



W.S.P
WORLD SCAN PROJECT

JIKAI Business in the Metal Detector Market

NOVEMBER 2025

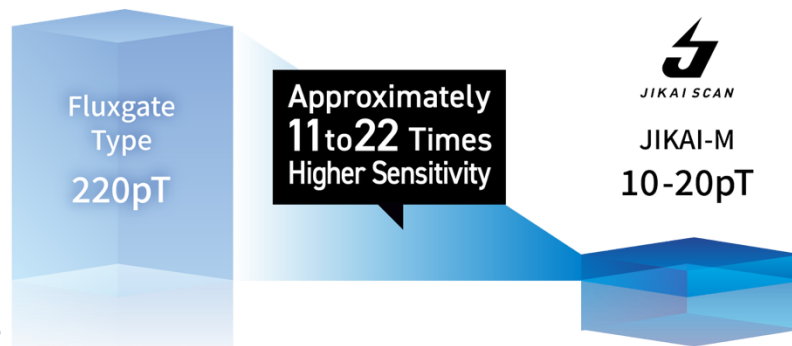
1. JIKAI SCAN Product Overviews

Next-Generation Magnetic Field Sensor **JIKAI SCAN**

Born from Japan's cutting-edge technology, the next-generation magnetic field sensor "JIKAI" achieves ultra-high precision, high sensitivity, and low noise performance that surpass the limits of conventional sensors.

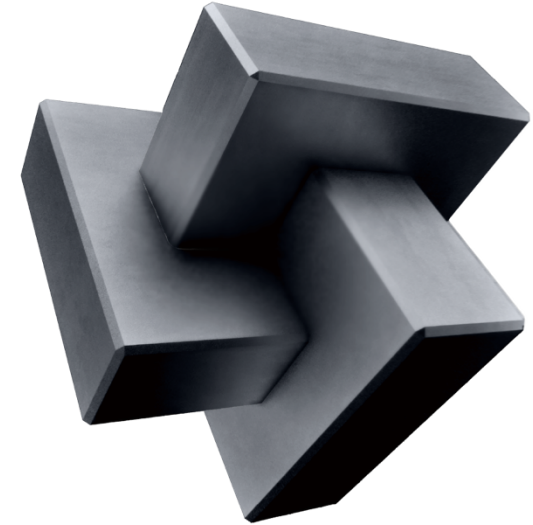
Despite its compact size and low cost, it can accurately detect buried or submerged metals and resources, enabling reliable magnetic field measurements even in environments where such measurements were previously difficult.

Sensitivity more than 10 times higher than
conventional magnetic field sensors



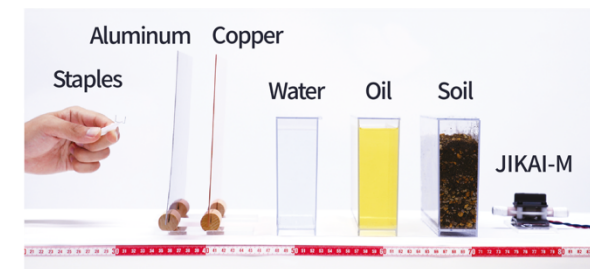
*pT stands for picotesla, a very small unit of magnetic field. Smaller values indicate a more sensitive sensor.

In comparative tests, JIKAI detected magnetic fields in the range of 10–20 pT, whereas conventional fluxgate sensors registered 220 pT. Since smaller pT values indicate higher sensitivity, the results demonstrate that JIKAI can detect magnetic field variations with more than ten times the performance of conventional sensors.



Detection beyond distance and obstacles

With a staple positioned about 1.6 feet away and obstacles such as aluminum, copper, water, oil, and soil inserted between the sensor and the target, JIKAI successfully measured the magnetic field. This demonstrates its ability to reliably detect weak magnetic fields at long distances, even in the presence of intervening materials.



1. JIKAI SCAN Product Overviews

01 | JIKAI-M

Compact × Low Power × Long-Range High-Precision Measurement

JIKAI-M achieves approximately ten times higher sensitivity than conventional fluxgate sensors, the mainstream type. With picotesla-level sensitivity, it can detect extremely subtle magnetic variations.



