

# Twimbit AI Radar (APAC)

Roundup of innovative enterprise deployments & announcements in AI

#1

Indonesia Edition

Copyright © Twimbit 2024

Twimbit is a research and advisory firm driven by a singular mission: to empower businesses that are making a difference. We specialise in providing invaluable industry intelligence to executives and teams, acting as a catalyst for innovation and growth.

## Contents

|                                                                                |   |
|--------------------------------------------------------------------------------|---|
| Summary.....                                                                   | 1 |
| Introduction.....                                                              | 1 |
| Teleconsultation with ALNI: Alodokter's AI-Powered Virtual Assistant.....      | 3 |
| Optimizing Logistics with AI: Tokopedia's Dilayani Smart Warehouse System..... | 4 |
| GoTo Group Enhances Engineering Efficiency with GitHub Copilot .....           | 5 |
| Bank Mandiri Strengthens Risk Management with AI-Driven Early Warning System   | 5 |
| eFishery Empowers Aquaculture with AI-Driven Solution 'Mas Ahya'.....          | 6 |
| AI's Transformative Impact on Indonesia's Industries .....                     | 8 |

## Summary

Twimbit AI Radar is a monthly series that recaps innovative AI deployments and announcements in telecommunications, financial services, and customer experience fields of practice. It also offers insights into companies deploying AI, aimed at assisting business executives and technology leaders develop their own AI projects and long-term strategies.

| Company(s)                                                                          | Deployment/Initiative                                                                                                                                                                                                                                                                                                                                           |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | Alodokter deploys ALNI, an AI-powered virtual assistant, to streamline teleconsultation processes by automating tasks such as appointment booking and initial symptom assessments. This improves operational efficiency and allows doctors to focus on more complex cases. As a result, ALNI has helped increase patient satisfaction by 15%.                   |
|   | Tokopedia launched Dilayani Tokopedia, a smart warehouse system, powered by AI. This system predicts product demand based on customer behavior and market trends, enabling sellers to stock items in strategically located warehouses. As a result, delivery times are reduced, and fulfillment is optimized.                                                   |
|  | GoTo Group integrated GitHub Copilot, an AI coding assistant, to boost productivity for its engineers. The tool provides real-time code suggestions, improving accuracy and saving time. In its first month, 30% of suggestions were accepted, matching global rates & engineers reported saving 7 hours weekly which increase productivity.                    |
|  | Bank Mandiri uses an AI-driven Early Warning System (EWS) that analyzes customer data to detect and mitigate credit risks early, leveraging machine learning and data analytics. This proactive approach has helped reduce its NPL ratio from 1.70% to 1.02% by March 2024, preventing up to 70% of potential credit issues and improving overall loan quality. |
|  | eFishery's AI assistant, Mas Ahya, helps fish and shrimp farmers with real-time water monitoring and personalized advice, improving growth rates and productivity. Powered by Microsoft Azure, it offers farming insights in local languages, aiming for a 30% boost in aquaculture efficiency.                                                                 |

## Introduction

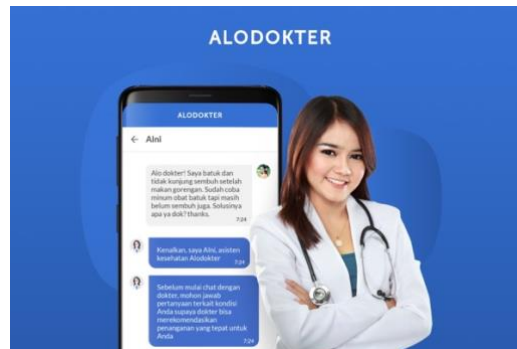
Indonesia's digital transformation is accelerating, with AI (Artificial Intelligence) playing a key role in driving economic growth. The country's digital economy is projected to reach IDR 1,862 trillion by 2027, and early AI adoption could push GDP growth to 6.9% annually. This advancement is crucial for achieving the "Indonesia Emas 2045" vision, positioning the nation among the top global economies. AI is already transforming industries like finance, retail, agriculture, and public services, helping businesses streamline operations and improve customer experiences.

Significant opportunities exist, especially in Indonesia's growing tier-2 and tier-3 cities, home to 124 million urban consumers embracing digital products. These regions offer vast potential for AI-driven innovations, particularly in MSMEs and agriculture, where AI is improving financial access, optimizing supply chains, and driving sustainable growth. Companies that leverage AI to enhance efficiency and personalize services will thrive in this expanding market.

