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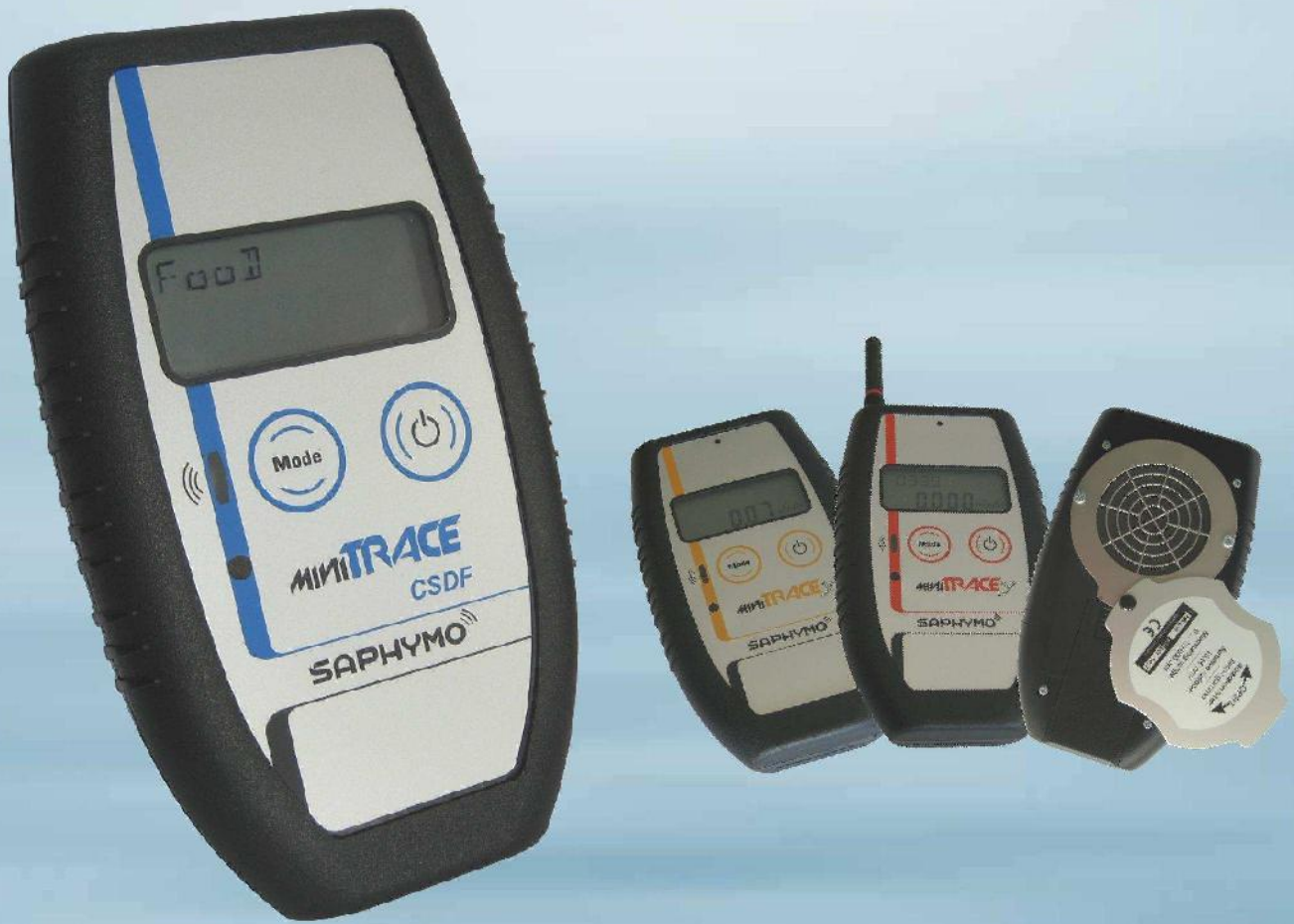
NEW! CSDF with food and wipe test option

Check Radioactivity In Your Area With

miniTRACE



Dosimeters, Dose Rate Meters and Contamination Meters for Alpha, Beta, Gamma and X-Ray Detection

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MiniTRACE

MiniTRACE is designed to improve the safety of workers in the control areas of nuclear power plants, reprocessing plants, research centers and hospitals. It can likewise offer strong safety benefits to public bodies like the police, fire brigades or the military.

