

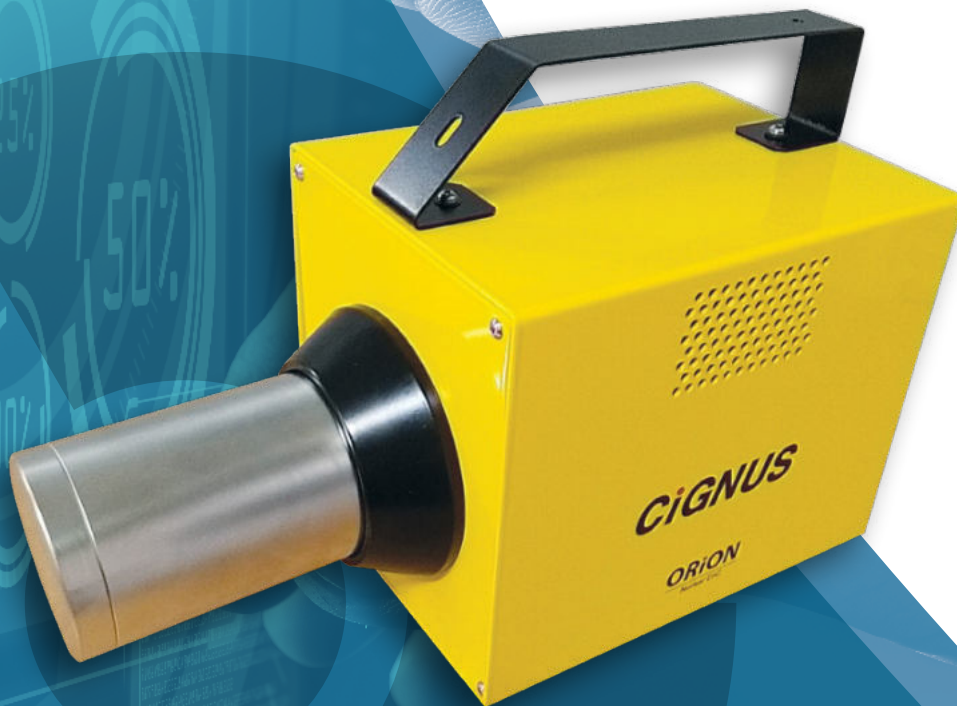
[www.orionenc.com](http://www.orionenc.com)

**ORION**  
Nuclear EnC



# CiGNUS.M1

CZT Implemented Gamma Nuclide Spectrometer



## CIGNUS is?

CIGNUS is a high resolution portable CZT gamma nuclide spectrometer. The user can monitor the real time leaking of radioactive materials or nuclear activity using it.



*CIGNUS.M1*

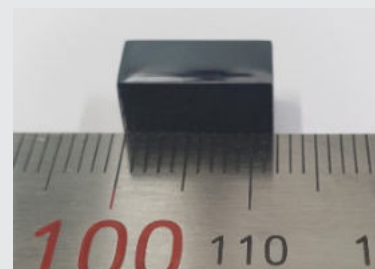
## Needs

At present inspection of nuclear facilities, monitoring of nuclear terrorism, and analysis of nuclear material almost depend on imported detectors. Thus the innovative technology development required for application on nuclear non-proliferation and nuclear industry.

