FIBRAIN®

Independent Polish manufacturer of fiber optic and drone solutions

FIBRAIN is where the journey of light begins

WATCH THE VIDEO
ABOUT FIBRAIN

FIBRAIN Poland

FIBRAIN is the largest Polish company operating in the broadly defined fiber optic and photonics industry. The company has six production centers, which enables it to act as a comprehensive manufacturer of integrated passive fiber optic systems and optical infrastructure.

Fiber Optic Technologies & Photonics Manufacturing Laboratory Center in Zaczernie

FIBRAIN Fiber Optic R&D and Manufacturing Center in Zaczernie

Fiber Optic Cable Manufacturing and Laboratory Center in Jasionka

Headquarters Głogów Małopolski

Administrative and office building with an R&D department

Future Drone Technology Production Center

Total facility area 30 400 m²

FIBRAIN is
one of only
10 companies
worldwide
producing
optical fiber

OPTICAL FIBER DRAWING
TOWER, WHERE TEMPERATURES
REACH 2000°C.

Polish technologies that drive the future

Innovation drives our growth. A globally unique, state-of-the-art research, development and manufacturing center.

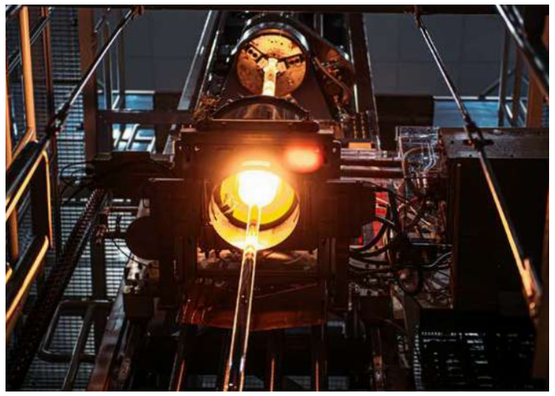
State-of-the-art production facilities

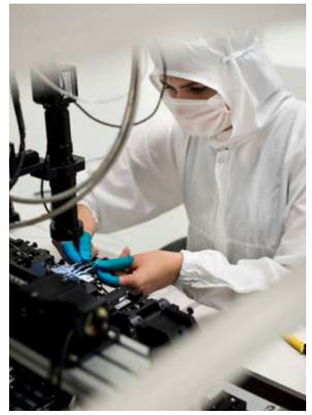
Fiber optic specialists with proven expertise

