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medDream™
by Softneta Company

HTML 5
ZERO-FOOTPRINT DICOM VIEWER

IHE XDS-I.b
PASSED

FDA K222320
510(k)
CLEARED

CE 0197
Class IIb certified

READY TO INTEGRATE

OEM VENDOR
TECHNOLOGY PARTNER

WHITE LABEL BRANDING

OPEN TO AI

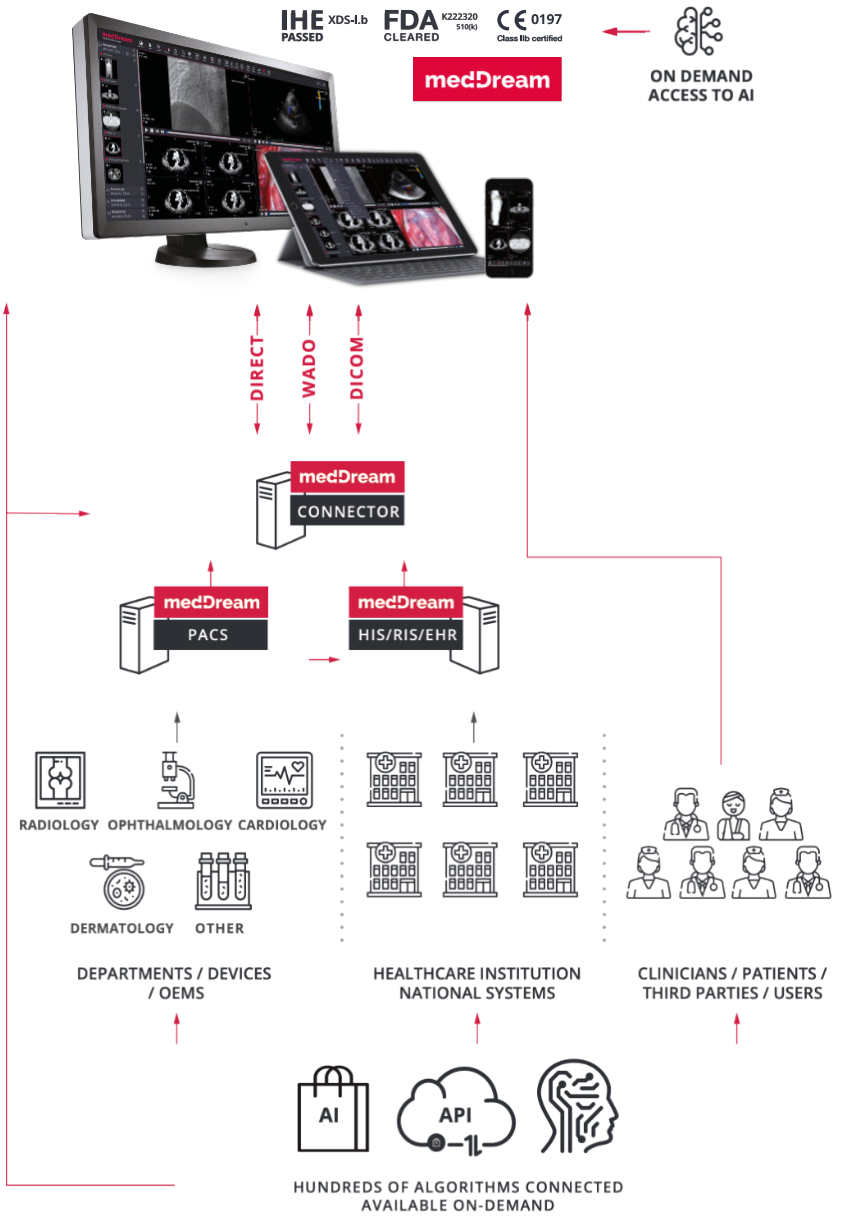
medDream
BE BRAVE AND STEP INTO
THE FUTURE

INTENDED USE

MedDream is a web based DICOM Viewer for PACS server that is aimed to **make diagnosis, view, archive** and **transmit** the medical images. MedDream DICOM Viewer is designed to aid medical professionals in every day's decision-making process, connecting all the medical data into one unified and fast performing network.

MedDream ensures prompt and reliable way to **search, view**, **analyze** and **diagnose** medical images, signals and video files from anywhere and on any devices: computers, tablets and smart phones.

