



IME TECHNOLOGY SDN BHD

SWID27 x IME SOLIDWORKS SUPERCHARGED



Selangor | Penang | Johor | Sarawak

October 2026

IME INNOVATION DAY 2027

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The Real Deal: Supercharging Engineering in the Age of AI

Every few years, our industry is told that everything is about to change. Some of those promises delivered; many did not. Today the promise is artificial intelligence, and this time the change is real. But how much value it creates will depend less on the technology itself and more on how clearly we, as leaders, separate what AI actually does from what we are told it will do.

This year's theme, *SOLIDWORKS Supercharged: More Collaboration, More Intelligence, More Growth*, reflects that belief. AI is no longer a slide at the end of a presentation. It now sits inside the tools our engineers use every day, helping them design faster, automate repetitive work, and make better decisions earlier in the product development cycle.

Yet in many boardrooms, the talk about AI is still driven more by excitement than by understanding. A 2026 Boston Consulting Group survey of CEOs and board members found that 61% of CEOs believe their boards are rushing AI transformation, and that many directors struggle to tell AI hype from reality. The lesson is not to slow down. It is to be clear about where the value truly lies. Rushing without understanding does not make a company faster; it makes it more expensive.

In more than four decades of working alongside Malaysian manufacturers, I have seen that transformation never begins with the most fashionable technology. It begins with a real problem: a design cycle that takes too long, a drawing that has to be redone, a machine waiting for a program, an experienced engineer whose knowledge has never been captured. AI earns its place when it solves problems like these, measurably and repeatedly. Everything else is noise.

That is the real deal we want to put in front of you.

Across our Innovation Day programme in Selangor, Penang, Johor and Sarawak, you will see AI applied where it matters:

- design automation that removes CAD bottlenecks
- smarter manufacturing that raises CNC throughput
- connected simulation and data management that turn engineering work into business results

Our industry panel, *Industrial AI: Turning Malaysia's Industrial Knowledge into Competitive Advantage*, goes to the heart of the issue. Malaysia's greatest asset is not the AI we can buy. It is the decades of engineering and manufacturing know-how inside our companies. For the first time, AI gives us a practical way to capture that knowledge, scale it, and pass it to the next generation.



We are especially honoured to welcome Mr Manish Kumar, CEO of SOLIDWORKS and Vice President of R&D at Dassault Systèmes, to Malaysia this year. His presence reflects the importance of our region in the global SOLIDWORKS community. It also gives our engineers and business leaders a direct view of where design and manufacturing technology is heading.

To the business leaders reading this: AI is no longer a subject to delegate. Understand it personally, test it on real problems, and measure it honestly. Ask not only what AI can do, but what it should do in your business, and which capabilities your people must keep and strengthen. AI will amplify good engineering judgement; it will not replace it.

To our engineers and designers: your role is becoming more valuable, not less. The tools will take on more of the routine work. What remains, and what matters most, is your understanding of the product, the process and the customer.

In the pages of this magazine you will find stories of Malaysian companies that have already moved from talk to results, using SOLIDWORKS and connected digital tools to change how they design and make. They show that transformation does not need the biggest budget. It needs clarity, commitment and the right partners.

At IME, our commitment is what it has always been: to stand beside Malaysian industry, not only with technology, but with the expertise and people to make it work. Thank you to our customers, our partners, Dassault Systèmes, and every member of the IME team who makes this event possible.

Let us move past the myths and focus on the real deal. AI alone will not write the future of Malaysian engineering. The people who learn to use it well will.

T.k. Teoh

Teoh Tuan Ka
Founder and Chairman, IME Group of Companies



IME INNOVATION DAY 2026 SELANGOR





IME INNOVATION DAY 2026

PENANG



IME INNOVATION DAY 2026

JOHOR



IME INNOVATION DAY 2026

SARAWAK



DOWNTIME IS CLEARLY NOT AN OPTION.

Expert service, future-ready
resources and a 40-year
commitment to keeping
your business growing.

 **MASTERCAM**
CONNECT

Always on.

WHAT'S NEW IN SOLIDWORKS® AI



1

Assembly Performance Optimization

- Ask LEO to pinpoint performance bottlenecks in your assembly, based on structure, component complexity, rebuild behavior, and graphics load.
- Ask LEO to take action to improve performance by creating SpeedPaks or suppressing threads.

Benefits

Find and fix your biggest assembly slowdowns first, without manual trial and error.



2

Automated Assembly Instructions

- Ask LEO to generate step-by-step assembly instructions, complete with visual snapshots, directly from your assembly.
- Review, edit, and regenerate the steps before exporting a printable or shareable PDF.

Benefits

Produce consistent assembly instructions in minutes instead of hours of manual work.



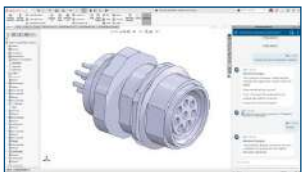
3

Natural Language Macro Generation

- Describe the automation you want, and let LEO generate working macro logic instantly.
- Refine the macro conversationally with LEO in the editor until it does exactly what you need.

Benefits

Automate repetitive tasks without writing a single line of code.



4

BREP-to-Parametric Conversion

- Ask LEO to convert imported STEP or IGES geometry into a native, editable SOLIDWORKS geometry.
- Leverage existing CAD data to create editable models instead of starting from scratch.

Benefits

Turn imported geometry into a fully editable design, not a dead end.



5

Change Impact Analysis

- Ask LEO to flag which components and subassemblies a change affects before you make the change.
- Get a message from LEO if a geometry change in any part causes fit issues.

Benefits

Catch costly dependency issues before you commit to a change.



6 Automated Drawing Generation

- Describe your intent, and let LEO generate views, dimensions, annotations, and sheet layout automatically.
- Skip the manual dialog-box navigation typically required to set up a drawing.

Benefits

Cut manual setup time when creating drawings.



7 Automated Material Appearances

- Ask LEO to apply or update material appearances across your assembly with a simple prompt.
- Keep visual consistency without manually setting appearances on every component.

Benefits

Save time on repetitive material appearance assignments.



8 SOLIDWORKS Guidance

- Ask LEO modeling questions and get relevant SOLIDWORKS best practices as you work.

Benefits

Get best-practice guidance without leaving your modeling session.



9 PLM Insights

- Ask LEO about a file's configurations, open tasks, and change history in plain language.
- See revision context, pending approvals, and configuration details without leaving SOLIDWORKS.

Benefits

Get PLM answers instantly, without switching tools.



10 Natural Language Selection

- Tell LEO what to select instead of picking items one by one.
- Make selections in parts, assemblies, and drawings.

Benefits

Select faster and more accurately, with fewer clicks and errors.

WHAT'S NEW IN SOLIDWORKS® 2027 - DESIGN



1

In-Context Design and Performance Assistants

- Get timely, action-specific guidance while using advanced SOLIDWORKS Design workflows.
- Automatically detect, assemble and suppress threads on fasteners, as well as assemble entire fastener stacks faster.
- Monitor assembly health with performance indicators for graphics, mates, and circular references.

Benefits

Work faster with less manual setup and clearer assembly performance guidance.



2

Ability to Import Massive Point Clouds With Color

- Import massive point-cloud files in full color for easier interpretation of details.

Benefits

Interpret massive point-cloud details more clearly.



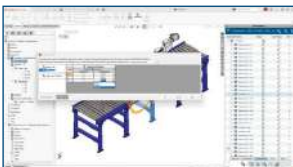
3

Multiple-Version Installation

- Install multiple versions of SOLIDWORKS Design to help collaborate with partners using a different version.

Benefits

Create shortcuts and modify installations quickly.



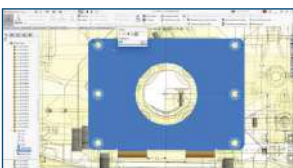
4

Define Model Variability Feature

- Define variants, options, and numerical parameters that drive part and assembly features.
- Configure complex, structured products across multiple design levels without repetitive manual updates.

Benefits

Configure product variants faster with less manual rework.



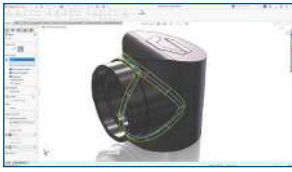
5

In-Context Editing for LDR and Background Processing

- Edit components directly in the context of an assembly opened in Large Design Review mode, the fastest way to open large assemblies.
- Import large non-native models, including STEP and IGES files, in the background.
- Update drawings for modified parts and assemblies in the background.

Benefits

Work faster with large designs, including editing components, importing files, and updating drawings.



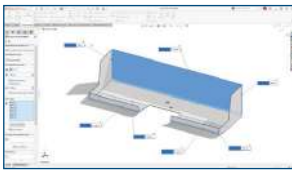
6

Chord Width Fillet Option

- Specify chord width instead of radius for Constant Size fillets.
- Define fillet geometry using the dimensioning method that best fits your design.

Benefits

Create constant-width fillets with greater flexibility and control over design intent.



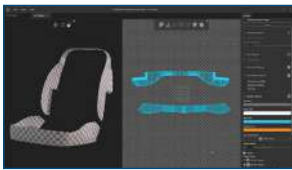
7

Sheet Metal Bend Editing and Stamping

- Create stamped geometry directly on bend regions in sheet metal parts.
- Modify bend radii on imported bend faces during or after sheet metal conversion, avoiding workaround steps and rebuilding of converted geometry.

Benefits

Model manufacturable sheet metal features faster and more accurately.



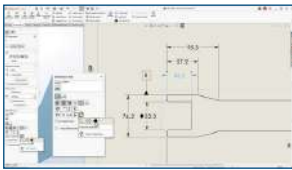
8

UV Unwrapping and Editing

- Control how textures wrap around 3D models using UV unwrapping and editing tools.
- Reduce distortion and rework when applying visual materials and textures.
- Create higher-quality, more realistic model appearances.

Benefits

Create more realistic visuals with cleaner, more controlled texture mapping.



9

Favorite Symbols Folder for Dimensions and Annotations

- Save your most-used dimension and annotation symbols to a dedicated Favorites folder for instant access.

Benefits

Reduce time spent searching symbol libraries during documentation.



10

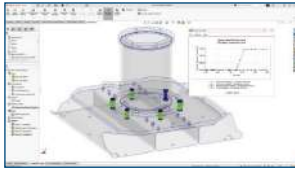
Uniform Covering Across Pipes and Fittings

- Apply coverings automatically across fittings, including tees, crosses, and reducers.

Benefits

Eliminate manual adjustments and save design time in piping and routing workflows.

WHAT'S NEW IN SOLIDWORKS® 2027 - SIMULATION



1 Time-Based Preloading of Bolts in Nonlinear Simulations

- Model time-varying bolt preloads to capture real-world tightening and load changes.
- Apply preload profiles directly within nonlinear static and dynamic studies.
- Validate bolted-joint performance under complex, changing loads before you build a prototype.

Benefits

Predict bolt behavior accurately and catch joint failures before physical testing.

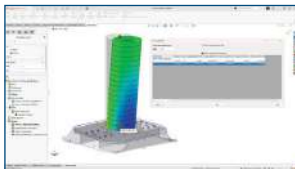


2 General Spring in Nonlinear Simulations

- Use General Spring connectors in nonlinear static and dynamic studies.
- Reuse spring definitions from linear studies without redefining connectors.
- Review shear force, axial force, bending moment, and torque results directly in post-processing.

Benefits

Model nonlinear spring behavior faster by reusing existing definitions and results.

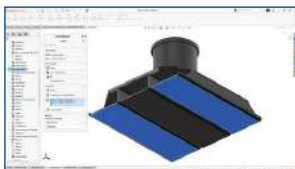


3 Beam Shear Stress Results in Post-Processing

- View Shear Dir1 and Shear Dir2 columns in the List Beam Forces – Stresses table.
- Compare and export beam shear stress results without manual calculations.

Benefits

Validate beam designs faster with complete shear stress data on hand.

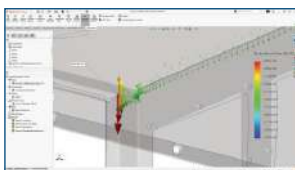


4 New Sensor Criterion: Sum of Selected Entities

- Add a sensor that totals forces, pressures, or displacements across multiple selected entities.
- Monitor aggregate results in one sensor instead of calculating totals manually.

Benefits

Get cumulative results instantly and skip manual post-processing steps.



5 Bonding Interface Stress Evaluation

- Evaluate normal and tangential stress at bonded surface-to-surface contacts during post-processing.
- Skip manual calculations to assess interface load distribution directly.
- Automatically highlight regions with peak interface stress for faster review.

Benefits

Spot weak bonded interfaces faster and validate designs with more confidence.

SOLIDWORKS Plastics

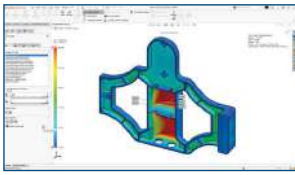


6 Custom Storage Path for Plastics Study Results

- Set a custom folder for study output files alongside your project data.
- Keep simulation results organized instead of relying on default storage locations.
- Maintain a consistent, project-based folder structure for easier collaboration and traceability.

Benefits

Find results faster and keep project files organized and traceable.

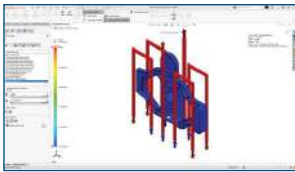


7 Multipoint Result Query

- Compare simulation results at multiple locations on a molded part at the same time.
- Identify critical areas affecting filling, cooling, and warpage in one pass.

Benefits

Validate designs faster by comparing critical regions simultaneously, not one at a time.



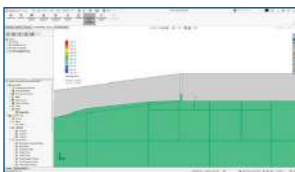
8 Reynolds Number Plot in Mold Cooling Simulation

- Plot Reynolds number values to assess flow regimes in cooling channels.
- Get more accurate fill and pack results with the second-order solver.

Benefits

Validate cooling, filling, and packing performance with clearer flow insight.

SOLIDWORKS Flow Simulation

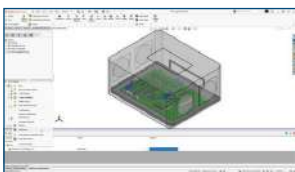


9 Automatic Sealing for Internal Flow Tasks

- Automatically seal thin gaps and leaks for reliable internal flow simulations.
- Verify sealed regions visually using the Mesh plot in Cells mode.

