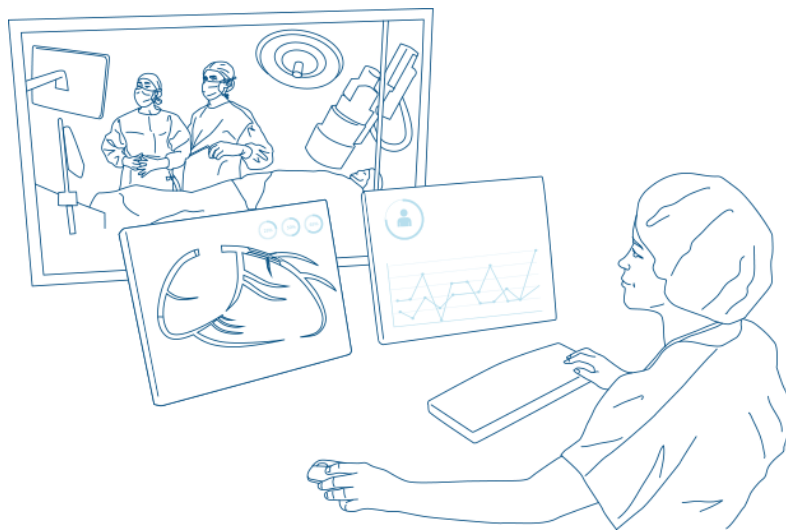


MediReport

CARDIOREPORT SUITE

Product Datasheet



CardioReport™ Suite, a 25-year industry-acclaimed Cardiovascular Information System (CVIS), is an expert-designed software that covers the full spectrum of cardiovascular care: inpatient or outpatient, invasive or non-invasive, for simple and complex procedures.

Purpose-built to meet the specific efficiency and safety needs of cardiology, it is designed, directed and regularly tested by a panel of top interventional cardiologists.

CardioReport™ not only provides an end-to-end data management platform throughout the entire care cycle including imaging, reporting, hemodynamics, inventory management, registry integration, it also offers built-in sophisticated analytics across all its products.

Key features

With a modular approach and flexible design, it shapes a seamless and optimal experience for physicians: once in place it smoothly fills the gap between the hospital information system, the radiology information system and other modality-specific system.

Full Cardiology Workflow Management

from scheduling to discharge and follow up.

Guidelines and International Classification based including but not limited to ICD-10, IPCCC, SNOMED, ASS, MEDINA, ACC-AHA, Rentrop, TIMI flow...

Scoring Calculation: SYNTAX score, Euroscore, STS score, DAPT...

Predefined dataset and customized sentences per anatomy.

Modular Approach allows for lower costs and complexity with the ability to add more modules later with ease.

Web-based and mobile device procedure and reporting review.

Report electronic signature with status and validation information and Addendum management. Automatic e-mailing or export to referring physician of validated final report.

Multi-author workflow supports partial validation and auto-assign the report to a second author or consultant to sign-off the report.

Registries support including specific audit tool to track missing or inconsistent data.

Mandatory data with missing data alerts are customizable to fit any future internal or external registry or trial.

Device tracking, based on a full device catalogue available in the market with a web based centralized catalogue, Tracer™ provides information for inventory management with complete RFID SpaceCode™ smart cabinet integration.

