



KAIZEN SOFTWARE

OTRS



OPERATION TIME RESEARCH SOFTWARE

Time and motion analysis software for the improvement of your operations



Patent
Pending

DAe (Latest Video Engine)



- No video conversion required
(Compatible with 92% of video camera data formats)
- High frame rate processing

Multi-Language Support



Global compatibility

- Switch graphical user interface between multiple languages quickly and easily
- Add video subtitles and narration

BroadLeaf

OTRS 10

Revolutionize your operations with the new standard in time and motion analysis

OTRS is time and motion analysis software designed to help you achieve labor and cost reductions within your operations.

The software leverages Japanese industrial engineering and lean manufacturing approaches to help your company achieve world-class performance.

Design, analyze and implement standardized work to eliminate overburden, waste and unevenness within your operations.

CONCEPT

Analysis at the production site

Increase the efficiency of your continuous improvement program through performing time and motion analysis directly on site

Kaizen innovation

Utilize OTRS as a standard tool for driving improvement efforts across production, office and management functions

Connect and expand

Utilize OTRS in conjunction with other systems through enhanced data sharing

Product Features

◆ More precise measurements than ever before

- Ability to process high frame rate video

Advanced video engine for high-accuracy analysis

High frame rates ensure that not a moment is overlooked

- Analyze experienced technicians
- Analyze high-speed equipment
- Use in research applications



◆ Simple and easy to use

- Immediately ready for use after installation

◆ OTRS maintenance support package

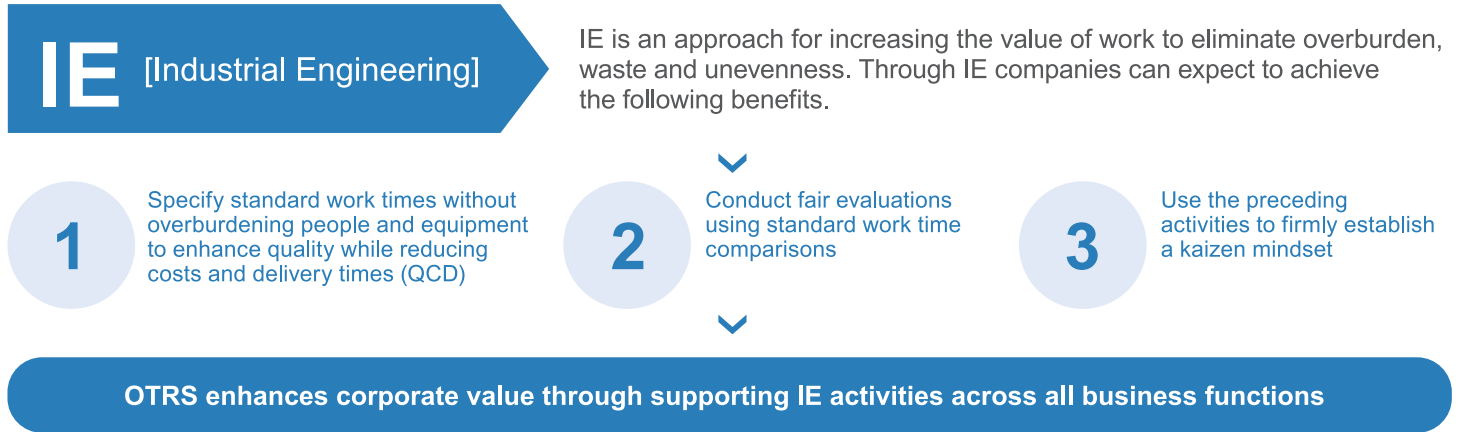
- Complimentary program maintenance and support for a full year

◆ Online version updates

- Regular version updates
- Easy online updates

Developed based on industrial engineering to support the improvement activities of your business

OTRS can be utilized at all stages of the kaizen cycle.



Rapidly visualize improvements within your production site



Simple design. Feature rich.

