

Patent No.10-2051126
Design Registration No.30-1024497

VEGARAY

X-RAY system on my desk

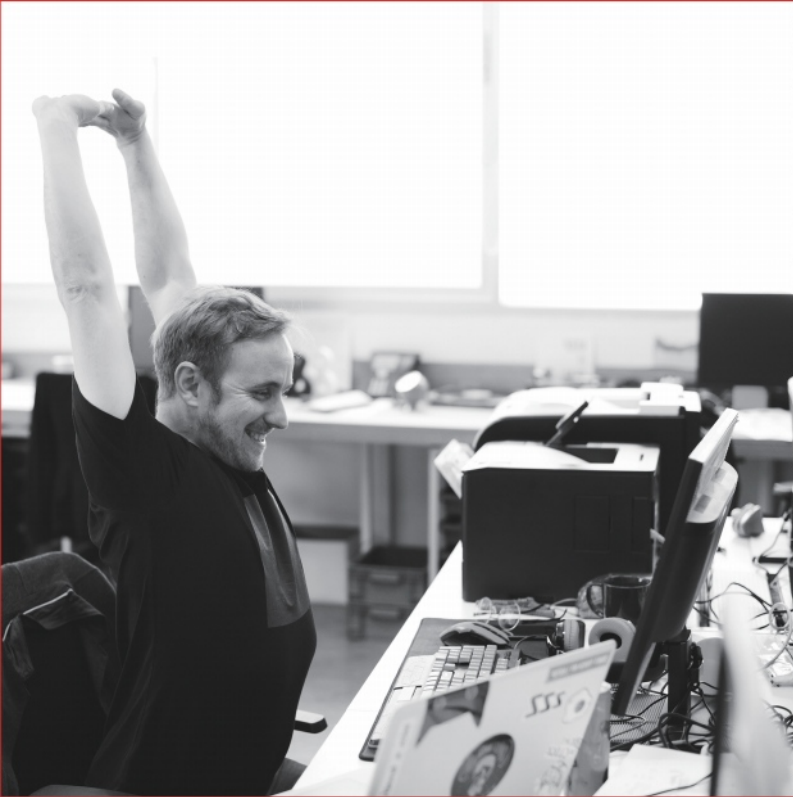




MOVING X-RAY

X-RAY inspection can be done where there are samples.

VEGARAY, the world's smallest cabinet X-Ray with convenient size and weight, can be transported and used in several production sites and laboratories. Experience the mobility.



DESK X-RAY

***It can be installed on table
occupies a small space***

VEGARAY is the world's most compact cabinet X-RAY, size of 32 x 37 x 50cm and weight only 39Kg. VEGARAY allows you to finish the work quickly right on your desk.



VALUED X-RAY

Competitive Price

VEGARAY is a high-quality X-Ray at an affordable price.
It will enhance your business competitiveness with high performance.
Pay attention to the good value of X-RAY equipment, VEGARAY



SAFE X-RAY



Perfect shielding and safe

The same as the natural radiation level detected in the air (0.11 ~ 0.14uSv/h in Seoul, Korea)

1 Time Exposure
0.00013mSv/h

Radiation level during VEGARAY X-Ray operation is similar
to **1/100** of the **Korean Nuclear Safety Act's Standard (10uSv/h)**