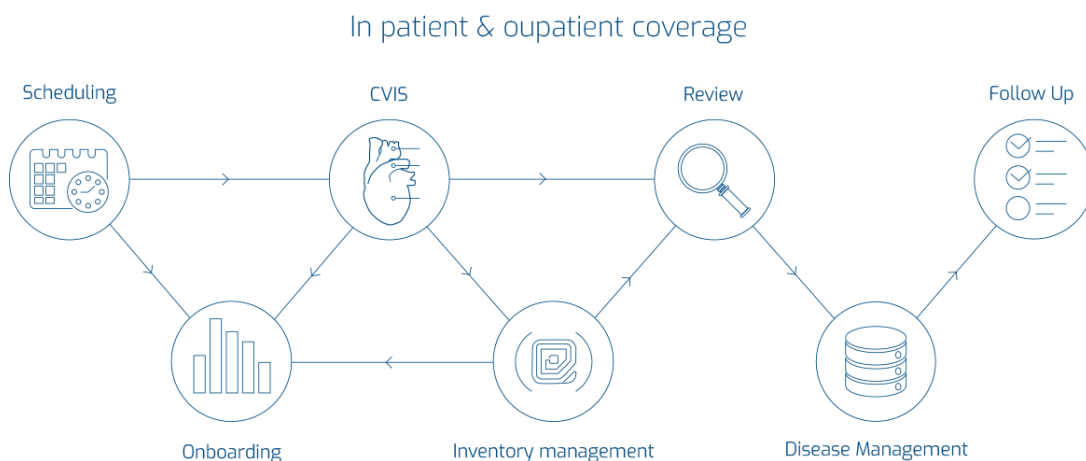
Expert system for Report Generation with natural language based on customized templates powered by CardioReport™ reporting engine.

Key Performance Indicators (KPI) directly accessible through web or right on your mobile devices.

Statistical analysis and data mining with AngioQuery™. Easily create complex queries with drag & drop, set conditions and create customized fields for tracing used devices and implantation locations.

Powerful interfacing engine, supporting HL7 and DICOM.

Multilingual application for both the software GUI and reports.



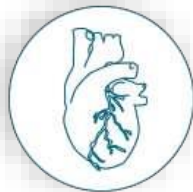
Clinical Modules

Coronary angiogram & PCI module

- Dynamic coronary tree drawing based on CASS and BARI classification
- Scoring Calculation: SYNTAX score, Euroscore, STS score, J-CTO,...
- Guidelines and International Classification including ICD-10, EPCCC, SNOMED, CASS, MEDINA, ACGAHA, Rentrop, TIMI flow...
- Cardiodraw® engine allows direct addition of lesions, stents, thrombus, grafts or collaterals directly on the



PCI



Structural



Rhythmology



Vascular



Congenital



Ultrasound

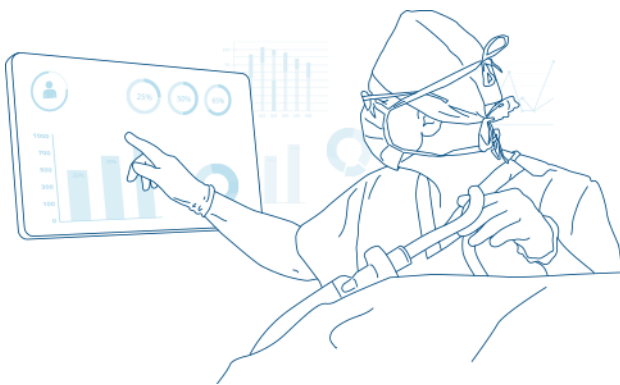


Surgery



coronary tree diagram. It also automatically detects location as well as bifurcation or trifurcation.

- Advanced lesion description. Size, type, grade, flux TIMI, calcification, irregularity, eccentricity, tortuosity, dissection, fistula, dye stagnation, spasm and many others.
- Pressure wire, IVUS and OCT data findings.
- Detailed description of PCI step by step or directly drawing the steps on the post PCI coronary tree where it is automatically translated back to steps.
- Import previous lesion and clinical data from previous procedures. No need to re-enter for every procedure.
- Attending & referring management.
- Event log and importation from hemodynamic modalities.
- Extensive Event log that includes anesthesia events, vital signs logs, adverse events, complications, breakdowns, drug administration and other procedure related logs.
- Complications management.
- Drugs monitoring.
- Devices traceability using barcodes or RFID, link with Tracer™
- Billing procedures codes (CPT, OPS...)
- Follow -up and registries management.



