



Responsible AI-driven Digital Transformation

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Post COVID-19 Development Strategy 2030 (PCDS 2030)



Enhanced Strategic Thrust

Newly Added Socio-Economic Sectors and Enablers

Aspiration

3 Key Pillars

7 Strategic Thrusts

15 Key Socio-Economic Sectors & Enablers

10 High Level Strategies

PCDS 2030 is driven by
Digital Economy, Green Economy
and Circular Economy

Sarawak Digital Economy Blueprint 2030



Vision

Sarawak to be a leading digital economy and society by 2030

Strategic Goals

- Accelerate the digitalization of economic sectors
- Strengthen economic competitiveness
- Accelerate digital transformation of public sector
- Create high and semi-skilled jobs
- Foster high-income per capita & inclusive digital society
- Grow vibrant tech sector
- Develop new generation of digital industries

Key Outcomes

~ 40,000 jobs	50% invest. growth	96% connectivity	20% (RM57B) Contr. to GDP	RM4K Contr. to h/hold income	500 start-ups	100% online service
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Strategic Pillars

Economic Growth Priorities

- Platform Economy
- Digitised Economic Sectors
- Data Monetisation

Digital Business Development

- Digital Industry Development
- Investment & Trade
- Vibrant Tech Sector

Public Sector & Services

- Digital & Data Driven Public Sector
- Open and Citizen Driven
- Digital by Design
- Ease of Doing Business