Over 2000 cable types

Production volume in millions of kilometers

Over 30 years of experience





Strategic location for fast logistics and efficient distribution

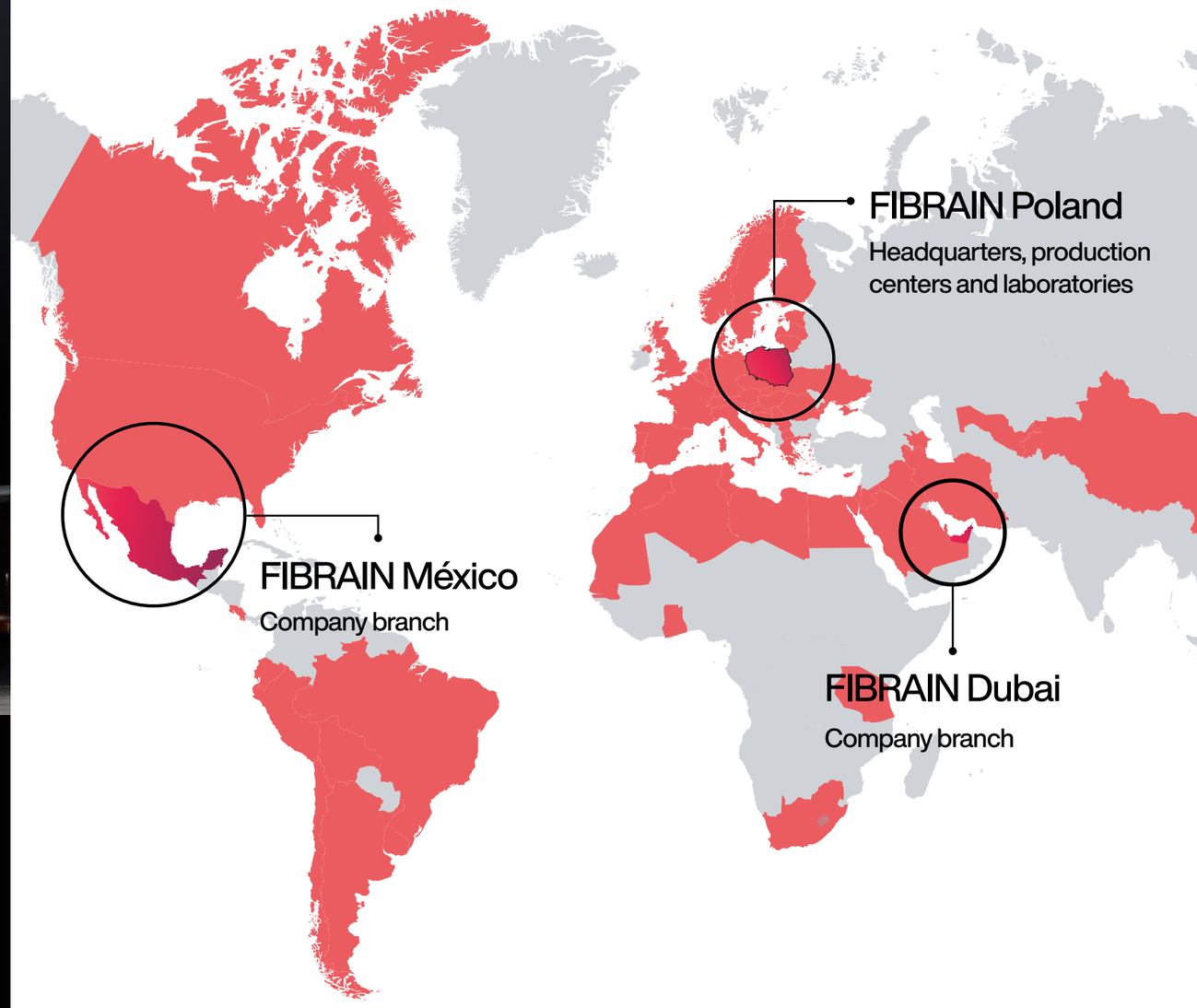
ALL FIBRAIN PRODUCTION CENTERS ARE LOCATED NEAR RZESZÓW-JASIONKA INTERNATIONAL AIRPORT AND THE A4 MOTORWAY, ENSURING FAST LOGISTICS AND GLOBAL CONNECTIVITY.

We cooperate with over 80 countries worldwide

Foreign branches and regional representatives worldwide

6 branches in Poland

Extensive distributor network



Large-scale production capabilities

Our modern assembly infrastructure enables efficient large-scale production while maintaining full control over every stage of the process. Our flexible production capabilities allow us to deliver both standard solutions and fully customized products tailored to individual customer needs.

- Modern machinery park
- Over 800 employees
- Three-shift production system
- We employ experienced specialists and engineers
- Production area over 22.500 m^2
- Available production space and resources

Technology and know-how are the foundations of our success

OUR KEY COMPETITIVE ADVANTAGE LIES IN MODERN TECHNOLOGY AND THE CONTINUOUS DEVELOPMENT OF OUR OWN KNOW-HOW.

Highest quality and certified technology

+27 patents

Support for young scientists

5 research and development departments

At FIBRAIN, we follow a philosophy of earning our customers' trust by meeting their needs in full compliance with all required norms and standards.

NATO Commercial and Government Entity Code

We are currently undergoing WSK certification and obtaining the required licenses.