Benefits

Cut model prep time and get more robust flow simulation results.



10 Bulk Subassembly Configuration Rebuild

- Rebuild and save every subassembly configuration across multiple projects in one operation.
- Skip repetitive, one-by-one processing of individual subassemblies.

Benefits

Update all subassemblies at once and keep projects consistent, faster.

WHAT'S NEW IN SOLIDWORKS® 2027 - ELECTRICAL



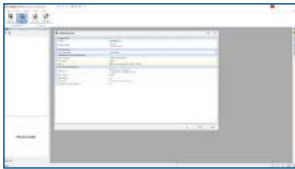
1

Native Wire Creation in Line Diagrams

- Define complete harness connections directly in the line diagram, without switching to a schematic view.
- Manage mixed cable-and-wire projects from a single interface.

Benefits

Speed up wiring design while cutting the number of pages required and data-entry errors.



2

LAN Collaborative Server for SOLIDWORKS Electrical

- Enable real-time collaboration by centralizing project data, libraries, and settings on a LAN-hosted SQL server.
- Monitor changes with a lightweight server app running alongside SOLIDWORKS Electrical.
- Optionally switch to client-server mode for shared data and 3DEXPERIENCE® platform capabilities.

Benefits

Keep all users synchronized in real time across the local network.



3

Side-by-Side Terminal Strip Drawing

- Place multiple terminal strips on a single page in horizontal or vertical layouts.

Benefits

Reduce documentation page count and make terminal strip drawings easier to read.



4

Dynamic Connector Insertion and In-Place Editing

- Place and edit connector symbols in a single unified workflow.
- Handle initial placement and postplacement updates in one step with the Dynamic Connector command.

Benefits

Reduce rework and shorten design iteration cycles.



5

Component Mark Priority and Cross-Reference Order Control

- Choose between cross-reference relationships or symbol-type hierarchy when assigning component marks.
- Ensure the designated master symbol consistently drives the mark across all drawing types.

Benefits

Remove ambiguity in multisymbol and cross-referenced designs.



6

Skip Empty Data Propagation

- Protect valid destination data during automated propagation with the new Skip Empty option.
- Skip blank source values entirely, such as unassigned wire addresses, leaving existing destination data intact.

Benefits

Eliminate manual cleanup and prevent accidental data loss across large projects.



7

Electrical Design Productivity Enhancements

- Insert origin-destination arrows between different wire styles using a new split-button option.
- Get correct component marks and origin-destination formulas in single-line diagrams.
- Insert multiple manufacturer part circuit symbols in a row without reopening the selection dialog.
- Duplicate a project while choosing to keep or reset book and drawing revisions.

Benefits

Reduce clicks and restrictions for faster project workflows.



8

Expanded Manufacturer Data in the Electrical Content Portal

- Access over 71,000 TE Connectivity parts, 12,000 ODU parts, and manufacturer-verified SOCOMEC data directly in the Electrical Content Portal.
- Get complete electrical properties, symbols, multiface 2D footprints, and native 3D models with every part.

Benefits

Drop manufacturer parts into SOLIDWORKS Electrical 3D without rework.



9

Bidirectional Navigation Between 2D Schematics and 3D Components

- Navigate directly from 2D symbols in SOLIDWORKS Electrical to their corresponding 3D components, and back again.

Benefits

Get instant traceability between schematic intent and physical assembly layout.



10

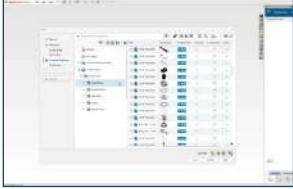
Change Analysis Between 2D Schematics and 3D Assemblies

- Compare locations, manufacturer parts, wires, cables, and harnesses between the schematic and 3D assembly using the Analyze command.
- Synchronize, route, or update differences in a single workflow.

Benefits

Reduce manual cross-referencing and coordination effort.

WHAT'S NEW IN SOLIDWORKS® 2027 - DATA MANAGEMENT AND COLLABORATION



1

Content Explorer in SOLIDWORKS Design

- Browse **3DEXPERIENCE**® content directly from the SOLIDWORKS Open dialog, in a familiar Explorer-style interface.
- Skip switching to a separate browser window to find files.
- Access Content Explorer as a dedicated tab in the Task Pane.

Benefits

Find and reuse platform content faster, without leaving SOLIDWORKS.



2

SOLIDWORKS Materials Mapping to 3DEXPERIENCE Platform Materials

- Align SOLIDWORKS materials automatically with governed **3DEXPERIENCE** platform material definitions.
- Apply consistent materials across SOLIDWORKS Design and the platform without manual mapping.
- Sync automatically every time you open a model.

Benefits

Keep materials consistent and governed across SOLIDWORKS and the 3DEXPERIENCE platform.



3

SOLIDWORKS as a Platform Conversion Engine

- Use SOLIDWORKS as the engine for platform-defined Derived Output conversion rules.
- Get consistent translation of your SOLIDWORKS files into derived output formats.
- Convert files with SOLIDWORKS itself instead of Cloud Conversion, using no cloud credits.

Benefits

Keep derived file formats consistent and accurate, without consuming cloud credits.



4

Composed Drawings

- Link a physical product directly to its drawing through a composed representation.
- Manage the drawing's life cycle alongside its physical product, with the relationship already established.
- Simplify cross-referencing between a product and its drawing.

Benefits

Access the right drawing and manage its life cycle with the physical product.



5

Auto-Save to the Platform

- Commit changes to the platform automatically as you work.
- Skip manual save steps entirely.
- Keep your work continuously saved without extra effort.

Benefits

Protect your work automatically, without manual saving or committing.



6

Guided New Tenant Setup

- Configure new SOLIDWORKS tenants faster from the Welcome app.
- Apply recommended platform defaults through a guided wizard.
- Skip manual configuration in the administration panel entirely.

Benefits

Onboard faster with guided setup and less manual admin work.



7

Cross-Company Collaboration Improvements

- Collaborate across company boundaries on shared SOLIDWORKS projects.
- Share data and manage access with external partners more easily.

Benefits

Collaborate and share data with external partners more easily.



8

Primary and Secondary — Governed Revision Format

- Release a secondary revision only when it holds the last secondary ID for its primary ID.
- Automatically move previous secondary revisions to Obsolete when you create a new one.
- Add a secondary revision ID to the revision number, with control over primary ID incrementation.

Benefits

Differentiate in-progress design increments from finalized designs ready for wider use.



9

Toolbox Components Batch Save

- Simplify Batch Save behavior when saving assemblies to the 3DEXPERIENCE platform.
- Check whether Toolbox components already exist and reuse existing references instead of creating duplicates.

Benefits

Reduce clutter and keep your platform organized during every Batch Save.



10

Content Co-Editing

- Edit the same content, such as a post in Conversations or a wiki page, at the same time as others.
- See updates from other collaborators instantly as they happen.

Benefits

Collaborate on content in real time with instant, shared updates.

WHAT'S NEW IN SOLIDWORKS® 2027 - PDM



1

Single Sign-In Support

- Sign in to vault views with your organization's credentials and MFA methods instead of a separate PDM or Windows® username and password.
- Choose from five identity providers: Auth0, Okta, Keycloak, Microsoft Entra ID, and AWS IAM Identity Center.

Benefits

Improve security, simplify administration, and reduce password fatigue.



2

Task and Task Host Management

- Assign tasks to designated host machines with an improved algorithm for faster processing.
- Distribute PDFs and other output files across available computing resources.

Benefits

Generate PDFs and output files faster.



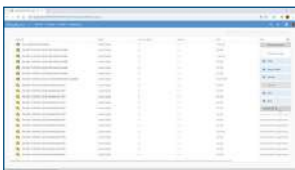
3

Date-Based Replication Criteria

- Schedule archive replication to include only files modified after a specific date.
- Apply the date filter to scheduled replication only; on-demand replication is unaffected.

Benefits

Cut replication time and cost by skipping obsolete files.



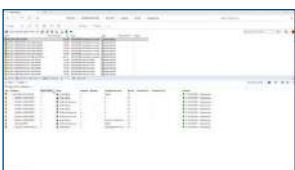
4

Column Set Support in Web2

- View custom column sets that your vault administrator configures for the Web2 Client's List View.
- Access sets from the Show More menu, if your administrator has granted column set permissions.

Benefits

Find the file data you need, faster.



5

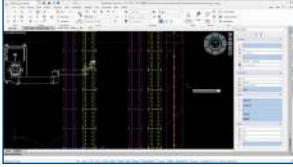
Days in State Variable Shown in Contains and Where Used

- View how many days a file has spent in its current workflow state.
- Select a file and click Contains or Where Used to see the Days in State column.

Benefits

Spot files stuck in a workflow state faster.

WHAT'S NEW IN DRAFTSIGHT 2027



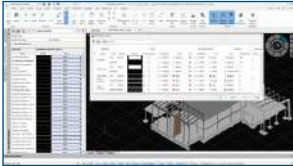
1

PROPERTYPAINTER Improvements

- Copy dimension styles, text styles, plot styles, materials, transparency, and hatch properties between open drawings.
- Apply properties across multiple open drawings in one operation, instead of being limited to a single drawing.

Benefits

Keep visual standards consistent across drawings and speed up detailing.



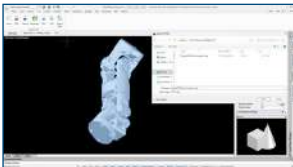
2

BIM Material Library

- Customize the BIM Material Library to set colors, hatch patterns, and boundary edges for cut and projected elements.
- Produce professional, precise construction documentation that supports BIM integration.

Benefits

Match construction documentation to your firm's drawing standards.



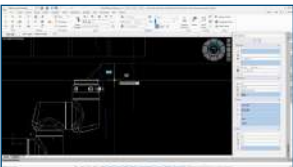
3

EXPORTSTEP Command

- Export DraftSight drawings directly to STEP format.
- Provide downstream CAE and CAM teams with an authoritative standard exchange format.

Benefits

Speed up downstream CAE and CAM workflows with direct 3D format export.



4

Quick Input Improvements

- Enter coordinates directly at the cursor in the drawing area.
- Use real-time feedback to stay focused without command-line distractions.

Benefits

Boost drafting speed by keeping your focus on the cursor.



5

Associative Pattern-Path Option

- Place objects along arcs, polylines, or splines using path-based patterning.
- Update object placement automatically by editing the parent path.

Benefits

Eliminate manual rework by keeping path-based patterns fully associative.



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5 Ways Artificial Intelligence Can Revolutionize Manufacturing

From Visibility to Productivity: Your Next Step Toward Transformation

Manufacturing has long been the backbone of Malaysia's economy, contributing nearly 25% of national GDP and employing millions. Yet, local manufacturers face mounting pressures, including rising labour costs, severe skills shortages, and the increasing demand for customized products. To stay competitive globally and align with the national Industry4WRD policy, factories must transition to a high-value, technology-driven hub.

The solution is no longer a distant concept. Artificial Intelligence (AI) and smart automation are ready to be deployed to boost productivity, strengthen resilience, and build sustainable operations. Here are five ways AI is transforming the modern shop floor:

1 Unlocking Total Visibility with Real-Time Monitoring

Many manufacturers still face blind spots like idle machines, untracked downtime, and hidden bottlenecks. AI-driven monitoring systems analyze data directly from the shop floor, giving managers real-time insights into operations. This instant visibility creates a solid foundation for better decisions, eliminating inefficiencies before they escalate.

2 Perfecting Precision with Automated Inspection

Many manufacturers still face blind spots like idle machines, untracked downtime, and hidden bottlenecks. AI-driven monitoring systems analyze data directly from the shop floor, giving managers real-time insights into operations. This instant visibility creates a solid foundation for better decisions, eliminating inefficiencies before they escalate.

3 Streamlining Workflows for Maximum Efficiency

AI drastically improves operational efficiency by connecting isolated processes and streamlining complex workflows. Intelligent automation continuously analyzes production variables to reduce waste, eliminate unnecessary steps, and ensure every single action on the floor adds tangible value to the final product.

4 Empowering People with Collaborative Robots (Cobots)

Surveys reveal that 80% of Malaysian manufacturers view automation as critical, heavily driven by ongoing labour shortages. AI-powered collaborative robots (cobots) are the answer. They take on repetitive, physically demanding jobs while working safely alongside human operators. The result is faster output, safer workplaces, and a workforce channeling its energy into innovation rather than fatigue.

5

Forecasting the Future with Predictive Intelligence

AI shifts a factory from a reactive stance to a proactive powerhouse. By deploying predictive analytics, leaders can forecast performance trends, predict machine maintenance needs, and prevent costly downtime before it happens. This predictive foresight unlocks smarter decision-making across all levels of management.



Building Smarter Factories, Step by Step

The idea of “smart automation” often feels daunting, conjuring images of massive investments and lights-out factories. In reality, successful transformation happens one phased step at a time. A step-by-step approach reduces financial burdens, minimizes operational risks, and builds critical trust among operators and management. While cost and skills gaps remain significant barriers, having the right partner bridges that divide.

At IME, we believe smart manufacturing should be practical, accessible, and sustainable for companies of every size. We go beyond supplying technology by acting as a true partner—offering the training, advisory, and skills development necessary to ensure your team adapts and grows alongside these new technologies.

**Your next breakthrough starts
on your shop floor.**

Turn today's production challenges into your next opportunity.
Talk to IME about a practical first step.



DISCOVER WHAT'S NEXT



FROM SKETCH TO SHOP FLOOR: WHY 2D CAD STILL MATTERS

Inside Knapheide's workflow, a rough idea can become a drawing ready for production. What can other manufacturers learn from it?

A customer requests a change. Someone on the shop floor sketches a solution. The idea may be sound, but before a part can be made, it needs to become a precise drawing that the next person—and the next machine—can use. Every delay in that handoff adds time to an order. Every unclear detail creates another chance for rework.

At Knapheide, a US manufacturer of commercial vehicle bodies, that journey from concept to fabrication happens at scale. The company traces its roots to wagon building in 1848; today, it handles custom vehicle solutions for modern customers. Its story shows why 2D drafting remains important even in an engineering environment that also relies on 3D design.

When an idea needs to move quickly

Knapheide uses DraftSight and SOLIDWORKS across its design and manufacturing workflow. In the company's case study, CAD/PLM Administrator Marty Ohnemus describes how a sketch from the shop can be brought into DraftSight and developed into a production-ready 2D drawing, sometimes within minutes. The point is bigger than the speed of one drawing: the team can respond to an idea while the requirement is still clear and move it towards fabrication.

