PRODUCT LINEUP

OTRS IO

	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	✓	✓	✓	✓		

OTRS AI

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)

Mobile OTRS

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

CONTACT US

Please feel free to consult with us regarding linkage with other systems. We support the digitization of improvements through the combination use of OTRS products and IoT solutions.

We welcome your inquiries about not only the combination use of OTRS products, but also linkage with the systems other than OTRS or the systems that you have already utilized.

File Management

Location Tracking Data

OTRS

Document Digitization

Eye Tracking Data

OTRS Maintenance Service

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

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.

OTRS

BroadLeaf

Broadleaf Co., Ltd.
Floor 8, Glass Cube Shinagawa, 4-13-14 Higashi-Shinagawa, Shinagawa-ku, Tokyo 140-0002, Japan

OTRS®
Operation Time Research Software

PATENTED

BroadLeaf

Over 10,000 installation in 31 countries

OTRS Product Brochure

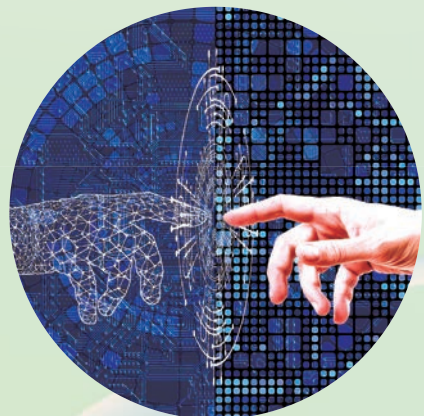# Improving industry and enriching the world through Kaizen

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.
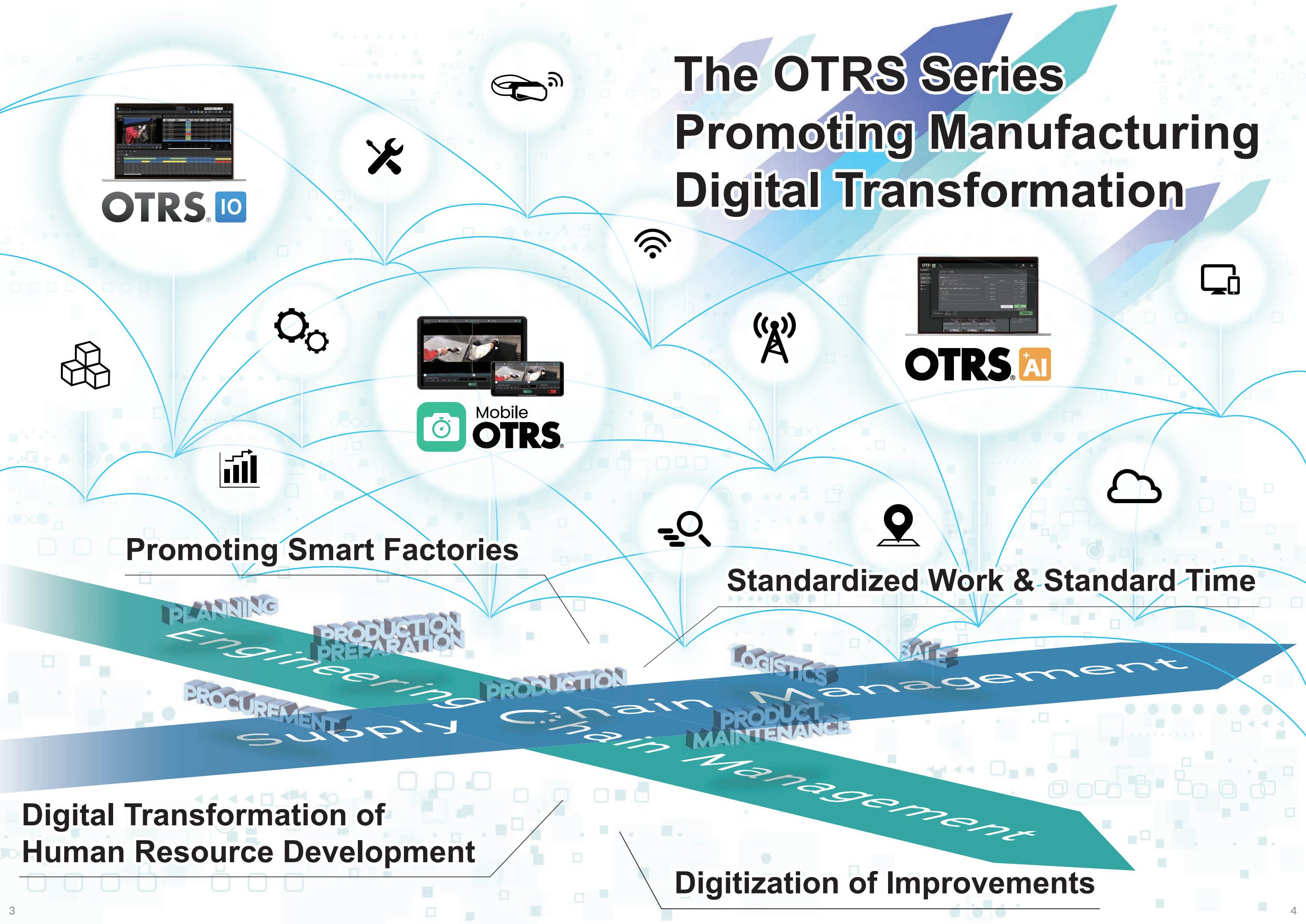
Corporate Philosophy

