Pei-Li Li – CSO and Co-Founder, VtR, Taiwan



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Pei-Li Li, CSO and executive VP of VtR Inc, expands on the company's unique positioning and expertise as one of the few local teams in the greater China area that can provide complete high-end scientific information and precise preventive medical services to a variety of industries including biotechnology, pharmaceutical, medical devices, and electronic semiconductors. Li goes on to comment on the importance of creating a strategic transformation plan necessary to evolve organizations and enter Industry 4.0.

Can you please begin by introducing yourself and VtR to our international readers?

As CSO and Executive VP, I co-founded VtR in 2018 and oversee the company's R&D, technical services, and business development. Prior to VtR, I held the position of VP of the Molecular Science Center of Genetic Generation Advancement Corp (GGA), in charge of the company's scientific informatics business from 2011 to 2017. Before that, I was the VP of Molecule Scientific Co. Ltd. which is specialized in scientific informatics solutions. I have been in the field of bioinformatics and scientific informatics since 2000 holding various positions in Accelrys Inc. (now Dassault Systèmes BIOVIA), one of the leading scientific informatics companies in the world.

VtR, i.e. V+R, Virtual plus Real, is the essence of Industry 4.0 or Pharma 4.0 – also simply called digital transformation. Every business and every industry needs digital transformation to cope with the ever-changing world and the challenges that come with it. Rather than just moving documents

and records to a computer, true digital transformation must consider the following: data-driven, model-based, digital continuity, and information intelligence. Considering the complex regulations surrounding the pharma and medtech industries, only sophisticated IT providers with an in-depth industry and compliance know-how can help these organization reach successful digitalization – this is the unique strength and mission of VtR.

VtR is uniquely positioned as one of the few local teams that can provide high-end scientific information and precise preventive medical services along with laboratory and quality management consulting and AI solutions. Can you please clarify your business model and the capabilities of your solutions offer?

Simply put, our business and success model is to match the informatics needs of Taiwan's industry, seek out the best and most suitable technology in the world, add on our own expert know-how, improvements, and localization. Finally, we help the digital solution make a difference with the customer's operations. These solutions span from modelling-based new drug discovery and screening, new materials design and testing, end-to-end laboratory informatics integration, and fully compliant quality management systems.

VtR is focused on having a continuously flowing data solution for every part of our client's operations. Taking the pharma industry, for example, we started by providing upstream research tools then expanded into laboratory information management systems and later on quality management systems and even manufacturing execution system (MES) used on the shop floor and enterprise resource planning (ERP) system used by the whole organization. All these systems have to be connected and are compliant with industry regulations. Overall, our management and quality system covers the information services from R, D, Q, to M (research, development, quality, manufacturing) to assist in industrial upgrading and industry 4.0, particularly in the face of increasingly stringent regulations.

It is important to note that VtR does not just provide software, but services are a key component of our offering. Software development requires large amounts of time and customers, but Taiwan's pharma industry is not big enough to support this. Therefore, VtR takes the best solutions being used by leading pharma players worldwide and introduce them to Taiwan while helping to ensure they are well adapted to meet the customer's specific needs. In the past, many of our customers have purchased expensive software packages and hired private consultants for this reason, but in the end, were unable to integrate the technology because it was not localized enough for

Taiwanese players. This is the gap that VtR is aiming to fulfil. We go beyond the original foreign industry standards and service quality and provide complete information on localization and compliance solutions.

In addition to your service offering, VtR also leverages next-generation simulation platforms. What are the applications and unique capabilities of this technology?

BIOVIA is a brand of Dassault Systèmes – formerly Accelrys Inc – where I worked from 2000 to 2008. Therefore, I have been growing with BIOVIA for nearly two decades, so we understand their technologies very well. BIOVIA's Materials Studio and Discovery Studio software are a new generation of visual drug and material development simulation tools that provide a complete molecular modelling and simulation environment to help users in life science, materials science and chemistry. These tools enhance and accelerate new drugs or new materials development by predicting the relationship between the atomic and molecular structure of an enzyme, a novel chemical compound, or new composite material and its properties and behaviour – one of the top platforms in the world in fact. These tools are widely used in the pharma industry for early drug discovery or screening. Materials Studio is also used by the petrol and chemicals industry thanks to its capabilities for quantum mechanics, molecular dynamics, mesoscale, statistical, analytical and crystallization tools. BIOVIA also has been developing AI (artificial intelligence) and machine learning algorithms for more than a decade. The combination of advanced molecular simulation sciences with the latest AI technology makes Discovery Studio and Materials Studio even more powerful for any industry that utilizes them for research and discovery.