MEDICAL IMAGING. ACCESS & INTELLIGENCE



medDream VIEWER

VISUALIZATION AND INTERACTION

- Modern last-gen HTML5 thin client
- Streaming technology / WebGL rendering
- FDA and CE certified
- End user GPU (WebGL technology)
- Any device (Windows, Mac, iOs, Android, Linux)

Radiology, Cardiology, Ophthalmology, others
#vendor-neutral, #zero-footprint, #web-based, #client-side-rendering, #multi-language #bandwidth-independent

ACCESS FROM ANYWHERE AND ANY DEVICE

medDream CONNECT

IMAGING DATA INTEROPERABILITY

- Connectivity between different HIS / RIS / EMR and e-health systems
- Scalable access for wide spectrum of medical professionals
- Supporting all infrastructures and bandwidths
- Custom integration plan with standard products
- Open-source friendly

WORKING ON EXISTING INFRASTRUCTURE AND BANDWIDTH

medDream INTELLIGENCE

OPEN PLATFORM TO AI

- Connect, support and interact with third-party algorithms / machines
- Algorithm-to-human and human-to-algorithm coupled communication
- Access to AI to MedDream user base via established infrastructure
- Direct and on-demand benefits of AI to users of MedDream

FUNCTIONALITY EXTENDED BY INTERACTION WITH AI

This brochure contains only description of MedDream viewing functionalities. MedDream video viewing and converting functionalities are described separately.

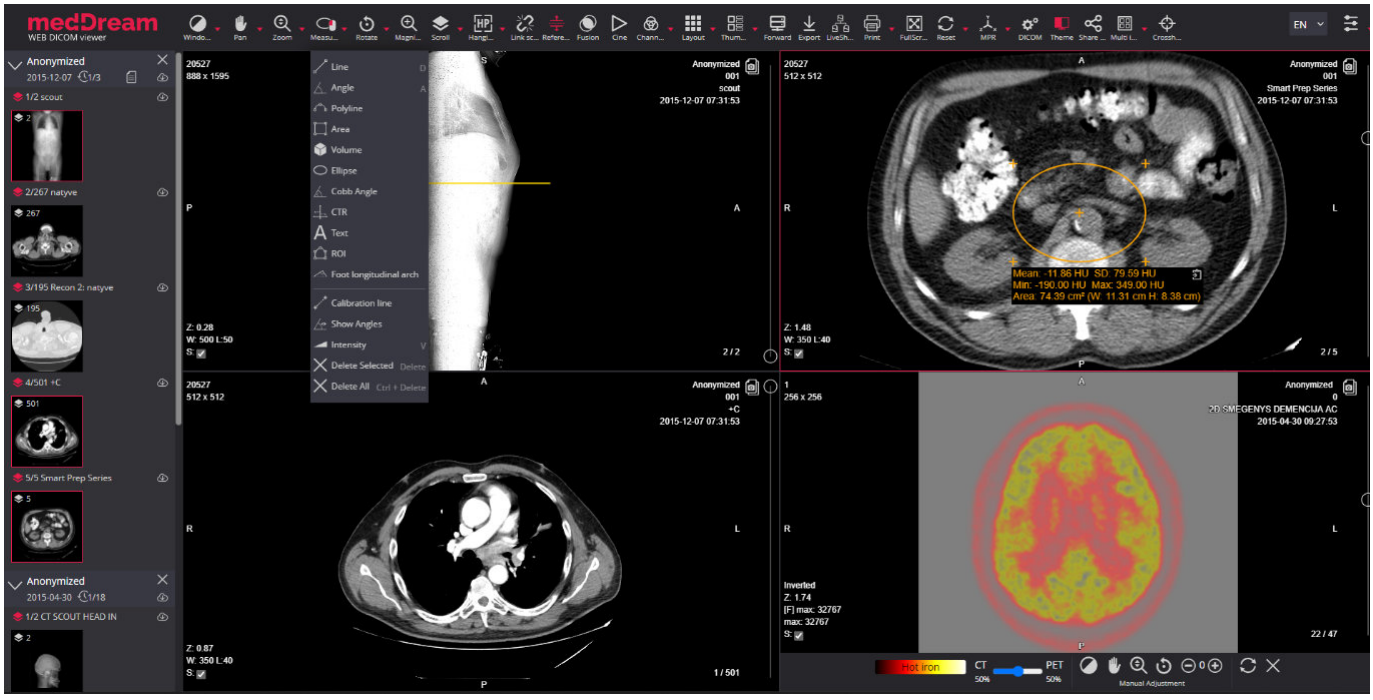
HIGHLIGHTS

MedDream DICOM Viewer is **FDA cleared for diagnostic use** and **CE class IIb certified** medical device that can be used for review purposes or even primary diagnosis. Viewer is designed to make **the images available across the hospital**, even present images to the customers of the institution.