Four alarm thresholds are pre-programmed. These thresholds can also be changed by user via IR communication. For precise measurement in very low radiation environment, a "mean value mode" can be started. In standard mode, the instrument offers very fast response to radiation changes. Different instrument versions are available to meet individual customer needs. The new type CSDF offers flexible use for various applications.

MiniTRACE is supplied with two batteries for a long battery lifetime (up to 2000 hours). A large 6-digit display shows the results.

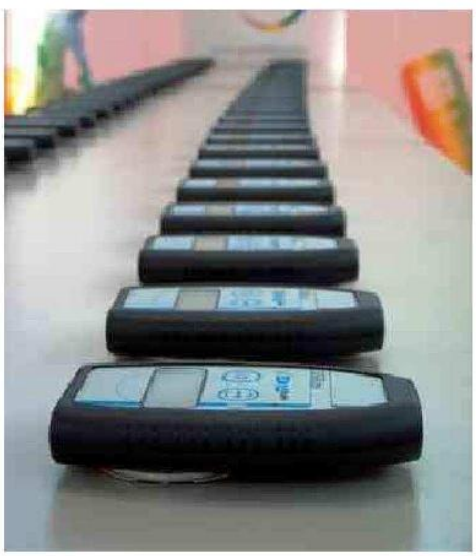
Features

- Fast response time (1 sec.)
- Integration time adapted to change of measured value
- Additional "mean value mode" for precise measurement of low radiation levels
- Long battery lifetime (up to 2000 hours)
- Four alarm threshold settings, visual and audible alarm output
- Audible pulse output
- Infrared interface
- Calibrated in our laboratory

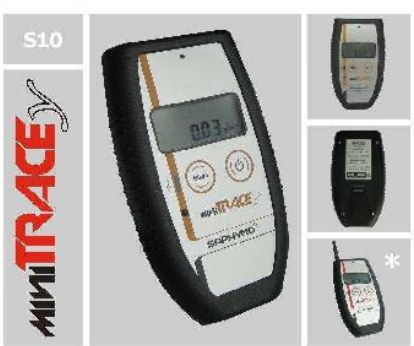
Applications

- Radiation control areas f. ex. in nuclear power plants or reprocessing plants
- Research centers
- Hospitals
- Police, fire brigades, army
- Schools, universities, educational purposes
- Industrial X-ray applications
- Building- or raw materials, scrap, minerals
- Search for depleted and enriched uranium, radioactive material, fission products
- Food control

	MiniTRACE type	S10	S100	C10	CSDF
Type of radiation	α detection			x	x
	β detection			x	x
	γ detection	x	x	x	x
	X-Rays	x		x	x
Unit of Measure	cps			x	x
	nSv/h	x	x		x
	Bq				x
	Bq/cm²				x
	Bq/L				x
Appli-cations	Dose rate	x	x		x
	Surface contamination			x	x
	Food contamination				x
Optional functions	Storage, dose function	x	x		
	Wireless data transmission (SkyLINK/ShortLINK)	x	x		
	GPS	x	x		



■ MiniTRACE Gamma S10 - Gamma dose rate meter (Low range measurement - high sensitivity)



MiniTRACE S10 measures the dose rate. It detects gamma and X-rays radiation with a short response time, with the help of its sensitive energy compensated Geiger-Mueller detector.

MiniTRACE S10 displays values from 10 nSv/h to 10 mSv/h, with a sensitivity of 5.500 counts per µSv.

MiniTRACE S10 is available in storage (S10S) or in radio (S10R) version, providing also information on the dose.