Core medium (magnetic material)
Amorphous ribbon

Measurement principle
JIKAI method

Features and Benefits

 **High Noise Immunity**
Acquires high-accuracy, highly reliable data.

 **Low Power Consumption**
Enables long duration surveys.

 **Drone-Mountable**
Supporting surveys in the air, underwater, and hazardous areas.

 **High-Precision Measurement at Long Range**
Acquires accurate data even when close approach is difficult.

Primary Applications and Domains

 **Areas Inaccessible to People**
Disaster zones, dangerous regions, deep sea, and more.

 **Hazardous Object Detection**
Remote detection of landmines and unexploded ordnance.

 **Underwater Exploration**
Surveys of shipwrecks, subsea cables, and seafloor resources.

Comparison with Other Products

JIKAI-M Detection Sensitivity

In comparative tests against fluxgate-type sensors, JIKAI-M demonstrated approximately 11 to 22 times higher sensitivity, enabling the detection of extremely subtle magnetic changes and ensuring accurate measurements even at greater stand-off distances.

Oscilloscope Trace of Sensor Sensitivity



Comparison Test: JIKAI-M and Fluxgate Type



*pT stands for picotesla, a very small unit of magnetic field. Smaller values indicate a more sensitive sensor.
(Based on our research)

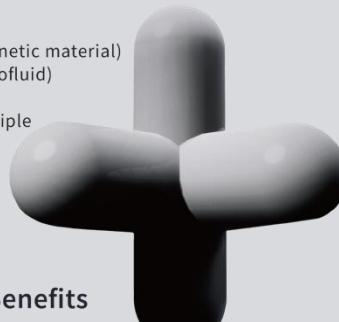
02 | JIKAI-F

A next-generation magnetic field sensor that maintains high accuracy even in a strong magnetic field

JIKAI-F is an innovative magnetic field sensor that employs a magnetic fluid core. It overcomes the challenges of conventional fluxgate and optically pumped methods, remaining free from magnetization even in strong magnetic fields and enabling stable measurements.

Core medium (magnetic material)
Magnetic fluid (ferrofluid)

Measurement principle
JIKAI method



Features and Benefits

 **Accurate in Strong Magnetic Fields**
Accurate even in strong magnetic fields beyond the reach of conventional methods.

Primary Applications and Domains

 **Unknown Magnetic Environments**
Outer space, Mars, and more.

 **High-Field Sites**
Power transmission facilities, factories, railways, steelworks, and more.

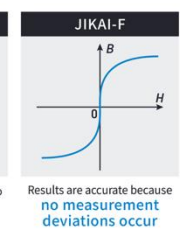
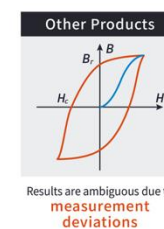
 **Areas Inaccessible to People**
Disaster zones, dangerous regions, deep sea, and more.