RADIOLOGY AND GENERAL FEATURES

MedDream DICOM Viewer has a rich radiology tool set, which includes **regular tools** such as: zoom, pan, windowing, magnifier, measuring and **advanced tools**:

- Line. Draw and measure the length of a line;
- Angle. Draw and measure an angle;
- Cobb angle. Draw and measure Cobb angle;
- Polyline. Draw and measure the length of a polyline;
- Area. Mark area of interest with a polyline and measure its area;
- Ellipse. Draw and measure the Ellipse, which calculates standard deviation and mean values in Hounsfield units also;
- Volume. Measure a volume on a 2D image. The 2D area that way is spun over a selected axis to form a 3D shape and a volume of such shape is measured.
- CTR. Measure the cardiothoracic ratio (CTR) to estimate a heart size.
- Flatfoot. Measure the longitudinal arch of the foot to detect the longitudinal flatfoot.
- ROI. Mark and store ROI for study instance;
- Text. Possibility to save and display annotations and to view, write, edit or delete it's text.
- Intensity. Measure Hounsfield units at a specific point of a CT study;
- Show angles. Show all angles between intersecting lines;
- Calibration line. Change the scale of measurement;
- Reference lines. Display of reference lines (Scout Lines);
- Cine. Cine playback of multi - frame sequences with video seeking support;
- Layout. Simultaneous playback of up to 12 DICOM instances;
- Key Objects. Create and store Key Objects (KO);
- Hanging Protocols. Describe how to lay out a set of DICOM images for faster diagnosis.



MedDream provides possibility to select and apply VOI LUT: non-linear transformation stored by medical modality.

Fusion. PET-CT Fusion allows to combine the series of PET and CT types, thus linking the sites of radioactive drug concentrations with the anatomical patient structure;

MPR. Multi - planar reconstruction with auto rotate Coronal or Sagittal projections;

Crosshair. Represents the intersecting planes of the selected point on the main study.

Supporting functions:

Possibility to print an active image;

Forward several studies at once and simply find devices while forwarding;

Export multiple studies;

Possibility to anonymize and share studies (via DICOM Library);

Live Share support. Diagnostic quality real time-sharing functionality (conference mode).

Possibility to create a report for a study;

Support for SR and PDF modalities.

Usage simplification:

- possibility to assign favorite actions to the mouse buttons;
- right mouse button context meniu.

White label branding:

- product rebranding with custom license;
- Themes. Possibility to change theme color with one click.

3D OPTION

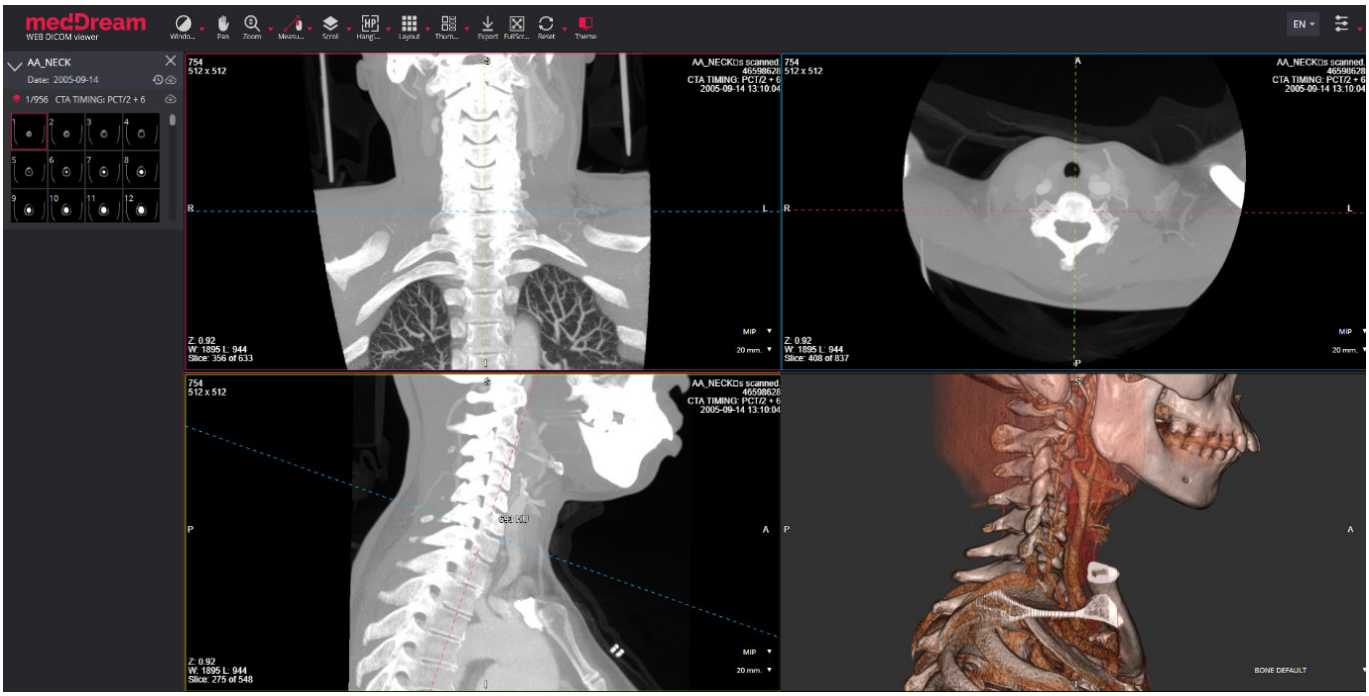
MedDream 3D module simplifies reconstruction technique for three-dimensional visual representations of two-dimensional image slices. The technology offers many different alternate views of the original data using various 3D reconstruction techniques such as MPR and MIP. MedDream 3D option has **standard tools** as: pan, zoom, rotation rendering settings presets and **advanced tools:**

