

ASMI X WSG Seminar

AI in Action: Workforce
Transformation in Marine & Offshore



Organised by:



Supported by:



28 May 2026
2pm - 4pm

Trade Association Hub
Training Room T1C



Employment and Employability Institute

Enterprise & Workforce Transformation Through AI

Presented by:
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Manager (Manufacturing)
NTUC's e2i, Industry Partnership Group

About e2i

Incorporated in 2007, **e2i** is a tripartite initiative of the National Trades Union Congress (**NTUC**), supported by Singapore National Employers Federation (**SNEF**) and Singapore Labour Foundation (**SLF**), in strong partnership with Workforce Singapore (WSG) and SkillsFuture Singapore (SSG).

Mission:

To create better jobs for better lives

Vision:

To be the leading organisation to create solutions for better employment and employability



NTUC's Training & Placement Ecosystem :



Training and Transformation



Partnering you to create **Better Jobs for Better Lives**

Whole-of-Integrated NTUC (W.I.N) – Win-Win Outcomes for Businesses and Workers



WORKERS

Make every worker a better worker

Job Matching

Career Guidance

Skills Upgrading



Employment and Employability Institute

Connecting Workers

Provide job security through job-matching, career guidance, and skills upgrading services.

Partnering Employers

Address manpower needs with recruitment, training, and job redesign solutions to create better jobs.

EMPLOYERS

Make every job a better job

Recruitment

Training

Job Redesign

Empowering Companies and Workers



Recruitment

- Physical Touchpoints
- Talented 3.0
- Telegram Job Alerts
- Recruitment Fairs



Training

- Career Conversion Program
- LHub Learning eXperience Platform (LXP)



Transformation

- NTUC CTC Grant
- Operation & Technology Roadmap (OTR)

Navigating an AI-Ready SG with you

ntuc

AI PLAYBOOK

Electronics, Marine and Engineering Sectors

An AI adoption guide for companies in the Electronics, Marine & Engineering sectors, featuring sector-specific examples that enhance workplace productivity, safety, and drive long-term business competitiveness.



NTUC'S AI-READY SG INITIATIVE

INTRODUCTION

NTUC's AI-Ready SG is an initiative driven by NTUC Job Security Council to help workers thrive in an AI-enabled future. Working with tripartite partners, AI-Ready SG consolidates AI initiatives for both workers and employers, equipping workers with AI relevant skills, supporting companies in business transformation and job redesign for better worker outcomes, and improving job matching so workers can access better opportunities, thereby contributing towards a fair transition for workers amid AI adoption.

This playbook is designed to guide workers and companies in navigating the AI-enabled economy. It shares resources, strategies, and success stories that illustrate how job redesign and upskilling in AI can raise productivity and benefit both workers and businesses.

AI-READY SG Powered by **NTUC Jobs Council** **ntuc** job partners

ENABLING BUSINESS AND WORKFORCE TRANSFORMATION

AI TRANSFORMATION

AI is a key driving force of today's industrial transformation. As industries transform, AI is also creating opportunities for workers to take on safer, smarter, and higher-value roles. Across the world, AI is reshaping jobs, reducing repetitive tasks and enabling employees to focus on higher value-added tasks.

To help workers and businesses embark on this transformation, NTUC acts as a strategic enabler through tripartite collaboration:

- Collaborative Strategy Design**
Bringing the labour movement, employers, and government partners together
- Workforce Integration**
Aligning technology adoption with job redesign and upskilling
- Guided Transformation**
Using proven tools like the Operations & Technology Roadmap (OTR)

SECTORAL AI SOLUTIONS

AI IN ELECTRONICS, MARINE AND ENGINEERING SECTORS - USE CASES ACROSS EME VALUE CHAIN

AI is transforming every stage of the EME value chain not just by enabling smarter, faster, and more resilient operations, but also by reshaping jobs to make work safer, less repetitive, and more meaningful. As workers gain new skills and confidence with AI tools, businesses unlock efficiencies and innovation. Here are some areas where AI empowers people and drives business outcomes:

- Intelligent Commodity & Demand Forecasting**
Cost savings purchasing strategies based on commodity and demand trends.
- Predictive Maintenance**
Minimised disruption to production and improved throughput.
- Automated Inspections**
Increased defect detection speed and accuracy and ensures consistent product quality.
- AI Assistant For Equipment Repair & Training**
Reduced machine downtime, accelerated learning and enhanced workforce agility.
- Autonomous Mobile Robots**
Enhanced workplace safety and workers' ergonomics.
- Smart Warehouse**
Improved inventory oversight and faster order fulfillments.
- AI-powered CRM**
Smarter sales lead management resulting in higher conversions. Pro-active churn identification and prevention.
- AI-powered Systems**
Reduction in manual tasks and increased operational efficiency and accuracy.



Better Jobs For Life
Employment and Employability Institute



Recruitment

e2i has 28 touchpoints across Singapore providing support closer to communities. Accessible job matching, career guidance and skills upgrading services.



Share your vacancies and we will help with job matching.

Access to NTUC e2i's Talented 3.0 Job Portal

Welcome to Talented
The world's leading talent intelligence platform

Email

Password

[Forgot password?](#)

Sign in

The screenshot shows the e2i job portal dashboard with a navigation bar at the top containing icons for Jobs, Persona, Jobs, Course, Hub, and Me. The main content area displays six job listings in a grid:

- Quality Assurance Engineer (Tooling First Article + Metrologist)**
Full-time · Jan 13, 2026 - 09:24 AM
Fu Yu Corporation Limited
Job Owner: Cryan Ong, Hiring Manager: James Yeo
34 talents matched, 1 applicant
- Assistant Facility Manager / Senior Engineer**
Full-time · Jan 13, 2026 - 09:24 AM
Fu Yu Corporation Limited
Job Owner: Cryan Ong, Hiring Manager: James Yeo
320 talents matched, 2 applicants
- Facility Engineer**
Full-time · Jan 12, 2026 - 11:44 AM
Lincstech Circuit Singapore
Job Owner: Karen Tan, Hiring Manager: Mui Hong Ng
34 talents matched, 0 applicant
- Maintenance Engineer**
Full-time · Jan 12, 2026 - 11:44 AM
Lincstech Circuit Singapore
Job Owner: Karen Tan, Hiring Manager: Mui Hong Ng
218 talents matched, 5 applicants
- QA Engineer**
Full-time · Jan 12, 2026 - 11:44 AM
Lincstech Circuit Singapore
Job Owner: Karen Tan, Hiring Manager: Mui Hong Ng
101 talents matched, 0 applicant
- Process Engineer**
Full-time · Jan 12, 2026 - 11:44 AM
Lincstech Circuit Singapore
Job Owner: Karen Tan, Hiring Manager: Mui Hong Ng
11 talents matched, 0 applicant

Supporting New Hire Onboarding

e2i works with partner companies to ensure new hires **integrate**, **adapt** and **grow** with confidence.



Career Conversion Programme (CCP)

Support for career transition and successful integration of mid-career new hires.

Onboarding Kit for New Hires

Practical resources and checklists to help new hires settle in and succeed faster.

Microlearning on Learning eXperience Platform (LxP)

Bite-sized curated learning to build skills and boost confidence on the job.



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Employment and Employability Institute



Training

Career Conversion Programme (CCP)

Future-Ready Workforce - Transform Talent and Drive Growth



Equip your Workforce with New Capabilities

- Supports mid-career switchers' transition into roles with good employability prospects



Structured Training

- Inhouse classroom training and/or OJT to equip trainees with the required skills



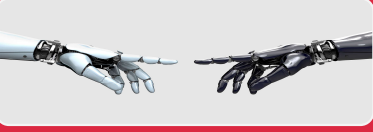
Reduce New Hire(s) Training Costs

- Up to 90% salary support during training duration



Broaden your access to Skilled Talent

- Tap into mid-career professionals looking to pivot into new roles



Supports Workforce Transformation

- Strengthens long-term workforce capabilities

For Technical Roles, ASMI is the Programme Partner for the CCP

Career Conversion Programme (CCP)

Programme	Standard Rate (<40 years old)	Enhanced Rate (≥40 years old/ ≥ 6 mths unemployed)
Career Conversion Programme For new hires with significant skill gaps transitioning into new job roles	Up to 70% of monthly salary for training duration (capped at \$5,000 per month)	Up to 90% of monthly salary for training duration (capped at \$7,500 per month)

Training Duration

- Capped at maximum 6 months

Eligibility Criteria

- Singapore Citizen or Permanent Resident
- Minimum 21 years old
- Graduated or completed National Service for at least 2 years, whichever is later
- New job must differ significantly from previous role, subjected to approval
- Jobs offered under CCP should align to PWM/OPW.