* 0.13 μ Sv/h = 0.00013 mSv/h * 1 μ Sv/h = 0.001 mSv/h

VEGARAY X-RAY 1538 shooting
= 1 chest X-RAY



50mSv
Worker 1 year



2.4mSv
Annual natural
radiation level



0.2mSv
Chest x-ray



0.1mSv
Korea-Europe
1 round trip

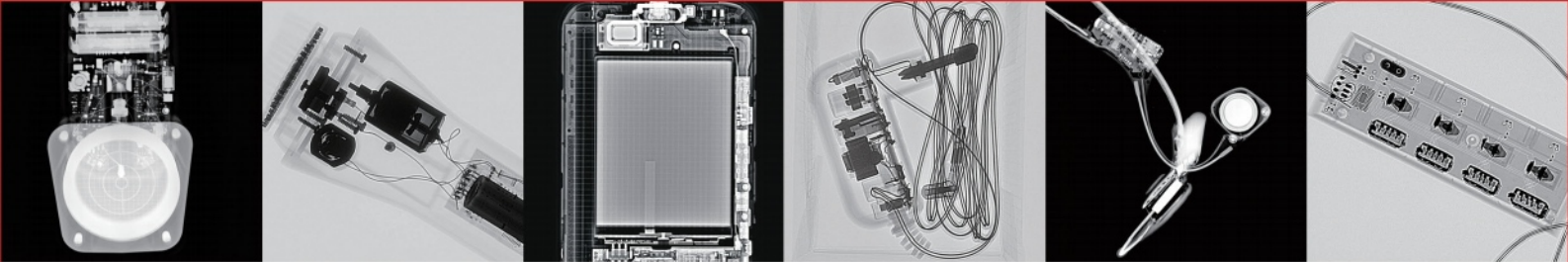


1 Time Exposure
0.00013mSv/h

[Other safety functions]

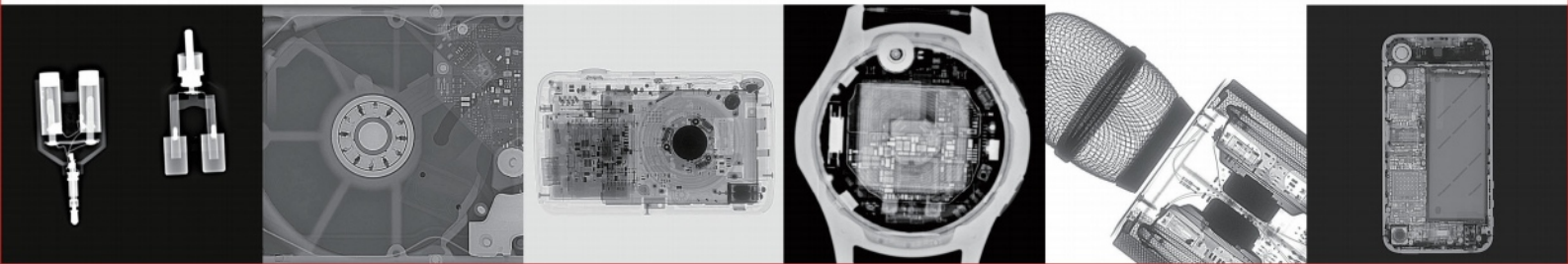
* Emergency Stop Button - In case of emergency such as fire or earthquake, emergency stop button can be pressed to stop X-Ray operation immediately.

* Interlock System - With the door open, X-Ray is not irradiated by pressing the exposure button.



Quick • Easy • Safe • Small in size, but Large in value
VEGARAY

X-RAY on my desk
VEGARAY





Application R&D X-RAY

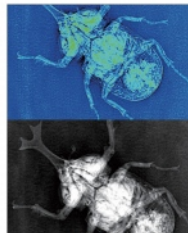
VEGARAY X-Ray can be used for R&D in various fields such as Flora and Fauna Research, Pharmaceutical Research, Basic Science, National Defense, Cultural Property Research, etc.



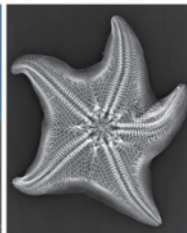
Nuts



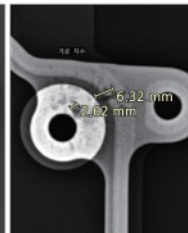
Beans



Beetle



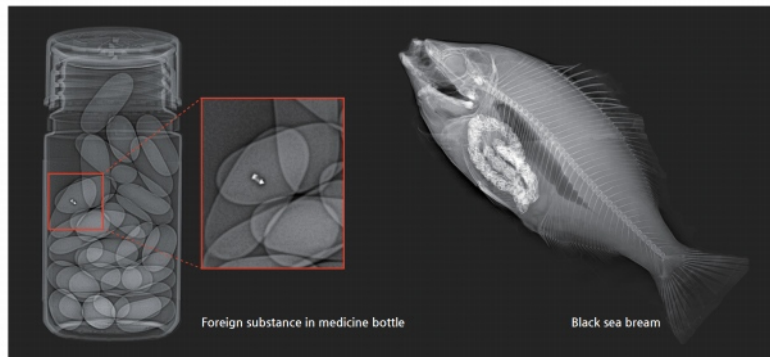
Starfish



Defected Casting (Hole)



