

# TECHIES

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## AI-Based Design for Manufacturability

By Ts. Dr. Lai Mee Chian, Softronix Sdn. Bhd.

In electronics product development, Design for Manufacturability (DFM) analysis plays a vital role. It optimises design to achieve efficient production and ensure product quality and reliability. However, the conventional manual analysis approach has some limitations, such as over-reliance on physical human eye (visual) inspection and subjective professional experience.

In order to overcome these limitations, the implementation of professional DFM software tools has become necessary especially in the printed circuit board (PCB) assembly industry. DFM software not only replaces the conventional manual approach of PCB design analysis, it also shortens product development cycle, uncovers potential manufacturing problems in advance, improves product reliability, inherits expert experience, and escalates enterprises towards intelligent manufacturing. These advantages make DFM software a necessary and important tool in the modern product development process.

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**/chief editor's note**

Greetings!

Amidst our Merdeka Day excitement, it is an absolute pleasure to welcome you to this 25th edition of TECHIES!

Artificial Intelligence (AI) has become increasingly important in our daily lives. No one on the planet is exempted from feeling at least some of its impact. That is why it is only reasonable that we once again go for AI-centric discourses.

In this edition, we are honoured to present an exclusive interview with the Director of AMD Global Services on how to drive future AI in the areas of entertainment, gaming, aerospace and automotive – all of which are continuously transforming the world around us. We are also covering the insights of document scanning and call centre transformation that capitalise the power of AI, and the underlying benefits reaped along the way.

Additionally, we feature an innovative AI software that serves as an important tool in the printed circuit board development and assembly processes. We also discuss the multiphase flow meter technology implementation in the oil and gas industry in some detail. These, and a myriad of other articles that we have been bringing to you, serve as small samples of how much our lives have and will continue to change in the light of an ever-increasing AI presence.

Do enjoy our content curation! We look forward to connecting with you again in TECHIES' next edition.

Salam Merdeka! 

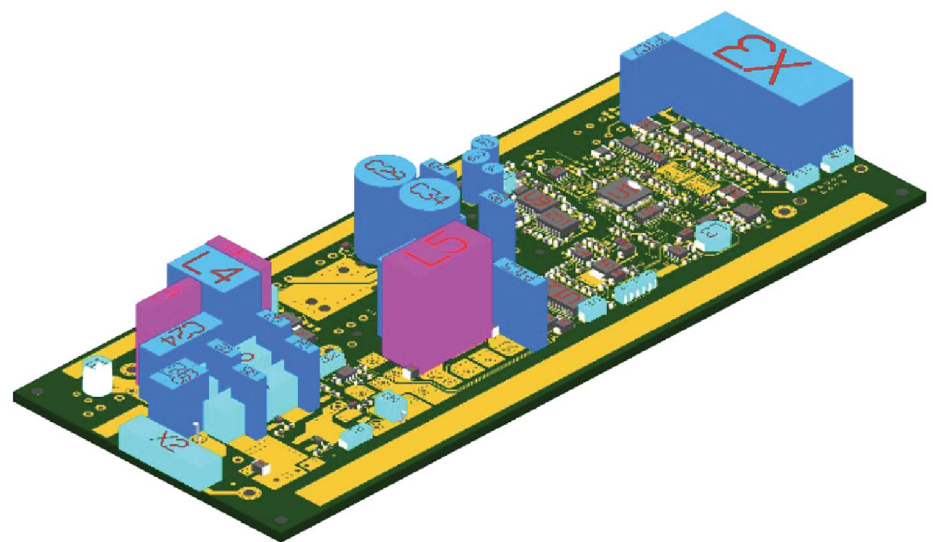
*Zuraidah Mohd. Zain*

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### Concurrent engineering development cycle

Traditionally, DFM analysis is usually done after the research and development process is completed. It is conducted through small batch trial production prototypes, combined with manual review by engineers, and multi-department collaboration to align whatever issues that might surface in the course of time. However, most of the problems will only be discovered during production. At this point, the design layout is already finalised. Hence, if potential problems are uncovered, the design layout has to be changed, and this will therefore extensively delay the product development cycle.

