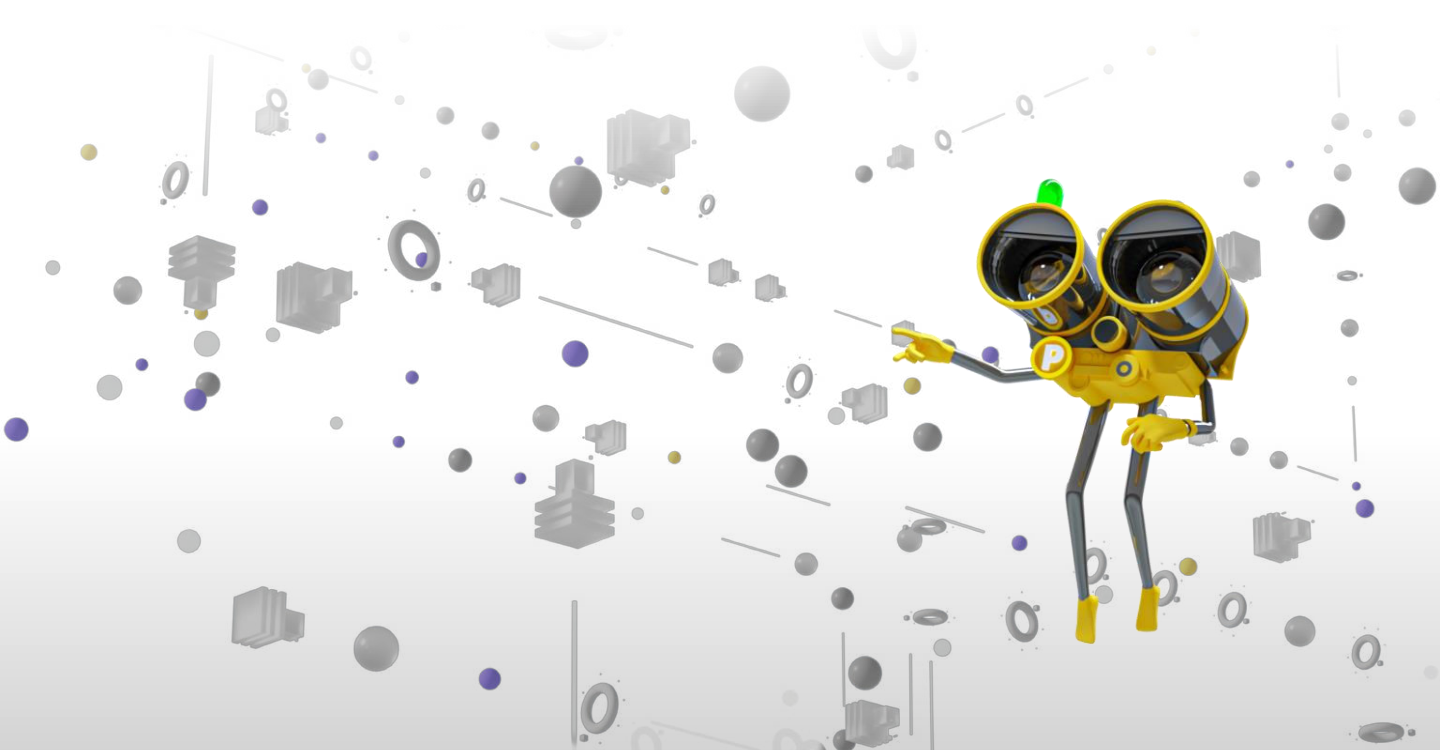# A Large-scale SAP Implementation Project Involving over 300 People

How was it possible to reduce testing and test management man-hours by as much as 40%?

**Tokyo Electron Limited**

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# A Large-scale SAP Implementation Project Involving over 300 People

## How was it possible to reduce testing and test management man-hours by as much as 40%?

### Tokyo Electron Limited

A leading company in innovative semiconductors and flat panel device (FPD) manufacturing equipment, Tokyo Electron (hereinafter, "our company") implemented SAP S/4HANA in 2021 for large-scale data utilization and improved productivity. Our company expects this implementation project to quickly prove a great success. Here, we'll hear about the circumstances leading to the implementation of SAP S/4HANA and Panaya Test Dynamix from Yoshiyuki Kaki, Kenji Toi, Masayuki Yabe and Yusuke Aoki from our company's Information Systems Department, as well as from Panaya's Hideaki Yamaoka.