On the shop floor, Knapheide's fabrication team uses DraftSight daily to open DXF files and supply data to press brakes and other equipment. Engineers also use it for quick layouts, product changes and tooling drawings. Drawings therefore serve as working instructions between people and machines, not simply as records filed after the design is complete.

The right tool for each part of the job

3D design helps teams develop and understand complex products, but many fabrication tasks still depend on clear 2D information. Knapheide uses both: DraftSight for drawing work that needs to reach production, and SOLIDWORKS for 3D design. According to the case study, the facility handles around 200 custom orders a week on the DraftSight side, while its engineering team produces roughly 100 additional SOLIDWORKS designs.

For a manufacturer managing product variants and frequent changes, the lesson is to look closely at the drawing handoff. Can a concept be translated into usable manufacturing information without being redrawn repeatedly? Can the teams that need a file open it, adjust it and move it forward confidently?



The Right File, At The Right Time

A CAD decision is also a business decision

The software's licensing model matters when CAD is used by people across engineering, fabrication and external partners. Knapheide has highlighted the value of DraftSight's perpetual licensing option because it supports long-term access to the version it uses. DraftSight also offers network licensing options for organisations that need to share access across teams. The appropriate setup depends on how many people use the software, where they work and how the company plans to grow.

What should manufacturers take from Knapheide?

The path from a customer request to a finished part deserves the same care as the design itself. If a sketch waits to become a drawing, a DXF file needs repeated fixes or the shop floor uses an outdated version, those delays become part of the production cost.

Follow one recent order: where did the idea begin, who revised the drawing and how did the correct file reach fabrication? The answers may reveal where the workflow slows down.

From drawing to delivery with IME

At IME Group, we see CAD as part of a wider design-to-manufacturing process. The right conversation begins with the drawings a team produces, the people who use them and the machines that depend on them. From there, a manufacturer can assess whether its 2D tools, 3D workflow and licensing arrangement fit the work it needs to deliver.

Knapheide's experience is a reminder that an idea only creates value when it can be built. The right drawing workflow helps close that distance.

DON'T LET A GOOD IDEA GET STUCK BETWEEN SKETCH AND SHOP FLOOR.

Talk through your drawing handoff with IME and see where DraftSight could help.



CONNECT WITH OUR TEAM



See the Problem Before You Build It

How computational fluid dynamics helps teams test flow, cooling and performance while a design can still change.

The prototype is finished. Then testing reveals a hot spot, an unexpected pressure drop or airflow that misses the area it was meant to cool. The product may still work, but fixing the issue now could mean another design revision, another build and another wait. What if the team could have seen it in the model?

Computational fluid dynamics, or CFD, gives engineers a way to study how air and liquids move through or around a design before they make a physical prototype. It can show flow speed, pressure and temperature patterns that are difficult to observe inside a finished product. The value lies in using those insights early enough to compare ideas and make better design decisions.

Make the invisible visible

Consider an enclosure that needs cooling, a valve that must manage pressure or a ventilation system that should distribute air evenly. A drawing shows their shape; a CFD study can help reveal what happens when fluid moves through them. Engineers can identify areas where heat builds up, flow becomes uneven or resistance is higher than expected, then test a design change while it is still relatively easy to make.

This changes the role of the physical prototype. Teams still need to test and validate real products, but simulation can help rule out weaker options first. Instead of building every variation to learn which might work, they can use virtual results to decide which concepts deserve the time and cost of a physical build.

Keep simulation close to the design

SOLIDWORKS Flow Simulation works within the SOLIDWORKS design environment, so engineers can examine flow and thermal performance alongside the model they are developing. When the design changes, the analysis can be updated as part of the same workflow. For more complex studies or larger computing demands, SOLIDWORKS Simulation CFD Engineer offers cloud-enabled capacity on the 3DEXPERIENCE platform.

What earlier insight can change

Penn-Troy Manufacturing, a US valve maker, provides one example. To develop water and explosion relief valves, the company adopted a wider set of SOLIDWORKS design, simulation and data tools, including Flow Simulation. Its engineers used fluid studies to compare valve configurations and assess how the designs handled flow and pressure before committing to additional prototypes.

The published results came from Penn-Troy's wider SOLIDWORKS design, simulation and data workflow, not CFD alone. Outcomes will vary by product and process. The useful lesson is how earlier analysis helped its engineers narrow the options and focus physical testing where it mattered.



ROI IN PRACTICE / PENN-TROY MANUFACTURING

50%
SHORTER DESIGN CYCLES

US\$40–50K
PROTOTYPE SAVINGS

Where should your team start?

A first CFD study should answer a design question, not simply produce an impressive image. Which component repeatedly overheats? Where does a pressure loss appear? Why is airflow failing to reach a critical area? Start with a product or process where that uncertainty has already caused redesign, testing delays or performance concerns.

Define the operating conditions, decide what result would count as an improvement and involve the engineer who owns the design. Then compare a small number of alternatives. The goal is to turn simulation into a decision the team can act on, followed by the appropriate physical checks to confirm real-world performance.

From model to confidence with IME

At IME Group, we help manufacturers look at design and validation as connected stages of development. With SOLIDWORKS Flow Simulation and the right support, a team can investigate fluid and thermal behaviour earlier, while there is still room to refine the product. The starting point is the engineering question behind the next prototype.

The most expensive problem may be the one discovered after a design is built. Seeing it sooner can make the next build more purposeful—and the path to a better product clearer.

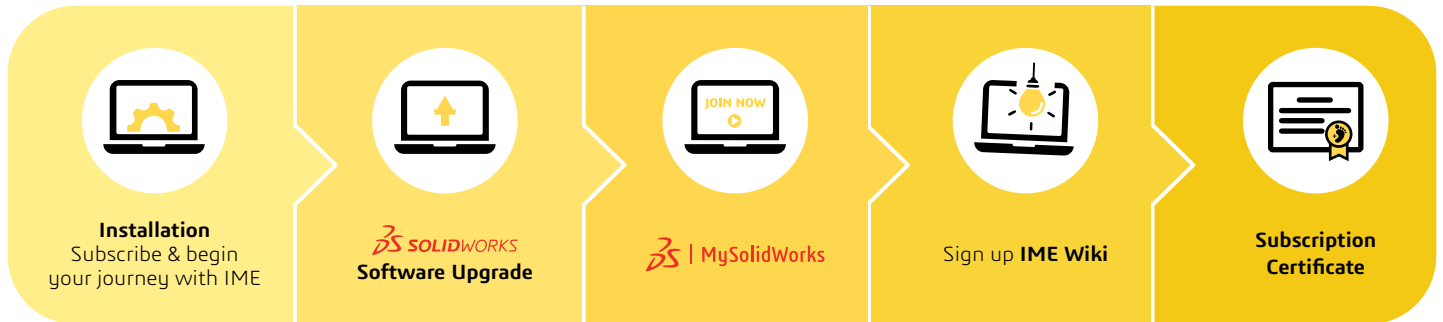
**Stop paying to find problem
after the build.**

Have a flow, cooling or pressure question? Ask IME what CFD could reveal before your next prototype.



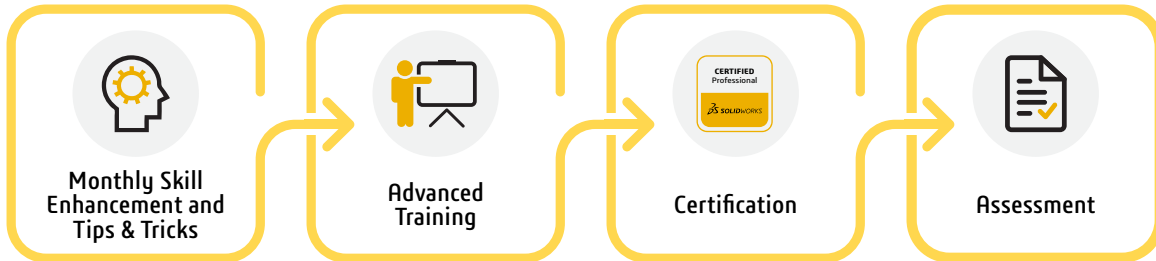
LET'S EXPLORE MORE

STEP SUBSCRIPTION AND TECHNOLOGY ENRICHMENT PROGRAMME

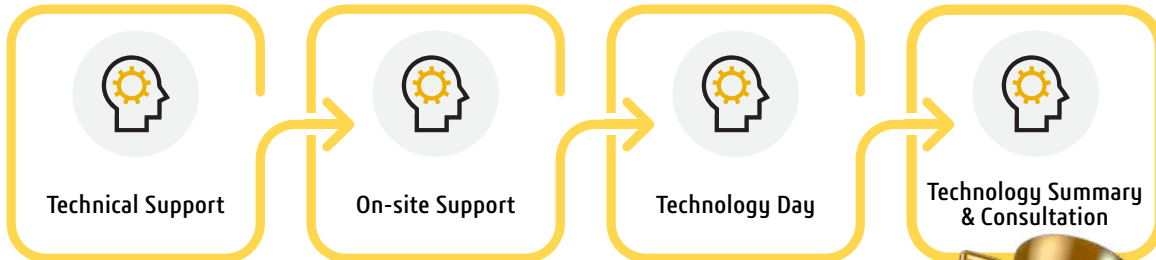


ACCESS

DO IT RIGHT



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Stay Current | Stay Competitive | Exclusive | Engagement | Experience | Enjoy

The journey of a thousand miles Begins with one **STEP**

IME TECHNOLOGY SDN BHD

We think of customer engagement like a dance. It takes two to tango and perfect the dance.

We are here to help you get back in step so WE will stay in the dance for a longer time.



BADGE AND ACHIEVEMENT CENTRIC MECHANICS

To encourage interaction. This is to make sure both parties are involved in the success of implementation.



BE THE LATEST

Use the latest & updated SOLIDWORKS. Get the certificate to increase your credentials.



DO IT RIGHT

- Complimentary Skill Enhancement
- Training Certification - CSWP Assessment by the expert



BE THE FIRST

Priority in technical support. Priority in event and technology day. Be the first to know about the latest updates and promotions.



UNLIMITED ACCESS IME WIKI

(Online tutorial, guideline & support)
MySolidWorks (Online courses, forum)

IME INTERX PRODUCTIVITY TOOLS

Nobody Does Engineering Design Like We Do



STEP'S Reward
+6013-664 3635
talk2us@cadcam.com.my



Accelerating HVAC Innovation through Design Automation & 3D Engineering



Company Background

Founded as a specialized manufacturer of customized heat exchangers, **Elite Precision Components Sdn. Bhd.** delivers tailored thermal management solutions to leading OEM manufacturers in Malaysia and across global markets. Operating at the core of the HVAC (Heating, Ventilation, and Air Conditioning) industry, the company designs and manufactures high-performance heat exchanger coils, Air Handling Units (AHUs), Fan Coil Units (FCUs), and custom structural enclosure assemblies.

- **Market Served:** Global and regional HVAC OEMs (AHUs, FCUs, and custom cooling systems).
- **Competitive Edge:** End-to-end design customization based on performance specs, samples, or drawings, backed by four core pillars: Quality, Delivery, Cost Competitiveness, and Service Excellence.
- **5-Year Growth Vision:** Evolving from a specialized component manufacturer into a comprehensive, end-to-end HVAC solutions provider.

The Challenge: Limitations of 2D Engineering in Complex Assemblies

As client requirements shifted toward sophisticated multi-component systems involving complex sheet metal casings, structural frames, and custom pipework, Elite Precision's reliance on traditional 2D drafting created operational bottlenecks:

1. **Extended Development Timelines:** Designing custom HVAC units in 2D required manual checking, repetitive drafting, and extensive revision cycles, stretching product development to 2 months per project.
2. **Assembly & Fit-Up Risks:** Visualizing multi-part assemblies in 2D made identifying component interference and structural clearance issues difficult prior to physical production.
3. **Repetitive Engineering Work:** Engineers spent valuable hours manually creating repetitive drawings for variable heat exchanger components, such as coil headers, end-plates and casings for every new order.



The Solution: SOLIDWORKS 3D, Structural Simulation & DriveWorks Automation

To eliminate manual bottlenecks and elevate product accuracy, Elite Precision partnered with IME to deploy an integrated design and automation ecosystem:

- **SOLIDWORKS 3D CAD & Assembly Modeling:** Enabled full visual modeling of complex heat exchanger coils, FCUs, and structural casings, allowing engineers to verify clearance, component compatibility, and fit-up off-line before manufacturing.
- **SOLIDWORKS Structural Simulation:** Applied finite element analysis (FEA) during design to evaluate structural integrity and material strength under operating conditions, ensuring right-first-time reliability and reducing design risk.
- **DriveWorks & Design Automation:** Implemented a customized DriveWorks rules engine (developed alongside IME) to automate drawing generation for core heat exchanger components like coil headers—enabling engineers to input design parameters and generate production drawings automatically.

50%
Lead Time Reduction
Faster Time-to-Market

50%
Drawing Automation
Reduce repetitive manual drafting

100%
Fit-Up Verification
Zero assembly interferences on shop floor

Strategic Business Impact

1. 2x Faster Speed-to-Market

Cutting custom development cycles from 2 months down to 3–4 weeks allows Elite Precision to respond instantly to OEM project tenders, deliver prototypes faster, and give global clients complete confidence in project timelines.

2. High-Yield Engineering Productivity

By automating routine coil header drawings through DriveWorks, engineers shifted focus from repetitive drafting to high-value custom R&D and complex structural engineering.

3. "Right-First-Time" Quality & Material Savings

3D assembly modeling and early structural simulation ensure every casing, bracket, and tube alignment fits correctly before production begins—reducing material scrap, eliminating shop floor rework, and protecting margins.

Why Elite Precision Partners with IME

Elite Precision attributes the smooth implementation and long-term success of its SOLIDWORKS and DriveWorks deployment to the professionalism, responsiveness, and technical excellence of the IME team. From configuring custom DriveWorks automation rules to providing prompt technical support, IME serves as a trusted engineering partner supporting Elite Precision's step-by-step growth vision.



By implementing SOLIDWORKS and DriveWorks with IME, we cut our customized product development cycle in half—from two months to just three to four weeks. DriveWorks saves us at least 50% of the time required for component drawings while eliminating manual errors. In manufacturing, time is cost; this technology has made us faster, more productive, and significantly more competitive.

Mr Lim Weng Kiak
Senior Manager, Sales & Technical Department
Elite Precision Components Sdn. Bhd.



