

GE Healthcare

# The heart of cardiology is connectivity

The MUSE<sup>\*</sup> v8 Cardiology Information System



# Cardiac technology. Innovation to advance care.

Success in today's healthcare environment requires your enterprise to be seamlessly connected. Physicians, clinical care staff, administration, billing, and the IT department must be able to share and send information anywhere, anytime—easily.

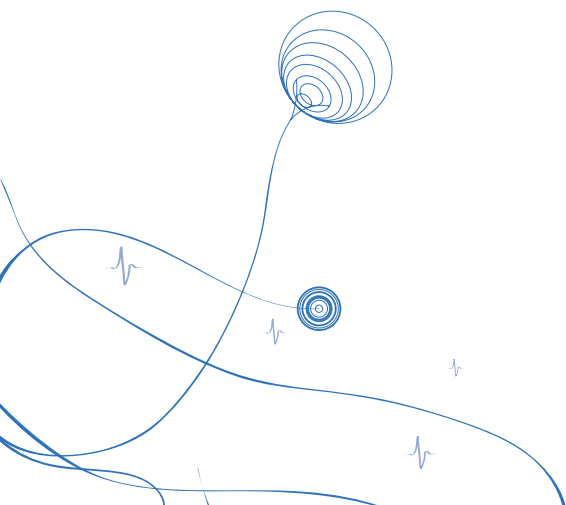
MUSE v8 enables the connectivity your facility needs, in ways that allow you to deliver superior patient care while managing costs.

*"We are a University hospital providing the healthcare services for the greater Helsinki area. We have over 200 sites where ECGs are recorded and serve ca 1.5 million people. So we do something around 400.000 ECGs annually. Selecting the system, we looked at 3 points: price and cost, reliably and the realistic capabilities to implement smoothly and in time such a mission critical system. We selected MUSE and have been delighted by GE services and the local team."*

*Lasse Lethonen, MO, PhD, LLO  
Administrative Chief Physician, HUSLAB,  
Helsinki, Finland*

*"The MUSE system has been an important part of our standardization of care and has helped us design clinical pathways for better patient care."*

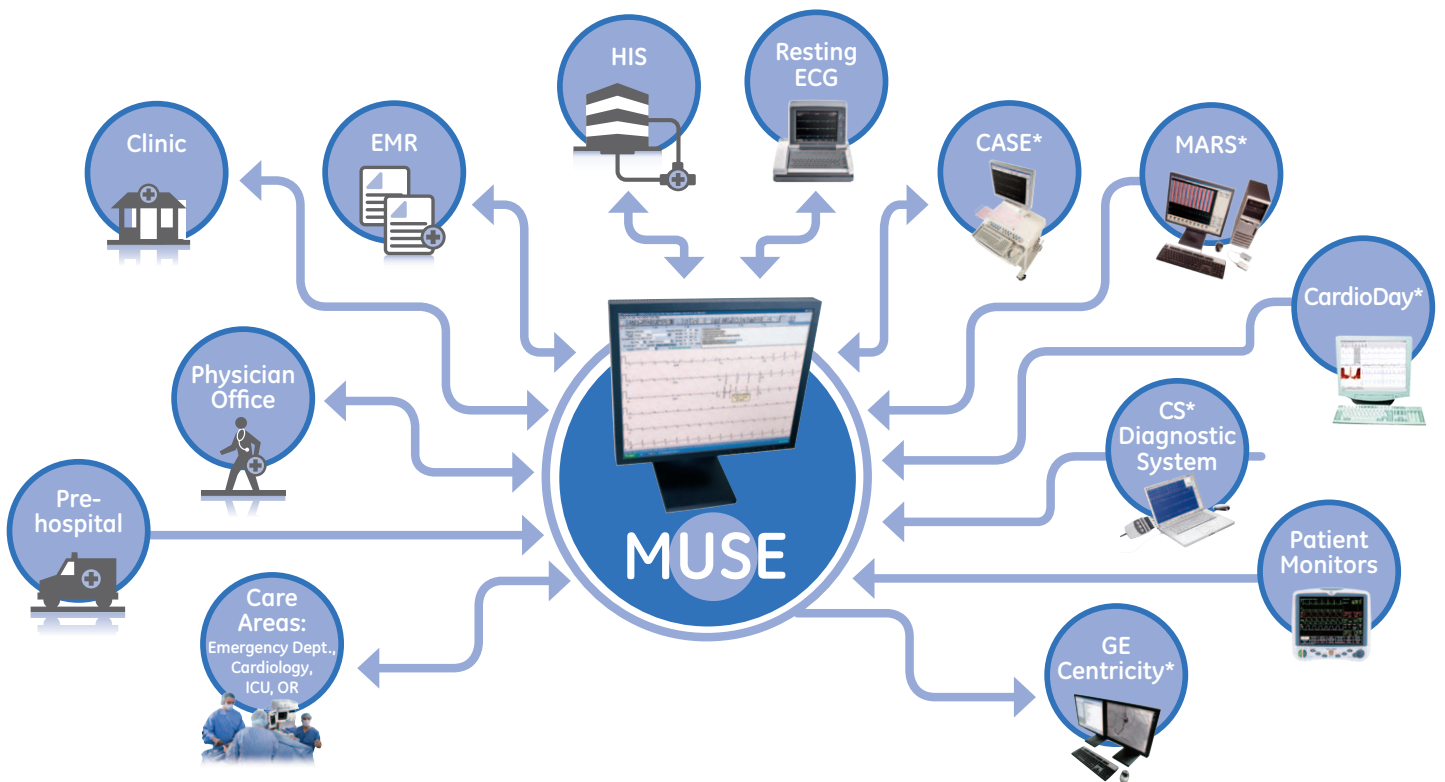
*Dr. German Larrain, MD, FACC  
Director, Non-invasive Cardiology  
Aspirus Hospital*






