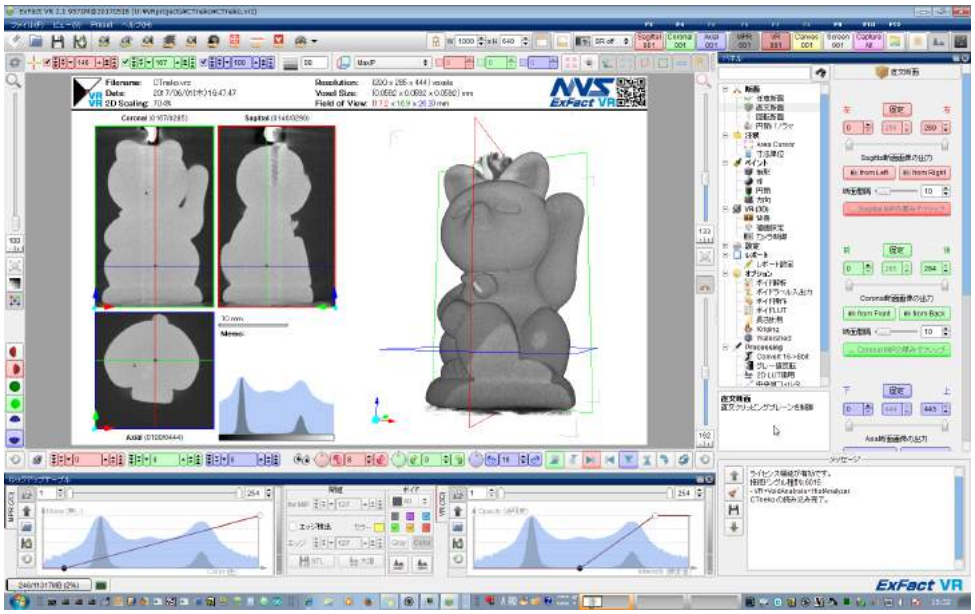
for Windows

ExFact VR 2.1 New

The word "ExFact®" is coined as a brand name of our software which presents our fine work of performing 3D image processing. The meaning of "ExFact" holds "Examine and Express the Fact"

The software visualize to 2D/3D by volume rendering technique of tomography data obtained from such as X-rays CT.



What is Volume Rendering?

It is a set of techniques used to visualize data distributed in 3D space by CG (Computer Graphics) technology. It makes to visualize indeterminate shape of data and internal structure of object easily. One of advantage of the techniques is that display data transparently and get natural contrast or shade.

The advantages of ExFact are…

① Built in our original technology "VR-VR technology®"

② Make quick and various high quality reproducible compatibility reports automatically that reduce operation hours of users

③ ExFact is designed as "a tool to use routinely" that has practical interface and architecture to oriented users

As a result, reduce the man-hour and has a merit of good software.

Carefully designed layout that user understand relationship of 2D, 3D and additional information intuitively.
Handle 2D and 3D image independently so can get report as "what you see is what you get" .

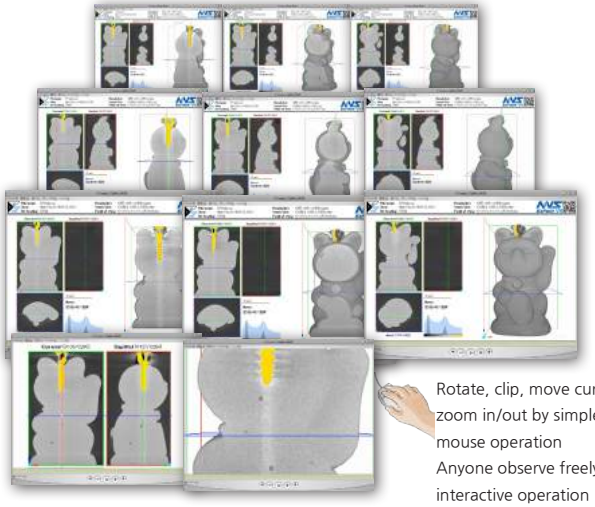
The concept of "Data First" that ExFact® VR suggests

- The software makes redistribution and reproduction of three-dimensional image easily.
- Overwhelming size of high quality data and information to compact format and send it to client quickly
- From simply "see" data to "observe and understand" level

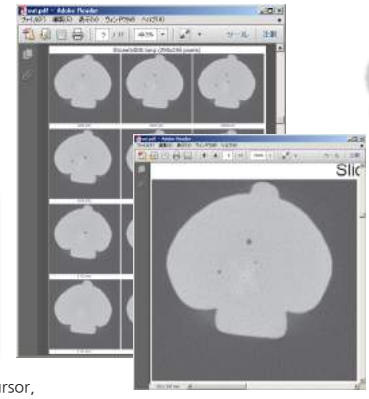
Make your client understand 2D/3D image intuitively by sending movie which made by the software. One of purposes of the software is that consider user who not use device like X-ray CT directly so you can expect such user understand image well without using expensive equipment.

