

# OTRS<sup>®</sup>

Operation Time Research Software



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Ver.202310



# Improving industry and enriching the world through Kaizen

As attitudes to time are changing globally, industry is facing challenges associated with labor shortages, skills transfer, digital transformation and carbon neutrality.

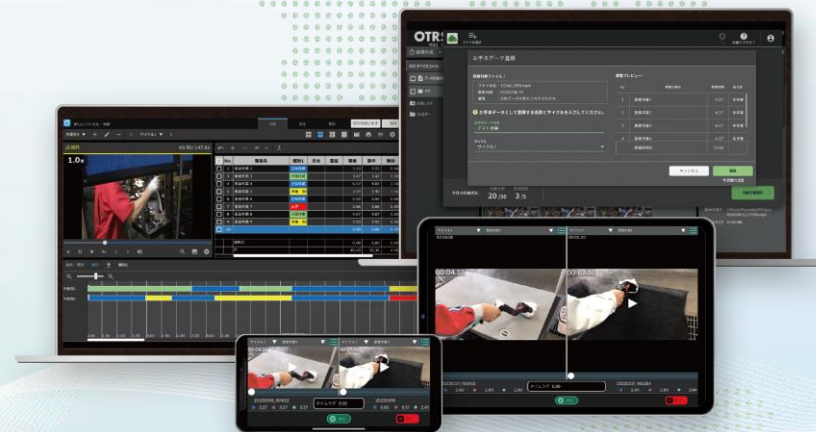
We work with industry to digitize improvements and enhance productivity, to support the lifestyle of workers around the world.



## Corporate Philosophy

*Gratitude and Happiness*

感謝と喜び



# The OTRS Series Promoting Manufacturing Digital Transformation



Promoting Smart Factories

Standardized Work & Standard Time

Digital Transformation of  
Human Resource Development

Digitization of Improvements



# PRODUCT LINEUP



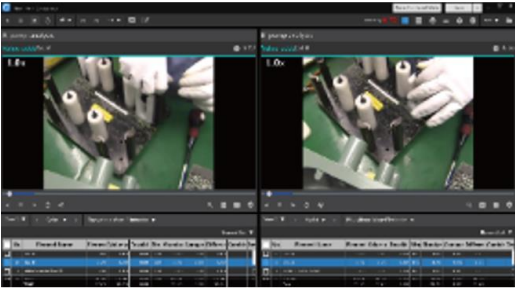
# PRODUCT LINEUP



for Windows  
Kaizen software for precision analysis of standardized work

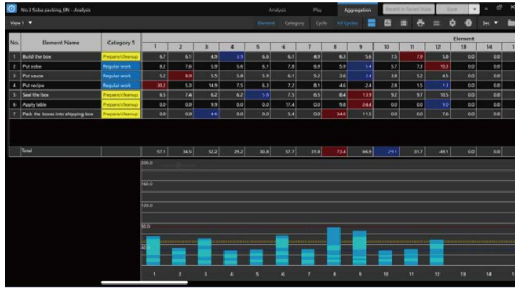
## Main Features

### 1. Comparison



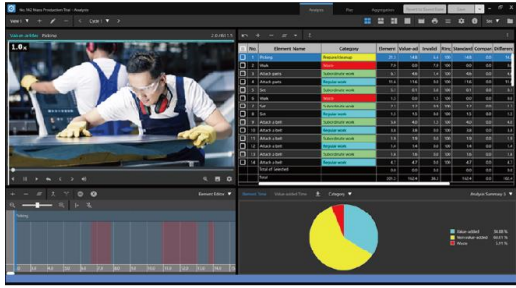
Visualize the work variances between two videos. Outputting comparative data into manuals with videos can significantly reduce time preparing reports and manuals.

### 2. Aggregation & Output



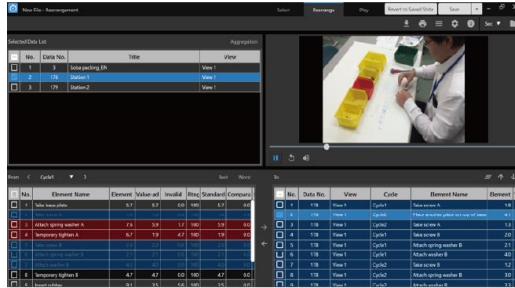
By making cycle to cycle fluctuation visible helps you understand the state of your operations. Output in Excel, PPT, and other formats reduces time preparing reports and manuals.

### 3. Work Analysis



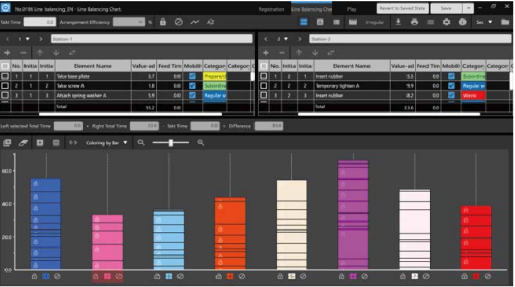
User interface specializes in motion analysis to conduct detailed analysis with visualizations of operating rates and fluctuation.

