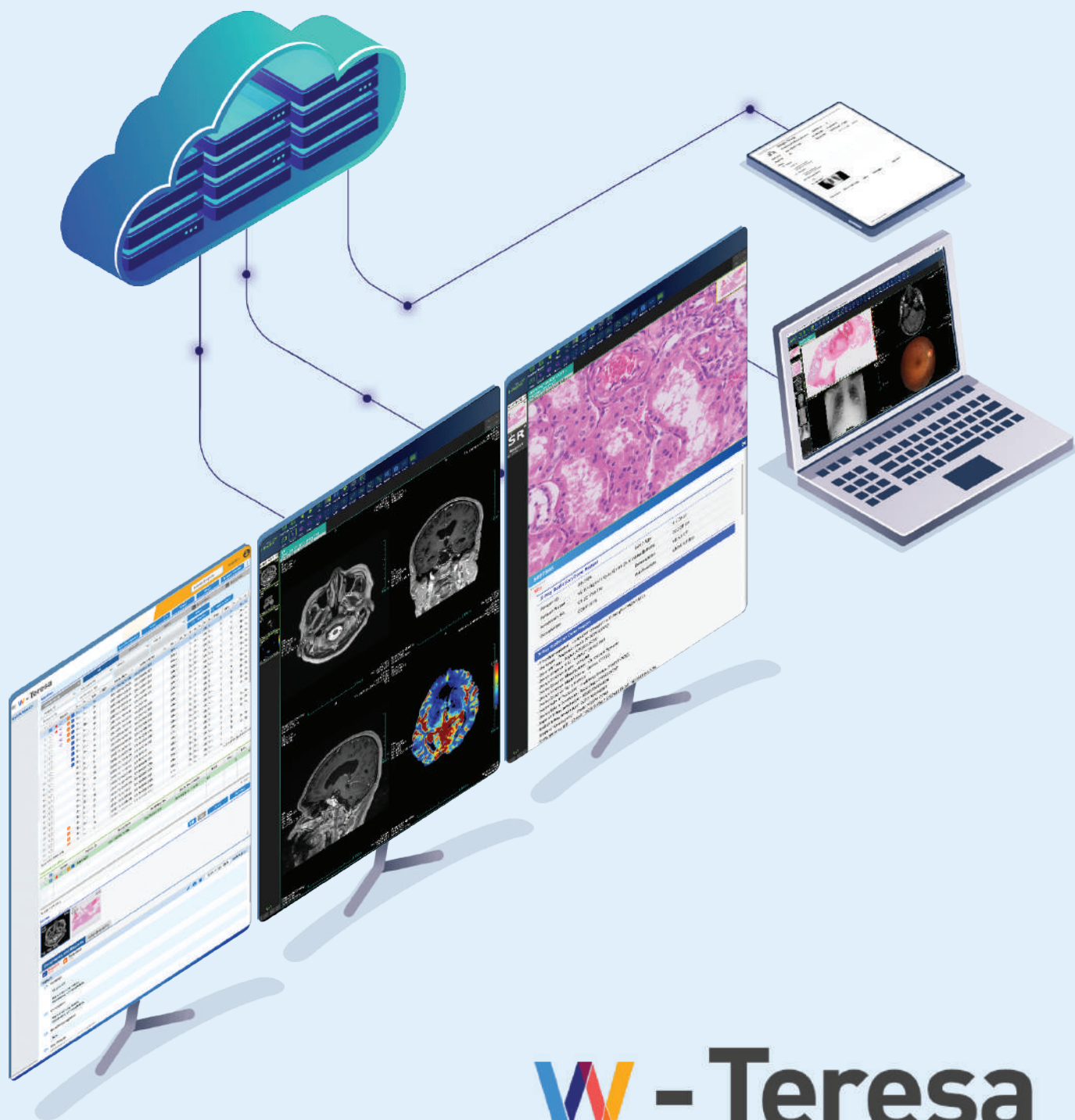




# W-Teresa

Beyond Cloud PACS

English Korean Spanish Khmer Lao Burmese Vietnamese French Uzbek Chinese-Traditional  
Chinese-Simplified Russian Hindi Thai Malay Arabic Indonesian Mongolian Kirghiz

<http://irmhealthcare.com>  
TEL. 82-70-8230-6691 / FAX. 82-70-8230-6693 / E-mail. [bizinfo@irm.kr](mailto:bizinfo@irm.kr)

- ✓ Integrates and manages medical data generated from various medical devices and medical information systems.
- ✓ Equipped with a cloud server built in compliance with international medical data standards (IHE, HL7, and DICOM) and ICT international standards (W3C and ISO).
- ✓ Provides customized services to suit the medical center's environment (medical devices and medical systems (PACS, RIS, EMR, etc.)) with Open API.
- ✓ Offers a global service that supports 19 languages.