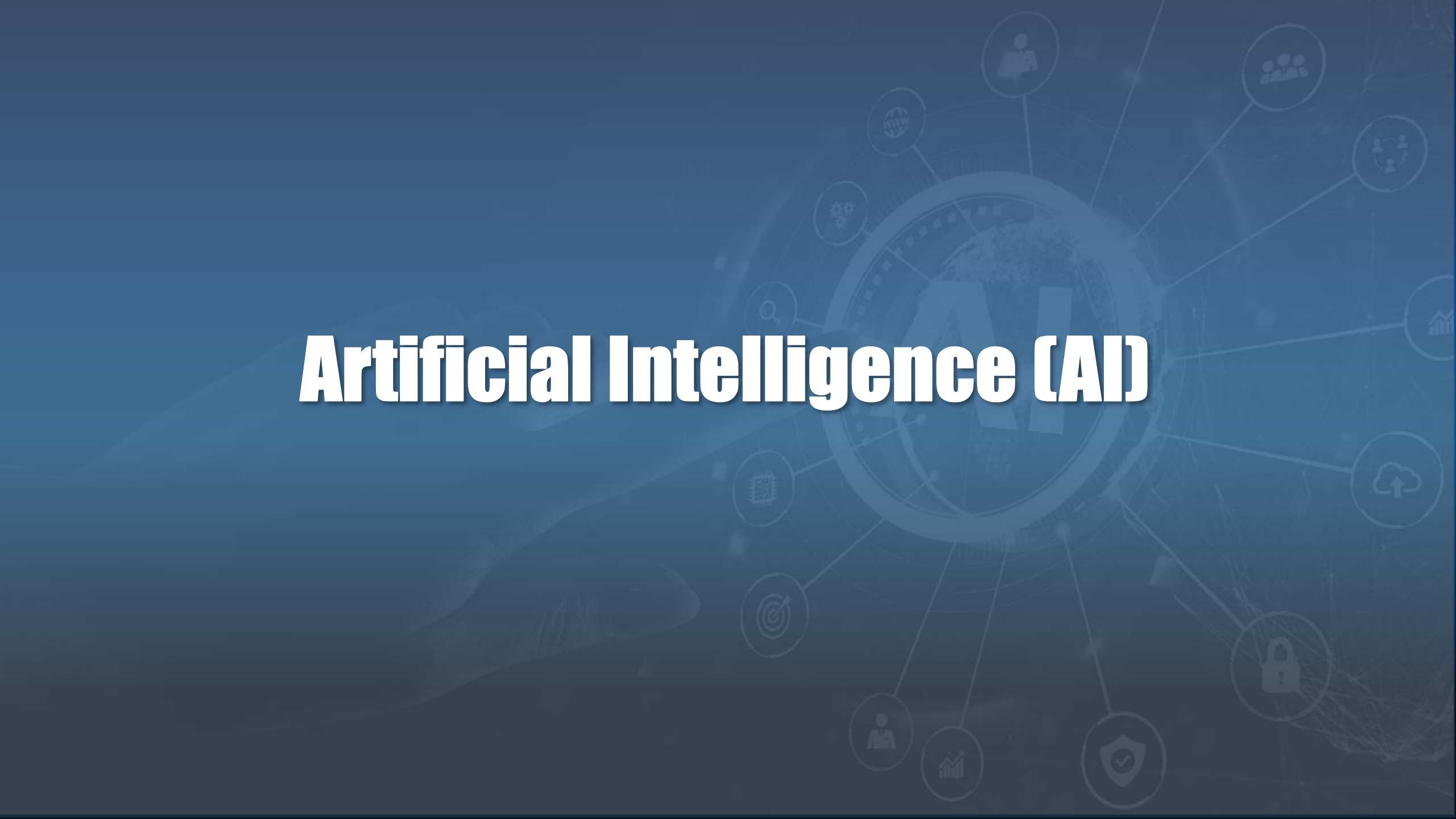
Frontier Technologies Adoption

- Cloud Services
- 5G, AI, IoT, Blockchain, etc.
- Digitalisation of MSMEs

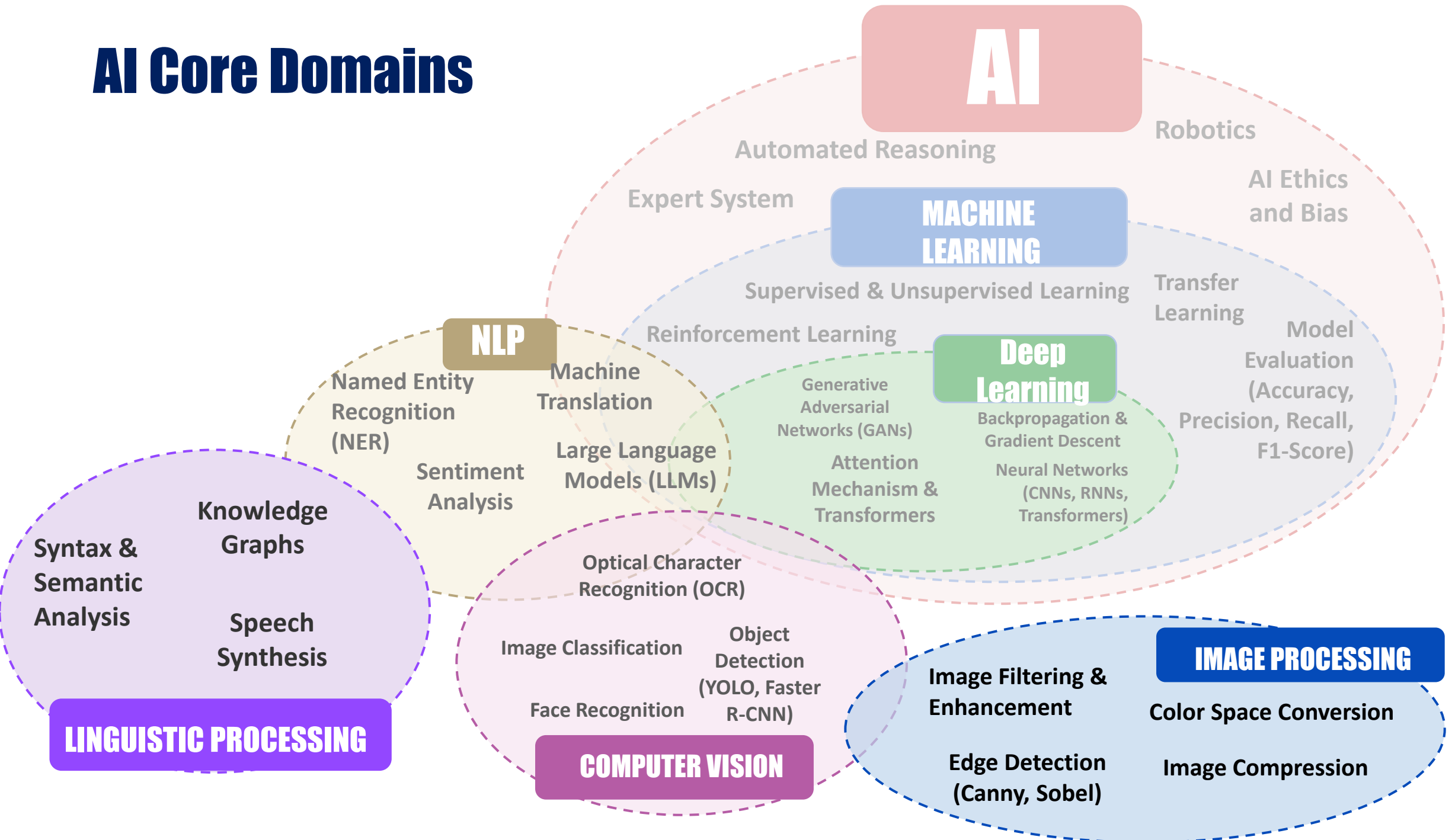
Foundation for Digital Economy

- Digital Infrastructure & Connectivity
- Research, Innovation and Entrepreneurship
- Digital Skills, Talent and Inclusivity
- Data Governance
- Cyber Security

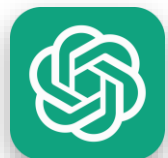
Artificial Intelligence (AI)

The background is a dark blue gradient. On the left, a hand is shown in silhouette, pointing its index finger towards the center. In the center, there is a globe with the letters 'AI' overlaid on it. Surrounding the globe is a network of white lines connecting various circular icons. These icons include a person, a group of people, a gear, a magnifying glass, a microchip, a target, a person, a bar chart, a shield with a checkmark, a padlock, a cloud with an upload arrow, a bar chart, a cloud, a group of people, a person, a globe, and a gear.

AI Core Domains



AI Models



ChatGPT

All-round generative AI (text, image, code, browsing).

- Best for: Productivity, creativity, automation.
- Use Cases: Writing, coding, brainstorming

Pros: Multimodal, plugins, flexible

Cons: Paywalled features



Gemini

Google's AI for Workspace & Search

- Best for: Gmail, Docs, Sheets workflows
- Use Cases: Docs, email summaries, data analysis

Pros: Google integration, collaboration

Cons: Limited outside Google ecosystem



Grok

X/Twitter's real-time chatbot.

- Best for: Trends, live events, viral content
- Use Cases: News, trending Q&A, social posts

Pros: Google integration, collaboration

Cons: Limited outside Google ecosystem



DeepSeek

Chinese AI: cost-effective, fast, strong coding.

- Best for: Technical, coding, multilingual tasks
- Use Cases: Debugging, translation, analytics

Pros: Fast, affordable, coding strength

Cons: Fewer integrations, smaller ecosystem



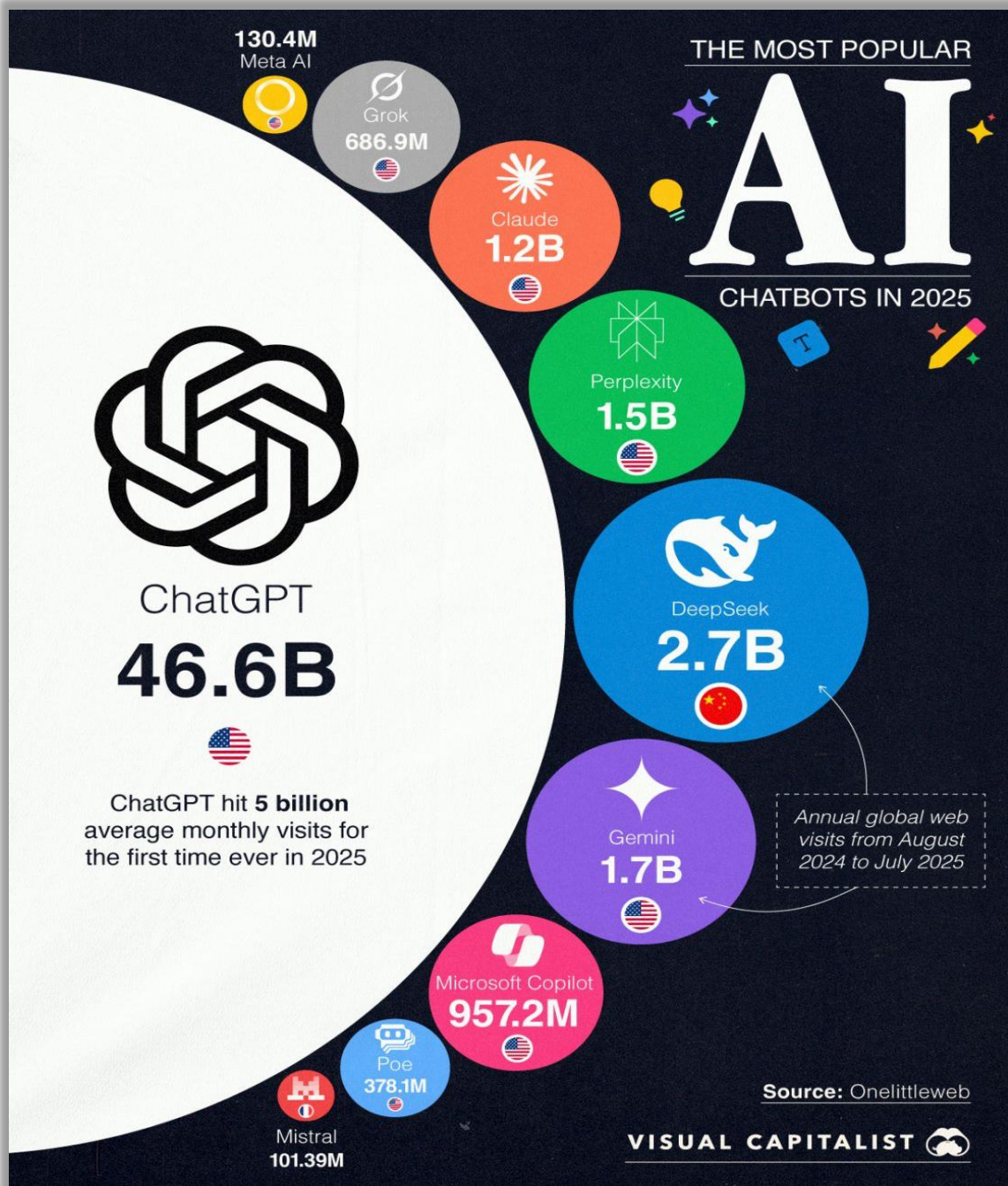
Claude

Anthropic's safety & reasoning-focused AI.

- Best for: Legal, research, long documents
- Use Cases: Policy drafting, contract analysis, academic writing

Pros: Handles long docs, accurate reasoning

Cons: No multimodal, slower for quick tasks



Top AI Chatbots Leading 2025

Challenges and Issues of AI

Bias and Fairness

- AI may inherit biases, causing unfair results.

Privacy Concerns

- Reliance on personal data risks misuse and surveillance.

Explainability & Transparency

- Many AI models act as “black boxes,” making decisions hard to interpret.

Ethical Dilemmas

- Impacts jobs, digital rights, and weaponization.

Security Threats

- Can be misused for cyberattacks, deepfakes, and misinformation.

Job Displacement

- Automation reduces job availability, requiring reskilling.

Computational Power

- High resource demands limit accessibility.

Legal & Regulatory Challenges

- Accountability for AI decisions remains unclear.

Trust & Adoption

- Low transparency makes systems harder to trust.

Misinformation and Deepfakes

- Deepfakes spread false narratives and hoaxes.