ISO 9001:2015
Quality management system

ISO 14001:2015
Quality management system

ISO 45001:2018
Occupational health and safety management system

We connect the world on many levels

WE PRODUCE OVER 100 000 KM
OF CABLES ANNUALLY

Business sectors

Mining industry

Industrial sector

Renewable energy

Telecom

Shipbuilding and maritime industry

Military

Power plants

Oil industry

Fiber optic sectors and drone technologies FIBRAIN

01. Production of G.657A2 optical fiber

02. Production of specialized fiber optic deployment reels

03. Production of unmanned aerial vehicles for civil applications

04. Production of components for drones

05. FPV drones

06. Fixed wings drones

07. Miniature jet engines

08. Fiber optic perimeter protection

09. Fiber-to-Radio signal converter

MADE IN POLAND

01. Production of optical fiber

FROM A GLASS PREFORM WITH A DIAMETER OF 15 CM, WE OBTAIN FIBER WITH A DIAMETER OF 0.125 MM

G.657A2 optical fiber

FIBRAIN produces high-quality G.657A2 optical fiber. FIBRAIN fiber is characterized by a reduced bending radius and high resistance to cracking.

Our technology enables real-time data transmission in the most demanding terrain and atmospheric conditions. This guarantees reliable transmission in critical operations.

We have also developed our own proprietary deployment reel for optical measurements with lengths of 10/15/20/30/40/50/60 km.

Tensile strength

High transmission quality

Guarantee of quality, safety, and continuity of supply

02. Production of specialized fiber optic deployment reels

Emergency services and public safety
- Fires and disasters
- Mining and industrial rescue operations

Industry and critical infrastructure
- Internal inspections
- Drilling platforms, refineries
- Nuclear power plants / EMC zones

Monitoring and research
- Atmospheric measurements
- Geodesy and local cartography

Telecommunications and surveillance
- Temporary telecommunications mast
- Mass event monitoring

Specialized / experimental applications
- High data throughput sensor testing
- Laboratories and R&D

Interference-resistant solutions

Our top-class specialized fiber optic deployment reels are manufactured in Poland and have been tested in demanding conditions. They ensure stable and secure communication even in heavily disrupted zones. We offer express delivery and a wide range of lengths from 1 to 50 km.

Transport reel:
- enhanced durability in extreme conditions
- lightweight materials
- low friction during fiber deployment

Optional communication module:
- European design, Western components, manufactured in Poland
- Fiber optic signal quality display for better control
- Dedicated laser for UAV – improved performance and signal stability

Super lightweight and durable optical fiber:
- immune to interference
- ultra-light fiber
- excellent macrobending performance, low attenuation