From Hand Sketches to 3D CAD: How WINCOOL Modernized Design Workflows and Reduced Production Turnaround



Company Background

Specializing in refrigeration cabinets, cold rooms, and stainless steel equipment for the food and beverage industry, Wincool Manufacturing Sdn Bhd differentiates itself by delivering highly customized solutions tailored to specific operational requirements. Backed by consistent quality and strong after-sales support, the company relies on its ability to rapidly translate client specifications into manufacturable designs.

The Challenges

- **Manual Sketching Limitations:** Relying on 2D hand sketches made maintaining accurate dimensions and fabrication details difficult, leading to frequent shop-floor errors and material waste.
- **Extended Production Timelines:** The lack of an organized drawing system and manual design coordination extended delivery turnarounds to approximately 2 to 3 weeks per project.
- **Knowledge Retrieval Challenges:** Non-standardized paper drawings made accessing legacy designs inefficient, restricting the team from leveraging historical data for new orders. **The Integrated CAD Solution.**

Partnering with IME, WINCOOL upgraded its design operations by implementing **SOLIDWORKS 3D CAD**, with a strong focus on advanced **Sheet Metal capabilities**:



- **Interactive 3D Client Approvals:** SOLIDWORKS 3D assembly models allow customers to visually verify dimensions, spatial layout, and aesthetics before fabrication begins, accelerating approvals and eliminating downstream revisions.
- **Automated Sheet Metal Flat Patterns:** Engineers generate accurate flat patterns directly from SOLIDWORKS 3D models for components (often exceeding 30 parts per unit), optimizing material usage and streamlining cutting and forming.

- **Multi-Seat SOLIDWORKS Infrastructure:** Expanding from a single initial SOLIDWORKS license to a multi-license environment enabled the entire engineering team to collaborate simultaneously, streamlining day-to-day customized design work and removing workflow bottlenecks.

Business Transformation & Impact

Transitioning from manual sketches to a structured SOLIDWORKS 3D CAD workflow delivered immediate operational improvements:

- **Accelerated Delivery Lead Times:** Project completion and delivery turnaround dropped from 2–3 weeks down to just 1 week, enabling faster response to market demand.
- **Material & Scrap Reduction:** Virtual assembly checks in SOLIDWORKS ensured perfect component fitting before cutting, reducing material scrap and lowering production costs.
- **Cross-Team Engineering Efficiency:** Multi-seat SOLIDWORKS deployment empowered multiple engineers to work on complex custom projects concurrently, maximizing daily productivity and securing high-margin custom orders.



IME's fast response time, professional service, and continuous support throughout the years have made them a reliable partner for our business.

Mr Teh
Sales Manager
Wincool Manufacturing



Scalable Regional Growth

By replacing manual sketches with multi-seat **SOLIDWORKS 3D design** precision, WINCOOL established a solid foundation for scalable customized manufacturing. Backed by IME's ongoing technical partnership and software expansion, the company continues to scale its design capacity efficiently from initial proposal through to final fabrication.



Translating Customer Vision into Manufacturing Precision: How UWC Berhad Streamlines Process Engineering & Inspection with SOLIDWORKS & IME



Company Background

UWC Berhad is a Penang-based precision engineering and manufacturing specialist delivering end-to-end solutions for global technology leaders. Through reliable processes and continuous improvement, UWC's cross-functional teams collaborate closely to meet stringent customer requirements from design to final delivery.

The Challenge: Complex CAD Translation and Manual Inspection Setup

As a contract manufacturing partner, UWC receives diverse 3D models and 2D drawings of finished products from international clients. Before production can begin, the Design & Drafting team must interpret these designs and re-author specific internal manufacturing and process drawings for sequential operations—including laser cutting, bending, and assembly.

In addition, preparing quality control paperwork previously required quality documentation teams to manually balloon drawings, mark up characteristics, and transcribe measurement entries line-by-line into Excel checksheets. This manual process was repetitive, time-consuming, and increased the risk of human error during drawing revisions.

The Solution: Connected 3D Workflows & Automated Quality Documentation

UWC Berhad implemented **SOLIDWORKS CAD** and **SOLIDWORKS Inspection** to bridge the gap between client designs and practical shop-floor execution:



- Fast Learning Curve & 50% CAD Time Savings:** SOLIDWORKS' intuitive user interface enabled UWC's team to get up to speed rapidly. Converting client-supplied 2D DXF files and 3D models into native SOLIDWORKS process drawings became 50% faster compared to previously used CAD packages.

- Stage-by-Stage Process Drafting & Clearer Communication:** Using customer-supplied 3D models and 2D drawings of finished products, UWC's Design & Drafting team prepares internal process drawings for each manufacturing stage, including laser cutting, bending, and assembly. This supports clearer communication across Design & Drafting, Engineering, and Production whenever drawings need to be reviewed or revised.

- **Automated Inspection Setup (95% Time Reduction):** With SOLIDWORKS Inspection, teams automatically balloon drawing characteristics and export the data directly to Excel check-sheets. Replacing manual markups with automated data extraction increased document preparation productivity and reduced setup time by 95% while linking check-sheet entries directly to drawing callouts.

Key Results & Impact

- **95% Reduction in Inspection Setup Time:** Automating ballooning, markups, and Excel check-sheet exports turned hours of tedious, line-by-line manual transcriptions into a fast, automated step while simplifying revision management.
- **50% Faster File Conversions:** Re-authoring customer documents into native, production-ready SOLIDWORKS process drawings took half the time required by alternative software.
- **Clearer Stage-by-Stage Instructions:** Standardized process drawings (for laser cutting, bending, and assembly) ensured production and quality teams operated from clear, consistent, and single-source-of-truth instructions.



Future Outlook: Driving Automation & AI Efficiency

Building on the connected workflows established with SOLIDWORKS, UWC Berhad continues to explore advanced automation tools and AI-driven capabilities to eliminate repetitive manual work, further reduce human error, and accelerate time-to-production turnaround.

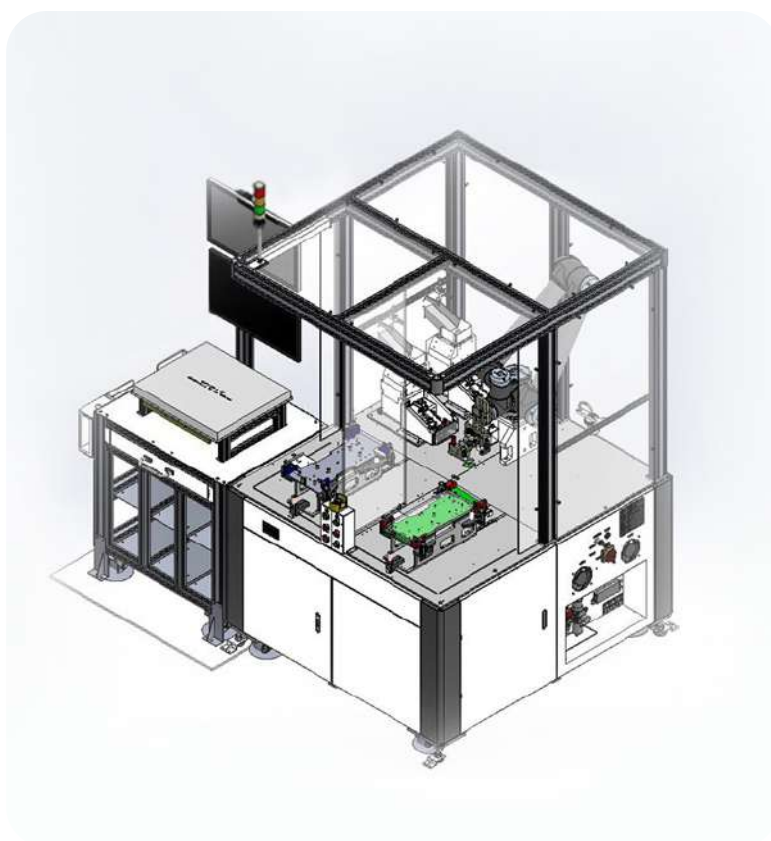
Partnering with IME

When asked to describe their partnership with IME in one word, UWC chose "**Trusted.**"



IME has been a reliable partner in supporting our use of engineering software and our continuous improvement efforts. Having these tools in our workflow helps our teams prepare manufacturing and inspection documents more efficiently every day.

Juleza Zakaria
Assitant Manager
UWC Berhad



Unifying Cross-Border Engineering to Power Semiconductor Expansion



Company Background

Founded in Shanghai in 2003, **DianDuo** is a premier provider of systematic process exhaust treatment solutions for the semiconductor industry, integrating R&D, design, manufacturing, construction, and operation & maintenance (O&M). To better serve global markets across Southeast Asia, Europe, and the US, **DianDuo (M)** was established in 2022 near Port Klang, specializing in Teflon-coated ventilation ducts, specialized fittings, and exhaust abatement equipment.

Overcoming Cross-Border 2D Engineering Challenges

Prior to adopting **SOLIDWORKS** in Malaysia, DianDuo faced operational friction due to a split workflow: primary R&D was conducted in Shanghai, while finished designs were converted into flat 2D drawings and sent to the Port Klang plant for shop-floor fabrication.

- **High Communication Overhead:** Resolving design queries or manufacturing discrepancies via 2D drawings across regions consumed excessive time and engineering capacity.
- **Version Misalignment & File Incompatibility:** Converting native 3D models into flat 2D files introduced interpretation errors, risking shop-floor rework and fabrication delays.
- **Language & Modeling Barriers:** Local Malaysian engineers faced challenges when interpreting complex parametric setups, assembly mates, and cross-border design changes without a shared 3D platform.



A Unified 3D CAD Ecosystem

By standardizing both Shanghai and Port Klang engineering teams on a single **SOLIDWORKS 3D CAD** platform supported by **IME**, DianDuo established a single source of design truth.

- **Seamless Model Synchronization:** Revision updates, assembly drawings, and sheet metal configurations update automatically across both teams.
- **Shop-Floor 3D Inspection:** Production teams in Port Klang verify 3D models directly, performing digital interference checks before cutting metal and applying Teflon coating.
- **Tailored Bilingual Training by IME:** IME provided hands-on **Chinese-English bilingual training** using real ducting projects, helping Malaysian engineers quickly master parametric sketch constraints and assembly mates.

“

IME is efficient, practical, and highly responsive. They are a true collaborative partner, not just a software supplier.

”

Mr Guo Feng
General Manager
DianDuo (M) Sdn. Bhd.

Metric	Achievemnet	Impact
Model Modification & Confirmation	30% Time Saved	Rapid design revision cycles on single-duct models
Cross-Regional Clarifications	25% Reduction	Direct 3D model reviews eliminate communicate gaps
File Conversion Steps	Reduced to Zero	Native platform deployment eliminates 2D translation errors

Business Results & Regional Expansion

The transition transformed DianDuo's regional operations into an agile, error-free workflow. Looking ahead, DianDuo plans to extend SOLIDWORKS into flow/structural simulation, automated BOM generation, and paperless shop-floor 3D visualization.



Combining CAD & CAM Excellence to Drive Market Leadership



Company Background

Founded in 1991 in Penang, Malaysia, AT Precision Tooling Sdn. Bhd. operates out of a state-of-the-art facility in the Bayan Lepas Free Industrial Zone. Achieving ISO 9001 and ISO 13485 certifications, the company delivers high-precision machining, custom automation systems, sheet metal fabrication, and sub-module assembly for demanding global industries.

Industries Served: Semiconductor, Medical Devices, Hard Disk Drives (HDD), Automotive, Opto-electronics, and Advanced Automation.

Core Capabilities: Precision tooling, jigs and fixtures, reverse engineering, sub-micron tolerance CNC machining (5-axis, multi-axis, 6.5m large-format milling), and cleanroom assembly facilities.

Strategic Workflow Transformation: Meeting Global Demand with Speed and Precision

Streamlining CAM: Cut Toolpath Programming Lead Times by 50%

By transitioning from manual 2D workflows—where programmers had to extract dimensions manually and rewrite G-code for every revision, leaving expensive multi-axis CNC machines idle—to an integrated SOLIDWORKS 3D CAD/CAM setup, native 3D models now sync directly with machining software to update toolpaths automatically whenever a part model changes, ultimately cutting programming lead times by 40% to 50% and accelerating the transition from digital blueprint to active spindle cutting.

Precision 3D Fixture Design: Cut Scrap & Tool Breakage by Up to 45%

By replacing flat 2D fixture drafting—which made detecting clearance conflicts difficult and caused frequent spindle-clamp collisions during tight multi-axis cycles—with native SOLIDWORKS 3D modeling, jigs and fixtures are now designed directly around the target part using digital interference detection to flag clearance risks before cutting metal, reducing scrapped materials and broken tools by 35% to 45% while ensuring first-time-right setup fitment.



Virtual Mastercam Surface Verification: Eliminating Trial Cuts for Right-First-Time Accuracy

By leveraging Mastercam's latest virtual verification capabilities, engineers evaluate expected surface finishes and machining results digitally prior to physical cutting, identifying potential surface defects and fine-tuning toolpaths early to eliminate repeated trial cuts, reduce setup times, and consistently deliver high-precision components.

Financial Impact & ROI

The transition to SOLIDWORKS and Mastercam delivers direct financial and operational returns across three core areas of the machine shop:

1. Increased Engineering Capacity (1.5x Throughput): Instead of being restricted by manual drawing updates and repetitive G-code recalculations, the engineering team utilizes parametric syncing. This allows the same staff to handle up to **1.5 times more project volume**, enabling higher job intake without increasing engineering headcount.

2. Maximizing Machine Up-Time (30% Setup Reduction): CNC machines spend less time sitting idle during lengthy manual setups and troubleshooting runs. Because toolpaths and fixtures are validated digitally before hitting the shop floor, machine setup times drop by **30%**, maximizing billable spindle hours per shift.

3. Direct Overhead Reduction (45% Scrap & Breakage Cut): High expenses resulting from physical prototype errors, ruined raw material billets, and broken cutting tools are drastically cut. Integrated 3D interference and collision checking reduces material scrap and tool breakage by up to **45%**, lowering overall production overhead.

The IME Partnership: Long-Term Reliability & Excellence

AT Precision summarizes IME's support in one word: Excellent. Throughout a multi-year relationship, IME has met every request and consistently provided the technical backing needed to maintain peak performance standards but is future-ready.

• **Trustworthy & Reliable Partner:** IME's long-tenured team proves they are a reliable, stable partner that treats their people right—giving AT Precision complete confidence in a long-term relationship.

