

Commercial Proposal for the Supply of Analyzers for Geology, Precious Metals, and RoHS Environmental Control

Direct shipments from China for geological exploration enterprises, gold mining companies, jewelry industry, environmental laboratories, and quality control services in Russia, Kazakhstan, Belarus, Ukraine, and CIS countries

Author: [Milosh Kovachevic](#) — Senior Consultant for Industrial Machinery and Production Lines

Supplier Company: Metal-Asia.pw — Direct industrial equipment shipments from China

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1. Customer Challenges and Our Solutions

1.1. Specific Challenges for Geological and Jewelry Customers

Problem	Consequences	Metal-Asia Solution
Inability to operate in field conditions (-30°C)	Work stoppage during winter period	Supply of devices with extended temperature range (-20 to +50°C)
Inaccurate Au determination at concentrations < 1 g/t	Enrichment losses, exploration errors	Precious Metals calibration with 0.01 g/t resolution
False results when analyzing Au-Cu-Ag alloys	Underpayment during purchase, legal disputes	Using calibration with inter-element effect corrections

Problem	Consequences	Metal-Asia Solution
Lack of database for CIS ores	Incorrect mineral identification	Pre-installed geological bases for RF and KZ deposits
Inability to determine Cd, Pb in soils at MPC level	Rosprirodnadzor fines, production shutdown	Soil calibration with LOD < 2 ppm for heavy metals
Certification difficulties for customs control	Goods delays at the border	Assistance with conformity declaration preparation

1.2. Target Segments

Segment	Customer	Task Profile
Geological exploration	Rosgeologia, Kazakteleon, private geologists	Determination of Au, Ag, Cu, Zn, Pb, Mo in ores and samples
Gold mining	Polymetal, Petropavlovsk, Kazakhaltyn	Control of Au content in ores, tails, and concentrates
Jewelry industry	Gokhran, Sberbank, jewelry plants	Assay determination, alloy analysis, expertise
Pawnshops and purchasing	Private companies	Express analysis of precious metal assays
Environmental control	Rosprirodnadzor, environmental laboratories	Determination of heavy metals in soils and water
Customs control	Russian Federal Customs Service, EAEU customs	Verification of goods compliance with RoHS requirements
Catalytic converter repair	Auto services, recyclers	Determination of Pt, Pd, Rh in automotive catalytic converters

2. Analyzers for Geology and Mineralogy

2.1. Portable XRF for Geology

Bruker S1 TITAN 800 Geo

Parameter	Value
Method	ED-XRF
Elemental Range	Mg (12) — U (92)
Geo Calibration	Standard (included)
Geological Standards	Au, Ag, Cu, Zn, Pb, Ni, Co, Fe, Mn, Ti, V, Cr, Mo, W, Sn, Sb, As
Au Detection Limit	2-5 ppm (in sample)

Parameter	Value
Cu, Zn, Pb Detection Limit	1-10 ppm
Analysis Time	30-120 seconds (adaptive)
GPS	Built-in, results linked to coordinates
Camera	5 MP, sample documentation
Operating Temperature	-20°C to +50°C
Moisture Protection	IP54
Mineral Database	2000+ records with photos and spectra
Price FOB Shanghai	from 29,500 USD

Hitachi X-MET 8000 Expert Geo

Parameter	Value
Method	ED-XRF with large SDD
Elemental Range	Mg (12) — U (92)
Detector	Large area SDD, 30 mm ²
Resolution	< 135 eV
Geo Calibration	Soil + Mining
Au Detection Limit	1-3 ppm
GPS	Optional module
Application	Geological exploration, enrichment control, reserve estimation
Price FOB Shanghai	from 28,500 USD

2.2. Laboratory XRF for Geology

Skyray EXPLORER 7000

Parameter	Value
Method	Laboratory ED-XRF
Elemental Range	Na (11) — U (92)
Detector	SDD with vacuum chamber
Resolution	140 ± 5 eV
X-ray Tube	50 kV, 1000 µA
Sample Chamber	320 x 100 mm, vacuum to 10 Pa

Parameter	Value
Au Detection Limit	0.1-0.5 ppm
Software	Geology Edition with mapping
Price FOB Shanghai	from 35,000 USD

2.3. Geological Calibration Specifications

Calibration	Elements	Range	Application
Geo-Standard	Au, Ag, Cu, Zn, Pb, Fe, Mn, Ti	1 ppm – 100%	Standard geological exploration
Geo-Gold	Au, Ag, As, Sb, Cu, Pb, Zn, W, Mo	0.1 ppm – 100%	Exploration and evaluation work
Geo-Base Metals	Cu, Zn, Pb, Ni, Co, Fe, Mn, Cr	1 ppm – 100%	Copper-nickel, polymetallic ores
Geo-Iron Ore	Fe, SiO ₂ , Al ₂ O ₃ , CaO, MgO, P, S	0.01% – 100%	Iron ores, sinter, pellets
Geo-Bauxite	Al, Si, Fe, Ti, Ga, V, Cr	0.01% – 100%	Bauxites, alumina
Geo-Rare Earth	La, Ce, Nd, Pr, Sm, Eu, Gd, Y	10 ppm – 100%	Rare earth elements

