

INNOVATION & TECHNOLOGY



WHY WE CARE

As Malaysia's Digital Enabler, our role is to drive the country's progress through innovative solutions. Developed countries often have high technology adoption rates and we can achieve this by using modern technologies like 5G and data analytics. Smart technologies can also create better living conditions for society, contributing to sustainable and inclusive progress.

Our transformation into a human-centred TechCo focuses on using innovation and technology to improve people's lives. As new technologies and competitors emerge, it is essential to adapt continuously to meet society's needs. Doing so improves our competitiveness, provides higher returns for shareholders, improves the quality of life for customers and establishes Malaysia as a digital powerhouse.

What Our Stakeholders Expect

- Smart and innovative offerings
- Customised product solutions
- Application of new technologies

WHAT IS OUR APPROACH

At TM, innovation prevails through TM Research & Development (TM R&D). As the key enabler in driving TM's digital aspiration, TM R&D's innovation moves beyond connectivity to create new value-added digital and smart services, covering customer experience, process optimisation, as well as new business opportunities. With strength in intelligent platforms, IR4.0 technologies and connectivity, we help businesses solve operational issues and co-create solutions for the global market:

- **Intelligent Support Systems:** Driving seamless and best-in-class customer experience by providing reliable, AI driven, predictive and end-to-end solutions
- **Workforce Related:** Creating state-of-the-art solutions with safety and productivity as the top priority to boost efficiencies at the workplace
- **Data Brokerage:** Creating new revenue opportunities through smarter platforms, cultivating better insights and spawn the creation of new services
- **IoT Industry:** Creating IoT solutions for the industries to benefit from the industrial revolution

Today, we are monetising TM R&D as a business, offering R&D as a service. Our goal is to provide a smarter ecosystems solutions to enrich humanity and bring progress to nations. We strive to stay relevant with our new innovative solutions that the market cannot do without and take on projects that provide multi-fold benefits to businesses and the global market.

TM R&D Focus Areas

- Academic Research (Fundamental)
- Industry Research (Exploratory)
- Co-Creation Projects (with Industry)
- Commercialisation

Deployed Capitals:  

Met Strategic Aspirations:   

Stakeholders Affected:  

Sustainability Impact:   

HOW WE CREATED VALUE IN 2022

1 Smart and Intelligent Solutions

TM R&D focuses on enabling a Digital Malaysia through research, creating new intellectual property rights and developing innovations that solve real-world problems. The goal is to trigger a mindset shift amongst Malaysians from being a nation of consumers to becoming a nation of producers, as we believe that having the ability to produce will contribute to sustainable development.

With this in mind, major investments and developments were made by TM R&D in 2022, primarily within Digital Innovation, Connectivity Innovation and Workforce Mobility.

	2020	2021	2022
Investments in R&D	RM65.0 million	RM61.4 million	RM62.3 million

Through TM R&D and collaboration with internal stakeholders involving TM Global, TM One, GNT, Unifi and GHCM, we have developed and commercialised a comprehensive suite of product solutions that supports business growth and improves the lives of our customers.

 **TM'S SMART PRODUCTS & SOLUTIONS**

 **Smart Traffic Analytics and Recognition System (STARS)**

A unified traffic control system with a single central monitoring platform equipped with real-time analytics, notification and resolution of traffic problems.

How It Creates Value:

Enhances the efficiency of municipality and township management, while transforming cities to focus on smart solutions surrounding safety, green and efficient operations, aligned to the carbon reduction commitment and Smart City Index framework.

Impact & Achievements:

- Improved traffic flow in Ipoh up to 51% especially during peak hours
- Enabling Low Carbon Cities by 2030 through enabling carbon emissions reductions

 **i-CBYD (i-Call Before You Dig)**

An advanced AI platform that proactively detects and manages third party contractor work.

How It Creates Value:

Reduces unnecessary outages by proactively managing network issues, which contributes to improving the customer experience.