• **Proactive Technology Updates:** IME consistently keeps AT Precision updated on the latest CAD/CAM technology advances and software capabilities, ensuring their engineering team stays ahead of industry

• **Prompt Issue Resolution for Market Competitiveness:** Whenever technical issues arise, IME resolves them promptly, keeping shop-floor downtime to zero and allowing AT Precision to maintain fast, competitive lead times for their clients.



Ultimately, integrating SOLIDWORKS transforms AT Precision Tooling from a reactive setup into an agile, error-free operation, significantly protecting profit margins on high-tolerance CNC runs. Supported by Mastercam's virtual verification and IME's proactive technology updates, we have complete confidence in delivering top-quality components to our global clients.

Mr BS Tan
Business Director
AT Precision Tooling Sdn. Bhd.



Elevating Precision & 5-Axis Machining Efficiency



Micro Carbide Engineering
Sdn. Bhd.

Company Background

Founded in 1983 in Penang, Malaysia, **Micro Carbide Engineering Sdn. Bhd.** is a premier one-stop machining and precision tooling partner serving global multinational companies that specializes in precision tooling design and manufacturing, custom jigs and fixtures, mold parts, surface treatments, and complete sub-module fabrication and assembly.

Industries Served: Semiconductor, Opto-electronics, Connectors, Medical Devices, Automotive, and Consumer Electronics.

Core Commitment: Driving total customer satisfaction through constant innovation, rigorous ISO 9001 quality standards, and steady, step-by-step business growth.

The Challenge: Navigating the Jump to 5-Axis Machining

As client components grew increasingly intricate, Micro Carbide Engineering recognized the need to scale beyond traditional 3-axis machining:

- 1. Increased Programming Complexity:** While 3-axis programming is simple and straightforward, 5-axis simultaneous machining requires a significantly higher level of technical expertise and
- 2. High Risk of Machine Collisions:** Transitioning to multi-axis setups introduces greater risks of machine accidents and costly collisions if toolpaths are not verified prior to execution.
- 3. Talent Availability & Support:** Adopting advanced CAM technology requires a software platform with widespread talent availability and a reliable local support partner to assist when complex challenges arise.



The Solution: Harnessing the Power of Advanced CAM Technology

To master the increased complexity of 5-axis machining, **Micro Carbide Engineering** expanded its deployment of **Mastercam**, capitalizing on its intuitive programming interface and industry-proven multi-axis capabilities. Beyond enhancing shop floor precision, the transition gave the company the operational confidence to take on more complex, high-value projects and deliver exceptional part quality to global clients.

- **Mastercam Dynamic Motion™ Technology:** Applied proprietary Dynamic Machining algorithms to maintain a constant chip load, reduce radial force, and maximize material removal rates with minimal tool wear—delivering superior surface finishes and consistent part quality, even on demanding materials.
- **Precision Machine Simulation:** Leveraged high-precision 3D digital machine simulation to virtually model, verify, and optimize intricate multi-axis toolpaths off-line. This completely eliminated physical trial cuts and collision risks, providing total engineering and business confidence that every job will run right the first time without risking costly equipment or delays.
- **Rapid Toolpath Optimization & Support:** Combined Mastercam's fast toolpath calculation engine with responsive local technical backing from IME, ensuring new 5-axis routines were learned quickly, validated fast, and deployed directly to production—giving management complete assurance when committing to tight delivery schedules.

20% - 30%
CYCLE TIME CUT

Achieved via Dynamic Machining toolpaths

+20%

TOOL LIFE EXTENSION

Consistent chip load reduces cutter wear

100%

TEST CUTS ELIMINATED

Zero physical dry runs with 3D simulation

Same-Day

IME TECH SUPPORT

Rapid resolution & continuous team guidance

Why Micro Carbide Chooses IME

From early implementation to high-precision multi-axis manufacturing today, Mastercam and IME have provided a seamless, dependable operational foundation for Micro Carbide Engineering.

Whenever technical inquiries arise, IME provides **excellent, comprehensive support across all areas**—responding promptly within the same day to resolve issues, share best practices, and teach advanced techniques. Supported by IME's reliable partnership, Micro Carbide Engineering continues to elevate product quality, enhance market competitiveness, and pursue steady, sustainable growth.



Mastercam is easy to adopt and finding skilled programmers in the market is seamless. Combined with IME's prompt, professional same-day support and excellent guidance, transitioning to complex 5-axis machining has been smooth sailing. It has completely eliminated physical test cuts, boosted our quality, and shortened our time-to-market.

Mr BT Tan
Section Manager
Micro Carbide Engineering Sdn. Bhd.



Precision Engineering Meets Thermal Mastery: How Fourté International Accelerated Fiber Optic Enclosure R&D with SOLIDWORKS Flow Simulation



Company Background

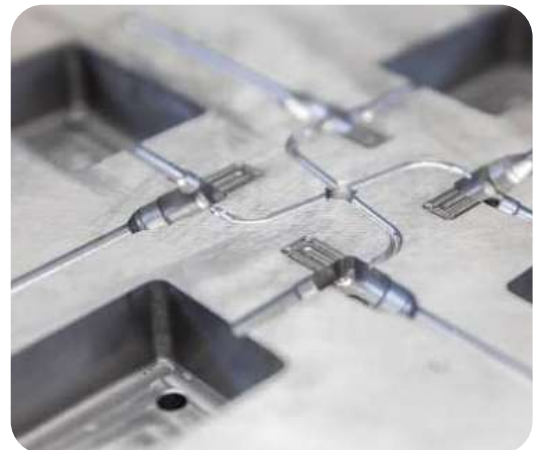
Fourté International Sdn. Bhd. is a precision engineering and advanced manufacturing company specializing in high-precision CNC components, die-cast tooling, and next-generation fiber optic enclosures. Serving key players in telecommunications and global industrial supply chains, the company delivers custom-engineered tooling and hardware solutions designed to meet rigorous thermal, mechanical, and structural standards.

By upgrading from outsourced thermal analysis to in-house **SOLIDWORKS Flow Simulation** supported by **IME**, Fourté reduced its R&D time-to-market by 30%, slashed simulation costs to zero post-implementation, and achieved predictive accuracy within $\pm 1^\circ\text{C}$ of real-world testing.

The Challenge: Dense Components and Soaring Thermal Complexity

As global telecom and fiber optic infrastructure expands, enclosure designs can no longer remain static. Higher component density and increased power requirements inside fiber optic enclosures generate significant heat that threatens signal reliability and hardware longevity.

- 1. Rising Heat Density:** Adding active electronics into sealed fiber optic enclosures created severe thermal bottlenecks.
- 2. Exorbitant Outsourcing Costs:** Prior to bringing CFD capabilities in-house, Fourté relied on third-party simulation consultants. Due to the high cost of hourly consulting fees and the need for continuous design iterations, outsourcing thermal analysis quickly became financially unsustainable.
- 3. Slow Iteration Cycles:** Waiting for external agencies to deliver CFD results created bottlenecked feedback loops, dragging out product development timelines.



The Solution: Bringing CFD In-House with SOLIDWORKS Flow Simulation

Fourté has been a dedicated user of **SOLIDWORKS CAD since Day 1**, relying on its intuitive interface and seamless modeling capabilities. Recognizing the surge in customer demand for thermally optimized enclosures, Fourté invested in **SOLIDWORKS Flow Simulation** to handle fluid flow and thermal analysis directly within their design environment.

Overcoming the Learning Curve with Dedicated Local Support

Fourté successfully built its CFD knowledge and expertise from zero to an expert competency level through IME's dedicated local support and targeted training. While the team initially faced major discrepancies between virtual models and physical testing, they quickly mastered the software to achieve predictive thermal accuracy within $\pm 1^\circ\text{C}$ of real-world results. Operating directly within the native SOLIDWORKS environment further streamlined their workflow, unifying CAD and CFD analysis to eliminate data translation errors and enable fast, real-time design optimizations.

Results & Impact

By embedding SOLIDWORKS Flow Simulation directly into their R&D workflow, Fourté achieved dramatic improvements in accuracy, cost control, and speed-to-market:

Thermal Accuracy:
Improved from $\pm 5^\circ\text{C}$ to $\pm 1^\circ\text{C}$

Development Cycle
30% Shorter Time-to-Market

Engineering Time
>50% Time Reduction

Outsourcing Costs
100% Elimination of External
CFD Fees

1. Exceptional Predictive Accuracy ($\pm 1^\circ\text{C}$)

Early thermal estimates previously carried a margin of error around 5°C . Through refined meshing, proper boundary conditions, and ongoing collaboration with IME, Fourté's simulation models now match physical prototype testing within $\pm 1^\circ\text{C}$.

2. Data-Driven R&D Decisions

By leveraging concrete visual heat maps and airflow trajectories, Fourté's engineering team validates material selection and structural geometry based on empirical data rather than speculative estimates.

3. Massive Time and Cost Savings

By eliminating high third-party hourly fees, Fourté achieved complete cost savings on external analysis and rapidly recovered its software investment. Bringing simulation in-house saved hundreds of engineering hours—turning design revisions that once took weeks into minutes-long tasks—and accelerated time-to-market by 30%, allowing right-the-first-time prototypes of new fiber optic enclosures to launch well ahead of competitors.



Partnering with IME

When asked to describe the relationship with their local SOLIDWORKS partner, Fourté summarizes IME in one word: **Premium**.



Unlike other software providers who only have one support personnel for the entire country, IME provides a premium, highly dedicated local team. They capture our questions quickly and always revert with precise solutions. That level of support makes all the difference.

BT Lye
Engineering Manager
Fourté International Sdn. Bhd.





THE RACE IS WON BEFORE THE CAR LEAVES THE WORKSHOP

What RFK Racing's final inspection reveals about finding a mismatch before delivery.

FARO
AMETEK

A race car can look ready, yet still leave the workshop with a setup that differs from the engineering model. Before it goes to the track, RFK Racing weighs the car, checks alignment and ride height, and compares the physical result with the target.

A 20-MINUTE REALITY CHECK

RFK uses a VantageE6 Max Laser Tracker and a Quantum X Arm. Together, they capture geometry around the finished vehicle, including features that are difficult to access directly. Technicians compare measurements with simulation targets and can adjust the setup while the car is still in the workshop.

FARO reports that the final check takes about 20 minutes. The value is having time to act on a discrepancy before race day.

SMALL DEVIATIONS, REAL CONSEQUENCES

Camber describes wheel tilt; toe describes the direction the tyres point; ride height measures chassis distance from the ground. Small differences can affect how a car behaves at speed. Objective 3D measurement shows whether the physical setup matches the team's target.

For manufacturers, the same question applies to a bracket, fixture or large assembly: does the finished product match its digital definition before it moves to the next stage?

THE INSPECTION QUESTION

Would your final check catch the mismatch before delivery?

CATCH THE DIFFERENCE IN TIME



AN ASSUMPTION WORTH CHECKING

Before a race at Richmond Raceway, RFK changed its suspension. Engineers expected the simulation to account for it, but final inspection revealed unexpected rear camber and toe. After checking the assembly and measurement process, they traced the issue to the model.

The measurement did more than confirm the build. It challenged an assumption the team had considered settled.

THE COST OF FINDING IT LATER

A deviation discovered after delivery can mean rework, delays and an investigation across teams. Portable 3D measurement puts evidence close to the work, where quality and engineering can examine it together.

START WHERE INSPECTION STALLS

Which feature is difficult to reach? When do deviations usually surface? Where does the team repeat measurements or debate the result? Trace one product or assembly that takes too long to verify, then decide which checks would benefit from a connected 3D measurement workflow.

FROM CAD TO PHYSICAL PROOF

Mawea Industries supports manufacturers with FARO laser trackers and Quantum X measuring arms. A useful starting point is your own hard-to-inspect feature, large assembly or recurring mismatch between CAD and reality.

YOUR NEXT PRODUCT IS ALREADY MORE THAN HARDWARE

Can your product data keep up with the engineering behind it?



THE COMPLEXITY TRAP

A high-tech product may bring together mechanical parts, electronics, embedded software and reusable semiconductor IP. Each team can do excellent work, yet a change in one discipline can still leave another working from yesterday's design.

That disconnect makes launches harder to manage. Engineers spend time checking versions, tracing dependencies and reconciling changes. A verified component may be recreated because no one can find it; a late software or hardware revision may surprise the team preparing for release.

THE COMPLEXITY TRAP

Product lifecycle management (PLM) connects product information and the decisions made around it. Intellectual property (IP) management adds visibility into which approved hardware, software or silicon building blocks can be reused, where they appear and who can access them.

When those records connect across disciplines, teams can trace a change from a requirement to an affected design and its next release. That gives product leaders a clearer picture of what is ready, what still needs review and where a decision might create downstream work.

THE QUESTION FOR YOUR TEAM

If a design changed today, could you quickly see every product, team and approved IP block it affects ?

CONNECT THE WORK. PROTECT THE IP.

REUSE WITH CONFIDENCE

A connected IP library can help engineers identify verified components and understand where they have already been used. Reuse then becomes a deliberate engineering choice: check the approved version, its constraints and its dependencies before bringing it into another product.

MAKE CHANGES VISIBLE EARLIER

Mechanical, electrical and software teams need a common view of change. Coordinated review makes it easier to see which requirements, parts and releases are affected, and to involve the right people before a late change reaches manufacturing or a customer.

BUILD GOVERNANCE INTO THE FLOW

Traceable decisions help quality and compliance teams check what was approved, by whom and against which requirements. Access rules also help protect valuable IP while allowing authorised teams to collaborate across the product lifecycle.

MEASURE THE BUSINESS CASE

Begin with a real product family and baseline the time spent finding approved assets, completing change reviews and resolving rework. Then compare those measures after a pilot. The strongest ROI case comes from your own workflow, with assumptions visible to engineering and business leaders.

YOUR ROI STARTS WITH THREE BASELINES

Time to locate approved IP · Time to assess a change · Rework linked to version confusion

Track the same measures after a focused pilot to see whether the connected process is paying off.

WHERE TO START

Choose one product family where teams frequently reuse design assets or coordinate changes across hardware and software. Map how information moves today, identify gaps and define a manageable pilot. Mawea Industries, part of IME Group, can help you discuss how ENOVIA on the 3DEXPERIENCE platform fits that workflow.

TALK TO MAWEA INDUSTRIES

WHERE IS PRODUCT COMPLEXITY COSTING YOU TIME?