In contrast, DFM software has the capability to simulate the product design in a virtual platform without necessarily constructing a physical prototype. It intervenes in the very early stages of the R&D process by reviewing and analysing design data in a 3D virtual prototype platform. This enables

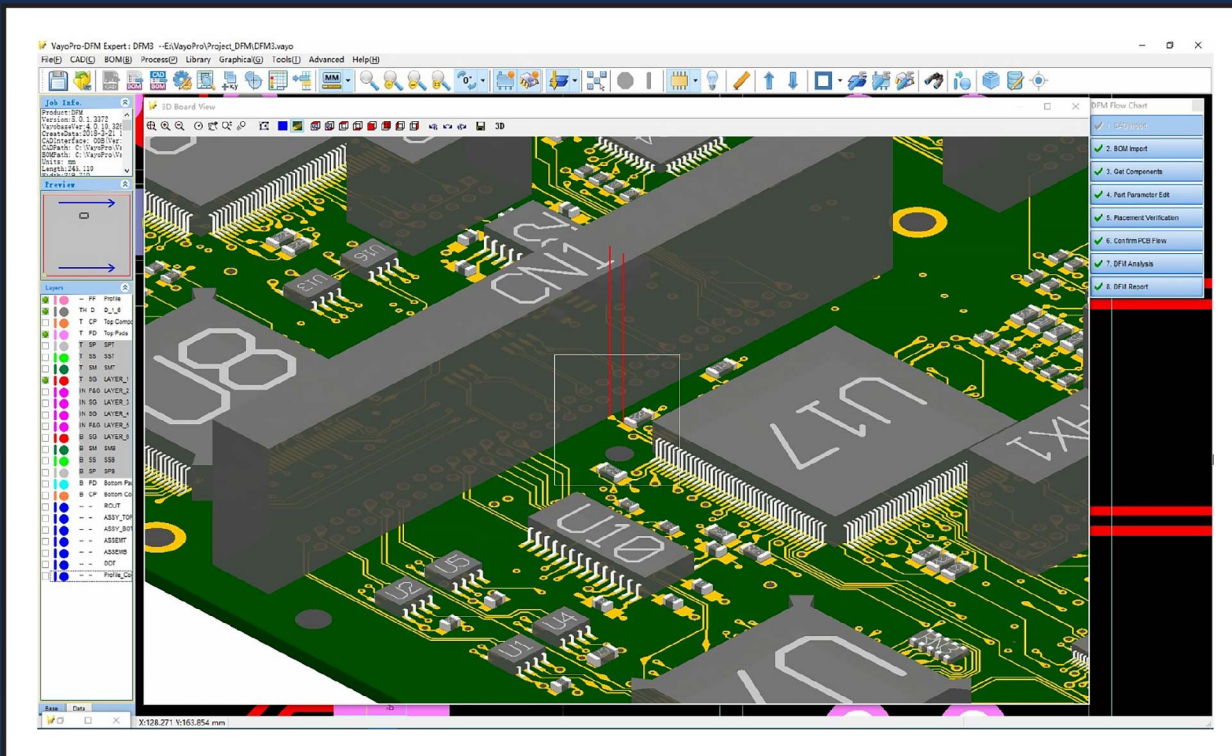


multiple issues to be detected and resolved in the early stages of design and manufacturing. Thus, it improves product development efficiency and reduces the number of product prototypes.

### Discover design issues in advance to improve product quality and competitiveness

The conventional manual approach in DFM analysis relies on physical eye

(visual) review by humans, which can lead to oversights on quality issues. The advantage of the DFM software is that it has AI capability to automate inspections based on design and manufacturing specifications, hence giving accurate and reliable analysis results. By identifying and resolving potential manufacturing issues early, enterprises avoid quality risks, significantly improve product reliability, and gain an edge in market competition.



### Improve product reliability, reduce after-sales service and decrease business risk

Product reliability is a key factor affecting product marketing and brand image. Low product reliability increases business risk. DFM software significantly improves product reliability through automated analysis, enabling early detection of potential quality issues, hence reducing after-sales service and business risk.

### Expert experience can be passed on without any dedicated personnel

The conventional approach in DFM analysis relies on the experience and capability of engineers and this requires dedicated workers. However, when there are changes in personnel, performance and productivity may be affected because their experiences and capabilities are varied. Likewise, when there is personnel relocation, the expert experience of previous workers may not necessarily be passed on to the newcomers. However, DFM software digitally transforms expert experience into standardised review processes, such that the particular DFM knowledge is no longer confined to any

dedicated and experienced engineers. Young engineers with less experience can also achieve expert-level performance with the assistance of software analysis. The AI capability of the software helps to improve the consistency and accuracy of DFM reviews, hence making product quality better.

### Escalate towards intelligent manufacturing

Only through transforming the knowledge and experience of engineers into standardised specifications, and digitising the knowledge database through software, can DFM analysis be

automated. By integrating design and manufacturing processes with each other, internal process efficiency can be increased, thus making intelligent manufacturing a reality.