3D features:

- Volume rendering from a single CT or MR dataset.

MIP/MPR features:

- Double Oblique;
- MPR (Multi Planar Reconstruction) with Thick Slab;
- MIP (Maximum Intensity Projection);
- MinIP (Minimum Intensity Projection);
- AIP (Average Intensity Projection);
- Measurement tools: length, angle and intensity value.



ECG AND ULTRASOUND

MedDream DICOM Viewer provides not only **standard image manipulation tools**, but also a way to **read, manipulate** and **interpret** electrocardiography (ECG) and ultrasound (US) data.

ECG manipulation tools are all presented in an innovative zoom model which allows to zoom, measure and quantify the ECG data:

- Area calculation indicating beats per minute, time, millivolt (mV, s, bpm);
- QT interval - the RR interval is calculated as well as QT and the QTc (based on Bazett's formula);
- Measure heart rate (HR) and compare its interval variance over the ECG;
- Measure the QRS electrical heart axis;
- Comparison of 2 or more ECGs.

For ultrasound data MedDream also supports these features:

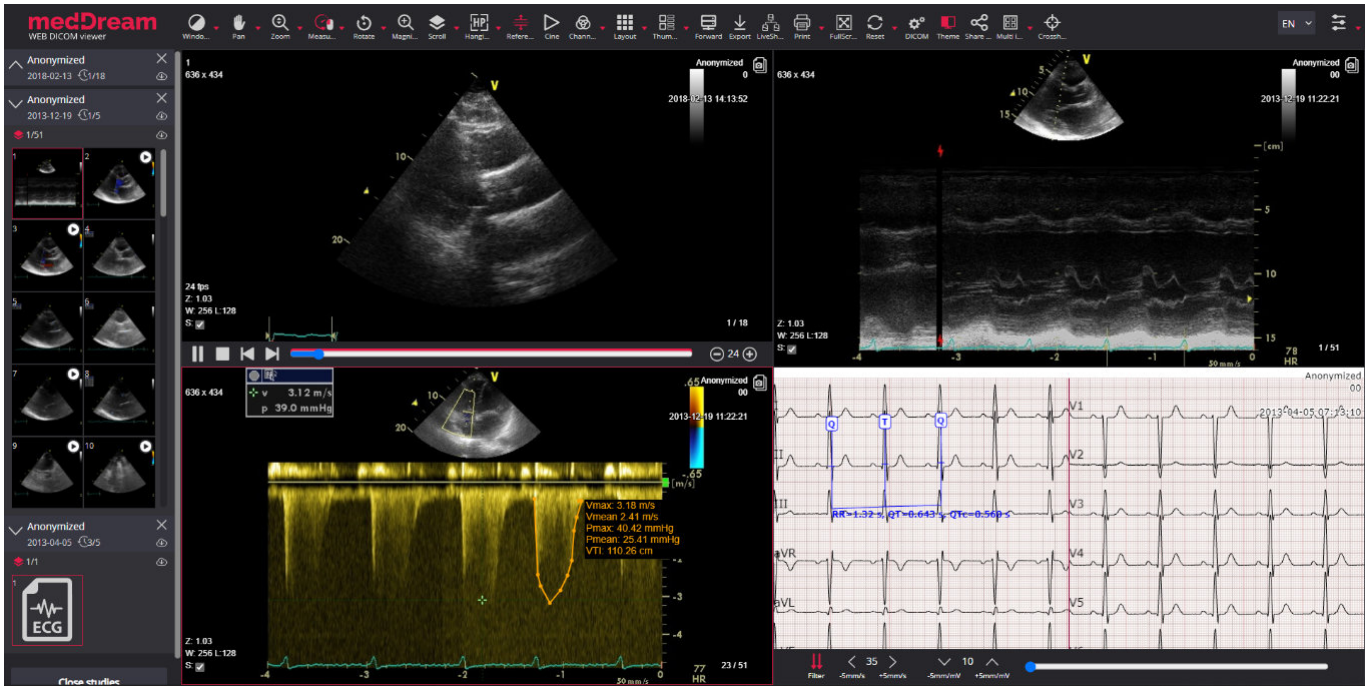
- Velocity Time Integral (VTI) measurement on ultrasound studies that can quantify the trace of the Doppler flow profile;
- Up to 12 US studies may be opened at once.