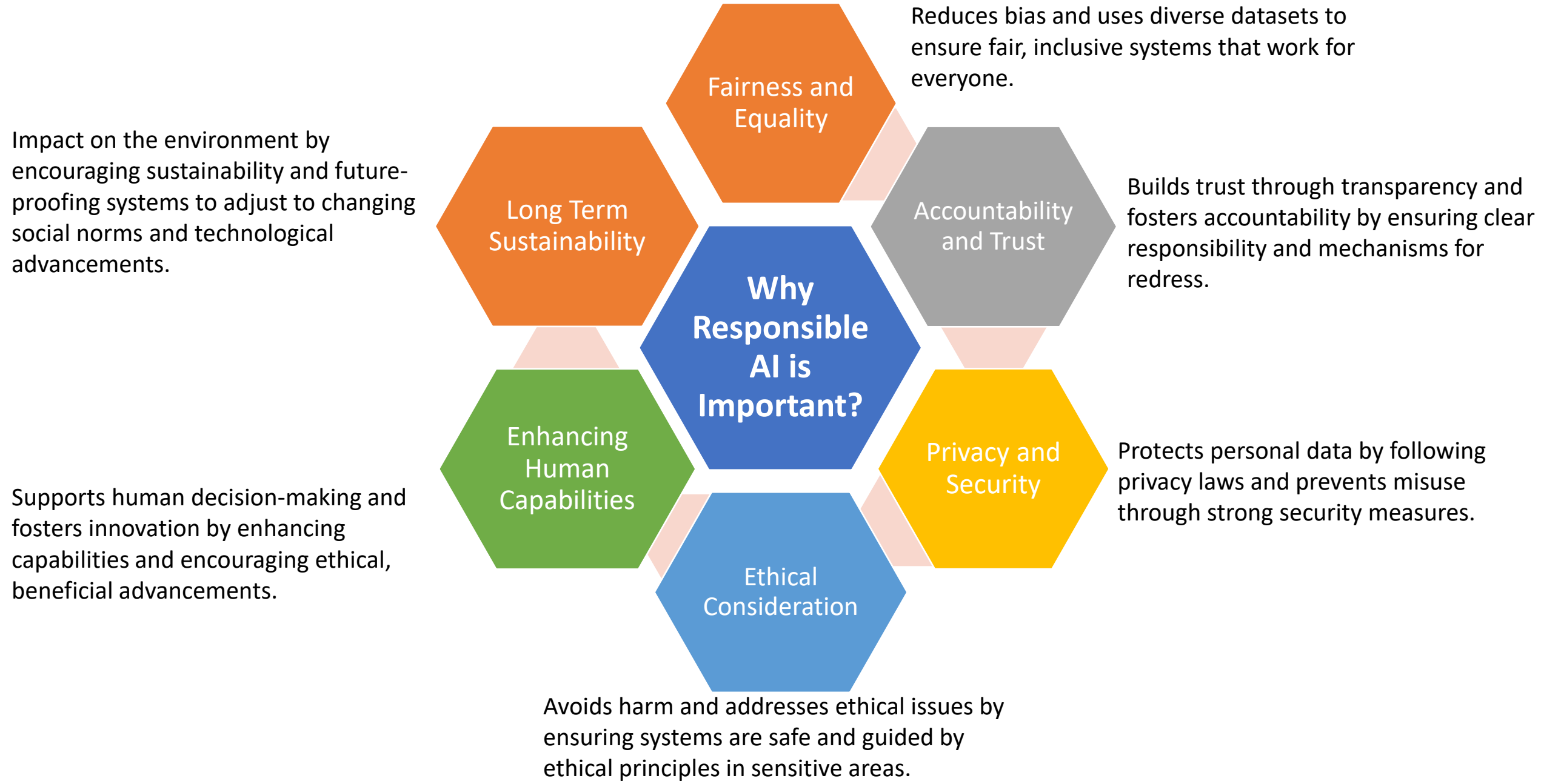
Lack of AI Literacy and Public Awareness

- Public and policymakers lack awareness, increasing risks of manipulation.

Responsible AI

Responsible AI brings benefits by building trust, mitigating risks, and promoting fairness in decision-making.

Responsible AI



AI Regulations

United States

- Executive Order 13960
- Protects civil liberties and privacy

European Union

- EU AI Act
- Categorizes AI systems by risk and sets requirements

Australia

- AI Ethics Framework
- Focusing on transparency, accountability, and fairness

United Kingdom

- Data Protection Act 2018
- Incorporates General Data Protection Regulation (GDPR) principles and AI data provisions

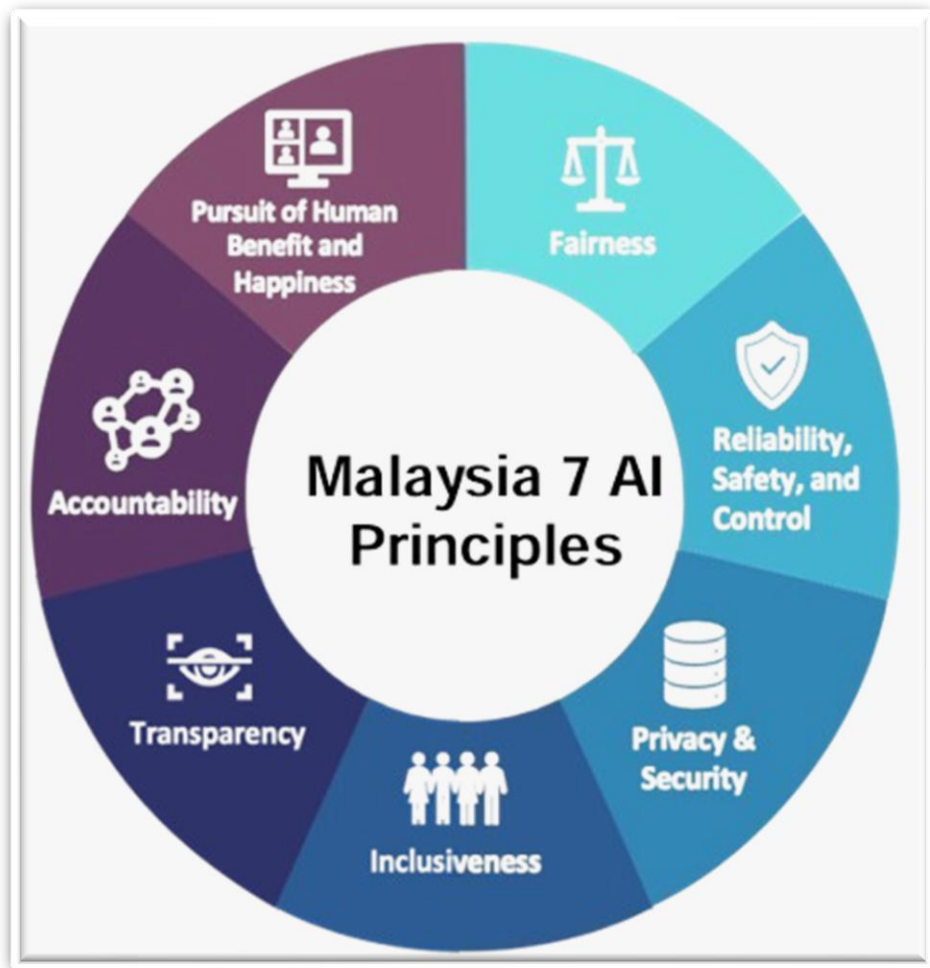
Singapore

- Model AI Governance Framework for Generative AI
- Focusing on transparency, fairness and explainability

Malaysia

- National Cloud Policy and AI Regulations
- Encourages ethical AI use, focusing on innovation

Responsible AI Principles in Malaysia



Fairness

- Ensure AI does not discriminate and benefits everyone equally.

Reliability, Safety and Control

- AI systems must work safely and reliably.

Privacy and Security

- Protect personal data and prevent misuse.

Inclusiveness

- Make sure no group is excluded from AI benefits.

Transparency

- Clearly explain how AI works and uses data.

Accountability

- Assign responsibility for AI actions and outcomes.

Pursuit of Human Benefits and Happiness

- Prioritize human well-being over profits.

