

visions

SPECIAL

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Cover Image:
*One of the Mobile Imaging Solutions
deployed at a hospital.*

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// EDITORIAL

Dear readers,

I am delighted to present the first VISIONS Special for Mobile Imaging Solutions. Canon Medical has provided mobile solutions equipped with medical imaging equipment for a long time. The demand for Mobile Imaging Solutions has peaked enormously over the past two years because of COVID-19. CT imaging capacity grew at a record pace – mobile CT solutions were requested from everywhere in Europe and our existing fleet of Mobile Imaging Solutions was rented out within no time.

To ensure that we continued to live up to expectations and meet the increasing customer demand, we appointed a dedicated team at the headquarter in the Netherlands who are fully committed to getting Mobile Imaging Solutions to customers in times of peak demand. Our turn-around time can be insanely quick without losing the quality and high standards that Canon Medical is known for. It is because of this dedicated team, we were able to expand our fleet from the first container (Rapid Response) and trailer-style solutions to the newly branded Rapid Response 2.0, the Hybrid and the City Hopper solutions. These solutions have all been fitted with CT scanners, but we are also developing different modality installations such as MR to meet customer needs.

The need for Mobile Imaging Solutions is still at an all-time high, even in the post-pandemic era, and I fully understand why. A mobile solution provides immediate relief during planned system downtime, such as the time needed to bridge a new system installation. They can help reduce waiting list times, so people don't have to wait unnecessary long periods to get their scans. They can even provide financial relief during building works when buying a new system is financially not feasible. A rental contract for a mobile solution could be an option for you.

As you can tell, I can go on forever talking about the benefits of our Mobile Imaging Solutions, but you might want to hear first-hand from the people who have worked in and with the solutions to convince you of its strengths. This VISIONS Special gives you the opportunity to read about those experiences and explore if a Mobile Imaging Solution could be the solution for you, your hospital, and most importantly, your patients.

I hope you enjoy this Special edition of VISIONS magazine.

JOHAN VOCHTELOO

*Director Refurbished and Mobile Imaging Solutions
Canon Medical Systems Europe*

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Mobile Imaging Solutions: Clinical Confidence Anywhere

What do you do when a CT scanner needs to be replaced and you have to bridge an installation time and patient exams can no longer wait? Mobile Imaging Solutions are the answer. Canon Medical has a fleet of Mobile Imaging Solutions that can be used to bridge the installation of a new CT system. In addition, mobile solutions also create more scanning capacity during peak periods, such as the COVID-19 pandemic, where lung scans were the order of the day. The current Canon Medical fleet is equipped with CT systems that include the most recent software. The only thing that is required from the customer is sufficient parking space and power supply. Read more about experiences from hospitals in the Netherlands in this article.



Canon Medical's fleet of Mobile Imaging Solutions. From left to right: CT City Hopper, CT Hybrid, and the CT Rapid Response.



The spacious interior of the scan room in the CT Rapid Response 2.0.

Made for performance

The mobile CT solutions, consisting of a Rapid Response 2.0, a Hybrid and a City Hopper, are all equipped with a 160-slice Aqilion Prime SP. The system is integrated in a fully ergonomic work environment and suitable for various post-processing options such as cardiovascular or neurological applications. The mobile solutions are almost immediately ready for use after installation at the hospital or clinic and connection to the electricity network.

Designed for ease of use

The inside of the mobile solutions is spacious and gives users freedom of movement around the CT and the patient. The functional environ-

ment of the mobile solution makes it easy to achieve high throughput for patients. In addition, integrated workstations and mini-PACS enable post-processing, patient management and reporting.

Designed for the best patient care

The mobile solutions are designed to provide the best possible patient care as patients would be used to in an actual hospital building. Both mobile and immobile patients can easily enter via the stairs, ramp or elevator. Spacious examination rooms offer sufficient freedom of movement to move patients from a hospital bed or wheelchair to the CT table without any problems. In addition, the wide gantry

opening of the CT scanner provides a stress-free and extremely comfortable examination, even for claustrophobic patients. Patient comfort and privacy are also considered with the addition of a dressing room including seating and lockers.

Rental options

Canon Medical's mobile solutions provide clinical confidence anytime and anywhere due to robust and intuitive systems. By renting mobile solutions, capital investments are avoided, and a CT system is on site in no time that meets all wishes and needs. Canon Medical offers short- and long-term flexible and (if required) tailor-made rental solutions that meet specific needs. //

Moving quickly at the start of the pandemic – Leiden University Medical Center (LUMC)

After the outbreak of COVID-19, the number of patients that needed CT imaging, was so great for the LUMC hospital that they wanted to use Canon Medical's temporary imaging solutions. In March 2020, a CT City Hopper containing an Aquilion Prime SP was positioned in front of the hospital, which was replaced a month later by a temporary, in-house Aquilion Lightning SP.



A scheduled CT installation without loss of scanning capacity – LangeLand Hospital

The second CT installation at the LangeLand Hospital in Zoetermeer was fully planned. The global pandemic on the other hand was completely unplanned. Thanks to the temporary placement of a CT scanner in a specially created scan room in the ambulance hall of the hospital, scheduled CT scans could continue as usual. In the meantime, the Dutch Canon Medical team worked hard on the installation of the second permanent scanner in the hospital. This second scanner enabled the hospital to create separate patient routes in times of COVID-19. The Mobile Imaging Solutions team was also involved in this project because of their well-known expertise and speedy installations with, in this case, a turn-around time of only 10 days. A world achievement, according to the hospital.

A breath of fresh air during hard times – Radboud University Medical Center

Work pressure is something we all have to deal with, including the Radboud University Medical Center. Due to a shift in its impressive installed base, the patient supply was greater than the scanners could handle. Therefore, a temporary Rapid Response solution with an Aquilion Prime SP was placed in front of the Emergency Department in September 2021; deploy, connect, and scan immediately. An intuitive user interface and scanning protocols ensured that every technician quickly felt familiar with the imaging solution.





A Canon Medical relocatable CT Rapid Response solution has been deployed to Stratford Hospital at South Warwickshire NHS Foundation Trust as part of NHS England's COVID-19 recovery plan.



South Warwickshire NHS Foundation Trust ramps up its CT imaging capacity as part of NHS England's COVID-19 recovery plan

West Midlands location allocated one of fifteen relocatable Canon Medical CT Rapid Response solutions in direct response to expanding patient access to diagnostic imaging.

The impact of COVID-19 on diagnostic imaging at South Warwickshire NHS Foundation Trust has increased demand for chest CT scans, created a backlog of routine patient scans, and increased time for cleaning CT scan rooms between patients. It is estimated that an extra 62 hours of CT scanning time is required per week.

To meet imaging demand, NHS England has allocated Stratford Hospital, a community site at South Warwickshire NHS Foundation Trust, with one of fifteen specially commis-

sioned relocatable CT Rapid Response. The cost has been met by NHS England and NHS Improvement's COVID-19 recovery fund, with installation, staffing and maintenance picked up by the Trust for the 18-month period.