03. Production of unmanned aerial vehicles for military and civil applications

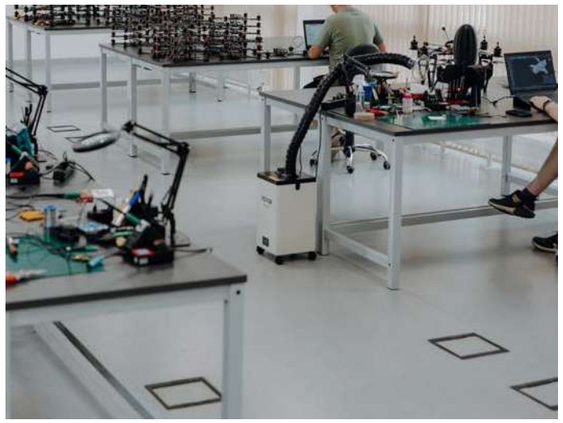
Comprehensive drone production

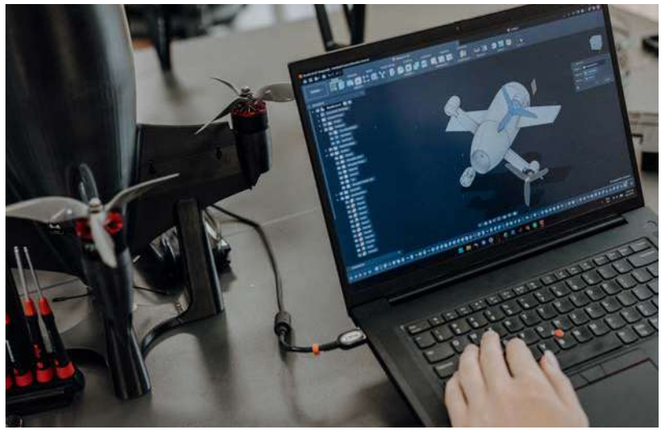
Modern drones are used for both military purposes, such as surveillance, reconnaissance, and precision strikes, and a growing number of civil applications, including border and building security, critical infrastructure monitoring, infrastructure inspection, deliveries, and environmental monitoring. They enable rapid threat detection, monitoring of sensitive areas, and effective response to critical situations.

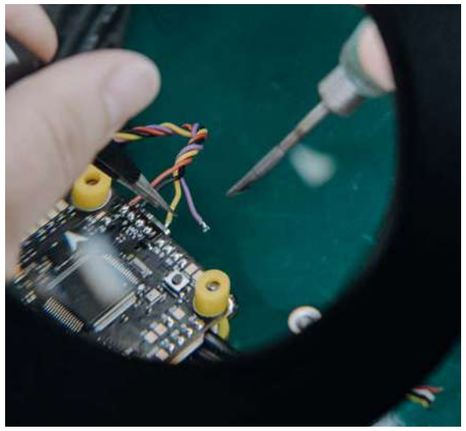
Drone testing zone

Production: assembly, 3D printing, production line

Training in drone assembly and operation





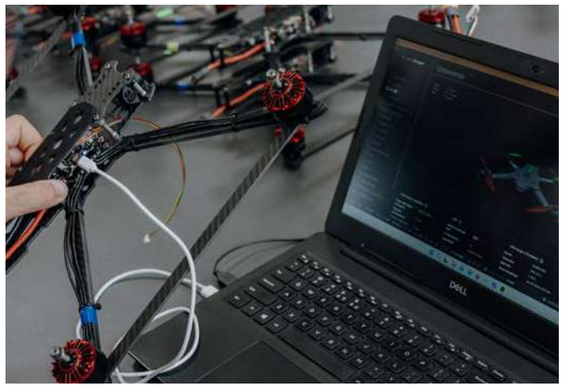


04. Production of components for drones

Every element matters

We are not only a manufacturer of unmanned aerial vehicles but also a producer of all the key components necessary for their construction. We design and manufacture carbon fiber frames, batteries, engines, and advanced control electronics. Through full integration of the production process, we ensure the highest quality, technological independence, and complete control over every stage of the development of our UAV systems.

- Electronics production
- Production: assembly, 3D printing, production line
- Production of batteries and energy storage systems
- Production of drone frames
- Drone engine manufacturing
- Production of connectivity components



05. Radio controlled drones

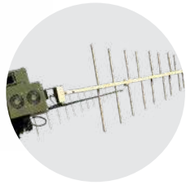
DRON VPL7

Radio controlled

Speed
up to 130 km/h

Battery time
up to 20 min

Payload
up to 1500 g



Range
up to 20 km

VPL7 / Technical information

Control receiver frequency	868 / 915 MHz
Analog video transmitter frequency	5.8 GHz
Analog video transmission channel bandwidth	30 MHz
Camera type	analog / thermal imaging
Frame size	7 inches
Battery	Li-ion 6S2P
Cruising speed	60-80 km/h
Maximum speed	130 km/h
Flight range	20 km
Payload capacity	1.5 kg

* We can modify the features to suit the end user's needs.
** Equipment details and additional options can be found in the product data sheet.