(*) Optional radio version

Alpha detection	☆☆☆
Beta detection	☆☆☆
Gamma detection	★★★
X-Ray detection	★★☆
Dose rate	★★★
Surface contamination	☆☆☆
Food contamination	☆☆☆
Low range measurement	★★★
High range measurement	★★☆

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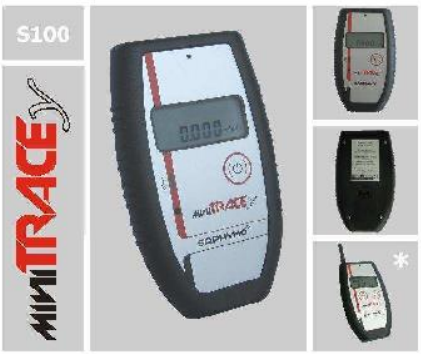
■ MiniTRACE Gamma S100 - Gamma dose rate meter (high range measurement)



MiniTRACE S100 has almost the same characteristics as MiniTRACE S10.

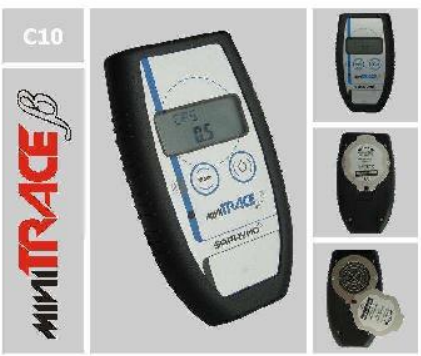
However, **MiniTRACE S100** displays values in higher range, from 1 µSv/h to 100 mSv/h, with a sensitivity of 2.500 counts per µSv.

MiniTRACE S100 is available in storage (S100S) or in radio (S100R) version, providing also information on the dose.

(*) Optional radio version

Alpha detection	☆☆☆
Beta detection	☆☆☆
Gamma detection	★★★
X-Ray detection	☆☆☆
Dose rate	★★★
Surface contamination	☆☆☆
Food contamination	☆☆☆
Low range measurement	★★☆
High range measurement	★★★

■ MiniTRACE Beta C10 - Alpha, Beta and Gamma contamination meter



MiniTRACE C10 measures the contamination of objects. It is equipped with a 15,55 cm² Geiger-Mueller pancake detector, and a 0,8 mm stainless steel grid. It is possible to identify spots with alpha, beta or gamma contamination. It is also ideally suited for X-Ray measurements.

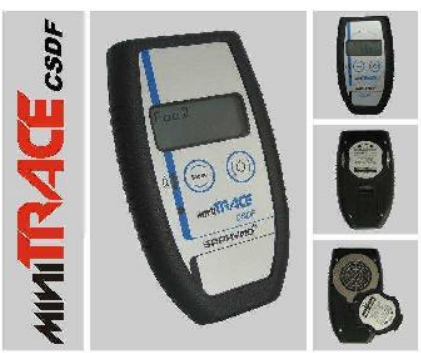
MiniTRACE C10 displays values from 0 to 9.990 cps.

With an optional adaptor, wipe test can be performed.

Alpha detection	★★☆
Beta detection	★★★
Gamma detection	★★★
X-Ray detection	★★★
Dose rate	☆☆☆
Area contamination	★★★
Food contamination	☆☆☆
Low range measurement	★★★
High range measurement	★☆☆

■ MiniTRACE CSDF - Multipurpose contamination, survey and doserate meter, food and wipe test

NEW!



MiniTRACE CSDF is a unique multipurpose meter for contamination, survey, dose rate, X-Rays, food and wipe test measurements. It is equipped with a 15,55 cm² Geiger-Mueller pancake detector and a 0,8 mm stainless steel grid. In addition to the verification of contamination, it is ideally suited to measure the environmental dose rate equivalent (H*(10)).

MiniTRACE CSDF displays values in cps, µSv/h, Bq, Bq/cm² and Bq/L. For the Bq and Bq/cm² modes, the user can select different nuclides with built in nuclide specific calibration lecture (Cs137, Am241, I131, Sr90, U238, C14, Cl36, Co60).

Alpha detection	★★☆
Beta detection	★★★
Gamma detection	★★★
X-Ray detection	★★★
Dose rate	★★★
Surface contamination	★★★
Food contamination	★★★
Low range measurement	★★★
High range measurement	★☆☆

The Bq/cm² mode is calibrated according to ISO 7503-1.

MiniTRACE CSDF offers a special mode for food measurement within two steps. At first, it measures the background. Then, it measures the activity level found in the liquid or smashed food.