 **Geomagnetism**
Geomagnetic measurements, earthquake precursor studies, and more.

Comparison with Other Products

Accuracy and Consistency of JIKAI-F Measurements

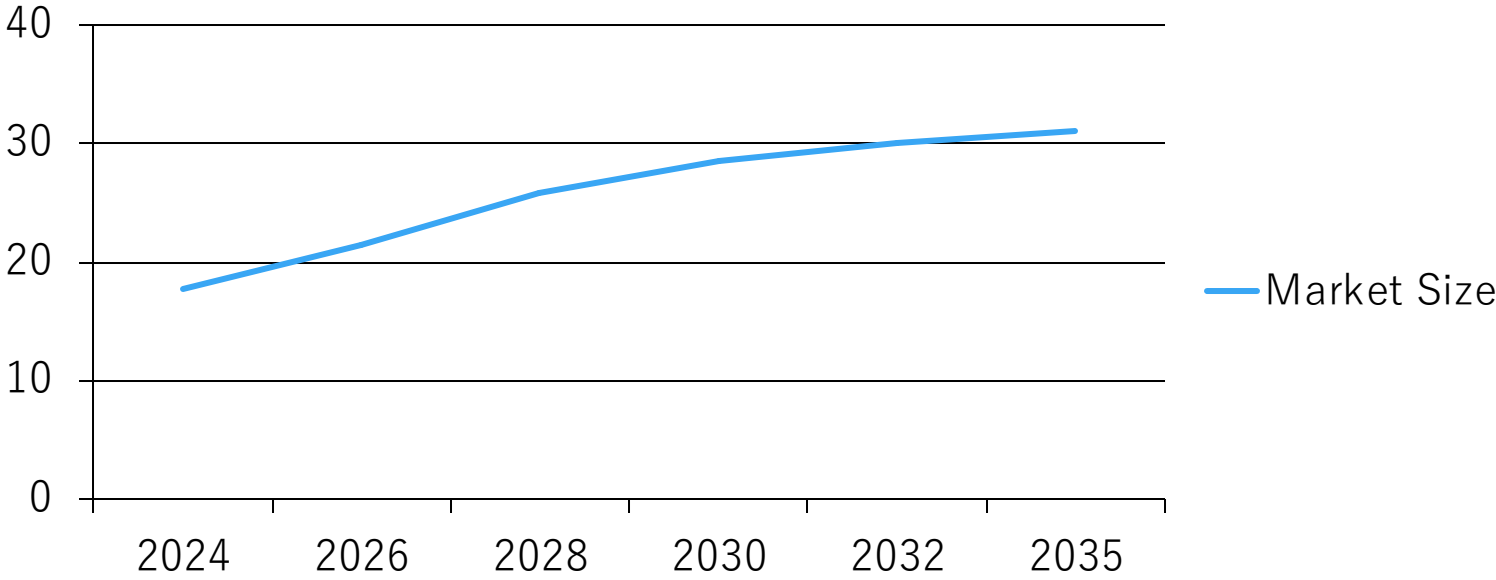
When the magnetic field strength changes, conventional sensors produce inconsistent readings. This phenomenon, known as hysteresis, causes measurement errors. In contrast, JIKAI-F provides stable and accurate measurements regardless of changes in magnetic field strength.



2. World Market Forecast

Unit: 100 million USD

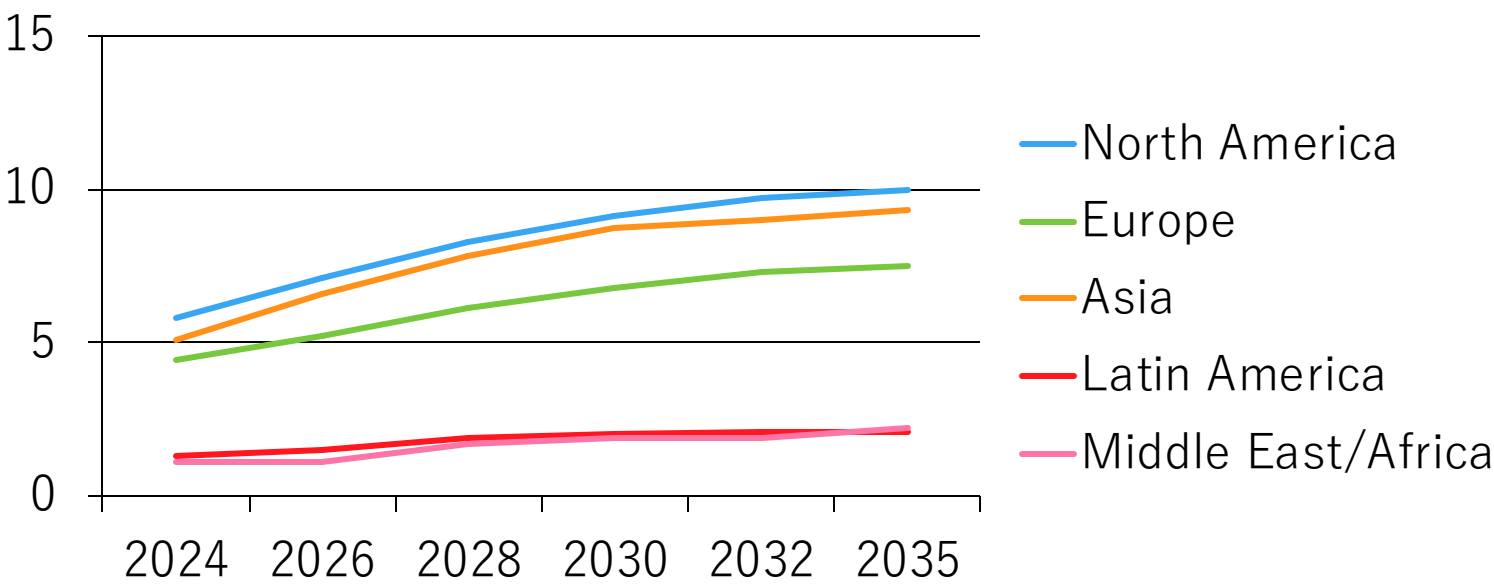
Year	Market Size
2024	17.7
2026	21.5
2028	25.8
2030	28.5
2032	30.0
2035	31.1