### High Resolution Portable Gamma Spectrometer based on CZT!



< Nuclear monitoring >

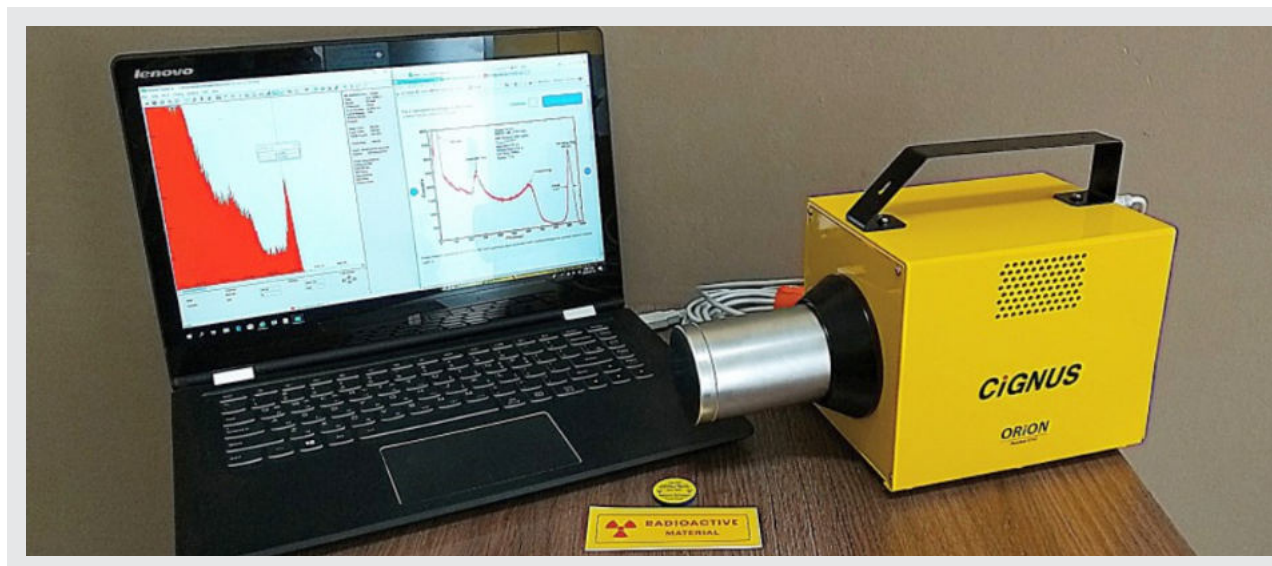


< 1 inch CZT ingot >

## CIGNUS application

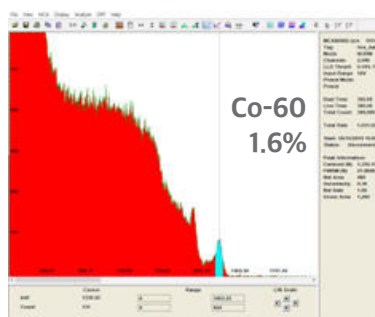
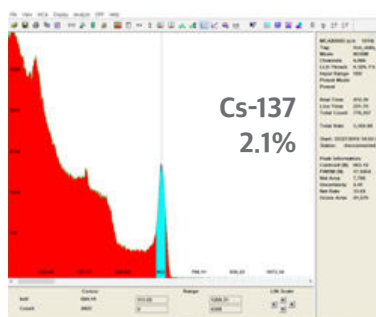
Homeland security, Security screening, Nuclear accident response, Military

## Specifications



- **Detector:** CZT detector(6x6x12mm, 6x6x20mm)
- **Energy Resolution:** 2.0-2.5 %, FWHM@662 KeV
- **Energy Range:** 30 keV to 3 MeV
- **Count rate:** >150,000 CPS
- **Channel:** 4096 Ch
- **Battery Life:** >8 hour, Lithium ion
- **Dimensions:** 12.7x17.4x14 cm
- **Weight:** 1.5kg
- **Application SW:** AMPTEK-DppMCA

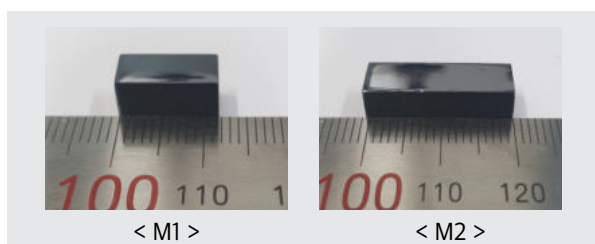
## Performance



Co-57, Ba-133, Na-22,  
Cs-137, Cs-134, Co-60,  
Eu-152..Etc

< Gamma ray Detection & Analysis >

## Option



Model	CZT size (mm)	Resolution (%@Cs137)	Weight (Kg)
M1	6x6x12	2.1	1.5
M2	6x6x20	2.1	1.5



