

# THE DIGITAL REVOLUTION

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## CVIS PACS

Enterprise cardiology  
imaging & information  
management system



# **Enterprise** imaging software solution

**The digital  
revolution.  
New, connected  
healthcare  
ecosystem.**



# ing ns

Ebit is the Esaote's Healthcare IT Company focused on Enterprise IT software systems for seamless integrated workflows processes in multiple departments, enterprise and regional network architectures to facilitate information sharing.

Italian market leader and among the main players in Europe and worldwide, Ebit is specialized in producing Departmental IT systems: VNA, PACS, RIS, CVIS.



**Suitestensa platform is the most complete Diagnostic Imaging Software for workflow management**, from Modality to Enterprise IT systems, implementing Structured Report, 3D/4D image processing, Quantitative Analysis software, multiplatform Mobile & Cloud Solutions for clinical collaboration and results distribution.

# Suitestensa. An extensive sui products

Suitestensa provides Vendor Neutral Enterprise Archives, to ensure broad compatibility and interoperability of products and technologies and managing DICOM and non-DICOM images.

Suitestensa achieves transversal data administration and vertical focus on clinical aspects, for a real pathology's prevention, diagnosis, therapy, treatment and follow-up in Radiology and Interventional Radiology, Breast Imaging, Nuclear Medicine, Radiotherapy, Orthopaedics, Cardiology (Cath-lab, Echocardiography, Electrophysiology, Check-ups), Cardiovascular Surgery.

## **Beyond Enterprise in Healthcare IT**

Our Vision is a patient-centric digital Healthcare Enterprise looking beyond, facilitated by optimized clinical workflows, relieved of redundant costs, improved by advanced information solutions, and increasingly keeping the focus on preventive, diagnostic, therapeutic patient's well-being. We are committed to enhance multi-disciplinary health services and multi-territorial data sharing, simplifying information mobility and telemedicine challenges.

## **Deliver Technology Ahead**

Ebit's mission is to assist health operators anticipating their evolving needs. Ebit aims at supporting healthcare professionals with streamlined filmless and paperless workflows, advanced clinical applications and effective integration of all software and modalities, thanks to an equipment vendor-agnostic approach.

## Cut down response time: Customer Care is the key driver

Remote and on-site assistance and real-time monitoring, technical application support, training and education, maintenance: thanks to its Project Management, Field Engineering, Customer Service and Maintenance Teams, Ebit provides assistance to customers, through pre-post-sales courses and 24/7 on-site maintenance service.

## Keep patient data flowing smoothly

With a customer base of +400 hospitals world-wide, up and running in some of the largest enterprise installations and interfacing with +200 different hospital, clinical and legacy information systems, Ebit is tailored-to-customers' needs thanks to dedicated R&D and Integration Engineers Teams for whom each solved challenge becomes an achieved improvement for Suitestensa as a whole.

2015 European Cardiovascular  
Information Systems

**TECHNOLOGY LEADERSHIP AWARD**



## Digital Healthcare careful to People and Resources

PACS & VNA systems allow to manage and share all medical information among healthcare IT networks. The benefits for patients are huge simplifications of services' access, the realization of their EMR and qualitative clinical diagnosis. The benefits for healthcare providers are streamlined organization, reduced hospitalization and costs, optimized services via the web and mobile devices.



## The greatest expertise in Cardiovascular Information Systems since 1998

# Suitestensa CVIS

### **Real-time Global Cardiology in a click: workflow and cost optimization, reduced time to report, better staff deployment, warehouse management**

Suitestensa CVIS is the enterprise all-in-one platform for cardiovascular management. By encompassing all workflows, exams, images and postprocessing, Suitestensa CVIS represents the most comprehensive approach to Cardiac Catheterization, Interventional Cardiology, Endovascular Surgery, Echocardiography, Electrocardiography, Arrhythmology, General Cardiology, Cardiovascular Surgery.

- Departmental activities (staff usage, material and warehouse, operational performance)
- Integration with 2D, 3D, 4D post processing and reconstruction tools, images “drag&drop” into the structured report, automatic import of measurements and annotations into the report
- Patient Folder and digital filing of the study: additional documents can be filed and scanned in attachment
- Follow-up
- Emergency management
- Reading of different National Healthcare Systems’ Patient Cards

- Vendor independent workflow; integration with HIS, NHS reservation centers, Order Entry, ADT, Emergency, Repositories, EMR, Billing modules
- Regulations & quality standards of national and international reference associations: ESC, ASE, ANMCO, GISE, SIEC, AIAC SIEC & ASE compliance for standardized report
- Data mapping into other national registries
- Scientific DB, search engine, data extraction tools, multi-parametric analysis and statistics
- Graphometric signature for patient’s informed consent acquisition, in full accordance with Italian Law (DPCM 22/03/2013 and Prescriptive General Measure in Biometrics Issues, 12/11/2014).

