TRANSFORMING CANCER DIAGNOSTICS

GETTING A CLOSER LOOK AT CANCER

Discover how CarePointer is pioneering the use of Canon PTZ cameras in Swedish hospitals.

Company Name: CarePointer
Industry: Healthcare
Founded: 2019
Relationship since: 2021
Location: Stockholm, Sweden
Services: PTZ (XC protocol)
Website: carepointer.se
Products purchased: 42 x CR-N300
Canon installation partner: Canon

Objectives

- Develop an innovative solution for hospital laboratories that would streamline the documentation process of extracted human specimens from cancer patients.
- Empower highly specialised healthcare professionals to efficiently diagnose an expanded patient population within a condensed timeframe.
- Reduce the manual burden on lab technicians and pathologists using a remote-controlled digitised imaging system.
- Optimise hospital laboratory resources and enhance overall diagnostic process, supported by digital technology.

Challenges

- Existing sample documentation methods involved cumbersome ways of working like manual photography by a separate camera operator, physical scanning and drawing on photos.
- Challenging laboratory environment both in terms of usability of digital systems and variable lighting conditions.
- Lack of standardisation and consistency in image quality.

Approach

Kalle Mörck, Business Development Manager at Canon Nordics, was contacted by Stockholm-based CarePointerin 2021. Kalle was invited to a Swedish hospital laboratory to showcase Canon's expertise in advanced imaging technology and its potential contributions to the documentation of extracted human specimens. The Canon CR-N300 PTZ camera was recommended, thanks to its user-friendly features combined with its image quality and compatibility for remote control. After a demonstration, the Chief Medical Officer was thoroughly impressed. The partnership with CarePointer strengthened further, cementing a shared commitment to work together for the common good.

Scope

Having identified the Canon CR-N300 as the perfect match for CarePointer's newly developed software PathPoint Macro, the solution has been rolled out to 4 major hospitals so far in Sweden – including one ranked top 10 in the world – with ambitions to expand to other Swedish cities and possibly beyond borders.

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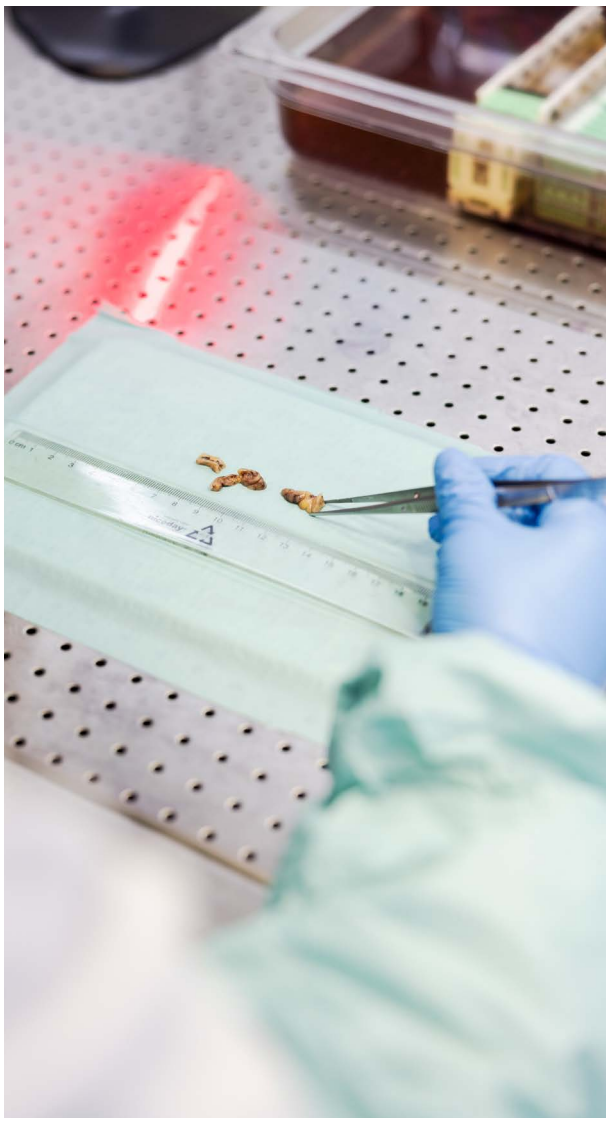

Results

- New standardised and streamlined workflow creates efficiency gains in time and resource utilisation.
- High availability and usability of digital solution has led to improved diagnostic documentation
- Set new standards in terms of image quality and accuracy, as well as improvements in consistency.
- Digitalisation has facilitated remote diagnostics catching up with other medical fields like radiology.
- Successful implementation achieved with expanded roll out expected soon

Up close and personal

Timing is everything in cancer care. The earlier disease is detected, the earlier the diagnosis, therefore the higher chance you have of survival. In healthcare, the primary objective is to improve patient outcomes – and in oncology that's a genuine matter of life and death.

A critical part of cancer care is a timely and accurate diagnosis. The diagnostic process includes visually documenting and studying human specimens to reveal the type of cancer and what stage it is, see how far it has spread, or understand if the cancer has been successfully removed during surgery. Conducted by pathologists in laboratories away from the operating theatre, this data is then shared with a clinician to inform their patient's next course of treatment.

