



THAICOM PUBLIC COMPANY LIMITED

Sustainability Excellence

09 September 2024

To empower people with **Innovative Space Technology** for a better life



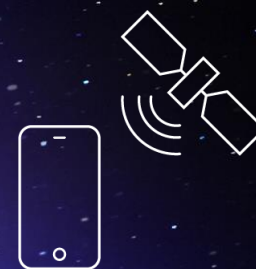
Earth Observation &
Geospatial Intelligence



IoT with
Low Earth
Orbit (LEO)
Satellites



The Next
Generation
Broadband
Satellites
(GEO & LEO)



Satellite-to-Phone



Small Satellite
Constellations and
Spaceport

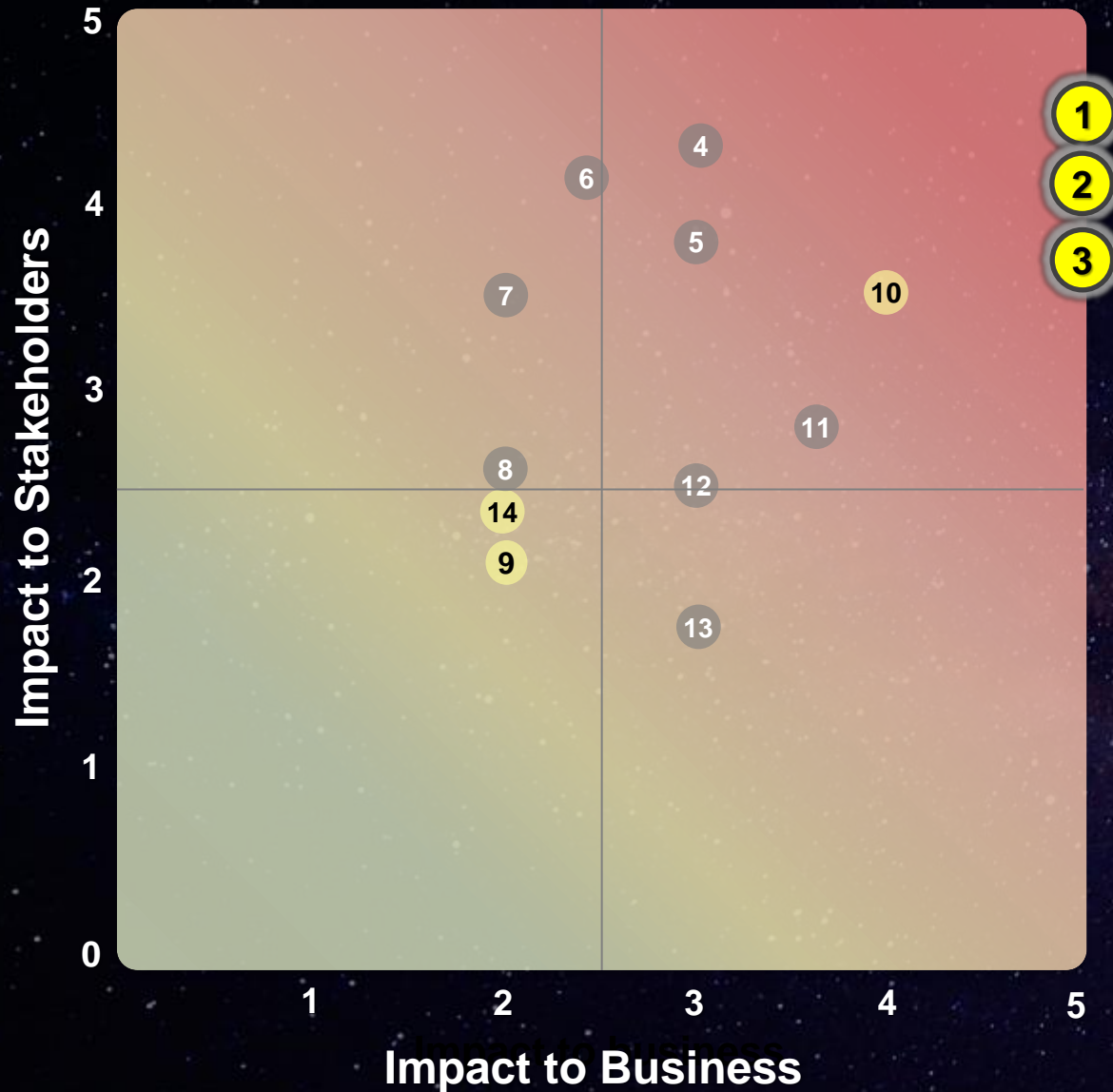
Core Values

**Act like
an Owner**

Be Dynamic

Build Partnership

**Strive to be
Best-in-Class**



1. Corporate Governance and Economic Dimension

1. Management of Business Partner relationship

2. Network investment

3. Managing Systemic Risks from Technology Disruption

4. Management of Customer relationship

5. Code of Conduct

6. Data privacy, Cyber and IT security

7. Corporate Governance

2. Environmental Dimension

8. Environmental management

9. Climate Change management

3. Social Dimension

10. Employee training and Development

11. Employee Engagement

12. Occupational Health and safety management

13. Diversity of employee

14. Technology Digital Access (CSR)

KEY CHALLENGES

- Changes in business model
- Technology Disruption
- Long term financial return and business performance

STRATEGIC ACTIONS

1. Management of Business Partner relationship
2. Network investment
3. Managing Systemic Risks from Technology Disruption



1. Management of Business Partner Relationship



BUSINESS PARTNERS

Strategy

To utilize the company's strong brand value to establish collaboration with partners domestically and internationally, thus reinforcing the sustainability of the company's services

Goal

To sign a contract, agreement, or MoU with at least two new strategic business partners in each year from 2024 to 2030

Existing Partner Networks





BUSINESS PARTNERS

Core Business: Key Achievements in 2024



Signed LEO service agreement for Australia, New Zealand and Japan markets



Signed launch service agreement for launching Thaicom 10 satellite



Signed an agreement for Thaicom 9 satellite to provide service for Asia



Signed an agreement for intelligence ground system of Thaicom 10 satellite using AI technology



Signed an agreement for strategic partnership on satellite capacity for India Market



Signed an exclusive partnership for addressable ads technology for Thailand market



Partnership for **human resource development** with technical upskilling and building Thaicom's digital capabilities, e.g., generative AI workshop, etc.





BUSINESS PARTNERS

Space Tech: Key Achievements in 2024



Mae Fah Luang
Foundation under Royal
Patronage



Signed partnership agreement to develop a space technology-based carbon credit assessment platform



Signed MOU with TGIA for using satellite technology for crop insurance (Phase 2)



Endorsed Thaicom's carbon credit assessment platform utilizing satellite technology and AI



