Collaborating with A⋆STAR – A massive boost to Arcstone's MES solution and business growth

Over a two-year partnership with the ARTC, Arcstone has doubled its customer base and technology offerings.

Founded in 2013, Arcstone Private Limited (Arcstone) builds production simulation software and data-driven manufacturing ecosystems for clients. Arcstone's advanced Manufacturing Execution System (MES) offers manufacturers complete digitisation of the production line, alongside full visibility and control of their factory floor.

The need to improve Arcstone's technology

The backbone of Arcstone's MES are arc.quire™ and arc.link™, solutions which stream data to the MES. Data is then consolidated and presented by the MES on a user-friendly interface that provides operators with a holistic view of the entire manufacturing process.

Willson Deng, CEO and Co-Founder of Arcstone, realised that arc.quire™ and arc.link™ could only integrate with limited hardware and software solutions used by manufacturers. Therefore, the MES was not able to deliver on its full potential for data integration and management.

"Since our strengths do not lie in the hardware space or in connecting with different third-party software, we found it difficult to improve our software's integration capabilities," said Deng.

Moreover, as Arcstone is an emerging technology provider with a small customer base, the MES toolkit was created based on a small pool of clients' needs. The MES only offered limited features and modules that may not meet the growing needs of its new clientele.

Reaping the benefits of a partnership with A*STAR

To address these shortfalls, Arcstone entered into a partnership with A*STAR's Advanced Remanufacturing and Technology Centre (ARTC) in 2016.

ARTC researchers helped Arcstone enhance arc.quire™ and arc.link™ to be easily integrated with a wide variety of hardware equipment and external software solutions. This partnership has improved Arcstone's integration capabilities, further improving Arcstone's core offering: the ability to monitor, maintain and control manufacturing processes by unlocking the value of data.

Through the ARTC, Arcstone has also been introduced to a vast network of hardware and software developers. In that sense, ARTC serves as a conduit between companies looking for alliances to facilitate these partnerships.

"ARTC has provided us with a huge playing field where we can find ways to experiment and integrate our tools with other players' solutions and build future partnerships with them," said Deng.

A*STAR's Model Factory initiative has been a boon for Arcstone. Using the Model Factory @ ARTC, Arcstone could not only develop and test their MES solution, but also validate and showcase it to potential customers in a real-factory environment.

"Our MES toolkit which had 20 components, now offers over 40 components to cater to our growing customer base," said Deng. The result: Arcstone has doubled its sales revenue and customer base.

Currently, the ARTC and Arcstone are jointly working on developing a new product called the arc.net™. Set to be launched by 2019, the new product will expand Arcstone's MES solution across the entire manufacturing supply chain.

"Keeping in mind that a lot of subcomponent production takes place in Southeast Asia, our next step is to make our MES solution available to our manufacturing clients' clients, thereby adding value to the whole supply chain," concluded Deng.

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>
> - Willson Deng, CEO & Co-Founder, Arcstone.

CHALLENGES

* ★ Small customer base
* ★ Limited modules and components offered by the MES
* ★ Limited expertise in hardware integration and connecting with external software

SOLUTIONS

* ★ Worked with ARTC researchers to integrate their MES with IoT communication for better connectivity
* ★ Used A*STAR's Model Factory as a testbed to improve, validate, and demonstrate their MES solution to prospective clients
* ★ The ARTC offered a platform for Arcstone to connect with like-minded technology providers and potential customers

RESULTS

* ★ Modules offered by MES have increased from 20 to over 40
* ★ Arcstone's MES is currently running in Model Factory @ ARTC
* ★ Arcstone's sales revenue and customer base has doubled
* ★ 20% gain in productivity and 90% reduction in equipment downtime for Arcstone's clients

Model Factory

*The Model Factory Initiative is introduced by A*STAR in 2015. It is a live manufacturing production environment, coupled with a virtual environment, where companies can learn, collaborate on and develop Industry 4.0 technologies. It provides a safe environment where companies can learn and test newer Industry 4.0 technologies within a collaborative ecosystem of partners. For more information, visit bit.ly/astar_mf*