### 4. Rearrangement



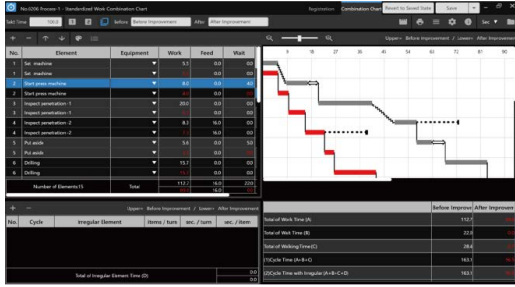
Free rearrangement of sections of videos beyond their cycles into up to 5 different videos. Rearranged data can be output as analytical data.

### 5-1. Work Process Composition (Line Balancing Chart)



Utilize the analyzed data for your high accuracy work composition. Output simulated results as Line Balancing Chart and Standardized Work Combination Chart.

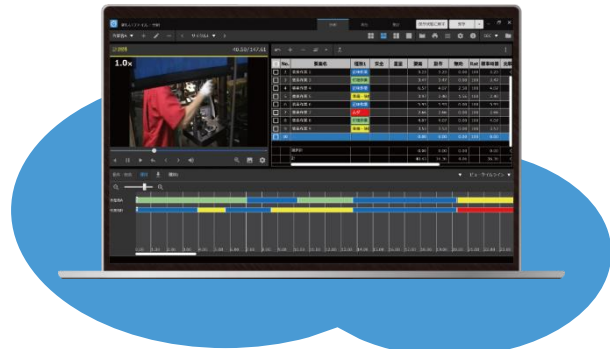
### 5-2. Work Process Composition (Standardized Work Combination Chart)



### 6. Multi-Axial Analysis



Analyze multiple targets on one screen. Its applications include analyses of cooperative work up to five people and of multi machine handling, as well as therblig analyses.



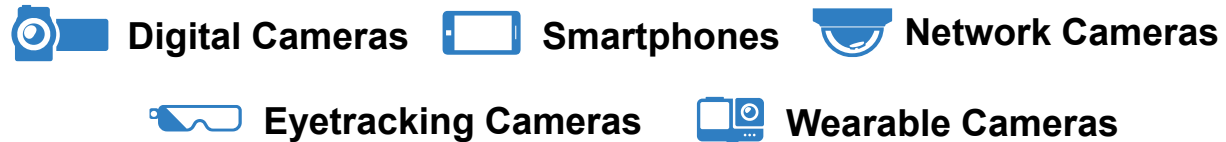
\*Supported video extensions: MP4,MOV,MPEG-TS(MTS),MPEG-PS(MPG)

OTRS<sup>®</sup> 10

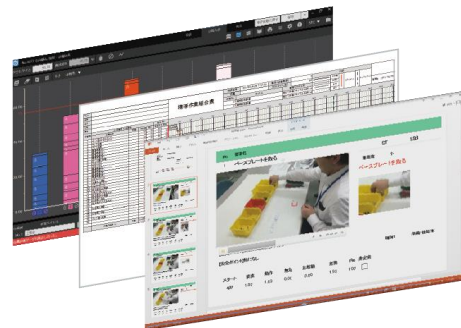
## Supported Video Formats

OTRS10 supports a variety of video data with its unique video engine. It's also equipped with a video converter function, allowing easy conversion from unsupported formats.

OTRS10 can analyze video recordings and create work instruction sheets, video manuals, and three standardized forms from the analysis video, all within OTRS10.

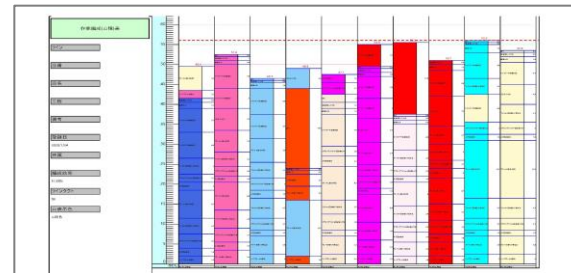
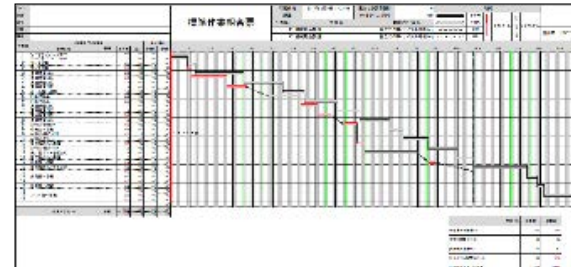


- MPEG2
- AVI(MotionJPEG)
- MOV
- MP4
- AVCHD
- WMV



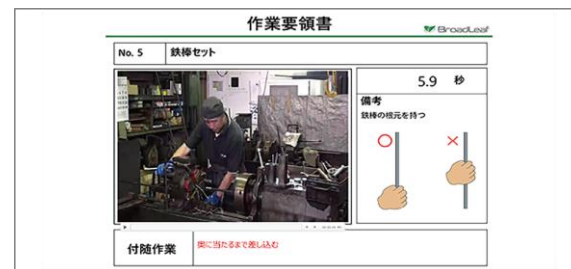
## Use Cases

## Work Process Composition



Utilize the analyzed data for your high accuracy work composition. Output simulated results as Standardized Work Combination Chart.