3. Global Market Breakdown by Region

Unit: 100 million USD

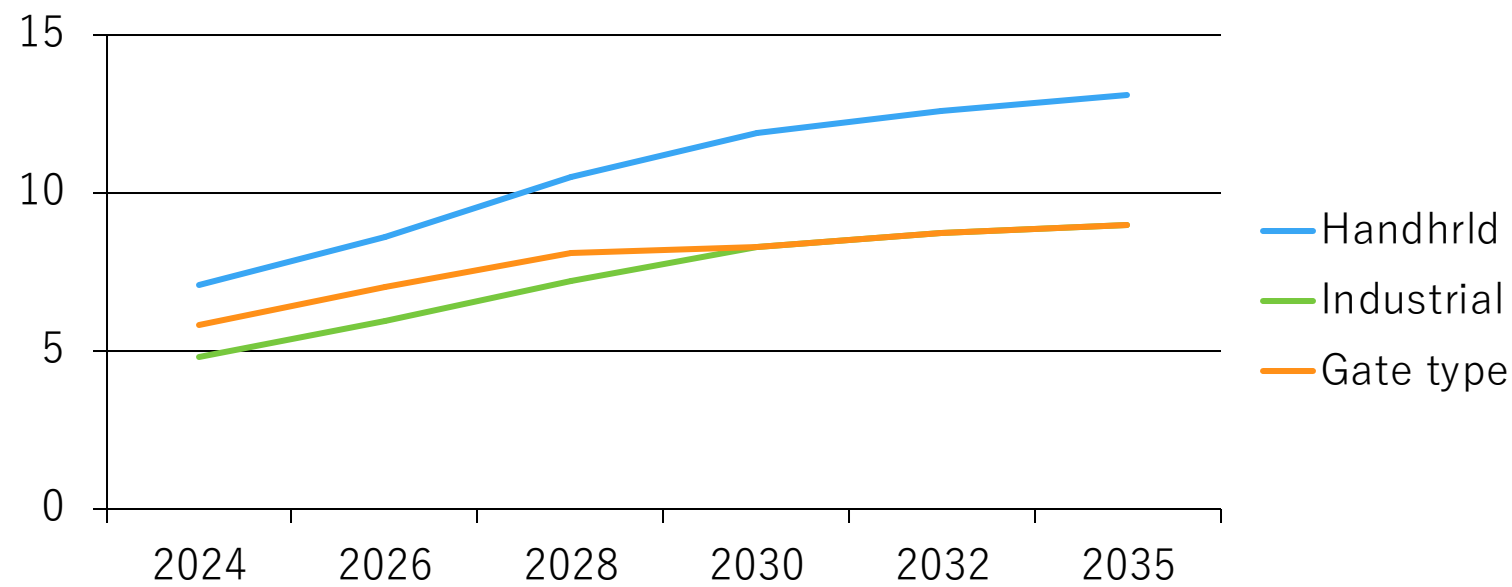
Year	North America	Europe	Asia	Latin America	Middle East /Africa	Total
2024	5.8	4.4	5.1	1.3	1.1	17.7
2026	7.1	5.2	6.6	1.5	1.1	21.5
2028	8.3	6.1	7.8	1.9	1.7	25.8
2030	9.1	6.8	8.7	2.0	1.9	28.5
2032	9.7	7.3	9.0	2.1	1.9	30.0
2035	10.0	7.5	9.3	2.1	2.2	31.1



