

ELECTRONICS AND SEMICONDUCTORS

ESCATEC

Global electronics contract manufacturer reduces re-spin time by at least 96 percent

Product

Valor

Business challenges

Keep costs down in the highly competitive EMS market

Increase in low-volume NPI projects

Improve turnaround time using the design-prototype-redesign methodology

Keys to success

Use Valor Parts Library to enable validation of the assembly process before production

Leverage Siemens' training and support package and an excellent working relationship

Enable Swiss and Malaysian facilities to share expertise, knowledge and experience

Results

Cut re-spin time from six to eight weeks to less than a day, at least a 96 percent reduction

Facilitated faster time-to-market due to reduced NPI timeline

Reduced costs for ESCATEC and its customers

Improved quality and enhanced customer satisfaction

ESCATEC uses Valor to create comprehensive digital twin and speed time-to-market due to reduced NPI timelines

Embracing the value of the digital twin

ESCATEC is a multinational electronics manufacturing services (EMS) provider, offering design, development and manufacturing solutions to its worldwide customer base across a wide range of market segments. Headquartered in Penang, Malaysia, ESCATEC operates additional research and development (R&D) and manufacturing centers in Johor Bahru, Malaysia, Heerbrugg, Switzerland, the United Kingdom and the Czech Republic.

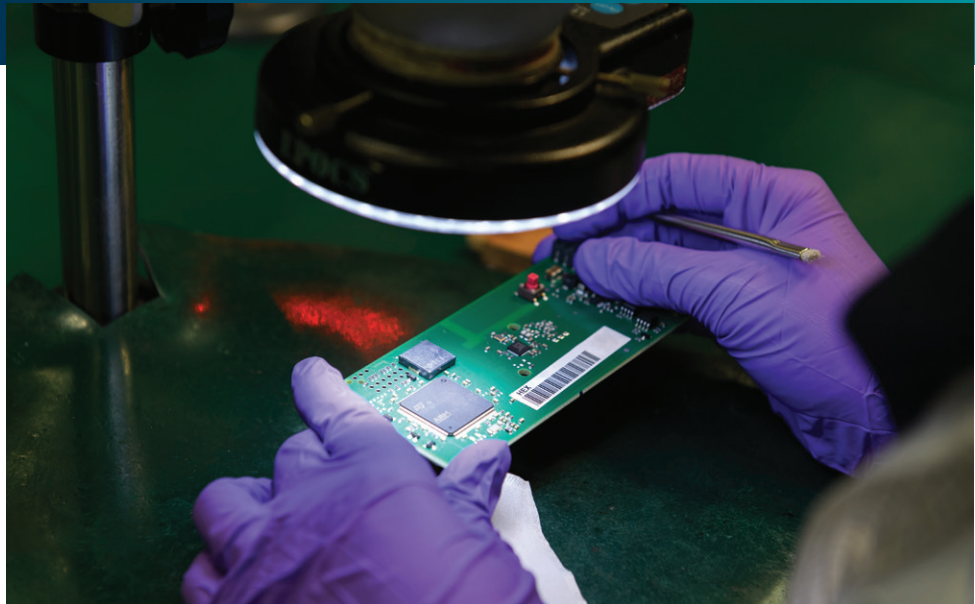
In line with the industry trend toward high-mix, low-volume production, ESCATEC faces the challenge of supporting more frequent new product introductions (NPIs).

"Before introducing Valor software," explains Juha Arola, the chief operating officer (COO) of ESCATEC, "we used the standard industry trial-and-error methodology, in which the customer supplies the design while we make a prototype and conduct a trial production run. The customer is then informed of any problems with the design, components or manufacturing process. In many cases, a redesign is required – thereby extending our turnaround time, increasing project costs and disrupting customer plans."



“Valor Process Preparation enables ESCATEC to quickly detect potential design and manufacturing problems at a very early stage. This capability has significantly shortened NPI turnaround times, bringing real benefits to ESCATEC and its customers in terms of time, cost and quality.”

Patrick Macdonald
Chief Executive Officer
ESCATEC



// With Valor, we’ve put an end to the standard industry practice of trial-error-redesign.”

Juha Arola
Chief Operating Officer
ESCATEC

“Before it could take six to eight weeks to do a re-spin; adjusting the design, re-ordering components and testing the manufacturing process if the original design did not perform as planned. By comparison, using Valor enables us to identify and remediate potential problems in less than a day.”

Juha Arola
Chief Operating Officer
ESCATEC

When evaluating Valor™ software, which is a part of the Xcelerator™ portfolio, the comprehensive and integrated portfolio of software and services from Siemens Digital Industries Software, ESCATEC realized the value of the comprehensive digital twin, a simulation of the product and process as designed before production begins. The simulation enables the discovery of design flaws at an earlier stage, making corrections quicker and less expensive. With this savings in mind, ESCATEC decided to deploy Valor Process Preparation software, Siemens’ design-for-manufacturing software, at their Swiss facility.