Helen Lancaster, Director of Operations at South Warwickshire NHS Foundation Trust states, "We are thrilled to be allocated this capital resource by NHS England / Improvement. Year-on-year demand for CT scans has grown significantly and is unlikely to decrease given the changes required in cancer pathways



and diagnostic techniques. With the added considerable impact that the COVID-19 pandemic has had on the Trust's capacity to perform many diagnostic procedures, the implementation of the CT scanner at Stratford Hospital is significant in ensuring our patients are seen and treated as soon as possible."

The CT Rapid Response is an easily transportable, temporary scanning facility featuring a CT scanner, control room and patient changing area. Designed and made in the UK by Canon Medical Systems as a direct response to the Coronavirus crisis, the solutions can be easily deployed to hospital sites on the back of a lorry and sited in car parks to provide instant imaging capacity. Each solution features a best-of-breed Canon Medical Aquilion CT scanner and features correct clinical flooring, hospital grade heating, ventilation and air conditioning (HVAC) requirements plus datalink connectivity. The CT scanner also includes 'InnerVision™', a remote diagnostics software solution that can predict, diagnose or fix system issues fast without the need for engineers to visit hospital sites.

"The implementation of the CT scanner at Stratford Hospital is significant in ensuring our patients are seen and treated as soon as possible."

Helen Lancaster, Director of Operations at South Warwickshire NHS Foundation Trust



Read more
online by
scanning here



Mark Hitchman, Managing Director of Canon Medical Systems UK states, "The CT Rapid Response was quickly designed and manufactured by our team and partners at the start of the Coronavirus crisis. It is a quick-to-deploy solution for hospitals needing additional imaging capacity for routine work, or a separate red / infectious zone to keep COVID-19 risk patients separate. It can be positioned without building works or hospital reconfiguration by simply being sited in a car park or land adjacent to a hospital. We are delighted to see the corona-concept now being rolled out to hospital locations such as South Warwickshire NHS Foundation Trust. We will continue to be on-call to deliver maintenance and swift resolutions to problems by our virtual remote service solution." //

South Warwickshire NHS Foundation Trust has ramped up its CT imaging capacity, with a Canon Medical UK relocatable CT Rapid Response as part of NHS England's COVID-19 recovery plan.



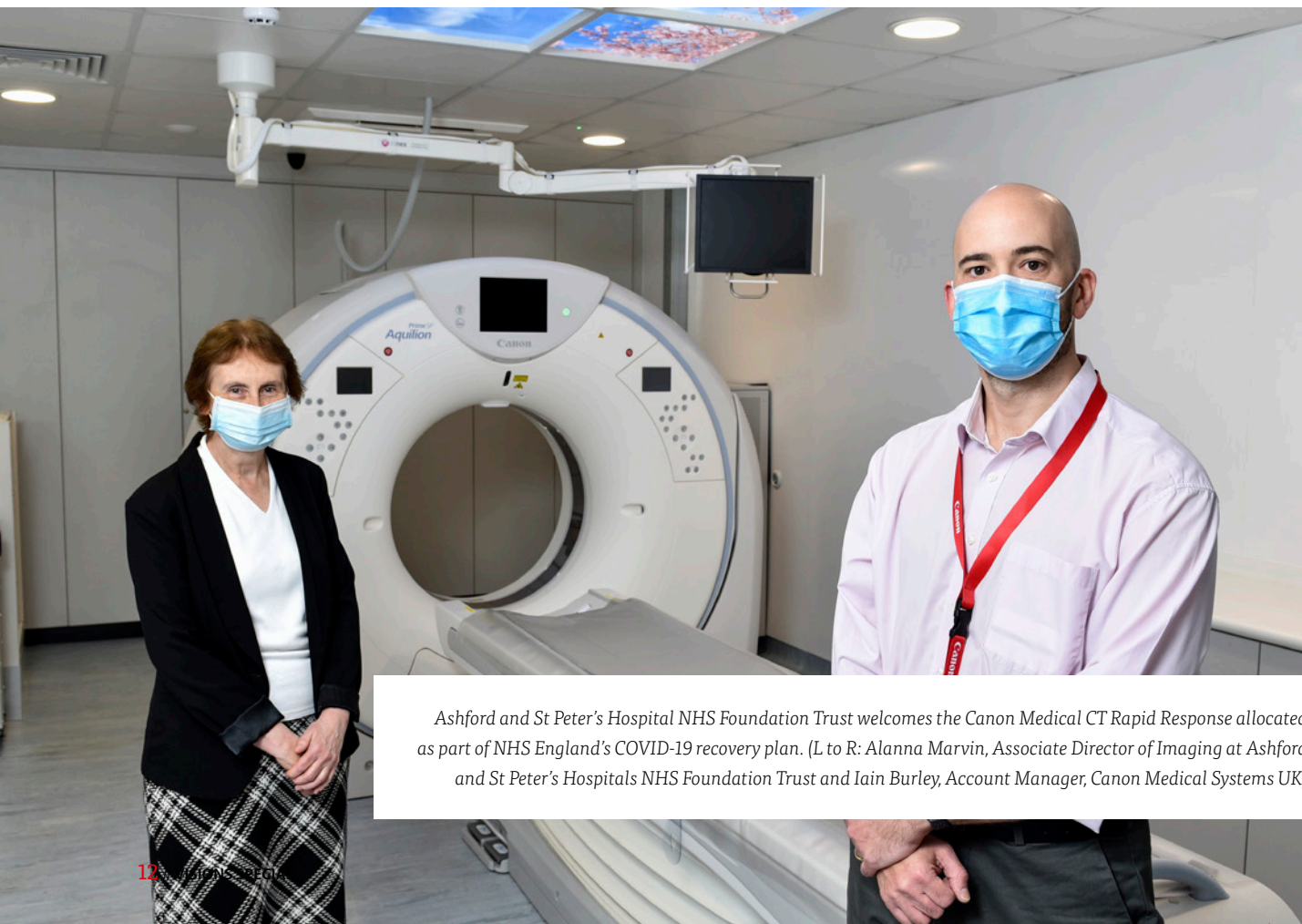
Canon Medical UK CT Rapid Response

Outpatients across UK hospitals given imaging productivity boost to catch-up on COVID-19 backlog and expand future diagnostic scanning capacity.

Back in 2020, the first NHS hospitals received Canon Medical Mobile Imaging Solutions from NHS England under its COVID-19 recovery plan. It helped Trusts catch up on delayed outpatient CT scans from the spring / summer 2020 Coronavirus lockdown period, and boosted imaging capacity that saw a greater number of patients in the future.

Mark Kon, Consultant Thoracic Radiologist & Clinical Director of Radiology at Bradford Royal Infirmary states, "The Relocatable CT Scanner allows us to keep 'Green' patients (without suspected COVID-19) separate from Red (suspected COVID-19 patients), mirroring the cohorting we have on the wards. Although our teams of radiographers were divided into red and green at the start of the COVID-19 pandemic, they shared a common CT control room. Having an entirely separate scan facility means there is much less risk of cross infection."

