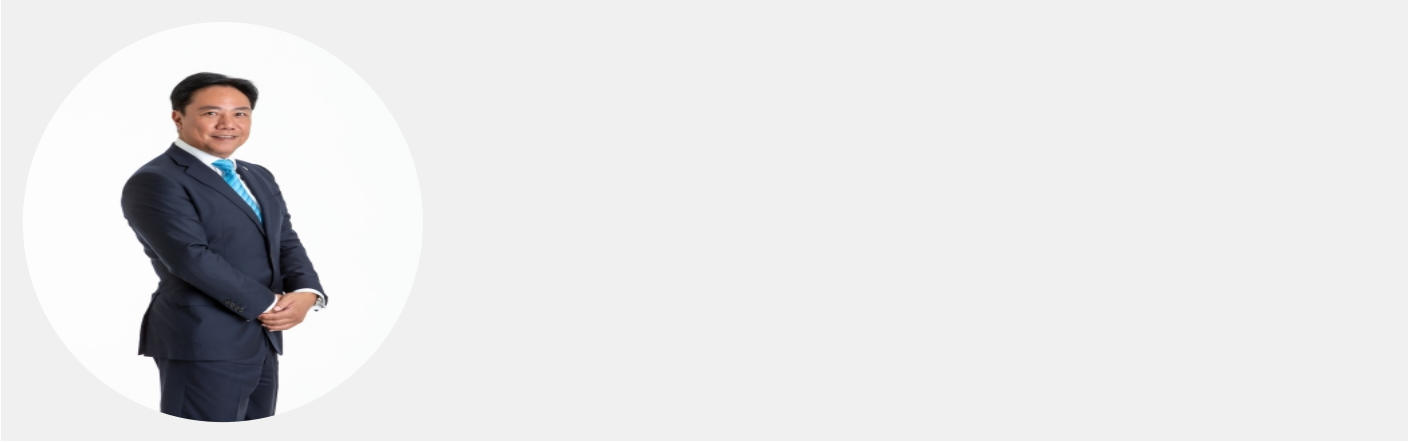
Matthew Man – CEO, Myndar, Hong Kong



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Matthew Man, CEO of Hong Kong cold chain monitoring technology specialist Myndar, expounds on the company's formation, its differentiating factors, and countering resistance to new innovations in the healthcare sector.

How did you identify the niche in the market for your cold chain monitoring technologies?

I founded Myndar back in 2009 when we started with a smart cabinet for clinics and hospitals. This technology tracks drugs in terms of location, monitors their condition and keeps track of expiry dates. In Hong Kong, the Hospital Authority holds 80 percent of the drugs in the territory, unlike in the US or the UK where drugs are accessible on prescription and from pharmacies. Hence, most outpatients must collect their drugs from the hospital, which goes hand-in-hand with long waiting times and significant manual errors. Thus, we aimed to create a smart hospital by automating the service offering, meaning more efficiency and less drug wastage.

Through our progress, we discovered that there were a lot of issues related to cold chain logistics. The coverage of cold storage is very difficult to manage and guaranteeing that products are kept in their crucial conditions throughout the supply chain from the laboratory to the end user can be problematic. Moreover, it was visible that China had a lot of problems with regards to vaccines, and the conditions in which they were being kept. In the US, 80 percent of vaccines are kept in the

correct conditions throughout their journey, however, this falls to a mere 20 percent in China. Furthermore, there were many questions regarding these drugs' reliability and whether any failures in their transportation conditions were accurately reported or even registered.

There was no single platform that registered the temperature conditions from end to end of the supply chain or alerted the customer of a genuine mistake or alert. This lack of monitoring in logistics paved the way for Myndar to shift towards this unmet need in cold chain transportation.

Can you explain in detail your products for cold chain logistics?

We offer low-cost solutions for cold chain logistics throughout the whole supply chain journey. This is to monitor the temperature of the products being transported at every single stage of their journey. Our competitive edge is that our data is a real-time analysis of the temperature conditions, uploaded to our data storage platform, giving our customers the essential information they need.

Taking vaccines as an example, if they are exposed to temperatures outside of the advised range, they do not become unusable straight away. However, many doctors and consultants would throw away a whole batch of vaccines if they knew that one or two individuals had been exposed to temperatures which may affect their validity. To combat this waste and give accurate recordings, we install a device inside the box, batch or even the individual item to monitor the temperature throughout its journey. Moreover, we created a three-stage guide to determine the effectiveness of the product upon its arrival at its final destination, through our real-time data analysis.

Firstly, we have the green-light stage, which means the required temperature of the transportation has been adhered to throughout the journey, so the vaccine is able to be used. Secondly, we have the amber-light stage, which means that the temperature varied at some point of the journey, however, was not prolonged and does not affect the reliability of the product, but only its shelf life. This means doctors are able to use our information to administer the vaccine from this batch first, and not waste the whole box. Finally, we have the red-light stage, which means the temperature fluctuated beyond the required range for a prolonged period of time. This means that the product should not be used at all. Each of the three stages gives a better understanding of the end conditions of the product after its journey, meaning that doctors have more accurate data about what conditions they will be receiving their medication in.

Furthermore, our technology not only focuses on the ambient temperature conditions, which misleads many in the industry but also looks in more detail into the core temperature of the product. Traditionally, a temperature probe would be used to analyze the room temperature and the air circulation. However, this can differentiate between certain areas of the containers. Thus, we have advanced our technologies to simulate the material being transported and we use sensors to measure the core temperature, reading and storing more accurate data. This also eliminates the need for manual recordings.