05. Radio controlled drones

VPL10

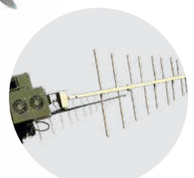
DRON VPL10

Radio controlled

Speed
up to 130 km/h

Battery time
up to 30 min

Payload
up to 3000 g



Range
up to 30 km

VPL10 / Technical information

Control receiver frequency	868 / 915 MHz
Analog video transmitter frequency	5.8 GHz
Analog video transmission channel bandwidth	30 MHz
Camera type	analog / thermal imaging
Frame size	10 inches
Battery	Li-ion 6S4P
Cruising speed	60-80 km/h
Maximum speed	130 km/h
Flight range	30 km
Payload capacity	3.0 kg

* We can modify the features to suit the end user's needs.
** Equipment details and additional options can be found in the product data sheet.

05. Radio controlled drones

DRON VPL15

Radio controlled

Speed
up to 130 km/h

Battery time
up to 40 min

Payload
up to 2500 g

Range
up to 40 km

VPL15 / Technical information

Control receiver frequency	868 / 915 MHz
Analog video transmitter frequency	5.8 GHz
Analog video transmission channel bandwidth	30 MHz
Camera type	analog / thermal imaging
Frame size	10 inches
Battery	Li-ion 6S4P
Cruising speed	60-80 km/h
Maximum speed	130 km/h
Flight range	40 km
Payload capacity	2.5 kg

* We can modify the features to suit the end user's needs.

05. Fiber optic controlled drones

VPL10F

DRON VPL10F

Fiber optic controlled

Speed
up to 100 km/h

Battery time
up to 30 min

Payload
up to 2000 g

Range
up to 30 km

VPL10F / Technical information

Camera type	analog / thermal imaging
Fiber-optic spool length	30 km
Frame size	10 inches
Battery	Li-ion 6S4P
Cruising speed	60–80 km/h
Maximum speed	100 km/h
Flight range	30 km
Payload capacity	2.0 kg

* We can modify the features to suit the end user's needs.
** Equipment details and additional options can be found in the product data sheet.

05. Fiber optic controlled drones

VPL15F

DRON VPL15F

Fiber optic controlled

Speed
up to 100 km/h

Battery time
up to 40 min

Payload
up to 2500 g

Range
up to 40 km

VPL15F / Technical information

Camera type	analog / thermal imaging
Fiber-optic spool length	40 km
Frame size	15 inches
Battery	Li-ion 2 x 6S4P
Cruising speed	50-60 km/h
Maximum speed	100 km/h
Flight range	40 km
Payload capacity	2.5 kg

* We can modify the features to suit the end user's needs.
** Equipment details and additional options can be found in the product data sheet.

06. Fixed wings drones

Jet - fixed wing drone

- Powered by jet engine
- Autonomous flight control system for targeting a selected object
- Ability to select a target using the onboard camera feed and subsequently fly toward the marked object using machine vision
- Additional option to fly toward a target based on specified geographic coordinates using a GNSS system supported by inertial navigation

Technical parameters

	Variant 1	Variant 2	Variant 3
Dimension	200 cm x 140 cm x 26 cm (W x L x H)		
Speed	400 - 450 km/h	350 - 400 km/h	350 - 400 km/h
Distance	50 km	150 km	500 km
Payload	1.5 - 2.5 kg	1.5 - 2.5 kg	5 - 10 kg
Drone availability	**Q3 2026**	**Q3 2026**	**Q2 2027**