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MiniTRACE

MiniTRACE accessories

01 PELICASE

Ideal for a flying trip, this case keeps safe the detector from shock or pressure variation

02 PROTECTION HOLSTER

Carry and protect your MiniTRACE with this belt holster

03 TRANSPARENT PLASTIC PROTECTION

A plastic bag easy to wear around your neck, easy to decontaminate, IP67 waterproof

04 RUBBER BOOT

An ergonomic envelope for MiniTRACE protection

05 WALL SUPPORT

The solution for permanent radiation level surveillance with MiniTRACE gamma, with lock system

06 TRANSPORTATION BOX

A box required for air freight transportation of your MiniTRACE Beta types

07 COMMUNICATION KIT

An infrared interface with tripod to set parameters or read out measurement data via MiniTRACE software

08 DATAEXPERT

The powerful software that connects your radio version MiniTRACE via ShortLINK / SkyLINK receiver in a network solution

09 WIPE TEST KIT

The surface contamination kit for MiniTRACE Beta C10 and CSDF

10 FOOD MEASUREMENT KIT

A kit with support for MiniTRACE CSDF and beaker for liquid or smashed food

11 EMERGENCY KIT

A robust case that offers place for food measurement and wipe test kits

12 TEST SOURCE

A U238 source with 25 Bq for checking by yourself the function of your MiniTRACE Beta C10 and CSDF

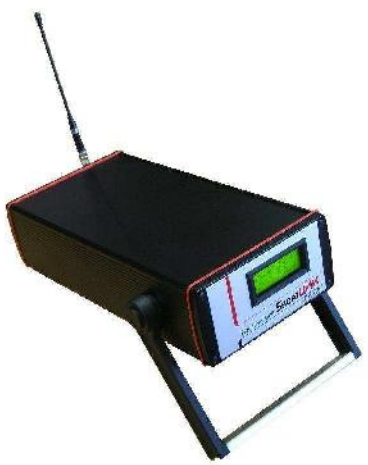
SkyLINK / ShortLINK – Teledosimetry with MiniTRACE S10R/S100R

SkyLINK is a sophisticated and powerful solution for wireless automatic data transmission covering distances up to 100 km (**ShortLINK** up to 5 km).

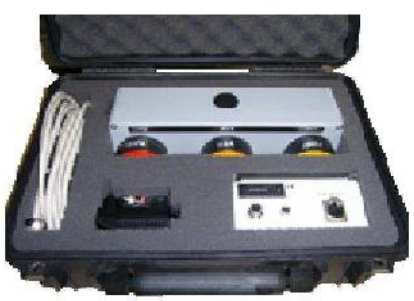
SkyLINK consists of compact and reliable low power transmitters (transmission power: 10 Milliwatts) which in combination with **MiniTRACE S100R or S10R** (radio version) allows transmission of measurement and GPS data in real time to a central station.

MiniTRACE radio devices can also be embedded into stationary and mobile radiation monitoring networks based on **SkyLINK**. Autonomous GammaTRACER probes are also available. Those compact and lightweight smart measurement stations are easy to install and work for several years without maintenance powered by one and the same battery set.

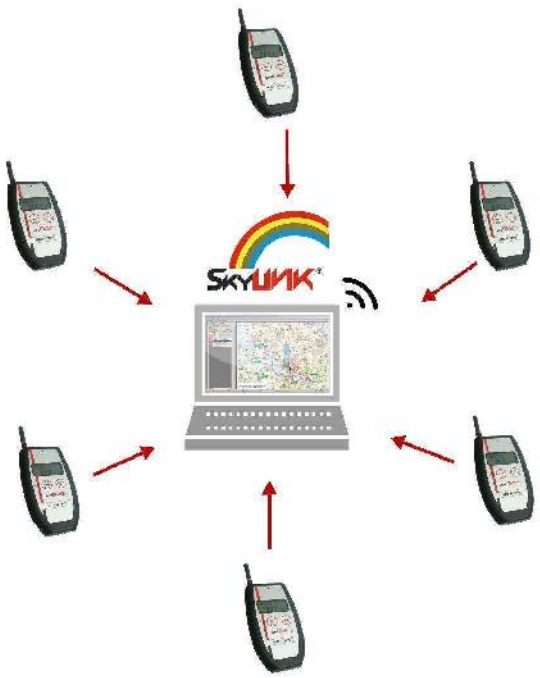
SkyLINK is an all in one proprietary turn-keysystem. It works independently from public radio networks like cellular phone (GSM/GPRS) or satellite services. Hence, **SkyLINK** is highly suitable for mission critical applications.