4. Market forecast by type

Unit: 100 million USD

Year	Handheld	Industrial	Gate type	Total
2024	7.1	4.8	5.8	17.7
2026	8.6	5.9	7.0	21.5
2028	10.5	7.2	8.1	25.8
2030	11.9	8.3	8.3	28.5
2032	12.6	8.7	8.7	30.0
2035	13.1	9.0	9.0	31.1



5. World Market Share of Drone-mounted Magnetic Field Sensors

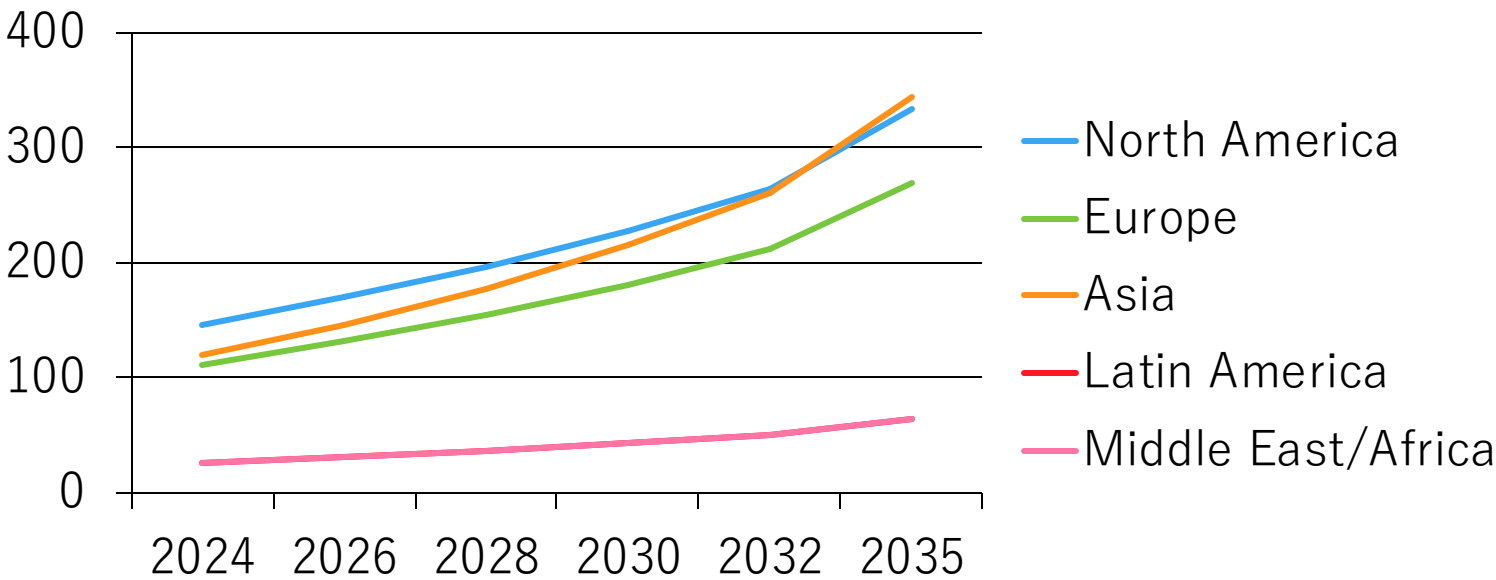
Unit: 100 million USD

Year	Drone-mounted Magnetic Field Sensors	Metal Detector Market	Share (%)
2024	430	1,770	24.3
2026	508.1	2,150	23.6
2028	600.3	2,580	23.3
2030	709.3	2,850	24.9
2032	838.1	3,000	27.9
2035	1,076.4	3,110	34.6