Gratitude and Happiness

感謝と喜び

The OTRS Series Promoting Manufacturing Digital Transformation

OTRS IO

Mobile OTRS

OTRS AI

Promoting Smart Factories

Standardized Work & Standard Time

PLANNING
PRODUCTION PREPARATION
PROCUREMENT
Engineering
Supply Chain Management
PRODUCTION
LOGISTICS
SALES
PRODUCT MAINTENANCE
Management

Digital Transformation of Human Resource Development
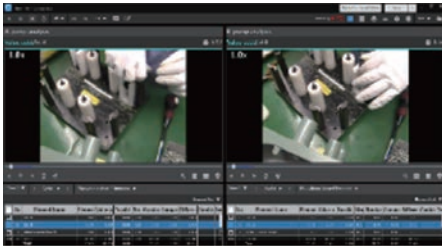
Digitization of Improvements

OTRS. 10   for Windows

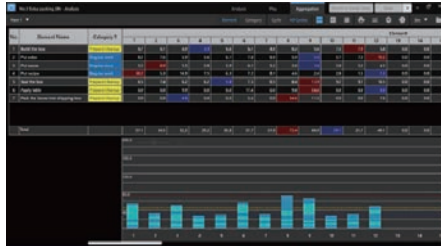Kaizen software for
precision analysis of standardized work

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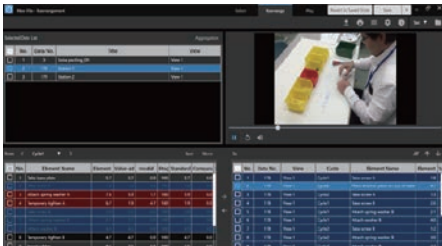
Free rearrangement of sections of videos beyond their cycles into up to 5 different videos. Rearranged data can be output as analytical data.

5. Work Process Composition

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

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

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.

- Digital Cameras
- Smartphone
- Wearable Cameras
- Eyetracking Cameras
- Network Cameras

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

PRODUCT LINEUP

	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	✓	✓	✓	✓		

Item	USB Key Edition	Network Edition	Network Edition Subscription
Licensing Plan	One-time purchase	One-time purchase	Subscription (annual only)
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)
Deliverables	USB Key, Installer disc and User Registration Card	License Certificate and User Registration Card	License Certificate and User Registration Card
Maintenance Service Contract	Automatic Renewal *The cancellation form is required to be submitted 2 months prior to a renewal date.	Necessary *Unable to use licenses after the service termination	- *Included in the license fee and no need to contract additionally
Activation after Termination of Maintenance Service	Available	Not available	-
Model Upgrade (e.g. Model 301 ⇒ Model 401)	Available *New USB key provided upon payment of difference between license fees	Not available	Available (per annual contract)
Sales in China	Available	Not Available	Not Available