Supported ECG devices	Mortara · custo·med · SCHILLER The Art of Diagnostics · GE	or other 12 lead DICOM ECG (Little Endian) or devices that in conjunction with a gateway can provide such data.

Other parties logotypes, which ownerships belongs to: Mortara Instrument, custo med GmbH, SCHILLER AG, GE Healthcare are not authorized by, sponsored by, or associated with the MedDream trademark owner.

MedDream can be used **to measure a volume on a 2D image** by using the Simpson's approximation rule, the 2D area that way is spun over a selected axis **to form a 3D shape** and a volume of such shape is measured. This technique allows to do **volume measurements of a heart** in a 2D Computed Radiography image.

MedDream supports measurement of Velocity Time Integral on ultrasound (US) studies that can quantify the trace of the Doppler flow profile.

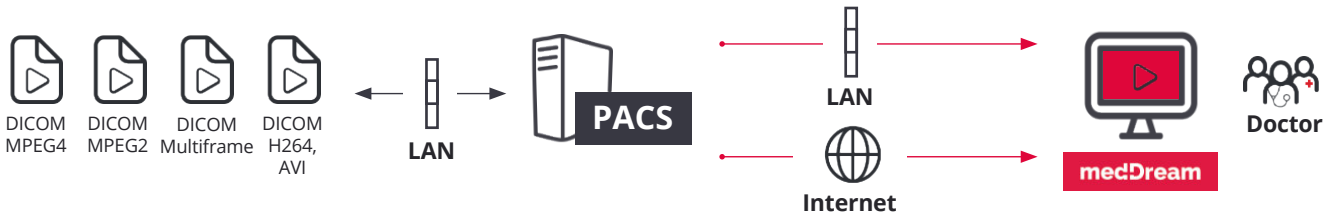


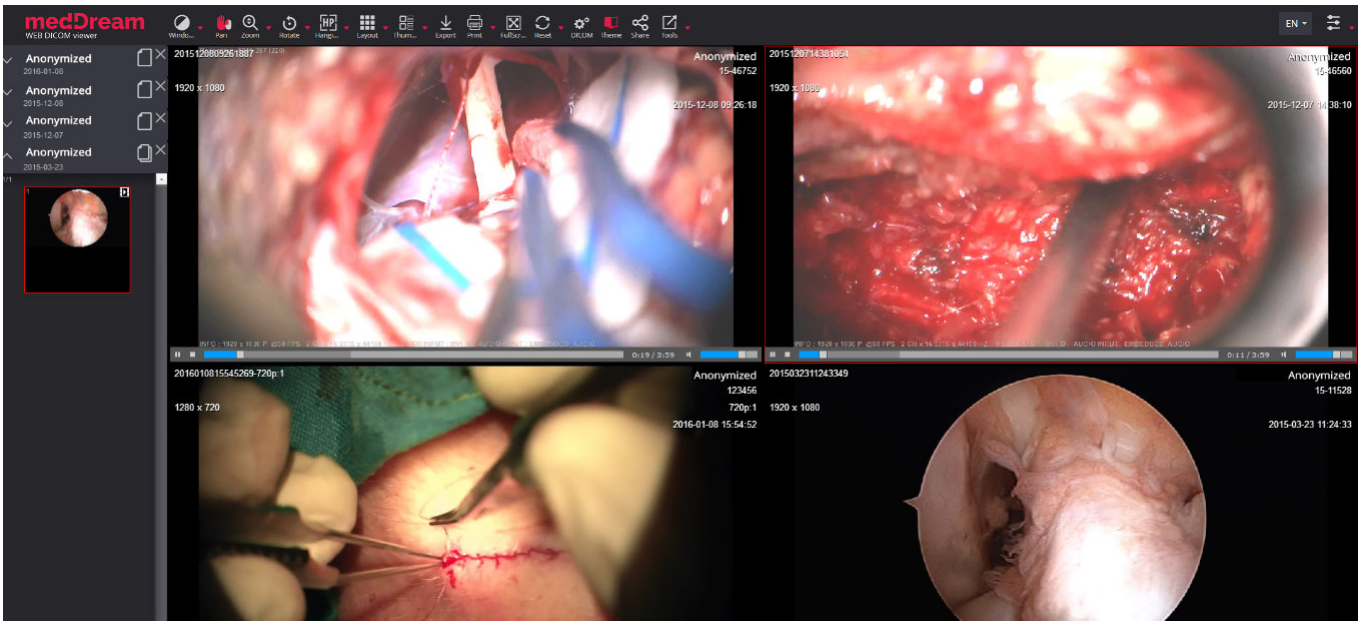
OPHTHALMOLOGY

For ophthalmology or other visual spectrum images MedDream proposes a tool to digitally apply **monochromatic filters** for the primary colors as well as secondary **to enhance the visual contrast** of anatomical details.

VIDEO SUPPORT / FORMATS

For search, review and analyze medical videos from ophthalmology devices, microscopes, endoscopes, surgical video cameras, arthroscopes, echoscopes and other medical video sources. Video module is integrated into MedDream DICOM Viewer that allows to use PACS as medical video archive.