Partner with e2i to future-proof your workforce!

CCP Case Study: Sales Executive -> Operations Data Analyst

Challenge

- Company needed an Operations Data Analysts to support digital transformation.
- Existing team lacked data-skilled talents.



Alvin, 41
Former QA Inspector with
15 years in manufacturing QA

Solution

- Company enrolled into CCP and hired Alvin, a 41-year-old former Sales Executive.
- Alvin trained for 3 months:
 - Reporting workflows
 - KPI dashboards
 - BI prototyping
 - Safety analytics
- Company received 90% salary support for 3 months.

Results

- Alvin transitioned into data analyst role.
- Reporting cycle time reduced by 40%
- Improved risk visibility and recovery actions.



UTAP

Union Training Assistance Programme

What is UTAP?

Training benefit for NTUC members
Supports upskilling and employability

Covers approved courses and selected AI tools (NEW)

50% unfunded course fee support

Funding Support

<40 years old: Up to \$250/year

40 years & above: Up to \$500/year

NTUC Starter Members: Up to \$200/year
Additional AI tools support available

How to Claim

1. Search eligible courses/tools
 2. Complete the course
 3. Submit claim via Singpass
- Maintain paid-up membership

From 1 May 2026 to 30 April 2028, Complete selected NTUC LearningHub AI courses to enjoy 6 months of complimentary premium AI tool access.

Training Platform for Employees

Learning eXperience Platform (LXP)

A learning platform that empowers **individuals** and **employees** to take their learning into their own hands.



Anytime. Everywhere.

Learners can learn on the go, at their own pace. Access through desktop or mobile app – classroom in the pocket.

Full Range of Content

Different content providers covering the learning needs of the everyone.

Bite-Sized Learning

Engaging learners with contents that are in short and digestible formats like videos, infographics, audio, etc.

Redefine Learning Experiences

Learners are able to deepen and widen their skillsets based on their personal interests.

Earn Certifications

Get certified while building skills that can supplement your career goals.



Workplace Safety

40 mins



Cyber Security Awareness

30 mins



e2i: How will you handle a task you have never done before



Microsoft 365 for New Employees

5 hrs



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DEVAN NAIR
INSTITUTE
FOR EMPLOYMENT
AND EMPLOYABILITY



Transformation



NTUC Company Training Committee (CTC) Grant

Empowering Enterprise and Workforce Transformation

Up to
70%
Co-Funding
Support!

Equipment
Software
Safety Systems
Consultancy
Training



Enterprise Transformation

- Enhanced business capabilities, innovation and/or productivity.
- Drive competitiveness and sustainable business growth.

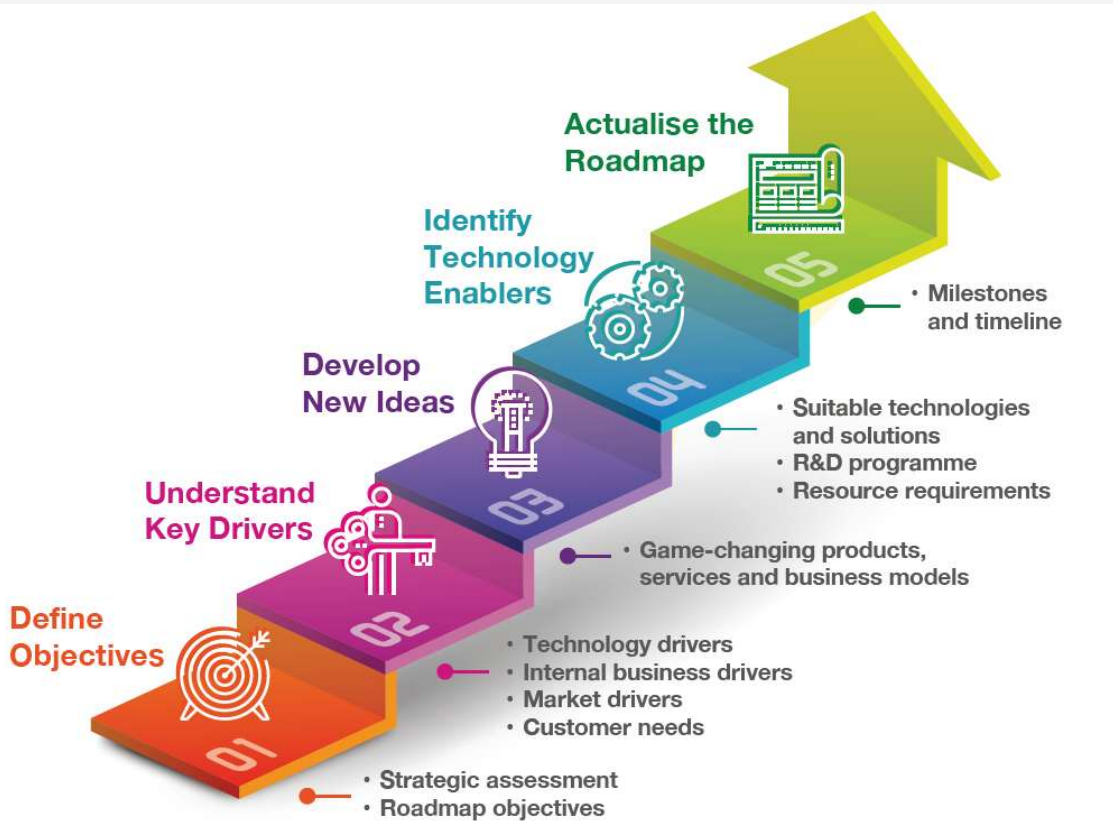


Workforce Transformation

- Better career prospects for local workers (SC and PRs).
- Improved workers outcomes
 1. Wage increment **or**
 2. Recurrent Skills Allowance **or**
 3. Career Development Plan

Applicant to engage their CTC to support transformation plan and project's committed worker outcomes .

Operations & Technology Roadmap (OTR)



Structured planning workshops involving organisation leaders, facilitated by NTUC’s Industry Training Officers (ITOs).

Helps to co-create a business and workforce growth plan with **collective ownership**.

- Comprises cross-functional company management and union leaders / workers representatives.
- **Fully subsidised** for CTC companies.

Track Record as of 2025....

> 3700

Companies established CTCs

> 123,000

Local Workers Upskilled and Trained



Partner with e2i for transformation success!

CTC Project 1 (Marine & Offshore Company)

