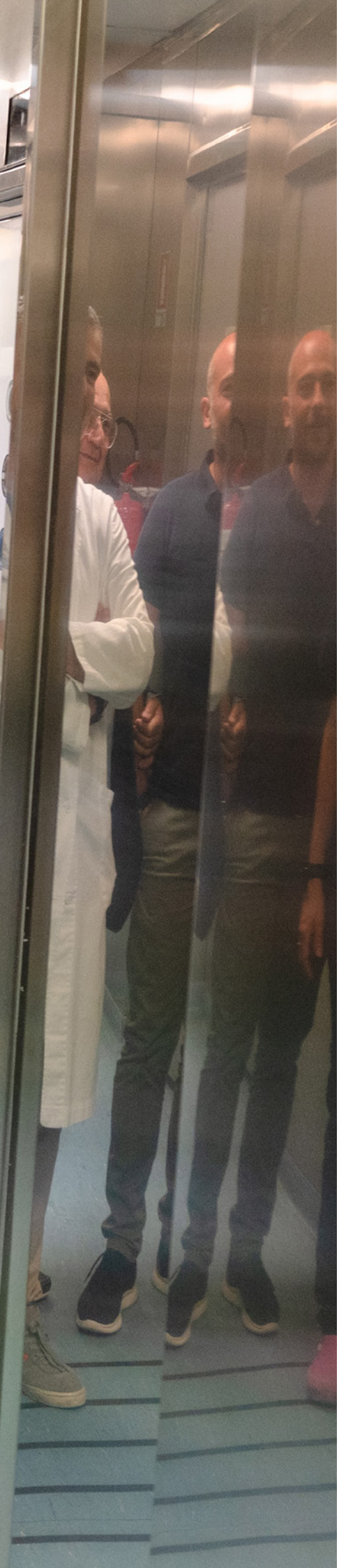




VISIONS spoke with Dr. Valentina Virzì (radiologist), Dr. Salvatore Virzì (cardiologist), Dr. Franco Virzì (surgeon and founder of Regina Pacis) and Dr. Giuseppe Virzì (surgeon)

Meeting the Challenges of Island Life

Providing healthcare services on an island with approximately five million inhabitants, and as many visitors each year can be challenging. The Casa di Cura Regina Pacis (Regina Pacis Clinic), in San Cataldo, Sicily, has become one of the leading Diagnostic and Interventional Radiology centers on the Italian island. Dr. Valentina Virzì, Medical Director of the Radiodiagnostic Service at the facility, explains how CT and ultrasound systems from Canon Medical Systems Europe enable advanced imaging techniques at the emerging center of expertise.

The 45-bed Regina Pacis Clinic is located at the center of Sicily, in the city of San Cataldo. From this location, the Clinic provides health services including both diagnosis and treatment for in- and outpatients covering a broad range of specialties from general surgery, breast surgery, reconstructive plastic surgery, gynecology, urology, orthopedics and rehabilitation.

Equipped with a range of Canon systems, the clinic has an Aplio i800 ultrasound system for its Urology Department, an Aplio i800 system for its Internal Medicine Department, and an Aplio i800 for use in the Breast Department, as well as an Aplio i900 ultrasound system in the Cardiology Department. In addition, the Clinic has an Aquilion ONE / PRISM Edition CT scanner which was installed in late 2022.

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Dr. Valentina Virzì (Radiologist) with the Aplio i800 ultrasound system.

"Our relationship with Canon began in 2008, with the initial purchase of an Aquilion 64-slice CT scanner," said Dr. Virzi.

"We have subsequently been able to improve our diagnostic ultrasound services with the acquisition of three Aplio i800 ultrasound systems, one of them equipped with a smart-fusion system, and an Aplio i900 ultrasound system which is dedicated to cardio-vascular studies, and most recently, added the Aquilion ONE / PRISM Edition CT scanner."

Improved breast care services

In 2021, the Regina Pacis Clinic became the only first-level Diagnostic Spoke Center with direct functional connection to the Breast Units of the Sicilian region, as well as a reference center for Interventional diagnostics in breast care.

One of the Aplio i800 ultrasound systems is dedicated exclusively to breast care diagnostics and Interventional Radiology treatments. Each year, the Clinic performs approximately 250 ultrasound-guided needle biopsies, ultrasound-guided vacuum assisted excisions (US-VAEs), as well as biopsies under tomosynthetic- and mammography guidance with contrast medium.

"We rely on two breast rooms equipped with digital mammography and dedicated ultrasound with the possibility of performing targeted breast biopsies under ultrasound," explained Dr. Virzi. "The use of the Aplio i800 ultrasound technology in our breast care practice has made the learning curve in breast Interventional techniques much easier, thanks to its excellent high frequency (HF) image quality."



Operating room with the Aplio i800 ultrasound system equipped with Smart Fusion kit.



Dr. Valentina Virzì with Canon's Vitrea Advanced Visualization.

Enhanced Urology services

With advanced ultrasound technology, the clinic is able to implement Interventional techniques for diagnosis and treatment of prostate cancer. Last year, it was identified as the only reference center in the Province of Caltanissetta for implementation of the Diagnostic Therapeutic Assistance Pathway for prostate cancer on behalf of the Sicilian Network of Specialist Centers.