ShortLINK-Receiver with "in-" or "out-door" antenna



External alarm box for ShortLINK radio transmission system



Parameters are transmitted from the MiniTRACE radio to a central server system

Prominent users of such a mobile monitoring system are the US Environmental Protection Agency (EPA) and the Russian Ministry for Emergency Situations (MES).

The MES system is mounted on a measurement vehicle. It is used for the purpose of organization of a temporary monitoring task in the zone of an event and to eliminate extraordinary situations in the radius of 5 km from the place of mobile system location.

All parameters monitored are immediately transmitted to the laptop or also to a central server system for further evaluation and analysis.

The system can handle more than 100 **MiniTRACE radio**, with fast 1 sec. local alarm function, and an alarm unit to be located inside the measurement vehicle.

The complete online monitoring system is delivered in sturdy weathertight suitcases which can be operated outside or from a measurement vehicle.

Technical data

Properties	MiniTRACE S10	MiniTRACE S100
Display unit:	µSv/h, H*(10)	mSv/h, H*(10)
Display range:	10 nSv/h to 10 mSv/h	1 µSv/h to 100 mSv/h autoscale: 10 nSv/h to 100 mSv/h
Measurement range:	500 nSv/h to 10 mSv/h accord. IEC 60846	10 µSv/h to 100 mSv/h autoscale: 1 µSv to 100 mSv
Energy range (incl. angular response):	42 keV to 1.8 MeV ± 40 % 1.8 MeV to 2.8 MeV ± 60 %	48 keV to 2 MeV ± 40 % 2 MeV to 3 MeV ± 60 %
Sensitivity	5500 pulses per uSv	2500 pulses per uSv
Buttons	1: (On/Off, IR, Illumination); 2: (mean value)	1: (On/Off, IR, Illumination); 2: (-)
Alarm thresholds (pre-set):	0.2, 0.5, 1 and 2 mSv/h (changeable via software)	2, 5, 10 and 20 mSv/h (changeable via software)
Reaction time:	< 2 Sec.	
Display:	6 digit 7 segment LCD display plus 5 digit alphanumeric display for alarm and status reports	
Illumination:	Activated by pressing right button	
Integration time:	Automatic adjustment from 1 to 60 seconds	
Alarm:	Visual and acoustic	
Acoustic registration of impulses:	Can be activated by user software	
Battery life:	Typ. 2000 hours	
Energy supply:	2 batteries (type: LR6, AA, MN 1500), protected against reverse polarity	
Operational temperature range:	-20°C to +50°C (-4°F to 122°F)	
Compatibility:	In accordance with IEC 60846, IEC 61000	
Mechanical shock:	In accordance with IEC 60068-2-27 (at a distance of 1.5 m on hardwood, deviation max. ± 10%)	
Weight:	175 g incl. batteries	
Dimensions	82 mm X 24 mm x 139 mm	
Protection class:	IP 44, with plastic protective cover IP 67	
Accessories (optional):	User software for programming alarm thresholds by infrared communication. Infrared reader	

Storage version	
Measurement range dose	1 µSv to 1Sv
Storage of values	650 dose rate values

Radio version*	
Transmission cycle time	User adjustable
Weight; dimensions	195 g incl. batteries; 82 mm X 24 mm x 139 mm (total length incl. antenna 195 mm)