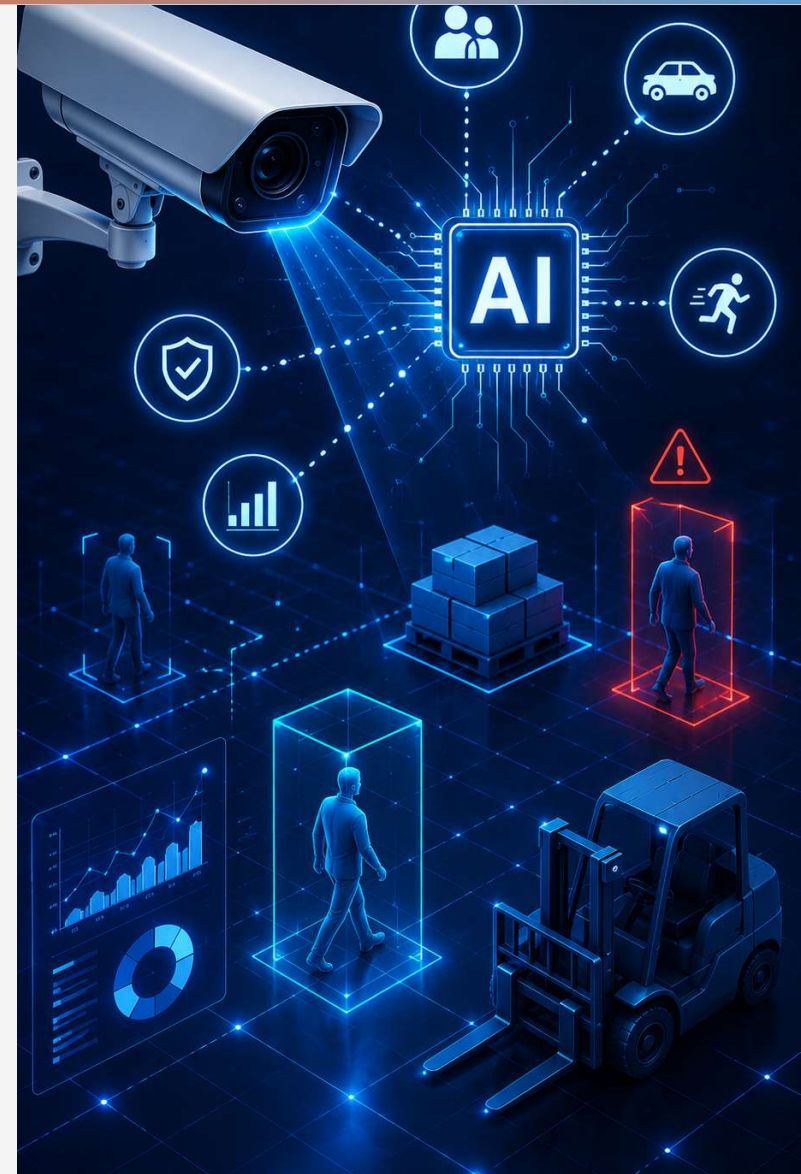
AI enabled CCTV

Enterprise outcome:

- Modernise surveillance from a manpower-heavy, reactive model into a smarter, technology-enabled system.
- Improve productivity by reducing incident downtime, investigation time, and administrative workload.

Worker outcome:

- Incident review cycles reduced from hours to minutes.
- Roles redesigned for greater purpose and professional growth.



CTC Project 2 (Semiconductor Company)

AI-powered manufacturing solutions

Enterprise outcomes:

- Manual inspections sometimes resulted in missed faults detection, leading to inconsistent product quality.
- Components delivered to the cleanroom were inspected and counted manually, which was time-consuming and prone to error

Worker outcomes:

- As a result of this technology adoption, AI detects faults during inspections of the product, resulting in better detection accuracy and product quality consistency.
- System scans component parts before they are delivered to the cleanroom and flags any missing items, so that the correct parts can be delivered timely.



CTC Project 2 (Precision Engineering Company)

AI Trainer Solution

Enterprise outcomes:

- Implemented an AI-driven training platform to standardise and digitise internal and customer training processes.
- Reduced manual training dependency and enabling scalable self-paced learning
- Enhanced overseas customer support through AI-enabled remote training and reduced travel dependency

Worker outcomes:

- Redesigned jobs to reduce repetitive manual training tasks and support higher-value work
- Upskilled workers in AI-enabled workflows, digital tools, and product knowledge capabilities.



CTC Project 3 (Electronics Company)

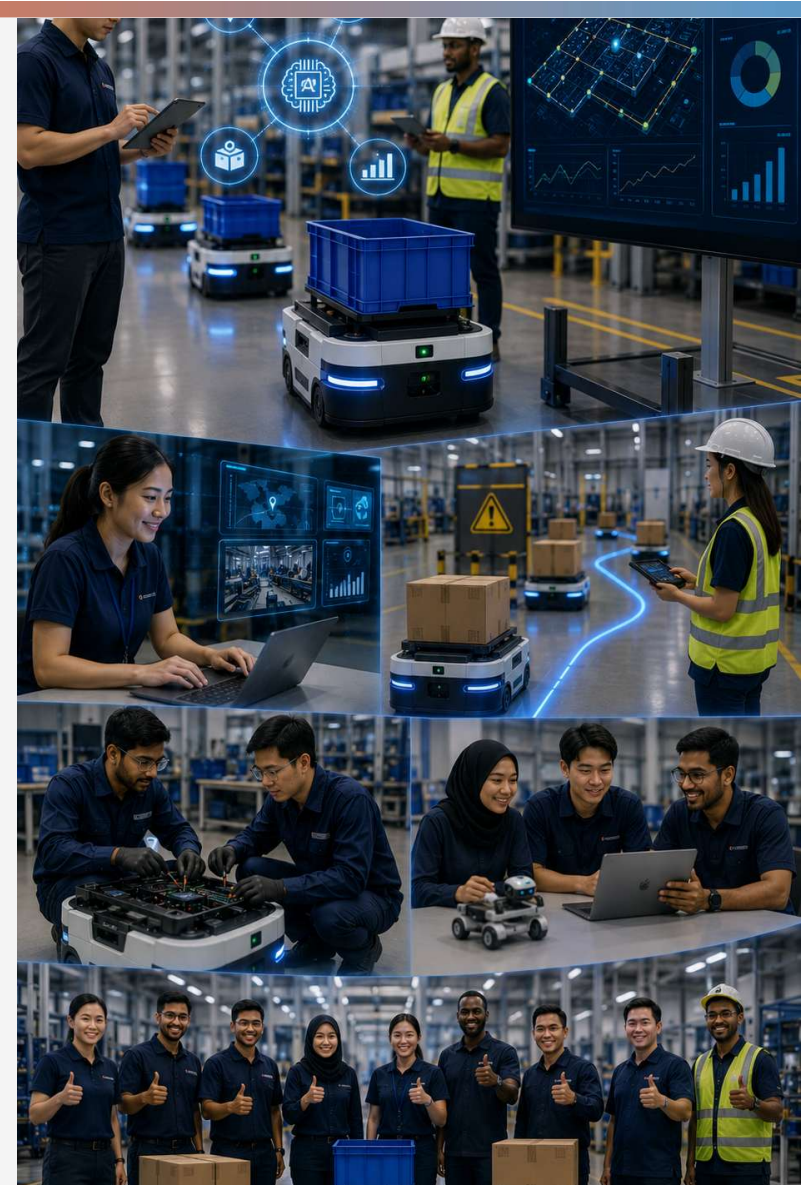
Autonomous Mobile Robots (AMRs)

Enterprise outcomes:

- Integration of AMRs with Artificial Intelligence allowed for real-time tracking and data processing.
- Minimised labour dependency and reduced risk of accidents.

Worker outcomes:

- Workers gained valuable skills in operating, maintaining and repairing AMRs.
- New CDP impacted 100 locals.



Let's Build the Future Together!

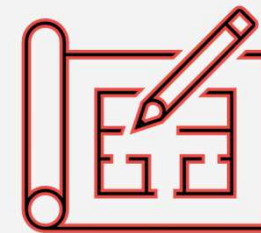
Partner with e2i



Recruitment



Workforce
Development



Business
Transformation

Contact:

Dion_chow@e2i.com.sg or Cryan_Ong@e2i.com.sg



Employment and Employability Institute



AI in Action: Workforce Transformation in the Marine and Offshore Energy Sector

How WSG can support your organisation's workforce
transformation journey









28 May 2026



Your Workforce Is the Multiplier – If You Invest in It

$$1 + 1 > 2$$

AI doesn't replace your workforce. It multiplies what your workforce can do –
But only if you redesign the work and reskill the people

What the Workforce Brings		What AI Brings	
 Domain Knowledge		Speed	
 Judgement		Scale	
 Relationships		Pattern Recognition	
 Creativity		Consistency	

The multiplier only works when both sides are strong!

The leadership question is whether **roles**, **skills** and **workflows** are being redesigned quickly enough to work with AI.

The Real Challenge – Not the Tool, It's the System

The pain your organisation may be feeling is not from 'too little AI'. Instead, it could be because jobs and processes that were never redesigned to work with AI.