Agentic AI Systems

- **Key Technologies**

- LLMs and SLMs
- Neural Networks
- Reinforcement Learning

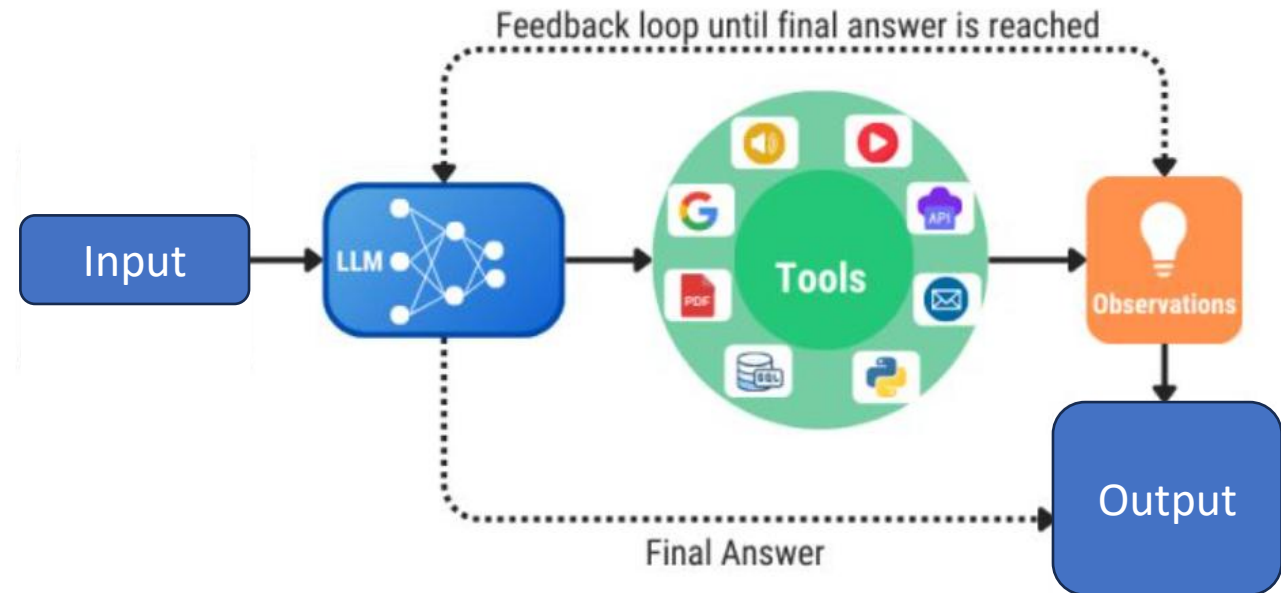
- **AI Agents Disrupting SaaS**

- Enhancing Operational Efficiency
- Hyper-Personalisation at Scale
- AI Agents as a Service (AIAaaS)

Agents



An AI Agent is a system, using LLMs integrated with tools (e.g. APIs) and memory and reasoning to achieve complex tasks



Sarawak Artificial Intelligence Centre

Focus Areas

- Research & Development
- Innovation, Product Development, Commercialization & Ventures
- AI Governance
- AI Knowledge

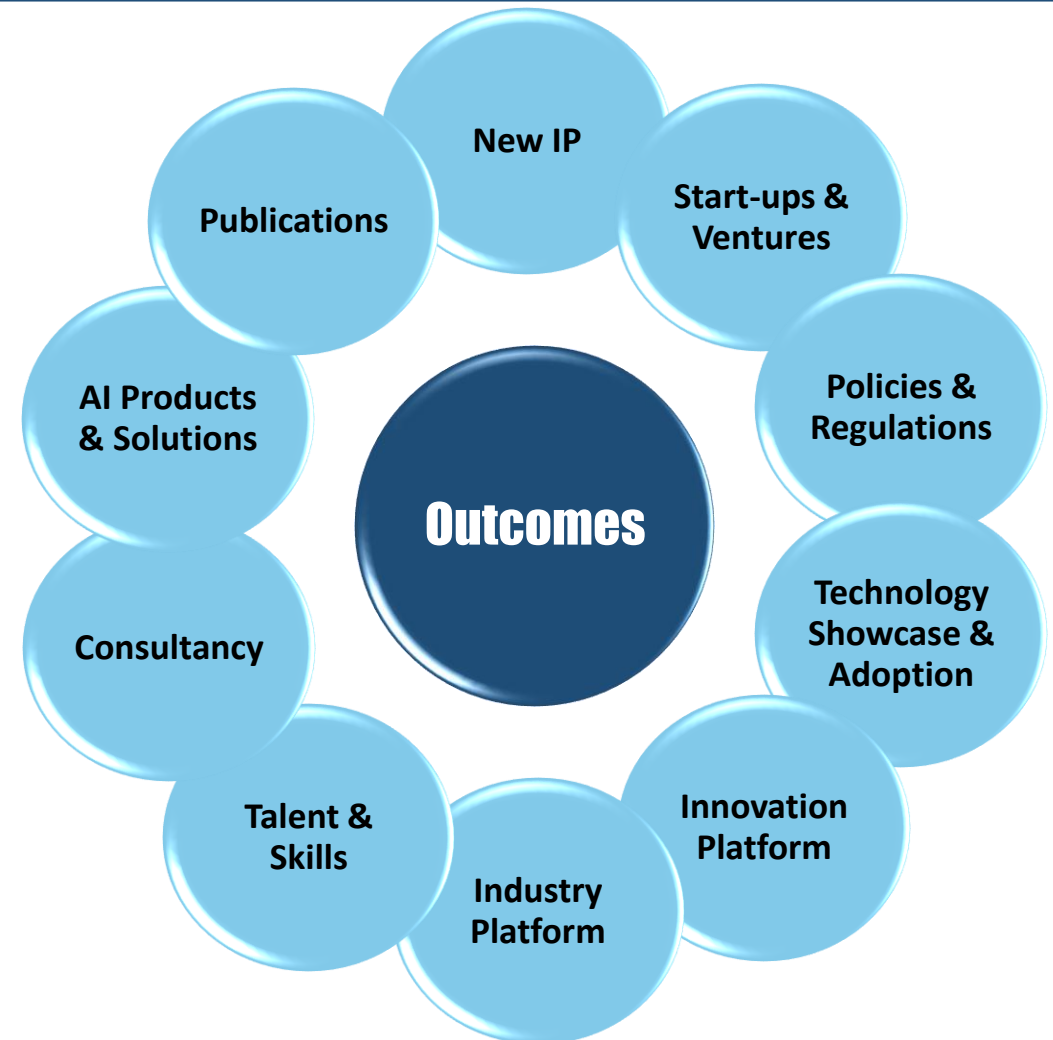
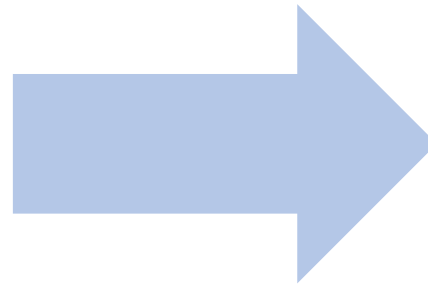
Partnership Model