## Skill Transfer / Education



Utilize video manuals created from analysis results from OTRS10 to effectively and efficiently promote skill transfer and education.



<https://www.otrs.jp/english/>



Product	Main Functions					
	Playback of Analyzed Video	Aggregated data Output reports	Motion Analysis Comparative Analysis	Rearrangement	Work Process Composition	Multi-Axial Analysis
Model 501	✓	✓	✓	✓	✓	✓
Model 401	✓	✓	✓	✓	✓	
Model 301	✓	✓	✓	✓		
Model 101	✓	✓				

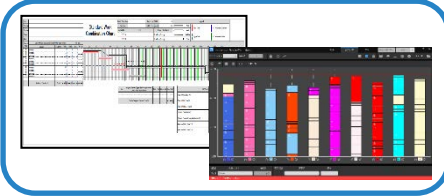
\*Model 101 is a viewer license. This should be purchased in conjunction with the models that has motion/comparative analysis.

**Model 501**



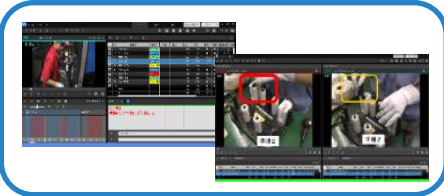
The top-of-the-line OTRS Model allows you to analyze multiple targets on a single screen. With the most in-depth analyses available, it delivers visualizations of the workplace and helps you make improvements.

**Model 401**



The standard OTRS Model allows you to output Line Balancing and Standardized Work Combination Chart from analysis results. Simulating with the work process composition promotes the optimization of the workplace.

**Model 301**



The entry-level OTRS Model provides work analysis, comparative playback, and manual creation features. Get all the features you need to understand the state of your workplace in one package.

**We will offer you the best model to meet your needs.**



Item	USB Key Edition	Network Edition	Network Edition Subscription
<b>Licensing Plan</b>	One-time purchase	One-time purchase	Subscription (annual only)
<b>Deliverables</b>	USB Key, Installer disc and User Registration Card	License Certificate and User Registration Card	License Certificate and User Registration Card
<b>Lead Time</b>	Two weeks	Two weeks	Two weeks
<b>Type of Terms</b>	- Terms of Use (USB Key Edition) - Software License Agreement	Terms and Conditions (Network Edition / Network Edition - Subscription / Mobile OTRS)	Terms and Conditions (Network Edition / Network Edition - Subscription / Mobile OTRS)
<b>Maintenance service contract</b>	Automatic Renewal <b>*The cancellation form is required to be submitted 2 months prior to a renewal date.</b>	Necessary <b>*Unable to use licenses after the service termination</b>	- *Included in the license fee and no need to contract additionally
<b>Activation after Termination of Maintenance Service</b>	Available	Not available	-
<b>Model Upgrade ( e.g. Model 301 ⇒ Model 401 )</b>	Available *New USB key provided upon payment of difference between license fees	Not available	Available (per annual contract)
<b>Lost or Damaged USB key</b>	Cannot be reissued if lost. Damaged USB can be replaced within the Maintenance Service Contract.	-	-
<b>Customs Clearance</b>	Required	Not required	Not required
<b>Sales in China</b>	Available	Not Available	Not Available