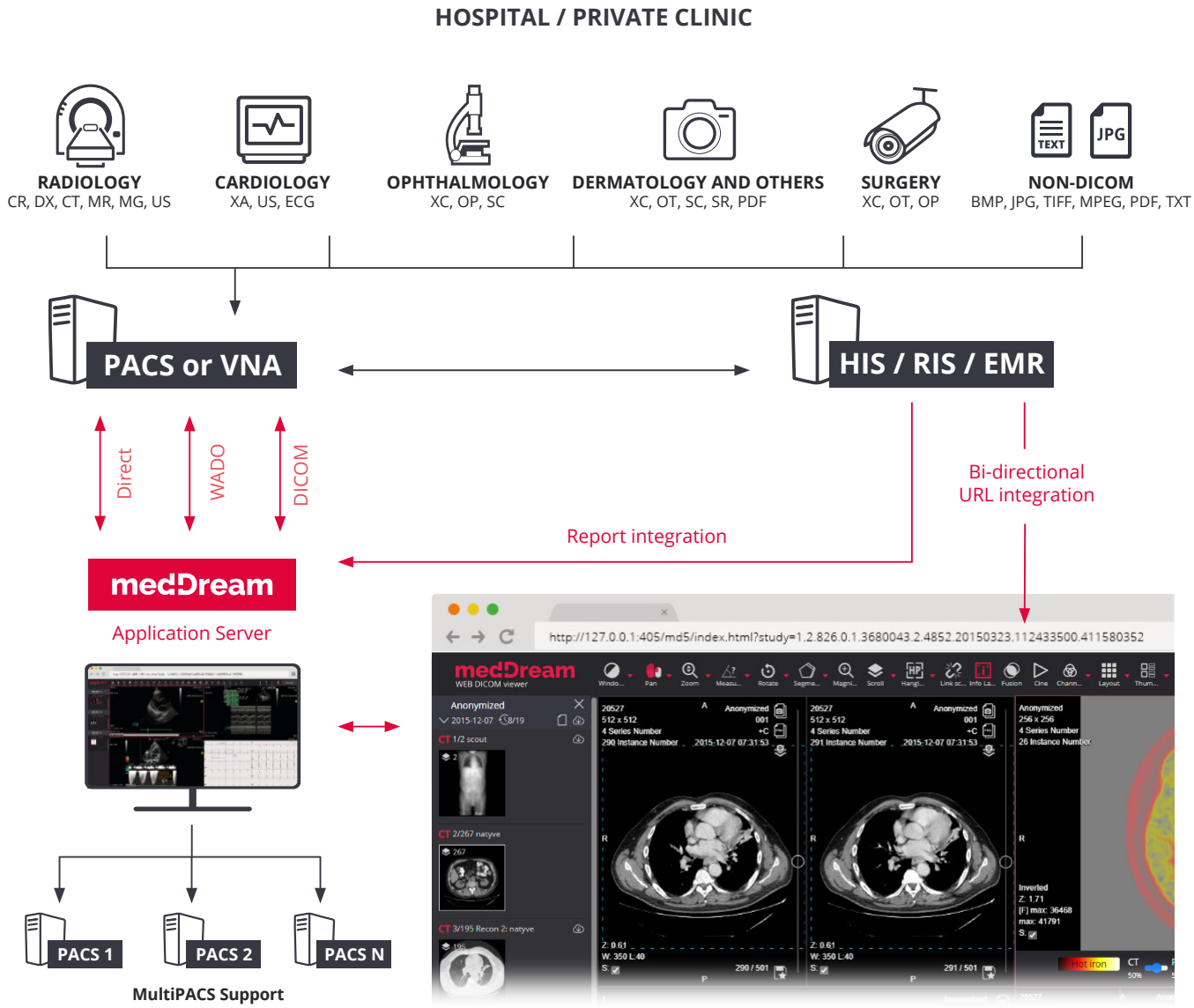
SYSTEM OVERVIEW

MedDream DICOM Viewer consist of a Viewer component which runs in a browser and does not require **any installation** on the client device and a MedDream Application server which handles **the communication with the hospital systems** (HIS / RIS / PACS and any other EMR) and does image preparation for streaming to the MedDream DICOM Viewer.

MedDream is using **flexible** and **open integration interface** for connecting to HIS and / or EMR systems primarily based on URL calls, thus allowing it to be integrated in **any medical application**.

MedDream Application server connectivity to the PACS can be achieved over the **following methods:**

- DICOM Q / R on Study Level
- WADO RESTful Services
- Direct Access to the File System and Database.



Any changes done in the PACS will always be reflected when opening the study in MedDream DICOM Viewer. As changes made in the Viewer: **adding annotations and measurements**, will be stored back in the PACS in a DICOM conformant way. In standard installations MedDream does not do intermittent storage of the images.

MedDream can show all available radiological reports in the browser. Reports can be received in HL7, DICOM, XML, JSON and stored as DICOM **Structured Report**, DICOM PDF or database.

MedDream supports all commonly used DICOM SOP classes for viewing. These are also constantly expanded in our software release cycles with **a new version.**

ADVANTAGES

Access from anywhere and any devices:

- Universal Enterprise Viewer (cross department data support)
- Web technology
- Responsive design (desktop and mobile device support)
- Simple to use, simple GUI
- One View for all data
- Support all types of studies

Working on existing infrastructure and bandwidth:

- Vendor neutral viewer
- Cost effective certified solution
- Flexible Licensing model
- Online DEMO. Try before Buy
- Open source friendly solution
- Client-side rendering and streaming
- Cross Platform
- Ready for National system
- Ready for Cloud
- Multi PACS support

Extended functionality:

- Integrations, API friendly
- Custom GUI
- Rebranding
- Custom development
- Configurable links to external systems

READY TO INTEGRATE