## 1 Cloud PACS

A picture archiving and communication system(PACS) that does not require physical space and can flexibly adjust capacity according to the size of the medical center

## 2 Teleradiology

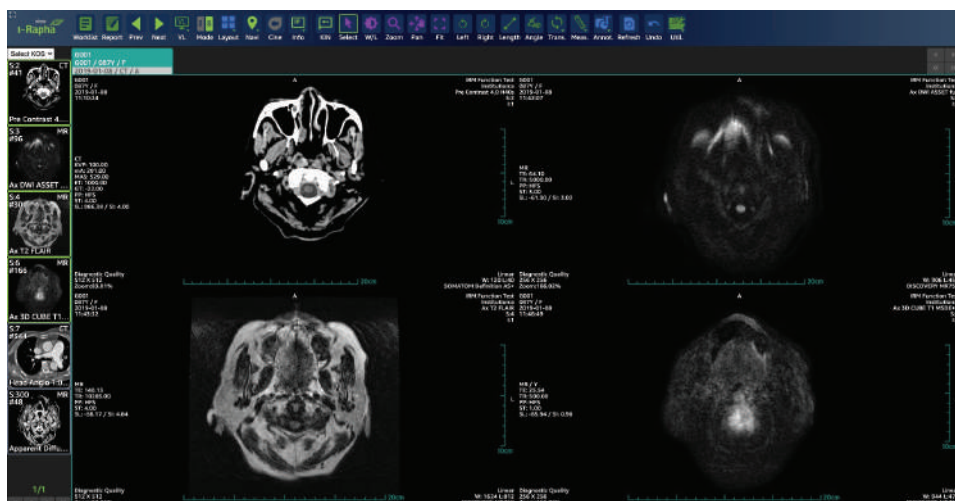
A multi-center teleradiology solution to receive accurate reading results from the radiologists in the collaborating centers

## 3 AI-analysis integration

Seamless integration with the AI based analysis server to offer access to the image detection/diagnosis assistance solution

## Medical Image Viewer

An environment optimized for multi-center medical image reading that provides web-based features to view and read medical images stored in the cloud.



### User Convenience Features

#### Web-based Viewer

An HTML5-based web viewer to view medical images using a web browser. No separate plug-in installation required. Designed with thin-client technology, for rapid loading of high-resolution images. Zero-footprint technology leaves no trace of data on your device.

#### Create Reports

Create medical image reports directly from the viewer

#### Configure Layout

Customize the layout and image display mode (Series/Stack) based on the characteristics of various medical image types.

### Image Reading Features

#### 2D Image Processing (Image Transformation)

- Window Width/Level
- Apply Filters (Invert, Pseudo Color Mapping, etc.)
- Move Images (Panning, Flip, and Rotation)
- Resize (Zoom In/Out and Fit)

#### Measurement Annotation

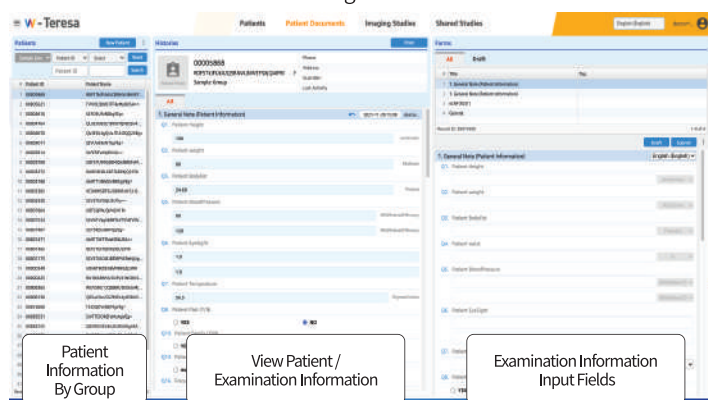
- Measure Object Length (Length, CT Ratio, etc.)
- Measure Object Area (Rectangle, Ellipse, etc.)
- Measure Object Angle (Angle, Cobb's Angle, etc.)
- Annotation Tool (Text, Arrow Line, Localization, etc.)