3. Analyzers for Precious Metals

3.1. Portable XRF for Jewelry Industry

Bruker S1 TITAN 800 Precious Metals

Parameter	Value
Precious Metals Calibration	Included in standard delivery
Analyzable Elements	Au, Ag, Pt, Pd, Rh, Ru, Ir, Os, Cu, Zn, Ni, Cd, Sn, Pb, Fe
Assay Range	375, 500, 585, 750, 916, 999 for Au; 800, 925, 999 for Ag
Assay Resolution	0.1 carat (Au)
Au Accuracy	± 0.2% by mass
Small Spot 3 mm	Included (for small items)
Camera	5 MP, item photo + result
Report	Automatic protocol with photo
Operating Temperature	-10°C to +50°C

Parameter	Value
Price FOB Shanghai	from 29,500 USD (with PM calibration)

Olympus GoldXpert (Evident)

Parameter	Value
Method	ED-XRF benchtop/portable
Elemental Range	Cr (24) — W (74)
Detector	Si-PIN or SDD (option)
Resolution	< 165 eV (Si-PIN), < 140 eV (SDD)
Au Analysis	375-999 assay
Ag Analysis	800-999 assay
Pt Analysis	Pt 850, Pt 900, Pt 950
Analysis Time	1-3-10-20 seconds
Sample Preparation	Not required
Certification	SI RF (available)
Dimensions	267 x 310 x 330 mm
Weight	10 kg
Price FOB Shanghai	from 18,500 USD

3.2. Precious Metals Calibration Technical Specifications

Parameter	Specification
Elements	Au, Ag, Pt, Pd, Rh, Cu, Zn, Ni, Cd
Alloy Database	500+ records (gold, silver, platinum, palladium)
Au Detection Limit	0.01% (0.1 carat)
Au Accuracy	± 0.15-0.25%
Ag Accuracy	± 0.3-0.5%
Pt/Pd Accuracy	± 0.2-0.4%
Inter-element Corrections	Automatic (matrix effects)
Modes	Fast (3 s), Standard (10 s), Precise (30 s)

4. Analyzers for RoHS Control and Ecology

4.1. XRF Analyzers for RoHS

Bruker S1 TITAN 800 RoHS

Parameter	Value
Controlled Substances	Cd, Pb, Hg, Cr6+, PBB, PBDE
Directive	RoHS 2011/65/EU, EAEU TR 037/2016
Cd Detection Limit	5-10 ppm (< 100 ppm limit)
Pb Detection Limit	5-10 ppm (< 1000 ppm limit)
Hg Detection Limit	10-20 ppm (< 1000 ppm limit)
Cr6+ Detection Limit	Indirectly through total Cr (LOD 10 ppm)
Br Detection Limit	5-10 ppm (PBB/PBDE indicator)
Material Database	Polymers, metals, alloys, electronics
Report	Automatic protocol with compliance assessment
Price FOB Shanghai	from 28,000 USD (with RoHS calibration)

Skyray EXPLORER 3000 (RoHS-Edition)

Parameter	Value
Method	Portable ED-XRF
Elemental Range	S (16) – U (92)
Detector	Digital SDD
Resolution	< 150 eV
RoHS Control	Cd, Pb, Hg, Cr, Br
Additional	Chlorine (Cl) analysis for IEC 61249-2-21 directive
Application	Supplier control, incoming inspection, certification
Price FOB Shanghai	from 16,500 USD

4.2. Analyzers for Environmental Monitoring**Bruker S1 TITAN 800 Soil**

Parameter	Value
Soil Calibration	Standard (included)
Analyzable Elements	As, Cd, Cr, Cu, Hg, Ni, Pb, Se, V, Zn
Detection Limit	1-10 ppm (element-dependent)
RF Soil MPC	Automatic comparison with regulatory standards

Parameter	Value
GPS	Built-in, pollution map linkage
Application	Soil research, SANPIN control, reclamation
Price FOB Shanghai	+ 3,200 USD to base model

4.3. RoHS and Ecology Comparison Table

Parameter	S1 TITAN 800 RoHS	EXPLORER 3000	S1 TITAN 800 Soil
Type	Portable	Portable	Portable
Cd LOD, ppm	5-10	10-15	—
Pb LOD, ppm	5-10	10-15	2-5
Hg LOD, ppm	10-20	20-30	10-20
As LOD, ppm	—	—	3-8
Analysis Time	30-120 s	60-180 s	30-120 s
GPS	Yes	No	Yes
RoHS Report	Automatic	Automatic	—
Price from, USD	28,000	16,500	+ 3,200 (option)