In conclusion, the role and value of DFM software are significant. It is a necessary and important tool in modern product development. Its implementation optimises the design process, streamlines production methods, reduces costs and risks, and ultimately produces high quality products. For product owners who want to stand out in a highly competitive market, implementing DFM software is a valuable investment.

The image shows three screenshots of DFM analysis reports. Each report includes a table with columns for 'Location', 'Location', 'Part Name', 'Part Value', 'Part Unit', 'Part Category', and 'Comment'. The first report is titled 'SMD land pattern standard(IPC7351)Assembly' and includes a table with 4 columns. The second report is titled 'Safe distance analysis by COMPTYPE(Assembly)' and includes a table with 4 columns. The third report is titled 'Silkscreen layer analysis(Fabrication)' and includes a table with 4 columns. Each report also includes a small 3D model of the PCB assembly and a 'Page 2 of 20' footer.

# Revolutionising Document Scanning and Call Centres

In today's rapidly advancing technological landscape, the integration of Artificial Intelligence (AI) is ushering in a new era of innovation and efficiency across various industries. One notable area where AI is making a significant impact is in document extraction and call centre operation. Through AI-driven solutions such as Cipher and Ekho, organisations are experiencing a transformation in how they manage and process information, resulting in improved productivity, accuracy, and customer satisfaction.

Document extraction, a fundamental process in many industries, has traditionally been a labour-intensive task prone to errors and inefficiencies. Similarly, call centres, pivotal for customer interaction, have faced challenges in handling a myriad of inquiries efficiently. However, with the advent of AI technologies, these challenges are being addressed in ways never before imagined.

Cipher, utilising advanced computer vision and natural language processing techniques, streamlines document extraction by automating the identification and extraction of relevant information from documents. Conversely, Ekho, an AI-powered virtual assistant, revolutionises call centre operations by understanding and responding to customer queries with remarkable accuracy and efficiency.

This article explores the transformative power of AI applications in document extraction and call centres. It delves into the underlying technologies, benefits, and implications for organisations embracing these innovative solutions. By harnessing the potential of AI, businesses are not only optimising their operations but also shaping the future of customer service and information management.

## Cipher: Revolutionising Document Extraction with AI

Document extraction, a critical process across various industries, has long been plagued by inefficiencies, errors, and manual labour. However, the emergence of AI has transformed this landscape, offering innovative solutions to automate and optimise document extraction tasks. Among the solutions, Cipher stands out as a pioneering AI-driven platform revolutionising the way organisations handle document processing.

Cipher represents a paradigm shift in document extraction, leveraging advanced AI technologies to streamline and enhance the process. Unlike traditional methods that rely on Optical Character Recognition (OCR), which often struggle with handwritten text and poor-quality scans, Cipher employs sophisticated Computer Vision (CV) techniques to accurately detect and interpret text from documents.

At the core of Cipher lies its advanced CV technology, which enables it to analyse documents with remarkable precision. By leveraging deep learning algorithms, Cipher can recognise and extract text from a wide range of document types, including invoices, forms, contracts, and handwritten notes. This capability significantly reduces the need for manual intervention and minimises the risk of errors associated with traditional OCR methods. Beyond text extraction, Cipher utilises Natural Language Processing (NLP) techniques to perform semantic analysis on the extracted content. This allows Cipher to identify key entities, such as names, dates, and amounts, within the document text. By understanding the context and semantics of the information, Cipher can categorise and index data systematically, facilitating easy retrieval and organisation.

Cipher represents a game-changing solution in the field of document extraction, leveraging AI technologies to automate and optimise processes that were once manual and

error-prone. With its advanced CV and NLP capabilities, Cipher is revolutionising the way organisations handle document processing, offering unprecedented levels of accuracy, efficiency, and scalability. As organisations embrace the power of AI-driven solutions like Cipher, they are poised to unlock new opportunities for growth, innovation, and operational excellence in the digital age.

**Ekho: Transforming Call Centre Operations with AI-Powered Virtual Assistants**

Call centres serve as the frontline for customer interactions, handling a myriad of inquiries, complaints, and support requests on a daily basis. Traditionally, these operations relied heavily on human operators, leading to challenges such as long wait times, inconsistent responses, and high operational costs. However, with the emergence of AI, call centre operations are undergoing a transformation, with AI-powered virtual assistants like Ekho leading the way.