A catalyst for change

In Sweden, healthcare solutions company CarePointer spotted a gap. "We saw a need for the hospitals to make their pathology workflow more efficient, with the help of digital imaging technology. In terms of hardware solutions, there were several requirements, such as image quality, remote control, ease of use and integration possibilities, which is why the Canon CR-N300 PTZ was a really strong fit," says Kristian Skotte, Founder and CTO of CarePointer, based in Stockholm.

"It has high 4K image quality and imagestabilisation. It's easy for anyone to control, and it can adapt to different lighting conditions at each workstation," he adds. "The 20x optical zoom works well over a short distance, which is important for viewing the specimens in high detail." The 4K quality also enables pathologists to zoom in digitally or crop into specific details for closer examination without losing quality. Before, clinicians would work with a trained camera operator to manually take photos on a handheld system camera. Specimens would be moved into place tray by tray, for the photographer to take a photo, print it out, draw annotations by hand, and then scan the printout. Significantly, all this extra time saved means more resources can be spent on diagnosing patients. More time saved ultimately leads to more lives saved – no matter how fine the margins.

Laboratories don't need to be laborious

Mounted above a workstation with the lens pointing downwards, the CR-N300 PTZ camera – combined with PathPoint Macro – simplifies the digital documentation process in the lab. "You don't have to be an expert to take high-quality images," Kristian says. In fact, it's so user-friendly doctors can do it themselves, whenever they want, controlling and saving everything via their computer. CarePointer

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> YOU DON'T HAVE TO BE AN EXPERT TO TAKE HIGH-QUALITY IMAGES

developed its own streamlined software product that remotely controls the PTZ camera, provides highly specialised drawing tools and securely manages patient information. The simple interface enables the user to easily re-centre the lens and zoom and take pictures at the same time as the pathologist performs their examination. This helped reduce errors and keep image quality consistent.

"Since it's so quick and easy, they end up taking more photos of interesting findings from the human specimens than before, which improves overall diagnostic documentation," says Magnus Hök, Founder and CEO of Care Pointer. "Some hospitals have even extended the use of the cameras to autopsy documentation. Approximately, 60% of specimens in the lab are now documented, when before it was about 10%."

The Canon treatment

"The Canon XC Protocol was a positive surprise," adds Kristian. "In the initial stages, this made integration super easy with our bespoke interface. File transfer is handled by the PathPoint Macro application, so the users don't need to worry about that. Together with excellent technical support from Kalle and Canon, the XC Protocol was a key factor for choosing this solution."

The XC Protocol was shared with the software developers at CarePointer in order to create a custom-built user interface suitable for hospital environments, which enabled fine increments in camera movement. This gave more control than ever to the user – a feature highly appreciated by the staff operating the camera, according to Kalle. Canon's PTZ imaging solution in the pathology labs has led to several significant improvements. Not only can doctors take high-quality images on demand, but they can also now use specialised digital documentation tools to annotate photos. The documentation is organised following the pathology workflow and identifiers for annotations are automatically numbered and added to the digital inventory in CarePointer's software.

The challenge is creating stable lighting for every workstation. From setup to setup, lighting is the biggest variable to affect the output. Despite the difficult conditions, the CR-N300 adapts and performs well, according to Magnus.

From video streaming to digital pathology

With modern digital advances in cancer treatment, including digital pathology, more people are living longer with the disease. However, this leads to more pressure on healthcare services around the world. Any process that drives greater efficiency can support better patient outcomes. As far as Kalle is aware of in Europe, this is the first time a Canon PTZ is being used for visual analytics in this unconventional way, instead of the more typical video production usage, which goes to show the versatility of the camera. From TV studios to pathology labs, the mission remains the same regardless of sector. To close the distance between viewer and subject with unrivalled clarity. Undoubtedly, it's a bonus when it serves the greater good of society.

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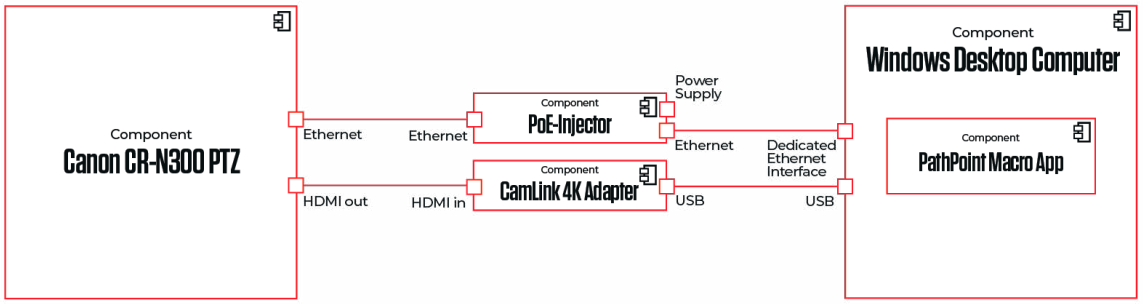
THE CANON SOLUTION

CR-N300 PTZ Cameras

- 1/2.3 Type CMOS Sensor
- 4K UHD Image Quality
- 20x Optical Zoom with Image Stabilisation
- Hybrid Auto Focus
- Multiple in-built protocols such as RTMP and NDI|HX
- HDMI, SDI, IP and USB-C Connectivity

CASE STUDY SCHEMATIC: CAREPOINTER SETUP



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