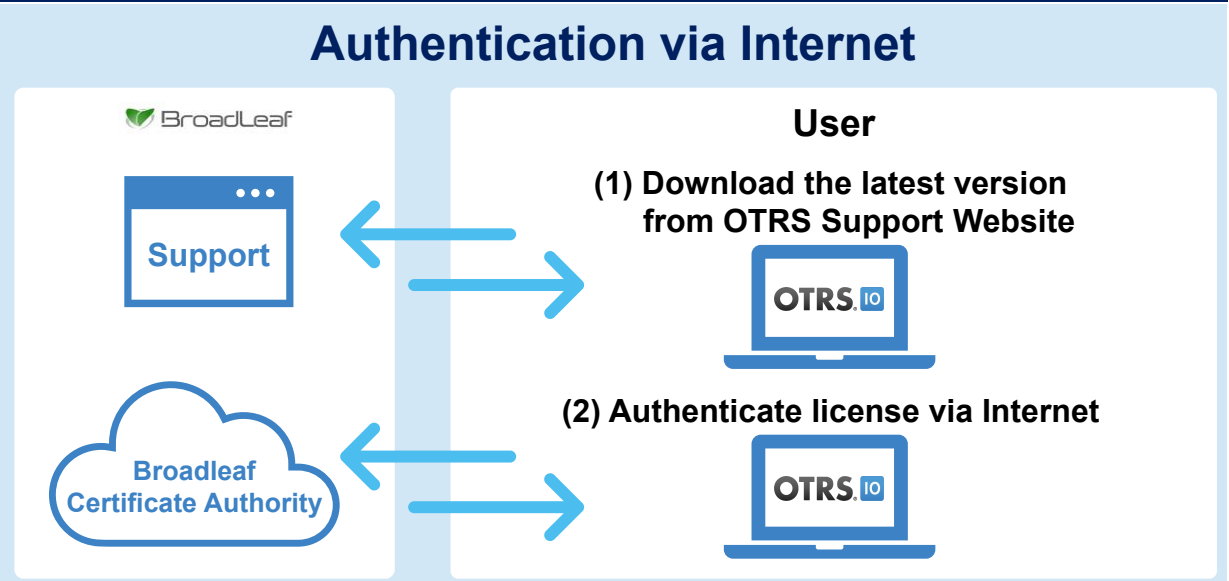
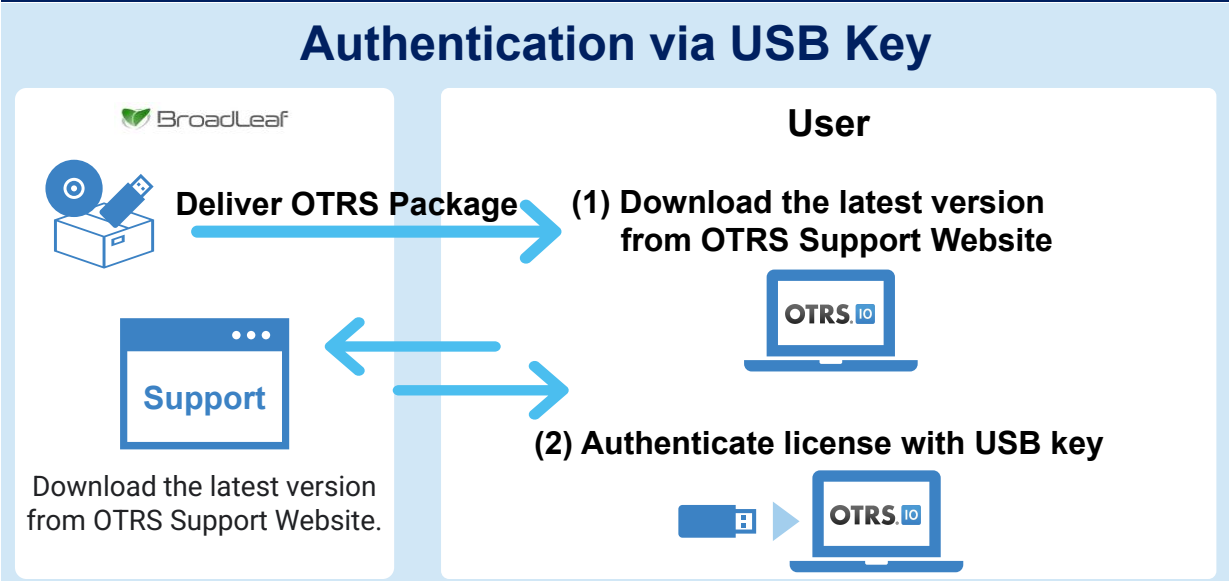




※Licenses are only available to contracted customers.

Item	USB Key Edition	Network Edition	Network Edition Subscription
Authentication Type	USB key	Via the Internet	Via the Internet
Internet Connection	Not required	Required (at activation)	Required (at activation)
Offline Activation	Available *Required to insert the USB key	Available (up to one month)	Available (up to one month)
Use on other PCs	Via USB key	Can be used on other PCs by performing the license revoke process from the activated PC	Can be used on other PCs by performing the license revoke process from the activated PC