Ekho represents a new era in call centre technology, leveraging advanced AI algorithms and NLP techniques to function as an intelligent virtual assistant. Unlike traditional rule-based chatbots that follow predefined scripts, Ekho is capable of understanding and responding to customer queries with remarkable accuracy and efficiency. It is powered by advanced Large Language Models (LLM), which enable it to comprehend and process natural language input from customers. By analysing the context and semantics of



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the conversation, Ekho can generate contextually relevant responses in real-time, providing a personalised and seamless customer experience.

In short, Ekho is transforming the way organisations interact with their customers, leading to higher satisfaction, loyalty, and operational efficiency. As organisations embrace the potential of AI-driven solutions like Ekho, they are poised to unlock new opportunities for growth and innovation in the realm of customer experience management.

**Ethical Considerations in Cipher and Ekho: Promoting Responsible AI Implementation**

As organisations implement AI-driven solutions like Cipher and Ekho, it is imperative to address ethical considerations



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to ensure responsible and sustainable deployment of these technologies. Ethical considerations in Cipher and Ekho implementation encompass various dimensions, including fairness, transparency, accountability, privacy, and socioeconomic impacts. By prioritising ethical principles, organisations can enhance trust, mitigate risks, and promote positive societal outcomes, aligning with the Social and Governance (ESG) criteria, and the United Nations Sustainable Development Goals (SDGs).

### Fairness and Bias Mitigation in Cipher and Ekho

Fairness and bias mitigation are critical considerations in Cipher and Ekho implementation, particularly concerning the accuracy and equity of decision-making processes. In Cipher, ensuring fairness involves mitigating biases in the document extraction process, such as addressing disparities in text recognition accuracy across different document types or languages. Similarly, in Ekho, efforts must be made

to prevent biases in natural language understanding and response generation, ensuring that customer queries are handled fairly and without discrimination.

### Privacy and Data Protection in Cipher and Ekho

Privacy and data protection are paramount in Cipher and Ekho implementation, given the sensitive nature of the data involved in document processing and customer interactions. Cipher adheres to strict data protection standards to safeguard confidential information extracted from documents. Similarly, in Ekho, robust privacy measures are implemented to protect the personal data of customers interacting with the virtual assistant. Ensuring privacy and data protection promotes trust and confidence among users, aligning with ESG goals related to data governance and privacy rights.

### Socioeconomic Impacts of Cipher and Ekho Deployment

The deployment of Cipher and Ekho can

have significant socioeconomic impacts, affecting employment, economic opportunities, and societal well-being. Organisations deploying these solutions should invest in reskilling and upskilling programs to help affected employees transition into new roles or acquire skills relevant to the evolving job market.

### Conclusion

This article highlights the transformative potential of AI-driven solutions such as Cipher and Ekho in revolutionising document extraction and call centre operations. Through advanced technologies and innovative approaches, these AI applications offer efficient and effective solutions to complex challenges faced by organisations. However, it is crucial to recognise the ethical considerations inherent in its implementation. By prioritising fairness, transparency, accountability, privacy, and socioeconomic impacts, responsible AI deployment and positive societal outcomes can be achieved.

## INNOHUB DIVISION

Implement UPM InnoHub program - start-up company development program to commercialize UPM technologies and fostering technology entrepreneurs who translate UPM technology and innovation into market viable products through market validation.



## INNOVATION EXHIBITION @PUTRA SCIENCE PARK

An exhibition is an important part of the promotional mix of industrial markets specially for the Start-Up Company. Exhibition is an important source of information in industrial buying process, and is second only to personal selling, and is way ahead of direct mail and print advertising in terms of providing information to the industrial buyer. The number of exhibitions, exhibitors and visitors is growing.



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# Visionaries in AI: Exclusive Dialogues with Industry Leaders

## Mr. Wai Shin Lau

Director Product  
Development Engineering  
Advanced Micro Devices  
Global Services (M)  
Sdn. Bhd.



### Can you provide an overview of your respective roles?

**Wai Shin:** I play two roles today. The first is as AMD Malaysia Engineering Site Lead. I am responsible for the setting up of the engineering site to deliver best in class products for AMD. Our R&D engineering has been in Malaysia since September 2020. It started with the Server Data Centre R&D, which was the fastest growing business segment of AMD back in 2020 and 2021. Since then, AMD has added silicon development as well as Data Centre CPU (AI R&D) in Malaysia and invested in developing our validation lab operation in Penang. AMD Malaysia has become a strong engineering site with end-to-end engineering from silicon design, hardware development, post-silicon validation, and customer enablement.

## Mr. Ben Oon

Director of AI/HPC  
Data Center GPU and  
Accelerators  
Advanced Micro Devices  
Global Services (M)  
Sdn. Bhd.



My second role is to establish customer collateral scalability strategies to help our data centre to continue winning the market and producing the best products there are.