5. Technical Specifications and Comparison

5.1. General Comparison Table

Model	Application	Elements	LOD (Au)	GPS	Price from, USD
S1 TITAN 800 Geo	Geology, ores	Mg-U	2-5 ppm	Built-in	29,500
X-MET 8000 Expert Geo	Geology, ores	Mg-U	1-3 ppm	Option	28,500
EXPLORER 7000	Lab geology	Na-U	0.1-0.5 ppm	No	35,000
S1 TITAN 800 PM	Precious metals, jewelry	Mg-U	0.01%	Built-in	29,500
GoldXpert	Precious metals (benchtop)	Cr-W	0.01%	No	18,500
S1 TITAN 800 RoHS	RoHS, ecology	Mg-U	—	Built-in	28,000

Model	Application	Elements	LOD (Au)	GPS	Price from, USD
EXPLORER 3000	RoHS (budget)	S-U	—	No	16,500

6. Delivery Specifications and Configuration

6.1. Standard Configuration

Item	Quantity	Description
XRF Analyzer	1 pc.	With selected calibration
Li-ion Battery	2 pcs.	For portable models
Charger	1 pc.	110-220V
Calibration Samples	1 set	For selected application
Transport Case	1 pc.	Shockproof Peli case
Software + Databases	1 license	With application (Geo/PM/RoHS/Soil)
Manual	1 pc.	In Russian
Certificate	1 pc.	Factory calibration

6.2. Special Options for Geology

Option	Price, USD
External GPS Receiver (for models without built-in)	+ 180
Bluetooth Printer for Field Reports	+ 320
Additional Geological Database (deposit)	+ 800
Calibration on User Standards	+ 1,500
Field Backpack	+ 150
Protective Field Cover	+ 120

6.3. Special Options for Jewelry

Option	Price, USD
Small Spot Collimator 3 mm	Included in PM
Small Spot Collimator 1 mm	+ 1,200
Jewelry Stand	+ 280
Label Printer	+ 350
World Assay Database (2000+ records)	+ 500

7. Customs Clearance and HS Code Classification

HS Code	Name	Duty	VAT
9027 30 000 0	Spectrometers, spectrophotometers	0%	20%
9027 50 000 0	Other instruments using optical radiation	0%	20%

Note for jewelry analyzers: When importing analyzers intended exclusively for working with precious metals, customs clearance may involve Gokhran or an authorized bank.

Note for geological analyzers: For use on subsurface territory, a permit from Rosnedra (for RF) or the corresponding government body is required.

8. Maintenance and Technical Support Services

8.1. Service List

Service	Description	Timeline	Price
Spare Parts for Analyzers			
SDD Detector	Original graphene SDD	7-14 days	3,500-6,500 USD
X-ray Tube	50 kV, Ag/Rh/W	7-14 days	1,800-3,200 USD
Li-ion Battery	Original	In stock	240-360 USD
Calibration			
Geo/PM/RoHS/Soil Calibration	Factory on standards	3-5 days	Included
Custom CRM Addition	Loading into database	1-2 days	400-800 USD
Mineral Database Update	New geological survey data	1 day	200 USD
Repair			
Diagnosis	Full inspection	1-2 days	100 USD
Detector Replacement	With calibration	3-5 days	from 4,000 USD
Tube Replacement	With adjustment	2-3 days	from 2,500 USD
Remote Diagnostics			
Connection	Via Wi-Fi/4G	Same day	Free
Spectrum Analysis	Result verification	1-2 hours	Free
Calibration Correction	Remote setup	2-3 hours	200 USD

8.2. Specialized Service Packages

Package	Geo-Explorer	Jeweler-Pro	Eco-Guard
Annual Cost	1,800 USD	1,500 USD	1,500 USD
Remote Diagnostics	Unlimited	Unlimited	Unlimited
Database Updates	Quarterly	Quarterly	When regulations change
Spare Parts Discount	15%	15%	15%
Priority	Elevated	Elevated	Elevated

9. Delivery, Payment, and Logistics Terms

9.1. Delivery Terms

Option	Term	Description
Standard	FOB Shanghai	To Shanghai port
Optimal	CIP client city	To terminal in client city
Turnkey	DAP client warehouse	Including customs clearance

9.2. Timelines

Stage	Timeline
Production and Calibration	2-4 weeks
Delivery to RF/KZ/BLR	12-25 days
Customs Clearance	3-7 business days
Total	4-7 weeks

9.3. Payment

Option	Terms	Discount
100% Prepayment	Full payment	-3%
50/50	Advance + before shipment	Standard
Letter of Credit	Through bank	+2%

10. Contact Information

For all questions regarding the supply of analyzers for geology, precious metals, and environmental control, technical specifications, after-sales service, and pricing, please contact us at our website www.metal-asia.pw:

Customer Relations Department:

- **WhatsApp:** +86 132 50100874
- **Telegram:** @China_metal_supply
- **Email:** zakaz@metal-asia.pw
- **Official Website:** www.metal-asia.pw

Sales Department Working Hours: Monday — Friday: 9:00 AM to 6:00 PM Beijing Time (MSK+5, ALM+2)

Author of Commercial Proposal: [Milosh Kovachevic](#) — Senior Consultant for Industrial Machinery and Production Lines Faculty of Mechanical Engineering, University of Belgrade Languages: Technical Chinese, English, Serbian, Russian

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