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ACCESS CONTROL

For image distribution within the hospital auditing standard user name and **password protection** is typically enough. In order to have finer access control MedDream typically **relies on a higher authority system** (e.g. HIS or EMR) which grants access to specific cases.

For **image distribution outside the hospital** a patient portal or a referring physician portal to authenticate and authorise access is required, MedDream can be integrated to such portals easily.

MedDream supports Lightweight Directory Access Protocol (LDAP), HTTPS Security integration as well as Single Sign-On (SSO) through **security tokens** to allow **fast** and **flexible usage** of the system for the physicians. Proprietary ways of integration to user management and access control systems is available on project specific basis.

INSTALLATION AND HARDWARE REQUIREMENTS

The following describes a typical process how a MedDream **gets installed** in your institution.

Initial requirements
gathering for a specific Customer

Software installation
in Customer infrastructure
(up to 5 days)

Trial period
with limited demo or trial license
(45 days)

Purchase
decision

Integration
to HIS / RIS / EHR
(if needed)

License
installation

Support
by e-mail and updates

Depending on each specific installation preliminary Hardware sizing information might slightly vary based on the modalities being used in the institution. **Minimum Hardware requirements** for the MedDream Application Server:

Systems of up to	CPU cores*	RAM*	HDD*	Network Bandwidth*
10 connections	3 cores	8 GB	100 GB	15 MBit/s
20 connections	4 cores	12 GB	200 GB	30 MBit/s
30 connections	6 cores	16 GB	300 GB	50 MBit/s
60 connections	8 cores	20 GB	600 GB	100 MBit/s
60+ connections	+1 core per 20 connections	+1 GB per 5 connections	+100 core per 10 connections	100+ MBit/s

*Read more about Minimal hardware requirements in Minimal server side requirements section:
www.softneta.com/documentation/installation-integration-guide/

ABOUT SOFTNETA

SOFTNETA is an innovative IT company, that provides software based, **specialized Medical Imaging** and communication solutions to **improve the quality** of healthcare.

