cannot explain exactly what. Your technicians are not answering their phones, and their whereabouts are unknown. The visit to the building has to be postponed until tomorrow.

Please come quick, a yellow LED is blinking, and I don't know what that means!

How often have you found yourself in a similar situation? If this sounds familiar, it's time to switch to digital maintenance for fire systems. Argus Spectrum offers an innovative solution in the fire safety market: an automated maintenance system. Our solution is based on the integration of Streletz-Cloud and a help desk system for tracking and managing requests. The principle is as follows: signals about malfunctions from the detectors first go to the control panel, then to the cloud service, after which the help desk platform pulls the data via API and automatically generates a service request.




Freight carriers install GPS trackers in vehicles to monitor their location and movement. The condition of cell towers is controlled using special tilt and vibration sensors. Now, digitalization has reached the fire safety market as well. Cloud technologies make maintenance simple and predictable. Take advantage of our solution today – expand your business and outpace the competition.


**Automated Technical Maintenance**

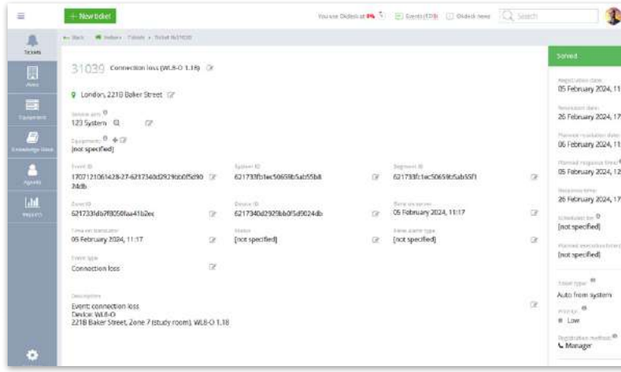
How cloud technologies transform the fire system maintenance business into a well-coordinated mechanism.

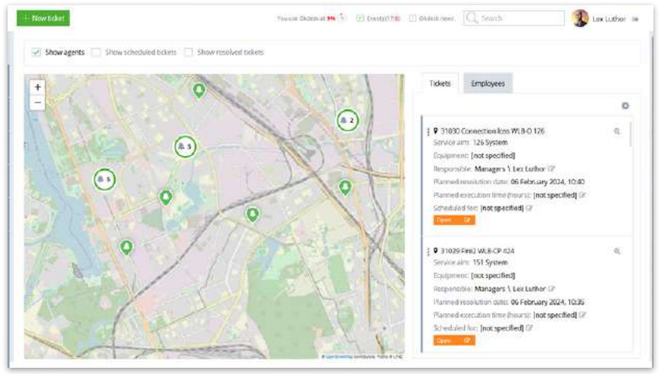
*https://catalog.argus-spectr.ru/video/en/digital_maintenance*



## From the detector to your phone

A malfunction signal from the detector reaches your phone or computer as a service ticket. In this request, you see everything: the building address, type of malfunction, detector number, and zone. The request can be automatically assigned to different employees depending on the city district or type of equipment.



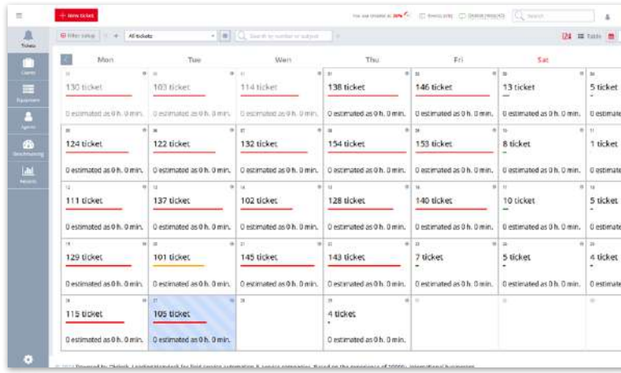


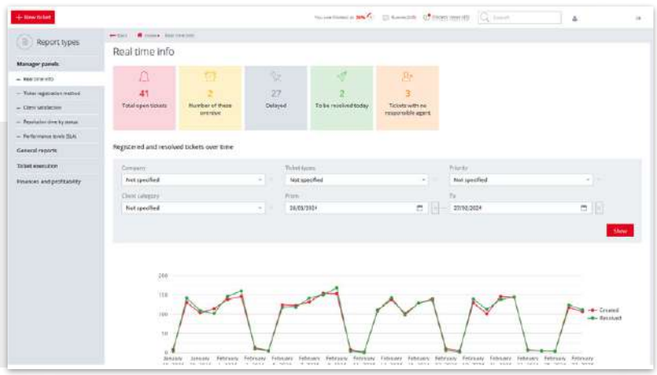
## Your projects and staff on the map

All active requests are displayed on the map. This allows you to plan the optimal route for the day and save on fuel. Moreover, you can view the location of all employees and their movement history on the map. You will always know which buildings your engineers are at and how they are spending their working time.

## Work agenda for each day

Requests are displayed in the calendar, allowing you to assess the workload for each day and redistribute it if necessary. You can also set dates and frequency for scheduled maintenance for each building. This way, you will never miss a visit and will fulfill all your commitments to the client on time.





## Work and employee reports

The system provides a wide range of analytical tools. You can view the workload schedule by day, the percentage of overdue requests, and the average time to complete tasks. Reports can also be generated for individual employees to assess how quickly and efficiently they are performing their duties.

7


# THE BUSINESS SIDE OF WIRELESS SYSTEMS

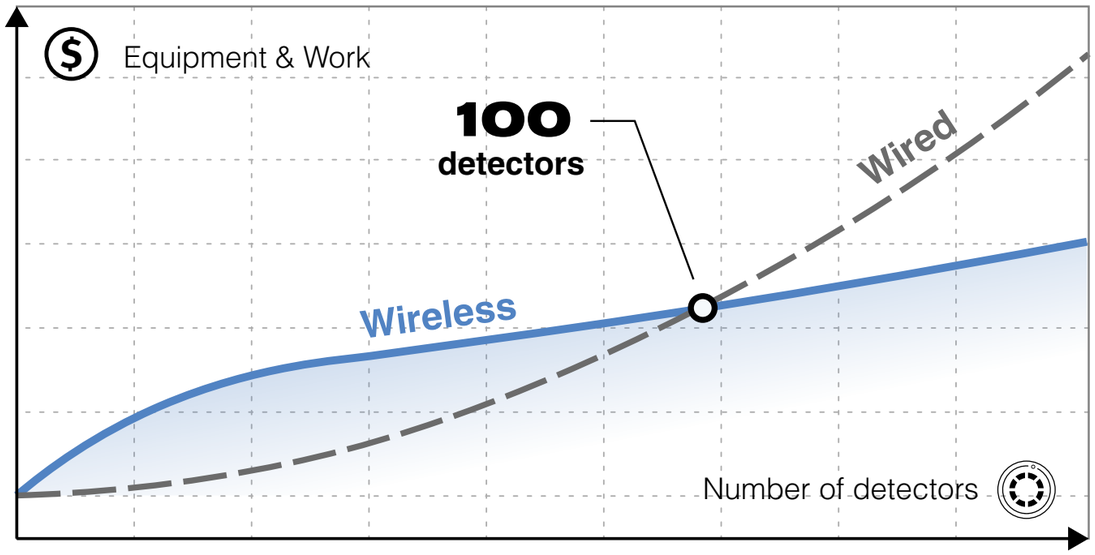
A breakdown of the common myth that wireless fire alarm is too expensive and bad for business, as well as some arguments proving that the opposite is true.

## Compare turnkey price

Comparing wired and wireless systems by looking only at equipment costs does not give a complete picture. A wireless detector is usually 1,5-2 times more expensive than a wired one. Even when we consider fire-resistant cabling, the equipment cost on paper for the same place is usually lower for wired systems. To get the real picture, we need to think “turnkey,” meaning equipment plus installation.

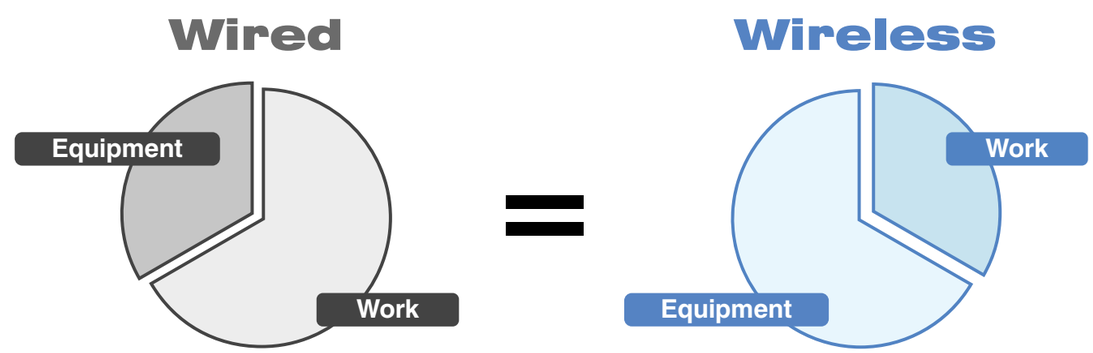
If we graph the cost per square meter, it gets interesting. On the X-axis, we have the number of sensors. For smaller spaces like apartments or homes, wired systems tend to be cheaper. There are fewer wires, fewer sensors, less labor. And the difference in price really makes a difference for projects like this. But as the number of sensors increases, the cost advantage of wireless systems becomes apparent. Beyond around 100 sensors, the cost of the Streletz-PRO wireless system ends up a great deal lower than wired.

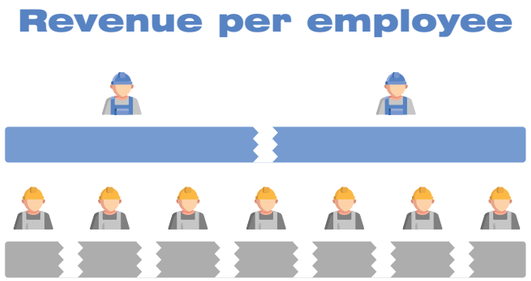
This shows how the overall cost situation changes as you add more sensors, making wireless systems like Streletz-PRO more economical in situations with a large number of sensors.



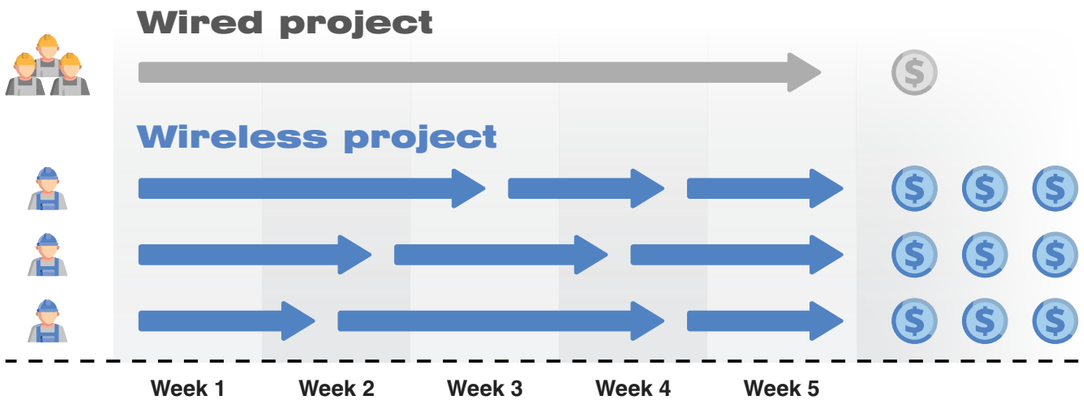

Let’s also talk about the pricing. In wired systems, labor eats up about two-thirds of the cost, while equipment takes up the rest. But in wireless systems, the situation is the opposite – equipment costs make up about two-thirds, and labor costs are a third of the total project expenses.

Now, why switch to wireless if the total cost doesn’t change? Well, the key lies in installation. Setting up a wireless system demands much less time and effort, often way less than wired systems. This installation efficiency is a strong plus for wireless.






Obviously, with wireless systems, you accomplish more with less effort, which means more revenue for each employee involved. With wireless, profits per employee can increase by around 1.5 times. Installation teams can be small, with 2-3 people. A single specialist can remotely program systems for different locations from the office. Designers can keep churning out projects without wasting time on cable details or connection plans.




### Streletz-PRO is your business tool

These claims don't mean Streletz-PRO will always be the cheaper option, nor do they suggest ditching wired solutions completely. But to have a successful project and streamlined installation, having Streletz-PRO in your toolkit is crucial. It simplifies business management, expands your capabilities, and serves as a stable source of steady income.

Wired installations demand more time and effort, using up more of your company's resources. Also, remember that payments usually come in after a project is done. So, if you're dealing with wired setups that take longer, your payment is delayed too. On the flip side, Streletz-PRO lets you set up systems quickly, leading to faster payments. The saved time can be used for more installations, and more after that. While your competitors are installing a wired system, you could potentially install 5 or 6 Streletz-PRO systems in that same time. This significantly ramps up your turnover and work efficiency.

This shows how Streletz-PRO doesn't only promise cost savings, but it also amps up resource turnover, speeds up revenue collection, and ramps up overall work effectiveness for project and installation businesses.