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.
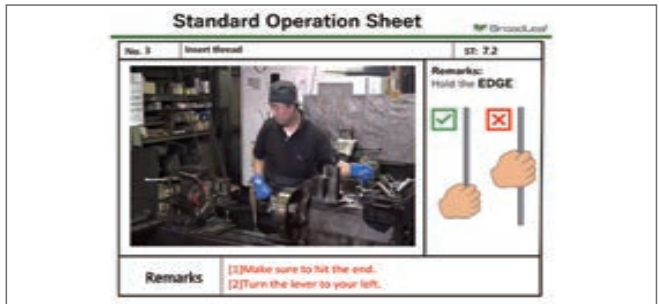
Use Cases

Work Process Composition

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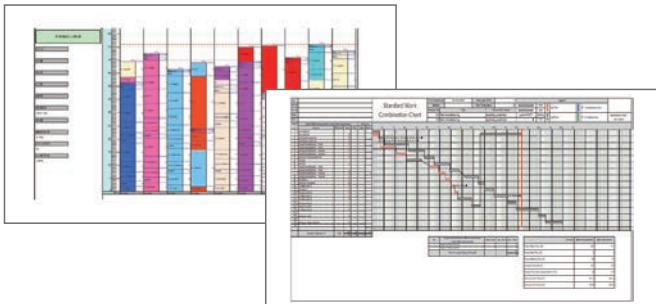
Skill Transfer / Education

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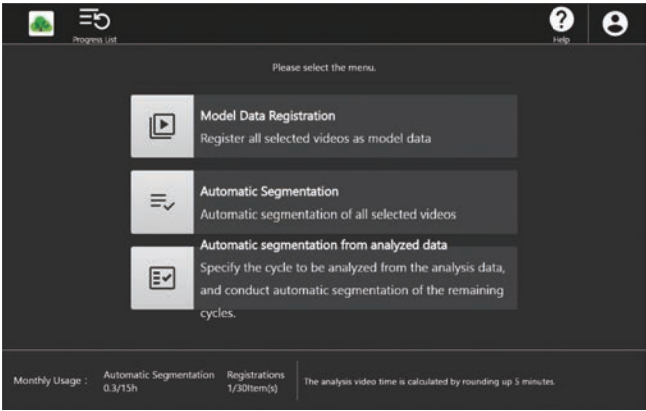
OTRS AI for OTRS10

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.

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.

Divide only 1 cycle manually

Elemental learning

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.

◎ **AI analysis confidence in the elemental division is evaluated by a 5-level AI score.**

◎ **Time difference data is displayed as "AI time ratio"**

Elemental Segmentation

Divide the elements of multiple cycles automatically.

Use case: Analysis for a short time

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

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.

Data Acquisition Time Analysis time

OTRS Only — Element Splitting time

OTRS+AI — **Over 90% reduction**

*7 processes x multiple workers x 10 cycles of analyses Duration

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*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.

▶▶▶▶ Analysis moving forward ▶▶▶▶

Leave it up to OTRS+AI
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
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
- Improvement of work fluctuation
- Improvement of work proficiency (reduction of training period)
- Establishment and review of standard work