Defected Porcelain (Hole)

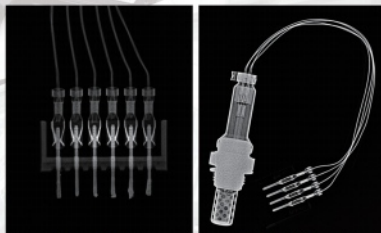
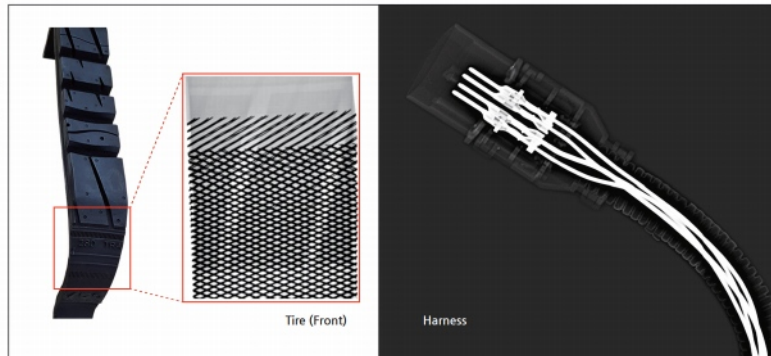


Foreign substance in medicine bottle

Black sea bream

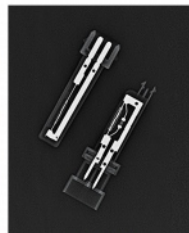
Application Automotive Parts X-RAY

Non-Destructive Test with VEGARAY X-Ray enables fast and accurate detection in various automotive components' defects.

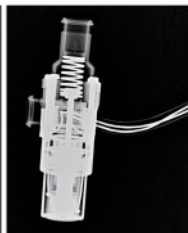


Connector

Sensor



Reed Switch



Sensor



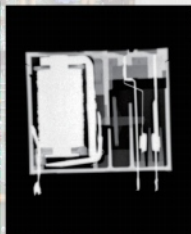
Car key



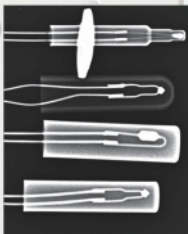
Fuse

Application Electrical Parts X-RAY

Non-destructive test with VEGARAY X-Ray enables you to identify defects in various electrical and electronic components such as cables, sensors, LEDs, capacitors, terminals, etc.