**Fire Alarm System in Medical Facilities. Wired System VS Wireless System**

Video summurizes all of the advantages of wireless fire systems for projects in the medical sphere

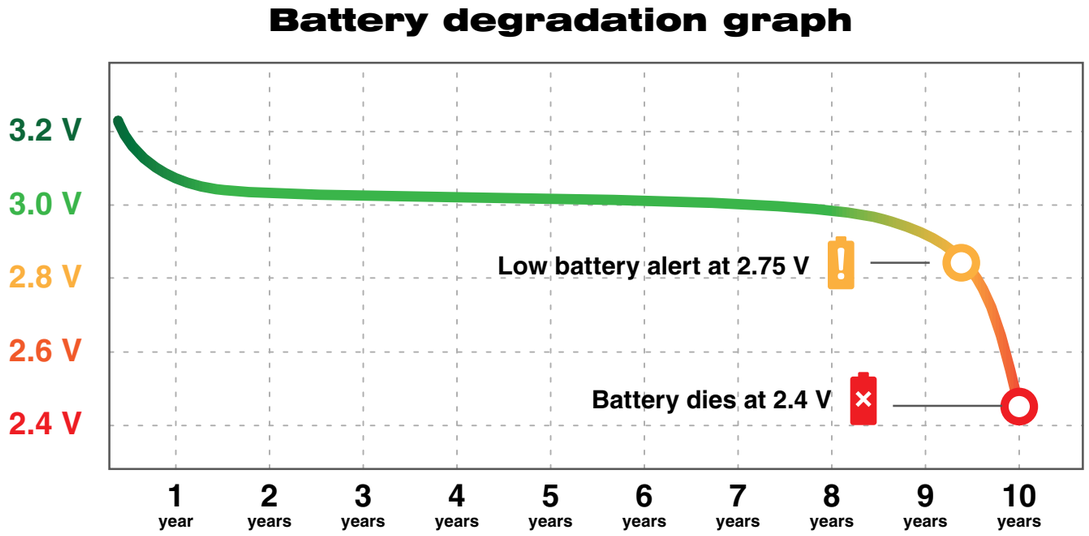
*https://catalog.argus-spectr.ru/video/en/hospitals*



### Maintenance – your revenue source

Installation is your bread & butter as it brings in a good chunk of money, but it's not an ongoing thing. Company costs, though, keep rolling – rent, salaries, even the water in the cooler. To keep these going, a steady stream of income is crucial. And that's where maintenance comes into play! In tough times, maintenance is what keeps a company afloat. That's why everyone wants as many maintenance contracts as possible and looks to cut down operational expenses tied to it.

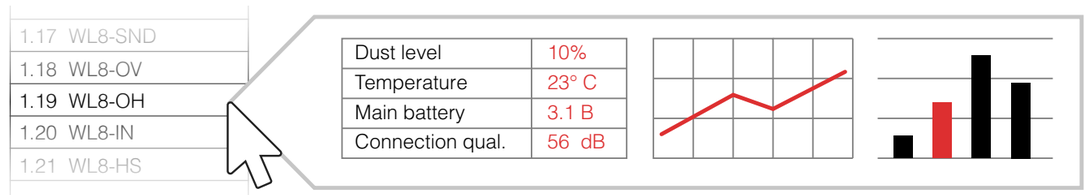
Now, here's the usual concern about wireless systems: how often do you need to swap out device batteries? People worry it might become a frequent and costly task. Well, Streletz-PRO devices keep chugging along for a full 10 years on one battery set. In other systems, you have to replace batteries every 2-4 years. That, of course, piles up costs for both the owner and the servicing crew. Streletz-PRO kicks these costs to the curb. Even if for some reason the battery runs out earlier than expected, the device will not shut down or lose connection. It will switch to the backup battery, which will last for another year. This long battery life doesn't just cut maintenance expenses, it also boosts the appeal of Streletz-PRO in terms of cost-effectiveness and reliability for clients.




### Cost of ownership

Total cost of ownership is a parameter that customers are paying more and more attention to. The availability of remote monitoring and batteries lasting the entire operational lifespan effectively addresses a significant concern, such as "I'll be spending a fortune on batteries."

Moreover, a system should work without needing constant technician attention. This becomes clear when dealing with "nuisance events" like cable breaks or false alarms. These pop up often in wired systems. Cables corrode, low-quality sensors create false alerts. With Streletz-PRO, nothing breaks because there are no cables, no false alarms. Plus, we can service a sensor when needed, not on a schedule, thanks to being able to see dust levels on devices. This means operational costs drop while keeping security high!



## Delivery and storage

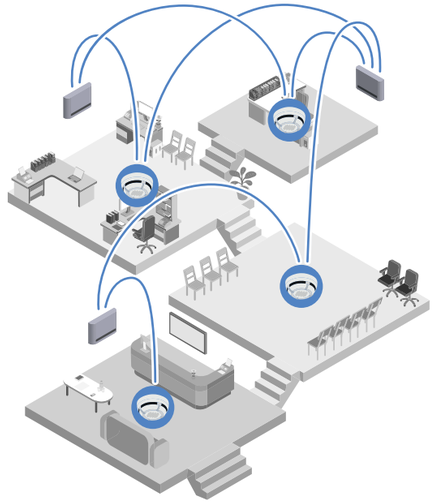
It's not just about buying the equipment; there's more to it. The equipment needs to be transported, unloaded, and stored on-site until it's time for installation. For a project of average size the wired system's equipment and materials take up 35 cubic meters and weigh 6 tons. That's like a big truck or 2 Sprinter vans. Now, for the wireless system, you only need half of that - 18 cubic meters and 3 tons. It's clear that having less equipment to handle and install makes managing the building work easier. This, in turn, lowers the costs and boosts the project's profit for the installation team.

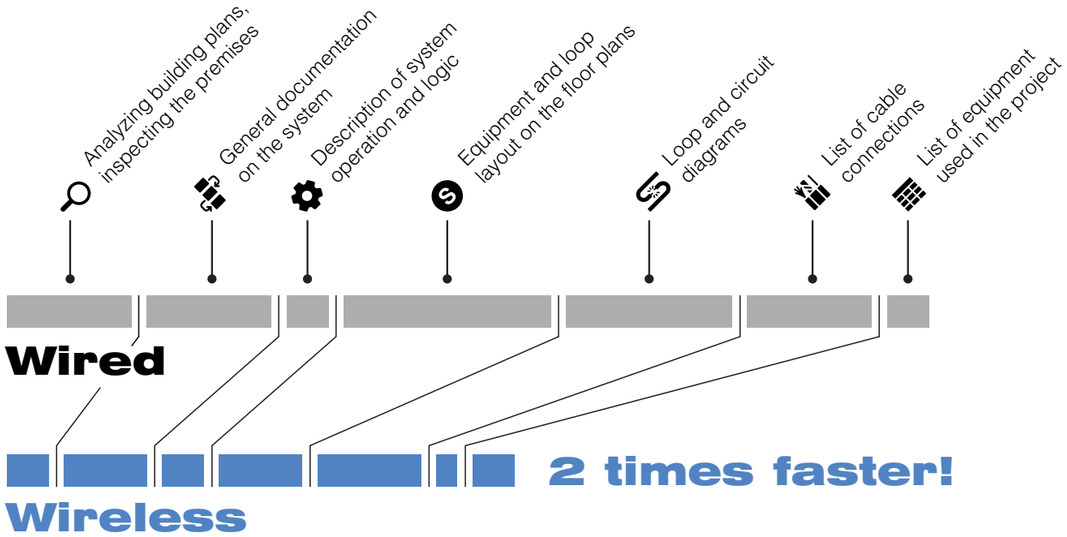
**Wired** **Wireless**

## Designing is simple

The Streletz-PRO wireless system streamlines the design process, taking half the time compared to wired systems. With a wireless system, you don't have to deal with wires, saving time on tasks like finding places for trunking, creating electrical diagrams, and managing cable logs. Fire alarm engineers can confirm that going wire-free is a true relief.

Although there are subtleties in the Streletz-PRO design, it's much simpler than other systems that don't support mesh network. You don't have to manually specify the network topology while making project documention, the system will organize itself once it's been installed.



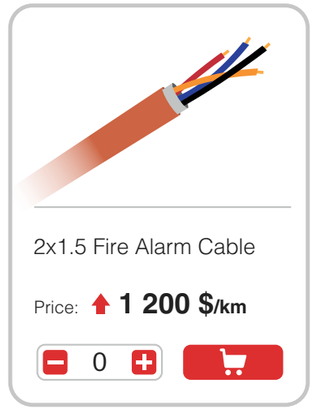





## Global economic trends

When deciding between wired and wireless solutions, don't forget about the global trends in cable prices. Copper prices have consistently climbed in recent years, even surpassing historical highs. Cable factories, like other businesses, are adjusting to operate amidst economic instability. This could lead to price hikes as they cope with higher production costs. These rising cable costs impact various industries, including fire alarm systems.

To navigate this challenge, turning to wireless technologies is a smart move. They offer a way to ensure successful future projects and maintain the company's profitability, all while sidestepping the fluctuations in cable expenses.


## Σ The business side – summary

Using wireless equipment speeds up installation, leading to quicker revenue generation. This boosts turnover, ensuring a steady cash flow to cover regular payroll. If funds are tied up in projects for too long, managing becomes tricky.

Wireless also trims operational expenses for technical upkeep. All system parameters can be monitored remotely from the office using just a special communicator and internet. Setting it up is a breeze. With batteries lasting 10 years, maintenance costs are minimal.

For large projects, we offer pre-programmed equipment at a steady price. No extra costs for commissioning, plus you get a triple-tested system. This saves you money and ensures a reliable setup.

| | Wired | Wireless |
|---|---|---|
| **Reliability** | Loop connection | Mesh network |
| **Project timeframe** | Several weeks | Several days |
| **Worker qualification** | Requires experience | Easy to install |
| **Project cost** | Costly | Cost effective |

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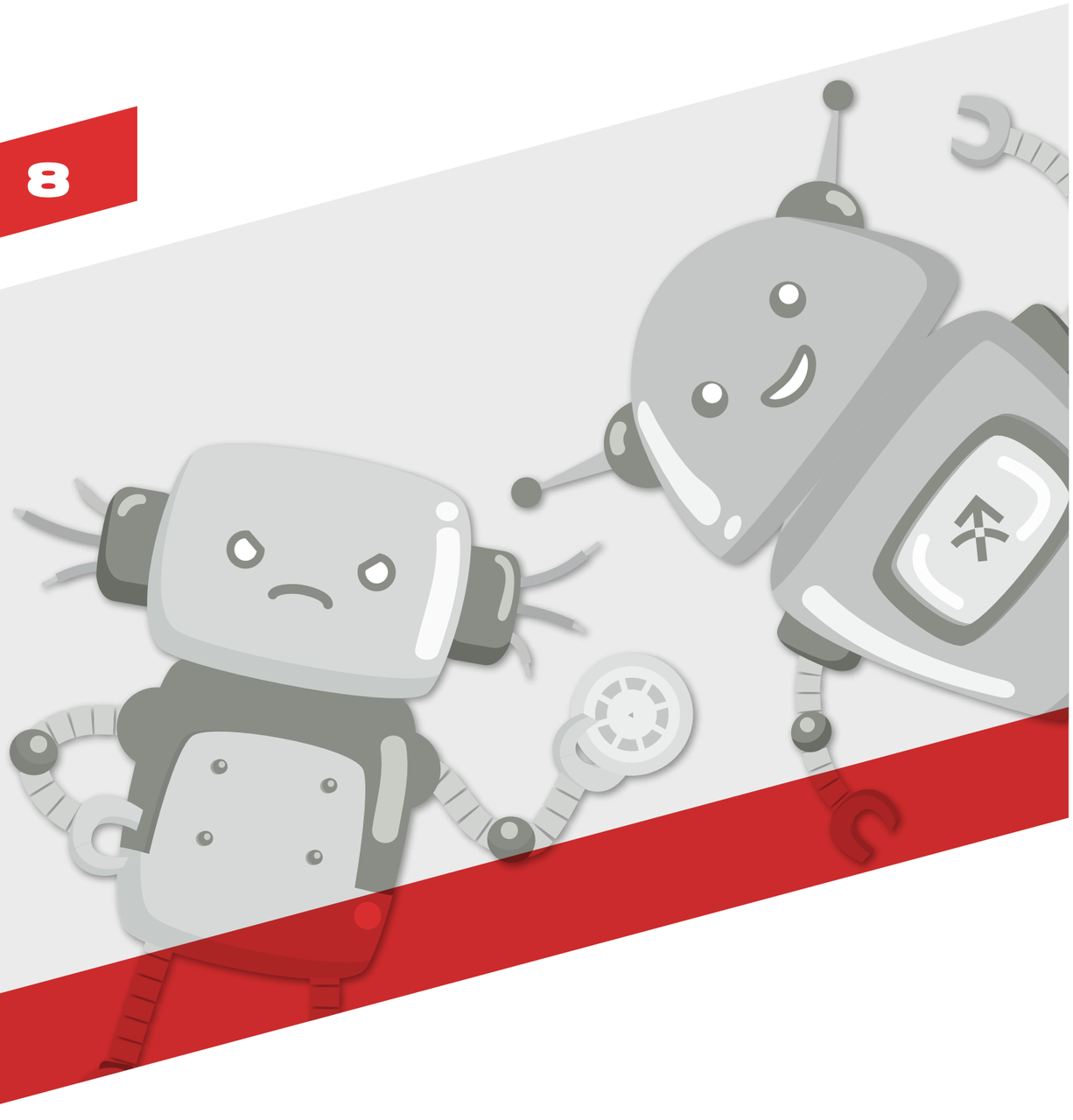


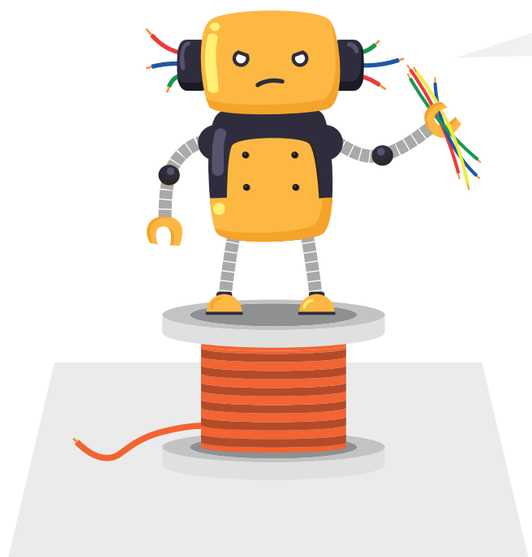
# FAQ

Popular questions and misconceptions we hear from our customers concerning the functionality, reliability, and the economics of wireless fire alarm systems.

We are paid for time we spend on a project, so doing work as quickly as possible is not in our business interests. I fail to see how wireless can provide any benefit to me money wise.

Here are the advantages that Streletz brings, benefits that other companies have already harnessed:

- Pre-Programmed Ease: Get a ready-to-install equipment kit at no extra cost. Rest assured that the system will function seamlessly, saving you time and unexpected troubleshooting.
- Minimal On-Site Time: Access markets that were previously out of reach for wired systems due to the reduced need for on-site intervention.
- Do more projects: In the same amount of time it would take you to install one wired system you can do several wireless projects. Profit margins from each project add up to a greater revenue over time
- Retrofit an old alarm: The installation process is very quick and not disruptive, so there is no need to close the building. Plus, no electrical wiring means that the interior stays untouched. And you can even leave the old equipment, and install new detectors next to old ones.