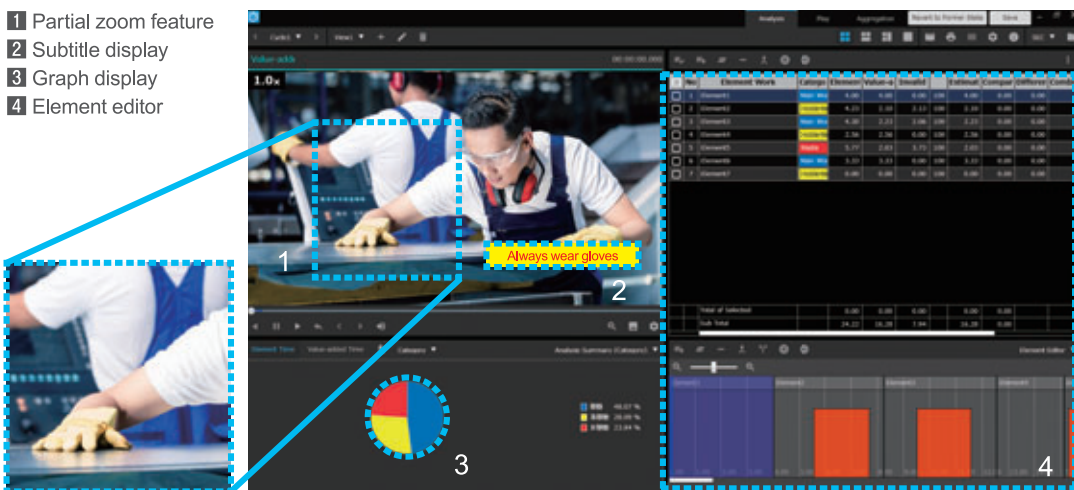
Through an all-new graphical user interface design OTRS is now easier to use than ever. OTRS10 has been redesigned from the ground up to ensure you are up and running in no time.



Motion Analysis

Easy operation via an intuitive graphical user interface.

- 1 Partial zoom feature
- 2 Subtitle display
- 3 Graph display
- 4 Element editor

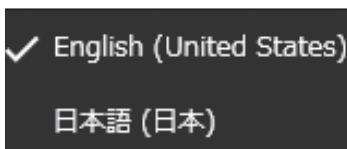


Simulation Playback Feature

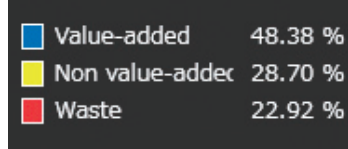
- Play with Invalid Motions
- Play Raw Video
- Play with Invalid Motions
- Play without Invalid Motion
- Play with Rating

Four-stage playback available

Language Selection



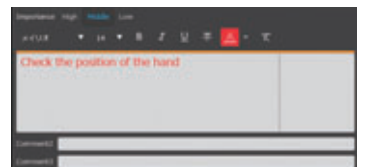
Operational Status



Narration



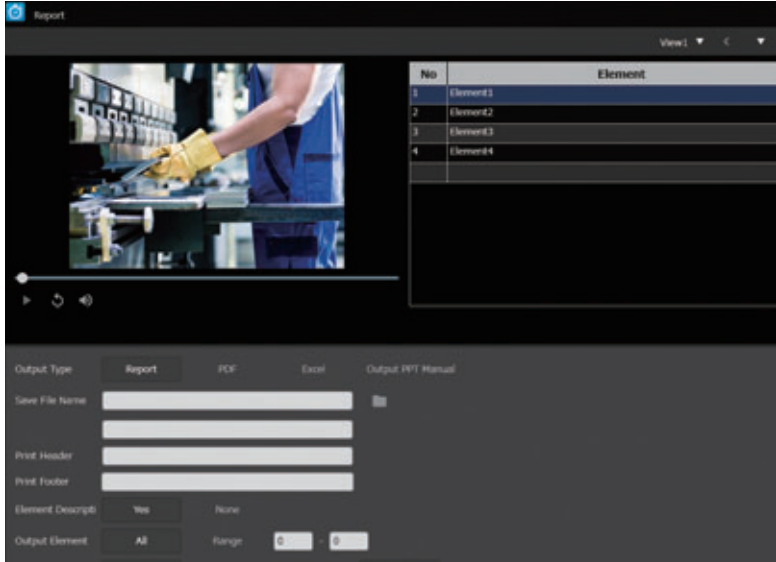
Comments



Manual Creation

Easily create video manuals to visually communicate techniques that are difficult to explain in words. Manuals can also be exported in presentation format and video format.