* includes also storage and dose specifications

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MiniTRACE β

Properties	MiniTRACE C10
Display unit:	Counts per second (cps)
Display and measurement range:	0.0 – 9990.0 cps (mean value mode: 0.00 – 9990.00 cps)
Alarm thresholds:	4 (not set)
Buttons:	1 (On/Off, IR); 2: (mean value, count up-mode)
Gamma sensitivity (Cs-137)	4.3 Counts/sec./µSv/h
Detector:	Geiger-Mueller-Pancake, max. diameter: 53.6 mm; active diameter 44.5 mm, active counter tube surface 15.55 cm², window: 2.0 mg/cm²
Sensitivity (4π):	Co-60: 0.15 Counts/sec./Bq; C-14: 0.071 Counts /sec./Bq Sr-90: 0.6 Counts /sec./Bq. Am-241:0.13 Counts /sec./Bq
Grid:	0.8 mm thick stainless steel, easily removable, 80 % transparent
Distance grid /detector surface	3.6 mm
Measurement intervals:	Automatic adjustment from 1 to 60 seconds Adjustable in Count up mode by buttons
Display:	6 digit LCD display plus 5 digit alphanumeric display for alarm and status reports
Alarm:	Visual and acoustic
Acoustic registration of impulses:	Can be activated by user software
Reference source:	Co-60 meeting DIN ISO 8769 (DKD certified)
User calibration:	Possible using infrared interface
Battery life:	Typ. 2000 hours
Energy supply:	2 batteries (type: LR6, AA, MN 1500), protected against changes to polarity.
Operational temperature range:	-10°C to +40°C (14°F to 104°F)
Weight; Dimensions	315 g incl. batteries; 82 mm x 24 mm x 139 mm
Compatibility:	IEC 60325, IEC 61000
Accessories (optional):	User software for programming additional alarm thresholds by infrared communication. Infrared reader

MiniTRACE CSDF

Properties	MiniTRACE CSDF
Display unit:	µSv/h, cps, Bq, Bq/cm2, Bq/L
Display and measurement range:	Dose rate: 0.00 µSv/h to 5,000 µSv/h; Pulses: 0.0 to 10,000 cps Activity (depends on the radionuclide): 0 to max. 100,000 Bq Surface activity (depends on the radionuclide): 0 to approx. 5,000 Bq/cm2; Food: 500 to 100,000 Bq/L (related to Cs-137, 30 % statistical uncertainty for 1 Sigma, at 0.1 µSv/h background radiation)
Gamma sensitivity (Cs-137)	4.3 Counts/sec./µSv/h
Energy response for dose rate measurements [µSv/h] :	26 keV to 1,253 keV +/- 40%
Detector:	Geiger-Mueller-Pancake, max. diameter: 53.6 mm; active diameter 44.5 mm, active counter tube surface 15.55 cm², window: 2.0 mg/cm²
Grid:	0.8 mm thick stainless steel, easily removable, 80 % transparent
Distance grid / detector surface	3.6 mm
Measurement intervals:	Automatic adjustment from 1 to 60 seconds Adjustable in Count up mode by buttons
Display:	6 digit 7 segment LCD display plus 5 digit alphanumeric display for alarm and status reports
Alarm thresholds:	One alarm threshold can be set via software for µSv/h, cps, Bq and Bq/cm²
Alarm:	Visual and acoustic
Acoustic registration of impulses:	Can be activated by buttons and MiniTRACE Software
Reference source:	Co-60 meeting DIN ISO 8769 (DKD certified) Cs-137: Source number: CDC 7915
User calibration:	Possible using infrared interface
Battery life:	Typ. 2000 hours
Energy supply:	2 batteries (type: LR6, AA, MN 1500), protected against changes to polarity
Operational temperature range:	-10°C to +40°C (14°F to 104°F)
Weight; Dimensions	320 g incl. batteries; 82 mm x 24 mm x 139 mm
Compatibility:	IEC 60325, IEC 60846 (partially), IEC 61000
Accessories (optional):	User software for change of settings by infrared communication, infrared reader. Accessories for Food and Wipe tests

SAPHYMO GmbH — MiniTRACE

Reference List – MiniTRACE users

Worldwide more than 10.000 units in operation:

Azerbaijan
- Resident Representative of the U.N., Baku, via IAEA, Vienna

Belgium
- Test S.A. Belgique, educational institute,Crisnée

Bulgaria
- UNDP in the Republic of Bulgaria, Sofia, via IAEA, Vienna,

China
- Hong Yang He Nuclear Power Plant
- Ling Ao Nuclear Power Plant
- Ning De NPP Nuclear Power Plant
- Wenjindu Entry-Exit Inspection and Quarantine, Hainan Entry-Exit Inspection and Quarantine
- Yangjiang Nuclear Power Plant
- Zhengjiang Environmenttal Protection Bereau