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.
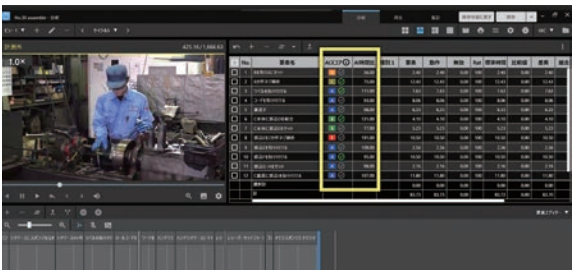
Improved efficiency of human resource development
AI analysis reduces the time required to create work instructions and educational materials. Learners can self-learn while referring to objective analysis results provided by AI.
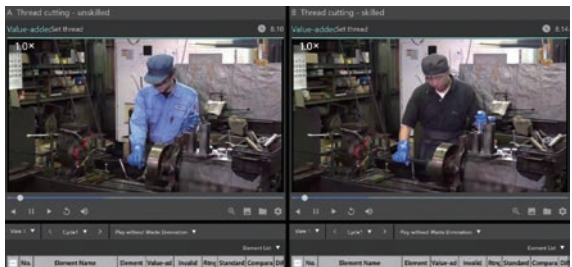
Acceleration of Kaizen Activities
OTRS+AI significantly reduces work analysis and creation time for line balancing chart. It leads to reducing time spent on Kaizen activities and increasing frequency of analysis.
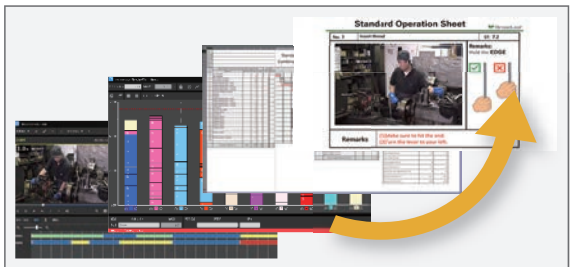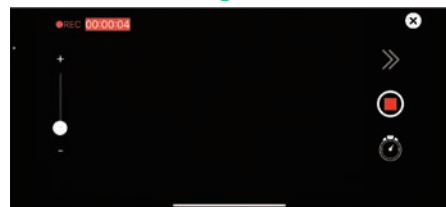
Mobile OTRS® for iOS

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.
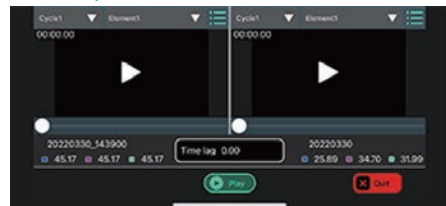*Up to 60 min. recording time *Up to 200 video files

2. Work Analysis
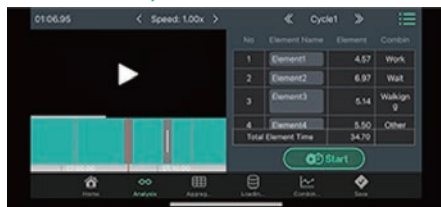
Analyze the work time of recorded video and analytical data.
*Up to 100 elements
*Up to 20 cycles
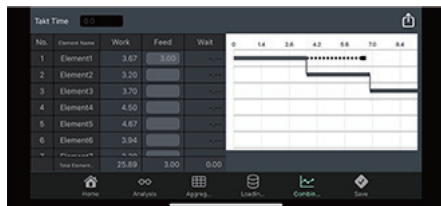
3. Aggregation
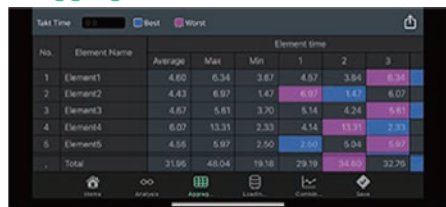
Display cycle tabulation of totals up to the cycle in which the analysis was performed.

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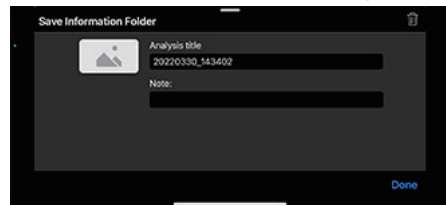
In addition to PDF/CSV output, OTRS10 linkage is available.
*OTRS10 version 10.5.2 or later recommended
*Mutual data linkage with OTRS10 is partially limited

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

＼Mobile／   ＼PC／
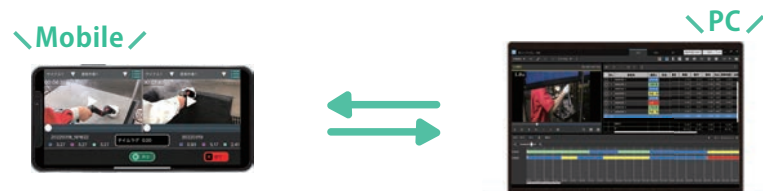
PRODUCT LINEUP

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

Item	Mobile OTRS
Licensing Plan	Subscription (annual or monthly)
Deliverables	Mobile OTRS Account Publication Notice
Internet Connection	Required
Offline Activation	Not Available
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
Sales in China	Available (Japanese and English only)

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.

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.