Adult Cath, Structural & Shunt closure module

- Multiple Stage evaluation (pre, post, during, ...) Systemic and pulmonic shunt calculation, resistances, valve evaluation...
- PFO, ASD, VSD, PDA closure with graphic structural heart representation.
- TAVR, Mitral Clip, LAA occlusion procedure and dataset registries.
- Graphic presentation including pressure, oximetry, gradient evaluation.

Peripheral endovascular module

- Dynamic arteries and/or veins tree.
- Graphical representation of collaterals and grafts.
- Limb, Renal, Carotid, Aortic endoprosthesis implantation.
- Scoring of patient severity and risk analysis.
- Recanalization angioplasty technique with antegrade and retrograde re-entry procedure dataset description.
- Fistula angioplasty.

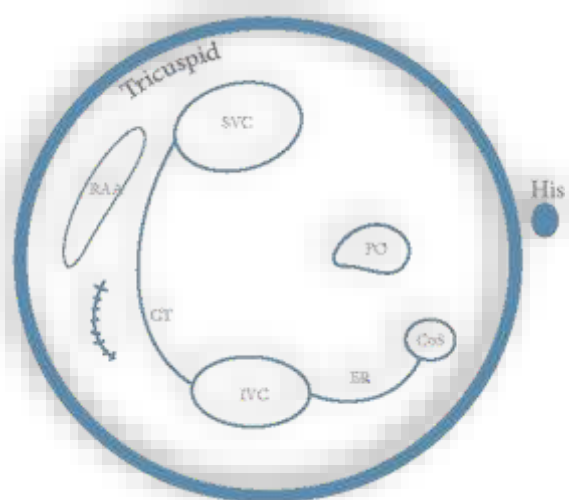
- Recanalization angioplasty technique with antegrade and retrograde re-entry procedure dataset description.

Pacemaker, ICD, ILR module

- Interactive graphic user interface describing pacemaker implantation, upgrade, explanation...
- Pacemaker data importation from programmer.
- Report PDF importation from programmer.
- Follow-up and patient visit management.
- Remote follow-up interfaced to supplier website (i.e Latitude...)

Simple and complex Ablation module

- Simple and complex ablation description including vein de-connection for atrial fibrillation, VT - tachycardia scar description.
- Dynamic graphic representation of focal or re-entry circuit including ablation technique representation.



- Continuum database from EPS evaluation to Ablation procedure.
- Map importation from DICOM images (CT) or non-DICOM images (3D mapping navigation).
- Scoring and patient risk calculation (CHADSVASC2, VAST...)

Adult REST & Stress Echo module

- ASE, BSE guidelines compliant.
- 16 or 17 LV segmentation, WMSI calculation.
- Automatic evaluation for LV mass, regurgitation, stenosis, LVEDP, Systolic.
- Measurements history for previous exams.
- Measurements comparison and trending with previous exams.
- Graphic mass findings representation.
- DICOM-SR measurement and image importation & diastolic function, dyssynchrony.

Adult Cardiac Surgery module

- Pre, intra and post cardiac surgery management.
- Euroscore, Euroscore II, STS scoring.
- Imported diagnostic and lesion description from the previous Cath procedure. No need to re-enter the data.
- Diagnostic and lesion description imported from Cath procedure.
- Dynamic drawing of graft and valve implantation.
- Dynamic drawing of graft and valve implantation Operative, hand-over checklist using mobile devices.

- Extracorporeal circulation management.
- NCDR compliant.

Coronary CT module

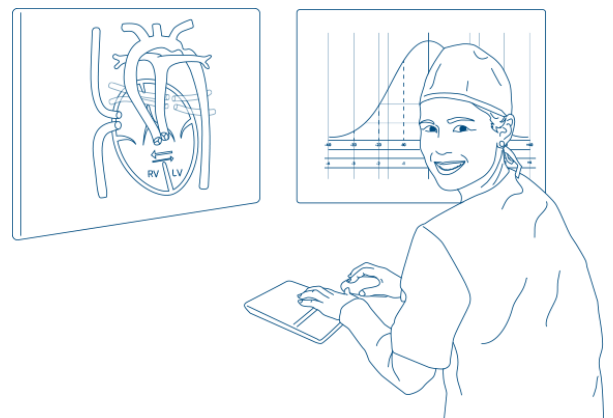
- Dynamic coronary tree drawing based on CASS and BARI classification.
- Calcium Scoring evaluation and patient risk assessment.
- Non-coronary description dataset.
- Export lesion description to coronary angiogram procedure.