Our devices can store up to 90 days of data for every five minutes of recordings, even when on airplane mode. Once the product is back in range of our signal boxes, it will automatically update its memory to our cloud platform and inform the customer of any alterations in temperature conditions throughout the journey. Again, this solidifies our commitment to real-time data analysis of temperature conditions.

Finally, patient safety is our top priority, and our technologies have increased the reliability and authentication of the transportation industry. Customers, clients, and doctors can now trust that the product they receive is genuine and has come from the specified laboratory. This is done through the storage of location data within our cloud platform, which is private and cannot be tampered with. Furthermore, we are working on implementing blockchain technologies to achieve the optimum protected system in this regard.

What makes your service and product offering different from that of your competitors?

I am yet to see another company with such innovative products in this field. There are many technology companies from China and the US that have similar products, but these devices do not come with the service offering of real-time data, or a platform to create reports and provide analysis. Myndar offers intelligence.

Although we were a latecomer to the market, we are well established in hospitals, clinics, and among companies, who are already using our technology. The rental income of the devices is the biggest revenue for the company. Our customers simply rent our device, which costs around USD 20 per month, but they receive all of the data analysis, reports, and data storage for free.

Our technologies are a disruptive innovation, created specifically for the healthcare industry but are also universal and can be used in other industries such as food, agriculture, and consumer logistics. We go beyond the traditional thinking, offering total solutions for our customers to make

more accurate decisions.

With disruptive innovation inevitably comes resistance. What were the main challenges you faced when introducing your technology into healthcare, a sector often seen as especially resistant to change?

At the time of Myndar's formation, the reception of new technology was low and change for the better was often neglected. Nobody wanted to take a risk, and leadership was not willing to adapt. Hence, I made the decision to divert my technology, energy, and resources into the high-end retail industry. We became the leaders in jewelry automation and distribution, using big data to capture behavioral patterns and heighten security.

After over six years of patiently observing and analyzing, the healthcare sector was ready to change. Healthcare actors thus approached Myndar and were willing to start using our technology. The change of management within the Hospital Authority helped, and we have now been appointed a consultant to create a smart hospital here in Hong Kong.

Creating a start-up company in Hong Kong is not easy, because we are not seen as a high-technology city but simply a city which uses high-technology. We have fallen far behind Singapore, Taiwan, mainland China, and the US in terms of developing innovation. However, since Carrie Lam became Chief Executive, the innovation landscape has progressed in a positive direction.

How are you still dealing with resistance in the healthcare sector?

It is a shame that even the regulators do not know our technology exists. The logistics landscape in the healthcare sector is fragmented and must become aligned in order to progress. We have proven that our technology in cold chain temperature monitoring is successful, not only in recording temperatures but also in reducing waste and ensuring patient safety. Thus, I want to begin collaborations with the regulators, government and ISO standards agencies to showcase our low-cost solution for the industry and increase compliance and standards in logistics. I want to create a new standard, with Myndar at the forefront of this recognition around the world.

Looking forward, I believe that many key stakeholders are now starting to open up their minds and eyes to the need for authentication in the logistics landscape, ensuring certain conditions are obeyed throughout the journey.

What are your experiences from other industries that helped you introduce your products into the healthcare sector?

At Myndar, we are very specialized in IoT (Internet of Things) technology, which will be an ongoing trend for the next 50 years. We can divide these technologies into three segments: consumer market, industrial markets, and enterprise. We are currently focused on the latter, helping companies to upgrade their service offering and motivating them to solve their problems with smarter solutions. Looking at pharmaceutical companies, we offer them critical logistics which updates a traditional business into a new frame of mind.

I have a strong team behind me and our success stems from our devices and applications of cloud storage and big data. This has helped to expand into different niches and create an ecosystem in which our technologies can thrive. We are now locally number one in the market and through further development and commitment we can be number one for cold chain logistics globally.

Finally, to enhance this ecosystem, we have used the data we collect to highlight critical, reoccurring errors in logistics. For example, we are developing new technologies to combat the issue of delayed flights, leaving products in un-controlled temperature conditions such as waiting on the tarmac for loading and unloading. Identifying a problem like this allows a solution to improve the supply chain and enhance the ecosystem for all the key stakeholders involved.

What are the advantages of having the company headquarters here in Hong Kong?

Hong Kong is an international city, and you have the opportunity to meet foreigners on a daily basis who export our conversations and ideas. Here, we have a friendly business environment for such a mature market, creating an ideal business platform. We follow international standards, so if you can make moves and be successful in Hong Kong then you can easily move on to other markets in the region such as Singapore and mainland China. Furthermore, the government is aligned with innovation and its promotion, with the Hong Kong Science and Technology Park opening up a lot of initiatives to its residents.

In addition, the Greater Bay Area initiative helps to open up mainland China to the opportunities in Hong Kong and vice-versa. We are already well established in China, with an office in Shenzhen and other areas along the Pearl River Delta. Manufacturing is very easy now, with a product prototype becoming available within seven days in China, compared to six months in the US or the

UK.

Nevertheless, it is difficult to maintain the relationship of a collaborator in China, as opposed to a competitor. Across the border, they are renowned for offering similar solutions at lower prices. However, they do not have the R&D specialty minds and talent that we have readily available in Hong Kong.

What is your vision for Myndar in the next five years?

We will dominate the high-end retail industry with our technologies. Specifically, for healthcare, we will continue to develop “intelligence that transforms health”, with a focus on the APAC region as well as Europe and America with China following swiftly behind. I want to provide a platform that transforms the healthcare sphere as we know it, through affordable, intelligent devices that increase patient safety and reduce wastage, and to be recognized on a global scale.

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