**Ben:** I am the DC GPU Site Lead for Malaysia, responsible for delivering advanced HPC/AI platforms through round-the-clock system stress testing, high volume regression, effective system debug, and platform enablement. I also lead in the development of the Malaysia AI/HPC team for key engineering value-added functions, namely, in terms of operations, headcount, infrastructure and organisational health.

### How does AMD Malaysia help in advancing AI within the engineering domain?

AMD Malaysia is a key player in the AI ecosystem, as we are responsible for the validation of AMD AI products that power the world of AI and high-performance computing. The products include the AMD Instinct MI300X and MI300A. AMD Malaysia is also involved in various engineering activities including AI system test and system integration, and post-silicon electrical/power/performance. We work closely with the test and assembly facilities of AI chips, which are located in the same site as AMD Malaysia. Our team of AI engineers have the expertise and passion to deliver high-quality AI solutions to our customers and partners through our AI customer engagement teams.

### AMD is renowned for its contributions to the semiconductor industry. Please elaborate on how AI is integrated into AMD's engineering processes and products.

AMD integrates AI into its engineering processes and products in several key ways:

- **Product Development:** AI is used to enhance the design and development of AMD processors and graphics cards. Machine learning algorithms help optimise chip designs, improve performance, and increase energy efficiency. AI tools can predict potential design flaws and suggest optimisations early in the development cycle.
- **Adaptive Computing:** AMD incorporates AI capabilities into its products, such as the Ryzen and EPYC processors, and Radeon graphics cards. These products use AI to dynamically adjust performance based on the workload, optimising power usage and performance in real-time.
- **AI Accelerators:** AMD offers dedicated AI accelerators, such as the AMD Instinct series, designed for AI and machine learning workloads. These accelerators provide high performance for

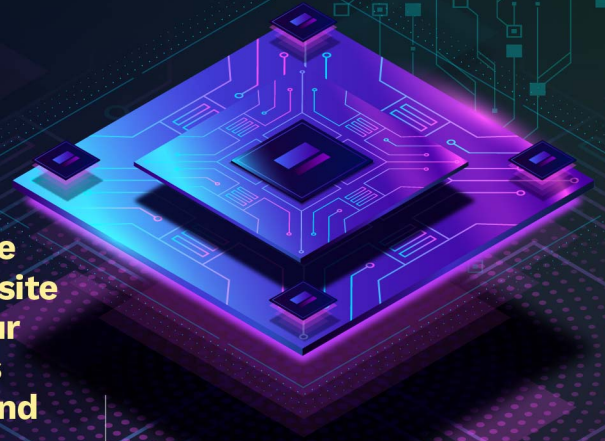


**We work closely with the test and assembly facilities of AI chips, which are located in the same site as AMD Malaysia. Our team of AI engineers have the expertise and passion to deliver high-quality AI solutions to our customers and partners through our AI customer engagement teams.**

training and inference tasks, supporting a range of AI applications from data centres to edge devices.

- **Software Tools:** AMD provides software tools and libraries, like ROCm, to support AI development. These tools help developers optimise their AI applications for AMD hardware, making it easier to leverage the full capabilities of AMD processors and graphics cards.
- **Partnership and Ecosystem:** AMD collaborates with various AI ecosystem partners, including software developers, cloud service providers, and research institutions, to integrate AI technologies into its products and solutions. These partnerships help drive innovation and expand the applications of AI in various industries.
- **Customer Solutions:** AI is used in AMD customer solutions, such as personalised recommendations and predictive maintenance. By leveraging AI, AMD offers more tailored and efficient solutions to its customers, enhancing overall user experience and satisfaction.

Overall, AI plays a crucial role in AMD engineering processes and product



offerings, driving innovation, improving performance, and enabling new capabilities in computing and graphics technologies.

### Given the rapid pace of change in AI, what trends or developments do you see shaping the future of AI in the semiconductor and engineering industries?

The future of AI in the semiconductor and engineering industries is likely to be shaped by several key trends and developments:

**Advanced AI Chip Designs:** The demand for specialised AI hardware will continue to grow. Future AI chips will likely feature more advanced architectures such as neuromorphic and quantum computing designs to handle increasingly complex AI workloads with greater efficiency.

- **Edge AI:** There will likely be a significant shift towards AI at the edge, where processing is done on local devices rather than on centralised data centres. This trend will drive the development of low-power, high-performance AI chips that can operate in diverse environments, from smartphones to IoT devices.
- **AI-Driven Design Automation:** AI will increasingly be used to automate and optimise the semiconductor design process. Machine learning algorithms can predict and mitigate design issues, optimise layouts, and improve yield rates, leading to



faster development cycles and reduced costs.