Stress test module

- ECG stress test, SPECT, Pharmacological stress test.
- Step by step description.
- HRmax and VO₂max scoring.
- ECG image or pdf importation.
- 17 segmentation scoring ischemia.
- Late redistribution for viability evaluation.
- Bull-eye sagittal & planar representation.
- LVEF & RVEF evaluation.

Pediatric Echo module

- Structural anatomic drawing using our proprietary CardiacDraw engine, congenital cardiac anomalies automatically applied to the heart



drawing (diagram) based on your selected diagnosis and findings.

- Automatic classification using the International Paediatric and Congenital Cardiac Code based on findings. For GUTCH, IPCCC codes are combined with International Classification of Diseases ICD-10.
- Z-score calculator from any of Cincinnati, Cornell, Harvard, Detroit, Halifax, South Hampton, Toronto and others. Dedicated Z-score algorithm integration.
- COM-SR measurements & key images importation.

Pediatric Cath module

- Diagnostic and structural anatomy copied from paediatric echo procedure.
- Simple and complex congenital disease description.
- Dynamic drawing of described abnormalities including: valvuloplasty, shunt closure, stent, implantation, coils...
- Automatic IPPC coding.

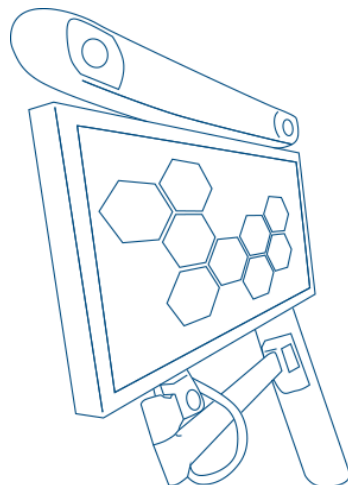
Pediatric Cardiac Surgery module

- Diagnostic and structural anatomy copy from paediatric echo or Cath procedure.
- Simple and complex congenital disease description.
- Dynamic drawing of described abnormalities.
- Material management.
- Operative, hand-over checklist using mobile devices.
- Extracorporeal circulation management.
- Automatic IPPC coding.

Cardioreport™ DICOM VIEWER

An integrated DICOM viewer to review any study side by side with the report.

- DICOM Q/R virtual supports and PACS solutions.
- Each CardioReport procedure is automatically displaying related study images from the PACS.
- Integrated key images in the report.
- Simplify data/image sharing in the hospital workflow.



Ambulatory Modules



BoardingVision™

BoardingVision™, a web app that facilitates the day-to-day of hospital staff and physicians, schedules each step of the ambulatory journey and manages patient workflows on a dashboard displayed on screens, phones and tablets anywhere in the hospital. It enhances the overall communication within your Cardiovascular department between different teams to provide better care and improve productivity.

Key Benefits

- Real-time visualization of all procedures in wards and operating rooms
- Patient specific information display and multi-user viewing
- Automatic updates of patient status via HL7 messages (from HIS, RIS)
- Monitoring of each step of the patient journey with real time alerts