Tell us where IP reuse or engineering changes slow your team. We'll help identify a sensible first workflow to review.



EXPLORE WHAT'S POSSIBLE



35+ Years of Longevity

Proven Innovation

2025 Award:
Fast Company Most Innovative
Companies: Stratasys
recognized in Manufacturing

2700+
patents
(and pending)

130+ Established
and experienced global
partner network



Product portfolio
supporting your
sustainability goals

Silver EcoVadis-rated
ESG excellence



Trusted by Fortune
500 companies,
government entities,
and leading innovators
across industries

~\$100 million
invested in R&D
yearly



Certified in multiple international standards (ISO
9001, ISO 13485, ISO 27001, ISO 14001*, ISO 45001*,
AS9100**)

* Stratasys Only ** Stratasys Direct Only

Our Solutions

Techology Solutions

5 Industrial
grade additive
manufacturing
solutions: FDM®,
PolyJet®, SLA,
P3™ DLP, SAF®

Supporting your
entire production
cycle

Polymer Materials

130+ Unique
engineering-grade,
application-specific
polymer materials

500,000+
Color variations,
transparency,
opacity and
flexibility levels

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production – manage printer fleets,
streamline workflows, and protect
data with ISO 27001-certified security,
encryption, and MFA

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tailored service solutions, knowledge and expertise, to
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Partner with a trusted leader in additive manufacturing.



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TEKSOFT®

COBOT AUTOMATION / THE PRODUCTION BOTTLENECK

THE IDLE MINUTES ADD UP.

What machine tending and palletizing can give back to your team.

THE GAP BETWEEN CYCLES

A machine completes its cycle. The next part is ready. But the machine waits for someone to unload, reset and reload it. Those short pauses may be easy to overlook until you add them across a shift.

A cobot can repeat a defined loading and unloading sequence while operators focus on quality checks, exceptions and the next job. The cell still needs the right gripper, safety design, cycle timing and changeover process. Start by measuring the time your machine already spends waiting.

THE FIRST SITE WALKTHROUGH

Watch one full production cycle and record every stop: the operator's travel, the loading step, the machine's run time and the next changeover. That short observation gives the team something real to test against an automated cell.

MAKE THE LAST HANDOFF COUNT.

ONE FLOOR. TWO REPETITIVE BOTTLENECKS.

AT THE MACHINE

When products change often, flexibility matters as much as continuous running. Check how long a cobot cell takes to reset for the next part and whether its cycle fits the machine it serves.

AT THE PALLET

At the end of the line, lifting and stacking can become another hold-up. A cobot can follow a defined pattern for sealed cartons. Its fit depends on carton weight, stacking pattern, line speed and floor space.

THE RIGHT PAYBACK QUESTION

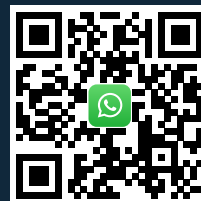
How much time does the team spend waiting, lifting or restacking today? A site assessment should compare that baseline with a proposed cell, including setup, safety, maintenance and changeovers.



BUILD THE ROI CASE FROM YOUR OWN NUMBERS

Baseline machine idle minutes, cartons per shift and operator handling time.
Compare the same measures after a trial.

YOUR FLOOR IS THE STARTING POINT
WHERE COULD A COBOT
GIVE YOUR TEAM TIME BACK?



TAKE THE NEXT STEP



TEKSOFT®

SMART OPERATIONS / SMAC

SEE THE SIGNAL BEFORE THE SHUTDOWN.

THE COST OF NOT SEEING

A pump draws more power than usual. A tank level climbs. A furnace temperature moves out of range. When those changes stay in separate logs or only become visible on a walkaround, operators may have less time to respond.

Teksoft's Smart Monitoring and Control (SMAC) approach connects field sensors and controllers to a view of the process. The value lies in knowing what has changed, when it happened and who needs to act.

FROM DATA TO A DECISION

A useful monitoring system does more than draw charts. It puts key readings in context, records their history and alerts the right team when a condition crosses a defined threshold. With appropriate permissions and safeguards, authorised users may also adjust specified control settings.

That can make energy reviews more precise, help maintenance investigate equipment behaviour and give managers a clearer record of recurring exceptions. The first step is choosing the readings that would actually change an operational decision.

A QUESTION WORTH ASKING

Which abnormal reading would your team want to know about before the next shift?

TURN VISIBILITY INTO ACTION.

01 | ENERGY & UTILITIES

In food and beverage production, tracking electricity, gas, pressure, temperature and humidity can help a team find unusual consumption. Trends and reports give operations a starting point for investigating where and when energy is used.

02 | PUMPS & LEVELS

For pumps and tanks, runtime, power, pressure and liquid level can reveal issues worth checking. Defined alerts can draw attention to overheating, faults or overflow risk so the responsible team can assess the condition promptly.

03 | FURNACES & PROCESS CONDITIONS

In high-temperature processes, teams may need a reliable history of temperature, pressure, fill level and dosing activity. Seeing readings together helps them investigate deviations and document what happened during a run.

04 | CONNECT WHAT MATTERS

SMAC is described as supporting alarms, historical records, reports and industrial connectivity. The right scope depends on existing sensors, controllers, access rules and the actions your team must take. Begin with one asset or utility line and a small set of useful thresholds.

START WITH ONE SIGNAL THAT MATTERS

WHAT IS YOUR OPERATION
TRYING TO TELL YOU?



EXPLORE WHAT'S POSSIBLE



TEKSOFT®

DIGITAL MAINTENANCE / CIMCO MNT

STOP LOSING HOURS TO THE NEXT BREAKDOWN.

A BREAKDOWN HAS A LONG TAIL

The repair itself is only one part of unplanned downtime. Production may pause, operators wait, spare parts need locating and schedules have to change. When the initial fault was reported by message or word of mouth, the maintenance team may spend precious time reconstructing the problem.

CIMCO MNT brings asset, fault and maintenance work into one record. An operator can report an issue at the machine, and the team can see the priority, responsible people and status as the task moves forward.

REPORT, PRIORITISE, PREVENT

A machine-linked report gives technicians a clearer starting point. Rather than chasing separate notes, a team can review faults in one place and decide which equipment needs attention first. Priorities still require people to judge safety, production impact and available resources.

Scheduled service and repeatable checklists add another layer: maintenance tasks can be planned and recorded consistently. That creates a useful history for seeing recurring issues and checking whether preventive work is happening as intended.

THE FIRST METRIC TO FIND

How many hours pass between a fault being spotted, reported and returned to production?

MAKE EVERY REPAIR EASIER TO MANAGE.



KNOW WHAT IS AVAILABLE

Parts and inventory records can help the team check whether a repair can proceed before a technician reaches the machine. Recording materials used and labour hours also makes the total effort behind each maintenance task easier to understand.

MATCH THE JOB TO THE TEAM

When skills, asset knowledge and open work orders are visible together, supervisors have a better basis for assigning jobs. Completed service reports preserve what was done and give the next technician a useful history.

TURN HISTORY INTO PLANNING

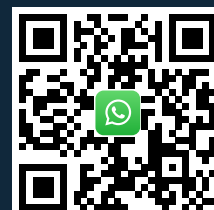
The best business case is built from the current workload: breakdown frequency, response time, repair duration, repeat faults, overtime and parts delays. Track these before and after a focused maintenance workflow pilot.

A PRACTICAL FIRST STEP

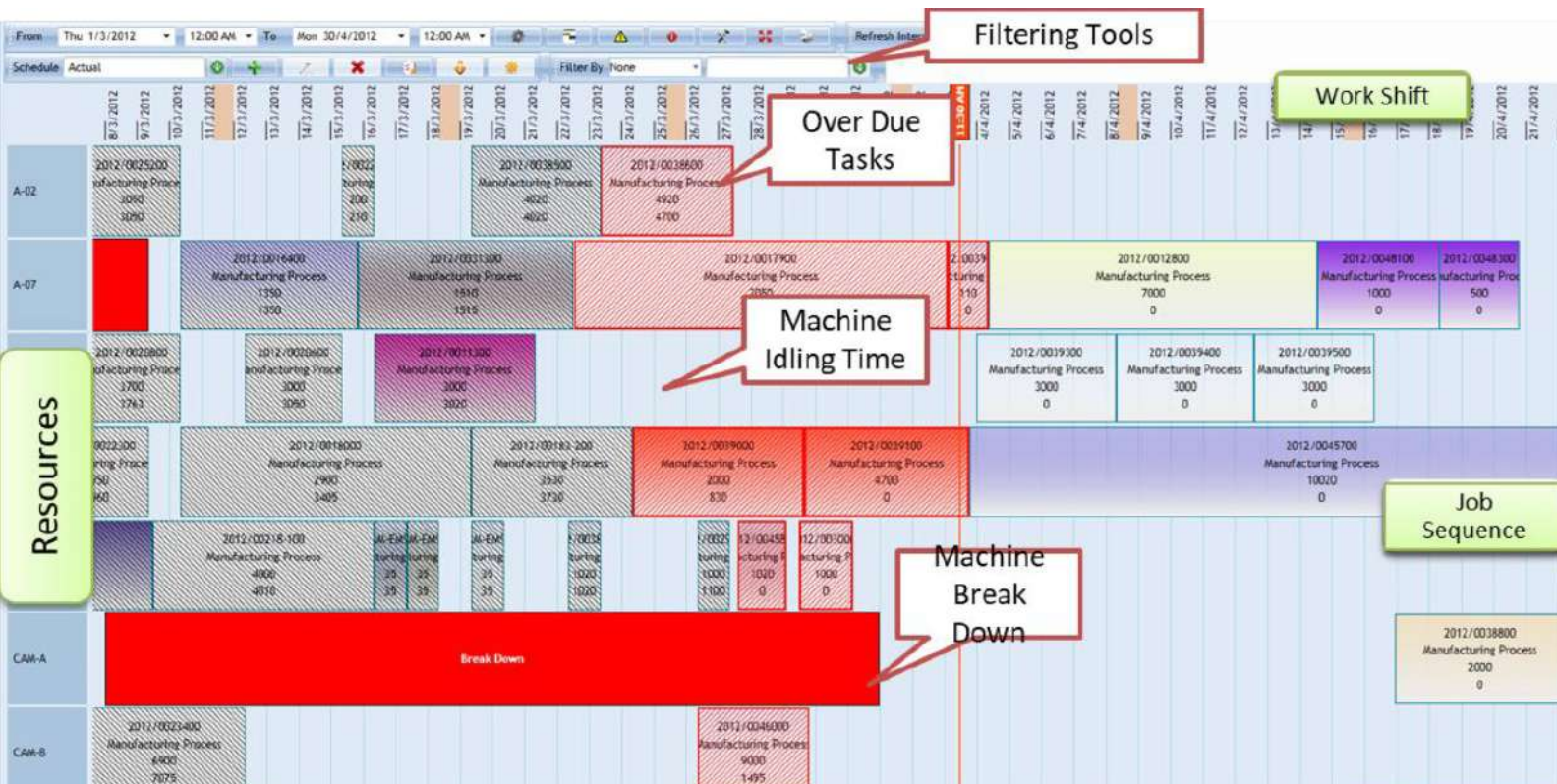
Start with a small group of critical machines. Agree how faults are reported, who sets priority and which service checks need recording. That scope makes it easier to see whether the new process improves handoffs and maintenance visibility.

BRING YOUR MOST FRUSTRATING FAULT TO IME

WHAT IS THE NEXT BREAKDOWN
LIKELY TO COST YOU?



LET'S EXPLORE MORE



Keep production plans connected with MAPS

When priorities change, your team needs a clear view of the plan and the work happening on the floor.

imes[®]
capability management solutions

An urgent order arrives. A machine becomes unavailable. The delivery date stays the same. For high-mix manufacturers, these changes are familiar. The difficulty is keeping everyone working from the latest plan when updates sit in spreadsheets, paper records and separate systems.

IMES MAPS is a locally developed Manufacturing Planning, Scheduling & Operations Management System. It connects production requirements, scheduling and shop-floor execution so teams can see what needs to run, which resources are needed and how work is progressing.

MAKE THE SCHEDULE EASIER TO REVIEW

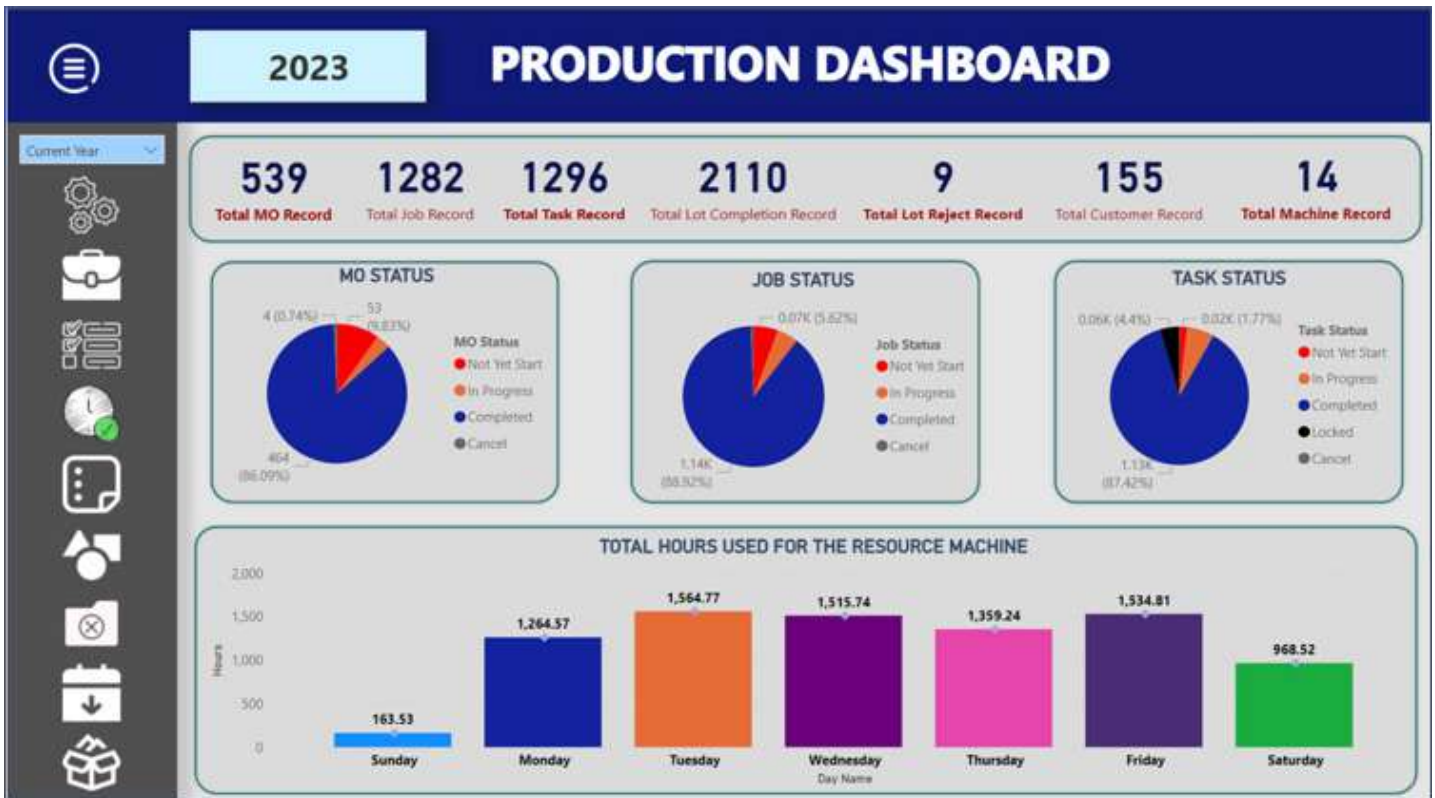
MAPS supports forward and backward scheduling using production routes, job priorities, delivery requirements and available resources. Its visual schedule helps planners review job sequences, shifts, idle periods and overdue work. When conditions change, they can assess and adjust the schedule.