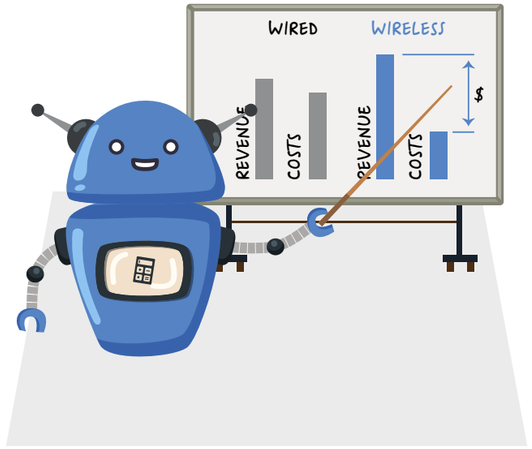
Selling and installing cables is a big part of our work and revenue. Wireless takes that away from us!

Equipping a security system for a building involves two key parts: selling the equipment and handling its installation.

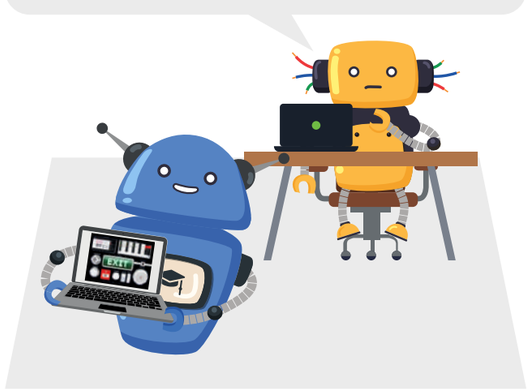
Indeed, selling cables can be profitable. But the same holds true for selling Streletz equipment. Moreover, the higher the equipment's price, the greater the potential profit. Consider this: A detector is priced at $40. If you buy it with a 10% discount and sell it to the end customer at the retail price, your profit per sensor amounts to $4. This profit per sensor adds up as you multiply it by the total number of sensors needed.

Let's recall the core principle of any business: profit equals revenue minus costs. Essentially, to boost profit, we have two paths — increase revenue or cut costs.

In Streletz, the advantage is clear: there's significantly less effort in installing wires, resulting in reduced time spent on the project. This means fewer hands are needed to achieve the same workload in the same timeframe. Consequently, labor costs, the expenses, are lower. Additionally, for projects involving travel, expenses related to trips, lodging, and transportation are minimized. It's a simple principle: to gain more, spend less.



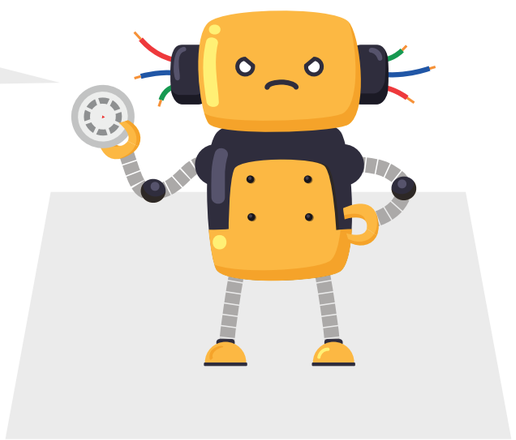

We already know how to work with wired systems and don't have any time to learn wireless.



The structure of our wireless system follows a similar pattern across leading fire safety system products. There are fire detectors, input and output modules, software for setup and maintenance. The difference is that the wireless equipment is supervised by the control panel via a translator, and instead of a loop, our devices connect wirelessly to expanders. Switching to our equipment is just as straightforward as with any other fire system.

And if you do need some help, don't worry. We offer remote training through our website, where you can participate in online classes, practice with a virtual equipment kit and get your own personalized certificate.

I've had some negative experiences with other wireless solutions. Why should I expect Streletz-PRO to be any different?

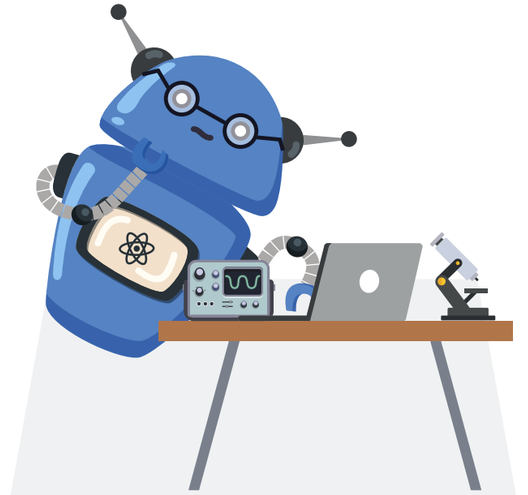


The Streletz-PRO product line has been substantially re-developed and enhanced from a previous wireless solution that was first introduced to the market more than 10 years ago. The developers of the system have extensive experience in wireless technology, and are highly alert to the type of problems fire alarm engineers are faced with.

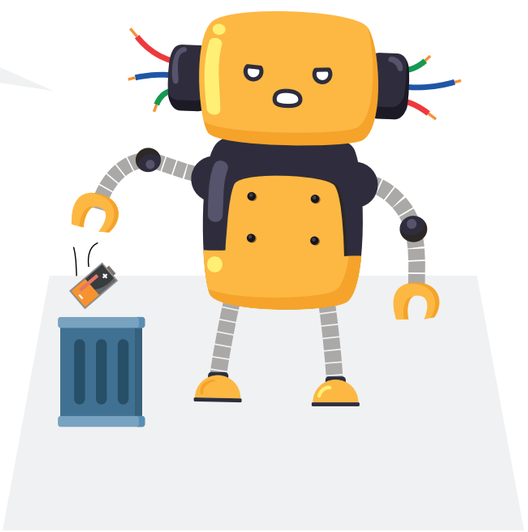


All systems evolve over time. Right now, wireless systems have made remarkable progress. Just think of the speed and reliability in cellular networks. Our equipment embraces these advancements, unlocking new features and possibilities. It's like comparing your phone from 15 years ago to today's model. The original Streletz was designed nearly 20 years ago, and it's still good today. However, the new Streletz-PRO goes beyond, offering mesh network, wider coverage, faster speeds, and more devices.

While many new wireless system makers are entering the market, they lack the extensive development experience of Argus Spectrum. Any challenges we faced have already been tackled, forming the bedrock for the Streletz-PRO system. Other manufacturers are still following this path.



Batteries will die sooner or later, and replacing them is very expensive.



The Streletz-PRO system has already proven to be a reliable solution for fire safety, but no conversation about it ends without mentioning batteries.

Some fire alarm professionals and engineers are convinced that 10-year battery life for wireless detectors is an unrealistic marketing claim. Their opinions might be rooted in a personal experience with wireless from 15 years ago that didn't work for them, leading them to assume it's all bad now.

Can batteries drain sooner than expected? Yes, but there's always a cause. Often, it's linked to using the system in cold spaces or repeatedly triggering alarm devices during setup. If they stay activated frequently, batteries will deplete.

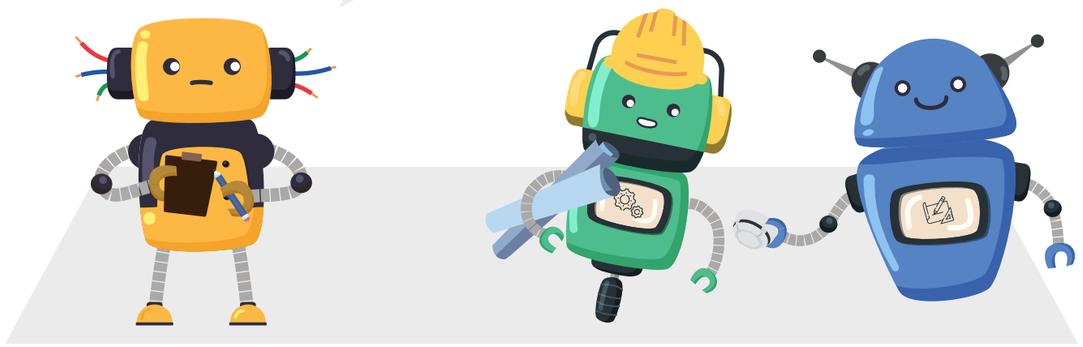
In Streletz-PRO, detectors and devices run the entire 10-year service life on a single battery set. Here's how it works.

Communication in Streletz-PRO operates like this: detectors send messages to expanders at set intervals and get an confirmation. The device then enters standby mode, repeating the process later. The standby mode consumes barely any power. So this communication technology saves a lot of energy. But if a fire or fault is detected, it is sent to the control panel immediately with top priority.

The rise of electric vehicles has brought two notable changes. Firstly, we've seen the emergence of new battery technologies, and secondly, new electronic components have been developed that boost energy efficiency. By integrating these components into Streletz-PRO, power consumption has been impressively cut by about five times compared to the old Streletz system. Our analysis of installations done over the last two years shows that the batteries are still fresh and only starting to lose power.

A significant advantage of Streletz-PRO is the real-time monitoring of both main and backup battery charge levels. And the best part is that this can be managed remotely without any need to visit the building. All it takes is an internet connection through a dedicated device. This feature aids in maintenance planning, helping lower operational expenses. Moreover, the battery lifespan is sufficient to periodically activate devices for testing as required by regulatory standards.

Wireless alarms are a good solution for simple projects like hospitals, schools, or museums. But they are not viable large buildings, like industrial facilities or apartment buildings.



There is no doubt that Streletz-PRO is gaining tremendous popularity, especially in places like hospitals, schools, and daycare centers. Professionals love our system for its quick installation and the fact that it doesn't disrupt daily operations.

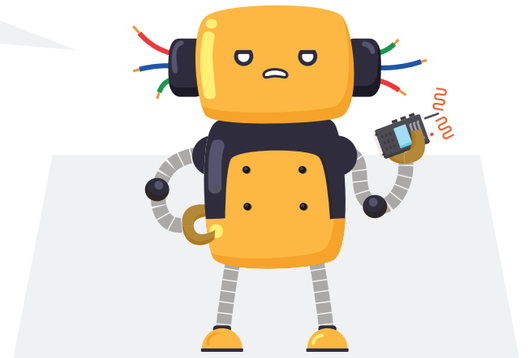
However, the potential of wireless systems stretches even further, especially in residential buildings. In the next section, we will look at how wireless technology is used in this particular area and share our experience of installing Streletz-PRO in residential properties.



As for appartment buildings, one standout aspect of the Streletz-PRO system is its impressive communication range. Expanders can be installed on every other floor, rather than on each floor. Installing them on each floor improves reliability and doesn't come at a steep cost.

Testing revealed that the Streletz-PRO system remains reliable even when exposed to electromagnetic interference. Streletz-PRO has been installed at a number of industrial facilities, so high-voltage power lines and equipment don't usually affect wireless communication in the system. Moreover, wireless systems are protected from electromagnetic interference even better than wired counterparts. Long cables essentially act as antennas for interference. In wireless systems, you don't have long electrical circuits that capture electromagnetic interference, making them much less troublesome to maintain.

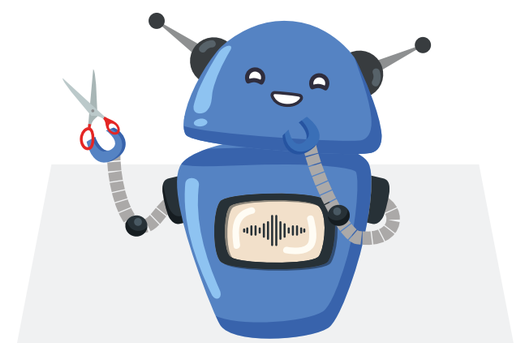
Wireless connection is not secure, it can be blocked with a jammer!



Let's address the pressing question upfront – the issue of jamming, a common concern raised in our discussions. It's important to acknowledge that if someone can create something, another person can find a way to break it. Now, let's consider what's easier to get hold of – a jammer or a simple pair of scissors? Wired systems are vulnerable to disruptions caused by a pair of scissors, and no special knowledge is needed.

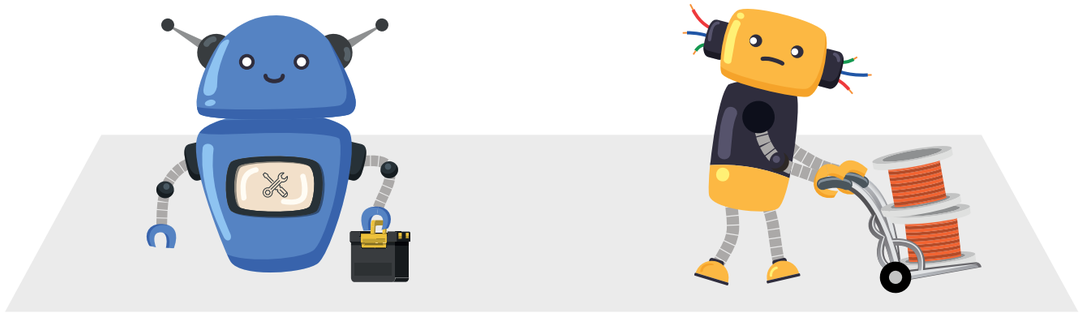
With that said, let's dive into a comprehensive response, split into two parts: unintentional interference and intentional jamming.

Unintentional interference covers signals that appear in the environment, possibly affecting the system but without malicious intent. This includes signals from all kinds of electronics: Wi-Fi routers, Bluetooth devices, walkie-talkies, cellular networks. However, most of these signals won't impact the Streletz-PRO system because they operate on entirely different frequency ranges. While Streletz-PRO functions in the 865-867 MHz range, Wi-Fi operates at 2.4 or 5 GHz, and consumer radios at 433 MHz. Therefore, unintentional interference is a non-issue.