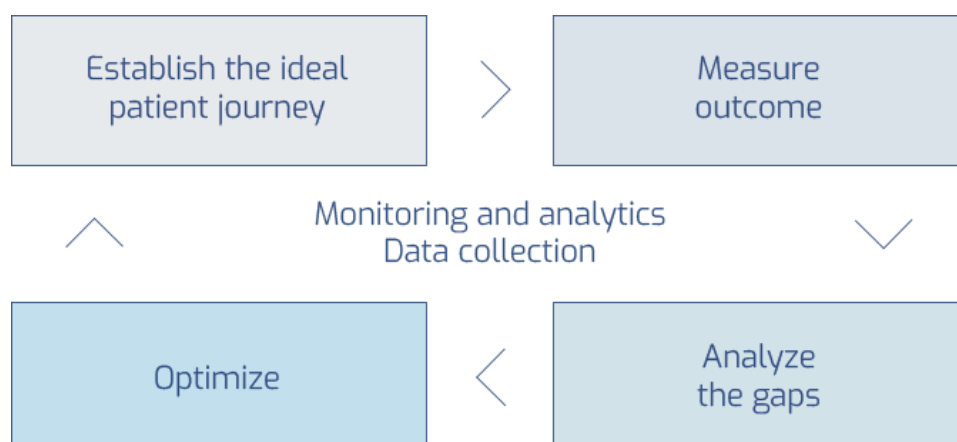
My FollowUp™

Patient follow-up after hospitalization is a necessity - especially for ambulatory care procedures, but remains time-consuming.

The mobile application MyFollowUp™, centered around the patient, answers this concern: it allows the monitoring of patients remotely, simply and efficiently, by remaining in constant touch with them.

Key Features

- Sends recommendations before hospitalization
- Post-procedure, regularly sends targeted questionnaire and educational content
- Dashboard manages patient-specific events
- Data processed on ASIP secure server and GDPR compliant



Other Modules



Scheduler™

MediReport Scheduler helps the hospital optimize its resources through

efficient scheduling while integration with MediReport KPI provides a wealth of invaluable management statistical data. This can be used to enhance resource management, future planning and reduce operating costs while increasing productivity.

Real-time information provides an overview of rooms and patients. Procedures can be rescheduled while urgent ad-hoc procedures are added with ease. Hospital and department staff can monitor the status of the procedure from anywhere within the hospital. This

allows just in time transfer for patients from wards to their examination reducing needless waiting times. The security permissions give hospital and its physicians confidence that the patient data is protected and can only be viewed by relevant viewers.

Key Benefits

- Staff workflow and resource optimization
- Patient reminder (SMS, email) and recommendation before procedure
- Automatic planning export to email, excel, or mobile device (ICS)
- Interoperability with MediReport solutions and other IHE compatible systems
- HL7 SIU, ADT, ORM management, translation from HL7 to DICOM WorkList



Key Features

- Access to patient information is secured for example, history can only be viewed with correct permissions.
- Developed with user in mind (offering rich graphical drag & drop functionalities and filtering by point of interest)
- Multi-department
- Multi-day appointments
- Bookings per patient, physician, procedure
- Room, procedure, waiting lists, call lists
- Room and bed management
- View and procedure template configuration with one -click interface
- List and grid scheduler view
- Scheduler view supports day, week, month and timeline views where they can be filtered by attending, procedure type (s) and room
- Possibility to configure number of days and estimated procedure duration for the view
- Preconfigured templates reduce entry time and appointment booking
- Customizable grid view by attending, room and procedure type
- Sort and filter in list view
- Room management (labs, theatres, ward, ...)
- Customizable MS word or PDF appointment report including procedure instructions
- Management of waiting list and call list
- Appointment conflict alerts
- Device booking per patient, physician or procedure type

- View patient upcoming appointments' as well as procedure history
- View appointment history and audit log.



Tracer™

TRACER™ supports and enhances the unique and often complex workflows

used within healthcare settings.

Capabilities embedded into the platform include the visibility, control, tracking, monitoring, security and management of clinical, logistical, and commercial processes for utilization of pharmaceuticals, supplies, devices, instruments, equipment and more.

In addition, Tracer™ provides a web-based central catalog with automatic updates from suppliers and cycle count using mobile devices.

The software automatically and simultaneously acquires rich data sets from all operating rooms thus tracking the asset movement and generating statistical reports.