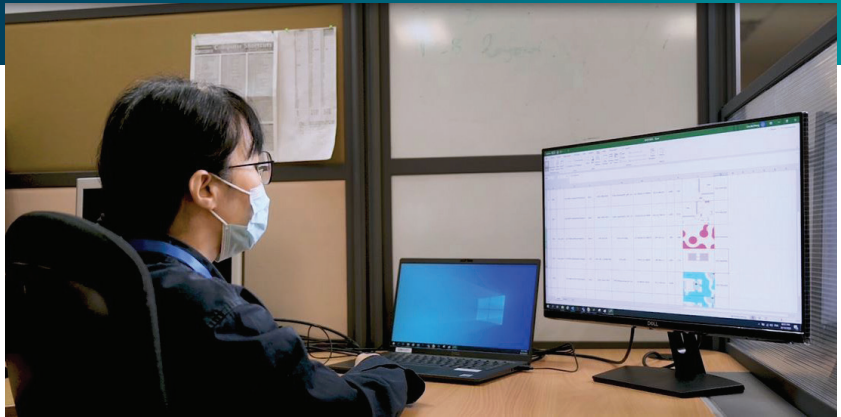
The Valor solution

Valor Process Preparation was integrated by ESCATEC’s Swiss engineering department into their process flow, and reported reduced turnaround times, cost savings

and higher levels of customer satisfaction. In view of these benefits, the company’s management made the decision to roll out Valor Process Preparation in its Penang, Malaysia facility in 2020.

ESCATEC uses Valor Process Preparation in planning its surface mount technology (SMT) and through-hole technology (THT) assembly processes. After receiving the initial design from a customer, ESCATEC uses the Valor software for a variety of functions, including analyzing the design and evaluating its suitability and effectiveness in achieving customer goals, determining whether the required components will fit properly on the printed circuit board (PCB), evaluating the manufacturability of the design and optimizing the design and assembly process for cost effectiveness.

Patrick Macdonald, ESCATEC's chief executive officer (CEO), explains, "Valor Process Preparation enables ESCATEC to quickly detect potential design and manufacturing problems at a very early stage. This capability has significantly shortened NPI turnaround times, bringing real benefits to ESCATEC and its customers in terms of time, cost and quality.



"Before it could take six to eight weeks to do a re-spin; adjusting the design, reordering components and testing the manufacturing process if the original design did not perform as planned," says Arola. "By comparison, using Valor enables us to identify and remediate potential problems in less than a day.

"With Valor, we've put an end to the standard industry practice of trial-error-redesign."

Also crucial is ESCATEC's ability to use Valor Process Preparation to prepare manufacturing process, engineering and data that can be implemented anywhere, providing the firm with the flexibility to move production between machine vendors and manufacturing sites.

"Valor Process Preparation and the Valor Parts Library allow our Swiss and Malaysian operations to easily share their expertise, knowledge and experience between facilities," says Arola.

"ESCATEC serves a wide range of market segments. Valor software helps us excel in the automotive, industrial and medical device sectors, where the quality and reliability requirements are very high."

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Juha Arola
Chief Operating Officer
ESCATEC

Results

ESCATEC credits Valor Process Preparation with playing a central role in helping them get to market faster by reducing NPI timelines, achieving costs savings, improving quality and realizing enhanced customer satisfaction.



Solutions/Services

Valor Process Preparation
[siemens.com/valor-process-preparation](https://www.siemens.com/valor-process-preparation)

Valor Parts Library
www.plm.automation.siemens.com/global/en/products/manufacturing-planning/valor-parts-library.html

Customer's primary business

Founded in 1974, ESCATEC provides electronics design, development and manufacturing solutions for its worldwide customer base across a wide range of market segments.
www.escatec.com

Customer location

Penang
Malaysia

ESCATEC now has production facilities in Malaysia, Switzerland, the UK and Czech Republic



Patrick Macdonald, chief executive officer, ESCATEC.

Arola states that ESCATEC's use of Valor software is a key selling point when presenting their operations to potential new customers: "Valor Process Preparation is our certificate of quality."

Future plans

ESCATEC's Penang facility will be implementing additional Valor modules: line programming for the SMT lines, stencil data generation and test engineering.

ESCATEC is planning to introduce Valor Process Preparation into its two other Malaysian production facilities in Johor Bahru.

In May 2021 ESCATEC acquired JJS Manufacturing which is based in the UK and has manufacturing plants in the UK and Czech Republic. They expect to implement Valor Process Preparation in these sites in the future.

// **Valor Process Preparation is our certificate of quality."**

Juha Arola
Chief Operating Officer
ESCATEC

Siemens Digital Industries Software

Americas 1 800 498 5351
Europe 0080070002222
Asia-Pacific 00180003061910

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