Impact & Achievements:

- Eliminated 73 breakdowns with RM2.5 million in cost avoidance
- 66 critical and high-risk nodes covered nationwide

**Software Defined Wide Area Network (SDWAN)**

A software-defined approach to managing the WAN delivering seamless connectivity, centralised orchestration and increased automation.

How It Creates Value:

Maximise network and business agility, simplify operational management and enhance security and resilience.

Impact & Achievements:

Adaptive, application-aware and future-ready network that connects branches, on-premises assets and cloud platforms for improved productivity

**FOMS (Fibre Optic Monitoring System)**

A platform that monitors incidents related to fibre cable cut and degradation of the Fibre Optic Cable E-side (Main Cable).

How It Creates Value:

Minimises fibre issues for better network reliability, quality and stability.

**PROPNETS (Proactive Passive Network Systems)**

A smart system that quickly detects, isolates and resolves last mile issues affecting Unifi's service disruption.

How It Creates Value:

Delivers more seamless experience and connectivity to Unifi customers.

**Southern Gateway**

A digital application that embeds computer vision AI and ML capabilities for self-supervision and self-verification during service installation, restoration and maintenance.

How It Creates Value:

Enhances service quality and customer experience.

**TROIKA**

An intelligent demand management system targeting "Zero" Waiters within JENDELA requirements. The solution automates Unifi's demand management and real-time port mapping with the objective of proactively and reactively managing demand and converting unfulfilled orders to serviceable orders immediately.

How It Creates Value:

Accelerates waiters' clearance time from 41 to 14 days, thus improving customer experience.

**PEOPLE**

PEOPLE is an all-in-one platform to assist employee's productivity needs. It simplifies and enhances employee experience by digitalising HR processes. In addition, PEOPLE keeps track of employees progression within the organisation and allows them to achieve high performance culture.

How It Creates Value:

Simplifies employee experience and empower HR department from the tip of a finger.



CAMELIA

An intelligent support system for passive network fault diagnostic and prediction, including for enterprise products. The system leverages best-in-class technologies to transition from reactive to proactive/predictive troubleshooting capabilities.

How It Creates Value:

Improved customer network restoration time to within 24 hours.

2 Elevating Malaysia's Entertainment

Beyond making life easier for Malaysians, we continue looking for innovative ways to create interesting and exciting avenues for all. We are advancing our entertainment offerings through the establishment of edge services and gaming as well as various streaming content including sports and many more.

This year, we made significant progress in expanding our edge services by embarking on the e-Sports scene and hitting a new milestone through collaborations with global digital players in offering the ultimate gaming experience.



TM'S DIGITAL SOLUTIONS



Edge Facilities

What We Did:

- Provided regional integrated digital infrastructure closer to end users to improve customer experience via high capacity and low latency services
- Deployed neutral edge facilities at targeted locations for immediate 5G and edge readiness



Impact & Achievements:

- Retrofit 7 TM exchanges for in-country edge facilities



Edge Gaming

What We Did:

- Enabled gaming service providers to reach Malaysia and ASEAN gamers in providing greater customer journey and network quality
- Fortified our edge ecosystem in supporting low latency requirements through network resiliency and seamless digital experience across the globe



Impact & Achievements:

- Deployment of edge nodes in the Philippines to support Edge Gaming requirements
- Collaborations with e-Sports and cloud gaming providers
- Seamless connectivity within the ASEAN region enabling superior gaming experience and quality



Unifi TV

What We Did:

- Enhanced our content offerings by providing the best entertainment pack in the market – available on all devices and HD content



Impact & Achievements:

- Customers enjoy access to 17 streaming apps, including Disney+ Hotstar, Mango TV, SPOTV Now, SIAR and many more



AWARDS & ACCOLADES FOR INNOVATION

- Innovative Tech Companies of the Year Award at the Asia Corporate Excellence & Sustainability (ACES) Awards 2022
- Malaysia Technology Excellence Awards (for FIRA and SPICE.ai)