## The heart of cardiology is connectivity

To manage the needs of a busy cardiology department, you need diagnostic systems that work together efficiently as one complete solution. With MUSE v8, you can link your systems and departments into one integrated, flexible powerhouse that helps you streamline data flow, save time, and stay at the forefront of cardiology.





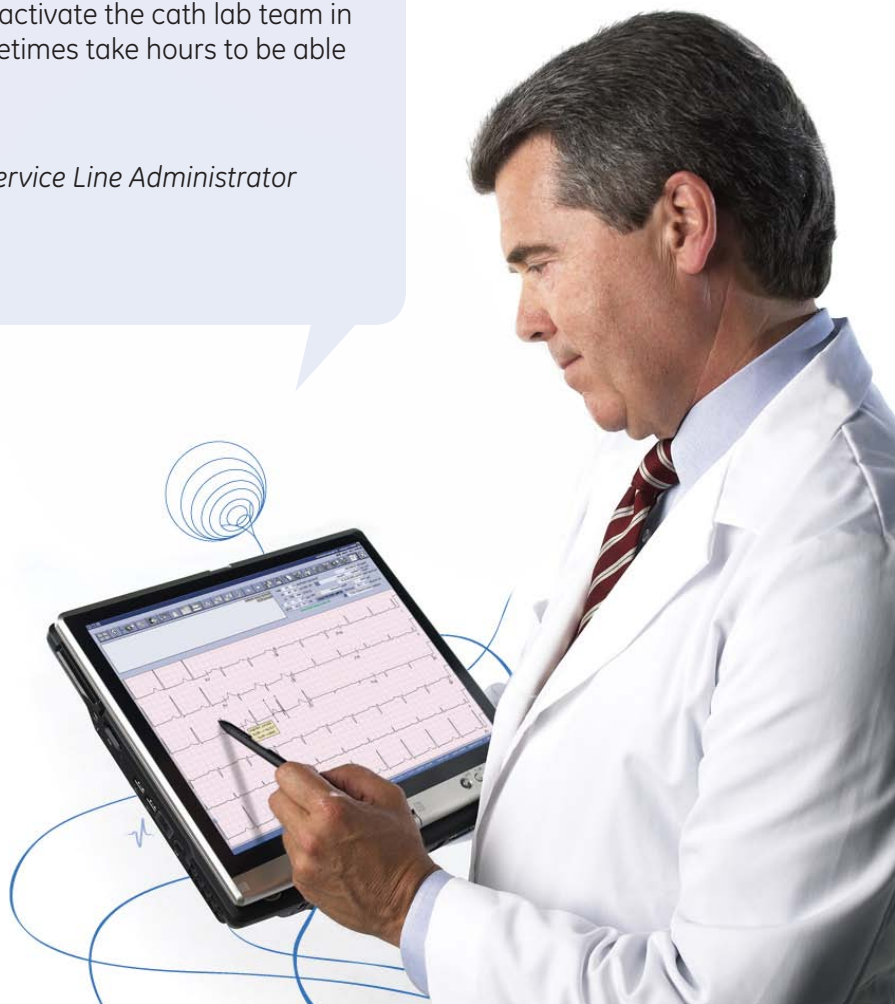
## Connected to patients from admission to discharge. And every point in between.