Common Approaches



Buy AI tools and roll them out to individual teams



Track how many AI tools were purchased and pilots launched

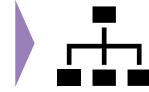


Tell staff to "go figure it out"



Hope for productivity gains

Successful Approaches



Redesign end-to-end workflows and roles **before** scaling AI across the organisation



Track whether AI actually **reduced downtime, improved accuracy, increased throughput, and upskilled workers**







Provide **structured job redesign, clear role expectations, and supported reskilling**



Engineer productivity gains through intentional role transformation with measurable targets

From today's jobs to AI-enabled work

How operations, planning, engineering and talent roles evolve

	Today	Early AI	Advanced AI
 Sales/Operations	Customer technical sales; Monitor assets and operations; react to issues; optimise using experience and rules.	AI copilots for monitoring and alerts; predictive insights for sales, equipment and operations.	Autonomous sales, operations and optimisation across fleets and assets; closed-loop decisions in real time.
 Planning	Build plans in silos; manual scheduling; limited scenario analysis.	AI-assisted forecasting and what-if scenarios; smarter scheduling and resource planning.	Dynamic, integrated planning across supply chain and operations; continuous re-optimisation.
 Engineering/R&D	Design based on standards an experience; iterative testing; knowledge in documents.	Generative design options; simulation acceleration; AI search across technical knowledge.	AI co-engineers new solutions; autonomous simulation and testing; continuous innovation at scale.
 Talent/HR	Jobs and skills managed historically; training reactive; limited workforce insights.	Skills intelligence; personalised learning; AI support for recruitment and workforce planning.	AI-driven workforce strategy; dynamic skills marketplace; culture and productivity optimization.

Where Is Your Organisation on the AI Journey?

Every company in this room is somewhere on the journey. The question is: What's your next move?



Explorers



Where you are

Exploring AI and understanding the basics



What you're thinking

"Where do we begin and what's possible for us?"



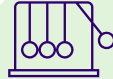
What's holding you back

Unclear use cases, uncertainty about ROI. Fear of disruption. Not sure which roles to start with.



What you need

Identify one use case, run 1 structured pilot, get leadership support and measure outcomes.



Early Adopters



Where you are

Piloting solutions and building capabilities



What you're thinking

"How do we prove value and scale what works?"



What's holding you back

Siloed data, integration challenges, change management and skills gaps.



What you need

Expert guidance, pilot acceleration, platform and data readiness, and capability building.



Advanced Adopters



Where you are

Scaling AI and embedding it across the organisation.



What you're thinking

"How do we transform and stay ahead?"



What's holding you back

Legacy systems, operating model constraints, and governance at scale.



What you need

Strategic roadmap, operating model evolution, advanced governance, and redesign roles at scale.

What To Do Next?

1



Pick 1-2 roles to start with

Look at your operations, planning, engineering, or back office. Where is AI impact highest and resistance lowest? Start there. Use JTMs and TalentTrack to guide your decision.

2



Appoint AI and Workforce Transformation Champions

Appoint 1-2 people per department who can lead job redesign and upskilling from within.

They don't need to be tech experts - they need to be trusted operators willing to learn.

3



Utilise available resources to guide organisations on their AI journey.




Whether it's workforce consultancy (WDG-JR), salary support for reskilling (CCP), or workforce and skills planning (TalentTrack), or the national AI playbook, there are a suite of resources available to support you in your journey.



The AI for Enterprise Impact Playbook – jointly developed by IMDA, WSG and SSG – helps you diagnose where you are and match to the right support.

How WSG Supports Your Transformation

You don't have to do this alone. Here's the support available at every stage.

Your Challenge	WSG's Support	What It Does
<p>“ I need to understand how AI is impacting the M&OE sector ”</p>	 <p>Jobs Transformation Map (Coming soon!)</p>	<p>Sector-specific analysis of how AI is changing job roles, with proposed reskilling interventions</p>
<p>“ I want a structured way to assess my overall AI readiness ”</p>	 <p>AI for Enterprise Impact Playbook</p>	<p>Self-assessment across 5 dimensions with matched enterprise and workforce support – developed by IMDA, WSG and SSG.</p>
<p>“ I need to know what skills my workforce has and what's missing ”</p>	 <p>TalentTrack (Free) and TalentTrack+ (Advanced)</p>	<p>Digital workforce planning tools – skills readiness assessment, gap identification, curated training recommendations.</p>
<p>“ I need help redesign jobs around AI ”</p>	 <p>Workforce Development Grant – Job Redesign+</p>	<p>Funding to work with pre-approved consultants to redesign work processes, tasks, and responsibilities leveraging AI/GenAI</p>
<p>“ I need salary support to reskill or hire for redesigned roles ”</p>	 <p>Career Conversion Programme – Marine and Offshore Energy</p>	<p>Salary support for existing employees being reskilled (JRR) or new hires placed into redesigned roles (New Hire)</p>

Thank you

For more information,
please visit www.wsg.gov.sg



Resources

AI for Enterprise Impact Playbook



<https://go.gov.sg/aiplaybook>

Career Conversion Programme for the Marine and Offshore Energy Sector



<https://go.gov.sg/mnoeccp>

Workforce Development Grant – Job Redesign +



<https://go.gov.sg/wdgjr>

Talent Track / Talent Track+



<https://go.gov.sg/talent-track>



AI Sharing - Marine and Offshore Energy



28 May 2026

What is Artificial Intelligence (AI)?

“The science and engineering of making **intelligent machines**”

- *John McCarthy in 1955*



AI is *NOT* new – it has been there for nearly 100 years

Foundation

1930 - 1950

Alan Turing

Alan Turing develop the Turing Machine and Turing Test as a way to test a machine's intelligence



1966

First Chatbot "ELIZA"

Joseph Weizenbaum developed the first "GenAI" chatbot ELIZA at MIT, simulating conversation using simple pattern matching



1980s

Expert Systems Development

Edward Feigenbaum develop Expert systems that emulate human experts decisions



1997

Beating a Chess World Champion

Computer program Deep Blue beats world chess champion Garry Kasparov



Industrialisation

2016

Beating a Professional Go Player

AlphaGo beats professional Go player Lee Sedol 4-1



2010s

Introduction of Big data and IoT

Advancement in big data and IoT cause companies to explore different business applications



Late 2000s

Machine Learning and Data Analytics

Maritime and engineering companies start to explore how to leverage data analytics

Democratisation

2022

ChatGPT Public Launch

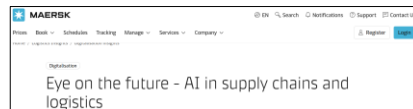
OpenAI launch ChatGPT for public use on Nov 30, 2022



2022 - 2025

Proliferation of GenAI

Companies start investing in GenAI application



2025 - Future

We are here!

Rise of Physical AI

Companies exploring how AI can move from digital to physical space (e.g., Autonomous vehicles)