The new addition in our portfolio this year is the Living Heart Project from Dassault Systèmes. This is the first fully digital dynamic 3D human heart model in the world. Its cutting-edge technology can virtually replace the need for a real heart model during drug and medical device development such as valves, stents, and pacers. With this model, we believe it can greatly improve the effectiveness and safety in the design of heart-related medical devices and eventually help to improve the precision of diagnosis and prescription in clinical healthcare. It has been well received by cardiovascular clinicians and researchers worldwide.

Distributors have to balance the risk of their vendor entering a market which is doing well on their own against being replaced as a partner if sales are not up to par. What are the competitive advantages of your offering which make VtR a partner of choice?

As a distributor, it is important to find an operational balance while bringing your own added value to a product, whether it be through additional service, modifications, or knowledge expertise. Often times these factors can be invaluable to the offering which the originator cannot do themselves.

From the technology side, VtR is able to give feedback and contribute to improving our partners' products thanks to our expertise. We often collaborate closely with our vendors whether it be troubleshooting or brainstorming potential system updates. For example, BIOVIA in the past has outsourced projects to us as a trusted partner.

On the business side, we understand this business better than anyone in Taiwan or in the region. We have a thorough knowledge of pharma and many of our employees have come from having long backgrounds in the industry. It would take years to establish the same connections and trust levels that VtR has within pharma especially.

What is VtR's international positioning outside of Taiwan?

Many of our partners prefer us to take on a larger role in Asia Pacific as they do not have a distribution channel management group to coordinate different partners in each country. In fact, for some of our products we have more customers outside of the Taiwan market. Our main service areas include Hong Kong and Macao, mainland China, Southeast Asia, Japan, South Korea, and other national regions.

As an expert in the area, do you believe that Taiwan can have a role in leading the global digital transformation?

I believe that Taiwan can, in fact, be a leader in the worldwide digital transformation, but I do not agree totally with the current strategic approach. Taiwan already has a very successful ICT industry and life sciences have been at the core of government policy for quite a while. However, many stakeholders are trying to replicate the success of one industry and apply it directly to another, but this will not work. A digital strategy must take into account the strengths, opportunities, and needs of an industry in order to be successful.

Moreover, the fundamentals are more important than chasing the hot topics of digitalization today. Within five to ten years the trends change, and especially when growing an economy having a long-term vision is crucial. It is also important to understand the limitations of a market. Taiwan

should be focused on quality and compliance to position our pharma and medtech industries as a global brand. We cannot compete with the major markets or huge MNC pharma companies, so we must find our niche and stick to it – it will be impossible for Taiwan to try and do everything in the market.

What is the strategic direction in which VtR will continue forward?

Our mission is to continue on the digital transformation path, changing one business and one industry at a time. The pharma industry is the most behind in embracing the digital waves trends. VtR's approach is to take lessons from the digitalization success and challenges of more advanced industries, such as finance, and apply the unique needs of pharma to create a strategic roadmap for our clients. As I mentioned earlier, digital transformation powered by data-driven, model-based, digital continuity, and information intelligence is the key to success. Otherwise, IT investments continue to build up data system silos which are not interactive with one another.

Building the necessary fundamentals is an essential step for evolving into Industry 4.0 and exploring hot trends like big data and artificial intelligence. However, we do work with some clients to implement AI initiatives on a small scale to explore what the benefits can be to their business. We are also partnered with the National Center for High-performance Computing to help build AI systems which will be able to serve the industry.

There may not necessarily be a bestselling "VtR-branded" product in the world, but we thrive to become the important pushing hand behind Taiwan's biopharma and medical device industry to achieve the best in the world that is made in Taiwan. This is our mission. At VtR, we do not make a lot of the Made-in-Taiwan healthcare-related products on the market, but we make a lot of those products better!

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