6. Breakdown of Drone-mounted Magnetic Field Sensor World Market by Region

Unit: million USD

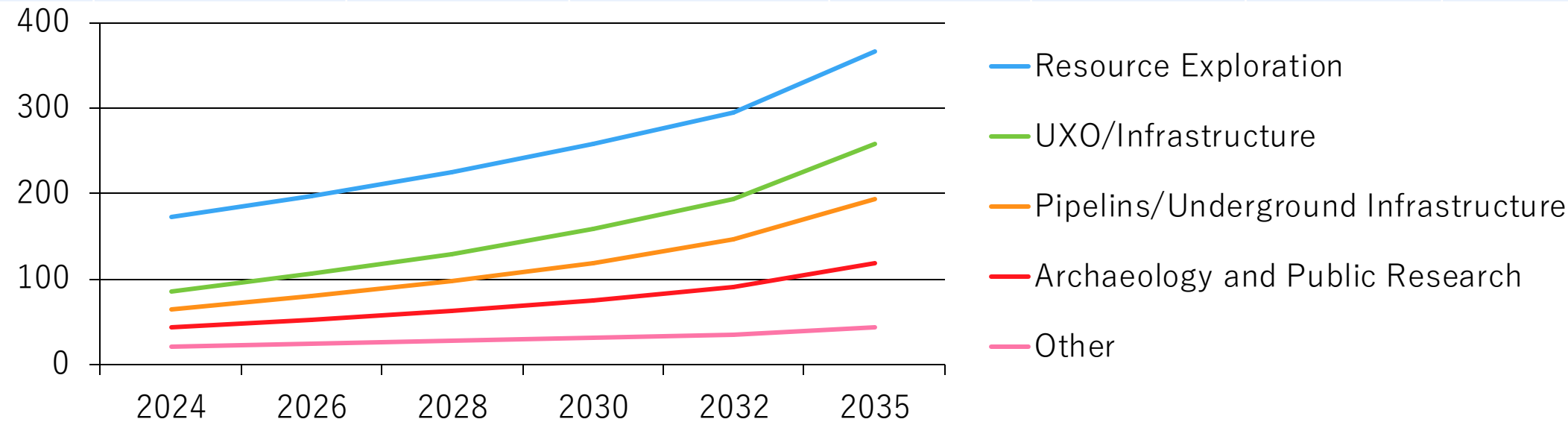
Year	North America	Europe	Asia	Latin America	Middle East /Africa	Total
2024	146.2	111.8	120.4	25.8	25.8	430
2026	169.7	131.1	146.3	30.5	30.5	508.1
2028	196.9	153.7	177.7	36.0	36.0	600.3
2030	228.4	180.2	215.6	42.6	42.6	709.3
2032	264.8	211.2	261.5	50.3	50.3	838.1
2035	333.7	269.1	344.5	64.6	64.6	1,076.4



7. Breakdown of Drone-mounted Magnetic Field Sensor Market (Worldwide)

Unit: million USD

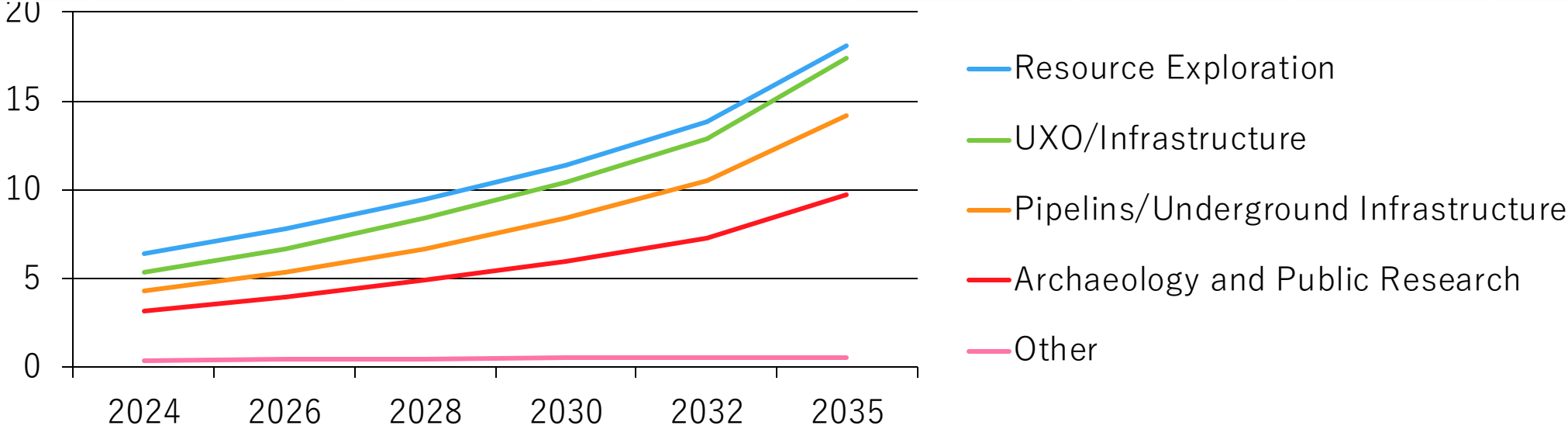
Year	Resource exploration	UXO and infrastructure	Pipelines/undergro und infrastructure	Archaeology and public research	Academic and geomagnetic observations	Other	Total
2024	172.0	86.0	64.5	43.0	43.0	21.5	430
2026	197.1	105.7	79.3	51.8	49.8	24.4	508.1
2028	225.7	129.7	97.3	62.4	57.6	27.6	600.3
2030	258.2	158.9	119.2	75.2	66.7	31.2	709.3
2032	295.0	194.4	145.8	90.5	77.1	35.2	838.1
2035	366.0	258.3	193.8	118.4	96.9	43.1	1,076.4