Hanwha and HavocAI Advance Autonomous Vessels



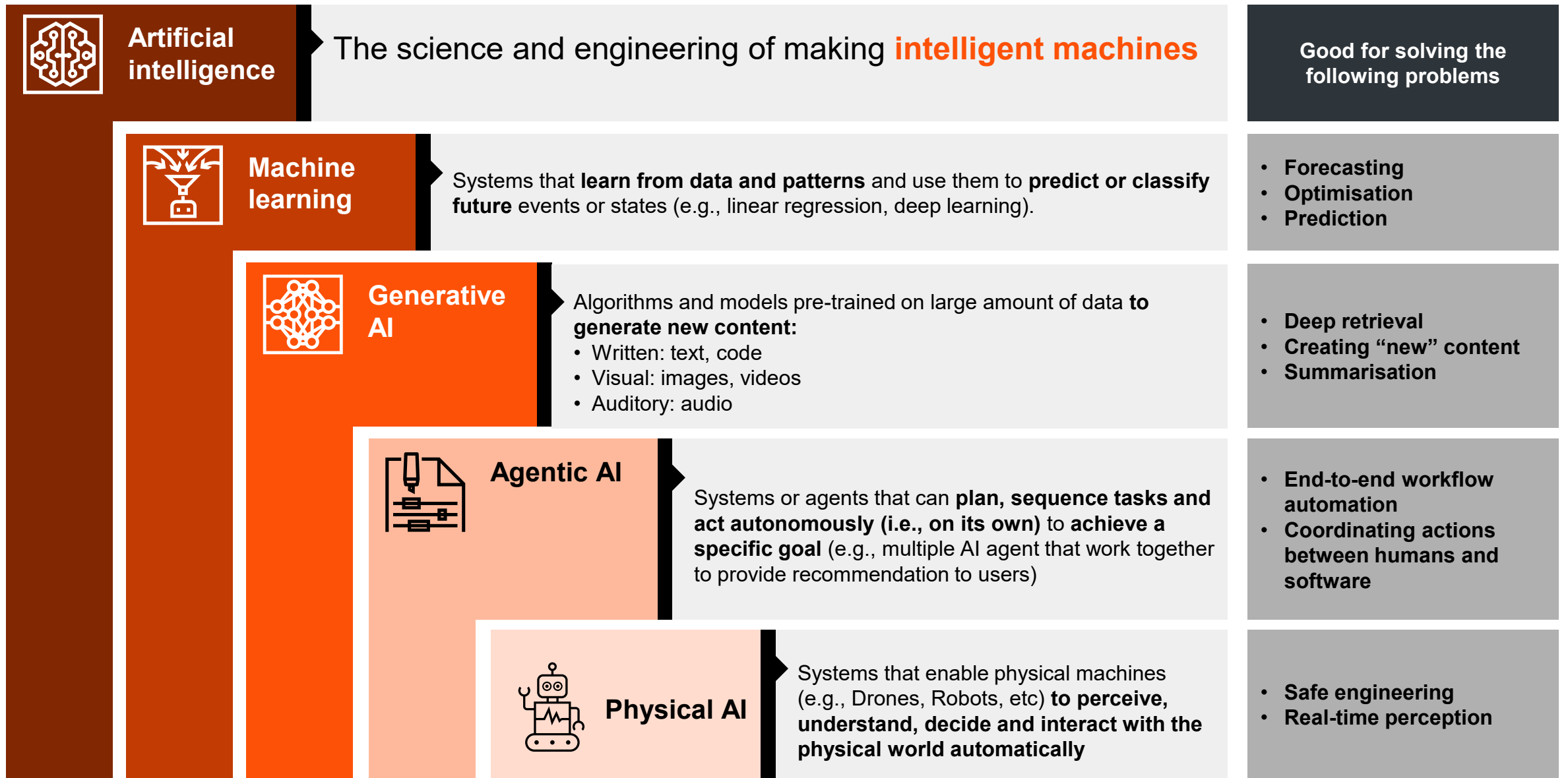
Future?

Artificial Generative Intelligence

System that completely mimic human intellectual capabilities



What are the different current types of AI and what can they do?



While AI is powerful, AI is not a “silver bullet” to every problem

AI tend to do better at jobs that require ...

1 Repetitive High Volume Task



2 Data-Driven Analysis Task



3 Pattern Recognition



AI is not good at jobs that requires ...

1 Requires Contextual Understanding and Creativity



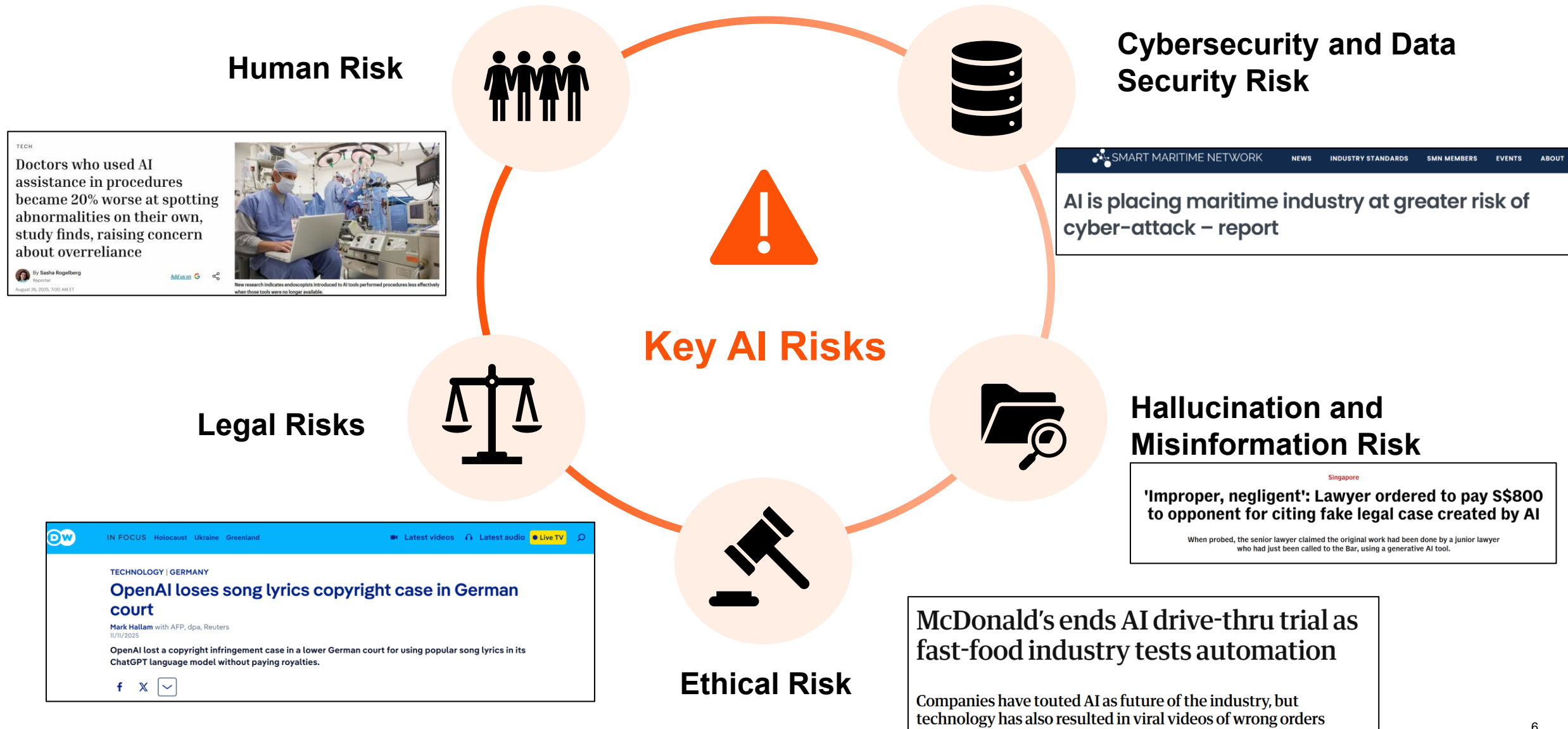
2 Emotional Intelligence and Relationships



3 Taking and Being Responsible for Decisions



Companies will also need to be aware of the key risks of using GenAI



TECH

Doctors who used AI assistance in procedures became 20% worse at spotting abnormalities on their own, study finds, raising concern about overreliance



By Sasha Rogelberg
Reporter

August 26, 2023, 1:00 AM ET

New research indicates endoscopists introduced to AI tools performed procedures less effectively when those tools were no longer available.

SMART MARITIME NETWORK NEWS INDUSTRY STANDARDS SMN MEMBERS EVENTS ABOUT

AI is placing maritime industry at greater risk of cyber-attack – report

DW IN FOCUS Holocaust Ukraine Greenland Latest videos Latest audio Live TV

TECHNOLOGY | GERMANY

OpenAI loses song lyrics copyright case in German court

Mark Hallam with AFP, dpa, Reuters
11/11/2023

OpenAI lost a copyright infringement case in a lower German court for using popular song lyrics in its ChatGPT language model without paying royalties.

f x

McDonald's ends AI drive-thru trial as fast-food industry tests automation

Companies have touted AI as future of the industry, but technology has also resulted in viral videos of wrong orders

The M&OE Sector is already investing heavily in adopting AI...

Various global M&OE companies have invested in AI projects ...

