BioSpectrum
the business of Bio & Health Sciences
ASIA EDITION

"Investments in analytics can dramatically increase efficiency in medical settings"

November 4, 2019 | Opinion

BioSpectrum Asia interacts with Benjamin Low, Vice President Sales, Asia Pacific, Milestone Systems



Prime Minister Lee Hsien Loong recently emphasised during Singapore's National Day Rally, the need for employers to redesign their training and job scope to the abilities and strengths of their senior employees, so as to better leverage upcoming technologies and tap on employees insights and experience. In the face of technological disruption, reskilling and upskilling is needed for all sectors and industries across all ages, to tackle challenges associated to the nations manpower crunch. This is especially relevant for the labour-intensive healthcare sector in Singapore, with the advent of technologies in data analytics and automated compliance. Healthcare professionals in Singapore are already ahead of their counterparts from other countries, leveraging AI technologies for clinical diagnosis.

In view of this observation, BioSpectrum got in touch with Singapore based Benjamin Low, Vice President Sales, Asia Pacific, Milestone Systems, to find out about the benefits of the adoption of analytics and management systems in the healthcare sector

Benjamin Low has more than 20 years of experience in cyber security, IT networking and software. Prior to joining Milestone in 2015, Benjamin was Managing Director for Asia Pacific for Guidance Software, a world leading company in digital

investigative solutions. In this role, he scaled up the organization by driving their business through a combination of channel partners and security vendors resulting in record sales.

Edited Excerpts-

What are the key services provided by Milestone Systems to the healthcare industry?

Milestone Systems specialises in Video Management Software (VMS), an open source platform that will allow products made by different manufacturers, such as cameras, to be linked up to new elements such as AI and data analytics software. These video management solutions work for organisations worldwide in all shapes and sizes.

Within the healthcare industry, these solutions can help reduce the strain on manpower in the entire facility, by linking all cameras to a centralised delivery point and optimizing the efficient deployment of medical staff.

For example, VMS solutions allow healthcare and medical facilities to integrate different types of hardware that include thermal, infrared and high-definition cameras, along with a slew of other types of lenses, as well as powerful data storage servers. Capabilities provided by such enhanced hardware can offer greater detail and clarity, significantly contributing to hospital operations or the medical research processes.

This includes being able to monitor patient body temperatures in a non-intrusive manner, picking up the smallest temperature differences in high resolution, helping provide medical staff with a detailed picture of the patient's body temperature as well as aiding the identification of various disease patterns.

Medical staff are also able to monitor or study patient behaviour and symptoms in greater clarity, which can effectively aid with diagnosis and treatment. For example, during the outbreak of infectious diseases, real time video monitoring can play a vital role in managing the heightened demand on human resources by reducing the frequency of manual patient checks, while also protecting medical staff from contracting the diseases by minimizing contact with infected patients.

With an open source platform, this also allows for the integration of a variety of inter-operable video analytics, or personnel and access control systems that can better manage manpower requirements, such as the coordination and management of work shifts for doctors, nurses and other crucial healthcare workers. Integration with heating, ventilation and air conditioning (HVAC) or lighting systems can also add value to patient care and managing laboratory environments.

For patient care, hospital caregivers can effectively moderate and adjust the airflow or temperature of high dependency patients as well as better manage the rest cycles for patients across the entire facility. This means not having to deploy personnel for mundane tasks such as adjusting the temperature or turning off the lights for each individual ward.

In a laboratory environment, such solutions can intervene should there be a power failure or even if it's just a heat lamp going on the blink – these situations can prove detrimental for laboratory work, such as growth culture experiments. Integrated video technologies can be configured to send an alert, email or text for medical staff or researchers to act immediately.

What are the major projects lined up this year? What are the plans for 2020?

With a focus on collaboration and community, Milestone Systems recently launched its Marketplace program in April 2019 – a common platform tailored to industry requirements, which hosts sellers and buyers that have the potential to change the way business is done. Technology partners will list their Milestone-approved applications, hardware and services on the platform, and buyers can search listings on the website.