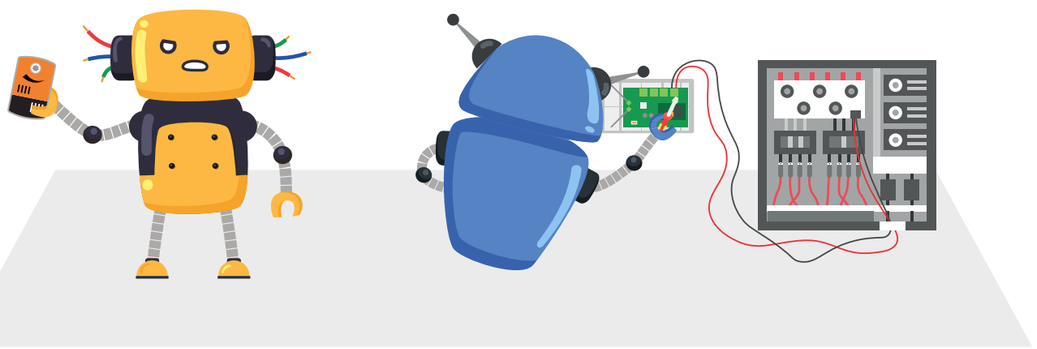
Intentional jamming, on the other hand, results from malicious actions or specialized services. It's crucial to grasp what constitutes a source of interference that can significantly affect a system's operation across substantial distances, like an entire building. Such equipment isn't pocket-sized; it requires transportation in a cargo vehicle, accompanied by another vehicle with a power station. If jamming is attempted in a specific building area, the system will alert with an "External Interference" message. Additionally, understanding how cellular signal jamming works today is essential. It doesn't involve disrupting the GSM signal frequency band. Instead, it entails substituting the base station, leaving all devices operational except phones.

No wireless system is completely wireless. What's the point of it if I still have to install at least some cables?



Of course, there are certain wired connections to consider. For example, expanders send a lot more signals and consume a lot more power than detectors. So they can't be powered by batteries and require a PSU connection. Additionally, it's not feasible to wirelessly transmit 220V to a smoke vent damper. Thus, a 1-2 meter cable would need to be connected to the wireless output module to activate and monitor the damper status. However, these connections are quite minimal. Unlike wired systems that can span kilometers in wiring, the Streletz system needs just tens to a few hundred meters at most.

Wireless systems are insufficient for serious projects, you can't build a fire suppression or a smoke ventilation system with wireless equipment.



Streletz-PRO offers all essential output modules to manage various fire suppression and active fire protection functions. We have modules that control the smoke vent dampers, equipped with circuit monitoring to detect breaks and short circuits. These modules can also control the position of the damper to determine whether it's open or closed. To control the smoke vent fan we offer a wireless control panel compatible with different kinds of fans. Argus Spectrum also makes manual call points for emergency door release, smoke & vent control, and suppression system activation. Lastly, Streletz-PRO provides solutions for integrating the fire alarm with the standpipe system: there are wireless control panels for solenoid valves as well as fire pumps.



9

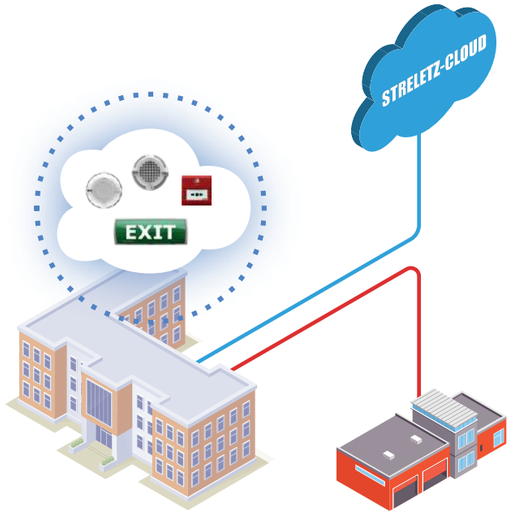
# CASE STUDIES

Just a few examples of how Streletz-PRO can be installed in any type of building and how it can shine where traditional wired systems fail.

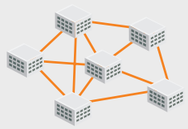
# Streletz-PRO for Schools

Argus Spectrum has been dedicated to enhancing the safety of childcare facilities, such as schools and kindergartens. Since 2019, we've been actively involved in a project to modernize fire protection systems within these facilities. The goal is to achieve this upgrade without disrupting the facility's daily operations. With a significant number of schools involved, several hundred facilities undergo these upgrades annually.

In this project, each school is linked to the city-wide wireless emergency system Streletz-Monitoring. This system works automatically, transmitting a fire signal directly to the fire department via the wireless network. If a fire breaks out – no human intervention required.




A fire breaks out in a building



Dispatch center automatically receives an emergency signal

A fire crew is sent to the location

Schools are seamlessly linked to the Streletz-Cloud cloud service, extending accessibility to the installed systems for authorized personnel nationwide. This cloud service ensures ongoing monitoring of the systems, swiftly detecting and addressing any malfunctions that may arise. The fire alarm's status at the facility remains readily accessible to safety personnel at the school – all it takes is a smartphone to check.

Head of the education department

School principle

Fire alarm maintenance engineer

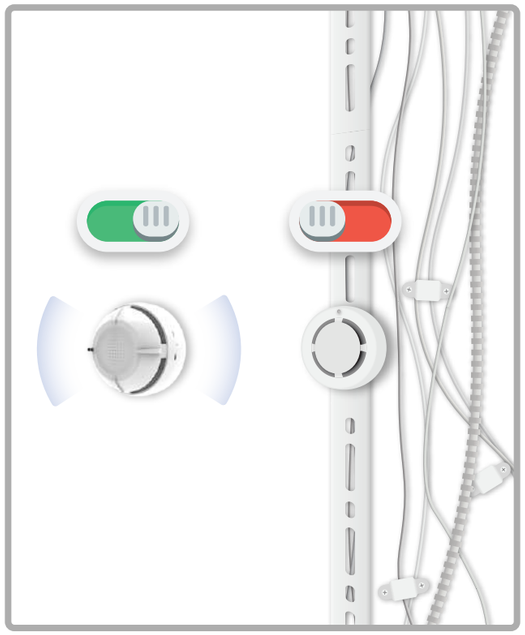
Fire alarm maintenance manager

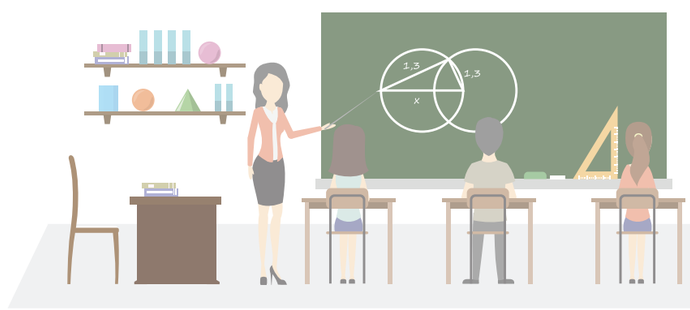


Schools received ready-to-install equipment kits, a solution where our technical experts handled all project development. The factory handled equipment manufacturing and programming, ensuring that everything works properly. Devices were labeled with their installation spots within the building, neatly organized in boxes for effortless access. Consequently, the installation team had minimal tasks remaining – simply affixing equipment to ceilings and walls. Without the need for wiring and with programming already taken care of, only two individuals were allocated for each site. Remarkably, each installation was completed within a mere two days.


While installing Streletz-PRO, the existing alarm system can continue to function concurrently. No immediate removal is necessary, given that the wireless equipment doesn't rely on the pre-installed cable lines and circuits. For efficiency, Streletz-PRO detectors can be set up alongside the old devices, and the old system can be dismantled when it doesn't disrupt the educational process.

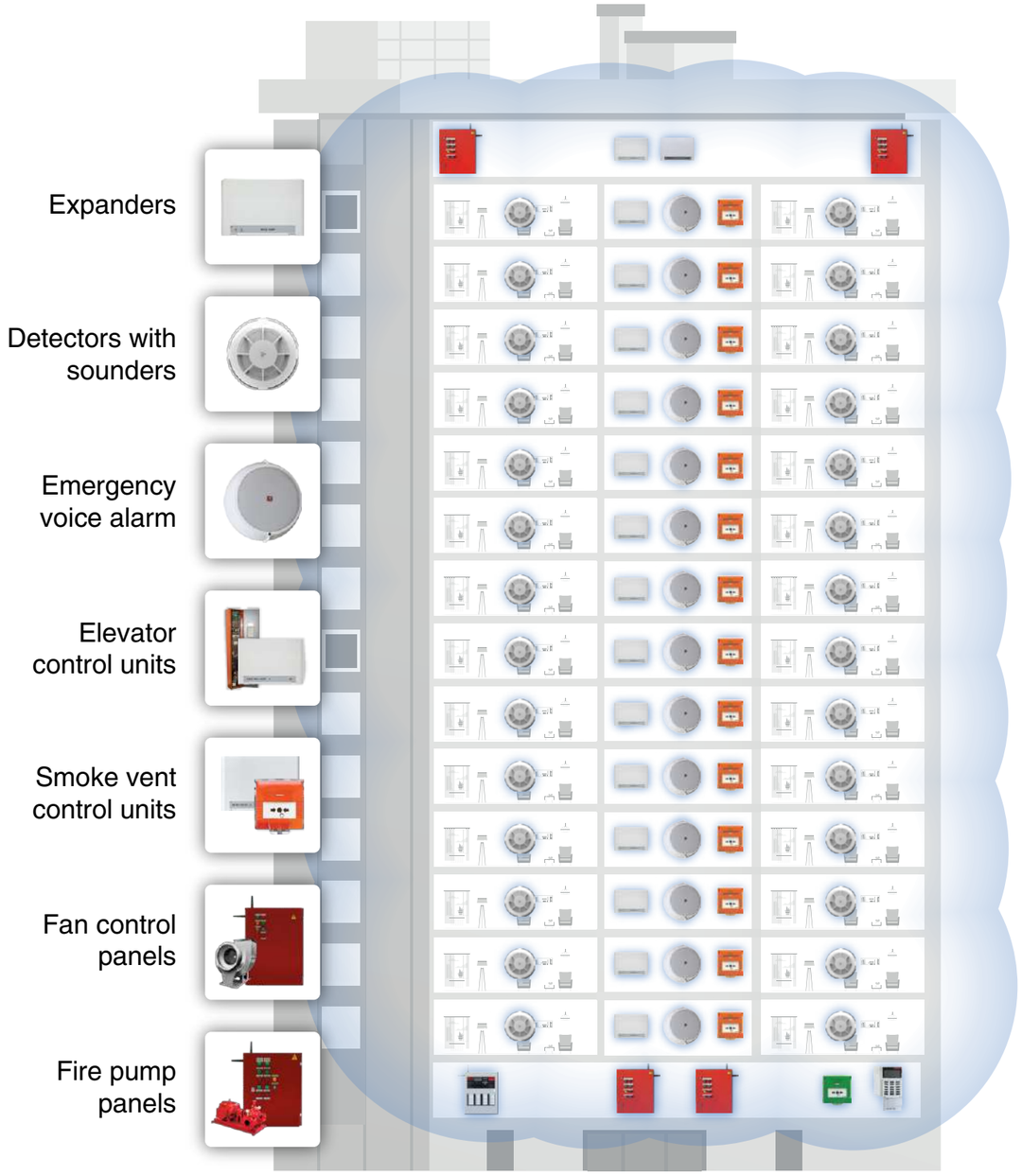
In contrast, when dealing with wired systems, the facility often needs to shut down for installation. Extensive drilling and storage of construction material on the floor are common, posing risks like unintended damage to wall coverings or accidental drilling into concealed wiring. Schools don't need to close down during the transition from the old fire alarm system to Streletz-PRO. Such closures are unnecessary since the installation is swift and causes minimal disturbance.



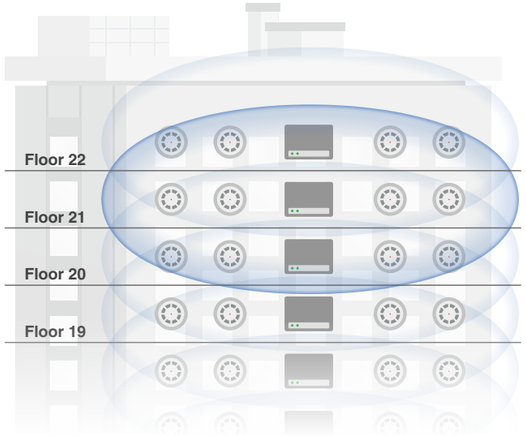


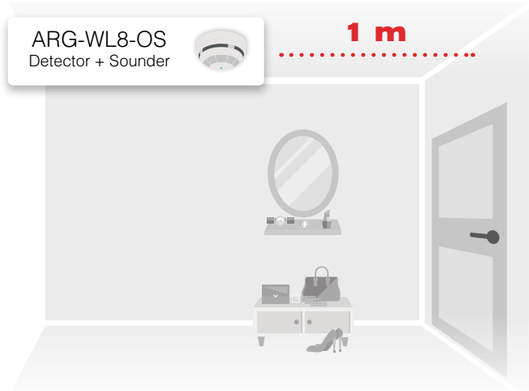
# Streletz-PRO for Apartment Buildings

Streletz-PRO is a superb choice for apartment buildings and residential complexes. It offers all the essential features and a diverse range of options to adhere to regulations. This system is adaptable for installation at any construction phase. Concerns about residents inadvertently damaging fire alarm wiring during apartment renovations are nonexistent. The well-known advantages of simple installation and maintenance take on added importance, especially given the scale of these systems, which demand extensive wiring stretching over dozens of kilometers.




What about wireless communication? At first thought, one might assume that ensuring wireless network coverage within a vast building is more challenging than laying out cables. However, experience has shown that Streletz-PRO handles these dimensions remarkably well. In multi-apartment buildings, the most effective approach to establishing a wireless network involves placing a single expander on each floor's stair landings, within each stairwell. Thanks to the omnidirectional nature of these expanders, neighboring floors also receive coverage. This design ensures a strong system reliability – each repeater functions as a backup for its neighboring ones.




One great benefit of the Streletz-PRO fire alarm is its unique "2-in-1" detector. Typically, detectors included in the general fire alarm system are placed in apartment hallways. Additionally, standalone detectors are positioned within other rooms of the apartment. These detectors don't send signals to the general system but directly alert the apartment residents. The Streletz-PRO achieves all of this through cleverly designed smoke and heat detectors with built-in sounders. This smart solution not only helps you save on equipment costs but also reduces installation time significantly.