KEEP THE PLAN CONNECTED TO PROGRESS

Through Manufacturing Orders, Job Orders and production tracking, personnel can update task progress. Planners and supervisors can then monitor work in progress, completed activities and outstanding jobs, giving them a clearer basis for the next scheduling decision.

TURN PRODUCTION RECORDS INTO USEFUL INSIGHT

A production record becomes more useful when it helps answer a business question. Which jobs are still in progress? Where is capacity being used? Which delays need attention? MAPS Analytics brings manufacturing information into dashboards that help teams review status and operational trends.



MAPS production dashboard brings order, job and task status together with resource machine hours.

SEE WHAT NEEDS ATTENTION

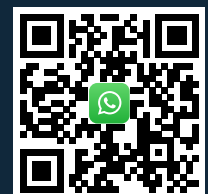
Teams can review production progress alongside resource usage, schedule status and relevant quality or material information. Bringing these records together helps supervisors investigate delays and gives management a clearer view of manufacturing performance.

KEEP THE PLAN CONNECTED TO PROGRESS

MAPS can exchange relevant information with external business and manufacturing applications through APIs and system integration. The scope depends on the interfaces and requirements of the connected systems. This helps link business demand, production plans and shop-floor updates.

How quickly can your team respond when production changes?

Start with one challenge, such as tracking an urgent job or responding to a resource change. Bring it to the IMES team at IMEID27. Let's explore how MAPS could keep your next decision connected to the work on your floor.



TAKE THE NEXT STEP



TEKSOFT®

SMART OPERATIONS / PICK TO LIGHT

The Light That Takes the Guesswork Out of Picking

A wrong item leaves the shelf. By the time someone spots the mistake, a production kit may be incomplete, an order may need to be repacked or a customer may already be waiting for the correct delivery. The cost is bigger than the item itself: people spend time tracing the error, checking stock and putting the work right. That is the problem Teksoft's Pick to Light (PTL) system is designed to address. Light indicator modules are fitted to shelving, flow racks, workbenches or other storage locations. Instead of asking an operator to remember which bin holds each part, the system makes the next location visible at the point of work.

A WRONG PICK RARELY STAYS IN ONE PLACE

For a warehouse, an incorrect pick may create repacking, additional shipping and a dissatisfied customer. On an assembly line, the wrong component may interrupt a build or trigger rework. In a work-in-progress store, the mistake can affect the next process before anyone notices the original cause. The exact cost varies by operation, but the chain of extra work is familiar.

SCAN THE JOB. FOLLOW THE LIGHTS.

The workflow begins when an operator scans a barcode or RFID tag. Lights illuminate the locations of the stock keeping units (SKUs) needed for that order or task. The operator picks from each indicated location and presses the illuminated button to confirm that step. When the required picks have been confirmed and the lights are off, the next job can begin.

This simple sequence removes a common source of uncertainty. The operator does not have to translate a paper list into a row, shelf and bin while trying to keep pace with the work. The instruction appears where the item is stored, and the confirmation happens at the same place. A new or temporary team member has a clearer route through the task, while an experienced picker can spend less time searching.

Guidance at the shelf can help reduce those errors. The light points to the intended location, and the button confirms the operator has completed that step. Where item identity or quantity must be independently verified, teams should include the appropriate checks in their workflow.

MAKE THE NEXT PICK CLEARER.

ONE METHOD, DIFFERENT KINDS OF WORK

PTL is often associated with warehouse order picking, but Teksoft's brochure also identifies assembly lines, work-in-progress stores, semiconductor operations, mould and die environments, and bolt and nut storage as potential applications. The common thread is repeatable picking from defined locations. Wherever an operator must locate the correct part at the right moment, visual guidance may simplify the task.

For a production kit with similar fasteners, a paper instruction tells the operator what is needed. A lit location shows where to take it from. That clarity helps when parts look alike or orders change frequently.

START WHERE MISTAKES HURT MOST

A useful first step is to choose one picking area and measure its current performance. Look at wrong picks, time spent locating parts, rework and how long it takes new staff to learn the task. Then map the order flow from scan to pick confirmation and identify the locations where visual guidance would help most. A focused pilot gives the business a concrete way to judge the value of PTL before expanding it.

CONNECT THE INSTRUCTION TO THE OPERATION

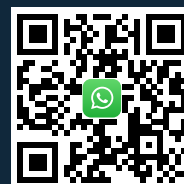
The brochure depicts a PTL server and controller working with the light modules, with an API link to ERP, warehouse management or manufacturing execution systems. It also shows scanning devices, a database and a dashboard. The actual integration depends on the existing systems and workflow. A light can only guide the right pick when its order, SKU and location data are accurate.

That makes implementation a process question as much as a technology question. Which tasks produce the most errors? Are the bins and labels consistent? How will operators handle a short pick, a damaged item or a changed order? Working through these exceptions early helps the team design a workflow people can follow when the day does not go exactly to plan.

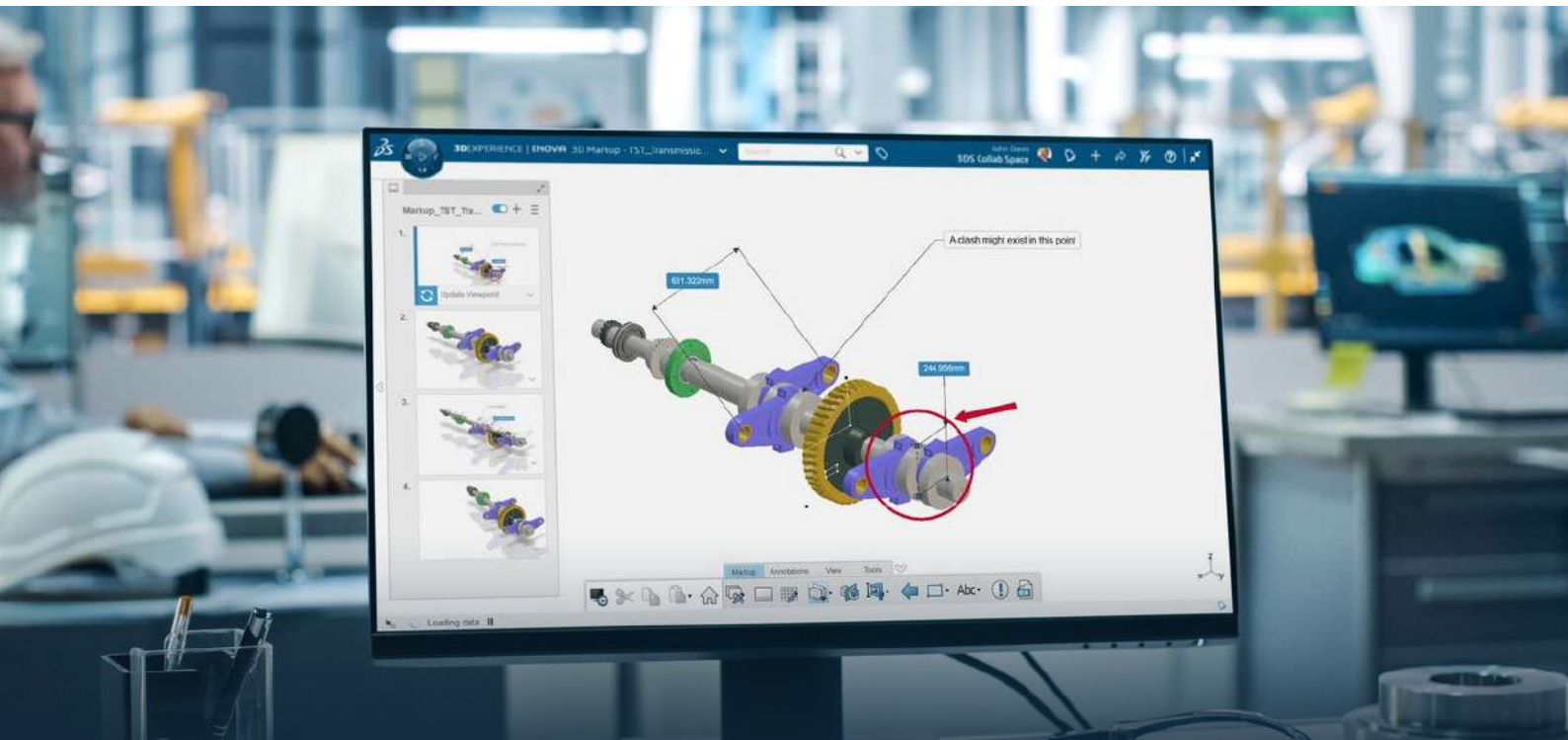
Teksoft (SEA) can help you examine the picking process, the layout of your storage locations and the systems that would need to connect. The aim is a workflow that is easier for operators to follow and easier for the business to trust.

**One wrong pick can start a chain
of costly corrections.**

Make the next pick clearer.



DISCOVER WHAT'S NEXT



INDUSTRIAL AI

AI THAT UNDERSTANDS MORE THAN THE QUESTION

Meet AURA, LEO and MARIE : three Virtual Companions bringing different kinds of expertise to the 3DEXPERIENCE platform.

A product requirement changes. The project manager needs to know which teams are affected. An engineer has to check whether a new design will work. A scientist is evaluating a material the team has never used before. Each person could ask an AI tool for help, but a useful answer depends on the work behind the question: the product data, the decisions already made and the expertise needed next.

MEET THE AI EXPERTS

Three experts, Three different questions. One connected platform



Business and product knowledge.

Find and connect information across requirements, projects and changes, so your team can better understand the background to a decision.



Engineering expertise

Support across mechanical design, simulation, validation and manufacturing. Get help exploring design issues, assessing a model or resolving an error - right at the point of decision.



Scientific expertise

Provide guidance in materials, chemistry and laboratory research. Help examine evidence and possible approaches for new formulations or unfamiliar behavior.

CONTEXT IS WHAT MAKES THE ANSWER USEFUL.

These companions are designed to work within the industrial context of the 3DEXPERIENCE platform, where designs, product information and processes can be connected. A response linked to the right project and data gives teams a better basis for their next decision. Information still needs to be current, access rights appropriate and results reviewed by the people responsible.

WHAT DOES THIS MEAN FOR PLM TEAMS?

ENOVIA is introducing AURA competencies for PLM work, with further skills planned across 3DEXPERIENCE releases. When a requirement changes, the useful question is which decisions, people and tasks need attention. Access to that context could help teams prepare a more informed review instead of reconstruction the product's history from scratch.

The companions are available on 3DEXPERIENCE SaaS. Their specific capabilities depend on your roles, competencies and platform release, so check what is available in your environment.

CHOOSE ONE DECISION WORTH IMPROVING

Begin with a question your team answers repeatedly but slowly. Map the current steps, identify the data involved and define a better outcome.

01**Pick a real decision**

A requirement, design issue or material choice that takes too long to answer.

02**Test with the relevant companion**

Use AURA, LEO or MARIE with the people who own that decision.

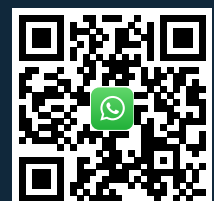
03**Measure the impact**

Time saved, clarity of hand-offs and the quality of every result.

EXPLORE THE OPPORTUNITY WITH MAWEA

**The answer exists.
Why is your team still searching for it?**

Bring your toughest product-development question to IME Team at IMEID27. Let's explore how AURA, LEO or MARIE could help your team find the right context decision with confidence.



TAKE THE NEXT STEP

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Every Professional



Lead with intelligent productivity

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From AI driven applications to complex design, engineering, and data analysis, today's professionals demand more than standard PCs. Lenovo Workstations—mobile and desktop—are engineered to deliver uncompromising speed, reliability, and scalability for every environment.