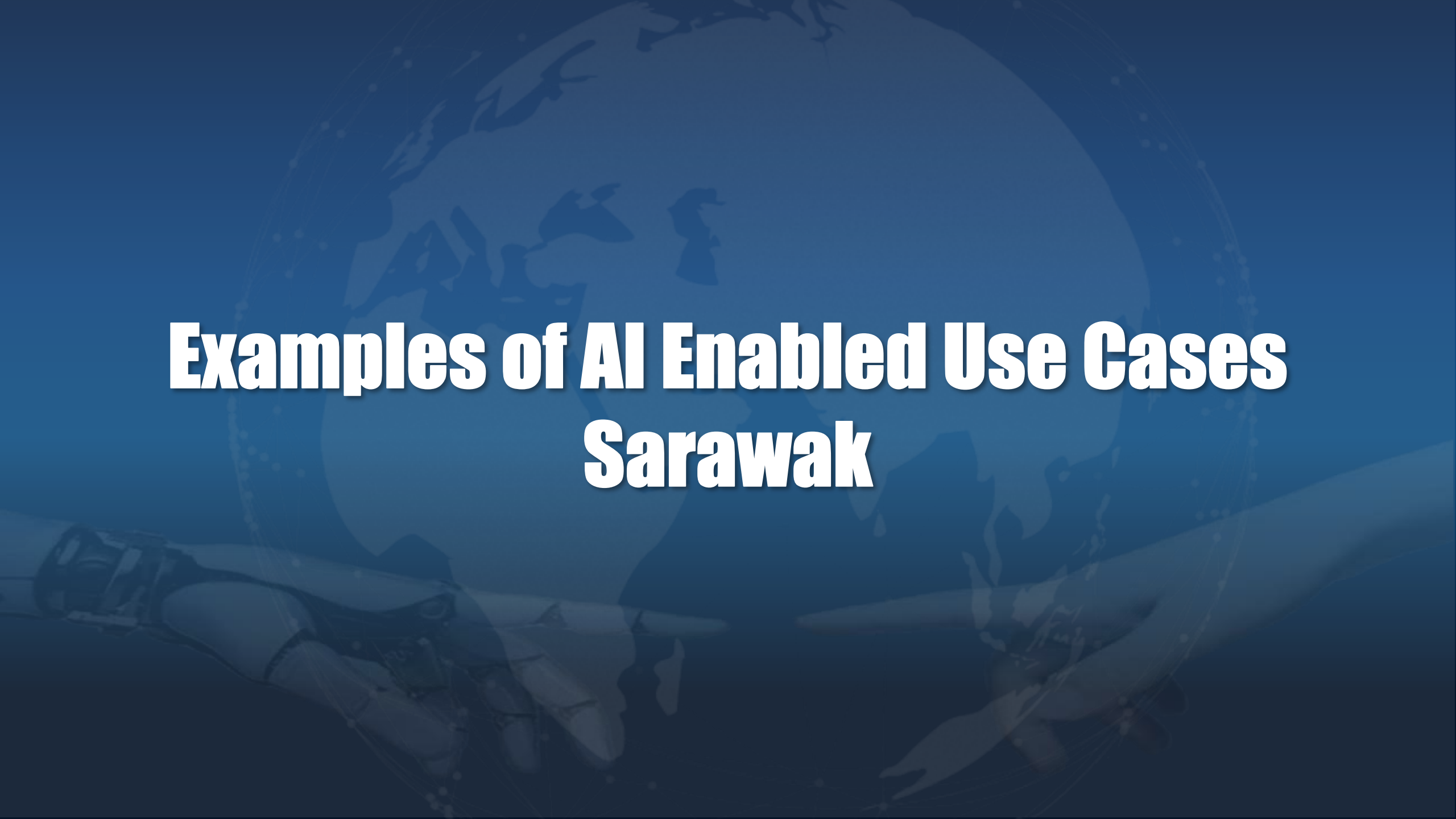
Government

SAIC

Technology
Partners

Universities



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Examples of AI Enabled Use Cases Sarawak

Water Pipe Failure Prediction

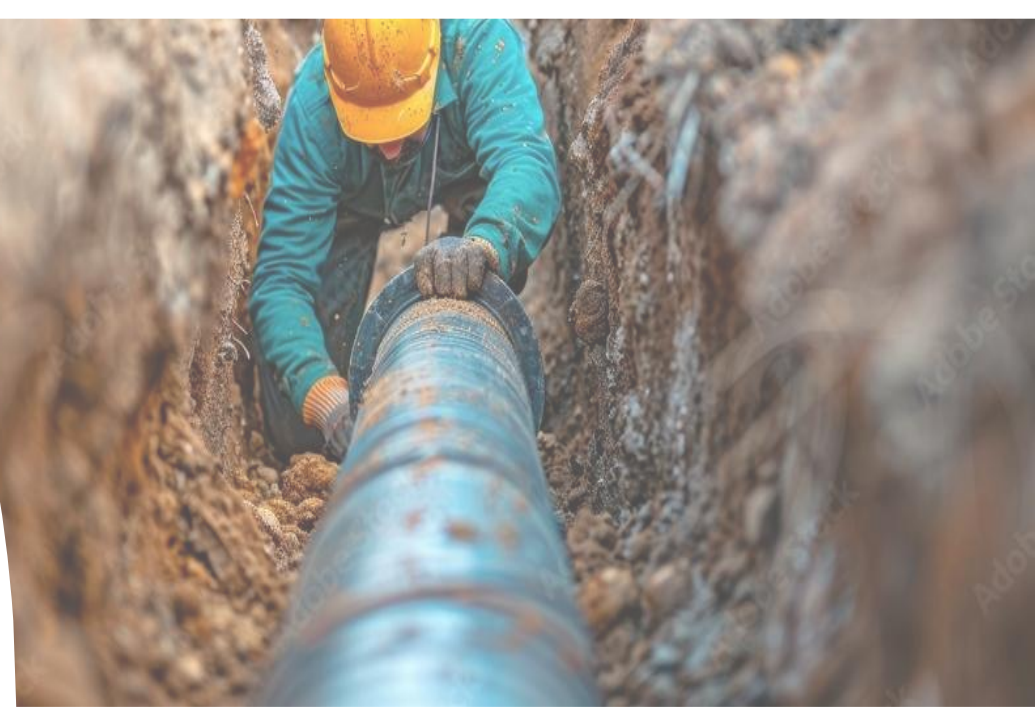
Objective: Predict the failure of water pipes to facilitate timely maintenance and replacement.

Data Sources: Historical failure data, pipe attributes (material, diameter, age), environmental factors (soil type, temperature, pressure, etc.), operational data (pressure, flow rate), etc.

Integration: Combine historical failure data with current pipe attributes and environmental and operational data to develop a predictive model using **Machine Learning**.

Outcome: Accurate prediction of pipe failures, enabling proactive maintenance and replacement strategies.

Benefit/Impact: Reduced operational costs, decreased water loss, improved service reliability and extended lifespan of the water distribution network.



IoT Anomaly Detection and Correction – DID

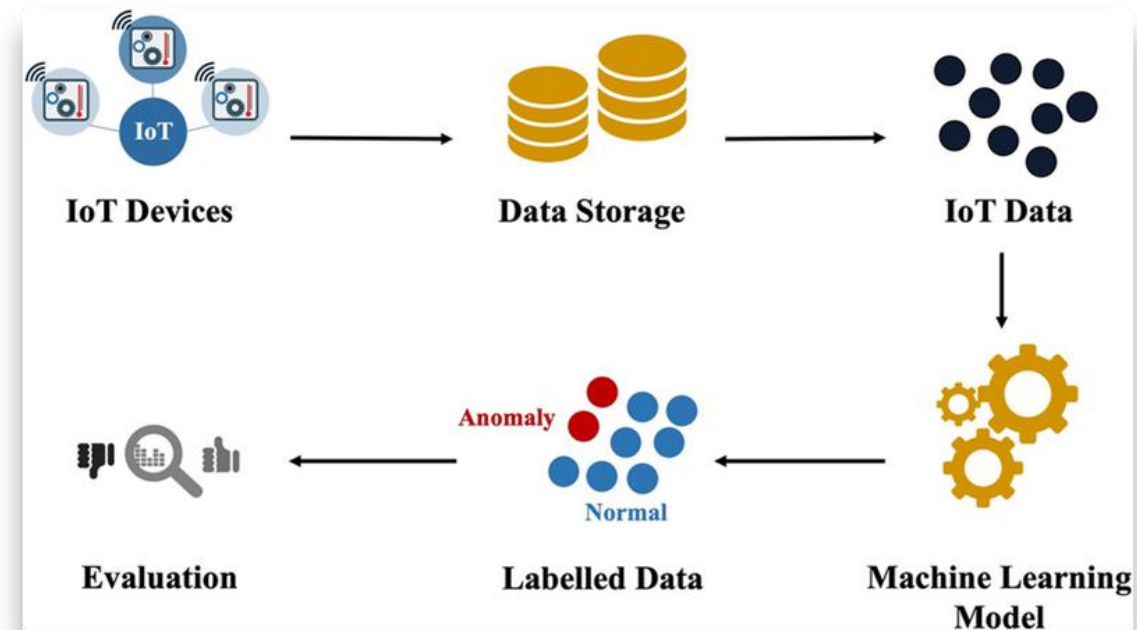
Objective: To ensure accurate and reliable rainfall and water level data from IoT sensors for effective environmental monitoring.

Data Sources: IoT sensor readings on rainfall and water levels, environmental condition data, and anomaly detection logs.

Integration: Machine learning algorithms detect and correct abnormal readings in real time, ensuring data accuracy and reliability.