#### Etc.

- Compare Images (Cross Link, Scout Line, etc.)
- View Images in Cinematic Mode (Cine Mode)

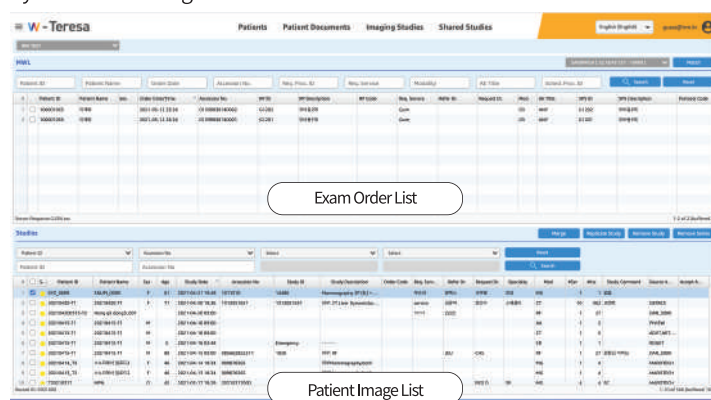
## Examination & Order Management

### Patient Examination Information Management



Retrieves patient and examination information related to medical images from the other medical information systems integrated with w-Teresa and manages them by department.

### System Order Management



Compares the exam order in the medical information system with the patient image list to generate accurate medical images.

## Internal Medical Images (View/Read)

Doctors affiliated with the medical center can manage and read medical images acquired in the center and request remote reading by radiologists outside the center if necessary.

### Manage Medical Data by Group

Medical data such as medical images and patient/examination information stored in the cloud for each hospital and disease are searched by study unit.

### Study Status View

Emergency/Normal Request Reading Request Status Report Status

### Custom Folder

Create cohorts in the custom folder by selecting specific studies that are scattered across several groups but have common factors.  
Share it by setting the external user access permission.



Doctors in the Medical Center

Use to

✓ Perform integrated management of information related to medical images acquired in the center

✓ Read medical images and create reading report

✓ Request remote reading and view remote reading results

## Form Management System

Provides a form creation system for effective operation of PACS and remote reading systems. Collects and manages structured medical image-related data based on their purpose.

### General

Collects patient examination information. Manages data using the forms through integration with the internal medical information system.

### Request

Contains information such as the purpose of the examination, the patient's visit, and requesting reading. Helps the requesting doctor to communicate the intent of the request and the radiologist to properly send the reading report.

### Report

Document for recording image reading results. Collects and manages the reading results by structuring them in a specific form.

## Form Manager

Q&A List

Form Question Example

### Form Creation

Create forms that suit the intent of the Task Manager with the 13 types of Q&A. This enables you to collect most evaluation results. Manage forms by classifying them based on their purpose: collecting patient examination information, recording reading requests and recording reading results.

### Form Management

Store document forms by classifying them into Common/Individual Form for effective form management.

External Medical Images (View/Read)

Radiologists outside the center temporarily get the requested images and send the results of the remote reading to the medical center.

### Reading Status View

According to the document status, the study is searched in four categories: Unread, Draft, Requested and Reported.

### I-Rapha View

- View medical images of the selected study with the viewer.

### Document Permission

- Users need permissions to create different document types.  
- Users can edit or remove the documents they created.