8. Breakdown of Drone-mounted Magnetic Field Sensor Market (Domestic)

Unit: million USD

Year	Resource exploration	UXO and infrastructure	Pipelines/underground infrastructure	Archaeology and public research	Academic and geomagnetic observations	Other	Total
2024	6.4	5.4	4.3	3.2	1.7	0.4	21.5
2026	7.8	6.7	5.4	4.0	2.1	0.5	26.4
2028	9.5	8.4	6.7	4.9	2.5	0.5	32.4
2030	11.4	10.4	8.4	6.0	2.9	0.6	39.7
2032	13.8	12.9	10.5	7.3	3.5	0.6	48.6
2035	18.1	17.4	14.2	9.7	4.5	0.6	64.6





Growth Factors

Increasing security demand (airports, public facilities, events)

Demand for quality control in industrial applications (food and pharmaceuticals)

Improved detection accuracy through AI and high sensitivity

Tighter regulations and increasing standardization

Infrastructure development and widespread adoption in emerging countries



Risk Factors

High initial and maintenance costs

Competition with alternative technologies such as X-ray inspection

Risk of policy and budget fluctuations

Price competition due to market saturation

10. Trends in Japan and Asia

The non-destructive testing equipment market is expanding. Metal detectors are expected to grow as part of this.



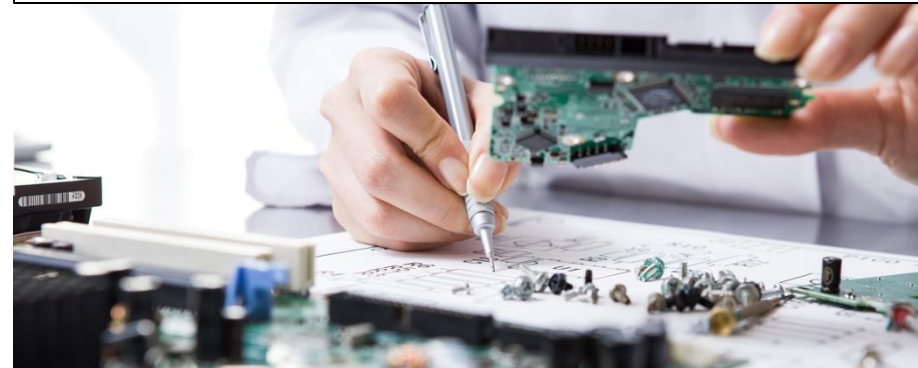
Expanding urban security demand (events, stations, facilities, etc.)



Industrialization and infrastructure development in emerging Asian countries are driving growth



Domestic manufacturers differentiate themselves through high precision and miniaturization technology



The metal detector market is supported by a wide range of uses, including security, industry, and leisure, and is expected to continue growing at an average annual rate of 5-10%.

- ◆ **Growth has been particularly notable in the handheld and industrial use sectors**, and they are expected to become more widespread in Japan and other Asian markets.
- ◆ Attention must be paid to price competition, alternative technologies, and policy trends, **as technological innovation and added value will be the keys to sustainable growth.**



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