## Apartment buildings protected by Streletz-PRO

# Streletz-PRO for Industrial Facilities

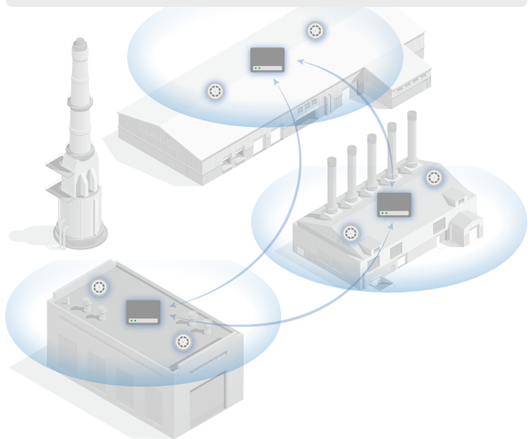
In an industrial setting, ensuring the reliability of a Fire Alarm System takes center stage. Any glitch could lead to substantial financial losses from disruptions in production. Additionally, overlooking an alarm might trigger global disasters by releasing harmful substances. This is where the Streletz-PRO excels, making it an ideal fit for industrial enterprises. Thanks to its mesh network, it offers a higher level of dependability compared to wired systems.

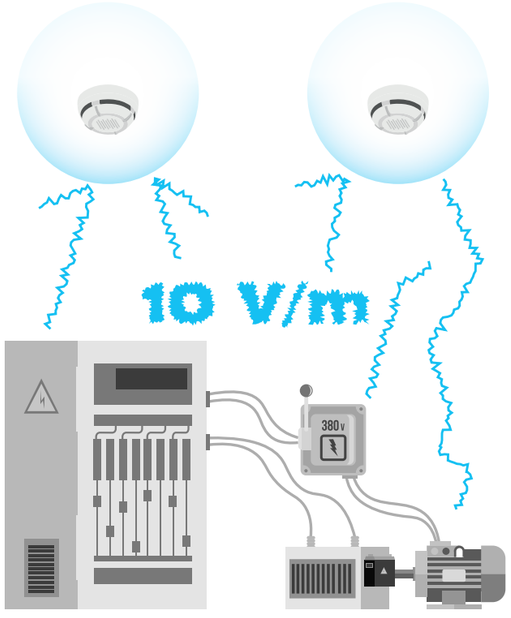
Moreover, the ease of installation is a key factor. Consider the Basfiber basalt fiber plant, where they chose the Streletz-PRO due to its economic efficiency and quick implementation. Mounting devices in tall production workshops is already a complex undertaking. Yet, laying cable communication lines poses an even bigger challenge. In some places, it's simply unfeasible due to limited access to lifting equipment. Additionally, one production building is separated from the main plant by a city road, making cable installation through it impossible.

## Basfiber factory

Basalt fiber plant

- 21 500 m² square footage
- Work done in 10 days
- 1 000 detectors
- Crew of 4 workers






Many experts express concerns about the Streletz-PRO potentially malfunctioning when exposed to electromagnetic fields from high-voltage industrial setups. Yet, these worries are baseless. Experience shows that in industrial facilities Streletz-PRO detectors work just as well, as wired detectors, if not better. Moreover, to ensure uninterrupted wireless communication, we've introduced a three-step algorithm to counteract interference:

$T_2 < T_1$ The device sends signals more often

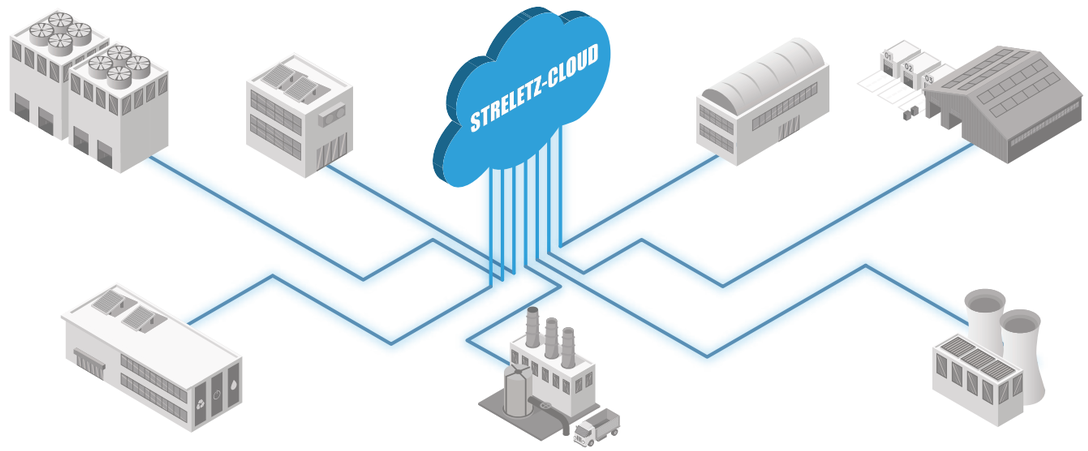
$A_2 > A_1$ The power of the signals is increased

$F_2 \neq F_1$ The signals are sent via backup frequency channels



Another valuable aspect of the Streletz-PRO, extensively embraced in industrial settings, is its remote monitoring capability via Streletz-Cloud. This cloud service simplifies connecting to systems and overseeing their technical status, including communication strength, dust, smoke, and temperature. This feature greatly streamlines maintenance, making it easier to establish a technical monitoring center for scattered locations, while also being cost-effective – all you need is an internet connection.

While security and IT experts might have reservations about relying on public servers, there's an option to set up an internal safety monitoring network on your own servers. Our software even enables the multiple workstations within a local network. The software is also compatible with operating systems based on Linux kernel. This can be an important factor for clients who already have custom software solutions for building management, and want everything to work on the same server infrastructure.




## Industrial facilities protected by Streletz-PRO

# Streletz-PRO for the COVID-19 Hospital

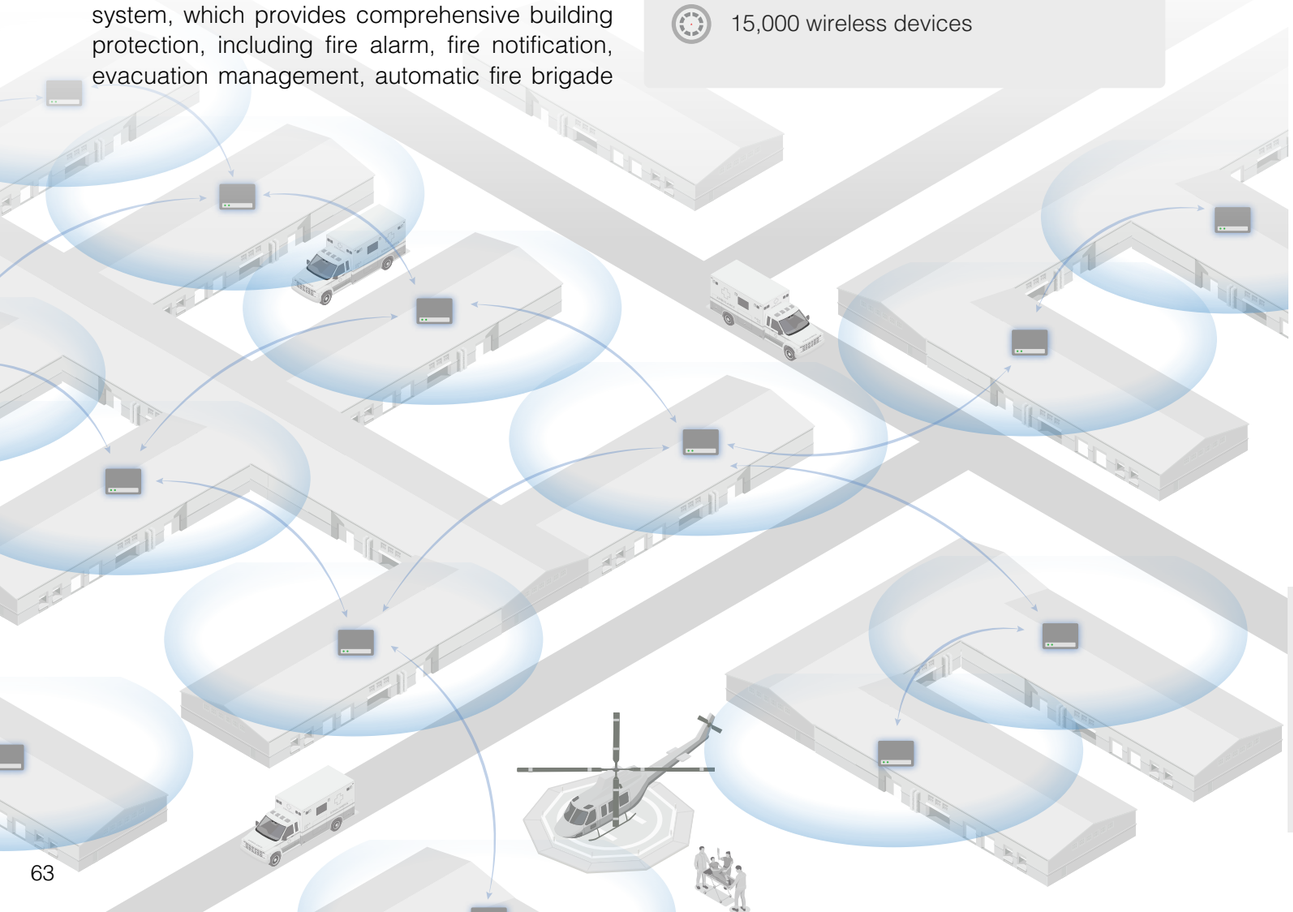
It's spring of 2020. COVID-19 is rapidly spreading across the world and the vaccine hasn't been created yet. Healthcare facilities are working at full capacity, there's not enough hospital beds for everyone who caught the virus. Cities, especially big ones like Moscow, need more hospitals to fight the pandemic and to save the lives of people. So on the 5th of March 2020, the Russian Government ordered a construction of a new contagious disease hospital in the Moscow region. The hospital was going to consist of 50 single-story and 14 two- and three-story buildings across a 40-hectare area. Work began on March 19th. There was no time to waste - any delays could potentially cost lives. About 11,000 construction workers were working 24 hours a day, 7 days a week.

As for the fire alarm system - there was no time to install cables and do all the work that comes with it. So wireless was chosen for the fire protection. The hospital was equipped with the Streletz-PRO system, which provides comprehensive building protection, including fire alarm, fire notification, evacuation management, automatic fire brigade notification, and continuous technical monitoring. Due to the urgent construction timeline, fire alarm works were conducted simultaneously with utility installation. This is not an issue for wireless equipment, since you only need a couple of minutes to equip one room with detectors. The hospital was completed in 40 days. The fist patiens started to check in on April 19th. Argus Spectrum is proud to be a part of such a unique and important project.

## Voronovskoye

Clinical Center for Infectious Diseases

- 81 300 m² total square footage
- 64 buildings
- Construction completed in 40 days
- 15,000 wireless devices





One of the main challenges of installing a fire alarm in a medical facility during the pandemic was to minimize installation time and reduce the number of visits to the building. Wireless technologies made these goals a lot more achievable. The system was designed while the construction was still in progress. All equipment came pre-programmed from the factory, so the fire alarm engineers only had to mount the detectors didn't have to waste time on linking and configuring the detectors. The settings and logic of the system were adjusted remotely, via a cloud connection to the control panel. This type of workflow is only possible with Argus Spectrum tectnology.



**Argus Spectrum – partner in the fight against COVID-19**

A video about our contribution to the COVID-19 hospital project.

*https://catalog.argus-spectr.ru/video/en/covid-19*

# Thousands of Projects Made with Streletz-PRO

Currently, Argus Spectrum technologies protect more than 200,000 facilities in different time zones and climates. Streletz-PRO was used in a wide range of projects, from villages and private homes to airports, factories, huge medical facilities, and shopping malls.

Our manufacturing capacity reaches up to 100,000 devices every month, and our sales have surpassed the milestone of 9 million wireless devices. The widespread acclaim of the Streletz brand serves as a testament to the exceptional quality and dependability of our products.




Saint Petersburg

## Medical academy

square footage – 140 000 m²
20 000 devices

medical, educational and scientific institution

hybrid (wireless & wired)

### Project description

The multidisciplinary clinic of the Medical Academy represents a modern complex and consists of 7 buildings forming a single whole. The object includes clinical and diagnostic blocks, radionuclide Diagnostic block, educational and scientific blocks. The clinic required a fire detection and security alarm system.

### Why wireless?

The specificity of the hospital complex implies difficult access to individual rooms (surgery, resuscitation, etc.) and the need to maintain clean rooms. Due to wireless technology the system was installed in a short time. Some parts of the system were preprogrammed and configured before they were installed in place for final testing and commissioning. In addition, the wireless system allowed to use wearable bracelets in the system for patients. The bracelets provide personal notification in case of fire alarms and perform the functions of a panic button. Wearable devices also automatically transmit alert to nurse's post in case of person's loss of consciousness.

Moscow

## Schools and kindergartens

150 buildings
40 000 devices

educational institution

wireless equipment

### Project description

Educational institutions operating in the city of Moscow. Those are mostly 2 or 3 story buildings, with a number of classroms, a large gym and an assembly hall.

### Why wireless?

The fire alarm systems of a large number of facilities had to be modernized in a short period of time without affecting the teaching process. In 2019, a project was implemented in schools and kindergartens in Moscow to upgrade fire protection systems without decommissioning facilities. In the first 6 months, 150 children's educational institutions were equipped with new fire protection and remote monitoring systems.

After the first batch of projects the modernization program continued, and over the next few years more than 1300 schools and kindergardens in Moscow were equipped with the Streletz-PRO wireless fire system.

Moscow

## Vnukovo air traffic control center

square footage – 30 000 m²

transport infrastructure

hybrid (wireless & wired)

## Project description

The construction of new Vnukovo air traffic control center in Moscow started in 2009 and its handover for commissioning was in 2014. It is a three-storeyed building. The center is the largest air traffic control center in Europe. It controls the flights from 14 civil and 21 military aerodromes.

## Why wireless?

The challenge was to provide a flexible system that can be installed in a short time across the building, preventing disturbance to the occupants. Only wireless technology provides quick, easy and cost-effective installation (wireless communication between all the devices of the system). Wireless technology is now widely accepted as being as reliable and robust as traditional wired alternatives, yet offering much more in terms of flexibility, making Streletz-PRO an ideal choice.