... to capture AI's value add, which will have a significant impact to the workforce and company operations

HD Hyundai shows off AI, latest carriers at Gastech 2025

LIM JEONG-WON
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Published: 09 Sep. 2025, 14:42
Updated: 09 Sep. 2025, 16:13

Audio report: written by reporters, read by AI



A render of HD Hyundai's booth at Gastech 2025, which began in Milan, Italy on Sept. 9 (PHD Wire/2025)

Seatrium and A*STAR to Explore New Energies and AI in Offshore and Marine Applications

16 APRIL 2024



For Enterprises

3x

Higher growth in revenue per worker

4.8x

Increase in labour productivity growth in Singapore



For Individuals

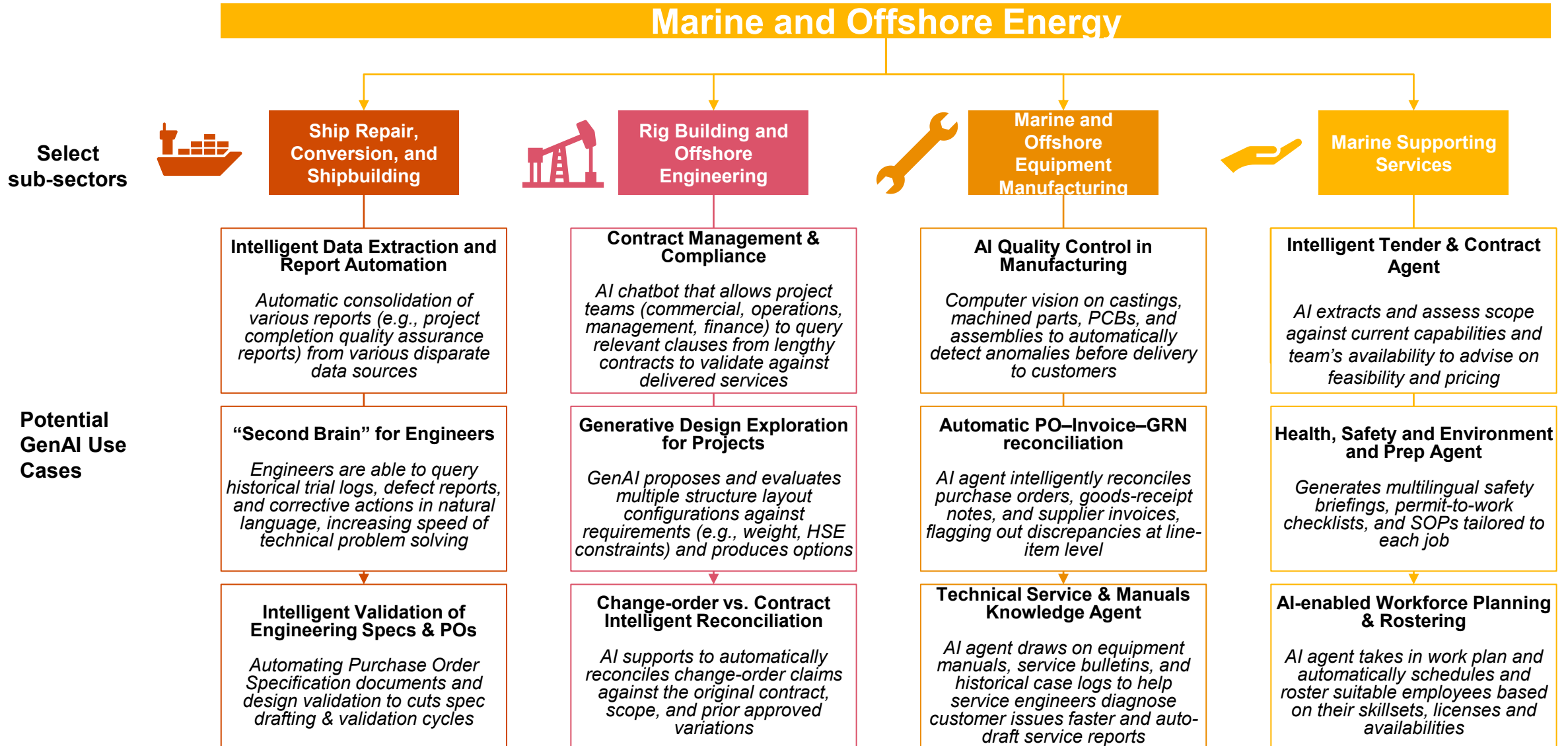
66%

Faster skill change in AI-exposed jobs

~78%

Wage premium on average for AI-related skills

...with plenty of AI Use Cases already identified



Potential funding support to help you on the AI journey through ECI Programme

- Administered by Digital Industry Singapore, in partnership with the cloud service providers (e.g., AWS/Azure)
- Government will fund up to 70% (max S\$105k funding) of consulting services (company needs to fund the other 30%) and also cloud credits and training support
- Run from FY2025 to 2026 (e.g., June 2026); use case should be completed in 6 to 9 months
- One application per corporate group unless nature of business are significantly different among subsidiaries
- Application to be done by the company with DISG via Corppass with a use case, naming a consulting partner (e.g., “PricewaterhouseCoopers Risk Services Pte Ltd”) and with a cloud service provider
- **Criteria:**
 - i. Interested companies should have:**
 1. A business entity registered, incorporated and physically present in Singapore;
 2. CEO or equivalent-level sponsorship;
 3. At least 10 headcount based in Singapore
 4. Software/AI & Data capabilities: A local tech team of 2 or more headcount. This can comprise of software engineers, AI engineers, and/or data scientists roles;
 5. Experience in building custom AI solutions for a Proof-of-Concept and/or wider deployment;
 6. Accessible data sets to be worked on for the use case; and
 7. Financial ability to ensure project completion.
 - ii. Ideal use cases should focus on leveraging AI to achieve at least of one of the following objectives:**
 - i. Process improvement;
 - ii. New product development;
 - iii. Research and development; and/or contribution to the broader ecosystem.
 - iii.** The proposed use case must demonstrate impact to the company and/or industry and lead to the establishment of AI team(s) within the company.

How to get started?

Practical Next Steps

1 Identify AI Use Cases

Conduct current state assessment to identify pain points and wish list

2 AI Use Case Roadmap

Prioritise potential AI Use Cases to craft an AI Use Case Roadmap to guide the company AI transformation

3 Develop MVP for 1 Use Case

Based on the AI Use Case Roadmap, start with development of a MVP for 1 use case and AI Blueprint to support the AI use cases (e.g., change management, resources required)

Funding Opportunities

Companies can leverage the **Enterprise Compute Initiative (ECI) Grant (ending in June (AWS) and July (Microsoft Azure))** to reduce project cost. Through this programme, companies will receive...

Up to **70%** funding

Which means that cost for companies will only need to cover ...

30% of initial cost



“

We should not let uncertainty hold us back – or we will fall behind. AI is here to stay. We cannot ignore it or wish it away. Instead, we must approach it with confidence and purpose.

Companies that embrace AI will stay competitive and thrive. Workers who invest in AI skills will have better opportunities and stronger career prospects.

”

- **Prime Minister Lawrence Wong's
May Day Message 2026**

Thank you!



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ICF INTERNATIONAL PTE LTD

AI in Action: Workforce Transformation in Marine & Offshore



“Optimise and Digitalise Operational Administration with Automated Data through AI-Enabled platform”

PRESENTERS

Dr. Annie Chua, Group CEO

Mr. Richard Ho, Digitalization & Sustainability Manager

A High-Risk Workforce. A Critical Communication Gap.

Marine fit-out · Multinational workforce · 80% Tamil-speaking · High-risk tasks · Paper-based systems



Paper Forms

Lost. Delayed.
Ignored.



Language Barrier

80% can't read
English SWPs



48-Hour Lag

Hazards stay live
overnight



Silent Workers

Near-misses go
unreported



No SWP Access

Workers guess safe
methods

Result: hazards hidden, workers unprotected, supervisors always reactive — never proactive.

One Integrated Central Control System

Two components. One platform. Every worker covered — in their language.

APP PLATFORM

- Hazard / Near-Miss / Accident reporting forms
- Operational Safety Handbook
- House Rules & WSH Policy (5 languages)
- Mental Health & Wellbeing resources
- Safety Feedback & Suggestion form
- QR code App access — no login required
- Real-time email alerts to supervisors

CUSTOM ChatGPT (A.I.)

- Custom-built GPT linked to app platform
- Answers Safe Work Procedure (SWP) questions
- Responds in worker's native language
- English, Tamil, Thai, Burmese, Bengali
- Text and voice input supported
- 24/7 availability — no supervisor needed
- Knowledge base: Company SWPs, MOM WSH

Together: Workers report hazards via online Form · Workers get SWP answers from AI in their language · Supervisors see everything in real time

Available in Three Different Modes

Mobile Phone



Tablet



Desktop



What Actually Changed

AREA	BEFORE	AFTER
Hazard Reporting	→ Paper — hours delayed	Digital — instant, with photo
Worker Voice	→ Silent — fear of miscommunication	Reports understanding in native language
Response Time	→ 48-hour average lag	Almost instant action
Compliance	→ Paper files. Gaps. No audit trail.	Digital. Timestamped. Instant.
	English only. Workers guess.	AI answers in their language

Same people. Same sites. Fundamentally different outcomes.