Output menu



Various manual output formats



Manual with video

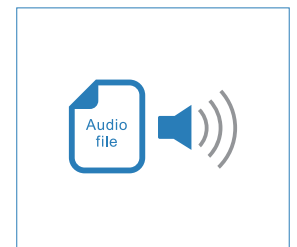


Procedural manual with still images



Use the speech synthesizer feature to automatically create narration

Subtitled video

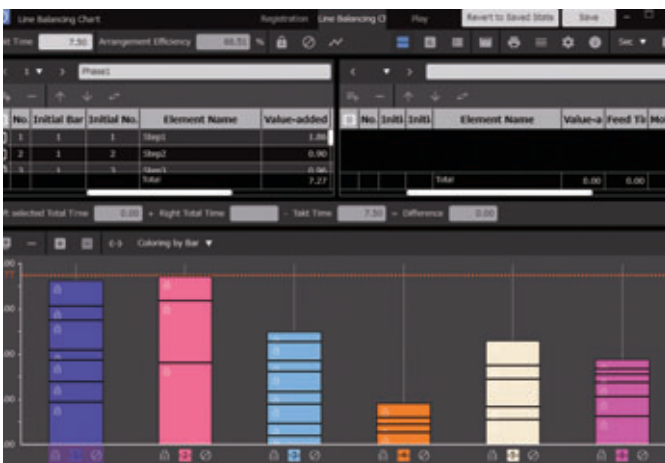


Audio file

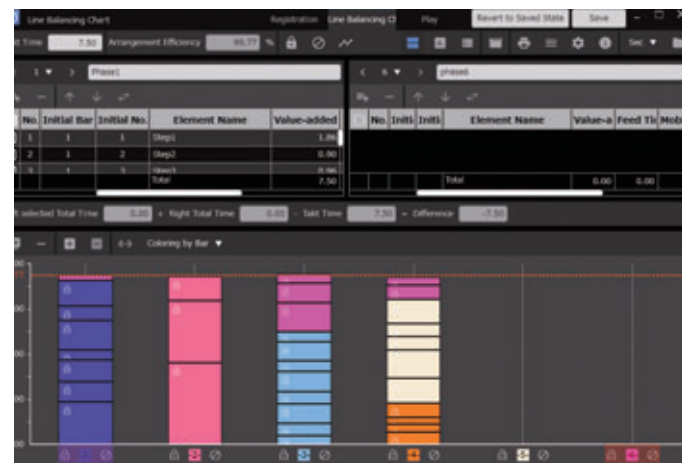
Work Process Organization

Quickly combine motion analysis results and create accurate simulations.

Line Balance (before kaizen)



Line Balance (after kaizen)



Standard work combination chart



Additional Features

- Line efficiency display
- Toggle display by element or type
- Link to video
- Simulation playback
- Analyze up to 72 processes

Network Operation

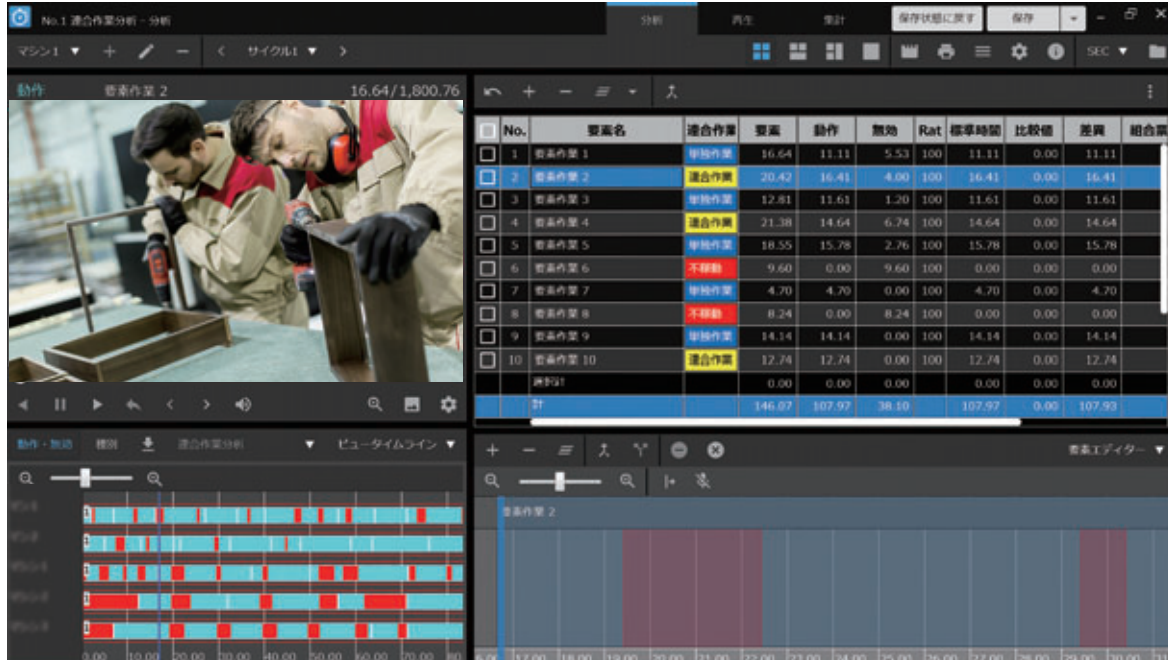
OTRS10 can also be used in server-client systems.