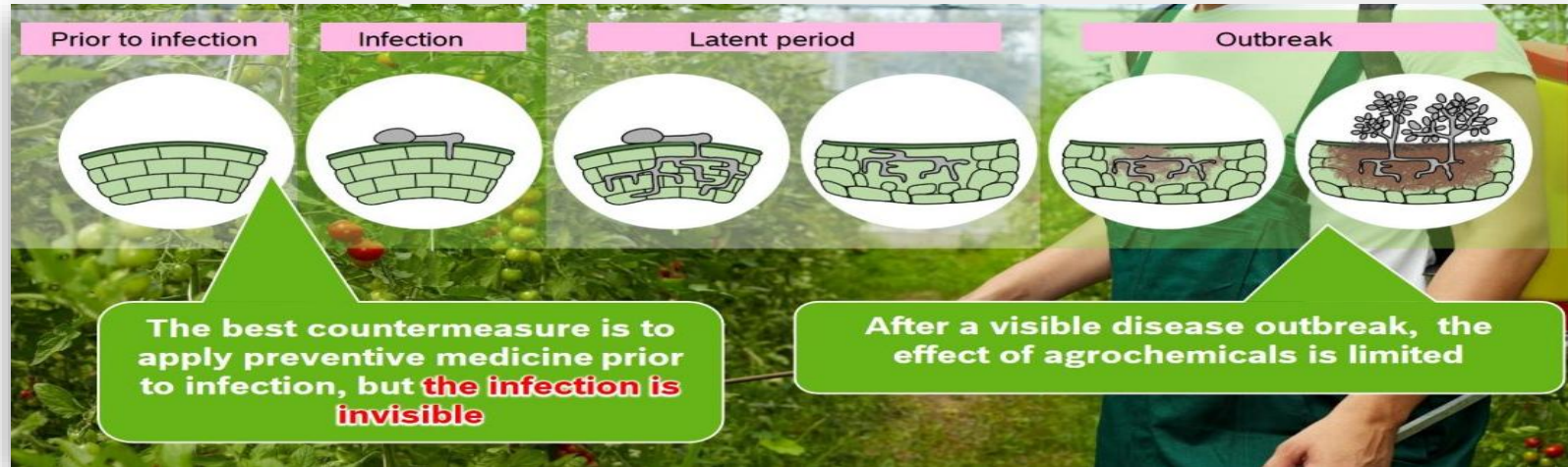
Outcome: Trusted environmental data that strengthens disaster preparedness and supports timely government response.

Benefit: Enhances public safety, improves decision-making in disaster management, and builds public confidence in government information systems.



Disease Prediction for Greenhouse Farming

- Difficulties with disease counter measures - Tomatoes

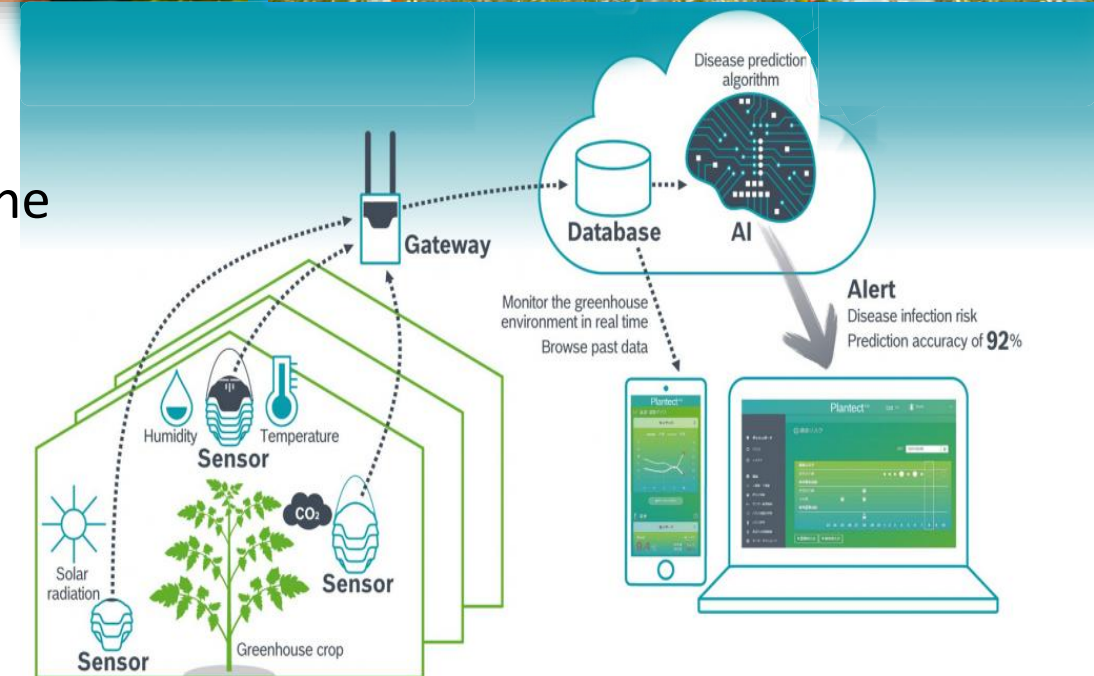


- Factors

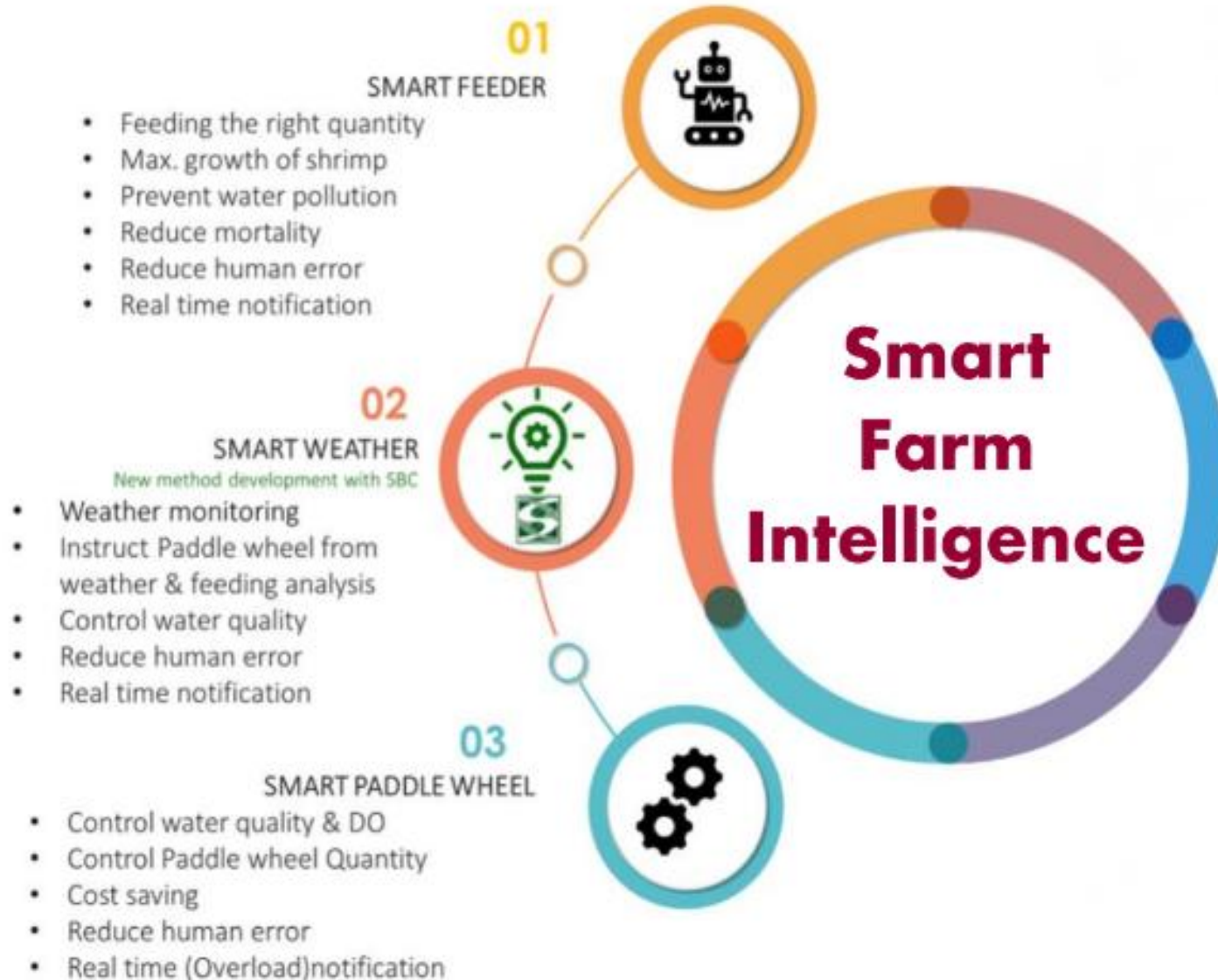
- Temperature, humidity, sunlight, carbon dioxide, level leaf wetness and outside weather can determine the likelihood of disease in plants, historical data,...