### W-Teresa

Quick Search

Studies

Patients Patient Documents Imaging Studies Shared Studies

Record ID: 4068719

Related Studies

Series

| # | Status | Group        | Patient ID | Patient Name   | Sex | Age | Study Date       | Accession No  | Study ID | Study Description    | Order C... | Req. Se... | Refer Dr.   | Request...  | Specialty | Mod |
|---|--------|--------------|------------|----------------|-----|-----|------------------|---------------|----------|----------------------|------------|------------|-------------|-------------|-----------|-----|
| 1 | Unread | Sample Group | 00001421   | TYVIEBURFF...  | M   |     | 2021-02-02 11:04 | CR.210002.025 |          | Adult Chest - 1 View |            |            | Dr. HERU... | Dr. HERU... | CR        |     |
| 2 | Unread | Sample Group | 00001914   | SAFERVANRU...  | M   |     | 2021-02-02 09:52 | CR.210001.021 |          | Adult Chest - 1 View |            |            | Dr. HERU... | Dr. HERU... | CR        |     |
| 3 | Unread | Sample Group | 00001487   | UEFSREHURH...  | M   |     | 2021-02-01 08:24 | CR.210001.023 |          | Adult Chest - 1 View |            |            | Dr. HERU... | Dr. HERU... | CR        |     |
| 4 | Unread | Sample Group | 00004011   | QVUUEHURH...   | M   |     | 2021-02-01 08:24 | CR.210001.031 |          | Adult Chest - 1 View |            |            | Dr. HERU... | Dr. HERU... | CR        |     |
| 5 | Unread | Sample Group | 00002385   | VEROWSRISUS... | M   |     | 2021-02-01 02:30 | CR.210001.002 |          | Adult Chest - 1 View |            |            | Dr. HERU... | Dr. HERU... | CR        |     |

Documents and Reports

Report Request General

Report

Q1. Findings

Ct pre-OP

No active lung lesion. Otherwise, unremarkable.

Q2. Conclusion

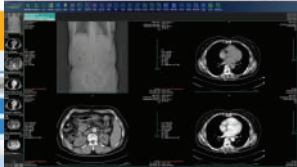
No active lung lesion. Otherwise, unremarkable.

Q3. Recommendations

N/A

Q4. Key Images

View Reading Request / Create Reading Report



View Study with Reading Request by Group



Radiologists

Use to

- ✓ View temporarily shared medical images
- ✓ Perform remote reading of medical images and create reading reports
- ✓ Send the reading report to the medical center immediately

※ Medical centers and radiologists are matched for remote reading in accordance with the agreements between the centers.

Administrator Page

Conveniently manage the group settings in w-Teresa and monitor usage.

- ✓ Provides the progress of remote reading to enable the medical centers to manage the schedule efficiently.
- ✓ Adjust the medical data access permissions of the radiologist responsible for remote reading in accordance with the agreements between the medical center and the radiologist.
- ✓ The medical data administrator of the medical center can self-manage the radiologist's account receiving the remote reading request.