Alanna Marvin, Associate Director of Imaging at Ashford and St Peter's Hospital NHS Foundation Trust in Surrey states, "We are delighted to accept the relocatable CT Rapid Response on loan from NHS England. It is situated at our non-acute Ashford Hospital site, near to the imaging department. The additional CT will allow us to increase our CT capacity to greatly benefit patients. Our radiographers have transitioned smoothly onto the solution due to the fact we already have two Canon Medical Aquilion CT scanners at the Trust." //



Ashford and St Peter's Hospital NHS Foundation Trust welcomes the Canon Medical CT Rapid Response allocated as part of NHS England's COVID-19 recovery plan. (L to R: Alanna Marvin, Associate Director of Imaging at Ashford and St Peter's Hospitals NHS Foundation Trust and Iain Burley, Account Manager, Canon Medical Systems UK).



The high-quality Canon Medical UK CT Rapid Response are spacious and designed with future proofing the NHS in mind. The solutions come with either an Aquilion Prime SP, Aquilion Lightning or Aquilion ONE GENESIS Edition scanner, to increase CT scanning capacity.



Flexibility on the Move with the Aquilion Prime SP

The Aquilion Prime SP is built with innovative AI-assisted technologies migrated straight from Canon Medical's most premium systems. When installed in a Mobile Imaging Solution, the benefits of this system can be put to great use at any location. Not only does the Aquilion Prime SP provide streamlined workflows from patient setup to diagnosis, but also a spacious bore width to facilitate comfortable scanning and a lateral slide on the table to aid patient positioning. Additionally, Canon's Deep Learning Advanced intelligent Clear-IQ Engine (AiCE) high-quality images can be obtained without compromising on speed or dose. In this article the wide range of robust imaging applications that are featured on the Aquilion Prime SP will be highlighted.

The first ever mobile AI-assisted CT

Advanced intelligent Clear-IQ Engine (AiCE) is an innovative approach to CT reconstruction that uses Deep Learning innovation to match the spatial resolution and low-noise properties of advanced model-based iterative reconstructions.

Trained using vast amounts of high-quality image data, reconstructed with an advanced MBIR algorithm, AiCE distinguishes true signal from noise to deliver exceptional images without compromising on dose. AiCE can be seamlessly integrated into routine exam protocols to reconstruct images at a speed fast enough to keep pace in a busy clinical setting.



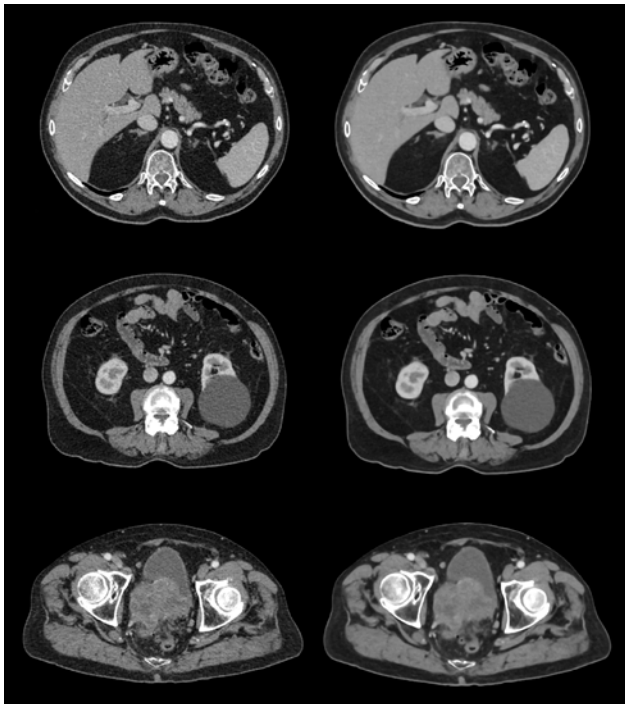
The Aquilion Prime SP power assisted positioning expedites the set-up of patients and reduces the heavy lifting required by the attending care team by the possibility of 8.4 cm lateral table movement.

Worry-free metal imaging

A well-known challenge in CT image reconstruction is the visualization of metal components and their surrounding tissue. Canon Medical's SEMAR (Single Energy Metal Artifact Reduction) utilizes a sophisticated iterative reconstruction technique to reduce metallic artifacts, improving visualization of implants, supporting bone and the adjacent soft tissues for a clearer and more confident diagnosis. SEMAR can be set in the scan protocol so the reconstructions are fully automatic requiring no additional operator input.

Robust Low-Dose Cardiac Imaging

Coronary CT angiography has been proven to have good diagnostic accuracy in the detection of significant coronary stenosis. Due to the non-invasive nature and high diagnostic accuracy of coronary CT angiography,

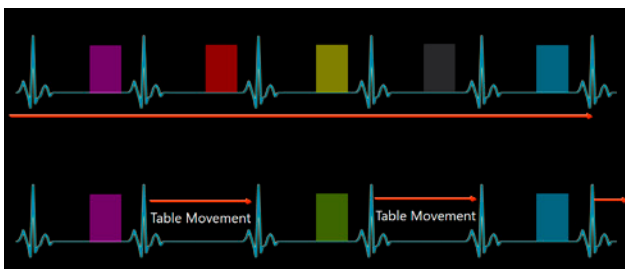


Above: the advanced intelligent Clear-IQ Engine (AiCE) images on the right show improved image quality with less noise in comparison to the iterative reconstruction (AIDR3D) images on the left.

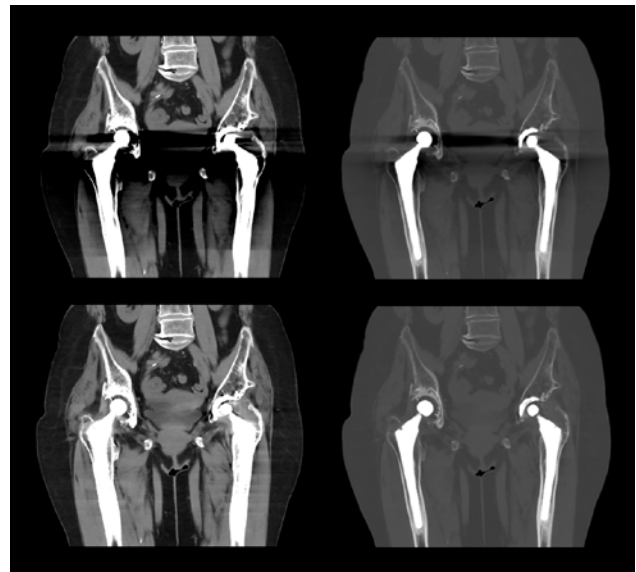
this procedure has become widely available in many hospitals. The dedicated cardiac software on the Aquilion Prime SP, ^{SURE}Cardio, delivers clear, accurate cardiac images and enhances patient throughput and workflow by automatically selecting optimum scan parameters. Combining Canon's unique advantages of helical scanning with ECG narrow phase exposure, ^{SURE}Cardio Prospective offers excellent z-axis uniformity, short scan times, and the low dose advantages delivered by prospective ECG scanning in comparison to the Step & Shoot scanning method. Even when detecting arrhythmia or an irregular heartbeat, the ^{SURE}Cardio software compensates in real time by adapting the exposure window to ensure image reconstruction can provide a diagnostic examination.