Hand made product "Mikeo" strap
Express a coordinate system of ExFact VR (Not for sale)

The mascot of ExFact VR "Mikeo"



Rotate, clip, move cursor, zoom in/out by simple mouse operation
Anyone observe freely by interactive operation



· A series of slice images to PDF file
· Outstanding readability and compatibility
· Keep detailed information even if zoom in cause of holding original resolution

Output stl file for 3D printer.

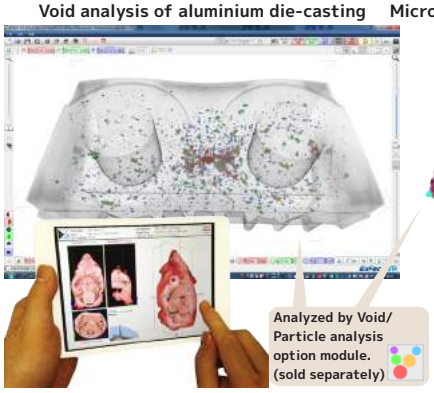
Object from 3D printer

Print out, cut by scissors and assemble it.

· Rotate and/or clip animation and possible to produce as a conventional movie file
· MPEG1 format output, has both merit of reproducible compatibility and quality
· Attach and play on MS PowerPoint

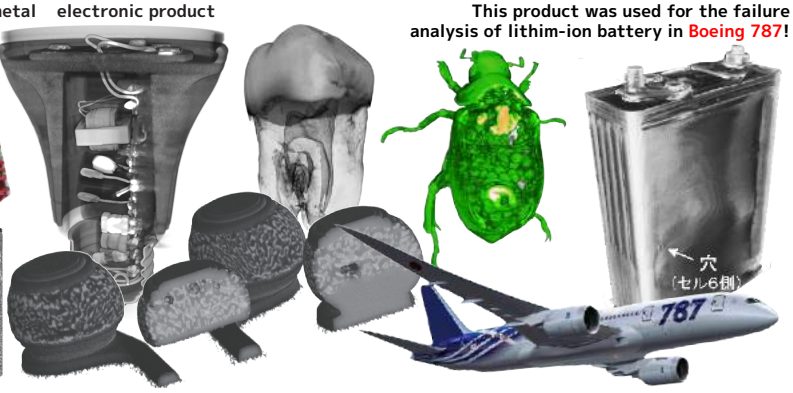
Visualization and examples of applications

Void analysis of aluminium die-casting



Microstructure of resin anad metal

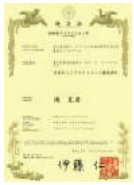
electronic product



This product was used for the failure analysis of lithim-ion battery in Boeing 787!

VR-VR technology®

VR-VR Technology®
It is our original technology that archive huge 3D images data in compact package and distribute to third party easily.

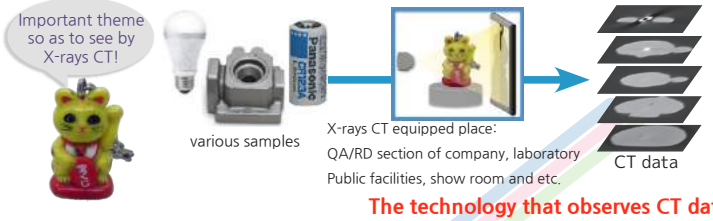

Patent granted
No. JP-5582584-82

TOKYO VENTURE TECHNOLOGY AWARD
2013


The 26th awards for excellent new technologies & products by small & medium enterprises

Our original technology 「Virtual※ Realistic Volume Rendering」 (※ Virtual Reality)

Common demand
- ·Send 3D data to client in advance and want use it at meeting or presentation
- · Want to offer 3D data to customer which is demanded taking by X-ray CT…
- · In that case, don’ t know where and how to observe data…
- · Want to observe data without deep knowledge or exclusive software…
- · Want to reduce time and man power of software processing work…



Three main merits of VR-VR technology

① Whoever, Wherever, Simply
· Anyone observe and play 3D data easily without expensive complicated software

② High Speed, High Quality, Interactive Operation
· Observe and operate high quality VR-VRdata interactively.

③ All data to a compact package
· A huge full set of image data to a compact format and redistribute it.

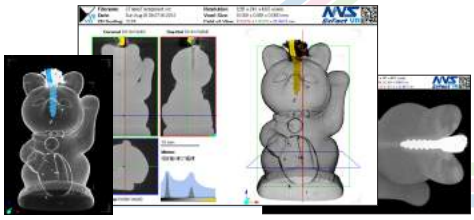
The technology that observes CT data freely and redistribute is necessary!