- Early Detection

- Predicts the likelihood of disease
- Farmers receive notifications of an infection risk
- System predicts the likelihood with an accuracy of 92%
- Yields increased by around 20%



Rambungan Sustainable Shrimp Aquaculture



•Optimized Operations:

Real-time control and data integration streamline all aspects of farm management.

•Predictive Analytics:

Using data insights to predict and prevent disease outbreaks or optimize feed conversion rates.

•Sustainability:

Reduces resource use (water, feed, energy) and minimizes environmental impact.

•Consistency and Quality:

Maintains consistent water parameters, boosting shrimp health and production yield.

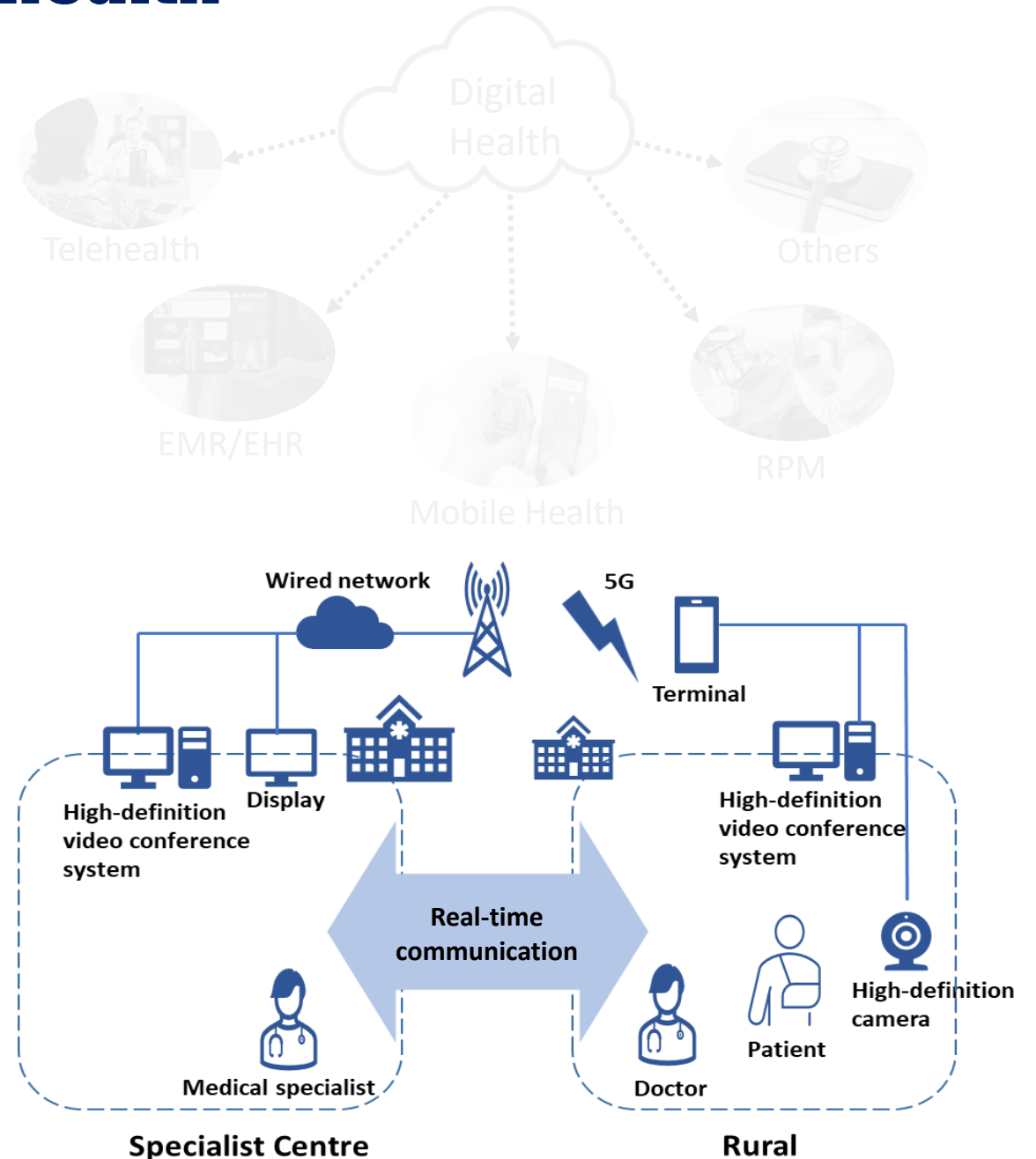
Digital Health

Key Areas

- **Telemedicine**
 - 65% of the global market
- **EMR/EHR**
 - Electronic Medical Record/Health Record
- **Mobile Health**
 - mHealth technology
- **Remote Patient Monitoring (RPM)**
 - Allow real-time data exchange

Technology Enablers

- **Cloud Computing**
 - Efficient patient data management service model
- **AI**
 - Growing demand for value-based care, AI innovations
- **Blockchain**
 - Security
- **5G**
 - High-speed, low latency, high resolution
- **Immersive Technologies**
 - AR/Metaverse



Emergency Response Optimization

Objective: Improve the efficiency and effectiveness of emergency services.

Data Sources: Emergency calls, traffic data, hospital capacity, weather forecasts, etc.

Integration: Real-time fusion of emergency calls with current traffic conditions and hospital status.

Outcome: Optimised routing and resource allocation for emergency services.

Benefit/Impact: Faster emergency response times, better resource utilisation, and improved outcomes for emergency incidents.



WoodID – AI Powered Timber Recognition

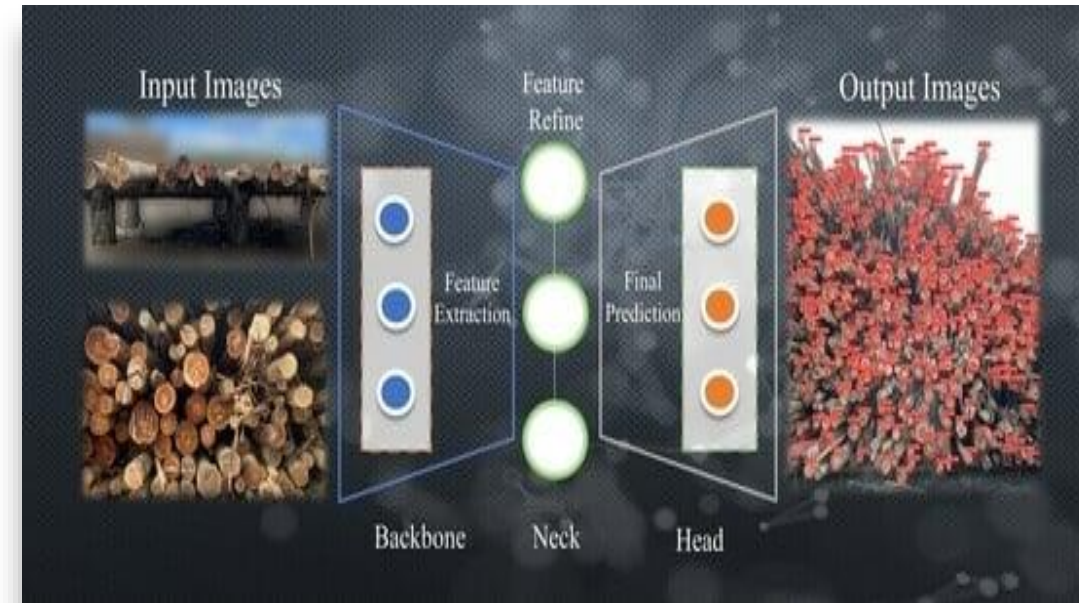
Objective: To deliver fast and accurate timber identification through AI-powered macroscopic image recognition.