* Details available on request

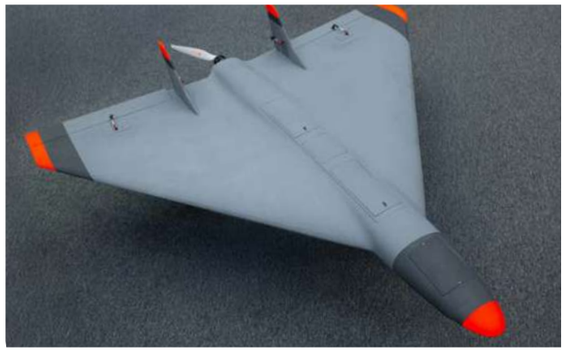
06. Fixed wings drones

ELECTRIC ENGINE

Delta - fixed wing drone

- Powered by electric engine
- Auto release launch mechanism
- Ground modem plus antenna
- GNSS anti-jam CRPA Antenna targeting precision 3 m

Working in GPS denied and jamming areas



Technical parameters	
Dimension	150 cm x 145 cm x 20 cm (W x L x H)
Speed	115 km/h (32 ms) - 80 km range 150 km/h (42 ms) - 50 km range
Max speed	215 km/h (60 ms)
Dive speed	230 km/h (65 ms)
Payload	3 kg (max. 4 kg)
Ready for take-off	≤ 5 min
Crew team	2 operators
Video stream rebroadcasting	Up to 80 km (Silvus, MPU5, DTC, Radionor modems)
Video stream (RVLOS)	≥ 30 km (Microhard 6 GHz band modem)
FPV Control Range	Up to 30 km

07. Miniature jet engines

GTM 180 and 400 combine high power output, advanced control technology, and proven reliability, providing a dependable propulsion solution for next-generation UAV platforms and demanding aerospace missions.

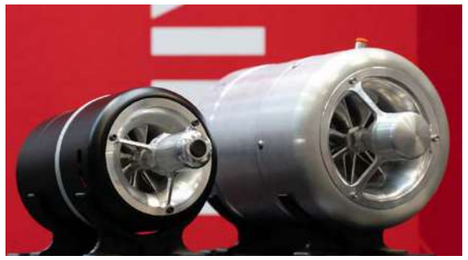
Jet

LATEST BEARING LUBRICATION SYSTEM
WITH DIRECTIONAL AIRFLOW.

THERMAL PROTECTION OF THE TURBINE BEARING THROUGH
THE USE OF AN ALUMINUM-STEEL SHAFT SLEEVE.

Miniature jet engines

Combining power, reliability, and advanced technology in a compact package, this miniature jet engine is designed for demanding applications. It delivers stable performance, high efficiency, and exceptional operational safety through state-of-the-art engineering solutions.



Parameter	F-Jet 180	F-Jet 400
Maximum Thrust	180 N	400 N
Cruise Thrust	14–16 kgf	25–30 kgf
Start-Up Time	25 s	30 s
Time to Full Throttle	6 s	10 s
Rotor Speed at Max. Power	120.000 rpm	90.000 rpm
Fuel Consumption	430 g/min	1.150 g/min
Weight	1.790 g	4.300 g
Dimensions	315 mm, Ø115 mm	377 mm, Ø156 mm
Power Supply	Jet A1 + 3–5% Jet Oil II	Jet A1 + 4% Jet Oil II
Electric Starter	Integrated three-phase BLDC starter	Integrated three-phase BLDC starter
Automatic Restart	Automatic "kerostart"	Automatic "kerostart"
EGT Sensor	Internal	Internal
RPM Measurement	Optical	Optical
ECU	32-bit ARM Cortex® controller	32-bit ARM Cortex® controller
Telemetry	CAN, UART, SBUS, SBUS2, JETI, FrSky, FUTABA	CAN, UART, SBUS, SBUS2, JETI, FrSky, FUTABA
Fuel System	Integrated pump and fuel valves	Integrated pump and fuel valves
Data Logging	Flight and fault recording	Flight and fault recording
Fail-Safe Protection	Integrated	Integrated
Starter Durability	400 tested cycles	400 tested cycles
Bearings	BARDEN precision bearings (Germany)	BARDEN precision bearings (Germany)
Service Interval	25h operating hours	25h operating hours