Enhance your productivity

In conclusion, the Aquilion Prime SP is a total solution for all clinical demands. A full host of innovative design features ensures outstanding patient accessibility, efficient workflow and low running costs. The Aquilion Prime SP is

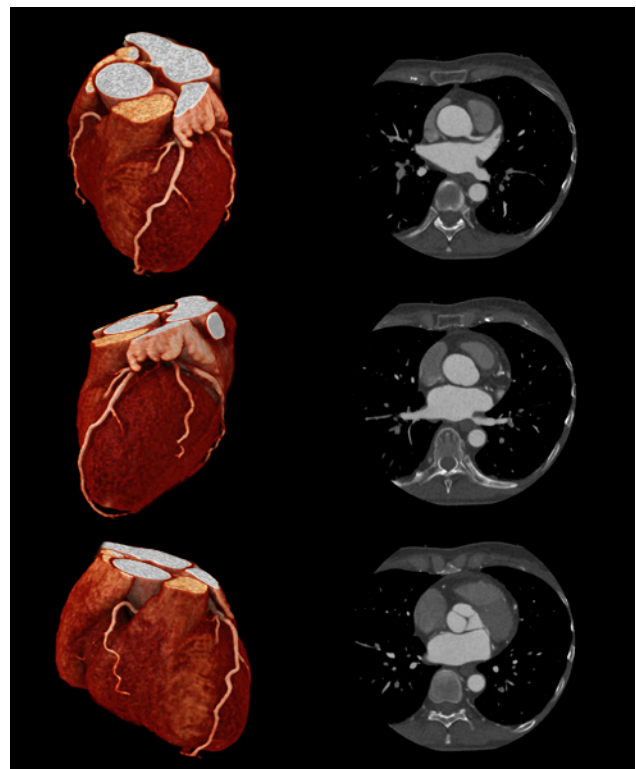


^{SURE}Cardio Prospective allows faster scanning for reduced contrast requirements and superior temporal uniformity in comparison to the longer scan times and temporally misaligned segments of the Step & Shoot method.



Above: images with metal hip implants show reduced metal artifacts in the SEMAR images (bottom row) in comparison to the images without SEMAR reconstruction (top row).

designed the way imaging technology should be—with the ability to scan more patients and offer a better CT experience. Making this the greatest choice in combination with a mobile solution. //



The Aquilion Prime SP has the ability to obtain high-quality cardiac images consistently across patients as seen in this patient with left-dominant coronary circulation.



VISIONS spoke with Rune Wagnild
(Levanger Hospital) and Morten Trøøyen
(Central Norway Regional Health Authority)
about Mobile Imaging Solutions.

How Canon's Mobile Imaging Solution Went from Temporary Relief to Permanent Solution

When the COVID-19 pandemic hit Norway in March 2020, Levanger Hospital feared that a large influx of patients would lead to a severe strain on their already limited resources. The hospital had only one operational CT scanner and while a second unit was in order, the current situation necessitated a temporary solution to ensure proper patient care.

“We contacted several potential suppliers and our criteria were simple: We needed to get hold of a system we knew would work well, and we needed it quickly,” says Rune Wagnild, Head of Department at the Clinic for Diagnostic Imaging at Levanger Hospital.

Among the first responders was Tromp Medical, a Canon Medical Systems dis-

tribution partner based in Drammen, Norway, some 600 kilometers from the hospital in Levanger.

“Tromp gave us a good offer on a lease and was able to deliver a CT Mobile Imaging Solution in a short time. Additionally, we were already somewhat familiar with the Canon user interface, which made things easier,” says Wagnild.



Exceeding expectations

The Head of Department describes the ensuing installation process as being “surprisingly smooth” compared to other installations he has overseen. Just a month and a half after the order was placed, the Canon Medical CT Rapid Response 2.0 – a Mobile Imaging Solution built on the basis of a container – was deployed, set-up and operational at the hospital.

“Given the circumstances, everything about the installation exceeded our expectations. We were in a difficult situation, and Tromp Medical stepped up

and provided us with first-class service. The process of getting the system up and running could not have been any smoother or quicker,” states Wagnild.

One question remained, though: How would Canon’s Aquilion Prime SP CT system perform in practice?

High-quality surprise

“Our main worry was that we would have to assign patients to either our existing high-end scanner or the mid-range mobile scanner, based on the complexity of their condition and the necessity for high-quality imaging,” explains Wagnild.

Those worries were quickly put at ease.

“We were positively surprised by both the logistical aspect, considering the limited space in the container, and the quality of the scanner. The image quality was far better than what we expected from a mid-range option and we never had to worry about assigning patients to one scanner or the other.”

While the need to do so never arose, Wagnild is adamant that the mobile solution would even have been a more than viable option for examining trauma patients.

“Given the circumstances, everything about the installation exceeded our expectations.”

Rune Wagnild, Head of Department at the Clinic for Diagnostic Imaging at Levanger Hospital.





A golden opportunity

In spring 2021, Levanger Hospital's second permanent CT scanner was finally installed and operational, alleviating the need for a temporary mobile imaging solution.

However, in Namsos, approximately 130 km north of Levanger, another hospital within the same Regional Health Authority had long been advocating for a second permanent CT unit as well.

"At the time we only had one CT scanner at Namsos Hospital, which

put us in a vulnerable position. Sufficient CT capacity is a necessity for any hospital and running an emergency hospital with only one scanner, and far from the next available option, carries a certain risk," says Morten Trøøyen, Head of the Clinic for Diagnostic Imaging at the Central Norway Regional Health Authority.

When offered to buy the Aquilion Prime SP CT system, previously leased by Levanger Hospital, as a permanent addition to Namsos Hospital, Trøøyen jumped at the opportunity.

From temporary to permanent

"Ideally, we would have invested in a high-end system but finding the necessary room in the budget would likely have taken a very long time. Now, all of a sudden we had an opportunity to realize our need for a second CT scanner at a favorable price, with a system both radiologists and radiographers at Levanger were very happy with," explains Trøøyen.

Like Wagnild, Trøøyen applauds the service offered by Tromp Medical, providing quick delivery and assisting with disassembly, reassembly, transport, and logistics.

Now, the once temporary solution at a neighboring hospital is providing a permanent service at Namsos Hospital. And, according to Trøøyen, it will continue to do so for a long time.

"This machine is going to be at Namsos Hospital throughout its lifetime. We have no intention of exchanging or upgrading it. Apart from providing extra imaging capacity, it has a symbolic effect as well. As a small hospital, we sometimes feel like we aren't being prioritized, but now, one of our wishes has been granted." //



VISIONS joined the deployment and installation of the CT Hybrid at Sainte Marie Clinic in Cambrai, France.

A First in Cambrai: CT Hybrid Mobile Imaging Solution

In 2021, the French radiology group Imagerie Médicale des Hauts-de-France, also known as IMAO Group, and Sainte Marie Clinic were looking for a temporary solution to bridge a planned system down-time at the clinic. Due to necessary construction work, a new permanent CT scanner cannot be installed in the hospital until May 2023. Luckily, Canon Medical had the perfect temporary solution by deploying the Hybrid Mobile Imaging Solution equipped with an Aquilion Prime SP CT scanner.