Case Studies: Power Users in Action



Ducati Corse:

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KÉSZ Group:

Engineers working seamlessly in the field and office

[Discover More](#)



Pond & Company:

Remote professionals with desktop-level performance

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Lenovo Workstations Specifications



ThinkPad P1

**The Power You Need,
the Machine You Want**

CPU: Intel® Core™ Ultra 9
OS: Windows 11 Pro
GPU: NVIDIA RTX™ 3000 Ada
Memory: 64GB, 7467MT/s
SSD: 8TB M.2 NVMe
Display: UHD+ OLED Touch



ThinkPad P16s

**Mobility Without
Compromise**

CPU: Intel® Core™ Ultra X9 Series 3
OS: Windows 11 Pro
GPU: NVIDIA RTX™ PRO 2000 Blackwell
Generation Laptop GPU
Memory: 96GB LPDDR5x
SSD: 4TB NVMe PCIe® Gen5
Display: IPS Touch



Lenovo ThinkStation P2

**Power of a Workstation,
Price of a Desktop**

CPU: Intel vPro® platform featuring
Intel® Core™ processors
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GPU: NVIDIA RTX™ A2000
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Display: 8TB M.2 PCIe® Gen4

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2027 IME TRAINING COURSES

SOLIDWORKS		
PROGRAMME TITLE	DURATION	COURSE INTRODUCTION
Essentials	5 Days	Everything you need to know about SOLIDWORKS for building parametric models of parts and assemblies, and making drawings of those parts and assemblies.
Advanced Topics	5 Days	A collection of several advanced CAD modeling techniques. It includes selected lessons and exercises from SOLIDWORKS Assembly Modeling, Advanced Part Modeling, Surface Modeling, Sheet Metal and Weldments.
Advanced Part Modelling	3 Days	The Advanced Part Modelling course is for SOLIDWORKS users who need to create complex parts or just want to become more productive.
Advanced Assembly Modelling	3 Days	The Assembly Modelling course is a must for anyone who wants to master the use of SOLIDWORKS for creating and using assemblies.
Sheet Metal Design	3 Days	SOLIDWORKS Sheet Metal course is designed for users who need to learn how to model sheet metal parts that will be bent in a press brake.
Weldments (Structural Design)	2 Days	SOLIDWORKS Weldments can save up to 90% of your time. This is for any user who designs structures made out of components with constant profiles.
Routing - Piping and Tubing	2 Days	This course will focus on the routing techniques for piping and tubing.
Routing - Electrical	2 Days	This course will focus on the routing techniques for electrical.
Mold Design	3 Days	Mold Design course teaches you how to quickly generate the tooling for any given part and separate it into core and cavity components.
Simulation	3 Days	This course will introduce the participants to fundamental design validation tool for conducting static analysis.
Simulation Professional	2 Days	This course will introduce the participants to the design validation tool for conducting advanced analysis.
Simulation Premium: Nonlinear	2 Days	This course will introduce the participants to the nonlinear static structural behaviour of part and assembly models.
Simulation Premium: Dynamics	2 Days	This course will introduce the participants to the linear & nonlinear dynamic structural behaviour of parts and assemblies.
Simulation Motion	2 Days	This course will introduce the participants to the motion simulation for mechanism study.
Flow Simulation	2 Days	This course will introduce the participants to computational fluid dynamic (CFD) analysis for fluid flow and heat transfer studies.
Plastics Standard	1 Day	This SOLIDWORKS Plastics course teaches you how to use specialised simulation software tools to predict how melted plastic flows during the injection molding process.
Plastics Professional	2 Days	This SOLIDWORKS Plastics course teaches you how to use specialised simulation software tools to predict how melted plastic flows during the injection molding process. This course covers all the features and functions of SOLIDWORKS Plastics Professional (for part designers).
Plastics Premium	3 Days	The SOLIDWORKS Plastics course teaches you how to use specialised simulation software tools to predict how melted plastic flows during the injection molding process. This course covers all the features and functions of both SOLIDWORKS Plastics Professional and Premium (for part and mold designers).
SOLIDWORKS Electrical: Schematic	3 Days	This course will introduce the participants to 2D schematic design, including single line and multi-line diagram. Participants will also learn how to generate drawing output.
SOLIDWORKS Electrical: 3D	1 Day	This course will introduce the participants to electrical 3D features which include technique on integrating 2D schematic to SOLIDWORKS 3D and complete the drawing output.
SOLIDWORKS File Management	1 Day	File Management course will discuss about different techniques for managing CAD documents such as assembly, part and drawing documents.
SOLIDWORKS Composer	3 Days	SOLIDWORKS Composer course will discuss the fundamental skills and concepts central to complete publishing task.
Administering SOLIDWORKS PDM	2 Days	Fundamental skills and concepts central to the successful use of SOLIDWORKS PDM. The intended audience for this course is anyone who will setup and/or administer SOLIDWORKS PDM.

2027 IME TRAINING COURSES

SOLIDWORKS

PROGRAMME TITLE	DURATION	COURSE INTRODUCTION
Using SOLIDWORKS PDM	1 Day	Fundamental skills and concepts central to the successful use of SOLIDWORKS PDM. The intended audience for this course is anyone who will use and manage files with SOLIDWORKS PDM.
API Fundamentals	3 Days	How to use the SOLIDWORKS API (Application Programming Interface) to automate and customise SOLIDWORKS.
Visualize Standard	1 Day	This course teaches how to use the SOLIDWORKS Visualize software to create professional, high quality renderings, videos and VR outputs for marketing purposes. Focusing on Standard users.
Visualize Professional	2 Days	This course teaches how to use the SOLIDWORKS Visualize software to create professional, high quality renderings, videos and VR outputs for marketing purposes. Focusing on Professional users.
Inspection	1 Day	Learn the basics of working with SOLIDWORKS Inspection to automate the process of working with inspection documents.
CAM Standard	2 Days	Use SOLIDWORKS CAM Standard to generate, modify and post-process 2.5 axis milling toolpaths used for machining of SOLIDWORKS part files.
CAM Professional	2 Days	Use SOLIDWORKS CAM Professional and VoluMill™ to perform 3 plus 2 machining and generate, modify and post-process 2 axis turning toolpaths used for the machining of SOLIDWORKS part files.
CSWP Refresher	1 Day	This course will discuss the formats and requirements of the CSWP Exam, including case studies on how to solve the questions in the exam.
CSWA/CSWP Exam	1/2 Day	SOLIDWORKS Certifications can be used as a benchmark to measure your knowledge and competency with SOLIDWORKS software.
Upgrade (What's New SOLIDWORKS 2025)	1/2 Day	Discover the forefront design and innovation on the new feature updates in the latest release of SOLIDWORKS.

DRAFTSIGHT

PROGRAMME TITLE	DURATION	COURSE INTRODUCTION
DraftSight - 2D Drafting	2 Days	Use DraftSight 2D Drafting features to optimise your drawings and designs for manufacturability so you can maximise quality, avoid rework and decrease time to market.
DraftSight - 3D Drafting	3 Days	Use DraftSight 2D and 3D Drafting features to optimise your drawings and designs for manufacturability so you can maximise quality, avoid rework and decrease time to market.

INDUSTRIAL COURSES

PROGRAMME TITLE	DURATION	COURSE INTRODUCTION
Stack-Up Analysis	3 Days	Learn the calculation method that allows designers to control the overall tolerances from individual parts to the whole assembly.
Simulation-Driven Design	5 Days	This course will take the engineers through the three types of nonlinearities, and mesh refinement, with the objective of achieving accurate prediction of simulation FEA results.
Do It Right The First Time (DRIFT) Plastics Design	2 Days	This course looks at the various root causes of failed plastic parts so that participants can learn how to detect and deal with them.
Root-Cause Your Plastic Part Problems	2 Days	This course examines the possible root cause(s) of the variety of problems encountered during the production, assembly and usage of injection molded plastic parts.

2027 IME TRAINING COURSES CALENDAR

SELANGOR

PROGRAMME TITLE	DURATION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
SOLIDWORKS													
3D MODELLING													
SOLIDWORKS Upgrade	1/2 Day	25	-	-	22	-	-	21	-	-	25	-	-
3DEXPERIENCE Essentials	5 Days	4-8	15-19	1-5	5-9	3-7	31-4	5-9	2-6	6-10	4-8	1-5	6-10
SOLIDWORKS Advanced Topics	5 Days	11-15	22-26	15-19	12-16	10-14	14-18	12-16	9-12	20-24	11-15	8-12	13-17
DESIGN VALIDATION													
SOLIDWORKS Simulation	3 Days	11-13	22-23	15-17	12-14	10-12	14-16	12-14	9-11	20-22	11-13	8-10	13-15
SOLIDWORKS Flow Simulation	2 Days	18-19	-	22-23	-	25-26	-	19-20	-	27-28	-	15-16	-
PROFESSIONAL CERTIFICATION													
CSWP Refresher	1 Day	20	-	25	-	24	-	22	-	27	-	19	-
CSWP Exam	1/2 Day	28	-	31	-	28	-	26	-	30	-	25	-

PROGRAMME TITLE	DURATION	PROGRAMME TITLE	DURATION	PROGRAMME TITLE	DURATION
SOLIDWORKS		SOLIDWORKS		SOLIDWORKS	
3D MODELLING		DESIGN VALIDATION		DATA MANAGEMENT	
SOLIDWORKS Advanced Part Modelling	3 Days	SOLIDWORKS Simulation Professional	2 Days	Administering SOLIDWORKS PDM	2 Days
SOLIDWORKS Assembly Modelling	3 Days	SOLIDWORKS Simulation Premium: Nonlinear	2 Days	Using SOLIDWORKS PDM	1 Day
SOLIDWORKS Surface Modelling	3 Days	SOLIDWORKS Simulation Premium: Dynamic	2 Days	API Fundamentals	3 Days
INDUSTRIAL-BASED TRAINING		SOLIDWORKS Simulation Motion	2 Days	API Fundamentals of SOLIDWORK PDM	2 Days
SOLIDWORKS Sheet Metal	3 Days	SOLIDWORKS Plastics Standard	1 Day	SOLIDWORKS File Management	1 Day
SOLIDWORKS Weldments	2 Days	SOLIDWORKS Plastics Professional	2 Days	TECHNICAL DOCUMENTATION & PRESENTATION	
SOLIDWORKS Mold Design	3 Days	SOLIDWORKS Plastics Premium	3 Days	SOLIDWORKS Composer	3 Days
SOLIDWORKS Routing - Piping and Tubing	2 Days	CAM		SOLIDWORKS Visualize Standard	1 Day
SOLIDWORKS Routing - Electrical	2 Days	SOLIDWORKS CAM Standard Essentials	2 Days	SOLIDWORKS Visualize Professional	2 Days
SOLIDWORKS API Fundamentals	3 Days	SOLIDWORKS CAM Professional	2 Days		
2D DRAWING		ELECTRICAL DESIGN			
Draftsight - 2D Drafting	2 Days	SOLIDWORKS Electrical : Schematic	3 Days		
Draftsight - 3D Drafting	3 Days	SOLIDWORKS Electrical : 3D	1 Day		
SOLIDWORKS Drawings	2 Days				

PROGRAMME TITLE	DURATION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
MASTERCAM													
MASTERCAM Mill (Basic)	3 Days	4-6	15-17	1-3	5-7	3-5	1-3	5-7	2-4	6-8	4-6	1-3	6-8
MASTERCAM Mill (Advanced)	3 Days	18-20	22-24	15-17	12-14	10-12	14-16	19-21	16-18	20-22	18-20	16-18	13-15
MASTERCAM Lathe	2 Days	-	25-26	-	19-20	-	21-22	-	22-23	-	25-26	-	20-21
ARCHICAD													
ARCHICAD Essential (BIM Modelling & Doc)	2 Days							Upon Request					
ARCHICAD Advanced	3 Days							Upon Request					

2027 IME TRAINING COURSES CALENDAR

SELANGOR

PROGRAMME TITLE	DURATION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
INDUSTRY COURSE													
Finite Elements Analysis (FEA)	2 Days						Upon Request						
Geometric Dimensioning & Tolerancing	3 Days	25-27	-	22-24	-	24-26	-	26-28	-	27-29	-	22-24	-
Jigs & Fixtures Design	2 Days						Upon Request						
Stack-Up Analysis	3 Days						Upon Request						
MyTRIZ Level 1	2 Days						Upon Request						
Industry 4.0 Technical Fundamental and Readiness	2 Days						Upon Request						
Simulation-Driven Design	5 Days						Upon Request						
Do It Right The First Time (DRIFT) Plastics Design	2 Days						Upon Request						
Root-Cause Your Plastic Part Problems	2 Days						Upon Request						

WHY?

- ✓ HRD Corp Claimable
- ✓ Approved "Class A" training provider register under HRD Corp PROLUS Scheme
- ✓ Training customisable according to organisational requirements

SPECIAL STUDENT PROGRAMME

- School holiday training programme
- Job placement programme
- Student certification programme (CSWA)

For more details, please contact:
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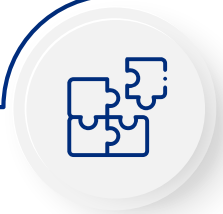
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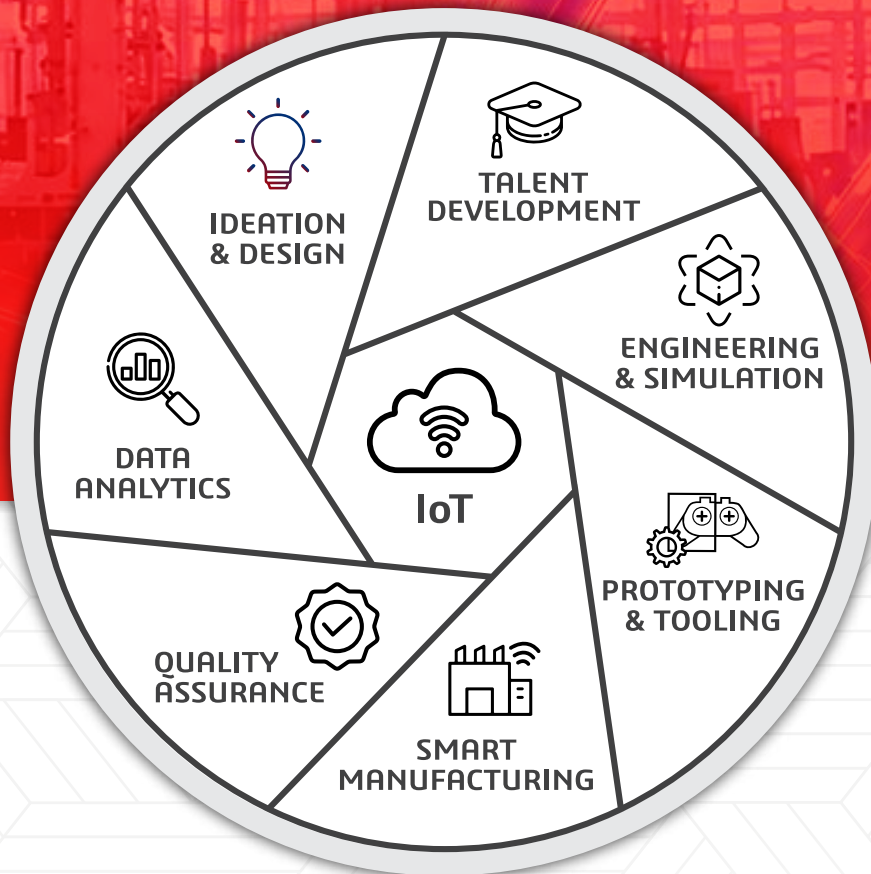
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We care for your needs and we want you genuine feedback for us to improve our services.



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