Yoshiyuki Kaki
IT Unit
Information Systems
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Director

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- Due to being a large-scale IT project with participants from multiple vendors, sharing timely progress reports and information among relevant parties required many man-hours of labor.
- An increase in administrative man-hours for understanding the project status/handling corrections (insufficient management man-hours)
- With the Covid-19 situation, making progress visible (visibility), defect status, linking information across the system and considering implementation methods all took time.
- We lacked a mechanism for managing/operating test scenarios with the SAP system and peripheral systems connected and then sharing test results across systems.

# For a large-scale project with 300 remote participants

## information sharing and man-hour reduction were critical issues

**--I heard that this was a large-scale project, but could you tell me what kind of issues you had with moving from not using SAP to implementing SAP S/4HANA?**

**Kaki: This was a large project involving approximately 30 vendor companies. Since these vendor companies alone encompassed slightly over 100 people, even if we reduced personnel on the work side, the system side still required approximately 200–300 people. We had everyone assembled to work together up through the UT (Unit Test). But after UT, everyone worked remotely due to the Covid-19 situation during the phase of expanding the scale and doing general development. How to keep the project unified was a point of great concern.**

Yoshiyuki Kaki
IT Unit Information Systems Department Director

There was also the risk of things not progressing as expected or going in an entirely unexpected direction. With such a large number of people all working remotely like this, we reached the conclusion that we absolutely had to have a tool that everyone could use smoothly if we wanted to keep going. Even if we had adopted a complicated system, we would have needed time to be able to use it. So, we really needed a tool that anyone could use and manage easily, one that wouldn't cause gaps in communication.

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—**The project status and increasing administrative man-hours were issues, right? So then, what circumstances led to you primarily handling project management in-house rather than using an SI company?**

**Kaki: While the core system we implemented this time focuses on SAP, we also have a system called SMARTS for service CRM, sales CRM, export control management and production. Due to this, there was talk from the start of the project that the central SAP builder vendor side couldn't understand all the systems and found control difficult.**

**Yabe: When something goes wrong in one of the systems, our company ultimately has to determine which system to fix. When we settled on doing this type of multi-vendor project, we concluded that it would be best for our company to take the central and lead role for general systems tests.**

Masayuki Yabe
 IT Unit  Information Systems Department
Group Leader

Yoshiyuki Kaki
 IT Unit Information Systems Department
Director

# Determining factors for implementation:

## Man-hour reduction for testing,
## covering both SAP and peripheral systems, automated record-keeping, and ease of use

### Reasons for selecting products and services

- Panaya Test Dynamix allows test planning and administration for not only SAP but also peripheral systems.
- The appeal of expecting an immediate reduction in test man-hours as soon as we started using it (no need to prepare test scripts in advance, reusing test scripts recorded during testing for the next test, etc.).

—**Could you tell me about the determining factors for selecting products and services this time?**

**Kaki: We understood from the beginning that test management was becoming difficult, so we did initially consider tools from other companies.**

**But we knew that with these, we would only be able to execute SAP and not peripheral systems. Even with a completely automated script, it's necessary to prepare the script in advance. So, there are some costs at the preparation stage.**

**Aoki: On the other hand, Panaya Test Dynamix keeps a record while testing that can also be reused for the next test, so we found it to be more user-friendly. And because when also including peripheral system functions it had test volume exceeding SAP, we considered Panaya Test Dynamix the best choice for general test management.**

Yusuke Aoki
IT Unit Information Systems Department
Senior Specialist

**Kaki:** Most of the applicable systems this time were browser-based and being able to get all the evidence from browser operations was another appealing point.

**Yabe:** For scenario tests, the person responsible for the next system has to get and link to the data registered on other systems. We have to know who created a form, what kind of form it is, and the registration number or slip number, etc. The test won't be successful if information like input data and data values aren't properly passed to the next tester.

**For this crucial point, Panaya Test Dynamix records test evidence in real-time and automatically passes the relevant information to the next tester. And a really great point is that this information is also simultaneously sent via email. We also needed to run an interface program for linking data when executing this job.**

Members on the system side are allocated for that step. When the relevant interface program runs, an email can be automatically sent and executed from Panaya Test Dynamix to the person in charge. We used this kind of approach because this process occurs across systems. I think smoothly linking the people responsible for the work and the people responsible for the information is a completely unique feature.



Masayuki Yabe
IT Unit Information Systems Department
Group Leader

—So, a significant merit is automatically recording evidence and automating information linking. Were there any issues with implementation speed, etc.?

**Kaki:** As it turned out, implementation also went smoothly. Since services were provided via the cloud, no server preparation or installations were needed. And it really felt like we could begin straight away once we started the contract, so there weren't any significant obstacles to implementation.