"One of the Aplio i800 ultrasound systems is equipped with a Smart Fusion kitand is used mainly in our Urology Department, said Dr. Virzi. "We perform prostate biopsies with the fusion technique. MR images with high anatomical detail are merged with the real-time ultrasound images and, thanks to the biplane probe, samples can be collected and categorized micro histologically in a precise, safe and rapid manner."

Advanced cardiac capabilities

The Regina Pacis Clinic also aims to become a reference center in the diagnosis of heart disease in the area.

The Aplio i900 system is intended for cardio-vascular studies and is used in the Clinic's Cardiac Rehabilitation Department and an External Cardiology Outpatient Clinic.

"Obtaining an echocardiographic framework is essential for us to carefully evaluate the patient's cardiological conditions and structure our rehabilitation programs. The Aplio i900 echocardiograph enables us to study the heart with excellent image clarity and definition, and make fast and reliable diagnoses," remarked Dr. Virzi.

"Lung cancer screening in subjects at risk, and spectral oncological diagnosis certainly wouldn't be successful if we had not decided to acquire the Aquilion ONE / PRISM Edition."

Dr. Valentina Virzi, Medical Director of the Radiodiagnostic Service, (Regina Pacis Clinic) San Cataldo, Sicily, Italy.



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Dr. Salvatore Virzì (Cardiologist) with Canon's Aplio i900 ultrasound system.

"The system's automated analysis and measurement tools, including Ejection Fraction with Global Longitudinal Strain, MPI and 2D/3D Wall Motion Tracking, help to identify the early stages of heart disease and quantify heart function."

"The 4D features expand the ultrasound imaging capabilities and advanced 2D and 4D views allow the cardiologist to easily conduct complex cardiac imaging exams, useful for developing the clinical picture of the patient on which to structure and individualize the best cardiological rehabilitation path," she added.

The most recent acquisition at the Regina Pacis was a new Aquilion ONE / PRISM Edition.

"We chose Canon's CT system after a careful analysis of our needs," said Dr. Virzi. "We wanted to focus our attention on several precise areas: reducing the dose to the patient, obtaining high quality results, improving diagnostic accuracy in the oncological field, and working on a project that allows us to advance as a regional center of excellence in Cardiology."

Versatile technology

The Aquilion ONE / PRISM Edition is used for CT examinations of all areas, such as oncological, neuroradiological, cardiac and vascular staging exams, virtual colonoscopies and entero-CT, and dental CTs.

Delivering our systems in rigorous environments

Teamwork is key to success! In this case, the Cluster Coordinator has had to manage not only the connection with the Clinic, but also the logistics and the human resources related to Canon's equipment installations, such as shipments, service, co-ordination of application specialists. There are not enough service resources actually on the island - the specialists live on mainland Italy, so flexibility and mutual support is crucial. Proper customer management and relationship are very important to ensure smooth operations.



Dr. Valentina Virzì (left) with a Radiology technician (right) on the workstation of the Aquilion ONE / PRISM Edition.



Dr. Valentina Virzì with Canon's Aquilion ONE / PRISM Edition.

"The unique 16cm detector, Advanced intelligent Clear-IQ Engine (AiCE) Deep Learning Reconstruction, and post-processing capabilities of Vitrea Advanced Visualization, have made fast and enhanced visualization of structures possible with an unparalleled image definition, even in very difficult cases, enabling us to promptly reach precise diagnostic judgments," said Dr. Virzi.

"AiCE uses Deep Learning innovation to match the spatial resolution and low-noise properties of advanced model-based iterative reconstructions to produce high-quality images at low doses," she continued. "After accustoming our eyes to AiCE, it was impossible for us to go back; the perception of the sharpness of the images, the presence of minimum noise at such low doses are now our everyday practice."

"Assessing the heart in a single beat and with a single rotation is an absolute plus," she added "and in the pulmonary field, the usage of the SilverBeam filter allows a dose reduction in the study of the lung parenchyma, as the same dose-level of an X-ray exam."



Dr. Salvatore Virzì (Cardiologist) with Canon Medical's Aplio i900 ultrasound system.

Optimized workflow

Working with the Aquilion ONE / PRISM Edition has resulted in many practical improvements for the team at the Clinic.

"We have seen a marked improvement in terms of the quality of the professionalism expressed and in the reduction of daily fatigue,' said Dr. Virzi.

"Outstanding quality and exceptional speed of the diagnostic examinations, as well as the intuitiveness and simplicity of the post-processing with Vitrea Advanced Visualization, allows greater optimization of the workflow, both for our Medical and Technical Staff in daily practice."

New opportunities

The multimodality acquisition from Canon has facilitated several new possibilities for the Clinic.

"The coronary-CT study that can be carried out in borderline clinical conditions, the possibility of proposing lung cancer screening in subjects at risk, and spectral oncological diagnosis are the areas that certainly wouldn't be successful if we had not decided to acquire the Aquilion ONE / PRISM Edition," said Dr. Virzi. //

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