**License Authentication Type**

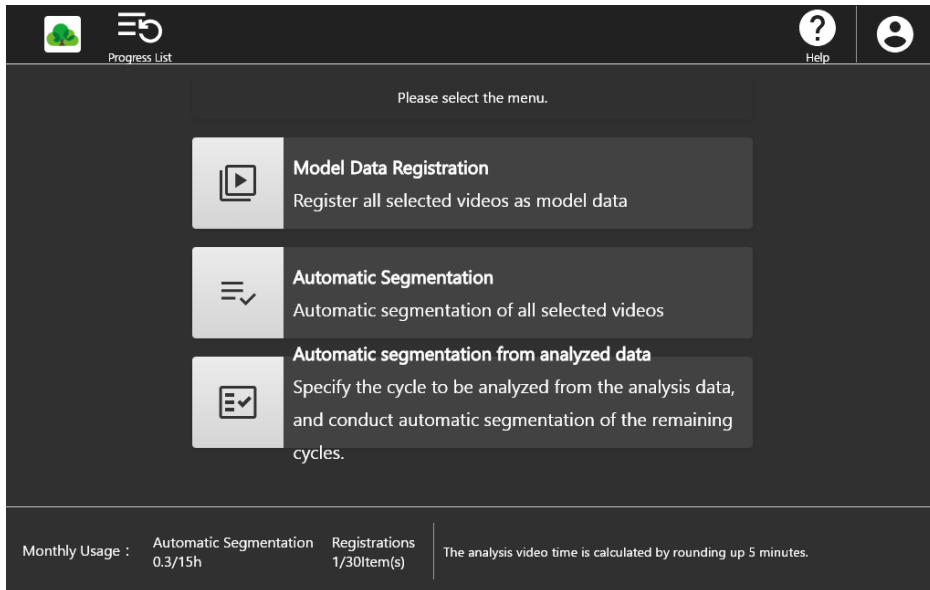




for OTRS10

Automate the elemental division of 1-20 cycles of work using AI, and leave the analysis to OTRS+AI!

## Main Features



### 1. Model Data Registration

Register videos analyzed by OTRS10 as model data.  
Only one cycle of analysis data is required for model data registration.

### 2. Automatic Segmentation

By simply selecting the video to be analyzed and the registered model data, automatic segmentation can be performed based on the model data.

### 3. Automatic segmentation from analyzed data

You can specify one cycle you wish to use as model data from analysis data, and the remaining cycles can be automatically segmented.



**AI learning with a single cycle of data**



**Element segmentation accuracy 95% or higher**



**Suitable for various shooting conditions**

※Accuracy may be reduced if the lens distortion is large or out of focus, recognition.

※Accuracy may be reduced when blown out highlights or blocked up shadows occurs or when shooting at night or in dark areas.

# PRODUCT LINEUP

# OTRS<sup>+</sup>AI

## OTRS+AI's Strongpoints

By using AI to automate the elemental work division of 1-20 cycles, which used to be a time-consuming and labor-intensive process, the efficiency of Kaizen with OTRS can be improved.

No.	Element Name	Cycle					
		1	2	3	4	5	6
1	Element1	2.30					
2	Element2	4.40					
3	Element3	10.50					
4	Element4	2.80					
5	Element5	5.20					
6	Element6	3.70					
7	Element7	9.20					
8	Element8	4.60					
9	Element9	5.20					



Divide only 1 cycle manually

Elemental learning



No.	Element Name	Cycle					
		1	2	3	4	5	6
1	Element1	2.30	1.80	2.40	1.90	2.80	2.4
2	Element2	4.40	4.70	4.80	5.10	4.50	5.4
3	Element3	10.50	11.40	11.00	9.20	10.30	10.7
4	Element4	2.80	3.00	2.40	2.30	2.70	3.2
5	Element5	5.20	5.60	5.80	6.20	5.30	6.0
6	Element6	3.70	3.00	4.20	3.70	2.90	3.5
7	Element7	9.20	10.20	9.10	8.70	11.20	10.4
8	Element8	4.60	5.20	5.50	4.40	5.80	4.2
9	Element9	5.20	5.00	4.90	6.00	5.50	5.8

Elemental Segmentation

Divide the elements of multiple cycles automatically.

No.	Element Name	AI Score	AI time ratio	Element	Value-ad	Invalid	Rtnng	Standard	Compara	Differenc	Combin	Irr
1	Take thread	D	46.00	1.23	1.23	0.00	100	1.23	0.00	1.23		
2	Set thread	C	167.00	3.50	3.50	0.00	100	3.50	0.00	3.50		
3	Thread cutting	A	98.00	4.83	4.83	0.00	100	4.83	0.00	4.83		
4	Remove	A	100.00	17.91	17.91	0.00	100	17.91	0.00	17.91		
5	Set thread	B	100.00	6.00	6.00	0.00	100	6.00	0.00	6.00		
6	Thread cutting	A	94.00	18.75	18.75	0.00	100	18.75	0.00	18.75		
7	Remove	B	103.00									
Total of Selected												
Total												

The alphabet indicates AI confidence score.

- A 0.8 - 1.0
- B 0.6 - 0.8
- C 0.4 - 0.6
- D 0.2 - 0.4
- E 0.0 - 0.2

Element time analyzed by OTRS+AI changed?

- NO
- YES

The AI time ratio indicates the comparative value with the model data.

- ⊙ AI analysis accuracy compared to model data is evaluated by a 5-level AI score.
- ⊙ Time difference data is displayed as "AI time ratio"

# OTRS<sup>+</sup> AI

Analysis moving forward



## Leave it up to OTRS+ AI

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Work analysis, which used to require manual labor, can now be performed by AI instead, leading to significant time savings.



## Give hints for Kaizen by AI

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Enables to find new hints for improvement that are difficult to notice only by time measurement! AI analysis results can be used for Kaizen activities.