Data Sources: Macroscopic wood sample images, timber classification databases, and AI model training datasets.

Integration: Mobile-based AI models developed, trained, and evaluated to recognize timber groups and provide detailed sample information.

Outcome: Reliable and accessible timber identification using smartphones, reducing dependence on slow and error-prone manual methods.

Benefit: Supports conservation efforts, ensures regulatory compliance, and promotes sustainable resource management while simplifying identification for wider accessibility.



SCS Mobile+

Objective: To support a secure and flexible digital workplace for the civil service.

Data Sources: Internal employee, digitally signed documents and user authentication records via multi-factor authentication (MFA).

Integration: Core functions include email management, leave and travel request handling, digital document signing and uses MFA for secure access.

Outcome: Seamless digital workflows within the civil service and centralised access to key administrative functions.

Benefit: Improved productivity through streamlined processes, enhanced security for sensitive operations and better communication across departments.



S Pay Global – AI Driven Fintech Platform



Growth and Transactions

 42,000
 800

 227,000
 12,000

 480,000
 68,000



1,612,666 users

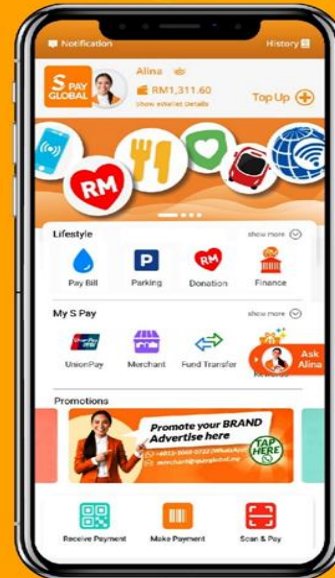
95,349 merchants



transactions

146,766,039

RM5.48 billion



2017

2018

2019

2020

2021

2022

2023

2024

2025

vers. 1

vers. 2

vers. 3

I-Syariah Digital Platform (Islamic Judiciary)

Objective: Modernize Syariah court operations through a unified smart digital platform.

Data Sources: Marriage registrations, case records, legal documents, and digital filings.

Integration: The AI-powered system supports case analysis, documents, research, and decisions.

Outcome: Streamlined case management, improved access for public and judiciary.

Benefit: Faster, data-driven processes, international connectivity, and a model for Smart Syariah Governance rooted in Islamic principles.



Artificial Intelligence in Court Sentencing (AiCOS)

Objective: To enhance fairness and consistency in court sentencing through AI-driven recommendations.

Data Sources: Historical judicial decisions, case details, and offender profiles.

Integration: AI models parameterize and analyze case information to provide sentencing type and duration recommendations, while judges retain final authority.

Outcome: More consistent and transparent sentencing decisions across different states, reducing subjectivity and unconscious bias.

Benefit: Improves judicial efficiency, enhances fairness in legal outcomes, and builds public trust in the justice system.



Citizen Service Chatbot: Dayang

Objective: Improve citizen access to government services.

Data Sources: Government service databases, frequently asked questions, user interaction logs, etc.

Integration: Combine service information with natural language processing of common queries.

Outcome: An AI-powered chatbot that can answer citizen queries across multiple government departments.

Benefit/Impact: Increased accessibility and efficiency of government services, reduced wait times, and improved citizen satisfaction.



Smarter Billing & SEB cares App

Objective: Enhance customer convenience and sustainability through digital billing and service platforms.

Data Sources: Monthly e-Bill statements via email, Customer account data, payment records, smart meter readings

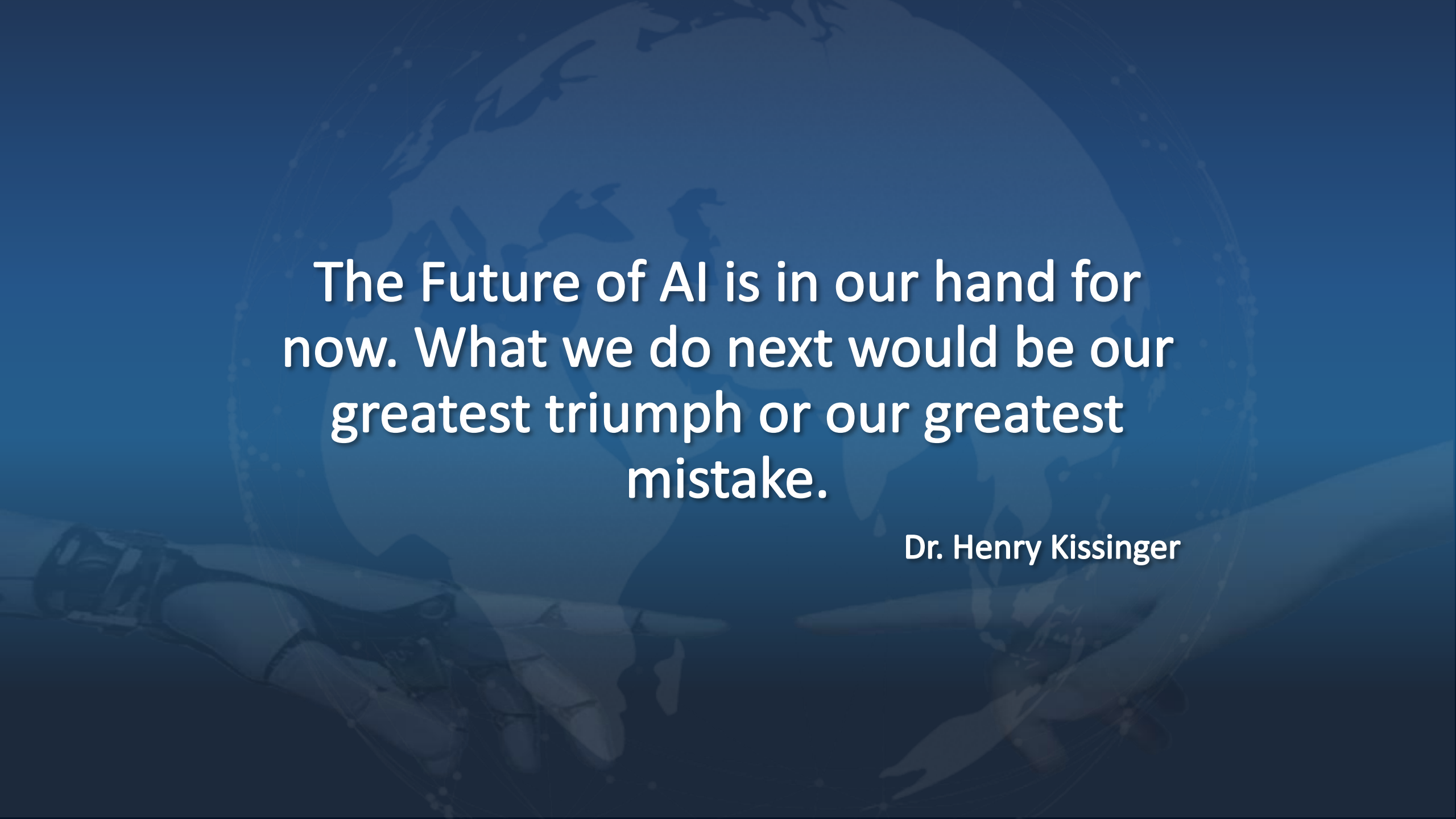
Integration: SEB cares app with official channels, 24/7 Carina support, and smart meter tracking.

Outcome: Provides faster access to bills, ensures safer and more reliable payment options, and significantly reduces congestion at physical service counters.

Benefit: Providing easy and secure services that not only simplify daily transactions but also encourage customers to adopt smarter and more sustainable energy habits.



Carina Chatbot

The background is a solid blue color with a faint, semi-transparent image of a globe. Overlaid on the globe are two hands, one from the left and one from the right, reaching towards the center. The hands appear to be holding or supporting the globe. The text is centered over the globe.

The Future of AI is in our hand for
now. What we do next would be our
greatest triumph or our greatest
mistake.

Dr. Henry Kissinger