Apart from being a platform, Marketplace is a catalyst for innovation. For the healthcare industry, the open platform makes way for greater collaboration, and enables the evolution of the traditional medical practices. Hospitals, pharmaceuticals, medical research facilities and other solution providers can now extend and share information, skills and technologies in varying fields across a wider ecosystem — thus giving patients better treatment and services in the long run.

Milestone System's spirit of innovation and community also extends through its recently launched Community Experience Centre in Melbourne, which acts as a hub for innovation and community-based projects. The interactive space acts as a melting pot for integrators, consultants and end-users to design, plan and build their unique solution all in one place.

We are also always looking for avenues to do good and contribute to the community – recently, Guide Dogs Victoria, one of Australia's best-known and respected organizations delivering services to people with low vision and blindness, chose a solution with Internet Protocol cameras, combined with Milestone Systems' XProtect software. This has allowed Guide Dogs Victoria staff to closely and non-intrusively monitor their dogs. This has proven especially effective when it comes to taking care of whelping guide dogs.

2020 will also feature the Milestone Integration Platform Symposium (MIPS), which will be hosted in Dubai from 22 to 24 April. MIPS is Milestone's annual partner event dedicated to sharing industry insights and trends, aimed at defining and gaining knowledge in building and distributing video solutions that benefits all industries, as a community.

How do you foresee the growth of analytics and management systems in the healthcare system within Asia Pacific (APAC)?

There's been an unprecedented increase in healthcare costs within Southeast Asia. Driven by factors like ageing populations, unhealthy diets and increasing rates of diseases like diabetes, the total healthcare spending by the ASEAN six nations — Indonesia, Malaysia, Philippines, Singapore, Thailand and Vietnam – are expected to rise to US$740 billion by 2025 from the current figure US$425 billion.

With such an exponential demand for healthcare services, this will continue to take a toll not only on the region's economy, but also on the already stretched supply of healthcare workers and professionals in Asia. However, this is a key space where investments in AI and analytics can play a critical role in circumventing the ever-growing strain on resourcing.

Investments in analytics or other integrations, such as access control, can dramatically increase efficiency in medical settings by intelligently monitoring with real-time video and recording activities for review and analysis.

Decision makers in the healthcare sector are increasingly seeing the need for analytics. Deloitte had found that 84 percent of decision makers in healthcare organisations place an importance on data analytics in their organisation's strategy, as compared to 36 percent when the survey was conducted in 2015.

There are endless possibilities when combining analytics or access control with an open platform VMS. The open platform future-proofs video technologies and supports investment opportunities for improving the monitoring tools over time with hardware or other system integrations, to stay in tune with the needs of research and medical facilities as technology advances.

How can increased usage of data and analytics in the healthcare sector can lead to new capabilities for the industry in APAC? What new job opportunities can be brought about by technology adoption?

Video analytics or access control systems can open greater possibilities in ensuring not only the security of a medical/healthcare facility, but also reduce the strain on manpower resources.

To share some practical applications, the use of video analytics can determine if a person or object breaks pre-set actions or boundaries within an area. This will be extremely useful for nursing applications, which demand constant attention from healthcare workers. Such solutions can help notify nurses if a bed-bound patient needs assistance or if a high-risk patient has had a fall – distinguishing the movement from someone lying down on a bed or sitting on the floor – then alerting staff and directing them to the right location.

Accurate information on where staff are being posted versus where the greatest amount of activity or need is, also improves overall manpower resourcing. This can help managers allocate staff to exactly where they're needed, making the best use of manpower resources. The information can even help managers improve emergency procedures.

Furthermore, motion detection can ensure that unauthorised persons do not enter restricted zones and keep track of expensive lab equipment or supplies that may unexpectedly move or be missing.

With the expansion of capabilities, it points to how current roles are set to evolve in the industry, as well as what new roles will potentially look like. It has been found that the percentage of new roles enabled by technological adoption will rise from 16 percent in 2018 to 27 percent in 2022.

Technological adoption is here to augment the human capability and enable people to do more qualitative work, thus further enabling the healthcare industry to maximise its resources and provide quality coverage for patients. Such new roles will include data analysts or healthcare system engineers, especially as the industry becomes more data driven. Additionally, the adoption of new technologies will make room for new trainers and tech specialists to enter healthcare centres — working side-by-side with nurses and doctors to ensure that these new tools are being used to maximum benefit.