## **Pediatric Diagnostics, Therapeutics and Interventional**

### **The keenest eye is that which looks inward: minimally invasive procedures performed with the most advanced software**

- Dedicated datasheets for specific exams and procedures
- DB for peculiar techniques (catheterization, congenital heart procedures, etc.)
- Pediatric inventory of specific devices
- Parental anamnestic data for congenital pathologies
- Complete pediatric cardiac echo analysis.



Look & feel 2D, 3D & 4D enhanced image viewing,  
managing and processing

## Suitestensa Cardio Review

### Facilitate clear communication of all cardiology data along with imaging and reports

- DICOM/non DICOM export of key images, groups of images, series, studies, videos
- Basic and advanced tools for display of images , measurements and analysis, processing
- Clip mode for dynamic images, with playback control and digital slow motion
- All-in-one cardiovascular PACS viewer
- Complete cardiac ultrasound analysis
- Clinical Tools for a complete diagnosis.

### Structured report system: increase the content, structure your report analysis, share images, observations and measurements

- Customized report templates, with structured data, specific for each clinical application
- Easy access to patient clinical history
- Automatic measures transfer into final report
- Possibility to include key images into the report.







## Patient-centric multi-departmental cross-communication

# Suitestensa PACS

### The Enterprise-level qualified hospital workflow

Suitestensa PACS is the enterprise system for image acquisition, archiving, distribution and management over local or remote networks of multi-departmental and multi-site healthcare centers. It integrates with HIS and all imaging modalities thanks to DICOM, HL7 and FDA-XML standards, supporting systems' interoperability and avoiding data duplication.

- The newest Metadata Management: metadata preservation, differentiated between DICOM images and PDF reports
- Scientific archive
- DPA - Legal Archiving (according to the most recent European and Italian regulations, such as DPCM 3/12/2013)
- Disaster Recovery and Business Continuity architectures.

### Suitestensa PACS Web & Mobile

**The Universal Viewer providing access to clinicians at any point of care: decision-support, high-quality services, security and data confidentiality at your fingertips**

- True agnostic mobility: any browser, any device, running on Windows and Mac OS, IOS & Android
- App for IOS and Android

- Zero-foot print technology: no local installation, no data download. Images are streamed and no cache data remains on the device
- Interactive 2D, 3D & MIP/MPR, 3D Volume Rendering
- Cine-sequences of multi-frame playback and Digital slow motion (XA, US/Echo)
- Collaboration tools: see and speak with other doctors while viewing images together
- Access to DICOM and Non DICOM data stored in Suitestensa PACS
- Integration with patient folder for internal distributions of results and with third party portals for distribution to specialist physicians, GPs and patients
- FDA cleared for diagnostic use; CE medical device classification, class IIa.



The best-in-class, wider and most confident system for your Cath lab needs

## Suitestensa Cath Lab

### Optimize your cardiac and vascular pre-intra-post diagnostic and interventional procedures integrating all data into one single system

- Demographic, procedural and clinical data, images and quantitative results, devices and disposables, administrative information
- Stenosis parameters, , Timi Risk Score, Syntax Score and Euroscore calculation
- Devices management
- Data collection for structural cardiology (valve implantation and valve repair, PFO), IVUS, FFR
- Report for coronary angiography and treatment; left and right heart catheterization; percutaneous valve treatment report; generic reporting sheet for all other procedures
- Complete follow-up
- Local needs' customization: data mapping into national registries, quality systems, etc.
- Emergency management
- Pediatric procedures
- Search engine, filtering and data analytics.

### Cost savings and time efficiency with pharmaceutical and devices warehouse management

- Real-time warehouse, stock and inventory; cost per procedure immediately available
- Cost center order management
- Integration with central hospital warehouse
- Barcode reader
- Monitoring of device expiration and stockage
- Drugs management.

### Qualitative diagnosis with interactive graphical 3D atlases

The Coro Atlas includes Coronary Circle default maps, right/left dominance and total occlusion evidence. Lesions classifications (irregularity, presence of calcium, thrombi, forks, collateral circuit, bore of the stenotic branch).

- Customizable maps where segments can be created, deleted and moved (including external or coronary bypasses)
- Graphical definition of stenosis, aneurysm, stents endoprothesis.

## Interventional Radiology

### Manage the best endovascular treatments with your interventional team

- Dedicated Angio Atlases for all anatomical regions including complete vascular maps: thoracic aorta, inferior limbs, renal arteries and abdominal aorta district
- Dedicated reporting sheets for vascular procedures.