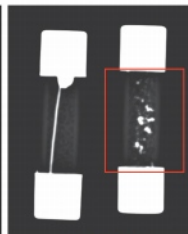
Relay



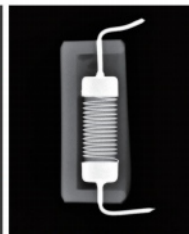
Temperature Sensor



Condenser



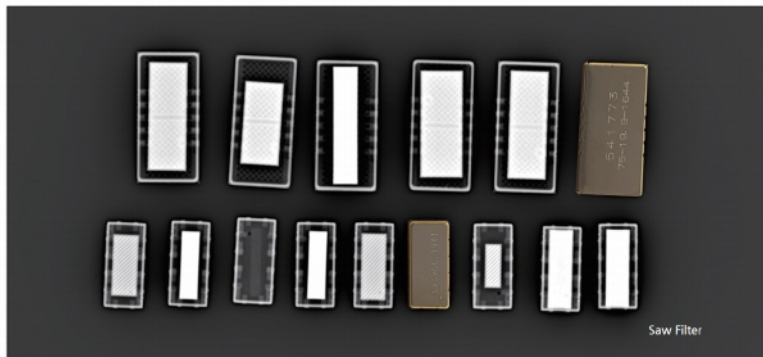
Defected Fuse



Electrical Resistance



DC Motor

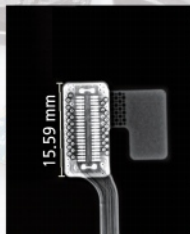


Saw Filter



Application Mobile Parts X-RAY

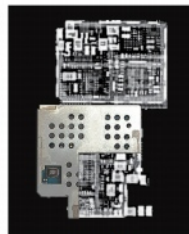
VEGARAY X-Ray can be used to analyze defects of various mobile parts such as cameras, sensors, GPS, communication modules, etc.



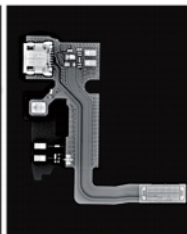
Smartphone Component
(Size 15.59mm)



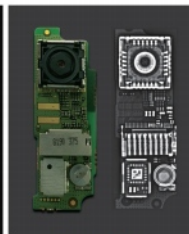
Smartphone Component
(Size 9.68 mm)



Shield Can



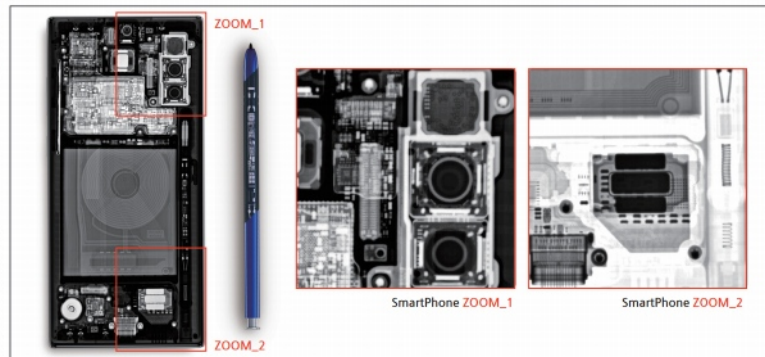
Sensor



Camera Module



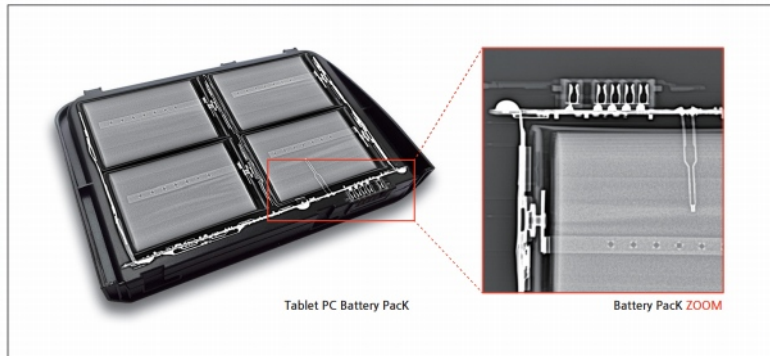
SmartPhone





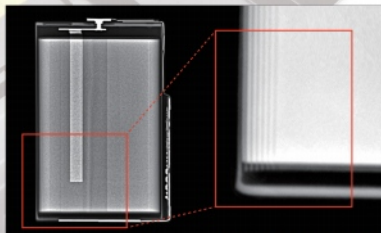
Application Battery X-RAY

Non-Destructive Test with VEGARAY X-Ray in battery technology, which is getting smaller and more integrated, enables us to discover defects in advance and improve battery stability.