Within the framework of the project at the Sainte Marie Clinic, the IMAO Group was looking for a high-performance scanner capable of performing “standard” examinations but also advanced cardiology and interventional examinations. After multiple presentations, site visits and strong involvement from teams on both sides, Canon Medical was able to offer the customer the best solution: an Aquilion Prime SP CT scanner in the CT Hybrid mobile solution. The solution proved to tick all the boxes and matched all expectations of the IMAO Group and the Sainte Marie Clinic on many fronts:

- From an interventional point of view, the touch screen tablet with ergonomically designed controls is highly appreciated and user friendly
- From a cardiology point of view, the prospective helical acquisition and lateral table movement possibility were very important in the decision-making process and the end-users are extremely happy with the outcome

- The 78cm bore as well as the possibility of shifting the couch to be able to position a C-arm was an important aspect for the customer – the Aquilion Prime SP meets expectations on this front
- Most importantly, the image quality is of high standard thanks to the Advanced intelligent Clear-IQ Engine (AiCE) technology – it creates the best reconstruction of images which was an obvious must-have for the customer
- The dose is significantly lower than what the group has on its other sites thanks to the development of Artificial Intelligence (AI) in the Mobile Imaging Solution
- Workflow has improved thanks to the console display that meets the expectations of efficiency and productivity

The CT Hybrid solution was deployed and installed in April 2022 in Cambrai. It has a waiting room as well as a dressing room for the patient to ensure their privacy. Radiographers can



work “as usual” in the control room, equipped with the latest software, and in the spacious scan room.

Canon Medical Systems France was the only supplier to propose this customized solution. The innovative solution allows IMAO Group to continue to welcome its patients in a safe and clinical environment as they would in an actual hospital building. And all that during hospital construction work – Made Possible by Canon Medical. //



About Imagerie Médicale des Hauts-de-France (IMAO Group)

Established in 1980 in the Arrageois region, and since 2019 in the Amiens region, the IMAO Group is currently composed of 20 experienced and specialized radiologists working in 13 practices, 9 clinics and on shared technical platforms for imaging spread over the Somme and the Nord Pas de Calais in France.

IMAO Group offers a complete range of examinations using advanced and innovative technologies: interventional radiology, EOS, 2D and 3D tomosynthesis, Cone beam of the extremities, angiography, 3D mammography, Artificial Intelligence. The group is also involved in clinical research, particularly in the fields of artificial intelligence and breast imaging.



Canon Medical's CT Rapid Response 2.0 solution was part of the on-site Medical Centre at the Red Bull Ring in Austria. VISIONS spoke with Prim. Dr. Robert Skursky about the experience.

A Medical Pit Stop at the MotoGP of Austria

Canon Medical combines mobility, imaging and motorbikes in one place. How is this done? With Mobile Imaging Solutions that care for riders, staff, and visitors. In this case, a CT Rapid Response imaging solution was deployed at the MotoGP of Austria; let's go for a ride!

In 1996, an association was founded to provide rapid and safe medical care and ensure racetrack safety at the former Austrian Circuit, the Österreichring. At the start, typical injuries and their optimal acute treatment at motorsport events were documented and emergency medical care was provided. To this day, Emergency

Medical Service sports Austria (EMS) remains open to members from professional medical or paramedic groups who are also interested in motorsports. They all have one thing in common – they all show a high level of personal commitment, using their skills to ensure safety on the Red Bull Ring racetrack.

Special requirements

Prim. Dr. Robert Skursky, Head of the Institute of Diagnostic Radiology at Murtal State Hospital and Radiologist at EMS, provides an insight into the work of the team, which is made up of 150 active members, about half of whom are medical professionals: "The medical staff caring for injured motorsports enthusiasts are some of the most highly qualified in the business. Optimal pre-clinical injury care can usually only be provided by experienced emergency doctors because of the involvement of high-speed trauma and the associated injuries. The doctors working at EMS are predominantly emergency doctors with extensive experience in treating various injury patterns."

There is an on-site Medical Centre at the Red Bull Ring, which is staffed and supplied with the materials necessary depending on the type of event and how many spectators are expected. The two most well-known major events, Formula 1 and MotoGP, are attended by two surgeons, two anesthetists, and a radiologist, who can treat two seriously injured patients at the same time in an emergency. The Medical Centre also attends smaller events held at the Red Bull Ring. Between 500 and 600 patients are treated each year, from polytrauma to wrist injuries to wasp stings – the challenges are pretty



diverse. Two additional treatment rooms also can be used to treat several patients with minor injuries at the same time. Prim. Dr. Skursky explains how the team's work focuses on the race-track itself, with injured drivers initially receiving first aid track-side, and then being transferred to the on-site trauma room where they are stabilized to the extent necessary to enable transport to the nearest hospital. "In addition to medical care, we also focus our attention on specialized training and further education, because the requirements in motorsports are quite specific."

Skursky explains the process by which separate extrication teams, consisting of a doctor and five paramedics with

specialist equipment, rescue drivers when they are unable to extricate themselves from crashed vehicles. The task of this team is to extricate the driver from the vehicle as gently as possible so as not to cause them any further injuries while they are being rescued. Once the driver has been successfully removed from the vehicle, they are handed over to the medical care team for further treatment. These teams must provide evidence of their training throughout the year and pass a practical exam before the event to prove their skills.

Medical equipment

The Medical Centre's equipment is organized to suit each different event. For large events, additional equipment is provided so that seriously injured people can be cared for and to enable certain diagnostic procedures to be performed. The medical equipment ranges from invasive monitoring devices, and perfusor pumps to defibrillators and ventilators. Prim. Dr. Skursky is delighted to share that there is now an ultrasound machine on site for high imaging quality and that, for the first time at MotoGP 2020, a Canon CT Rapid Response solution was deployed, which brings many benefits to the riders and medical staff alike. He adds that this equipment means that staff can now treat casualties much quicker and can make quick decisions



“We were able to receive the injured much faster and quickly make a decision whether to accompany the helicopter pilot for further examination at the nearest hospital.”



Prim. Dr. Robert Skursky, Head of the Institute of Diagnostic Radiology at Murtal State Hospital and Radiologist at EMS

as to whether the patient can continue riding with their injuries or needs to go straight to the nearest hospital for further medical attention. He explains that initially, the Mobile Imaging Solution was purely an experiment because they didn't know how often they would need it. However, it turned out that the solution was in constant use, diagnosing injuries to the skull, spine, hip, knee, hand, shoulder, and ankle. While conceding that it is true that demand increases with the possibility, Skursky argues that this isn't a bad thing as it enables the team to provide even better diagnoses and accelerate the start of treatment. This is good for health, but also makes economic sense. “Even in our setting,”

the physician explains, “time is money – the faster a treatment decision can be made, the greater the cost-savings associated with the teams' work.” Like in a hospital, a speedy diagnosis must be ensured in racing to rule out more severe injuries.

Plug and scan

Prim. Dr. Skursky explains that he can do all the examinations he would otherwise do in the Trauma Surgery Department of the Murtal Regional Hospital using the CT Rapid Response, especially when identifying injuries in traumatized patients. The mobile solution has many advantages. With its 100% uptime, the 160-slice Aquillion Prime SP CT scanner can easily and

cost-effectively meet the requirements of the Red Bull Ring. All that is needed to use the solution is sufficient floor space and a power connection.

The solution is equipped with a fully ergonomic working environment and multiple post-processing options. The spacious area offers sufficient freedom of movement around both the system and the patient. Integrated workstations and mini PACS mean that hospital quality is maintained for post-processing, patient management, and reporting.