Screenshots show graphical user interface under development. Actual interface may differ slightly.

Model 501 (Multiple Simultaneous Analysis)

Multi-axial Analysis Function

Since multi-target motion analysis is enabled using the multi-axial analysis function, Therblig analysis and multiple activity analysis can be easily performed. Waste during active motion can also be measured.



Usage examples:

Multiple Activity Analysis



- マン1
- マン2
- マシン1
- マシン2
- マシン3

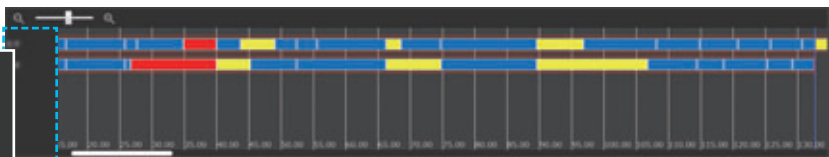


By distinguishing between human-to-human and human-to-machine operations and offering visibility into the interactions, this method clarifies loss and points that need improvement. This leads to the shortening of cycle time and reduction of necessary personnel.

Both-hand Activity Analysis

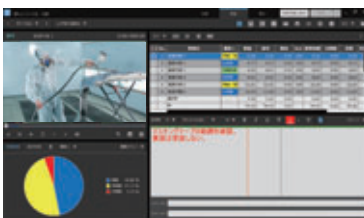


- 左手
- 右手



Through detailed analysis of each activity, wasteful movements are eliminated, establishing an economical arrangement of motions with low fatigue output. Furthermore, by proceeding with analysis, Therblig analysis can be applied.

Model 101 (OTRS Viewer)



Imports and plays back data analyzed in Model 301, 401, and 501.

Going beyond the limits of a conventional video player, data such as comparative playback, waste elimination playback, and manuals can be output. By using a tablet PC to perform comparisons between technicians and operators on site, the data can be used to educate and instill skills to members.

※Analysis results of the Model 101 cannot be saved.

Providing full functionality and output

Equipped with ample functions to easily perform delicate analyses.

501 Dedicated Function

Multi-axial Analysis Function

401 Dedicated Functions

Line Balancing Chart

- Arrangement Analysis (Maximum 72 Phases)
- Arrangement Efficiency Display
- Takt Time Input
- Arrangement Simulation Calculation
- Movement Lock (Element/Phase)
- Arrangement Analysis Waste Elimination Simulation
- Arrangement Analysis Rating Simulation
- Element/Category Display Switch
- Category Color Coding Function
- Element Video Setting Motion
- Element Name/Time Value Insertion Function
- Element Video Playback
- Arrangement Simulation Playback by Phase
- Phase Name Input

Standard Work Combination Chart

- Automatic Linking of Analysis Results (Combination Chart Type)
- Manual Input of Measurement Results
- Takt Time Calculation Function
- Element/Time/Combination Chart Type Display
- Element Color Setting
- Combination Element Video Display
- Irregular Operation Input
- Improvement Summary Display