Increasing efficiency throughout your facility means finding ways to streamline every step of your facility's workflow to optimize financial, administrative, and clinical processes, from ECG acquisition to billing. MUSE v8 works with GE Healthcare diagnostic cardiology devices and major HIS and EMR systems, supporting rapid clinical decisions that can help enable better care and improve productivity with:

- Confident patient triage through integrated ECG data flow
- Remote access to current and past patients' resting ECG data, exercise tests, and Holter results
- Efficient clinical and administrative workflow through automatic patient demographics and charge capture, enabling clinicians to focus on patient care

"The MUSE technology has been a key element in our ability to quickly diagnose heart attacks occurring in remote locations. It allows us to acquire an EKG in the field, send that EKG to the emergency department, diagnose that patient, and activate the cath lab team in a matter of minutes. Before it could sometimes take hours to be able to do that."

*Scott Garavet  
Cardiovascular Service Line Administrator  
Aspirus Hospital*



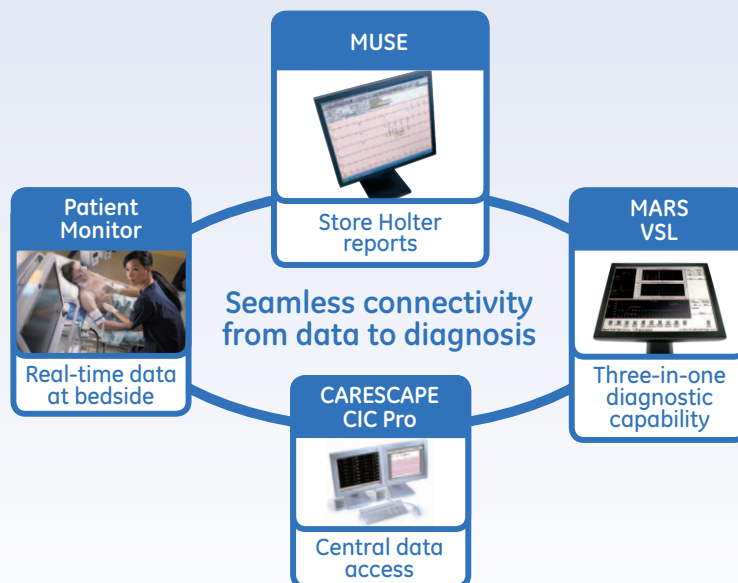


## Data access. Opening the door to measurable outcomes.

By providing your physicians easy access to patient data, MUSE v8 helps streamline workflow and assists clinicians in making faster and informed decisions.

- **Enhancing productivity:** The system enables faster review of clinical data with access to MUSE from remote sites that are connected to a LAN or WAN.
- **Enabling access:** Physicians can connect from anywhere to view, edit, and confirm ECGs, stress test data, and Holter data.
- **Helps to reduce door-to-balloon time:** MUSE v8 works with equipment from select leading defibrillator manufacturers to enable emergency medical personnel to transmit 12-lead ECGs from the field.
- **Expanding diagnostic capabilities:** The seamless connection of MUSE to MARS Ambulatory ECG and CARESCAPE\* Clinical Information Center\* (CIC) Pro facilitates streamlined cardiac Holter monitoring, with the potential of shortening time to diagnosis and treatment.

With the integration of the MARS Holter system and CARESCAPE CIC Pro, any GE-monitored bed can be turned into a cardiac diagnostic center, with advanced clinical monitoring and Holter ECG analysis. The data is automatically transmitted and stored in MUSE v8, providing a more comprehensive view of a patient's cardiac condition, right from the bedside.