- **Heterogeneous Computing:** Future semiconductor designs will likely integrate various types of processing units (CPUs, GPUs, TPUs, FPGAs, etc.) on a single chip to handle diverse workloads more efficiently. AI will play a crucial role in managing and optimising these heterogeneous systems.
- **AI for Manufacturing:** AI will continue to revolutionise semiconductor manufacturing processes through predictive maintenance, quality control, and yield optimisation. Machine learning models can predict equipment failures, enhance production parameters, and detect defects in real-time, leading to higher efficiency and lower costs.
- **5G and Beyond:** The rollout of 5G and future communication technologies will drive the need for AI to manage and optimise network performance. Semiconductors tailored for AI-driven network functions will become more prevalent, supporting faster and more reliable connectivity.
- **Security and Privacy:** As AI becomes more integrated into semiconductor technologies, focus on security and privacy will be paramount. AI-driven security measures, such as anomaly detection and encryption, will be critical in helping to protect sensitive data and intellectual property.
- **AI Co-Design:** The co-design of AI algorithms and hardware will become more prevalent. This approach involves developing AI algorithms that are specifically optimised for the underlying hardware and vice versa, leading to significant performance and efficiency gains.
- **AI Ecosystem and Collaboration:** The growth of AI will foster greater collaboration between semiconductor companies, AI researchers, and software developers. This ecosystem approach will accelerate innovation, standardise AI technologies, and drive the adoption of best practices across the industry.

These trends highlight the transformative impact of AI on the semiconductor and engineering industries, driving advancements in technology, efficiency, and sustainability.

**Integrating AI into engineering processes may come with challenges. What obstacles have your teams faced, and how have you overcome them?**

The biggest challenge is retaining talent within the company and the region. Following this, infrastructure issues such as power limitations and space constraints for volume validation are also significant concerns.

To address the talent shortage, we plan to partner with universities to produce more graduates with expertise in AI-related domains. Additionally, we will hire fresh graduates and upskill them through targeted graduate training programs.

To meet growing demands, we will develop state-of-the-art infrastructure. Our new facility, GBS by the Sea, will be equipped with the necessary infrastructure to support development needs. AMD Malaysia is scheduled to move into this new facility by 2025.

**AI expertise is in high demand. How does AMD Malaysia approach the development of skills and talents in AI within your engineering workforce?**

It is always a challenge to get enough talent especially in AI. There are three areas that the site is focusing on:

1. We partner with universities to engage the right talent and hire fresh graduates to provide on-the-job training and develop the relevant skillsets. AMD Malaysia won top three in employee experience in graduate training strategy and contribution,
2. We invest in up-skill training for our current crop of engineers to remain relevant to AI skillsets,
3. We invest heavily on travelling to different places to work with the best engineers within AMD to pick the right skillsets and career development opportunities.

**Looking ahead, what are your predictions of the role of AI in the semiconductor industry, and how do you envision AMD Malaysia contributing to the future of AI?**

AI will significantly improve the efficiency on our day-to-day activities. It will change our life in the future. AMD Malaysia will be a part of this great journey to the success of AI.



**To meet growing demands, we will develop state-of-the-art infrastructure. Our new facility, GBS by the Sea, will be equipped with the necessary infrastructure to support development needs. AMD Malaysia is scheduled to move into this new facility by 2025.**

# ENHANCING MULTIPHASE FLOW METER EFFICIENCY: DEEP LEARNING OPTIMISATION IN PROCESS MEASUREMENT SYSTEMS



Figure 1: Multiphase Flow Meter (MPFM)

## Multiphase Flow Meter: An Overview

Multiphase flow meter (MPFM) technology is pivotal in the oil and gas industry for accurately quantifying production systems' oil, gas, and water flow rates. Among various MPFM techniques, Coriolis-based systems have gained significant traction due to their ability to provide simultaneous measurements of multiple phases. However, despite their effectiveness, conventional Coriolis MPFM systems encounter challenges in accurately identifying abnormalities in flow patterns, which can lead to inefficiencies and safety concerns. Researchers and engineers are turning to advanced technologies such as deep learning, particularly Recurrent Neural Networks (RNNs), to optimise MPFM performance and enhance abnormality detection capabilities to address these challenges.