“The PACS connection is an important feature because it saves casualties from undergoing a second round of examinations when they reach the hospital,” emphasizes Prim. Dr. Skursky. In the CT Rapid Response, a comprehensive package of dose reduction functions, such as AIDR 3D and Active Collimation, also ensures that patients are exposed to the lowest possible dose of radiation. Examiners still receive the highest possible image quality, giving them meaningful information for a safe diagnosis. Skursky is so taken by the imaging solution that he would not want to have to do without it for any major race in the future. //





Prime SP
Aquilion

Canon

Prime SP
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Our Fleet of Mobile Imaging Solutions

A complete fleet designed to create extra scan capacity during peak periods and planned system down-time for hospitals and clinics

The ever-changing healthcare environment comes with many challenges, such as the growing demand for flexible imaging solutions. That is exactly where Canon Medical contributes to the industry and offers different Mobile Imaging Solutions to cover hospital, clinical and patient needs. The mobile

solutions are there to bridge new equipment installations, temporary high workloads, and can be deployed to create long-term additional capacity. The entire fleet is equipped with an Aquilion Prime SP CT and state-of-the-art technology such as Advanced intelligent Clear-IQ Engine (AiCE)

and Vitrea Advanced Visualization software. All that is required from a customer to take advantage of a mobile solution, is sufficient on-site parking and power facilities. Canon Medical gives clinical confidence anywhere and at any time.



CT Rapid Response

CT imaging can play a critical role in managing patients under emergency conditions with unusual high workloads or in infection control situations. With the CT Rapid Response, Canon Medical offers a deployable imaging solution that enables uncompromising workflow and imaging performance as well as personal safety.

- Affordable
- Quick deployment
- Emergency service
- Transported quickly and easily
- Placement anywhere

CT Hybrid

Canon Medical's CT Hybrid is designed to support the customer's need for a semi-permanent additional imaging solution. There is no need for high staircases or lifts as the Hybrid is placed close to ground level, making it easily accessible for all staff and patients. With the CT Hybrid being surprisingly spacious and fully equipped, it is a pleasure to work in for operators. Due to the size and technical design of the CT Hybrid, transport is easily managed. There is no need for an escort vehicle when transporting the solution to a different location (depending on local regulations), making it flexible for both mid-term and long-term placements. Positioning the CT Hybrid at your location will be smooth sailing.



- Fully equipped Hybrid solution
- Hassle free transport and placement
- Accessible for all patients and staff
- Surprisingly spacious



CT City Hopper

With expandable sides, a patient staircase and an elevator for easy access, this flexible solution can be placed close to your clinic or hospital. You can even use this solution to commute between different hospital locations as the CT City Hopper only needs about an hour to be set up after arriving at location. The CT City Hopper would be the advised solution for lung cancer screening programs at several locations for example. The design of the solution allows high patient throughput without compromising on patient safety, user workflow, or image quality. Canon Medical's new deep learning technology, Advanced intelligent Clear-IQ Engine (AiCE), allows you to obtain superior quality images without compromising on patient dose or imaging speed.

- Expandable trailer
- Flexible on the road
- Self-supporting clinical unit
- Separate access for patients with a lift for patients
- Spacious changing and control room

Webinar: Lung Cancer Screening with CT Mobile Imaging Solutions

Facing the battle against cancer requires us to work together. To improve the well-being of patients and avoid healthcare system overload, we need to collaborate, not only in the innovation and development of new technologies but also in their implementation and best practices. Canon Medical understands the importance of education and strives to be the “Voice of Oncology” by bringing together subject-matter experts from all over the world to share discoveries and insights from research and clinical practice.

During the recent Online Oncology Days, experts from all over the world came together to share their knowledge and thoughts on developments in the industry. One of the webinars

focused on lung cancer screening with the help of CT Mobile Imaging Solutions. Lung cancer is the leading cause of death among both men and women¹. Approximately 70% of patients have advanced disease, therefore only 15% of patients are still alive five years after diagnosis². The NELSON trial showed that screening with low-dose CT for a high-risk patient group can help diagnose cancer early in these patients³. Result: increased chances of successful and curable treatment. Our speakers present the latest developments in lung cancer screening, advise on how to overcome barriers in clinical implementation and improve access to screening, and share the newest technology in ultra-low-dose CT.

Regarding Mobile Imaging Solutions, highlighted parts of this webinar are the presentations of Prof. Hannah Hazard-Jenkins and Dr. Santiago Viteri. Both talk about how CT Mobile Imaging Solutions can support with lung cancer screening. Scan the QR to watch the full webinar for free.



Watch the webinar
by scanning here



Prof. Hannah Hazard-Jenkins
Associate Professor of Surgery at the
Department of Surgery WVU School of
Medicine and Director of the WVU Cancer
Institute, Morgantown, West Virginia, USA.



Dr. Santiago Viteri
Medical Oncologist and Patient
Partner at UOMi Cancer Center,
Barcelona, Spain

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Dr Mark Kon
Consultant Radiologist

Prime SP
Aquilion

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VISIONS spoke to Dr. Mark Kon, Consultant Radiologist at the Bradford Royal Infirmary, UK, about his experience with Mobile Imaging Solutions.

Meeting Today's Challenges with Mobile Imaging Solutions

Canon Medical's Mobile Imaging Solutions for both MR and CT modalities have enabled Bradford Teaching Hospitals NHS Foundation Trust in the UK to overcome structural limitations and equipment upgrades and manage challenging imaging demands throughout the COVID-19 pandemic. Dr. Mark Kon, Consultant Radiologist at the Trust, explains how it was a valuable solution to some significant challenges.

Bradford Teaching Hospitals NHS (National Health Service) Foundation Trust provides hospital services for the people of the city of Bradford and several other communities in Yorkshire in northern UK. It serves a core population of around 500,000 people and offers specialist services for about 1.1 million. The Trust faces increasing demands for healthcare services from the area's

growing population. Its current facilities include several hospitals, large and small: The Bradford Royal Infirmary, which is focused on inpatient services; St. Luke's Hospital, which delivers outpatient services, and many local community hospitals in Bradford and surrounds. Some of the amenities, for example, St. Luke's Hospital, are located in historical buildings dating from more than 150 years ago.



The Aquilion Prime SP CT scanner.

A perfect solution for challenging scenarios

Canon Medical's Mobile Imaging Solutions have enabled the Trust to successfully negotiate several significant challenges over several years. "We have used Canon Medical's relocatable systems to address three different issues in recent years," says Dr. Kon. "Notably, expansion of our services in a difficult location, maintenance of workflow by providing a temporary cover of service, and most recently, meeting challenges posed by the COVID-19 pandemic."

Conquering physical limitations

Historic buildings usually come with considerable physical and design constraints, which can compound the difficulty in enhancing the capacity of healthcare facilities. In addition, there is a general lack of available and affordable healthcare real estate in the UK and other countries, especially

in urban areas where space is at a premium. With the right technology, Canon Medical's Mobile Imaging Solutions ensure that top-quality imaging can still be provided in facilities with physical limitations.