No smoking

PLASTIC WASTE

CREW

The Results

Zero

Downtime Reporting

48-hr lag → real-time

Zero

Language Barriers

All speaks their language

Zero

Major Incidents

Safe operations maintained

INTANGIBLE RESULTS



Worker Confidence

Speak up. In their language.



Safety Culture

Shared ownership, all groups



Toolbox Engagement

Higher daily participation



Digital Adoption

100% week 1 · 85% prefer app


Sustaining & Scaling the Innovation

Standardization

- App integrated into mandatory site induction
- SOP updated: AI Q&A + hazard reporting steps
- Monthly AI usage & hazard stats reviewed by Safety Committee
- Digital posters complement the use of physical safety boards

Possible Expandability

- IoT hazard sensor monitoring integration
- Digital PPE compliance and checklist automation
- Potential scalable deployment across logistics and manufacturing sectors.

 Development cost: ~\$1,200 · Quarterly maintenance reviews · Minimal hardware requirements



Thank You

Q & A

From Carbon to Silicon

How Mencast Transformed Its Workforce with AI
(Without Hiring Data Scientists)

Dr Chia Boon Tat

CTO, Mencast Marine

Ms Lee Hwee Teng

Manager, Mencast Marine

AI in Action: Workforce Transformation in Marine & Offshore

28 May 2026 | ASMI Trade Association Hub | 2:00 PM - 3:00 PM

Marine Propeller Design, Manufacturing and Repair

- 45 years of expertise in marine engineering
- 200 employees
- 10,000+ propellers delivered

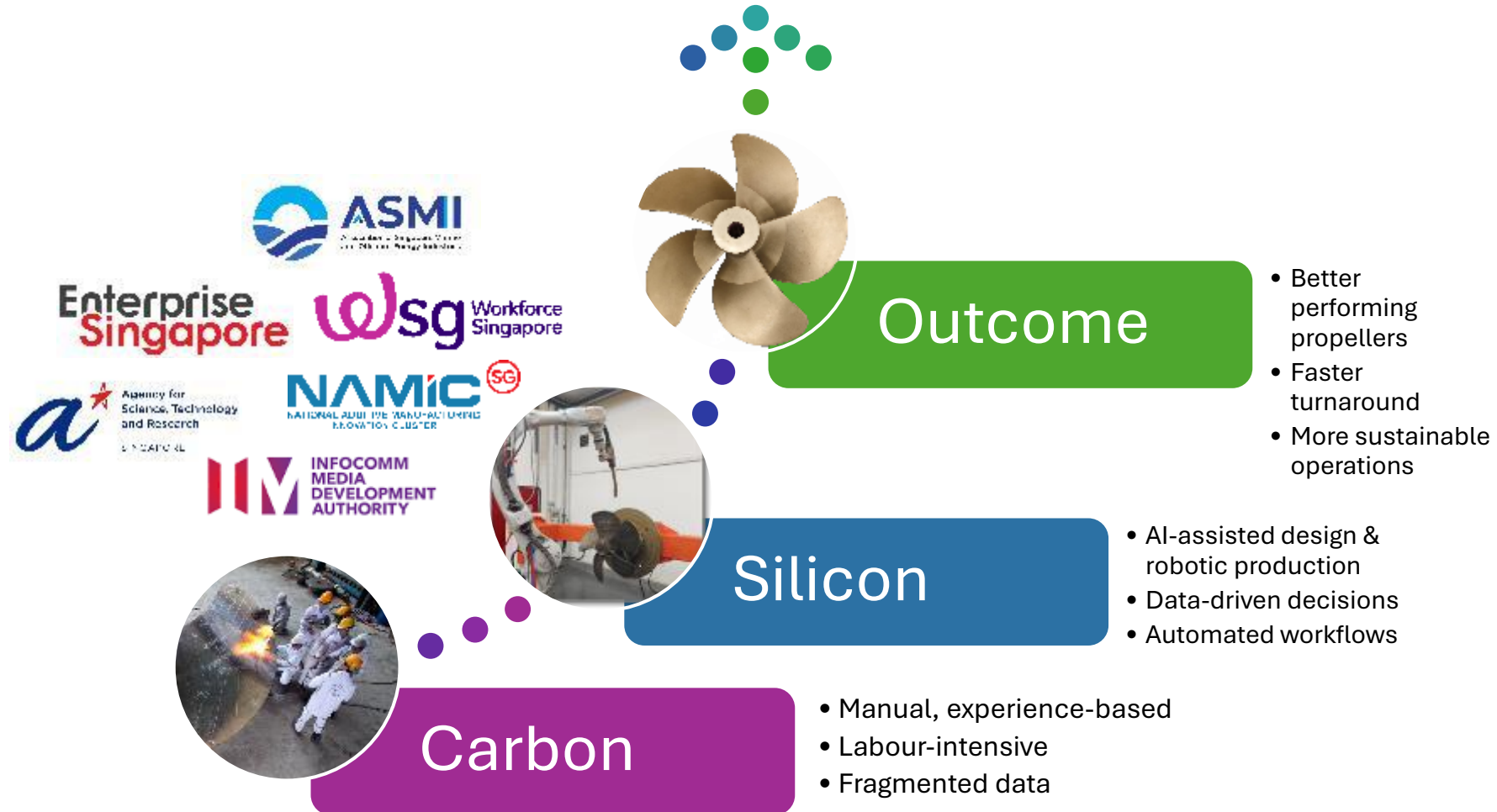
Our strength: Deep hands-on engineering knowledge built over decades

The reality: The traditional way of designing and manufacturing propellers is no longer enough



Mencast's Transformation Journey

SUPER PROPELLERS THAT TRANSFORM
VESSEL PERFORMANCE AND ECONOMICS



The 4-Tier AI Transformation Framework

Not an AI project - a company-wide transformation.

01

AI Work Companions

Everyone uses AI for daily tasks

- HR, admin, sales, finance, engineering
- No coding required

02

Digital Knowledge Hub

45 years of engineering data structured and usable

- Engineering, finance, operations

03

AI-Powered Engineering Design

AI-assisted propeller optimization and performance prediction

- Engineers become AI-assisted designers

04

AI-Driven Manufacturing

Additive manufacturing with AI process control

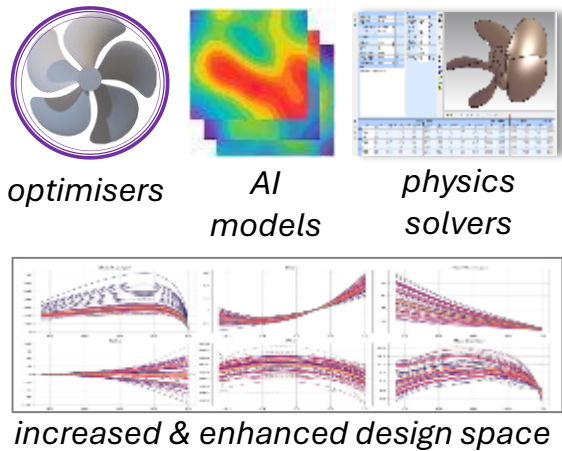
- Operators become AI-enabled technicians

We did not hire AI experts.
We transformed our existing workforce.