However, challenges remain. A significant digital divide between metropolitan and non-metropolitan areas, combined with infrastructure gaps and limited digital literacy, hampers widespread AI adoption. Moreover, Indonesia faces a growing shortage of skilled AI talent, with an ICT workforce gap of over 800,000. Addressing this will require strong investment in education and upskilling programs. Regulatory concerns, such as data privacy and AI ethics, also need careful management to build a responsible AI ecosystem.

This edition of Indonesia AI Radar explores the ongoing developments in AI across industries shaping the nation's digital future.

## Teleconsultation with ALNI: Alodokter's AI-Powered Virtual Assistant



Alodokter, Indonesia's leading health-tech platform, has introduced ALNI, an AI-powered virtual assistant designed to enhance teleconsultation services. Using advanced Natural Language Processing (NLP), ALNI helps patients navigate the platform, answer health-related questions, and connect them with healthcare professionals. Its deployment is aimed at improving both user experience and operational efficiency.

ALNI assists with tasks such as booking appointments, initial symptom assessments, and providing general healthcare advice. By handling routine queries, ALNI allows doctors to focus on more complex cases, significantly improving workflow. Alodokter reports that **100% of doctors** using ALNI have experienced greater efficiency in delivering medical care.

The virtual assistant has also boosted patient satisfaction, increasing it by **15%** compared to consultations without the assistant. ALNI helps reduce errors and improve the accuracy of medical advice, making the consultation process smoother and more reliable for patients.

Available 24/7, ALNI ensures that users can access support at any time. With multilingual capabilities, the assistant caters to Indonesia's diverse population, further expanding its accessibility.

Alodokter plans to enhance ALNI by adding personalized health recommendations and expanding its role in services like medication management. This expansion reflects Alodokter's commitment to utilizing AI to improve healthcare accessibility and service quality across the country.



## Optimizing Logistics with AI: Tokopedia's Dilayani Smart Warehouse System



Tokopedia has revolutionized its logistics with the **Dilayani Tokopedia** smart warehouse system, powered by **AI-driven demand prediction technology**. This system analyzes customer purchasing patterns, market trends, and regional demand to forecast where certain products will be needed most. Using these insights, sellers are notified about which locations have high demand for their products, allowing them to stock items in smart warehouses near these areas. This strategic inventory placement reduces delivery times and optimizes fulfillment processes.

Once products are stored in these AI-optimized warehouses, the system handles the full logistics chain—from **order receipt to packaging, stock updates, and shipment processing**. The smart warehouses, located in key cities like Jakarta, Bandung, Surabaya, and Makassar, automate fulfillment tasks, ensuring that orders are processed efficiently and accurately. When buyers place orders, the AI system selects the nearest warehouse to fulfill the request, significantly cutting down delivery times.

Sellers using this service have seen a **six-fold increase in sales** in the first quarter of 2023, with transactions nearly doubling on average. Buyers benefit from **free nationwide shipping** and faster deliveries, with intra-city orders arriving in as little as **four hours** and inter-city orders within **48 hours**.

This system is designed to address Indonesia's logistical challenges, especially in **3T regions** (frontier, outermost, and underdeveloped areas), ensuring faster and more reliable access to goods. Tokopedia plans to continue expanding its AI-driven logistics network to further enhance efficiency.

## GoTo Group Enhances Engineering Efficiency with GitHub Copilot

GoTo Group has integrated GitHub Copilot, the AI-powered coding assistant, into its engineering operations to boost productivity across its nearly **1,000 engineers**, with full implementation expected by October 2024. This AI tool significantly streamlines the development process, enabling engineers to save time and improve code quality. In the first month of use, **30% of code suggestions** provided by GitHub Copilot were accepted by GoTo engineers, aligning with the global average acceptance rate of **26-30%**.

GitHub Copilot enhances productivity by offering several key benefits:

- It provides **real-time code suggestions**, helping engineers write faster and more accurately by suggesting entire lines or functions.
- It supports **code completions** while typing, reducing typos and improving overall coding accuracy.
- With its **contextual understanding** of the project's language, libraries, and frameworks, Copilot delivers relevant, precise suggestions that suit the developer's needs.
- Over time, Copilot **learns and adapts** to a developer's coding style, offering more personalized and useful recommendations.
- The tool integrates seamlessly with popular development environments like **Visual Studio Code** and **JetBrains IDEs**, making it easily accessible for engineers.

Thanks to these features, GoTo engineers have reported an average time savings of **7 hours per week**, allowing them to focus on more complex tasks and deliver software faster, ultimately accelerating innovation and improving the overall development process.