Key Benefits

- From order to delivery loop process
- Order management
- Automatic ordering based on alerts or consumption
- Reconciliation between order and delivery. Partial delivery management
- Custom alerts on PAR level and expiration UBD
- Inventory management
- Destock management
- Total inventory and its value

- Stock location and movements anywhere in the employees' activity and transactions on demand
- Movements of particular products
- Security alerts for any breach of rules
- Specific recall process
- Full traceability using manufacturer barcodes
- Decoding all normalized barcodes GS-1, HIBCC, 2D, EAN128, Code39...
- Support Barcode AIM codes and FNC special symbols
- Procedure cost management
- Reservation and booking of specific materials
- Material statistics
- Reporting based on templates including inventory and consumable reporting
- Interface with HIS and Pharmacy systems
- Key performance indicator and report performance on inventory management

Web Viewer™



MediReport Web Viewer provides web access to patients' clinical information which includes imaging and reporting data. Using the viewer, you can quickly check the patient procedure history along with its reports and images, enabling the clinician to make an informed decision on patient care. Web Viewer can be accessed from a compatible device anywhere within your hospital enterprise,

helping deliver effective and timely patient care in the process.

Key Benefits

- Uses existing network infrastructure and client hardware (*requires Adobe Flash)
- Secured via https protocol and user passwords, to ensure patient data security
- Enables clinicians to view vital patient information securely
- Supports a more efficient workflow helping improve the quality of care



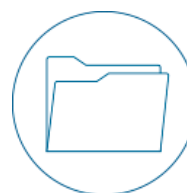
Checklist™

Going mobile with MediReport Checklist, your department is always

ahead of the game.

By giving your staff the opportunity to fill out the paperless checklist before the procedure starts, your department is reducing needless waiting times and enhancing patient experience in the process.

The checklists are customizable and tailored to Centre's needs.



Registries

Cardioreport™ allows heart Centre's to easily fulfil their regulatory

obligations, by providing registry reporting functionality. Users are intuitively guided through the requirements of the dataset by the software. the software visually helps the users understand which information is required by the registry by highlighting the

missing information. Each registry requirement is fulfilled by validation rules within the procedure reporting process, meaning that the report cannot be signed with missing data attributes. CardioReport™ validation rules ensure that the data submitted to the registry is accurate.

Cardioreport™ collects the information in a structured manner ensuring no duplicate data is entered and sent. With the data being stored in the database it can be retrieved and viewed at any time required by the hospital management.

Registry data can be manually exported from the system for submission. In some cases, the receiving systems will allow direct interfacing with CardioReport™ for seamless data submission.

Supported registries and not limited to:

- SFC
- QERMID
- CCAD
- BCIS
- EP
- HF
- CARDS
- BQS
- AQUA
- CRAC
- NICOR
- CRM
- MINAP
- CONGENITAL
- Meetbaar
- GISE
- PCI French registry
- TAVI French registry
- NCDR US dataset compliant
- PCI Swiss registry
- PCI Austrian registry



AngioQuery™

AngioQuery offers a data mining platform for your data, allowing you to build SQL Queries on your clinical database through a the "user friendly" interface.

SQL skills are not needed, 'drag&drop' functionality allows to intuitively query and extract the necessary information from the database.

The Data Analysis Tool can be used in many ways:

Document the activity of the department:

- Number of interventions
- Type of interventions
- Average duration of a particular procedure
- Many more

Clinically relevant information:

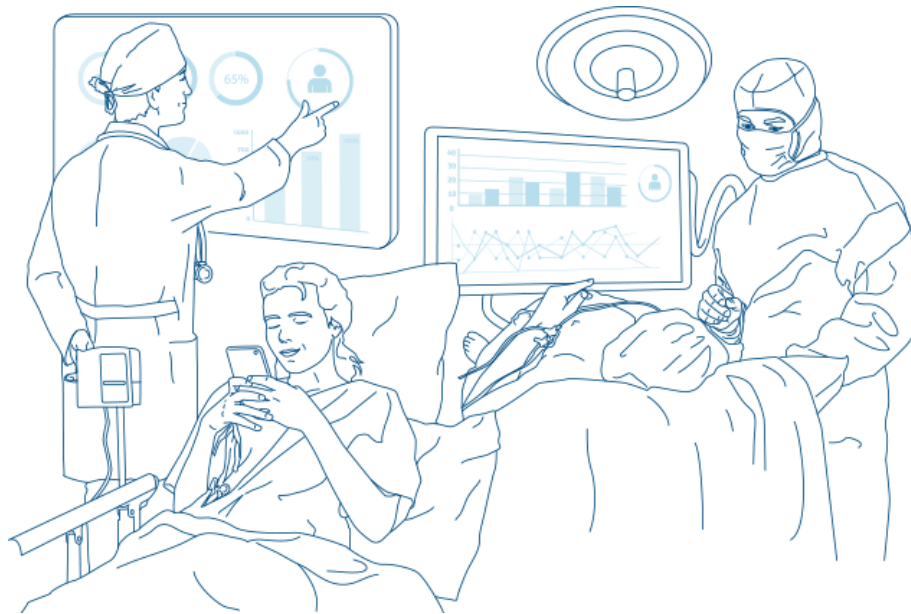
- PCINumber
- List of patients using different drugs
- List of patients with emergency PCI
- List of patients who meet device implantation criteria
- Displays information on procedure costs
- Number of devices used

AngioQuery™ results can be saved as .xls or .csv files and allows you to display dynamic data in a wide range of graphics.



Healthcare KPI™

A complete dashboard provides you with a clear view of all indicators that will help you efficiently manage your Lab and enhance quality of care, patient safety and lab performance by using the target values based on benchmarking and trends in real time. The system allows you to manage inventory, bed occupancy,



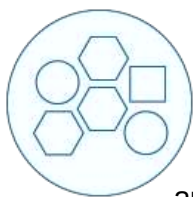
procedures per day, turnover time, length of Stay and more, in a structural, innovative and efficient way.

Healthcare KPI™ enables you to compare your site performance with other Labs around the Globe. The dashboard is fully configurable. Based on your needs, you can rearrange and define new KPIs. Depending upon your assigned login and password you will have access to a different dashboard with different KPIs, for example a physician will have access to different dashboard with different KPIs as compared to an administrative staff. HealthCare KPI™ as a MediReport solution, is now an integral part of New Age Labs by enhancing management in an innovative, structural and better pathway.

Available across the entire Suite's products, it helps you measure your

success at reaching a target. This target can be an objective based on your experience, guidelines or benchmarking. Selecting a dataset of KPI creates a dynamic dashboard. This dashboard will guide you on your day to day practice.

MediReport is mapping any type of documented data issued by multiple sources such as Hospital Information System (HIS), modalities like Cathlab, PACS, hemodynamic station, echo machine, worklist, entries from the employees collected during/after a procedure. Anonymous data is then transferred to Healthcare KPI engine. Our online Healthcare KPI engine calculates performance indicators on its server. Present KPI values can now be compared to previous periods and benchmarked.



Interfaces

CardioReport™ is interfaced with the hospital environment and is fully IHE compliant. It is backed with a powerful interface engine supporting DICOM, HL7 and other proprietary 3rd party interfaces. This complete integration eliminates manual data entry, minimizes mistakes and ensures a high level of data integrity. Interfacing in the hospital environment is a crucial task for a CVIS solution. MediReport, with over 450 centers clients worldwide, is a fully integrated Cardiovascular Information Systems and an independent integrator of cardiology information solutions.



Goals of optimal interface

- Reduces staff workload
- Streamlines workflow
- Ensures data integrity
- Allows for valid and timely reporting
- Promotes straight forward participation in national registries

The key systems in your environment that often require integration:

- Patient administrative data import from the hospital information system (HIS) using the HL7 protocol (other protocols are available)
- Data import from modality: Xray doses, hemodynamic data, echo measurement
- Data export for billing, purchasing department for devices ordering, report distribution
- Interface to imaging system

Cardioreport™ Suite is IHE compliant.