## Advanced Integrated Analysis Solutions



**Collect in a single DB all Electrophysiology and Electrostimulation procedures**

## Suitestensa Arrhythmology



### The new EP and ES Solution conceived to complete your CVIS Enterprise Suite

Evaluate and manage data from cardiac rhythm abnormalities, invasive electrophysiology studies, ablations, implantation of permanent pacemakers and implantable cardiac defibrillators, cardiac resynchronization therapy.

- Integrated into CVIS PACS workflow
- Procedural and Clinical Data
- Complete real-time warehouse
- Integrated Imaging
- Integration with cardiac mapping devices
- In-clinic and remote data import from PM/ICD devices
- Structured Reports for each procedure and pathology (PM, ICD/CRT, EP, ABLATION)
- International Datasets
- Implant Management
- European PM/ICD Patient Identification Card
- Follow-up Management
- Powerful search engine and statistics.

### Implant data management and follow-up: the utmost importance of an accurate record keeping

Follow-up is a crucial aspect of PM/ICD Patients. Through a standardized reading and saving of data imported from the devices, Suitestensa Arrhythmology manages all the follow-up data. Collecting all ES data including implant reports, generators and leads parameters, procedural data, follow-up notes and medical letters in a single database, Suitestensa Arrhythmology allows a complete management of PM/ICD patients and a complete traceability of devices data.

### Integration with National Pacemaker/ICD Databases

Suitestensa Arrhythmology cooperates with the Italian Society for Arrhythmology and Cardiac Stimulation (AIAC) in collecting and managing a national PM/ICD database that offers information on present and past CIED devices for each patient and general data on the function of pulse generators and leads from as wide a field as possible.





## Ultrasound workflow from on-board measurements to reporting, analysis and advanced post processing

# Suitestensa Echo

### Finalize your reports with embedded images in few clicks with a structured, clinical database

- Configurable structured reports by approach or pathology according to EACVI, SIEC & ASE guidelines
- DICOM SR: automatic import of measurements from the equipment
- Anatomical 2D quantitative analysis (B-Mode, M-Mode, Doppler) and qualitative analysis (structured morphological descriptions)
- Specific US cine tools
- Complete adult and pediatric cardiac Echo analysis
- Automatic Z-scores calculation
- Segmental kinetic evaluation (16 and 17 segments)
- Left Ventricle dyssynchrony analysis
- Search engine, filtering and data analytics; scientific DB.

### 2D Stress-Echo: give physicians a wealth of helpful information

- Stress-Echo reporting with bull-eye evaluation for each stage/view with automatic synchronized clips
- Graphical color-coded scoring with standard ASE 16 and 17 segments segmentation, automatic Wall Motion Score Index (WMSI) and percentage extension result for each stage.

### 2D, 3D & 4D processing and reconstruction US analysis\*

#### Vendor-independent US advanced analysis packages with automatic image and measure retrieve into CVIS

##### 2D Strain Analysis

- Wall motion abnormalities
- Dyssynchrony of opposite wall segments.

##### 4D LV Analysis, 3D Quantification of LV Function and Dyssynchrony

- LV, Volumes, EF with high correlation with MR results
- LV EDV, ESV and EF
- Global Longitudinal Strain (GLS).

##### 4D RV Analysis, 3D Quantification of RV Function and Dyssynchrony

- 3D surface model in conjunction with defined 2D landmarks
- RV, volumes, strain analysis
- EDV, ESV, RVEF, SV, RVLS, TAPSE and FAC.

##### 4D Review, to analyze 3D Echo Data

- 3D cardiac structures (atrium or ventricle volume, mass) and pathologies (shape, location, size)
- 2D angle, area, length, curve.

##### MV, diagnosis of mitral valve disease

- 3D morphology and pathology
- Morphological - functional measurements and quantification, jet origin.

*\* Ultrasound Processing software developed by TomTec Imaging Systems GmbH and integrated into Suitestensa platform as optional advanced packages.*

## Bridge the gap with vendor independent DICOM ECG Viewer: ECG management as a whole, from acquisition to final report

# Suitestensa ECG

### The ECG viewer natively designed to be independent from ECG samplings

ECG environment is a very complex one, counting a wide range of different devices and different producers: Suitestensa ECG provides IT connectivity with different vendors and bridges the gap between various protocols of encoding ECG data.

Also workflows contexts are very different: elective surgery, ward and "at bedside" exams on portable equipments, unplanned emergency, ambulatory tests, etc: ECG waveform data (from cardiograph, monitor, or defibrillator sources) along with patient demographics, exam's data, traces, measurements, and interpretive statements now can be transmitted over the hospital network to be stored, recalled, edited and printed.