501/401/301 Shared Functions

Analysis/Playback

- Video Limit Adjustment
- Display Item Selection (Irregular/Comparative Value Difference)
- Screen Display Switch (4 Patterns)
- Element Splitting
- Time Measurement (Mouse/Keyboard)
- Detailed Time Measurement (Mouse Wheel)
- Detailed Time Measurement (Keyboard)
- Invalid Motion Measurement (Mouse/Keyboard)
- Invalid Measurement Deletion (Final/Entire Measurement/Measurement Intervals)
- Rating (Speed Evaluation) Input
- Rating Simulation Playback
- Playback Speed Change (0.03 - Max. 8x speed)
- Normal/Reverse Playback
- Normal/Reverse Frame-by-frame Playback
- Video Zoom Function
- Measurement Data Re-splitting
- Measurement Data Joining
- Unmeasured Element Insertion
- Cycle Time Aggregation
- Selected Element Aggregation
- Standard Time Calculation
- Comparative Value Difference Calculation
- Irregular Element Type Input
- Category Setting (Max. 4)
- Combination Chart Type
- Cycle Measurement (Max. 20 Cycles)
- Cycle Measurement Support (Element Name Copying)
- Cycle Measurement Support (Time Value Copying)
- Element Editor
- Category Time Line
- Analysis Summary
- Element Graph
- Pre-Waste Elimination Playback
- Waste Elimination Playback
- Rating Playback
- Step/Repeat Playback
- Element Name Input Support (Word Pickup)
- Content Duplication
- Comment Input (Max. 3)
- External Link Management (File/URL)
- Output Image Selection
- Snap Picture
- Narration Recording
- Narration Automatic Generation
- Narration Start Time Setting
- Clipboard (Images/Grids/Whole Screen)
- Excel Import (Element Name, Element Time, Comparative Value)
- Information Registration Display (Comment/Link/Narration)
- Category Group Selection

Analysis Explorer

- Analysis Data Search (Category Search, Full-text Search)
- Analysis Data Management (Data Copying, Deletion, and Movement)
- Analysis Data Management (Multiple Tag Setting)
- Layer Management
- Favorites Function
- Video Thumbnail Display
- Video Preview Playback
- Detailed Video Information Display
- Sort Function
- Recycle Bin Function

Aggregation

- Cycle Measurement Results Aggregation (Element/Category)
- All Cycles Aggregation (Element/Category)
- Cycle Interval Scattering Display (Max. and Min. Difference)
- Category Color Coding Display
- Average Display
- Aggregation Results Sorting by Cycle

Comparison

- Simultaneous Playback Control (Normal/Reverse Playback, Speed)
- Simultaneous Playback Setting (Step/Repeat)
- Improvement Before/After Comparison (Before/After Waste Elimination, Rating)
- Cycle Comparison (Best/Worst Wrap)
- Operator Comparison (Analyzed Video Comparison)
- Pre-analysis Video Comparison
- Comparison Screen Display Switch (Up/Down, Right/Left)
- Time Lag Display
- Multiple Video Simultaneous Control (Normal/Reverse Playback, Speed)
- Video Caption Editing (In-Element, Max. 5 Captions)
- Free Marking Display
- Element List, Analysis Comment, External Link Switching Display
- Comparison Comment Editing and Display
- Comparison Information Input

Analysis Support

- Word Pickup
- Automatic Element Registration
- Element Copying (Single/All)
- Display Logo Setting
- Header/Footer Setting
- Category Editing

Output Function

- Video Output Size Change
- Video Output Type Change
- Image Output Size Change
- Multiple Time Unit Output (Aggregation List)
- Clipboard Output
- Logo Output

Video Conversion

- Video Format Conversion
- Multiple Video Combination
- Multiple Video Combination (Differing Frame Rates)
- Multiple Video Combination (Differing Frame Width and Height)
- Video Sequence Edit Combination
- Generated Video Name Input

Element Rearrangement

- Cycle Element Rearrangement
- Cycle Automatic Rearrangement (Best/Worst)
- Multiple Analysis Element Rearrangement
- Element Video Playback
- Element Name and Time Information Display
- Post-rearrangement Simulation Video Playback
- Rearrangement Time Simulation

Other

- Multiple Language Registration
- OTRS Operation Manual Browsing
- OTRS Support Site Link
- Proprietary Manual Registration/Browsing
- Configuration Set Registration (Category/Analysis Support Registration)
- Logo Registration (Image File)
- Import/Export (Analysis Data)
- Import/Export (Setting Data)
- Time Unit Change (Sec., D/M, H:M:S)
- Time Decimal Place Change (0 - 3 Decimal Places)
- Network Settings
- Input/Output Folder Setting
- Category Group Setting
- Category Type Setting
- Combination Chart Type Setting
- Backup Function
- Call OTRS from Other Systems (Word, Excel, PowerPoint, etc.)