Since the new system was planned beforehand, installation and handover went smoothly within the planned timescale. Finally, there were installed more than 1,000 wireless smoke and heat detectors, 50 wireless translators, 50 wireless output modules and 60 wireless manual call points.

the Antarctic

## Research station «Vostok»


100+ devices

science research station

wireless equipment

## Project description

Vostok Station is a Russian research station in the Antarctic. The station lies at the southern Pole of Cold. It consists of several buildings including a power station, a meteorology building and living quarters. The station typically contains 25 scientists and engineers.

## Why wireless?

Vostok is the coldest place on Earth. In addition to the extremely cold temperatures, other factors make Vostok one of the most difficult places on Earth for human habitation:

- An almost complete lack of moisture in the air.
- A windspeed rising up to 27 metres per second.
- A lack of oxygen
- A higher ionization of the air.

Due to long acclimatization and very short time of installation a wireless system was the obvious solution. Wireless fire system Streletz-PRO is very reliable and an ideal option for facilities with a number of buildings spread over the site where cables cannot be accommodated.



Kimry

## Basalt Fiber Manufacturing Plant


square footage – 21 000 m²
1 000 devices

industrial facility

wireless equipment

## Project description

The project was carried out in 2019 and included the design and installation of fire alarm, notification and evacuation control systems, as well as automatic fire ventilation and fire suppression control systems. The installation was performed by a team of 4 engineers within 10 days at Basfiber basalt fiber plant.

## Why wireless?

The primary reasons for choosing the Streletz-PRO wireless system were the system's reliability and the ease and speed of installation process. Thanks to its mesh network, Streletz-PRO offers a higher level of dependability compared to wired systems. Besides, the choice was clearly made in favor of wireless in terms of economic efficiency and quick implementation. Mounting devices in tall production workshops is already a complex undertaking. Yet, laying cable communication lines poses an even bigger challenge. In some places, it's simply unfeasible due to limited access to lifting equipment.

Another valuable aspect of the Streletz-PRO is its remote monitoring capability via Streletz-Cloud. The cloud service simplifies connecting to systems and overseeing their technical status.

Yekaterinburg

## Uralmashzavod Manufacturing Plant

square footage – 3 million m2
18 000 devices

industrial facility

wireless equipment

## Project description

Uralmashzavod is the largest producer of equipment for the metallurgy and mining industries in Russia, with a 90-year history. The enterprise has created unique machines such as the first electric mining excavator, the first domestic large crusher, and the first sintering machine.

## Why wireless?

When choosing an alarm and notification system, the remoteness of individual buildings, as well as reconstruction and repair work in buildings and open areas, requires increased consideration. Therefore, in 2009, when a new solution was needed, the wireless security system "Streletz" was chosen because it met our main requirements:

- Functionality: Fire alarm, notification, and monitoring – all in one system.
- Quality: All necessary certificates and reliable operation.
- Quick Installation: Without wired loops installation time is significantly reduced.
- Minimal Disruption: "Streletz" was installed without interrupting the plant's operations, allowing workers to remain at their workplaces.

# Project videos

## Sennaya Shopping Mall

Sennaya is a popular shopping and entertainment center for many St. Petersburg residents. The mall is visited by over 30,000 customers daily. The primary challenge of the project was to install a new fire system without closing the retail areas and offices. A hybrid solution was chosen for this project, combining wireless and wired devices. Approximately 3000 wireless and 1000 wired devices were installed across a total area of 59,000 square meters.

**Streletz-PRO in the Sennaya mall**

A video report on retrofitting 59,000 square meters of retail space without taking it out of operation.

*https://catalog.argus-spectr.ru/video/en/sennaya*

## Solnechnaya Dolina Ski Resort

The Streletz-PRO system protects the largest ski resort in Russia, “Solnechnaya Dolina.” Nearly 5,500 wireless devices have been installed. Streletz-PRO allows to rapidly and unobtrusively equip new facilities within the resort. The system features a dynamic evacuation system based on the WL8-OV devices, that helps quickly orient individuals in case of a fire. The system ensures monitoring of all buildings via the cloud service and enables notifications to the technical staff.

**Streletz-PRO in the Solnechnaya Dolina Ski Resort**

A video report on the operation of Streletz-PRO in the hotel complex of the ski resort.

*https://catalog.argus-spectr.ru/video/en/solnechnaya_dolina*



## Innopolis Dormitories

Innopolis is a newly built city with 7,000 residents and 300 IT companies. In 2022, the wireless system “Streletz-PRO” was chosen for the buildings of the university campus. This includes 4 multi-story residential buildings occupied by more than 1,000 students. In three new buildings, the wireless system was incorporated at the construction stage, while in the previously built dormitory, Streletz-PRO replaced the Honeywell fire alarm system.

**Streletz-PRO in Innopolis**

A video report on installing Streletz-PRO in newly built dormitory buildings for 1000+ students

*https://catalog.argus-spectr.ru/video/en/innopolis*

## Akademichesky Residential Complex

Akademichesky is the newest district of Yekaterinburg with a total area of 1.3 thousand hectares. The implementation of “Streletz” was carried out several times faster than if the project had been done with wired equipment. For instance, equipping one 16-story entrance with 8 apartments per floor took 3 months for the design stage, 7 days for programming, 1 month for installation by a team of 4 people, and 3 days for commissioning.

**Streletz-PRO in the Akademichesky Residential Complex**

A video report on a massive Streletz-PRO project in a residential complex with 100+ buildings.

*https://catalog.argus-spectr.ru/video/en/academic*

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# RETROFITTING A FIRE SYSTEM WITH WIRELESS

The problem with using traditional wired systems to retrofit an old fire alarm, and why wireless is the best choice for retrofit projects.



## The Problem with Wired

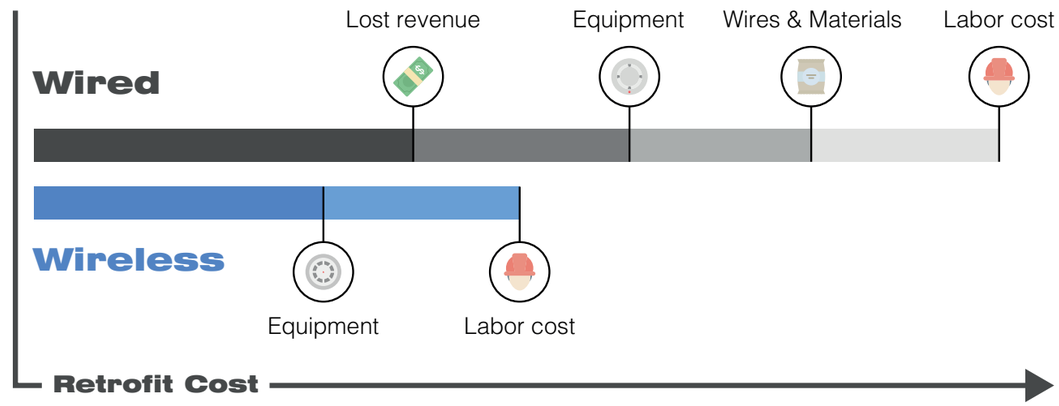
Replacing the fire alarm system using traditional wired solutions inevitably requires interference with the building's operations. Dust, dirt, cables from ceiling to floor are unavoidable companions of installing systems that use wires for device connections. And let's not forget that after installing the new system, the old one needs to be dismantled. This prolongs the construction work on the building even further. Of course, you could leave the old system in place, but extra equipment and cable channels spoil the building's interior, which is unacceptable for some clients.






## Building Downtime

Sometimes, a building cannot simply be taken out of service, as in the case of medical facilities. Often it requires lengthy approvals and restructuring of workflows before downtime. For commercial buildings, it is simply not profitable. Every day that the business is on pause, you pay out of your own pocket. Calculate your daily profit, multiply it by the duration of the installation work, and then add this amount to the costs of equipment, materials, and labor for a wired fire alarm system. You will see that purchasing a wireless system will be much more cost-effective.



# A Successful Retrofit Case

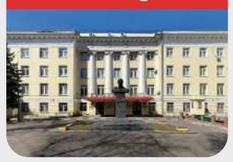
One example of a successful fire alarm system upgrade to Streletz-PRO is the Bakulev National Medical Research Center of Cardiovascular Surgery. The existing system had reached the end of its service life and had to be replaced. Streletz-PRO was installed in four buildings with a total area of 140,278.4 square meters. All work was carried out without taking the buildings out of service. The center continued its operations during the installation and commissioning of the system. The building uses high-tech equipment: X-ray machines, CT scanners, ultrasound diagnostic equipment. The medical equipment and the wireless devices of the Streletz-PRO system do not interfere with each other.

## Retrofitting Honeywell with Streletz-PRO in the Bakulev Cardiological Center

- 27 000 patients each year
- Square footage 140 278,4 m²
- 21 000 devices
- Desinged in 4 months
- Installed in 6 months
- Building stayed opened

**Institute of Cardiac Surgery**

**Institute of Coronary and Vascular Surgery**

| Building 1 | Building 2 | Building 3 | Building 4 |
|---|---|---|---|
|  |  |  |  |
| **16 800** devices | **1 900** devices | **200** devices | **2 000** devices |

**Streletz-PRO at the Bakulev Center**

Video report on retrofitting an old fire alarm system with Streletz-PRO in the largest cardiology center in Russia.

*https://catalog.argus-spectr.ru/video/en/bakuleva*






# VIRTUAL CLASSROOM

Brand new and unique training center that allows you to learn the Streletz-PRO system and software without having the actual equipment at hand.

Argus Spectrum is very pleased to present its new and unique service for the fire detection world!

Web Camera + IP connected kit of actual devices - a leading edge virtual classroom for the programming of Streletz-PRO wireless fire detection system!

The online practical training is simple and easy to use! You will need a desktop or laptop computer and internet access. The online practical training is the perfect way to learn Streletz-PRO. You can study from home or from any place in the world at any time!

The virtual classroom allows fire alarm engineers from all around the world to use one of the remote equipment kits to introduce themselves to the Streletz-PRO wireless alarm system. The user can control and monitor the equipment kit in the Streletz-Master software, while simultaneously observing each device through a live camera feed. The service is completely online, which means that you don't need physical access to a real system in order to learn how to use it.



**Streletz-PRO in a virtual classroom**

An introduction to our revolutionary online training center.

*https://catalog.argus-spectr.ru/video/en/virtual_classroom_ad*


**The video tour of the remote equipment kit**

In this video, you will learn how to use the software to test the system, check the connection strength, read measurements from devices, and change their settings.

*https://catalog.argus-spectr.ru/video/en/virtual_classroom_tour*






# OVERVIEW OF WIRELESS FIRE SYSTEMS

A comparison table that puts side to side the some of the popular and recent wireless fire systems – an analysis that demonstrates that Streletz-PRO really is the best choice on the market.

| Streletz-PRO | Taurus | XPander | FireCell |
|---|---|---|---|
| Argus Spectrum | Argus Security S.r.l. | Apollo Fire Detectors Ltd. | EMS Ltd. |

## Mesh network

In a mesh network, devices are not tied to a specific expander and can dynamically find pathways to the central translator. This substantially enhances the design and installation process since there's no need to manually configure the network topology. Systems with no mesh network support can be sometimes tricky to install - you may need to relink devices a couple of times before you find the expander with the strongest connection.

| Streletz-PRO | Taurus | XPander | FireCell |
|---|---|---|---|
| Yes | No | No | No |

## System capacity

Systems with large capacity allow you to build one big wireless system that will cover your whole building. Otherwise you will need to install several translators each controlling its own separate network. Wireless systems are often challenged to operate reliably in large buildings, but Streletz-PRO isn't! The communication protocol is designed in such a way that up to 1920 wireless devices can work in the one system.

| Streletz-PRO | Taurus | XPander | FireCell |
|---|---|---|---|
| 1920 | 128 | 31 | 504 |

## Number of expanders

Expanders and similar devices act as communication nodes in a wireless network. The more nodes the network has, the bigger the area it's able to cover. The large number of expanders in Streletz-PRO doesn't just mean that the network area is big. The expanders also provide numerous communication paths, which is an important factor in system reliability.

| Streletz-PRO | Taurus | XPander | FireCell |
|---|---|---|---|
| 127 | 15 | 0 | 31 |



| Streletz-PRO | Taurus | XPander | FireCell |
|---|---|---|---|

## Number of devices per expander

While installing a wireless fire alarm you may face a situation where you need to link a detector to a specific expander, because it provides the strongest connection. But that expander may have already reached its limit on linked devices. This limit is an important factor in the flexibility and configurability of the system. The feature also means that Streletz-PRO is well-suited for buildings with large open spaces with many detectors.

| Streletz-PRO | Taurus | XPander | FireCell |
|---|---|---|---|
| 256 | 32 | 0 | 31 |

## Communication range

Big communication range in open air is an indicator of how stable the connections in the system are going to be in buildings. Streletz-PRO has the best communication range on the market - 1.2 km max between an expander and a device. Connections between two expanders are even stronger, and the distances can reach up to 2 km.

| | |
|---|---|
| Streletz-PRO | 1 200 m |
| Taurus | 1 000 m |
| XPander | Undisclosed |
| FireCell | Undisclosed |

## Expander layers

This parameter corresponds to the number of times a signal from a device can be repeated by the expanders before reaching the translator. This has a direct effect on how far the network can span in the building.

| | |
|---|---|
| Streletz-PRO | 10 hops |
| Taurus | 8 hops |
| FireCell | 4 hops |
| XPander | 0 hops |

| Streletz-PRO | Taurus | XPander | FireCell |
|---|---|---|---|

## Battery life

Long battery life reduces the expenses required for system maintenance and makes a wireless alarm a cost-effective fire protection solution. Streletz-PRO has an outstanding 10-year battery life and allows you to view the voltage level of each battery in every device via the software.

| Streletz-PRO | Taurus | XPander | FireCell |
|---|---|---|---|
| 10 years | 10 years | 3-5 years | 5 years |

## Battery type

Maintenance costs greatly depend on the number and the type of batteries used in the devices. Streletz-PRO uses generic mass production batteries, rather than proprietary battery packs that are only available from the manufacturer.

| Streletz-PRO | Taurus | XPander | FireCell |
|---|---|---|---|
| CR123A + CR2032 | CR123A × 2 | AA × 6 | AA × 6 |