## Transform of Kaizen Activities

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- Improvement of work fluctuation
- Improvement of work proficiency (reduction of training period)
- Establishment and review of standard work

# OTRS<sup>+</sup> AI

## Use Cases

### Refinement of work processes



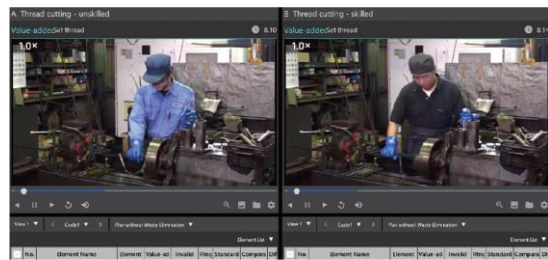
High-accuracy analysis of up to 20 cycles can be performed in a short time, enabling the discovery of fluctuations and waste that cannot be detected by analysis of two or three cycles.

### Automation of comparative analysis



Once one cycle of model data is registered, the same work operation is automatically segmented and analyzed, reducing manual analysis work.

### Improved efficiency of human resource development



AI analysis reduces the time required to create work instructions and educational materials. Learners can self-learn while referring to objective analysis results provided by AI.

### Acceleration of Kaizen Activities



OTRS+AI significantly reduces work analysis and creation time for line balancing chart. It leads to reducing time spent on Kaizen activities and increasing frequency of analysis.



<https://www.otrs.jp/lp/en/otrs-ai/>



\*Contact local distributors for pricing.

MODELS	Set Plan	Number of IDs (Administrator/User)	Quantity of registered model data	Analysis video time	Purchase method
Type-F S-Package		6	30 (max)	20hrs (per month)	Subscription (yearly)

\*OTRS10 license and OTRS Maintenance Service Contract is required to use OTRS+AI. \*OTRS+AI is a Cloud service operated on the Broadleaf Cloud Platform.

\*Possible to have multiple S-Package contracts. Ex.) If you need 40 hours of analysis per month, you can get 2 sets of the S-Package.

\*An initial installation fee is required for the first installation. \*Even when purchasing multiple contracts, only 1 installation fee is required.

\*Additional S-Packages can be added during the contract period. The period of Additional License will expire on the date of the OTRS+AI Yearly contract and the price will be prorated on a monthly basis.

\*Analysis video time is calculated by rounding up to the nearest 5 minutes.

\*OTRS+AI supports video formats with the following extensions: MP4, MOV, MPEG-TS (MPG) / video codec: H.264.

**Use case: Analysis for a short time**

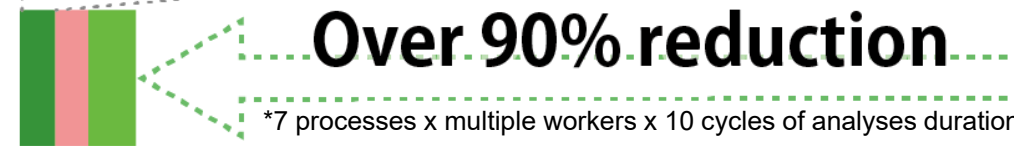
OTRS+AI reduces the time required for OTRS analysis by more than 90%, enabling higher frequency and a wider range of Kaizen activities.

- ◎ Analyze continuous cycles and establish standard work time
- ◎ Variability analysis of the same work
- ◎ Discover and equalize gaps among workers

OTRS Only



OTRS+AI



\*7 processes x multiple workers x 10 cycles of analyses duration

# PRODUCT LINEUP



for iOS

Digital analysis tool to support Kaizen efforts anytime, anywhere

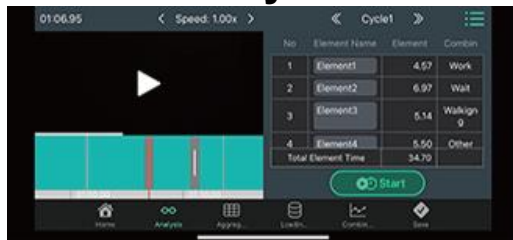
## Main Features

### 1. Video Recording



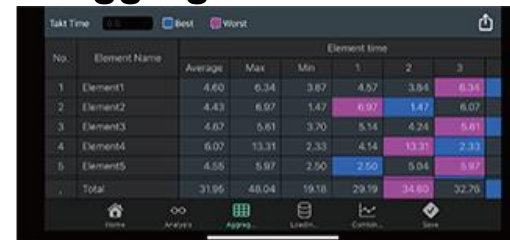
Video recording can be done in landscape mode (zoom available), using the format of MP4. Professional Model has Real-time Analysis function that enables you to record the video and divide elements/analyze cycles at the same time.  
\*Up to 60 min. recording time \*Up to 200 video files

### 2. Work Analysis



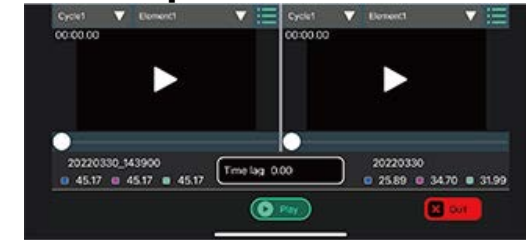
Analyze the work time of recorded video and analytical data.  
\*Up to 100 elements  
\*Up to 20 cycles

### 3. Aggregation



Display cycle tabulation of totals up to the cycle in which the analysis was performed.