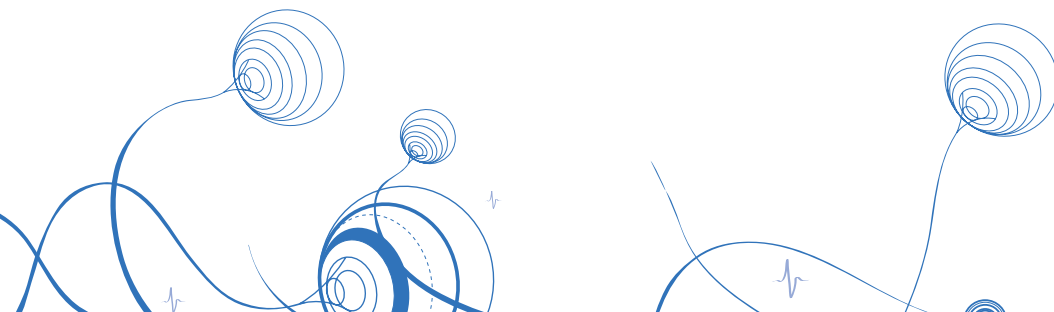


## Making the practice of cardiology faster and smarter: HIS & EMR integration

Today's healthcare environment demands seamless connectivity to your acquisition devices and your HIS and EMR systems. MUSE v8 delivers HIS and EMR integration via industry-standard best practices that GE Healthcare helped to develop. We use standards for open system architecture, including HL7. This level of connectivity enables MUSE v8 to provide a streamlined ECG workflow for clinicians, physicians, and administrators—leading to faster and easier processes at every point of care.

- **Batch billing and automatic data merges/updates:** Connectivity through MUSE v8 to your facility's HIS helps save time, streamline workflow, and increase the accuracy of patient demographic data as well as charge capture.
- **Expanded order download capabilities:** Bi-directional connectivity through MUSE v8 allows clinicians to download ADT information and orders from HIS and ECG acquisition devices.
- **Automatic report transmission:** MAC\* Resting ECGs,† CASE Exercise Testing, and MARS Ambulatory System automatically transmit patient test reports into your facility's HIS/EMR via MUSE.
- **Secure access across the enterprise:** MUSE enables secure access to your patients' ECG data across sites of care within the hospital and with your broader physician network outside your hospital.

\*Not valid for all MAC products. Please check with your local GE sales representative.







## Enhanced workflow. Frees up resources.

The easiest way to increase your facility's revenue is to avoid missed or delayed charges. Batch billing and automatic patient demographics data merges/updates through MUSE v8 to your facility's HIS help ensure prompt billing and accurate charge capture.

- **Help save staff time:** With enhanced accuracy, speed and quality.
- **Reduce paper costs:** Through digital ECG workflow
- **Speed processing time:** Automatic data updates streamline administration processes
- **Increase accuracy of patient records:** Automatic merges and updates reduce manual re-entry of data





## Innovation means never standing still

Leading the way in cardiology care means paving the way to new capabilities. Our ongoing ECG decision support development is led by a team of the industry's leading scientists, enabling us to provide physicians with breakthroughs in arrhythmia detection, chest pain assessment, risk stratification, and disease management. Validation against global, clinically verified databases helps ensure accuracy with multiple patient populations.

This commitment to innovation is realized through the MUSE v8 and MAC 5500 HD workflow.

### Improved pacemaker detection and annotation

Higher sample rates help detect pulses as faint as 0.2 ms in duration in MAC 5500 HD<sup>1</sup>

### 12SL\* ECG reanalysis

Allows you to reanalyze older ECGs with our most recent algorithms

### Configurable critical values available in MAC 5500 HD

Helps clinicians quickly identify the most at-risk patients

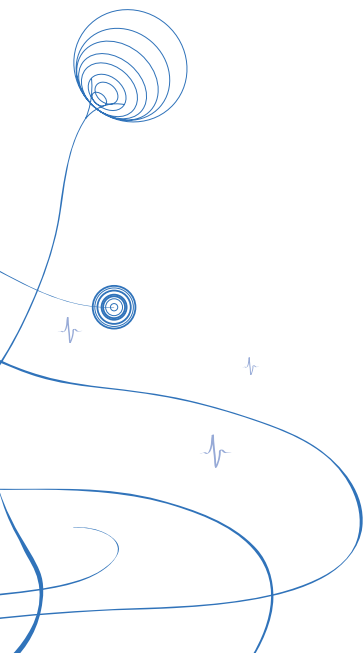
### Serial comparison available in MUSE v8