## Emergency voice alarm communication

Emergency voice alarm communication is a critical component of fire alarm systems. If you are doing a wireless project, you would want to choose a system that support wireless EVAC, or else you would have wireless detectors, but still need to install cables for the speakers.

| Streletz-PRO | Taurus | XPander | FireCell |
|---|---|---|---|
| Wireless | Only wired | Only wired | Only wired |



| Streletz-PRO | Taurus | XPander | FireCell |
|---|---|---|---|

## Smoke vent system control

Smoke vent systems are vital in fire safety, designed to extract smoke and heat from buildings during a fire. They are usually connected with wireless fire alarm systems via wired control panels, but Streletz-PRO has wireless modules for smoke vent dampers and fans.

| Streletz-PRO | Taurus | XPander | FireCell |
|---|---|---|---|
| Wireless | Only wired | Only wired | Only wired |

## Standpipe system control

Standpipe system is a crucial firefighting tool, providing water access on multiple building levels. Streletz-PRO has wireless control panels for valves and pumps, meaning that you don't have to use a wired alarm if your building is large and equipped with a standpipe system.

| Streletz-PRO | Taurus | XPander | FireCell |
|---|---|---|---|
| Wireless | Only wired | Only wired | Only wired |

### References


- FireCell Datasheet Pack [http://emsgroup.co.uk/wp-content/uploads/2018/11/October-2018-FireCell-Datasheet-Pack-Compilation.pdf]
- FireCell Frequently Asked Questions [http://emsgroup.co.uk/support/faqs/]
- MK99 FireCell Setup Guide [http://emsgroup.co.uk/wp-content/uploads/2018/11/MK99-FireCell-Setup-Guide-Iss-8-V3-Software.pdf]
- FireCell Product Showcase MK42 [https://emsgroup.co.uk/wp-content/uploads/2021/12/EMS-FireCell-Product-Showcase-MK42-Issue-13.pdf]
- Taurus Wireless Fire System [https://www.argussecurity.it/productssystems/wireless-fire-detection/taurus/]
- Wireless Translator Module (916) [https://www.argussecurity.it/product/wireless-translator-module-916/]
- Wireless Dual Optical Smoke Detector (916) [Wireless Dual Optical Smoke Detector (916)]
- XPander Diversity Loop Interface Module [https://www.apollo-fire.co.uk/products/xpander/zone-monitor-units/xpa-in-14050-apo---xpander-diversity-loop-interface-module/]
- XPander Optical Smoke Detector with Base [https://www.apollo-fire.co.uk/products/xpander/combined-devices/xpa-cb-12034-apo---xpander-optical-smoke-detector-with-base/]


Information on communication range, battery life and battery type is provided for optical smoke detectors. Specifications can differ across the product range, e.g. sounders may use a different type of power supply.

## Product range

| | Streletz-PRO | Taurus | XPander | FireCell |
|---|---|---|---|---|
| Smoke detector |  |  |  |  |
| Smoke detector + sounder |  | |  | |
| Smoke detector + voice alarm & VAD |  | | | |
| Heat detector |  |  |  |  |
| Heat detector + sounder |  | |  | |
| Combined sensor detector |  |  |  |  |
| Call point |  |  |  |  |
| Beam detector |  | | | |
| Flame detector |  | | | |
| Voice alarm speaker |  | | | |
| Sounder |  |  |  |  |
| Detector base with sounder |  |  | |  |
| Fire exit sign |  | | | |
| Input module |  |  |  |  |
| Output module |  |  |  |  |
| Fire suppression control panels |  | | | |






# OVERVIEW OF WIRED FIRE SYSTEMS

A comparison between popular intelligent fire alarm solutions, that shows how equipment from Argus Spectrum stacks up against competitors

| Argus Spectrum | Schneider Electric SE | Robert Bosch GmbH | Honeywell International, Inc. | Schrack Seconet AG |
|---|---|---|---|---|

## Loop capacity

If the system does not support built-in short circuit isolators, then some of the capacity would have to be wasted on the standalone SCI's

| 240 | 318 | 254 | 127 | 250 |
|---|---|---|---|---|

## Max loop length

Bigger max loop length gives you more freedom while designing an intelligent fire alarm

| 4 000 m | 1 600 m | 3 000 m | 3 500 m | 3 500 m |
|---|---|---|---|---|

## Max loop current

The greater the current, the more alarm devices like sounders can be connected to the loop.

| 300 mA | 560 mA | 1 500 mA | 300 mA | 300 mA |
|---|---|---|---|---|

## Loop voltage

Loop voltage has an effect on how well the system is protected from electromagnetic interference

| 36 V | 24 V | 30 V | 36 V | 24 V |
|---|---|---|---|---|



| Argus Spectrum | Schneider Electric SE | Robert Bosch GmbH | Honeywell International, Inc. | Schrack Seconet AG |
|---|---|---|---|---|

## Detector power consumption

The more power is consumed by detectors the less current is available for alarm devices

| 200 µA | 200 µA | 550 µA | 30 µA | 120 µA |
|---|---|---|---|---|

## Duplicate address detection

When the control panel is capable of detecting devices with the same address, it makes it easier for the fire alarm engineers to diagnose and fix problems that can occur during system setup.

| ✓ | ✓ | ✓ | ✓ | ✓ |
|---|---|---|---|---|

## Integrated short circuit isolators

Built-in isolators don't take up space in the address pool of the control panel, while making the system more reliable and easier to install.

| ✓ | ✓ | ✓ | ✓ | ✓ |
|---|---|---|---|---|

## Alarm devices powered by the loop

When the alarm devices can't be powered by the loop, you need to install additional power supply units, which increases expenses on the project.

| ✓ | ✓ | ✓ | ✓ | ✓ |
|---|---|---|---|---|

## Cloud service

Cloud service gives you the ability to monitor the system from anywhere in the world

| ✓ | ✓ | ✓ | ✓ | ✓ |
|---|---|---|---|---|

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# TRANSITION TABLE

Equipment correspondence tables as well as some tips that will help you easily change your project from a wired system to Streletz-PRO.

Switching to Streletz-PRO is smoother and quicker than you might think. Just follow these easy steps:

- Swap devices with Streletz-PRO equivalents.
- Remove wired connections and insert expanders.
- Insert the translator and a compatible control panel.
- Order the equipment, spend a couple of days installing, and finalize the paperwork.

Streletz-PRO's range is almost the same as wired systems, making most device swaps straightforward. Equipment correspondence table on the following pages demonstrates how easy this process is.

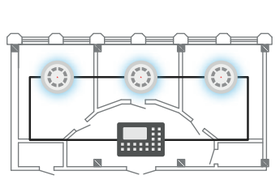
Interestingly, moving from wired to wireless is easier than switching between two wired systems. Different wired systems might not match in terms of characteristics or capabilities. For example, a control panel might not support the old signal line length. Some detectors could lack addressable features, requiring extra zone circuits and input modules in the project. Streletz-PRO detectors have no wired connections, so replacing them eliminates these concerns.

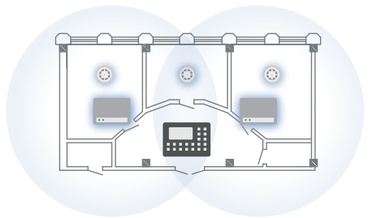
## Make the switch to wireless today!

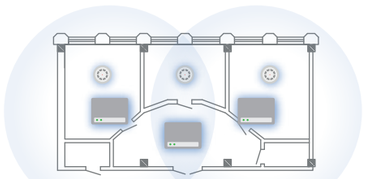
Swap the detectors

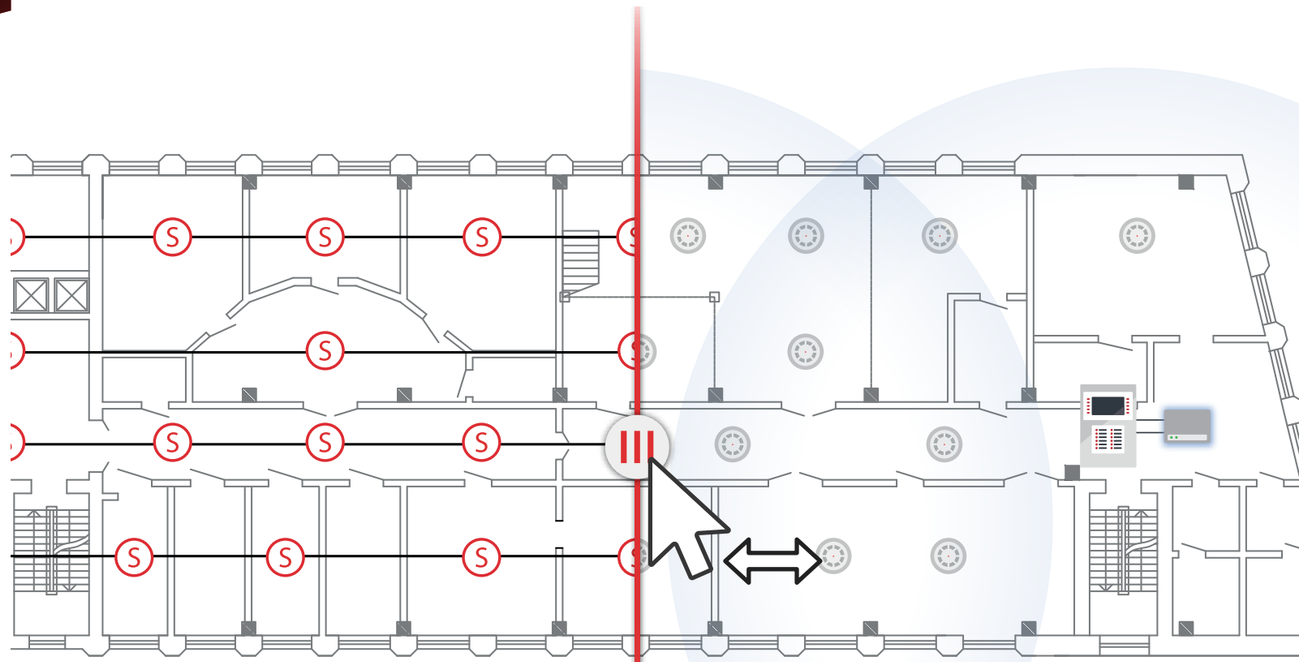
Remove wires and insert expandes

Replace control panel, add translator









## Switching to

# Argus Spectrum Wireless

| Equipment | Bosch product | Streletz-PRO counterpart |
|---|---|---|
| **▼ Panels** | | |
| Control Panel | AVENAR 2000 |  Compatible control panel + WL8-TRV |
| **▼ Fire detectors** | | |
| Smoke detector | FAP-425-O-R |  WL8-O |
| Smoke detector + sounder | FAP-425-O-R + FNM-420-A-BS-WH / FNM-420-A-BS-RD |  WL8-OS |
| Smoke detector + voice alarm & VAD | *no direct counterpart* |  WL8-OV |
| Heat detector | FAP-425-T-R |  WL8-H |
| Combined sensor detector | FAH-425-OT-R |  WL8-OH |
| Beam detector | FIRERAY 50 RV, FIRERAY 100 RV (conventional) |  WL8-B |
| Flame detector | FCS-8000-VFD-B |  WL8-FL |
| Call point | FMC-210-DM, FMC 300RW, FMC-420RW |  WL8-CP |



| Equipment | Bosch product | Streletz-PRO counterpart |
|---|---|---|
| **▼ Notification Devices** | | |
| Sounder | FNM-420-A-WH, FNM-420-A-RD |  WL8-SND<br>*or*<br>  WL8-OS |
| Sounder + VAD | FNX-425U-WFWH, FNX-425U-RFWH, FNX-425U-WFRD |  WL8-OV |
| Voice alarm speaker | FNM-420V-A-RD, FNM-420V-A-WH |  WL8-V<br>*or*<br>  WL8-OV |
| **▼ Input and output modules** | | |
| Input module | FLM-420/4-CON, FLM-420-I2 |  WL8-IN (one input)<br>*or*<br>  WL8-EXP (two inputs) |
| Output module | FLM-420-RHV, FLM-420-RLV1, FLM-420-NAC |  WL8-OUT (one output)<br>*or*<br>  WL8-EXP (two power outputs) |
| I/O module | FLM-420-O1I1 |  WL8-EXP |

## Switching to

# Argus Spectrum Wired

| Equipment | Bosch product | Argus Spectrum counterpart |
|---|---|---|
| **▼ Fire detectors** | | |
| Smoke detector | FAP-425-O-R |  Aurora-DI |
| Heat detector | FAP-425-T-R |  Aurora-TI |
| Combined sensor detector | FAH-425-OT-R |  Aurora-DTI |
| Beam detector | FIRERAY 50 RV, FIRERAY 100 RV (conventional) |  Amur-I |
| **▼ Call Points** | | |
| Call point | FMC-210-DM, FMC 300RW, FMC-420RW |  IPR-I |
| | |  IPR-I Green |
| | |  IPR-I Yellow |
| | |  IPR-I Orange |



| Equipment | Bosch product | Argus Spectrum counterpart |
|---|---|---|
| **▼ Notification Devices** | | |
| Sounder | FNM-420-A-WH, FNM-420-A-RD |  Sirena-I |
| Fire exit sign | *no direct counterpart* |  Tablo-I |
| **▼ Input and output modules** | | |
| Input module | FLM-420/4-CON, FLM-420-I2 |  MV1-I (one input) |
| Output module | FLM-420-RHV, FLM-420-RLV1, FLM-420-NAC |  IB1-I (one output) |
| Output module for smoke vent dampers | FLM-420-NAC |  Klapan-I 220<br>  Klapan-I 24 |