### HWS

Administrative Groups

Users

Group Settings

Monitoring

24

0.65 GB

30 GB

7

View Medical Data Dashboard

### HWS

Administrative Groups

Users

Group Settings

Monitoring

Manage Medical Data Group

Manage Medical Center Account

Manage Collaborating Center Account

Manage Collaboration Network

### HWS

Administrative Groups

Users

Group Settings

Monitoring

Manage Medical Data Group

View Medical Image Storage Capacity / View Number of Users / View Reading Status

View PACS Usage

### HWS

Administrative Groups

Users

Group Settings

Monitoring

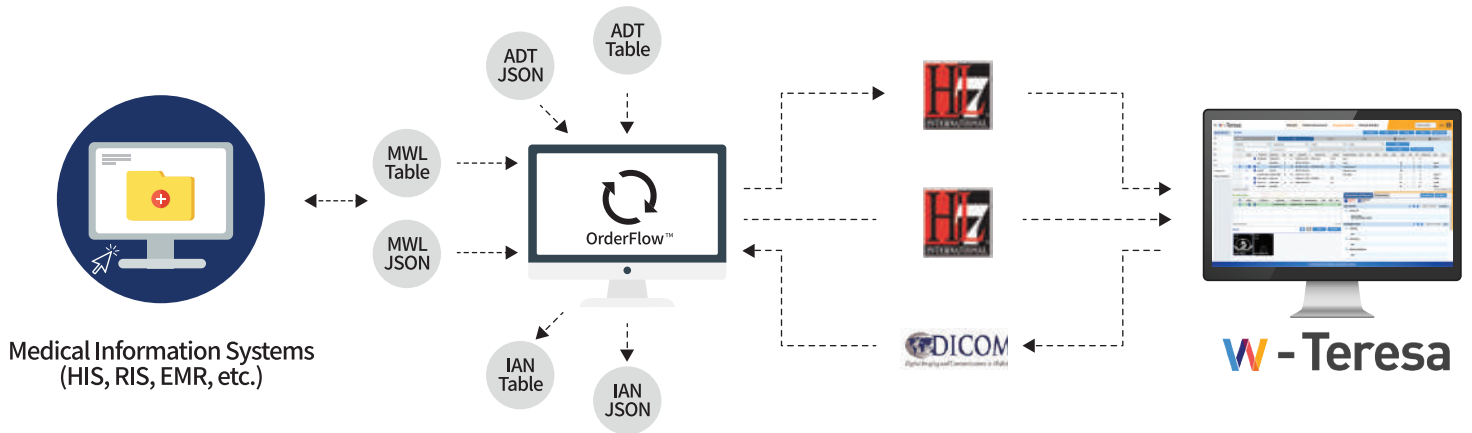
Show Statistics

Show Statistics

## Medical Data Integration System Orderflow™

Enables stable integration of w-Teresa with any medical information system in the medical center.

- ✓ Orderflow™ makes it easy to integrate w-Teresa with individual healthcare systems.
- ✓ Complies with standard interfaces such as IHE, HL7, and DICOM to support stable integration with existing medical information systems (HIS, RIS, EMR, etc.) in the medical centers.
- ✓ Converts non-standardized data into standard protocols using database table sharing, RESTful API, etc.