"Our Radiology Outpatient Department is located at St. Luke's Hospital, a Historic, Grade II listed building. In 2014, the Trust realized that they needed to increase outpatient MR scanning capacity. However, the building regu-



Bradford Royal Infirmary, UK.

Canon Medical UK's Relocatable MRI

Canon Medical's mobile MRI solutions offer considerable advantages to healthcare facilities, radiographers, and patients. As well as being convenient and accessible, they are specially designed to make the scanning process easy, comfortable and fast and provide almost 50% more space than conventional mobile units.

- At 3.5m wide, the solution is easy to transport and has the added advantages of easier patient and clinician access
- Ramp and adjustable trolley for patients with limited mobility
- Spacious changing room
- Smartglass for patient privacy
- Fully air-conditioned environment.
- Dimmable comfort lighting and Relax & View® panels to take patients' minds off the examination
- Entertainment system
- Hot and cold running water with Dyson Airblade Wash+Dry hands-free

lations associated with Grade II listing meant that we were not allowed to alter the structure of the building. In addition, our research showed that it was exorbitantly expensive to strengthen the floors to take the weight of new MR scanners – more than a million pounds!" Dr. Kon explains. "The solution was to install a relocatable scanner in the space between two blocks of the old building. This has been a great success and has provided a reliable and stable environment for routine outpatient scanning for over six years."

"As we approach the end of this scanner's lifespan and need to consider a new system, the mobile solution has

worked so well that we will most likely replace the MR scanner with another mobile Canon Medical system in the same spot," he added.

Maintaining a busy workflow

The second scenario in which the Trust has found Canon Medical's mobile solutions invaluable, is maintaining workflow and avoiding downtime during the replacement or update of its CT scanners at the Bradford Royal Infirmary (BRI).

"We have two CT scanners on-site at the BRI that deliver acute services for 800 inpatient beds and a busy Accident and Emergency Department.

Any downtime in CT causes a backlog to our inpatient work," said Dr. Kon. "We decided to provide alternative CT imaging capacity to maintain workflow during the six weeks required to exchange scanners during upgrades by commissioning a mobile solution with Aquilion Prime SP from Canon Medical. This has proved successful on several occasions over the last few years."

He continues: "We designated a part of the parking space between our radiology wing and the adjacent Accident and Emergency block, installed water and electrical services, and when we require the alternative CT cover, we block off car access and car parking. Canon's engineers deliver the imaging solution early in the morning. It arrives by truck for this model. No cranes are required, as the solution has its own legs which lift it off the truck. The legs lower the whole box onto leveling blocks at ground level. All within an hour!"

Advantages during the COVID-19 pandemic

The Trust's greatest need for additional imaging capacity has been during the COVID-19 pandemic. Mobile imaging has made it possible for the Trust to continue with CT imaging in a COVID safe environment through much of the crisis, reducing its impact on patients, staff, and waiting lists.



Dr. Kon operating the Aquilion Prime SP.



Canon Medical CT Mobile Imaging Solutions

Canon Medical's CT Mobile Imaging Solutions are equipped with high-end CT systems and include a control room and small changing/storage areas. They can be easily transported to locations that need them by road. Designed with the correct clinical flooring, hospital-grade heating, ventilation, and air conditioning (HVAC) requirements, and datalink connectivity, the system can be deployed as a fast response to high dependent patients in the current crisis and operational within hours. All CT scanners inside the mobile solution feature 'InnerVision™' - a remote diagnostics software that can quickly predict, diagnose, or fix system issues without needing engineers to visit sites.

"Routine imaging was halted at the start of the pandemic. And as the first wave progressed in 2020, our hospital became rapidly filled with COVID-19-positive patients, an increasing proportion of whom required CT imaging. We had to keep COVID-suspected patients separate, but with two CT scanners side-by-side in our main department, it became increasingly difficult to achieve this," he remarks. "We approached Canon Medical to see if we could acquire a Mobile Imaging Solution, and they were able to provide us with an Aquilion Prime SP scanner, which was placed outside by mid-April 2020."

As the year progressed, COVID-19 cases decreased, and the Department returned to full working capacity.

"However, during the previous months, we had to suspend all routine imaging, so we had a tremendous backlog of outpatient work to catch up with. This is where the Mobile Imaging Solution came into its own", says Dr. Kon. "We

re-purposed the solution to scanning outpatients and were able to keep outpatients separate from inpatients. We hired extra staff to scan into the evening and weekends. And with this added capacity, we had caught up with our big backlog by October 2020. Well in advance of similar NHS trusts."

"Despite the second wave of COVID-19, we knew we would need to maintain normal outpatient activity, including fast-track scanning for suspected cancer and urgent CT scans, to meet the additional increased demands of winter on our healthcare system. So, we extended our contract for the CT Mobile Imaging Solution with Canon Medical. It allowed us to increase our capacity for scanning inpatients. All with extra-long appointment times to allow for cleaning and to avoid crowding in our limited waiting areas. We have been able to maintain a full radiology service and look forward to being able to meet any further increase in imaging."

Dr. Mark Kon was appointed as Lead Thoracic Consultant Radiologist at Bradford in 2004. He is a core member of the lung cancer multidisciplinary team and is interested in thoracic interventional procedures. As a former clinical tutor, he continues to teach medical students, junior doctors, Radiographer Advanced Practitioners, and Radiology specialist trainees. Dr. Mark Kon is interested in imaging technology, contrast, and radiation dose reduction. He leads Bradford Teaching Hospital's liaison with industry.



“We have found the flexibility of Canon Medical’s solutions an essential resource in maintaining basic services.”

Dr. Mark Kon.

Essential resource

Canon Medical's Mobile Imaging Solutions have enabled the Trust to maintain a safe service and provide extra catch-up capacity during extremely challenging times.

“We have found the flexibility of Canon’s solutions an essential resource in maintaining basic services,” said Dr. Kon. “When faced with infrastructure limitations, it provides a convenient means for

temporary maintenance or workflow when exchanging CT scanners, but most recently for an entire year of the COVID-19 pandemic, and still ongoing, it has enabled us to continue to help patients.” //



CT Rapid Response UK variant.



Berkshire NHS Limits COVID-19 Imaging Backlog due to Relocatable CT Installed in Winter Funding

Temporary scanner helped catch up with seasonal CT backlog and arrived in time to support imaging services during COVID-19

Royal Berkshire NHS Foundation Trust has successfully managed its CT imaging backlog during COVID-19 with the help of a Canon Medical relocatable with Aquilion Prime SP CT. The unit was installed as part of winter 2019/20 contingency funding, but also played a critical role in supporting imaging services during the pandemic.

Positioned on a disused ambulance and disabled parking bay, the relocatable unit's main objective was to help the imaging department to clear a backlog of outpatient scans from the winter period and ensure same day care for emergency patients. This was successfully achieved, and its

arrival just before the Coronavirus crisis ensured the Trust had a scanner separate from the main department for infection control purposes and defend against further backlogs in oncology referrals.

“The pandemic has shown us the need to remain agile in healthcare and to expect the unexpected”

Joe Vincent, Commercial Solutions Manager at Canon Medical Systems UK

“We are a landlocked hospital with no room for further expansion of imaging facilities,” states Stuart Andrew, Lead Radiographer CT at Royal Berkshire NHS Foundation Trust. “Therefore, the option of a relocatable CT in the car park seemed the perfect solution to our needs to increase scanning capacity to clear a backlog of outpatient scans from the winter period, and plan for a future CT upgrade in the main building. It has also helped us defend our imaging services from the unexpected arrival of Coronavirus back in 2020 by providing an additional outpatient scanner that is not directly linked to the main building.”