**Yabe:** Also important was that no operating training was needed. We created a simple manual for our members, but we didn't receive any notable inquiries and it really felt like all 300 employees were able to work smoothly without issues.

# Testing man-hours were reduced by as much as 40%.

## Additional labor savings

### Implementation Results

- Test and Defect Management: an approx. 40% reduction in man-hours (man-hours for progress management, defect management, considering how to handle delays, etc.)
- Test Operators: an approx. 20% reduction in man-hours (man-hours related to information linking, progress management, etc.)
- Being able to quickly find where progress had stalled meant progress could be followed easily.
- The status of previous tests and registration numbers or slip numbers, etc., needed for linking, etc., could be checked easily.
- Reports could be created easily for items we wanted to compile/analyze since Panaya Test Dynamix information can also be downloaded.
- Having a function for batch changing data on Panaya Test Dynamix reduced administrative man-hours.

—I've heard that you achieved remarkable quantitative results with this implementation— reducing man-hours by 40% on the test office side and by 20% on the test operator side.

Aoki: Because all the work that would have been necessary without implementing Panaya Test Dynamix—recording and storing evidence, conveying that information to the next person responsible via e-mail, and having them check the relevant folder to look at the relevant documents–were automatically linked after implementation, I could really feel what a difference it made.

Kenji Toi
IT Unit  Information Systems Department
Director

Toi: I'm certain that if we hadn't been able to reduce man-hours on a large scale like this, the work would have taken more time and we might have missed our deadlines. And with the currently dwindling number of system engineers available, it's not the kind of situation where we can just increase the personnel budget for information system department members and work members to hire more people. So, for areas lacking the necessary manpower, we must use efficiency to reduce man-hours.

—So, you were actually able to avoid the risk of being unable to secure personnel by reducing man-hours this time, right?

Yabe: That's right. Panaya Test Dynamix was a great help with the two test cycles of complete system tests and user tests.
As far as the test figures, there were 175 scenarios in the complete system test. These scenarios had 12,658 steps in total. There were 75 scenarios for the user tests. Those user tests had 4,780 steps.

Of course, because these are test processes for producing failures, we corrected any defective program when a failure occurs. Even if we run the test again in digression, we can copy the scenario immediately and easily test again using Panaya Test Dynamix.

———I can see that this project with everyone, including the end user, truly working together was a case of remarkable success.  Looking at qualitative effect, was being able to easily visualize connectivity, including following progress, also a significant point?

Yabe: Yes, that's right. When large numbers of members use a single tool, incidents also occur such as changing the scenario by mistake, erasing it, or adding to it freely.
As far as overall controls, Panaya Test Dynamix also allowed us to assign permissions on an individual basis. I feel like was a useful feature because we could give advanced permissions to not only the test team but also work administrators, and transfer permissions for operating aspects left to the user.
We can also track everything¬¬—who, when and what did they do—in the system. Even if human error occurs, it's really helpful to know the details of when it took place.

Hideaki Yamaoka, Panaya

Masayuki Yabe
 IT Unit  Information Systems Department
Group Leader

—I've also heard that the reporting feature exceeded your expectations. Would you say that being able to monitor progress within Panaya Test Dynamix, carry out correction analyses and reduce the time required for generating reports were significant merits?

Yabe: I think that these were huge merits as far as administrative man-hours. When we operate such a large-scale project, delays do inevitably occur. And due to this, it's necessary to keep track of which steps were completed each day, etc., in detail.

It was incredibly helpful to be able to manage all the data on Panaya Test Dynamix—from compiling, reporting, understanding the current status, and thinking of corrective measures.

For large-scale projects, we sometimes appoint dedicated managers whose entire job is writing reports, but this time we were able to easily leverage Panaya's built-in reports.

# About Future Uses of Panaya

—Please tell me about your future plans for Panaya Test Dynamix and your expectations for Panaya.

Kaki: With Panaya's accumulated know-how, I hope that we'll be able to do speedy and high-quality SAP version upgrades.

Aoki: As far as SAP and peripheral systems that have gone live, we plan to continue using Panaya Test Dynamix as a platform for test management during future system maintenance work due to J-SOX record-keeping requirements.

Yabe: And with overseas development well underway, we plan to use it as a unified test management platform just as we did in this project utilizing our accumulated know-how.

Toi: After going live, SAP S/4HANA will have periodic version upgrades, etc., and we will need to check and analyze the results of these changes.  With this in mind,  I'd also like us to consider using Panaya's impact analysis services in the future to improve maintenance work efficiency.