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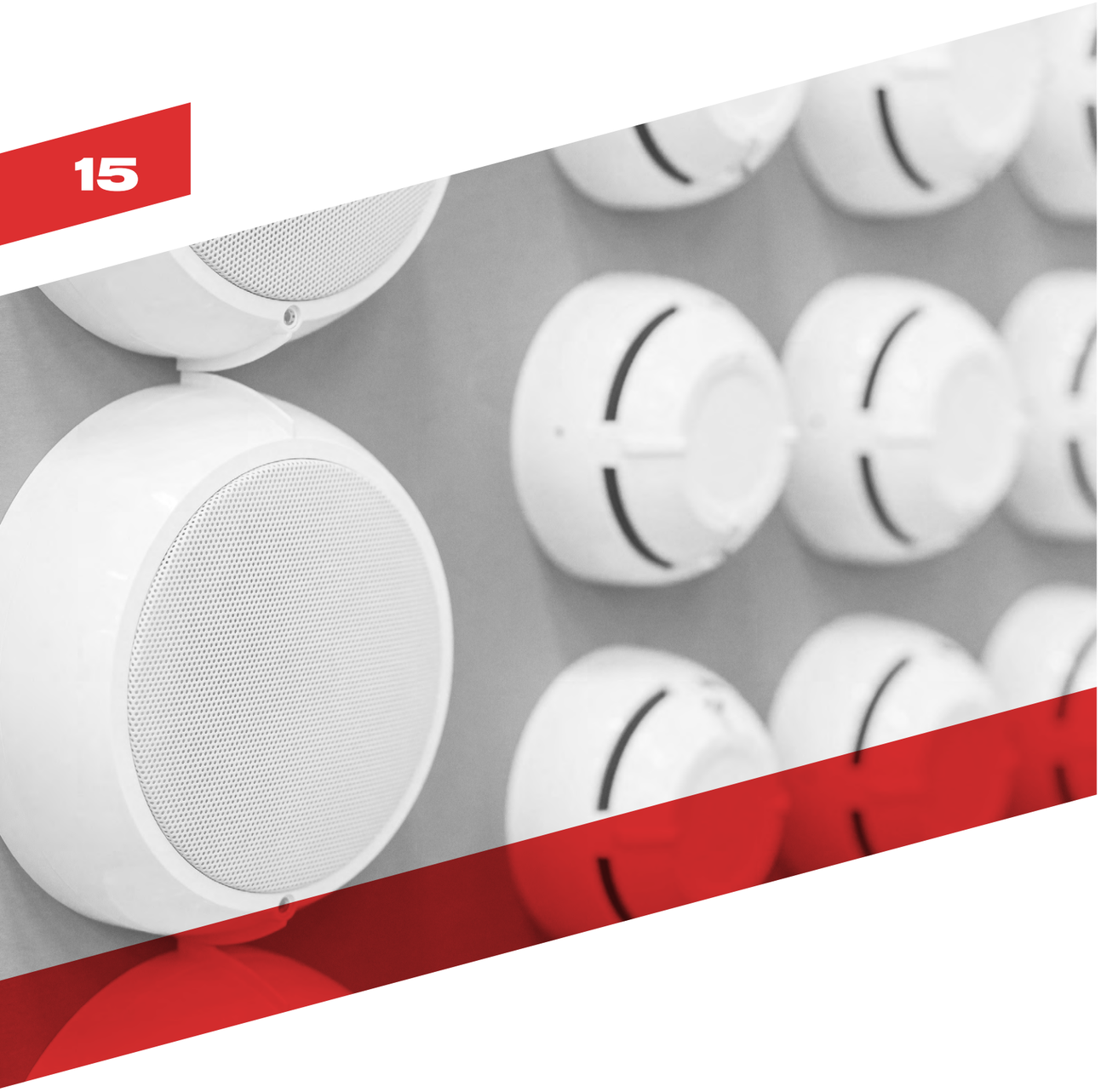


# PRODUCT LIST

A full list of equipment manufactured by Argus Spectrum



# Wireless Equipment

## Control panels

Panel-1-PRO
Control panel for small projects

Panel-2-PRO
Control panel for medium projects

Panel-3-PRO
Control panel for large projects

## Translators

ARG-WL8-TRV
Translator module

## Expanders



ARG-WL8-EXP
Expander module

ARG-WL8-EXP220
Expander module (220V power)

## Fire detectors

ARG-WL8-O
Smoke detector

ARG-WL8-OH
Combined sensor detector

ARG-WL8-H
Heat detector

ARG-WL8-OS
Smoke detector with sounder

ARG-WL8-HS
Heat detector with sounder

ARG-WL8-OV
Smoke detector with speaker

ARG-WL8-FL
Flame detector

ARG-WL8-B1
Beam detector

ARG-WL8-B
Beam detector

ARG-WL8-IN
Input module

## Call points

ARG-WL8-CP
Manual call point

ARG-WL8-CP
Green call point

ARG-WL8-CP
Orange call point

ARG-WL8-CP
Yellow call point

## Intrinsically Safe Devices

ARG-WL8Ex-EXP
Expander module

ARG-WL8Ex-O
Smoke detector

ARG-WL8Ex-H
Heat detector

ARG-WL8Ex-OH
Combined sensor detector

ARG-WL8Ex-CP
Manual call point

ARG-WL8Ex-FL
Flame detector

## Alarm Devices


ARG-WL8-SND
Sounder


ARG-WL8-V
Voice alarm speaker


ARG-WL8-EXPV
Voice alarm module


ARG-WL8-N
Fire exit sign


ARG-WL8-EXPN
Fire exit sign with expander


ARG-WL8-N220
Fire exit sign (220V power)


ARG-WL8-PNBD
Electronic bracelet

## Wireless fire Suppression


ARG-WL8-SVD220
Output module for smoke vent dampers


ARG-WL8-SVD24
Output module for smoke vent dampers


ARG-WL8-OUT
Output module


ARG-WL8-FCP
Fan Control Panel


ARG-WL8-FPP
Fire Pump Panel


ARG-WL8-SVP
Standpipe Valve Panel


Panel-FS
Fire suppression panel


Start-8
Expansion module for Panel-FS

## Security Detectors


RIG-PRO
Door sensor


RIG-PRO v.2
Door sensor


Ikar-PRO
Passive infrared detector


Shtora-PRO
Passive infrared detector


Arfa-PRO
Glass break detector


Metka-PRO
Inertial sensor

## Special detectors


Voda-PRO
Water leak detector


Gradus-PRO
Temperature sensor

## Control devices


Brelok-PRO
Wireless Key Fob

## Auxiliary Equipment


Programmer for wireless devices


Telescopic fire detector puller


ZU-16
Electronic bracelet charger


IZU
Electronic bracelet charger



# Intelligent Equipment

## Intelligent fire detectors


Aurora-DI v.2
Smoke detector


Aurora-TI v.2
Heat detector


Aurora-DTI v.2
Combined sensor detector


Amur-I
Beam detector


Input module MV1-I

## Intelligent call points


IPR-I
Manual call point


UDP-I
Green call point


UDP-I
Orange call point


UDP-I
Yellow call point

## Intelligent fire suppression


Klapan-I 220
Output module for smoke vent dampers


Klapan-I 24
Output module for smoke vent dampers


IB1-I
Output module


Panel-FS
Fire suppression panel


Start-8
Expansion module for Panel-FS

## Intelligent alarm devices


Sirena-I
Sounder


Tablo-I
Fire exit sign

## Intelligent security detectors


Ikar-I
Passive infrared detector


Shtora-I
Passive infrared detector


Arfa-I
Glass break detector

## Auxiliary Equipment


Detector base

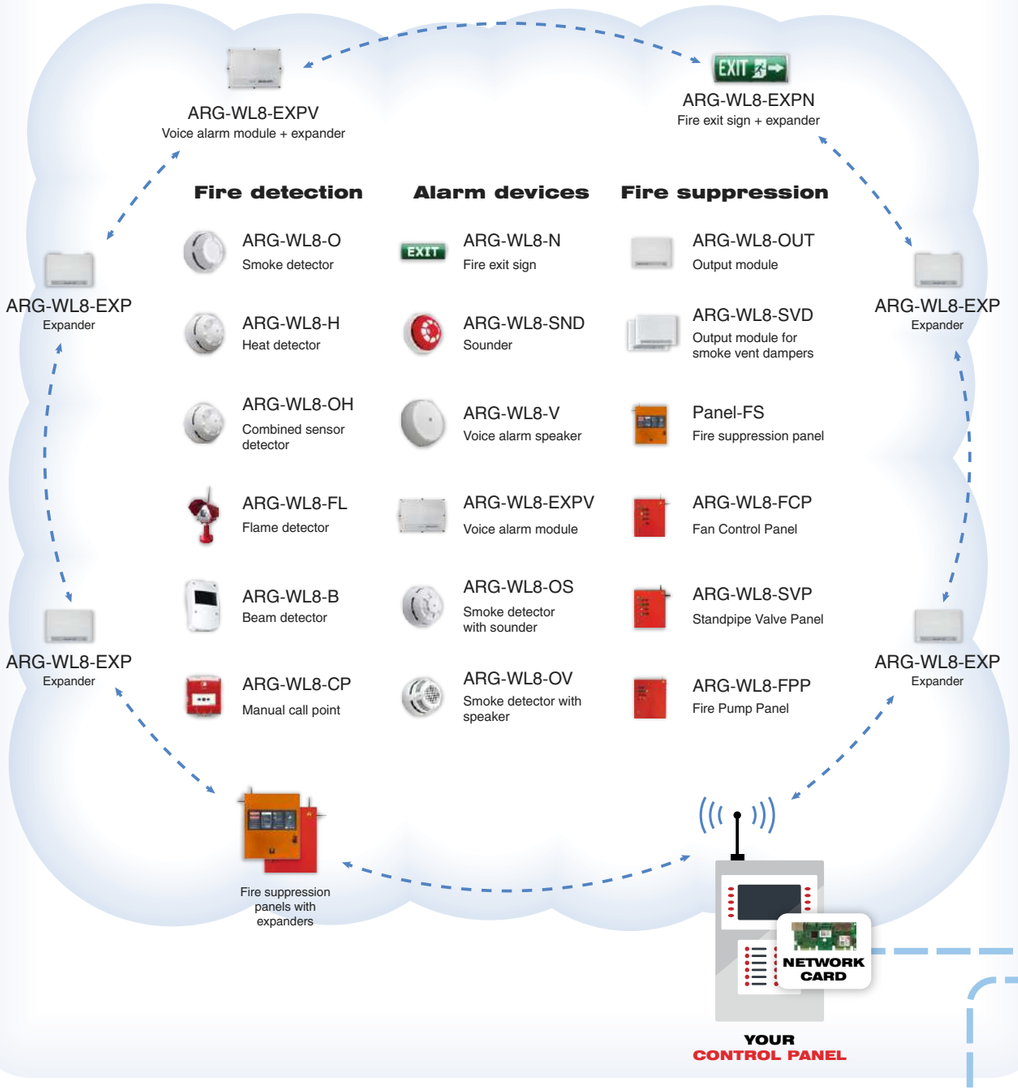

Protective lid for call points


Programmer for intelligent devices

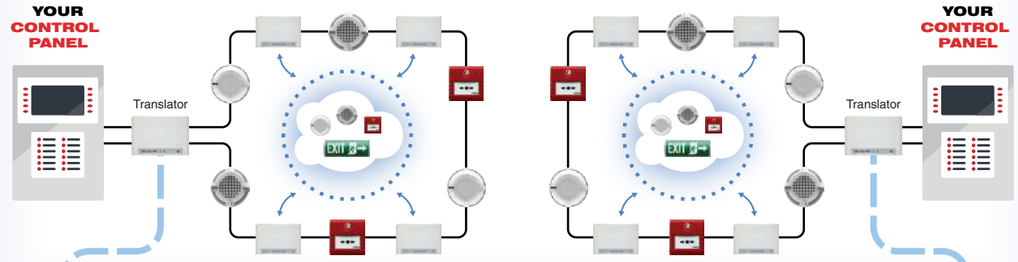

Reflector for beam detectors


Bracket for beam detectors

## WIRELESS CARD + PSU POWERED EXPANDERS

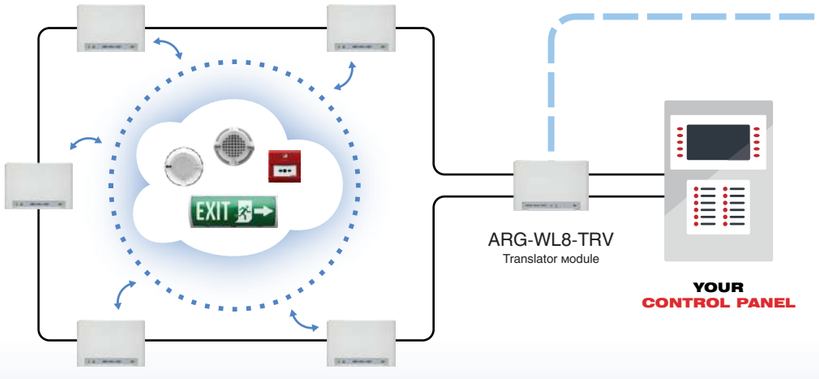



## HYBRID SOLUTION

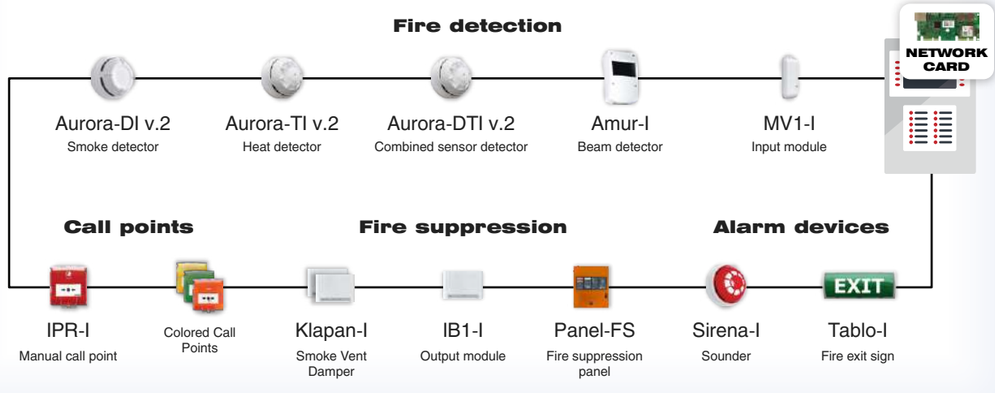



## CLOUD SERVICE


## TRANSLATOR + LOOP POWERED EXPANDERS




## INTELLIGENT FIRE DETECTION



ARGUSSPECTRUM



## Batteries in Streletz-PRO

Overview of the factors that contribute to the 10-year battery life in Streletz-PRO

*catalog.argus-spectr.ru/video/en/batteries*


## Interference in Streletz-PRO

The myths and facts about the reliability of wireless communication in Streletz-PRO

*catalog.argus-spectr.ru/video/en/interference*