Croatia
- EKOTEH Ltd. Dosimetry and Radiation Protection, Zagreb, UN Development Programme, IAEA International Atomic Energy Agency, Vienna

Finland
- LAURILAN ROMU TOPPARIT Oy, scrap dealer, Keminmaa
- Walttielectronics Oy, Kuopio

France
- APAVE Parisienne Laboratoire, Saint Ouen
- Calaire Chimie S.A.S., Calais
- C.E.P. Industrie Cergy, Laboratory Division, St. Ouen l'Aumone
- CNRS - Labo LULI, Ecole Polytechnique, Palaiseau
- Electricité de France (EdF), used in all 19 French nuclear power plants
- EPUR Centre Est, Processing and recycling of waste, Macon
- ESIANE, incineration plant, Villers St. Paul
- Lycée Professionnel Régional, Thionville
- Precia Molen Privas, environmental and waste management services, Privas
- SITOMA - SYNDICAT INTERCOMMUNAL DE TRAITEMENT DES ORDURES MENAGERES DE L'ALBIGEOIS (recycling, waste industry), Albi
- Smiths Heimann SAS, Vitry sur Seine
- S.N.B.L., metal recycling, Chelles

Germany
- Bayerisches Rotes Kreuz (BRK) / Bavarian Red Cross, Munich
- Faiveley Transport, Remscheid
- FH München, Radiometrisches Labor/University of Applied Sciences, Radiometric Laboratory, Munich
- Katharinen Hospital, Stuttgart
- Metherma GmbH & Co. KG
- RWE Nukem, Alzenau
- SEA-MED, Dülmen
- TÜV Technical Surveillance, Cologne
- University of Würzburg, Physikalisches Institut
- WISMUT, Chemnitz

India
- Bhaba Atomic Research Centre, Mumbai
- Indian Agricultural Research Institute, Division of Biochemistry, New Delhi, Dr. M. Lodha

Iraq
- Hilla Environmental Center
- Hospital Kurdistan
- Ministry of Environment, Baghdad

Italy
- Elettrotek sas, Catania
- Gammarad Italia Spa, Minerbio-Bologna
- Hera srl, Ravenna
- Protex Spa, Forli

Japan
- Bridgestone Corporation
- Fujitex
- Fujitsu Ltd., Kawasaki
- Fukushima Steel Works
- Japan Atomic Energy Agency
- Speedocheck Ltd.
- Yokohama Port

Kazakhstan
- City of Ust-Keminagorsk, radio version with ShortLINK

Kirgyzstan
- UNDP in the Kyrgyr Republic, Bishkek, via IAEA, Vienna

Korea
- KINS, Korea Institute of Nuclear Safety

Macedonia
- Public Institute of Health, Skopje, via IAEA, Vienna

Malaysia
- Royal Malaysian Custom (Jabatan Kustam Diraja Malaysia)

Moldova
- National Scientific Practical Center of Applied Preventive Medicine, Chisinau, UN Development Programme, IAEA International Atomic Energy Agency, Vienna

Netherlands (The)
- Elekta
- Panalytical
- Philips Electronics, Eindhoven
- Ziekenhuisgroep Twente (Hospital group) Twente, Almelo and Hengelo

Russia
- MCS, Ministry for Emergencies, Moscow, radio version with ShortLINK
- Balakova - NPP
- Kurskaya - NPP
- Kalinikskaya - NPP

Singapore
- Hoya Magnetics Singapore PTE Ltd.

Spain
- CIEMAT, Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas, Madrid
- Clinica Universitaria de Navarra
- ECOLGAS S.A., Ciudad Real
- GEOCISA, GEOTECNIA Y CIMIENTOS, S.A., Coslada, Madrid
- IBERESPACIO Tecnologia Aeroespacial, Madrid
- SGS Tecnos Espanola de Control S.A., Madrid
- University Hospital University of Navarra, Pamplona

Taiwan
- China Medical University, Taichung

Ukraine
- Chernobyl Nuclear Power Plant, radio version with ShortLINK
- Novarka, Slavutich, radio version

... and many others.