## Understanding Coriolis-based MPFM

Coriolis-based MPFM systems operate on the principle of the Coriolis effect, where the mass flow rates of multiphase fluids are

measured by detecting the deflection of vibrating tubes caused by the Coriolis force induced when fluids flow through them. By analysing the vibrating tubes' phase shift and frequency changes, Coriolis MPFM systems can accurately and concurrently determine the mass flow rates of oil, gas, and water. These systems are critical in production optimisation, reservoir management, and asset integrity assessment in the oil and gas industry.

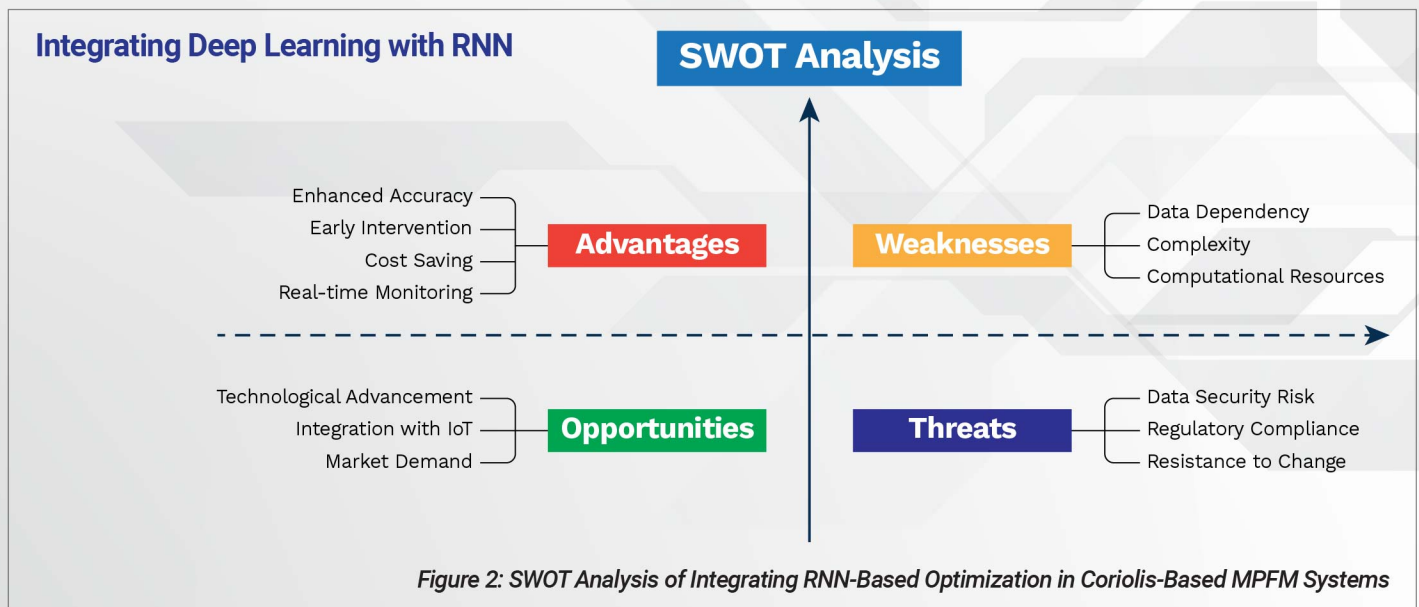
## Challenges in Abnormality Detection

Despite their capabilities, traditional Coriolis-based MPFM systems face challenges in accurately detecting abnormalities in flow patterns. Abnormalities such as slug flow, gas slippage, liquid carry-under, and flow regime transitions can significantly impact measurement accuracy and pose operational risks. Conventional methods of abnormality detection often rely on predetermined thresholds or heuristic rules, which may not capture complex flow behaviours accurately. As a result, there is a growing need for advanced analytical techniques to identify subtle deviations and predict potential anomalies in real time.

Deep learning, a subset of artificial intelligence, has emerged as a promising approach for optimising MPFM systems and improving abnormality detection capabilities. Recurrent Neural Networks (RNNs), a type of neural network designed to handle sequential data, are particularly well-suited for analysing time-series measurements typical in MPFM applications. By training RNN models on historical flow data, these systems can learn complex patterns and relationships, enabling more accurate abnormality detection and prediction. RNNs excel in capturing temporal dependencies within data, making them ideal for identifying subtle variations indicative of abnormal flow conditions. Figure 2 shows the strengths, weaknesses, opportunities, and threats (SWOT) analysis of integrating RNN-based optimisation in Coriolis-based MPFM systems.

