



# Malaysia's Largest Semiconductor Manufacturer Adopts Panton for Business Process Automation

## CASE STUDY



**E**mploying over 9,000 employees and shipping in excess of 100 million units each week, Carsem is recognized as one of the largest producers of turnkey packaging and test services in Malaysia, with offices and production plants spanning from Asia to America and Europe. It is a member of one of South East Asia's most successful conglomerates - the Hong Leong Group Malaysia; whose diversified range of core businesses include industries such as Financial Services, Real Estate & Properties and Manufacturing & Distribution.

The Hong Leong Group recognizes the semiconductor industry as one of its successful core businesses, as such its operations span the globe, and products are represented and distributed by a worldwide network of branches, appointed distributors and agents





## CASE STUDY



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Its large production capacity is supported by two high technology production plants situated in Ipoh, Malaysia that spans approximately 100,000 square meters in floor space. These plants are not only equipped with state-of-the-art equipment, but also an extensive R&D arm and a skilled team of failure analysis staff to ensure the production of quality products to meet international standards expected of its customer base, made up of the automotive, telecom, computer and consumer goods industry.

In January 2004, Carsem witnessed the completion of another high technology production plant in Suzhou, China; in which it acquired an additional 16,000 square meters of floor space in continuing its expansion plans. Having achieved major accreditations from the International Standards Organization, Carsem is focused on continuously seeking improvements in quality, productivity, delivery, services and cost in order to stay competitive and profitable in its industry.

## CASE STUDY

# Overview



### The Challenge

Migrate to a system that can provide optimal control and traceability throughout Review & Approval process. Organize all its specifications for efficient storage, search & retrieval, and report generation.

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### The Solution

Panton Worklow - a comprehensive and scalable workflow that provides unparalleled flexibility to streamline its review and approval process. Efficient Document Indexing & Version control feature to facilitate optimal document handling and report generation

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### Results

Streamlined Review & Approval process that provides visibility to all parties involved within the same workflow. Iterative activities within every process is tracked and logged, providing a detailed audit trail.





## CASE STUDY

# The Challenge

One of the most critical elements required for a successful production run at Carsem is the availability of accurate specifications - a set of instructions consisting of processes and drawings required for the manufacturing of its semiconductor products; because these specifications are the blueprints of every semiconductor produced. As such, prior to a production run, all processes and drawings together with its accompanying documentation would need to undergo strict review and approval processes to ensure that it is accurate, and that Carsem has the capability of manufacturing products of such specifications.

Carsem currently employs a client-server application solution that requires the installation of its software at every workstation that accesses the system. Whenever a specification needs to be reviewed by an engineer, the specification department would need to log into the system to extract the relevant content, attach it to an email and send it to an engineer together with a comment form. This comment form serves as an avenue for engineers to document any highlights or notes with regards to their assigned task. However, in the event the specification requires other expertise or input, the flexibility of rerouting, reassigning or escalating the assigned task is capped.



## CASE STUDY

# The Challenge

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Carsem's existing system poses many limitations to the efficiency of its specification review and approval process because all documents and correspondences are communicated via email and attachments. This arrangement neither provides Carsem the power and flexibility to monitor ongoing activities throughout a reviewing and approval process, nor the ability to automatically consolidate all these activities at the end of the process. Rather, it required engineers to manually log these details on a spreadsheet, which would later be used for simple report generation.

In order to stay competitive and profitable, the industry leader realized that it needed to migrate to a system that can provide optimal control over all its specifications by setting parameters and rules to facilitate timely review, approval and release of specifications to the production line. It also needed to efficiently organize all its specifications by using robust indexing and versioning methods for convenient storage, search and retrieval purposes, and ensure that specifications can be reassigned, routed or escalated to the appropriate parties for accurate decision making.



CASE STUDY

The Solution

## Doing it the Panton Workflow way

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**P**anton met Carsem's needs in the implementation of a comprehensive and robust workflow module that is able to streamline its entire review and approval process. Trained, tested and perfected based on cumulative industry exposure and experience, the Panton workflow module offers flexible workflow structure capabilities that allows simultaneous sequential as well as parallel structures to take place within a single workflow.



## CASE STUDY

# The Solution

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Specifications awaiting review and approval can now be simultaneously routed to different users of different focused expertise. Panton enables users to submit accompanying comments when reviewing a specification and these comments can then be shared with all others within the same workflow as additional informative knowledge, to encourage better working collaboration. Whenever the need to cross reference specifications arises, users can retrieve other related documents from the system and attach them as supporting documents.

All attached comments as well as supporting documents will be automatically tracked and recorded. As such, regardless of how complex and iterative a specification reviewing process is pending its approval, Panton possesses the ability to efficiently log all ongoing activities between all parties involved within the workflow. This puts in place a detailed audit trail within the processes to provide traceability and transparency



# A solution that poses no limitations

## CASE STUDY

# Results

**B**esides creating an avenue for Carsem to systematically queue all specifications to the appropriate parties, Panton ensures that timely reviews and approvals take place because automated alerts are generated whenever users receive new assignments, or if they fail to respond within the given time frame. Being web-enabled, reviews and approvals can even be done anywhere, at anytime; from a workstation equipped with internet facilities. Reviews and approvals now do not need to be limited to users from the same geographical region. Global expertise from all other production plants can be employed to continue its reputation as the leading producer of quality products.



A top-down view of a person's hands pointing at a document on a wooden desk. The document features several data visualizations: a 'Realtime Dashboard' with three circular gauges (91%, 31.86%, 30.23%), a 'Marketing Chart' with a bar chart showing values like 31.25%, 43.75%, 26.50%, 41.25%, and 44.50%, and a 'Space Usage' pie chart. A laptop and a notebook are also visible on the desk.

## CASE STUDY

# Results

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Built around the powerful MCRE engine, Panton provides Carsem with a robust indexing and versioning tool to enable efficient storing, search and retrieval of specifications with its supporting documents. Whenever the need arises to retrieve the entire lifecycle of a particular specification for further review and decision making, Panton possesses the capability of efficiently identifying and retrieving all related versions together with its supporting documents. Additionally, Panton's effective versioning ensures Carsem that whenever a specification is reviewed and approved; its older version is made obsolete, using only the most up-to-date version in every production run. All specifications, documents and reports can be kept in local storage and later archived out to media storage for ease of reference and as a measure of disaster recovery.



## CASE STUDY

# Results

## Remaining the industry leader

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The newly streamlined review and approval process now enables Carsem to set a new benchmark in operational efficiency amongst its competitors. With parameters and business rules specified in the Panton comprehensive and flexible workflow, Carsem can be sure that its specifications are reviewed and approved by the appropriate parties on a timely basis to continue producing the quality products that it has been producing thus far. Even as competition steps up in the semiconductor industry, Carsem can still be sure that it will maintain pole position because Panton is without limitations whenever routing, indexing, versioning, search, alert notifications and audit trails are concerned.





Panton

HT Consulting is passionate about helping companies leverage technology as a strategic tool to remain competitive and achieve unprecedented growth. We believe in building relationships for the long-term, ensuring your business's stability despite economic uncertainties and to always deliver works of quality to the satisfaction of our customers. The success of our company is a testament of how our team interacts with each other and with our customers since our beginnings in 1989.

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