15+ years experience in: DICOM viewing, telemedicine, digitalization, video solutions for healthcare and PACS servers as well as integration with HIS / RIS systems.

CERTIFICATIONS

medDream

Softneta

IHE XDS-I.b PASSED

FDA K222320 510(k) CLEARED

CE 0197 Class IIb certified

ISO 13485:2016

MHRA UK REGISTERED

Russia Class IIb

FDA Thai CERTIFIED

Singapore Class b

VISION

Our vision is to be a trusted **technology partner** and provide **universal access** to medical imaging and intelligence.

Server Installations
1600+

Workstation Installations
2450+

Countries
70+

DICOM Library
Studies Shared
904k+

SALES CONTACTS

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Medical imaging

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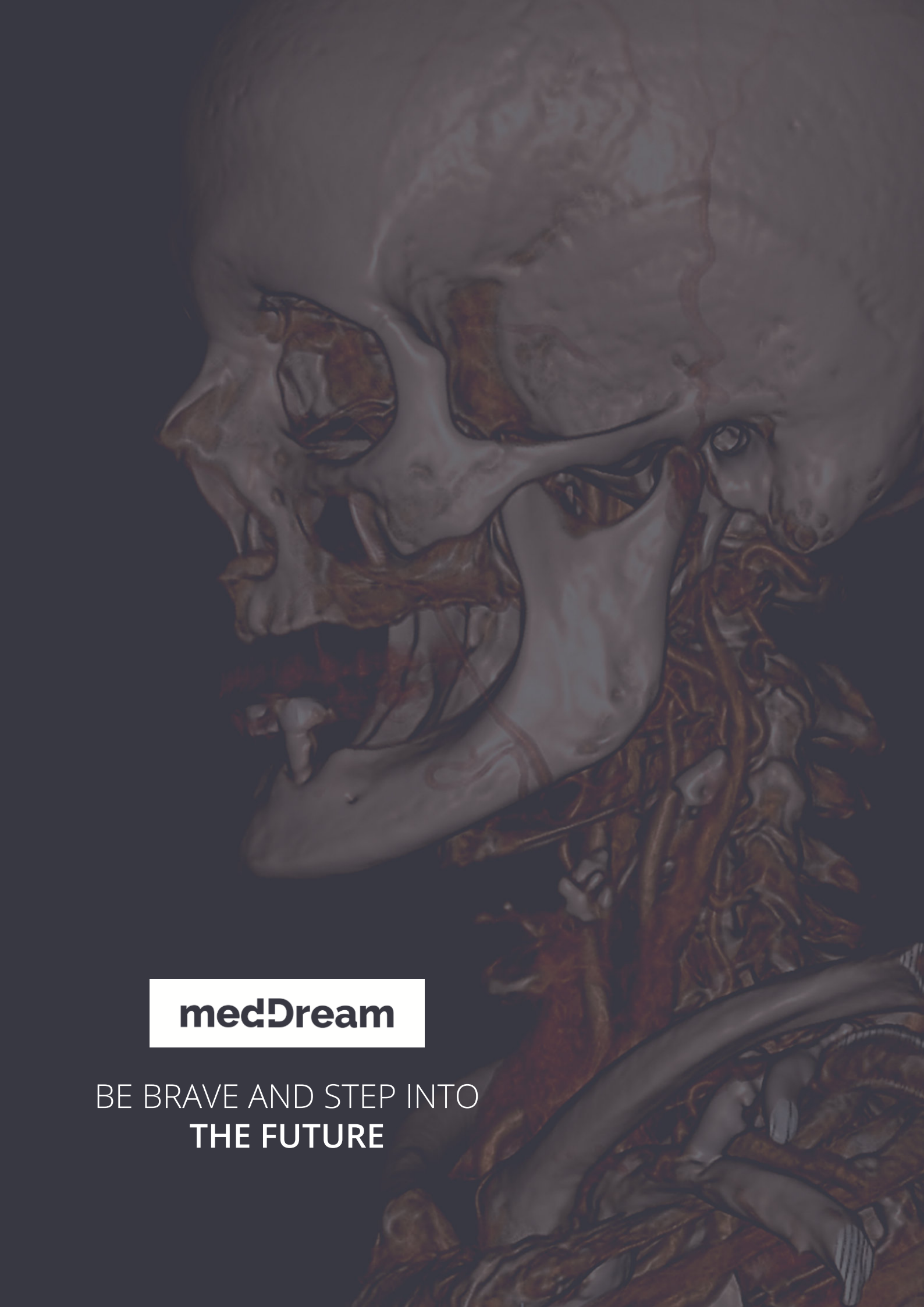
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