## Case Study: RNN Application in Coriolis MPFM Optimisation

A recent case study was conducted using real-world data from a production facility to demonstrate the efficacy of RNN-based optimisation in Coriolis MPFM systems. The study aimed to enhance abnormality detection



capabilities by leveraging deep learning techniques. Historical flow data, including flow rates, phase fractions, and pressure measurements, were collected from the production system and used to train an RNN model. The RNN model was trained to recognise patterns associated with normal flow conditions and various abnormal flow regimes, including slug flow, annular flow, stratified flow, and transition regimes.

### Results and Benefits

The integration of RNN-based abnormality detection yielded promising results, significantly improving the accuracy of anomaly identification compared to conventional methods. The trained RNN model demonstrated the ability to detect subtle deviations from standard flow patterns, enabling early intervention and preventive maintenance actions. By leveraging deep learning techniques, operators can enhance the reliability and efficiency of Coriolis MPFM systems, leading to improved production optimisation and cost savings. Additionally, the predictive capabilities of RNN models enable proactive maintenance scheduling, reducing downtime and minimising production losses.

### Future Directions and Challenges

While the application of RNN in Coriolis MPFM optimisation shows great promise, several challenges and opportunities exist

for future research. Further refinement of deep learning algorithms, integration of additional sensor data, and real-time implementation of RNN models warrant exploration. Additionally, addressing data quality, model interpretability, and scalability issues will be essential for widespread adoption in industrial settings. Collaborative efforts between researchers, industry stakeholders, and technology providers are crucial for advancing the field of deep learning in MPFM optimisation and overcoming existing challenges.

### Conclusion

In conclusion, integrating deep learning techniques, specifically, RNNs, offers a promising avenue for optimising Coriolis-based MPFM systems and enhancing abnormality detection capabilities. By leveraging the power of machine learning, operators can improve the accuracy, reliability, and efficiency of flow measurement processes in the oil and gas industry. As research in this field continues to advance, the adoption of deep learning in MPFM optimisation is poised to drive significant improvements in production operations and asset management. Embracing innovative technologies and fostering collaboration will be instrumental in realising the full potential of deep learning in enhancing multiphase flow metering efficiency and ensuring the sustainable development of oil and gas resources.

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# ENTICE 2024

PUTRAJAYA, 30 JULY 2024 – The Ministry of Science, Technology & Innovation (MOSTI), through the Malaysia Board of Technologists (MBOT), is ready to play its role as a leader in talent development within Malaysia's technological sector.

During the MBOT Experts Network in Technology, Innovation and Cooperative Event (ENTICE): Celebrating Diversity and Inclusivity through Technology, YB Tuan Chang Lih Kang, Minister of Science, Technology & Innovation highlighted that MOSTI recognises the scarcity of high-tech talent, particularly in emerging technology sectors such as Artificial Intelligence, Integrated Circuit Design, cloud computing and cybersecurity.

Following that, MOSTI has mandated MBOT to spearhead a transformative initiative aimed at diversifying and enhancing



professional development pathways by developing a comprehensive framework for accrediting and professionalising technology-related short courses and micro-credentials.

YB Tuan Chang Lih Kang also congratulated MBOT on the launch of the MBOT STRIVE (2024-2029) strategic plan. The plan aligns with the National Science, Technology, and

Innovation Policy (NSTIP) 2021-2030, a detailed roadmap outlining six key thrusts to advance Malaysia's technological landscape that will guide MBOT in its mission over the next five years and solidify its leadership in talent development and professional recognition.

During the event, MBOT honoured the following individuals:

- YAB Datuk Patinggi Tan Sri (Dr.) Abang Haji Abdul Rahman Zohari bin Tun Datuk Abang Haji Openg, Premier of Sarawak, with the Technology Leadership Award
- YBhg. Dato' Ts. Dr. Haji Amirudin bin Abdul Wahab, CEO of CyberSecurity Malaysia, with the *Anugerah Teknologis Negara 2024*
- YBrs. Tc. Azuan Failani bin Ariffin, Assistant Officer Vocational Training at ADTEC Jerantut, with the *Anugerah Juruteknik Negara 2024*

ENTICE is a platform that aims to nurture talent and promote inclusivity within the technological sector, creating a supportive community for MBOT members to thrive and collaborate. The event, held at Le Meridien Putrajaya, attracted over 500 MBOT members.

## MBOT TECHNOLOGY LEADERSHIP AWARD

YAB Tan Sri Datuk Patinggi (Dr) Abang Haji Abdul Rahman Zohari bin Tun Datuk Abang Haji Openg, Premier, Sarawak



/mbot registration

52,045

Graduate Technologists

11,133

Qualified Technicians

23,597

Professional Technologists

3,151

Certified Technicians

89,926

Total MBOT Registrants  
(As of July 2024)