Tablet PC Battery Pack

Battery Pack ZOOM

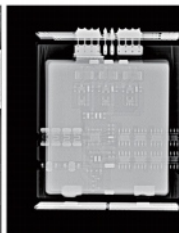


SmartPhone Battery

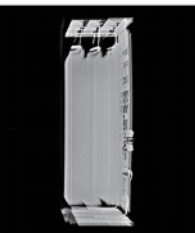
SmartPhone Battery ZOOM



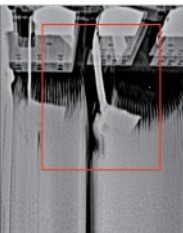
General Battery (AA Size)



Lithium Polymer Battery (Side)



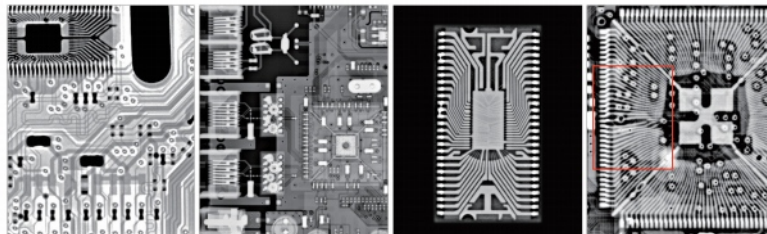
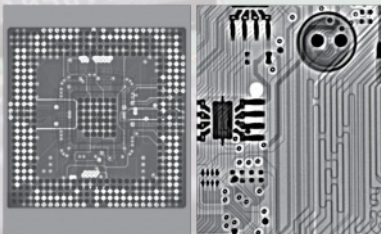
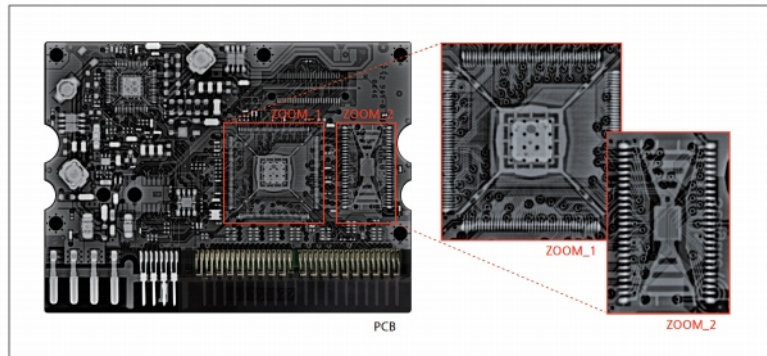
Lithium Polymer Battery (Front)



Lithium Polymer Battery (Defected)

Application PCB X-RAY

Non-Destructive Test with VEGARAY X-Ray allows you to quickly and accurately find various defects such as holes, contamination, shorts, disconnection, etc.



VEGARAY NDT Software

Real time image display and easy adjustment

Easy user interface • Various image processing functions • Report can be created and printed directly



VEGARAY NDT S/W Tool Guide



Navigation

You can move pages between projects and images.



Project layout

Images can be arranged and compared with each other in various layouts such as 1x1, 2x1, 1x2, 2x2.



Image Control function

There is a function to adjust the image through various menus such as selecting an image, zooming in, zooming out, specifying the region of interest, inverting left and right, sharpness, average and blending, etc.



Annotations

You can put various annotations or measure the specific area. You can directly enter preset markers such as text "Reject" or other text that you specify.



Tools

You can save and output the images. Report output function allows you to print a report directly from the program.

Easy to learn - no is needed special knowledge
Quick operation - just a few mouse clicks are enough

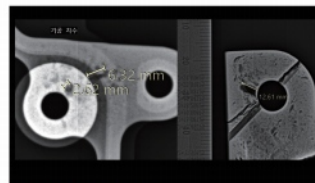


VEGARAY NDT S/W Main Functions



Emboss

Based on the value of the X-Ray image, emboss effect is applied to the image to express the image in three dimensions.



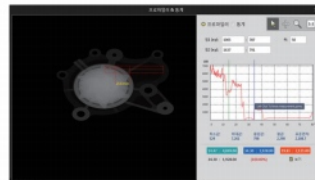
Length & Calibration

You can measure the size of defects found in the image and correct the values.