Key Advantages

- High-performance propulsion solution for UAV and aerospace applications
- High thrust-to-weight ratio with stable and predictable performance
- Smooth and precise throttle response across the full power range
- Advanced FIBRAIN electronic engine control system
- Integrated telemetry, real-time monitoring, and diagnostics
- Automatic engine restart and Fail-Safe protection
- Proven and validated performance and reliability
- Complete ready-to-integrate propulsion package
- Designed for reliability, safety, and mission-critical operations

08. Fiber optic perimeter protection

Key system components:

1. Analyzing unit (interrogator) – the“brain” of the system.

2. Fiber optic detection cables – a sensitive measurement element (up to 100 km).

WATCH VIDEO

3. TrueWarning view software – visualization of alarms and event locations (with accuracy up to 2 m).

FIBRAIN TRUEWARNING. DETECTS. LOCATES. RESPONDS.

Fiber optic monitoring

FIBRAIN TrueWarning is a perimeter protection system that uses a fiber optic cable as a sensor extending over hundreds of kilometers to detect ground intrusions. The system is ideally suited for monitoring state borders and large critical infrastructure facilities such as airports, railways, water reservoirs, and transmission lines, including power lines and pipelines (gas, oil, and water).

- Invisible and difficult to sabotage
- Does not require power supply for up to 100 km
- up to 100 km — Designed for long distances
- Weather resistance
- Does not require continuous monitoring
- do 2 m — Precise event localization

09. Fiber-to-Radio signal converter

TRANSMITTER MODULE

A receiver/ transmitter plugged into the controller, equipped with a JR connector. The module receives an optical signal from the fiber.

FIBER-OPTIC CABLE

A flexible fiber-optic cable that enables the connection between the operator and the mast.

CONVERTER MODULE

A module located at the antenna mast. It is a portable Fiber-to-Radio converter, installed directly at a directional or omnidirectional antenna, powered by battery or mains supply. The converter enables lossless signal transmission over distances of up to 60 km (!)

Thanks to fiber-optic technology, the distance between the operator and the antenna can be

up to 60 km

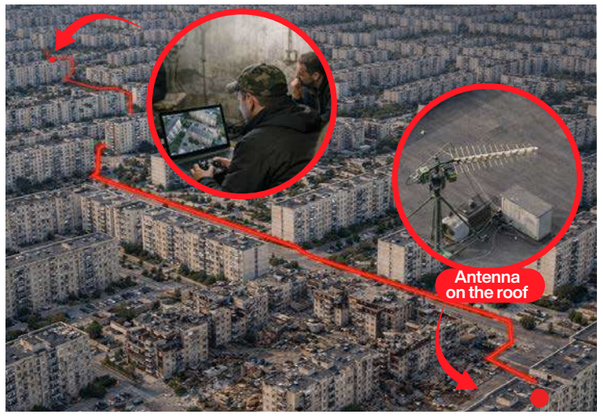
Protects the operator. Extends mission range. Ensures signal quality.

On the modern battlefield, drones constitute essential equipment for every army. To effectively extend their range, signal-boosting antennas for the drone's control unit are used, mounted on telescopic masts. To connect the drone control unit to the antenna, the operator uses a coaxial cable whose physical properties force operation at close range to the antenna - typically from a few to several meters - which exposes the operator's position and poses a real threat to life.

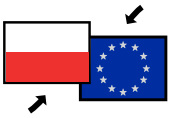
Operator safety

Stable communication

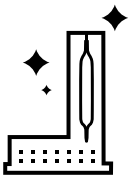
Long range - up to 60 km



What makes FIBRAIN a worthwhile collaboration partner?



European production



Independent and self-reliant producer

Over 30 years on the market

International experience worldwide

Quality at a reasonable price

Guarantee of quality

Guarantee of stable delivery chain

Comprehensive solutions with warranty

Battle-field tested

Fast and safe shipping

FIBRAIN

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