Product Lineup

Product		Type	Main Functions					
			Playback analyzed videos (includes comparison playback)	Various aggregations and output	Video analysis/ comparison analysis	Element rearrangement	Work combination (combination chart/ line balancing chart)	Multi-axial analysis
Model501	Software	501-V10	○	○	○	○	○	○
	Support	501-V10-HS						
Model401	Software	401-V10	○	○	○	○	○	
	Support	401-V10-HS						
Model301	Software	301-V10	○	○	○	○		
	Support	301-V10-HS						
Model101	Software	101-V10	○	○				
	Support	101-V10-HS						

※OTRS 10 and Support Service is set at discretionary prices. For more information, please contact us or one of our partner resellers.
 ※Free support is provided for one year after purchase. It will be charged starting from the second year.

OTRS Support Service

By subscribing for the support service, new devices and updates will be supported, allowing the latest version of OTRS 10 to be used.

Main Service Content

Dedicated site for support members	Customers who purchased OTRS 10 can log in to the support member site. The support member site offers information for helping improve effectiveness as well as the latest information for making the best use of our product. Video tutorials as well as operation and setting manuals are available. After registering, contract content can be confirmed or changed in your personalized page.
Download the latest program	New functions, function improvements, and the latest programs to fix malfunctions can be downloaded from the support member site. Customers can update the program themselves.
Help desk support service	The OTRS help desk operators are on hand to answer questions regarding the product and its controls and functions via a toll-free number. ●Contact time: Company business days from 9:00 AM to 5:30 PM (Monday to Friday) ※This service is only available for customers within Japan.

Optional services

Installation Disc Provision Service ※1	If the installation disc is broken or lost, the latest installation disc can be provided for a fee.
Broken security key support service ※2	If your security key (USB) is broken, it can be replaced with a new security key for a fee.
Support visit service ※3	For a fee, customers can request to have experienced staff visit and offer support for various issues such as system operation, operational guidance, and version updates to the latest program.




※1 As the latest installation disc is provided, version cannot be specified. ※2 You must return the broken security key to have it replaced. If the security key is lost and cannot be returned, it cannot be replaced.
 ※3 Each support visit is 3 hours. Depending on the location of the visit, separate fees for transportation and lodging may be required.

Operational Environment

OS	Windows 10 Pro / 8.1 Pro / 7 Pro (SP1 or higher) Operation on 32 bit confirmed.
CPU	Intel Core i5 Series, second generation or newer, 2.6 GHz
Memory	4 GB or greater
HDD	Available disk space: 2.2 - 6 GB or more (Necessary disk space depends on functions to be used)
Display	1024 x 768 (XGA) or higher
Video format	MPEG1, MPEG2, AV1 (Motion JPEG), MOV, MP4, AVCHD, WMV ※ Dolby audio playback is not supported. ※ WMV formats can only be used for videos output from OTRS 10.
USB port	1 for Security Key * USB Authentication Key
Simultaneously installed software	MS Visual C ++ 2008 Runtime MS Visual C++ 2010 Runtime MS .NET Framework 4.6.1 MS Speech Platform 11
Languages	Japanese and English (Other languages are supported by registering languages)

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 ●The content, numerical values, and specifications in this catalog are accurate as of June 2017.

Package Content

▼ Installer media (1 Disc)	▼ Security key (1 stick)	▼ Documents (4 documents)
		
※Includes Electronic Manual		① Read First ② License Agreement ③ Operational Environment ④ User Registration Card ※ Support Site

※Operation verification has been implemented in preinstalled Windows 10 Pro in desktop mode.
 ※Depending on output functions, Excel (2007, 2010, or 2013), PowerPoint (2007, 2010, or 2013), and Acrobat DC will be necessary.
 ※If installing this product with the DVD, a DVD drive will be required.
 ※Depending on PC usage conditions and video conditions, software operation may be slow.
 ※In order to use this product effectively, PCs with higher spec CPUs and more disk space is recommended. (For Windows OS, 64 bit processor and free disk space of at least 4 GB is recommended.)



Association of Copyright for Computer Software
 140-0002
 8F Glass Cube Shinagawa,
 4-13-14 Higashi-Shinagawa,
 Shinagawa-ku, Tokyo
<http://www.broadleaf.co.jp>
 KAIZEN SOFTWARE
 Contact: 03-5781-3316

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Product information and sales inquiries:

Shinka Management

Contact: Juan Manuel Bertero

E-mail: juan.bertero@shinkamanagement.com

Mobile: +39 339 533 4649

<https://shinkamanagement.com>