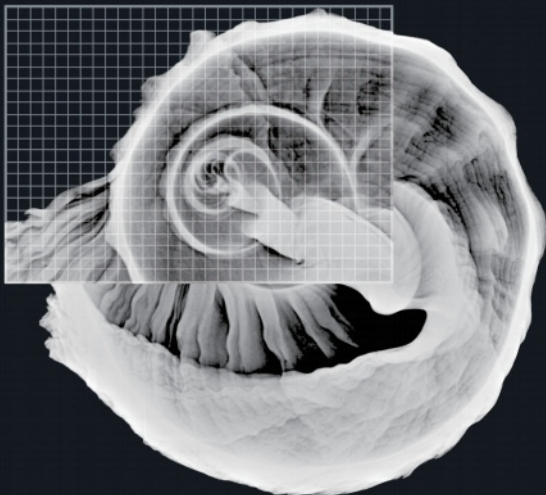
Pseudo Color

It can be used to map colors according to X-Ray image density and compare if they are different substances.



Line Profile

You can check the pixel information within the line of the specified area and check the statistics of the value.



Making the invisible visible

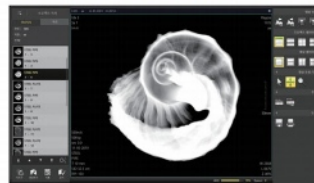
High Quality Image Enhancement Functions

High Quality Images for diverse applications



Averaging

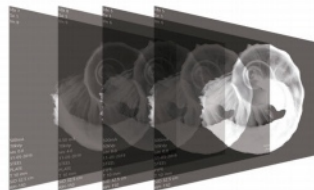
You can increase the quality of images by stacking and averaging multiple images with different conditions.



1) 0.5mA, 50kV



2) 0.5mA, 70kV



3) Merging Images



4) Final image

Easy to Use at Anytime, Anywhere



Product Specification

Specification of X-Ray Generator

- kV range: 40~70kV(1kV adjustable)
- mA range: 0.1~0.5mA(0.1mA adjustable)
- Time range: 0.1~4.0sec(0.1sec adjustable)

Display

- LCD Display

Size

- 320 (W) x 370 (L) x 500 (H) mm

Weight

- 39 kg

Specification of X-Ray Tube

- Model: OX/80-0.15
- Focal Spot : 0.15mm
- Target Angle: 19°

Specification of Digital Flat Panel Sensor

- Type: CMOS Photodiode Array
- X-ray Converter: CsI/Tl/Gd2O2S:Tb
- Effective area: 116 x 145 mm
- Number of active pixels: 2352 x 2944
- Resolution: 10 lp/mm



COMPANY CERTIFICATION

License for Production of Radiation Generators: Nuclear Safety Commission No. 25-76-3, 2018.01.23

License for Sales of Radiation Generator: Nuclear Safety Commission No. 23-481-00, 2019.08.30

Radiation Equipment Design Approval Certificate: Nuclear Safety Commission Issue No. 1805-17-746509, 2018.05.25

Patent Certificate: KIPO, Patent No. 10-2051126, 2019.11.

Certificate of Design Registration: KIPO, Registered Design No. 30-1024497, 2019.09.18

CE: ISO12100: 2010 AND EN60204-1, 2019.09.19

EAC: TR CU, 2019.08.05

ISO9001: 2015, 2019.04.23

ISO13485: 2018.06.26

Certificate of Product-Specific Approved Exporter: Seoul Customs, Certificate No. 01 0-17-200301, 2018.02.26

Medical Device Manufacturing Permit: Seoul Regional Food and Drug Administration, No. 5745, 2017.06.09

Medical Device Manufacturing Certificate: Medical Device Information Technology Support Center, Jan 17-4455, 2017.06.09

Permission for Manufacturing Veterinary Medicines:

Agriculture, Forestry and Livestock Quarantine Headquarters, No. 160-001

Certificate of Veterinary Medical Device Manufacturing Business:

Agriculture, Forestry and Livestock Quarantine Headquarters, License No. 160, 2017.09.27



Front



Side



Door



VEGARAY