## Bank Mandiri Strengthens Risk Management with AI-Driven Early Warning System



Bank Mandiri has significantly enhanced its risk management capabilities by implementing an AI-driven Early Warning System (EWS), designed to mitigate credit risk and reduce non-performing loans (NPLs). This strategic move is part of the bank's commitment to maintaining a healthy loan portfolio and staying ahead in an increasingly competitive financial market.

The AI-based EWS continuously monitors and analyzes customer data to detect potential risks before they escalate. By leveraging machine learning algorithms and data analytics, the system can predict and mitigate loan quality deterioration, helping Bank Mandiri address potential credit issues proactively. Reports indicate that this approach has successfully prevented up to 70% of consumer credit quality problems, enabling the bank to manage its loan portfolio more effectively and minimize potential losses.

To support the deployment of this advanced AI solution, Bank Mandiri has invested in cutting-edge infrastructure, including NVIDIA GPUs, and has expanded its team of data scientists. These investments ensure that the bank has the technological capability and expertise needed to optimize its risk management processes. In addition to the EWS, Bank Mandiri also utilizes AI for transaction verification through facial recognition and real-time monitoring, further enhancing operational efficiency while retaining human oversight for critical decision-making processes.

As of March 2024, Bank Mandiri reported significant improvements in its credit quality metrics. The gross NPL ratio decreased to 1.02%, down from 1.70%, positioning the bank ahead of other state-owned banks in Indonesia, demonstrating the effectiveness of the AI-driven risk management strategy.

The integration of AI into Bank Mandiri's risk management framework exemplifies a proactive and innovative approach to handling credit risk while boosting operational productivity. By continuing to expand its AI capabilities, the bank aims to strengthen its market position, ensure sustainable growth, and provide better service to its customers.

## eFishery Empowers Aquaculture with AI-Driven Solution 'Mas Ahya'



eFishery has launched Mas Ahya, an innovative AI-driven solution aimed at supporting fish and shrimp farmers across Indonesia. This strategic initiative aims to democratize access to aquaculture expertise and help farmers improve their productivity, aligning with eFishery's commitment to enhancing the aquaculture sector.

Mas Ahya, which translates to "Expert Cultivator," is powered by Microsoft Azure's OpenAI Service and serves as a comprehensive digital assistant for aquaculture. The solution allows farmers to consult on various aspects of fish and shrimp farming through a mobile app, providing them with accessible expert knowledge to enhance their operations.

The deployment of Mas Ahya involves real-time monitoring of water quality through IoT sensors, which track essential parameters such as pH, oxygen levels, temperature, and salinity. By integrating these sensors, Mas Ahya helps maintain optimal conditions for aquatic life. Farmers can interact with the system in local languages, including Bahasa Indonesia and Javanese, to ask questions regarding farming practices, such as water quality and market pricing.

Using machine learning, Mas Ahya analyzes data collected from the sensors and provides personalized recommendations for feeding schedules, disease management, and other essential farming practices. The solution also offers quick insights for managing common problems like water acidity or pond fungus, empowering farmers to take timely action.

Farmers using Mas Ahya have already reported improvements in productivity. One farmer noted a reduction in the time from fry to market size, decreasing from four months to three and a half months due to more precise feeding schedules.

eFishery envisions Mas Ahya as a transformative tool to boost aquaculture productivity by up to 30%, contributing to sustainable practices and long-term benefits for the industry in Indonesia. This AI-driven initiative underscores eFishery's

commitment to supporting farmers and promoting efficient and sustainable aquaculture.

## AI's Transformative Impact on Indonesia's Industries

AI is transforming various industries in Indonesia, enhancing **productivity, decision-making, and service delivery**, and contributing to **Vision 2045** of sustainable development. AI adoption could boost Indonesia's GDP by up to **10.5% by 2030** and **22.5% by 2045**. In healthcare, AI-driven diagnostics have reduced error rates by **15%**, while in logistics, AI has improved delivery times by **20%**. Despite these benefits, challenges like limited AI talent, reliance on imported technology, regulatory barriers, and insufficient infrastructure remain.

Successful AI adoption strategies involve leveraging **cloud infrastructure**, promoting data-sharing initiatives like **"Satu Data Indonesia,"** and fostering **collaboration** across academia, industry, and government bodies. Talent development is equally crucial, with the **National Talent Management Strategy** focusing on aligning educational curricula, expanding AI training, and providing certifications to bridge the talent gap. Upskilling initiatives could increase the AI-skilled workforce by **25%** over the next five years.

Organizations are encouraged to adopt a **cloud-first approach**, invest in AI infrastructure, and strengthen collaboration with international and local partners. Ensuring responsible AI development, integrating AI into core processes, and focusing on **data security** are key to maintaining **competitiveness** and unlocking AI's full potential for **Indonesia's growth**.