View and compare current and previous ECGs on one screen

### Marquette\* 12SL ECG analysis program

One of the most validated clinical algorithm programs, with citations in more than 150 scientific journals

<sup>1</sup>Ricke AD, Swiryn S, Bauernfeind RA, Conner JA, Young B, Rowlandson GI. Improved pacemaker pulse detection: clinical evaluation of a new high-bandwidth electrocardiographic system. *J Electrocardiol.* 2010;44(2):265-274. Co-authored in part by GE Healthcare employees.







## The smallest detail makes a huge difference: pacemaker detection

Current pacemakers use a minimal amount of electrical current to do their job—making them difficult to detect in standard ECGs.

Pacemaker detection in the MAC 5500 HD, with annotation in MUSE v8, detects pacemaker pulses more accurately, reducing the risk of treatment contraindicated for paced patients.<sup>1</sup>

- **High sample rates:** The MAC 5500 HD uses a high sample rate (75,000 samples per second) to detect pacemaker pulses as faint as 0.2 ms in duration and 0.5-mV in amplitude.
- **Reliable noise rejection:** Improved technology rules out muscle artifact or static discharge as pacing signals.
- **Visualize pulses more clearly at MUSE v8:** A dedicated pace-annotation channel helps reduce the need to identify pacer pulses within the ECG signal and speeds diagnosis when moments can make a difference. It even detects bi-ventricular pacemakers.





## Shaping the future of cardiac care: research and education

MUSE v8 also supports your faculty's research and teaching efforts with scientific tools that enable detailed 12SL ECG reanalysis, create anonymous teaching data, and more.

**Interval editor:** MUSE v8 gives you the power to complete detailed analyses of individual complexes within a waveform, such as measuring QT interval.

**12SL ECG reanalysis:** Gain the advantage of the latest MUSE v8 to reanalyze ECGs through the most recent 12SL analysis program.

**Teaching support file:** A separate site within the MUSE v8 system allows you to select specific ECGs to store for research and teaching purposes. This avoids the cost of a separate research system and saves the time required to make selected data anonymous—the MUSE v8 can perform this task.





## Our support network is ready to keep yours up and running

Our team stands with your team every step of the way, to help ensure your facility gets the most from your MUSE v8 system's capabilities.

Our dedicated IT project managers, HL7 specialists, database conversion specialists, and field engineers provide project management, system integration, training, and remote or on-site troubleshooting and support.

"Our partnership with GE Healthcare and this whole implementation project has been a very positive experience. One of the reasons is that we've had the right GE employees selected for the project. They've had the expertise. They've carried out their responsibilities and been able to see things from the customer's perspective. It's actually individuals who make this kind of project happen."

*Ms. Iris Kytoniemi  
IT Manager  
HUSLAB, Helsinki, Finland*



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## About GE Healthcare

GE Healthcare provides transformational medical technologies and services that are shaping a new age of patient care. Our broad expertise in medical imaging and information technologies, medical diagnostics, patient monitoring systems, drug discovery, biopharmaceutical manufacturing technologies, performance improvement, and performance solutions services helps our customers to deliver better care to more people around the world at a lower cost. In addition, we partner with healthcare leaders, striving to leverage the global policy change necessary to implement a successful shift to sustainable healthcare systems.

Our “healthymagination” vision for the future invites the world to join us on our journey as we continuously develop innovations focused on reducing costs, increasing access, and improving quality around the world. Headquartered in the United Kingdom, GE Healthcare is a unit of General Electric Company (NYSE: GE). Worldwide, GE Healthcare employees are committed to serving healthcare professionals and their patients in more than 100 countries. For more information about GE Healthcare, visit our website at [www.gehealthcare.com](http://www.gehealthcare.com).

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GE imagination at work