

Petrosea

**Petrosea accelerates SAP S/4HANA migration and boosts go-live confidence with scalable, automated performance and functional testing**

<b>66%</b>	reduction in S/4HANA migration timeline – helped deliver complex S/4HANA migration without any single testing delay
<b>10+</b>	test scenarios fully tested and automated using NeoLoad
<b>700+</b>	SAP users globally



## Company overview

Petrosea is a multi-disciplinary mining, infrastructure, and oil and gas services company with a track record of achievement in Indonesia since 1972. The company is recognized as one of Indonesia’s leading organizations and was the first publicly listed Indonesian engineering and construction company in the region. Petrosea provides complete pit-to-port mining solutions, integrated engineering and construction capabilities, as well as logistic support and services. Its mission is to provide a competitive advantage to the oil and gas industry while demonstrating absolute commitment to health, safety and environment, quality management, and business integrity.

For the company’s software delivery teams, that means improving efficiency, productivity, and sustainability by delivering modern, technology-enabled services. SAP is the company’s digital backbone, supporting key business processes across finance, controlling, project systems, supply chain management, plant maintenance, and sales and distribution. When Petrosea embarked on a major SAP modernization project to support the company’s digitalization efforts, IT leaders

knew they'd need to find ways to accelerate project timelines without interrupting the company's most critical business processes.



## Challenges

- ❖ Little to no visibility into SAP application performance
- ❖ Large-scale SAP S/4HANA migration project required on a short timeline
- ❖ Few skilled performance testers, leading to lengthy performance testing timelines
- ❖ Current performance testing tool offered limited support for SAP applications and required specialized coding skills

## Starting out on the S/4HANA migration journey

In July 2022, Sudarto Unsurlany, Head of Digitalization at Petrosea, was tasked with planning the all-important migration of Petrosea's SAP systems from ECC to S/4HANA. The migration deadline was originally scheduled for 2025, but key stakeholders in Petrosea's ownership requested an accelerated migration project timeline, which would enable the organization to take advantage of business-critical S/4HANA features more quickly. Unsurlany and his team faced a much shorter migration timeline than they had previously anticipated – which meant they'd need to find ways to test faster, as well as ensure ongoing functionality and performance for a growing set of SAP applications and users.

At the time, the organization was using a variety of scripted tools for functional testing and JMeter for performance testing. In addition to requiring specialized coding skills, these tools did not support SAP protocols, so the team began investigating options for modernizing the testing toolstack to improve scalability and better support the company's digitalization goals.

Unsurlany and team decided to invest in Tricentis Tosca for SAP test automation and Tricentis NeoLoad for SAP performance testing, choosing these two tools specifically for their user-friendliness and their ability to test SAP applications at scale.

They implemented NeoLoad to test performance of three critical SAP processes in particular: plant maintenance (PM), project system (PS), and sales and distribution (SD). They use Tosca in S/4HANA to automate previously manual scripts and assist in scaling those scripts for deeper test coverage. They simultaneously use NeoLoad to test SAP's transaction codes (T-Codes) and custom T-Codes that allow users to navigate through different SAP modules and perform tasks such as creating sales orders, generating reports, or managing inventory.

For example, one of Unsurlany's team members uses NeoLoad for crucial purchase acquisition and purchase orders for transaction receipts. His team will scope how many users will perform these tasks concurrently on SAP's system, i.e., 70 users – then, his team creates 60-70 accounts to simulate the load of those requests. This whole process is “much faster than the previous manual process,” Unsurlany says, saving his team significant time during their regular load testing and allowing them to focus on more strategic efforts, especially when preparing for a large system update or release.

## Results

- ❖ Shortened S/4HANA migration timeline from 3 years to 1 year, a 66% reduction
- ❖ Enabled the team to stick to the S/4HANA migration timeline without a single testing delay
- ❖ Significantly increased the testing process with less effort
- ❖ Shortened testing timelines substantially by replacing manual processes and scripted tools with low-code/no-code automation
- ❖ Drastically improved release confidence for the company's most business-critical applications
- ❖ Faster, more accurate issue identification and resolution has improved overall SAP application quality and performance

## Going live with S/4HANA one year later thanks to robust performance testing

Thanks in part to the ability to increase testing speed and scope, Petrosea went live with its S/4HANA instance in July 2023. Unsurlany says Tosca and NeoLoad's low-code/no-code test design, along with NeoLoad's dynamic infrastructure, played a major role in the team's successful and rapid rollout of the new S/4HANA instance.

"NeoLoad was instrumental in evaluating performance throughout and following the migration to S/4HANA," says Unsurlany.

His team uses NeoLoad in several ways. To boost efficiency, they use NeoLoad's dynamic infrastructure to streamline SAP performance testing for optimal S/4HANA performance. To help scale overall S/4HANA test management, they can test from various locations with hundreds of virtual users for accurate, granular results, where

previously this load testing effort was nearly entirely manual and struggled to simulate load on even half that scale.

With NeoLoad's simple, modern approach to test design and automatic script maintenance, Unsurlany's team can not only simulate much larger load on their SAP system, but also simulate authentic user load to more accurately pinpoint performance issues. Finally, with NeoLoad's real-time monitoring and analysis capabilities, they can utilize their performance data for rapid issue identification.

"Petrosea relies on NeoLoad for robust performance testing across a range of critical tasks and transaction codes (T-Codes) within our SAP environment," reports Unsurlany.

These tasks include downloading data reports in their FBL3N files, which is the most important report in General Ledger (GL) process within SAP, used to list line items for multiple accounts across multiple company codes, and can prove challenging to download or report on manually while maintaining accuracy. They also rely on NeoLoad to create work orders, test their Purchase Requisition (PR) to Purchase Order (PO) to General Ledger (GL) workflow, and download assets from transaction codes (T-Codes).

Following the success of the S/4HANA migration, Unsurlany plans to extend NeoLoad and Tosca to other segments of the business, including web apps and other enterprise apps.

"We depend on NeoLoad more than ever before we go live with these updates, and it helps us get clarity into how much the system can stretch, for multiple different scenarios, which boosts our confidence tenfold," says Unsurlany. "It's absolutely given us confidence in our capacity to go live with S/4HANA in this migration process."