- Multi-vendor, natively brand independent ECG platform for all DICOM/FDA-XLM/a ECG and proprietary formats
- Structured report and PDF report generation
- Global and single leads measurements with ECG acquisition as signal

- Intra & extra patient visual comparison, with single-page or side-by-side comparison
- Viewer management tools (zoom, pan, montage selection, etc.)
- Graph paper options: speed, trace spacing, fade-in/fade-out customization
- Electronic signature
- Long term repository for all ECG environment and native connection to PACS
- Powerful search engine, filtering and extraction tools, scientific database, data analysis.



## Improve interdisciplinary collaboration and communication among Cardiologists

# Suitestensa Multidisciplinary Packages

Suitestensa platform automatically collects and stores cardiovascular test results (e.g. Cath-Lab, Arrhythmology, US, ECG, Visit, Cardiac Surgery), regardless of equipment vendor, onto a single platform, allowing doctors to access both current and previous testing results and to create a more comprehensive treatment plan.

## Check-up Cardio Visit

### The best care right from the beginning

Check Up CardioVisit manages all outpatient and inpatient services of the Cardiology Specialist: from suspected to known or chronic heart and vascular diseases, from patient registration to the printing of report and to discharge letter it provides easy and automatic storage of all cardiology tests.

- Structure Report system with unlimited highly configurable visits templates (history, routine, generic, specialist examination)
- Dedicated link to related US and ECG examinations
- Pediatric module for collection of all parental anamnestic data related to congenital pathologies

- Import of holter e stress ecg documents to report visits with linked examinations
- Scanned documents and PDF from different devices are all imported as attached documents.

## Hospital Workflow for Cardiology Patient

Store all cardiovascular images and testing measurements onto a single system, providing an easily accessible and trackable platform inside and outside cardiology departments.

### Patient Hospitalization

- Complete admission/transfer/discharge management
- Cardiology folder containing all exams performed

### Cardio Electronic Patient Record

Cardio E.P.R. is the software used outside the department of Cardiology: by connecting not only departments but hospitals, doctors are able to reduce the time spent gathering information from other facilities, and provide a more accurate treatment plan based on the analysis of many different types of test and image results.

- Patient Registry search engine
- Implementation of images visualization with Suitestensa Web PACS.



Designed to be used in real-time during  
Cardiac Surgery

## Suitestensa Cardiac Surgery



Bring together in a single platform and archive the collection of all clinical, technical, instrumental diagnostic and intervention data, today scattered across different electronic and/or paper systems.

### Experience and technology hand-in-hand with good outcomes

In real-time, all surgery professionals involved (technicians, nurses, anesthetists, surgeons, etc.) are allowed to enter and insert their data right inside the surgery software and even to draw up the official Surgery Minutes.

An advanced scientific database with powerful search engine, filtering, extraction tools and analytics tools will help Surgeon to give evidence of procedures' efficacy and of technique and surgical approach chosen.

### Professional predefined and customizable worksheets and reports for all cardiac surgery operations

- High configurability of all entries and grouping criteria
- "Staged" interventions management, with interventional procedures (additional module required: Suitestensa Cath-Lab)
- Patient data, medical-clinical anamnesis, pathologies, previous surgical operations, pre-operating information, laboratory data, instrumental examinations
- Performed operations (with reference ministerial codes for administrative accounting purposes), surgery medical and non-medical personnel, reporting physician

- Operation times (room time, operation time, anesthesia time, EC Extracorporeal Circulation time, etc.)
- Anesthesia evaluation (sedation, techniques, pharmaceuticals, assessment) and accesses performed
- Specific operation sheets for Coronary Artery Bypass Graft (CABG), Valve, Vascular, Ablation, other heart surgery operations and treatments
- Euroscore I and II
- Electronic signature
- Import of any ancillary external documentation, to be attached to the clinical history of the patient (e.g. scanned documents)
- Network access fully configurable for one or more users
- Powerful search engine, filtering and extraction tools, scientific database, data analysis.



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### Diagnostic Clearance

Ebit obtained rigorous diagnostic clearance from governing organizations. The product portfolio consists in a wide range of DICOM and HL7 compliant solutions for effective management of medical images in paper and filmless hospital, all conforming with IHE interoperability project.

Suitestensa RIS CVIS PACS, manufactured by Ebit complies with the Medical Device Directive (MDD) 93/42/EEC as amended by the 2007/47/EC directive

In accordance with this directive, Suitestensa RIS CVIS PACS is classified as Class IIa devices.

### Security

Ebit is committed to cooperating with our customers in their efforts to comply with security and privacy laws and regulations adopted by the various countries in which our products are sold, including for example HIPAA in the U.S.A., the EU Security Directive in Europe, etc.

Technology and features are system/configuration dependent.

Specifications are subject to change without notice.

Information may refer to products or modalities not yet approved in all countries.

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