List of Non-exhaustive interfaces:

- **DICOM:** Modality WL SCU, WL SCP, MPPS, SR, Q/R
- **HL7:** 2.4 and above inbound and outbound messages for ADT, SIU, ORU, ORM, MFN, DFT, IIM and CDA
- **Proprietary format:**
 - Hemo modalities (Schwartzter, Cathcor, Sensis, Syngodynamic, Maclab, Combolab, Mennen, Xpert, Cerner)
 - Echo modalities (Siemens, GE, Philips...)
 - ECG modalities
 - Pacemaker Programmer Interface
 - CRM devices HL7 IDCO, XML Paceart
 - Native interface for Spacecode® RFID smart inventory cabinet.

IMPORT	EXPORT	HEMO	DICOM	REGISTRIES
Biotronik	CCAM XML	GE	DICOM SR	BCIS
Boston	Central cat sync	Latitude	DICOM MPPS	GISE
DOCUMENT	Followup	MANTA	DICOM MWL	QERMID
ECHO Heartlab	HL7 ADT, ORM, ORU, DFT, MFN	PHILIPS	DICOM Q/R	
GILDA	Medtronic iPad	SCHWARZER		
HL7 ADT, ORU, ORU, SIU, DFT, MFN	OPALE\IMPMIN2 billing	SENSIS		
HPRIM ADM	OPALE\IMPMIN2 drugs	DICOM Q/R		
Mediway	OPALE\IMPMIN2 material			
Medtronic PM	OPERA			
OPALE Material	Query			
OPERA DFT	SCHWARZER			
PaceArt PM	SENSIS Procedure			
PICTURE	Smartbox			
St Jude	Stentbox			
	Tracking Patient			

Administrative Services

- Administrative Services is a web-based console to facilitate server's administrative tasks and maintenance and to simplify configuration. Admins can and not limited to
- Automate database backup to local or network drives with possibility to keep specific number of backups
- Online delivery of software and Material Catalog updates.
- Monitor connected clients by user, hostname, time and date
- Configure clients to auto close after certain period of inactivity time
- Manage access rules and rights per users and groups.

- Perform events reporting
- Audit trail
- Manage deleted recovery



Server Specifications

- CPU: Xeon E5 family (3 GHz 8 MB cache 4 cores or better recommended)
- RAM: 8 GB Minimum, 16 GB Recommended
- Storage: OS system partition min 64 GB, Data partition min 100 GB, Storage Repository, min 500 GB, 1 TB or more recommended. For backup, external tape or NAS.
- Network: 1 Gbps
- Operating System: Microsoft Windows Server 2008R2 SP1, 2012 R2, 2016. 64-bit recommended.
- Database Software: Oracle 11 or firebird SQL. Virtualization support: through VMware ESXi.

Client Specifications

- CPU: Minimum Dual core 1.2 GHz or better
- RAM: 4 GB Minimum, 8 GB Recommended
- Storage: 64GB free hard disk space for installation and image storage
- Graphics: (Size & resolution) 15" with minimum 1200 x 800

- Network: Minimum 100 Mbit, 1 Gbps Recommended
- Operating System: Windows 10 (Professional, Ultimate, Enterprise) Windows 7 SP1 (x86 or x64) (Ultimate, Enterprise & Professional version), Microsoft .Net Framework 4.5.2
- Client Browser: Internet Explorer 10 Internet Explorer 11 Google Chrome 53 or higher, Apple Safari

Supported Languages

- French
- English US, UK
- Italian
- Spanish
- German (Swiss, Austrian, German)
- Portuguese
- Dutch
- Flemish
- Russian
- Serbian
- Croatian
- Hungarian
- Swedish
- Turkish
- Vietnamese

Certification

CardioReport™ is compliant with most relevant regulation, directives and standards



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