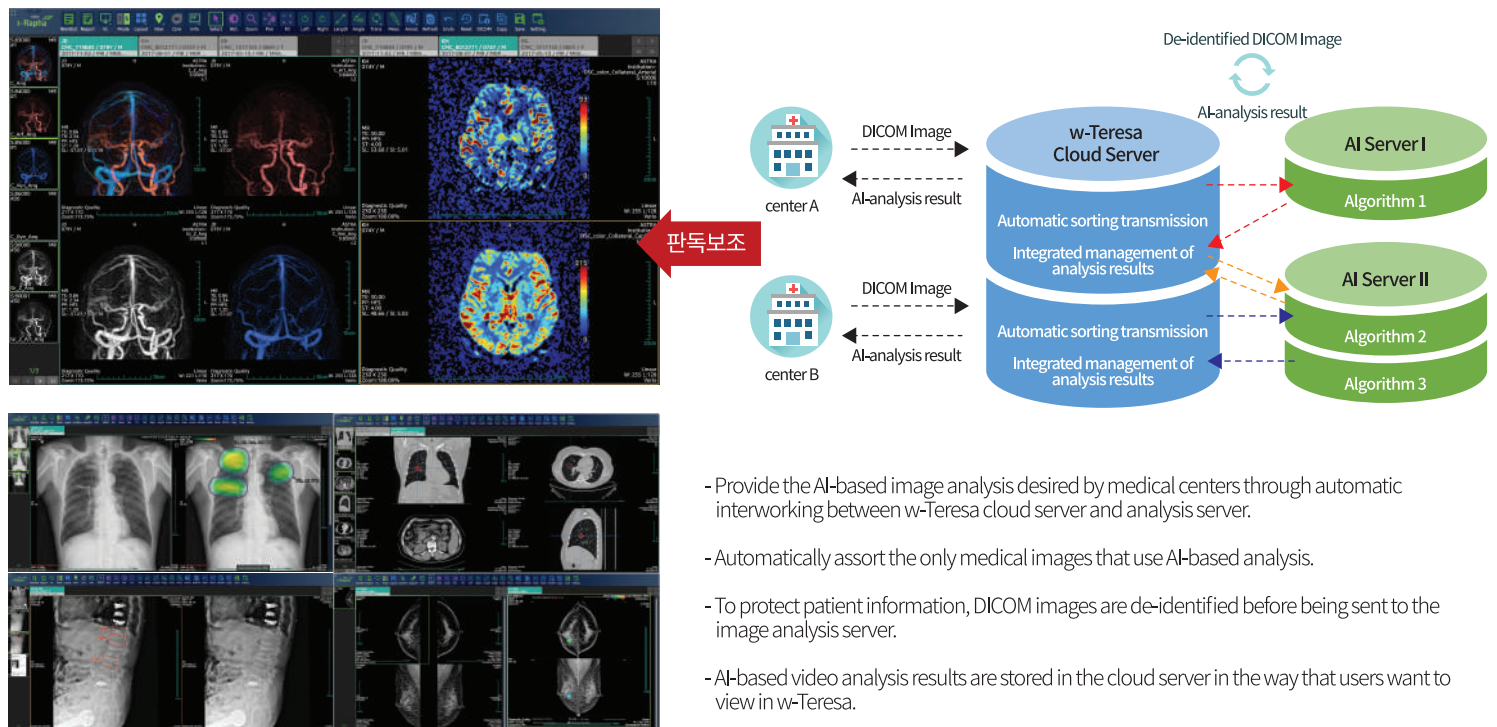
## Service Security Technology

**JWT** Non-fungible Token  
**DSG** Digital Signature  
**DEN** Document Encryption  
**RECORD** ATNA  
**TLS** Audit Trail Node Authentication  
**Secure Sockets Layer**  
**SSL** Internet User Authorization  
**Block Chain** ZERO - FOOTPRINT  
**PERSONAL SECURE** GDPR  
**PRIVACY DATA** Protection Regulation  
**SECURITY** Health Level  
**OAuth2** CERTIFICATION  
**PERMISSION** HIPAA  
**LOGGING** Health Insurance Portability and Accountability Act  
**FHIR** Fast Healthcare Interoperability Resource  
**HL7** General Data

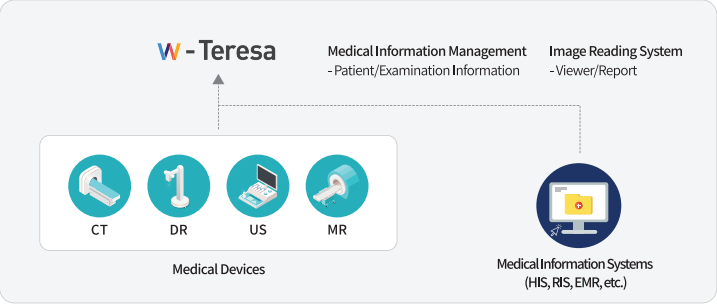
- User Information Protection** The user's email address can be used as an account through simple and reliable user authentication and authorization procedures.
- Data Tracking / Management** Continuously tracks and manages the correlations between medical data and metadata to ensure data quality.
- Data Backup** SANDWICH, the on-premise server, can be used as a server for disaster recovery or clinical research by integrating it with the w-Teresa cloud server.
- Server Security** Encrypts and transmits personal information and data between w-Teresa and the cloud server for secure data management.

## AI-analysis Integration

Enhances user convenience by increasing reading efficiency with a dual reading system with the integrated AI-analysis solution.

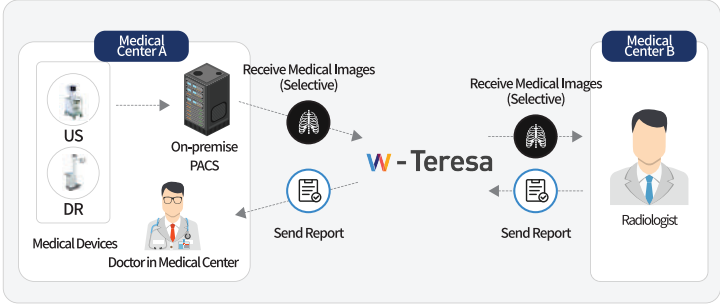


Use Cases



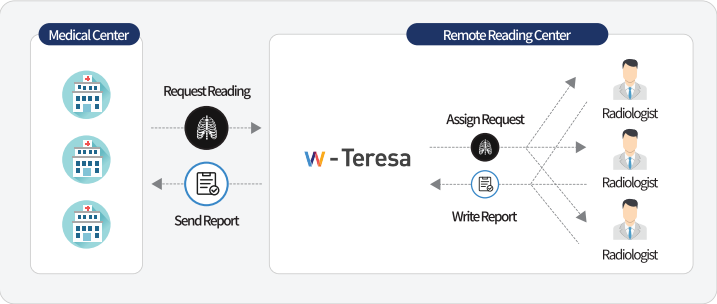
Cloud PACS

- Offers a variety of pricing options depending on the size of the medical center.
- Enables cloud-based management of medical image information through integration with the medical devices and medical information systems in the center without installing an on-premise server.