He continues, “We have been able to maintain our two-week urgent cancer

referral targets during the COVID crisis by having the additional CT scanner and working longer hours and during weekends. This would have been far more difficult without the extra scanner."

The Canon Medical relocatable scan unit is designed to feel like a clinical part of the hospital estate. It is a ground floor level structure with no staircases featuring changing area, control and scanning room. The units include clinical flooring, hospital grade

heating, ventilation and air conditioning, plus data link connectivity to hospital systems.

"The pandemic has shown us the need to remain agile in healthcare and to expect the unexpected," states Joe Vincent, Commercial Solutions Manager at Canon Medical Systems UK. "Patient imaging demands, radiology workforce shortages, winter pressures and lack of space on hospital estates have long squeezed the

capacity of diagnostic imaging in the UK. Now we have the added pressures of infection control and a global virus pandemic. Keeping imaging solutions responsive with the supply of relocatable or mobile CT and MRI units, are one step, alongside flexibility in terms of finance or rental solutions. Keeping responsive is critical as a key supplier to the NHS." //

Pictured L to R: Iain Burley, Account Manager at Canon Medical Systems UK; Sarah Guzvica, CT Clinical Lead Radiographer; Beverly Besana, Radiographer; and Stuart Andrew, Lead Radiographer CT at Royal Berkshire NHS Foundation Trust.



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The CT City Hopper gives Clinical Confidence Anywhere



Dr. Med. Olaf Rieker is Head of Department of Radiology and Nuclear Medicine Marien-Hospital in Euskirchen, Germany. The German hospital is a happy user of the CT City Hopper, a Mobile Imaging Solution that gives clinical confidence anywhere. At the time, Marien-Hospital was preparing for planned system downtime as they were about to have a brand-new CT scanner installed. System downtime can be tricky, especially when you're a 419-bed and 9-ward hospital that cannot afford to create a patient backlog. That is where the Mobile Imaging Solution comes into action.

The installation was scheduled to be completed within six weeks. "For us, it is unacceptable to not provide CT exams for 6 weeks" says Dr. Med. Rieker. The hospital contacted Canon Medical Systems Europe, and within

no time, a CT City Hopper was placed in front of the hospital. The only thing Marien-Hospital had to provide was enough parking space and power facilities. "With the old CT system being replaced, we performed 40 CT scans per day, and we did the same number of scans in the CT City Hopper."

Even immobile patients could continue with their scans as they could enter the City Hopper via the bed lift. Inside, patients were greeted with a modern environment equal to rooms in the actual hospital building. The radiologists that work in the City Hopper have everything they need in the control room, where they can also keep an eye on the patients' well-being during the scan.

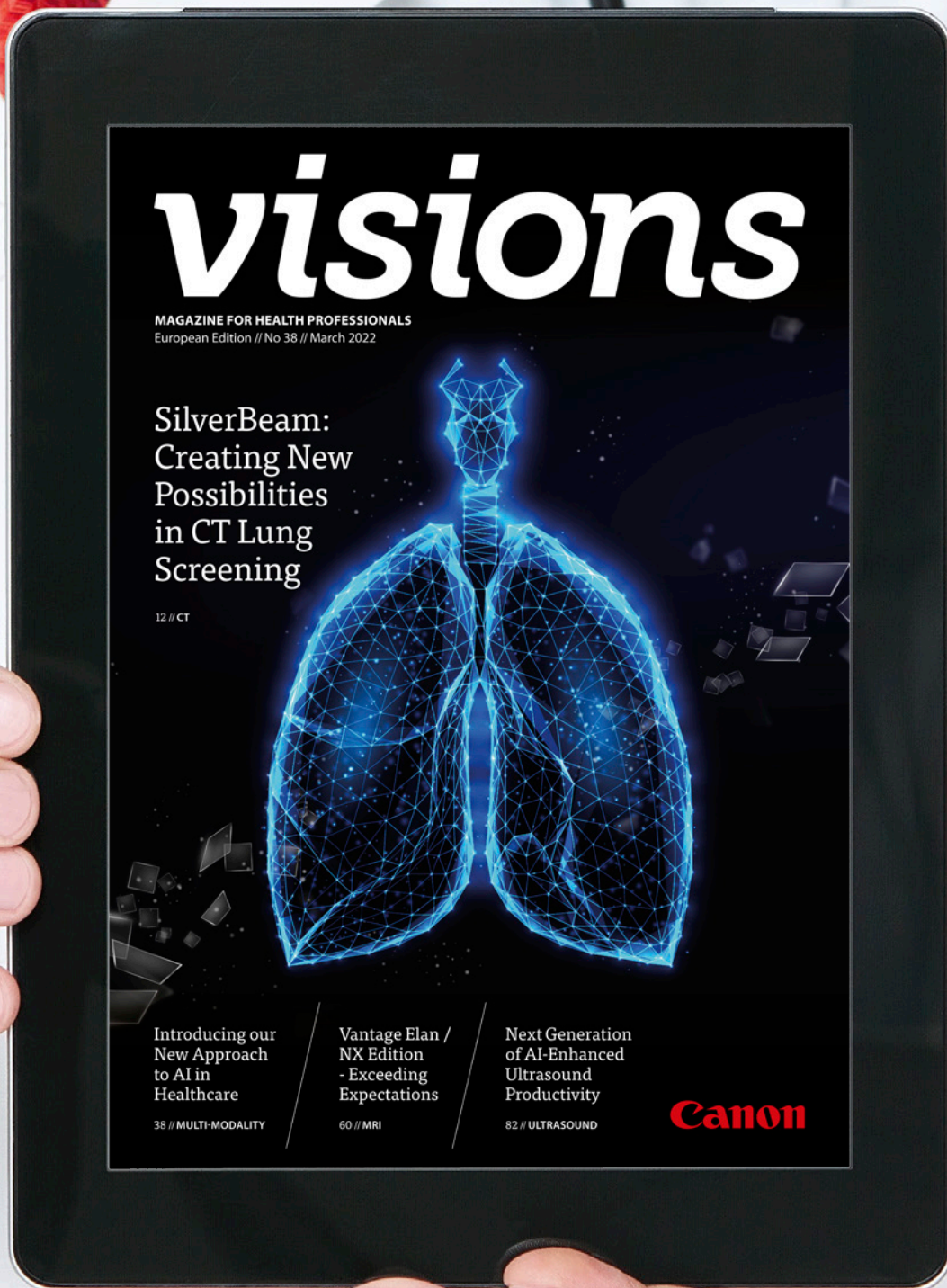
Dr. Med. Rieker concludes: "The idea of working with the CT City Hopper turned out to be a great success story!"



Besides this article, Dr. Med. Rieker was kind enough to let Canon Medical create a video of his experience with the Mobile Imaging Solution.

Scan the QR code
to view the video





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Made For life



Working together to understand your needs and challenges drives valuable outcomes that positively impact you and your patient's future.

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