# CiGNUS.M1

CZT 감마핵종 분석기 (CZT Implemented Gamma Nuclide Spectrometer)

## CiGNUS 란?

CiGNUS는 고 분해능의 휴대형 CZT 방사능 핵종 분석기로서, 핵 활동이나 방사능 물질 유출 의심지역에서 방사성 물질을 실시간으로 탐지, 측정 및 분석하는 장비



**CiGNUS.M1**

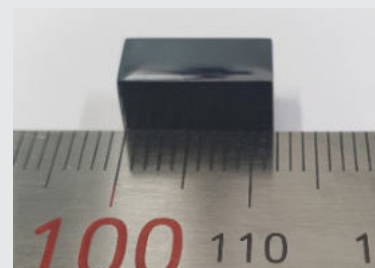
## 개발 배경

현재 국내 원자력시설의 핵 활동 사찰, 핵 테러 / 사고 탐지, 핵 물질 / 폐기물 재고량 평가에는 고가의 수입 검출기에 의존  
**핵 비확산, 원자력 산업계 활용 위한 기술국산화 필요!**

CZT 기반 보급형 고 분해능 휴대용 핵종분석기 **CiGNUS**



< 핵 물질 감시 활동 >



< 1인치 급 CZT 단결정 국산화 >

## CIGNUS 적용 분야

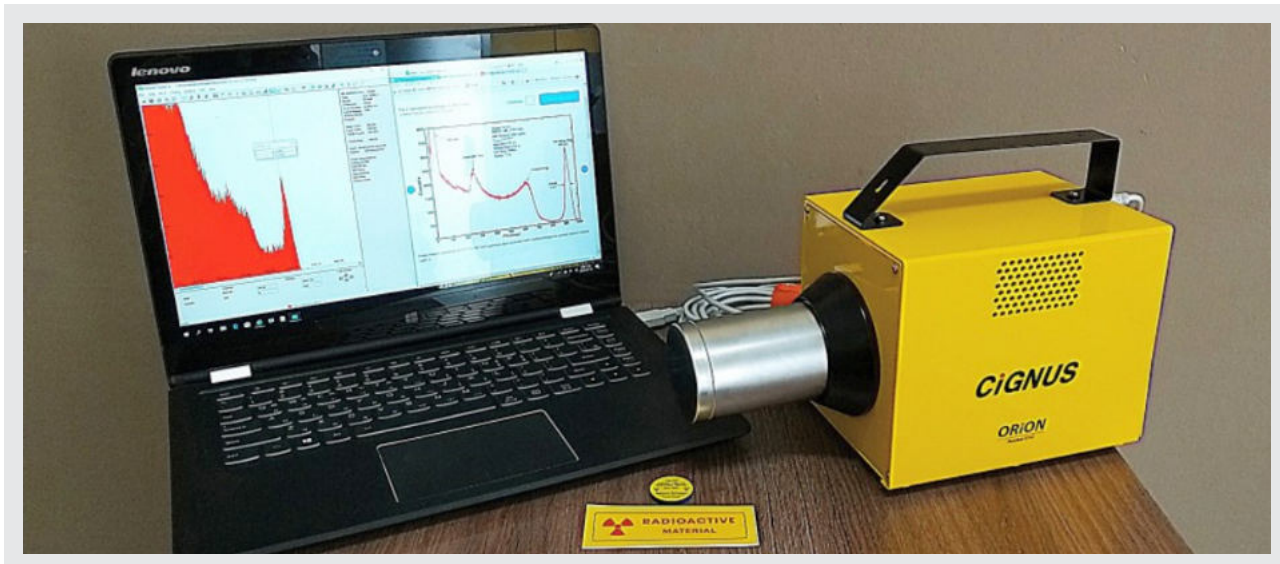
공항, 항만 보안감시

핵 테러 대응

핵사찰, 원자력시설 감시

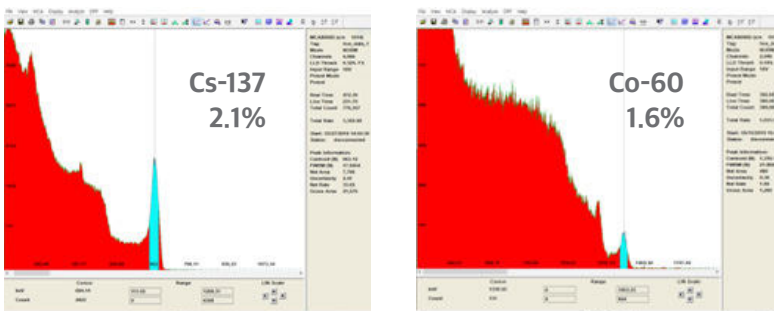
군 야전 환경

## 장비기능



- 검출기: CZT detector(6x6x12mm, 6x6x20mm)
- 에너지 분해능력: 2.0-2.5 %, FWHM@662 KeV
- 에너지 대역: 30 keV to 3 MeV
- 계수율: >150,000 CPS
- 분석채널: 4096 Ch
- 배터리: >8시간 리튬이온 전지
- 검출기 유닛: 12.7x17.4x14 cm
- 중량: 1.5kg
- 소프트웨어: AMPTEK-DppMCA 호환(USB 3.0)

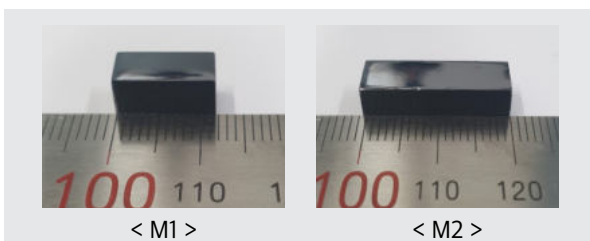
## 기술분석



< 감마선 핵종 검출 & 분석 >

Co-57, Ba-133, Na-22,  
Cs-137, Cs-134, Co-60,  
Eu-152..Etc

## Option



< M1 >

< M2 >

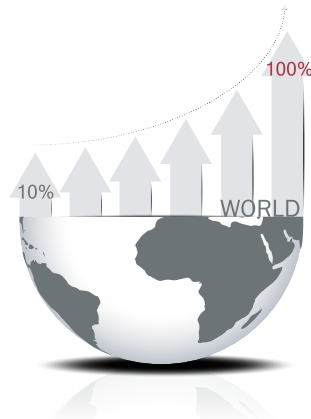
Model	CZT size (mm)	Resolution (%@Cs137)	Weight (Kg)
M1	6x6x12	2.1	1.5
M2	6x6x20	2.1	1.5

# ORION EnC

## Company Information

ORIONEnC is a nuclear engineering and manufacturing company in the service area of on-line radiation monitoring and inspection system, radioactive waste and nuclear spent fuel management technology, industrial ultrasonic testing device and configuration for NPP management technology for nuclear power plant

ORIONEnC was established at April. 2012, having many experts in the field of nuclear industry. OrionEnC continues to make every effort to support continuous R&D programs to acquire top-level source technology in nuclear industry and to develop technologies & goods matching with present/near future domestic & world market and to take offer much better engineering service with top-level technology



Representative *Unjang Lee*

## Business area

1. Service of configuration management technology for construction & operation of nuclear power plant and other chemical / refinery plants
2. Direction, inspection and supervision of technical specification and quality control of drawings, documents and goods from engineering and manufacturing companies. (Especially, management for the team of the 3rd party Inspection in nuclear industry)
3. Engineering and treaty service of waste management for low- and intermediate level radioactive waste disposal.
4. Service of radioactivity monitoring for environmental and industrial application of nuclear materials.
5. Engineering technology service for management of spent nuclear fuels and high level radio-wastes
6. Engineering service for decommissioning nuclear power plants and facilities.
7. Engineering, procurement, construction and commissioning services for solar energy system(including solar seawater desalination plants)



ARAMOS



IRIS



LION UT



WACOMP

## Contact us

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