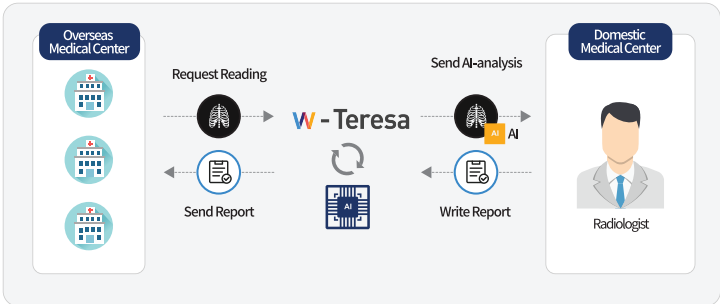
Remote Reading

- Provides a remote reading system to work with collaborating centers by integrating the system with the PACS of the medical center.
- Provides an automated system that classifies target images for remote reading from the medical center's PACS and requests remote reading.



Cloud PACS based Remote Reading

- The remote reading center manages images that the medical centers have requested remote reading for on the cloud and sends the reading results to the respective medical center through the remote reading system.



AI-integrated Remote Reading

- w-Teresa extends the image reading system through integration with the AI-analysis solution.
- Radiologists can use the AI image reading solution as an assistance system for image reading.

| Component         | Main Specification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Main Usage        | 1. Cloud based PACS    2. Remote reading between partner organizations    3. AI-based image analysis integration    * Mixed or separate construction by purpose                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| Feature Summary   | <p>[Patient Information Management]<br/>Integrate and view patient/examination Information by group,<br/>Write examination information</p> <p>[Medical Image Management]<br/>Study: View/Filter/Manage studies by group, View related studies<br/>Document: Write remote reading request<br/>Set emergency/normal for medical images, Set the remote reading option</p> <p>[Remote Reading]<br/>Study : View/Filter/Manage studies that have reading requests,<br/>View related studies<br/>Document : Write/Manage reports by study, View examination<br/>information/reading requests</p> <p>[Matching Worklist Management]<br/>View/Search by Condition orders related to the medical images,<br/>View/Search by Condition medical image lists<br/>Manage medical images by order (Merge/Copy/Remove Study, Remove Series)</p> | <p>[Form Management]<br/>Form type: General(examination information), Request(remote reading request), Report(reading result)<br/>Form creation: 13 types of Q&amp;A, Validate questions, Enter code by question to help<br/>analyzing/statistics<br/>Classify Forms: Common/Individual form</p> <p>[DICOM Viewer] HTML5-based Thin-Client DICOM Viewer<br/>zero-footprint, layout setting: image/series/compare mode<br/>Image processing, transformations, measurements, annotations, etc<br/>Support browser: Google Chrome</p> <p>[Group Operation Management]<br/>Group management: Create/Edit/Register Group, Register/Manage customized profiles.<br/>Account permissions: Register/Modify/Delete Account (Inside Group; accounts in the<br/>medical center, Outside group; accounts in collaborating centers)<br/>Statistics: Size of the medical images stored in each group by exam date,<br/>Total storage capacity/No. of users for each group, Reading status of Emergency/Normal<br/>medical images (Reading in Progress/Reading Completed/Transmission Error)</p> |  |
| Technical Details | <p>[Database]<br/>PostgreSQL<br/>Supporting hierarchical multi-group/multi-user<br/>Content-neutral data management (all types of medical data)<br/>Unlimited patient/user/group management<br/>Storage quota management<br/>Pipelined workflow management<br/>HA configuration</p> <p>[Storage]<br/>S3-based Ultra-High Reliable Storage Service (99.999999999%)<br/>Additional Long-term Backup Service (if necessary)</p>                                                                                                                                                                                                                                                                                                                                                                                                      | <p>[Interface]<br/>IHE: SWF.b, CPI, ARI, ED, KZN, XDS.b, XDS-I.b, SVS, MHD, PDQm, SVCm, ATNA,<br/>IUA, DEC, DSG<br/>DICOM: Storage, Query/Retrieve, MWL, MPPS, Storage Commitment, IAN<br/>DICOM web: WADO, STOW<br/>HL7: V2, V3, FHIR<br/>Web application server for standard interface<br/>RESTful APIs provided for service-specific data services<br/>Load-balanced web service<br/>OAuth2-based user authentication/authorization<br/>Mutual https authentication</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |
| Languages         | English, Korean, Spanish, Khmer, Lao, Burmese, Vietnamese, French, Uzbek, Chinese-Traditional, Chinese-Simplified, Russian, Hindi, Thai, Malay, Arabic, Indonesian, Mongolian, Kirghiz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |