

# COLLABORATING TO ALLEVIATE FLOW CYTOMETRY BOTTLENECKS AND FOSTER BUSINESS GROWTH.

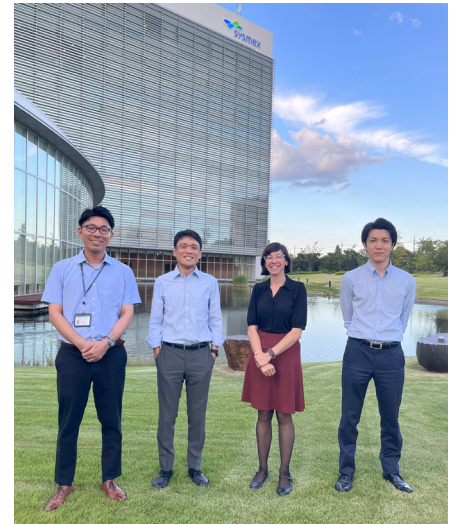
Tecan Journal Article.



**Designing and developing a novel lab instrument is a massive undertaking, requiring extensive resources and personnel over multiple years. Many companies therefore choose to partner with an OEM instrument developer to free up internal resources, accelerate product development and, ultimately, bring a product to market faster. This was the case when Sysmex – a global leader in diagnostics and laboratory solutions – decided to develop an automated sample preparation system for flow cytometry (FCM), looking externally to bolster its internal capabilities and nurture business growth.**

FCM was first employed in a clinical lab setting in the early 1980s, when the technique was used for testing CD4 levels in patients with HIV. Its use has since expanded into many other applications and medical specialties. For example, FCM is now a vital tool for diagnosing and monitoring of patients with hematologic malignancies and primary and secondary immunodeficiencies, as well as supporting the development of cellular therapies.<sup>1</sup> The increasing use of FCM in the clinical setting, together with its widespread adoption in numerous scientific fields – from immunology and cell biology to cancer research and developmental biology<sup>1</sup> – has led to growing demand for innovative technologies to streamline the workflow, with companies such as Sysmex answering the call.

Sysmex has traditionally developed new instruments internally, with comprehensive R&D and manufacturing departments that are capable of managing even the most complex projects. However, when planning the development of the PS-10 – a unique, automated sample preparation system for FCM applications – the company knew it needed a specific skill set. Shogo Takatani, Vice President of Hematology Business Development at Sysmex, explained: “We always strive to optimize our own R&D to develop instruments in-house. However, we recognized that the clinical FCM business was new for us, and we had limited experience in developing automated sample preparation systems that could meet various customer needs in this niche market.



(Left to right) Makoto Imanishi from Sysmex, Hitoshi Koyama and Elsa Cornel from Tecan, and Hiroyuki Koga from Sysmex pictured in front of Sysmex’s facility in Kobe, Japan

This prompted us to look for an OEM partner with experience in liquid handling automation to alleviate the pressure and allow us to reassign internal resources to other projects, ensuring we continued to grow at a good pace.”

“We contacted Tecan because of its expertise and extensive history in liquid handling automation, global presence and strong reputation as an OEM partner. The partnership helped enormously during the initial development of the instrument, up to its unveiling in 2019, and it has continued to be pivotal as we have launched in various markets – first in the US and Europe, and then Asia-Pacific, starting with Japan in 2023 and China in 2024. Of course, we have extensive experience in navigating the regulatory landscape, but Tecan helped us evaluate each submission and compile the relevant documentation, easing the process of each launch.”

“The PS-10 is receiving great feedback from customers, as it has allowed labs

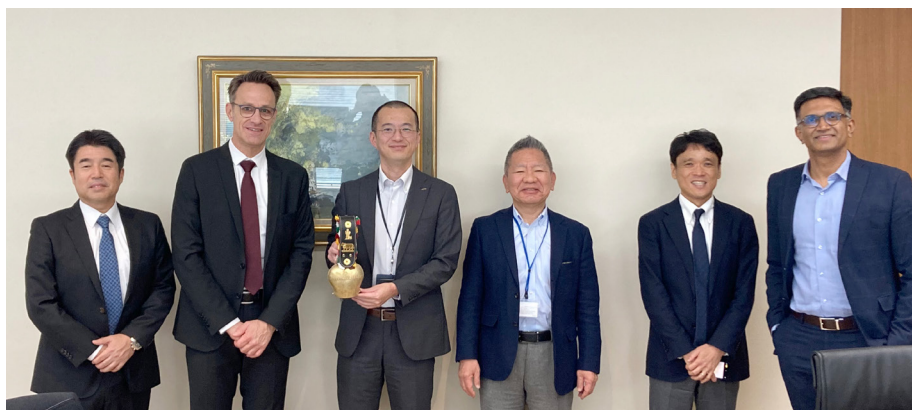


**“The partnership [with Tecan] helped enormously during the initial development of the instrument and its unveiling in 2019, and it has continued to be pivotal as we subsequently launched in various markets globally...”**

To learn more about Sysmex and the PS-10 platform, go to [sysmex-flowcytometry.com/ps-10-sample-preparation-system](https://sysmex-flowcytometry.com/ps-10-sample-preparation-system)

to significantly reduce prep time, so they can focus on analysis. We still try to update the instrument at least once a year though, focusing mostly on software updates to improve useability. We rely heavily on support from Tecan for this as, being the manufacturer and developer of the PS-10, the team knows the instrument better than anyone. Communication has always been easy with Tecan, especially with a local presence here in Japan, which means there is no time difference or language barrier. Again, this ongoing support has allowed us to assign resources to other projects, and we have seen our company continue to grow quite rapidly.”

“We have visions of further growth in clinical FCM market, and ‘automation’ is always a key word that can help us deliver more value to our customers. We might also look at ways to improve the sustainability of the

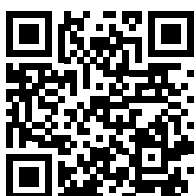


(Left to right) Hiroataka Ito and Ralf Griebel from Tecan, Yoichi Nakamura and Takatani Shogo from Sysmex, Hitoshi Koyama and Madhu Vasudevamurthy from Tecan signed an extension agreement to the collaboration at Sysmex’s facility in Kobe, Japan

instrument. This would be in line with our strong environmental focus as a company, which is reflected by the fact that we have featured in the **Corporate Knights’** top 100 sustainable companies in the world five times. This is a pertinent focus of the industry, and we will likely work with Tecan on further improving this aspect of the PS-10. Furthermore,

as an IVD company that delivers a wide range of solutions to clinical laboratories, we dream of creating an end-to-end, fully automated clinical workflow – in collaboration with Tecan – for testing hematological malignancies, such as lymphomas and leukemias.”

1. Brestoff JR. Full spectrum flow cytometry in the clinical laboratory. *Int J Lab Hematol.* 2023; 45(S2): 44-49. doi:10.1111/ijlh.14098.



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