To various places
Observe on PC of one’ s desk apart from a device, at meeting or presentation

To various partners
Co-worker/boss, other posts (design/production section), a business partner, a client of requesting CT data, co-researcher

The flow of VR-VR technology® process

① Import 3D data set on ExFact® VR

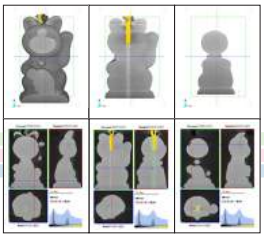


② Decide screen display and layout freely

③ Easy to set color and contrast

Large capacity disk is necessary cause of producing intermediate files.
Approximately around 5-10GB is required.
It will be deleted after processed.

④ Render quickly a large quantity of 2D/3D images automatically



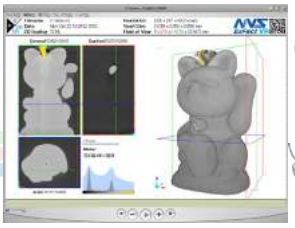
Processing time is vary depends on PC specification. In general, it takes about 10 - 20 minutes per VRVR file.
In processing, can do other jobs are possible.

⑤ Encode (compress) high quality data in compact size Making movie at here is called VRVR format particularly.

VRVR file
CTnekoVRVR.mov

It depends on data size and resolution though; output of VRVR file size is about 10s - 100s MB which can copy USB drive or CD-R. This format holds several thousand of images in general.

⑥ Play and operate on Apple QuickTime Player 7



The same principle as a flip book.

Download Player is free. High performance PC is not required to play. Manual for how to play on before Windows 2000 and Macintosh is prepared in English, Chinese, Japanese and Korean.

Option (sold separately)

Void/Particle analysis option module

Extract internal defect and particle of 3D images automatically from the data kind of casting product or the resin. Visualize by displaying in color.
Of course the result can be produced as VRVR file.

Image Instrumentation option module

This new function enables you to approximate brightness distribution to normal distribution, and to evaluate and analyze data. This unique function also enables you to bring data using threshold setting and coloring function into statistical anaylsis related to all volume data, which used to be done inaccurately.

NASTRAN Bulk Data Output module

The voxel structure of 3D image data can be output as Bulk format (hexahedral mesh structure) of CAE software NASTRAN.

Support

Hold software training course regularly every month at our company (Shinjuku, Tokyo).Our experienced engineer lectures actual technique of using software carefully.Not only training but also you will learn knowledge about X-rays CT, general imaging processing technique, reverse engineering and etc. We try to help you to use at work promptly after training.

Working Environment

- · Supports multiprocessor / multi-core CPU
- · Recommended the CPU after Sandy Bridge of Intel,which supports the AVX Instruction Set (second generation Core processor) Support most of the PCs released since 2011
- · It corresponds to most PCs. If it is a Core i3 / 5 / 7 processor model 2xxx or later, If it is a Xeon processor, this is equivalent to E3/ 5/ 7 or later. Also compatible with AMD's new CPU Ryzen released in 2017
- · The graphic card which support 3D and OpenGL performance and has independent GPU and video memory is required such as NVIDIA GeForce, Quadro series
- · If work on notebook PC, required high performance for above reason. Also, on-board video cards such as Intel Graphics (Intel HD Graphics etc.) use is not recommended.
- · Windows Vista, 7, 8, 8.1, 10 Edition 64bit. Unsupported 32bit
- · Recommended several-fold memory (RAM) of total data size. Required 32GB on 64bit minimum
- · High resolution monitor, UXGA (1600 × 1200pixels) required
- · Recommended full HD (1920 × 1080pixels), support multi monitor
- · Required install QuickTime 7
- · Work on QuickTime Pro also OK (not free)
- · USB 2.0 / 3.0 port (protection module connection use)
- · Install SSD with RAID 0 (striping)
  Connect with high speed bus like NVMe, PCIe
  PC specification like this is very effective for speeding up.
- · Simultaneous installation of ExFact VR 2.0, 2.1 is possible.

QuickTime is technology of Apple Inc.

64bit Workstation

We also offer desktop PC which optimized for the software. By customer request, sell the software and PC as set.

Display outstanding quality for grayscale rendering Grade 2 monitor for medical imaging

Hardware Built in RAID unit

·High end video card support high speed rendering
·Built in SSD (RAID0) support fast read/ write intermediate files
·Three years guarantee (in Japan only)

IMAGinE PC Vintage is trade mark of customized PC. It is produced by cooperation of our company and Japan Computing System Inc.

License Form

· Program works with connected protect module called dongle to USB port
· Use software on any PC if dongle is connected
· Not necessary to install dongle driver
· Part of dongle memory area recognized as drive; software installer and sample data are included

Nihon Visual Science, Inc.
http://www.nvs.co.jp/ info@nvs.co.jp
Coral Bldg. 4F, 6-26-2 Shinjuku, Shinjuku-ku, Tokyo 160-0022, JAPAN
TEL: +81-3-5155-5561 FAX:+81-3-5155-5560

Beyond Software Technology
ソフトウェアのその先に
since 1997