### 4. Comparison



Comparison and playback of two specified analysis data videos can be displayed from the home screen and the Line Balancing Chart screen.

### 5. Standardized Work Combination Chart



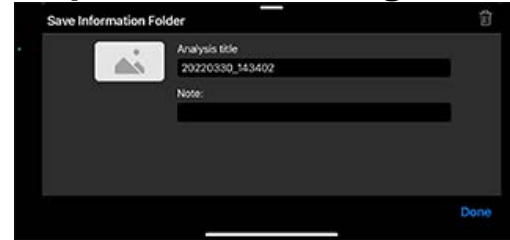
Displays the best lap in Standardized Work Combination Chart based on the element time and Combination Chart Category analyzed in the work time analysis screen.  
\*One axis only

### 6. Line Balancing Chart



Displays best lap cycle table and variation based on element time calculated in the Work Analysis screen.  
\*Up to 2 axes

### 7. Save and Export Data Linkage



In addition to PDF/CSV output, OTRS10 linkage is available.  
\*OTRS10 version 10.5.2 or later recommended  
\*Mutual data linkage with OTRS10 is partially limited



## PRODUCT LINEUP



for iOS

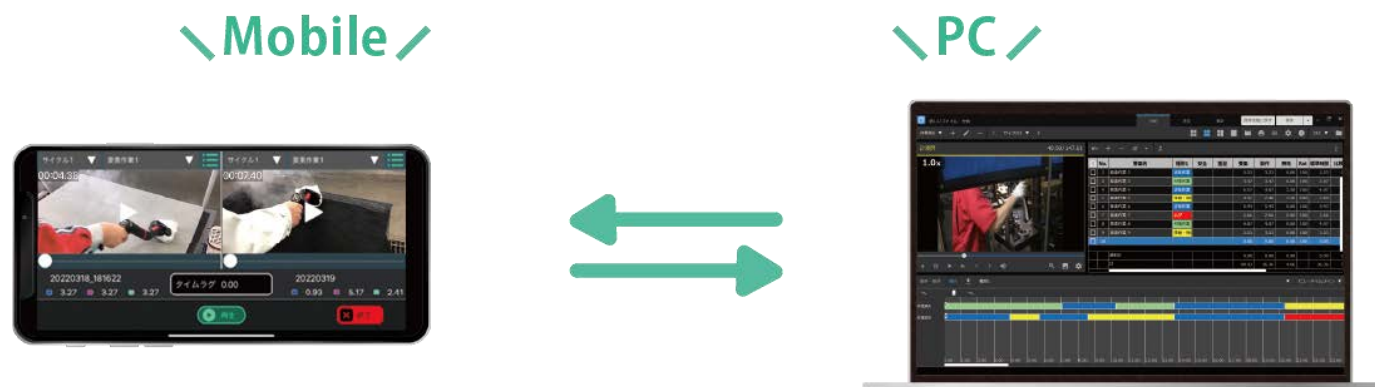
Digital analysis tool to support Kaizen efforts anytime, anywhere

## Linkage to OTRS10

With the combination use of Mobile OTRS and OTRS10, the speed of Kaizen will be accelerated.

## For example:

- ◎ Create video manuals by importing videos shot with Mobile OTRS into OTRS10
- ◎ Create standardized work combination charts and Line balancing charts in Excel by importing analysis data from Mobile OTRS
- ◎ Import video analysis data from OTRS10 to Mobile OTRS and take it directly to the onsite workplace to check





# PRODUCT LINEUP



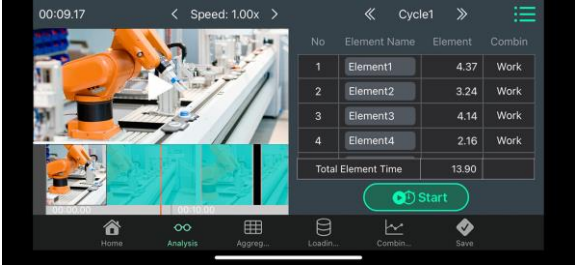
## Use Cases

### Process Improvement



The video captured can be used directly to perform a time study and work analysis, and to improve productivity by eliminating waste, inconsistency and worker overburden while on-site.

### Equipment and Robot Improvement



Slow-motion playback can identify time wasted in 0.1-second increments, and appropriate tuning can lead to increased productivity.

### Training



Improve training efficiency by comparing video footage with standard work directly on-site.

### Kaizen Activities



The ability to create Standardized Work Combination Chart and Line Balancing Chart greatly improves the efficiency of Kaizen activities.