From digital intelligence → to real-world execution
(Tier 3 → Tier 4 closes the engineering loop between design and manufacturing)

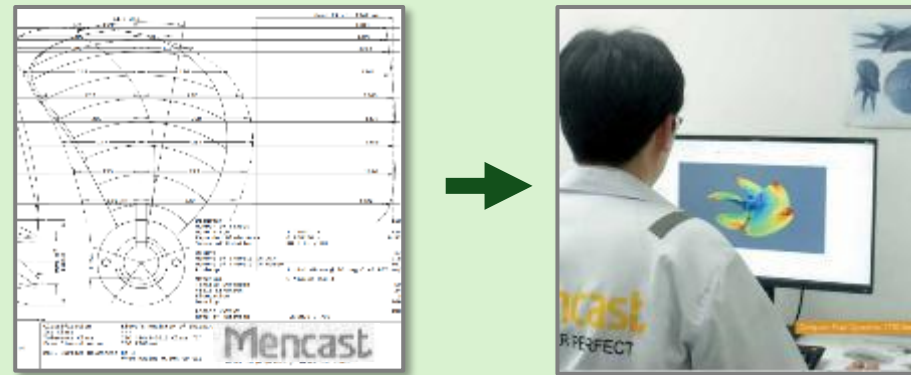
Tier 3 AI-Powered Engineering Design

How it works



- AI models trained on decades of design data
- AI models interact with optimisation engines and physics solvers
- Thousands of design combinations evaluated rapidly

What changed for engineers



Before:

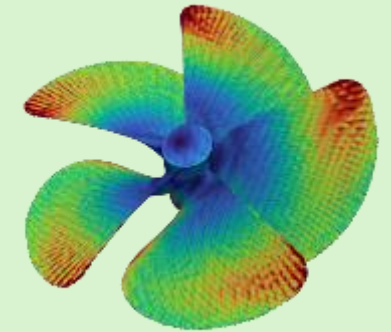
- Manual iteration
- Limited design exploration
- Experience-dependent



After Transformation:

- AI-assisted optimisation
- Large design space exploration
- Focus on decision-making, not trial-and-error

Impact

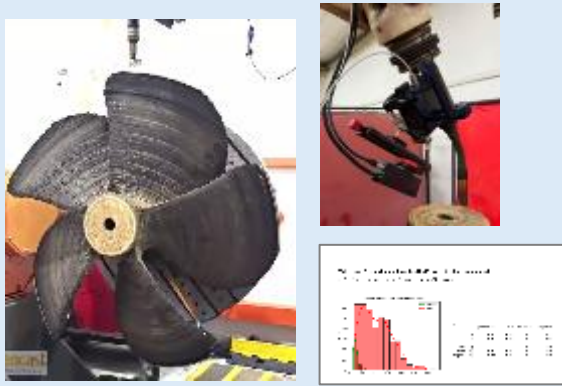


*design to achieve
10% fuel savings*

- Design time reduced from weeks to hours
- Better-performing propellers
- Design for real operating conditions, not just theory

Tier 4 AI-Driven Manufacturing

How it works



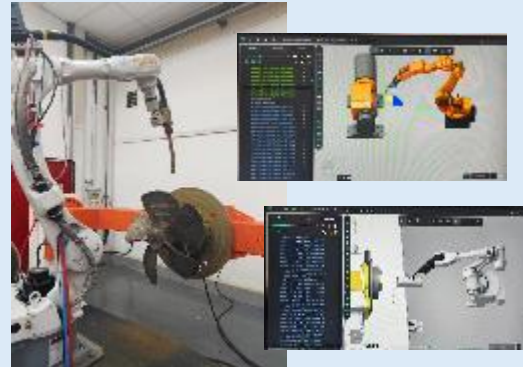
- Large-format metal additive manufacturing
- IoT sensors + Edge AI for real-time monitoring
- AI-driven feedback loop for process control

What changed for the workforce



Before:

- Foundry and sand casting
- Manual inspection, and finishing
- Skill dependent on years of experience



After Transformation:

- AI-assisted production using robots
- Data-driven quality control
- Operators become process controllers

Impact



- More consistent quality
- Faster production cycles
- Seamless integration from design to manufacturing

Key distinction

Tier 3 operates in the *virtual world* (design and simulation)
 Tier 4 brings AI into the *physical world* (real-time control of manufacturing)

Strategy alone does not
transform a company.

People do.

Supported by WSG's Career Conversion Programme (CCP)

Proof That Transformation Is Possible Without Hiring AI Experts

Before

- No AI or programming background
- Engineering role, not a data scientist
- Typical employee profile in the marine industry
- Manual processes for data and reporting

After

- AI power user across multiple domains
- Data transformation lead for 45 years of records
- App developer via LLM-assisted coding
- Driving cross-functional AI adoption

Trigger: WSG Career Conversion Programme (CCP) - exposure to AI tools and structured support

AI transformation does not start with hiring experts. It starts with enabling your existing people.

Stage 1: AI as a Daily Companion

Starting with LLM chatbots for immediate productivity gains across everyday tasks.



Writing & Communication

Emails, proposals, reports drafted faster with AI assistance



Analysis & Research

Quick technical research, data interpretation, literature review



Problem Solving

Troubleshooting, brainstorming, and structured thinking



Cross-Team Support

HR policies, finance queries, admin tasks - AI helps everywhere

Stage 2: Unlocking 45 Years of Data

The challenge:

Decades of propeller design data locked in PDFs, legacy formats, and paper records.

The work:

Built Python extractors to parse, validate, and structure [~300] project files into standardised JSON – tedious and repetitive work that would have taken months manually.

The result:

A searchable, structured database of propeller performance data - the foundation for AI/ML training and enterprise-wide analysis.

Without this data transformation, our AI design and manufacturing would not be possible.



Stage 3: From User to Builder

LLM-assisted coding to build tools the company actually uses.

Propulsion Matcher

B-Series propeller matching tool for engineering design

Engineering

Software Output Converter

Automated PDF-to-DOCX report generation with Mencast branding

Engineering

Meeting Porter

Multi-LLM transcript analysis with action item extraction

Cross-functional

HR Chatbot

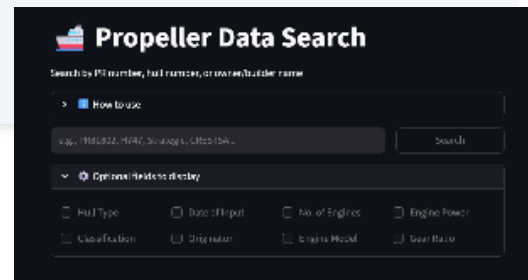
Policy query bot deployed on Microsoft Teams

HR

Propeller Search

Searchable interface over project JSON files

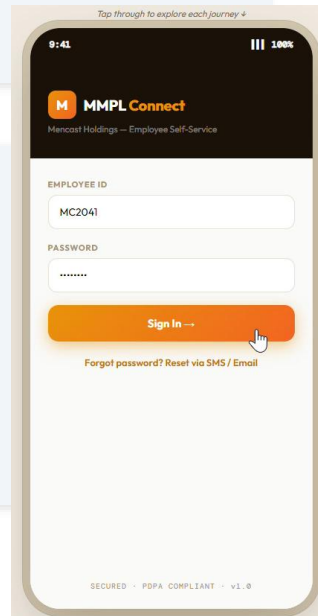
Engineering



Finance

Additional dashboards and automation workflows

Finance



What Changed - and What It Unlocked



Tasks That Took Days Now Take Hours

Propeller geometry extraction

[1 week] manual > [2 hours] with AI

Project report conversion

[X hours] manual > [X min] automated

Data extraction per project file

[X hours] manual > [X min] automated



A Capability That Did Not Exist Before

45 years of propeller performance data was locked in PDFs and paper records.

Now it is structured, searchable, and ready for AI/ML training.

This is the foundation that makes Tiers 3 and 4 possible.



It Is Spreading - Without Being Pushed

A finance colleague - with no tech background - independently built a claims processing app with OCR and cloud database.

No IT ticket. No external developer.

The people closest to the problem are the best ones to solve it.

You do not need to hire AI engineers to start your AI transformation.

Give your people the right tools and they will surprise you.

Three Takeaways

1

AI adoption is about people, not technology

The right framework empowers everyone - from admin to engineering - to participate in AI transformation.

2

Start simple, build systematically

Tier 1 AI companions create momentum. Tier 2 data work creates the foundation. Tiers 3-4 deliver business outcomes.

3

Real engineering outcomes are possible today

AI-optimised propeller design and additive manufacturing are [already delivering / on track to deliver] measurable results.

Thank You

At Mencast, AI is not a tool we use.

*It is how we are redesigning our products, our processes, and our people -
from carbon to silicon.*

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Ms Lee Hwee Teng

R&D | Mencast Marine | www.mencast.tech

Questions?