# PRODUCT LINEUP



Mobile  
**OTRS**

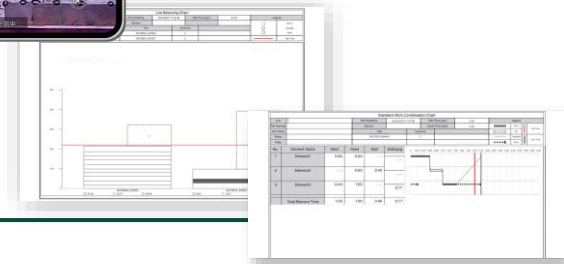
<https://www.otrs.jp/lp/en/mobileotrs/>



	Video Recording/ Analysis	OTR10 Linkage	Cycle Measurement	Aggregation	Comparison	Output CSV	Line Balancing Chart	Standardized Work Combination Chart	Real-time Analysis
<b>Professional</b>	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>Standard</b>	✓	✓	✓	✓	✓	✓			

## Professional

High-end model capable of creating Line Balancing Chart and Standardized Work Combination Chart as well as real-time analysis. Real-time analysis while filming accelerates your daily Kaizen activities.



## Standard

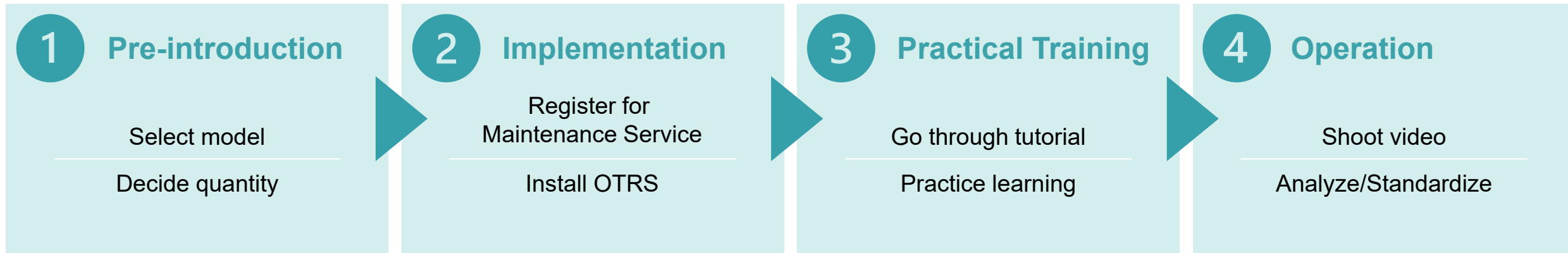
Standard model with basic analysis functions such as video analysis and comparative playback. Data can also be output and linked to OTRS10.





Item	Mobile OTRS
Licensing Plan	Subscription (annual or monthly)
License Issuance Style	User license (License issuance: 1 ID per user)
Deliverables	Mobile OTRS Account Publication Notice
Lead Time	Five business days
Type of Terms	Terms and Conditions (Network Edition / Network Edition - Subscription / Mobile OTRS)
Maintenance Service Contract	- *Included in the license fee and no need to contract additionally
Model Upgrade	Not available *Available to change to different models after the contract expiration *Unable to have different models in the same user
Customs clearance	Not required
Sales in China	Available (Japanese and English only)
Internet Connection	Required
Offline Activation	Not Available

# Process from Implementation to Execution

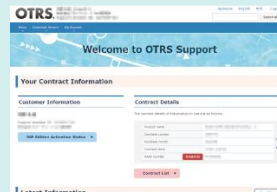


## OTRS Maintenance Service



### OTRS Help Desk

Operators are on hand to answer questions regarding OTRS and its operation via e-mail.



### OTRS Support Website

In addition to operation and setting manuals, video manuals are also available.



### Latest Version Upgrades

The latest program can be downloaded from OTRS Support Website.  
\*It will provide a minimum of twice a year.

\*USB Key Edition and Network Edition: Free for the initial year  
\*Network Edition Subscription: Included in the license fee

\* OTRS is a registered trademark of Broadleaf Co., Ltd. in Japan.

\* Windows, Excel and PowerPoint are trademarks or registered trademarks of Microsoft Corporation in the United States and/or other countries.

\* iOS is a mobile operating system of Apple Inc. IOS is a trademark or registered trademarks of Cisco Systems, Inc. in the United States and/or other countries, and is used under license.

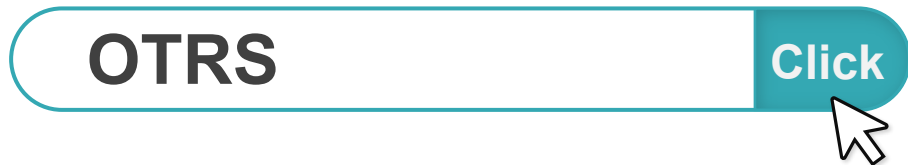
\* Other company names/product names are trademarks or registered trademarks of each company or Broadleaf Co., Ltd.

\* Content, numbers, and specifications written in this brochure are current as of October 2023.

# OTRS<sup>®</sup>

Operation Time Research Software

For more information...



**OTRS**  <https://www.otrs.jp/english/>

**OTRS**  <https://www.otrs.jp/lp/en/otrs-ai/>

 **OTRS** <https://www.otrs.jp/lp/en/mobileotrs/>



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<https://www.broadleaf.co.jp/english/>