Signed MOU for collaboration on the Smart Pier Project

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



17 PARTNERSHIPS FOR THE GOALS

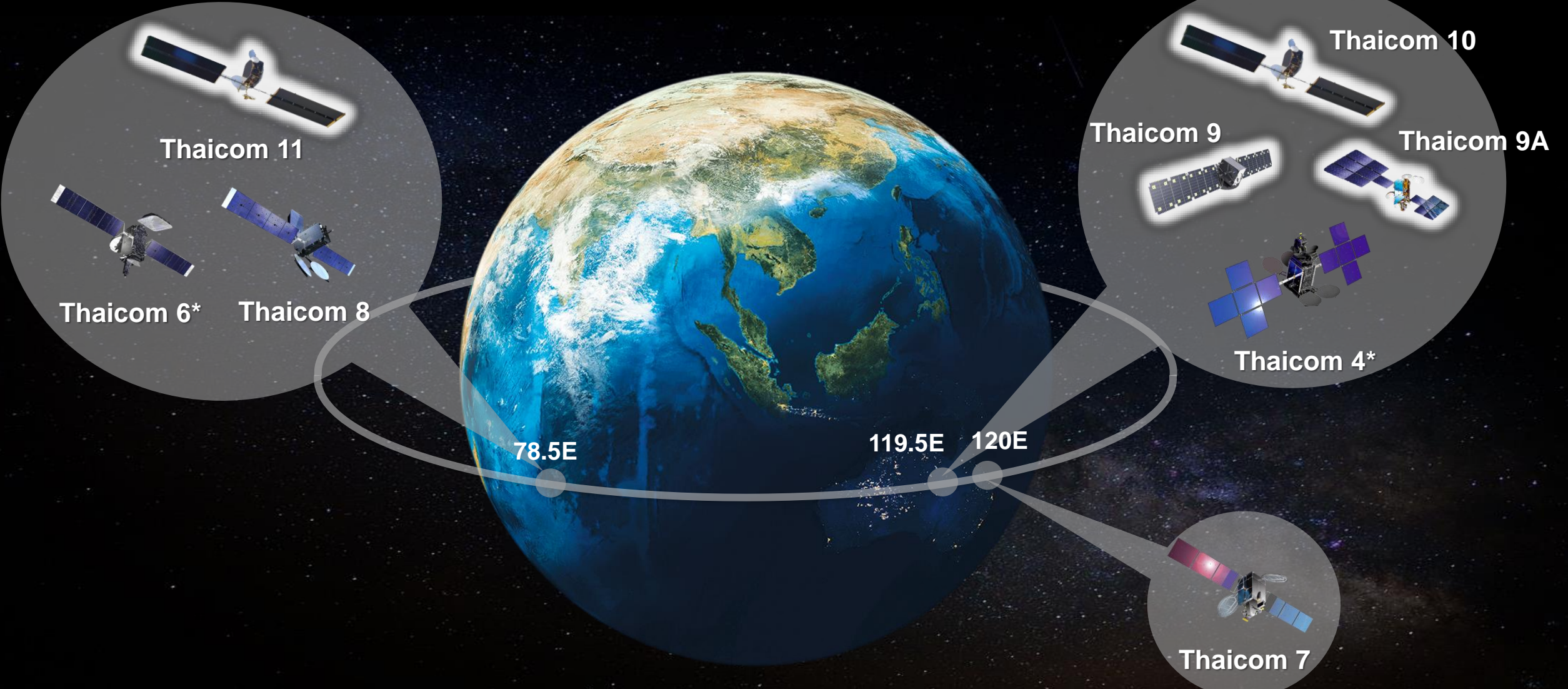




2. Network Investment

Thaicom Satellite Networks

THAICOM



*Wholesale from NT



Broadband

The first high throughput satellite operator in the world



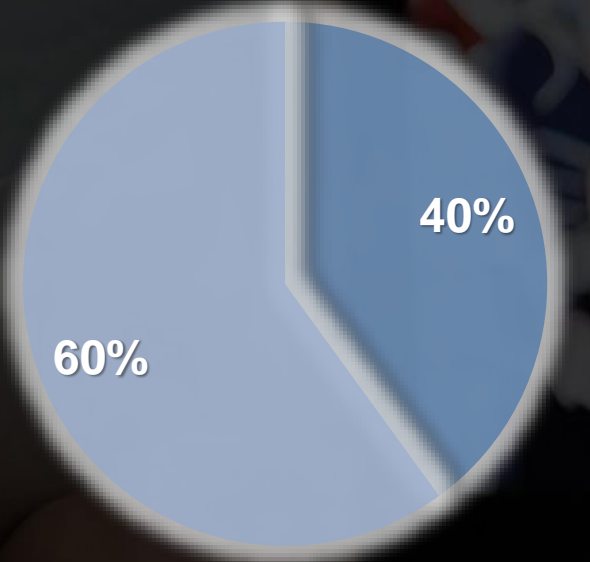
Multiple subsidiaries in Asia-Pacific countries



Broadband Services

- Government
- Cellular Backhaul
- Residential
- Maritime

2023 Revenue



■ Broadband ■ Broadcast

Broadcast

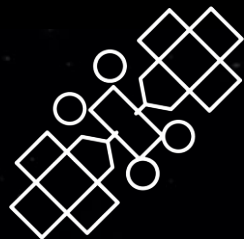
Key player in satellite broadcast business in Asia



20 Million Households in Thailand



340 Channels on Thaicom Satellites



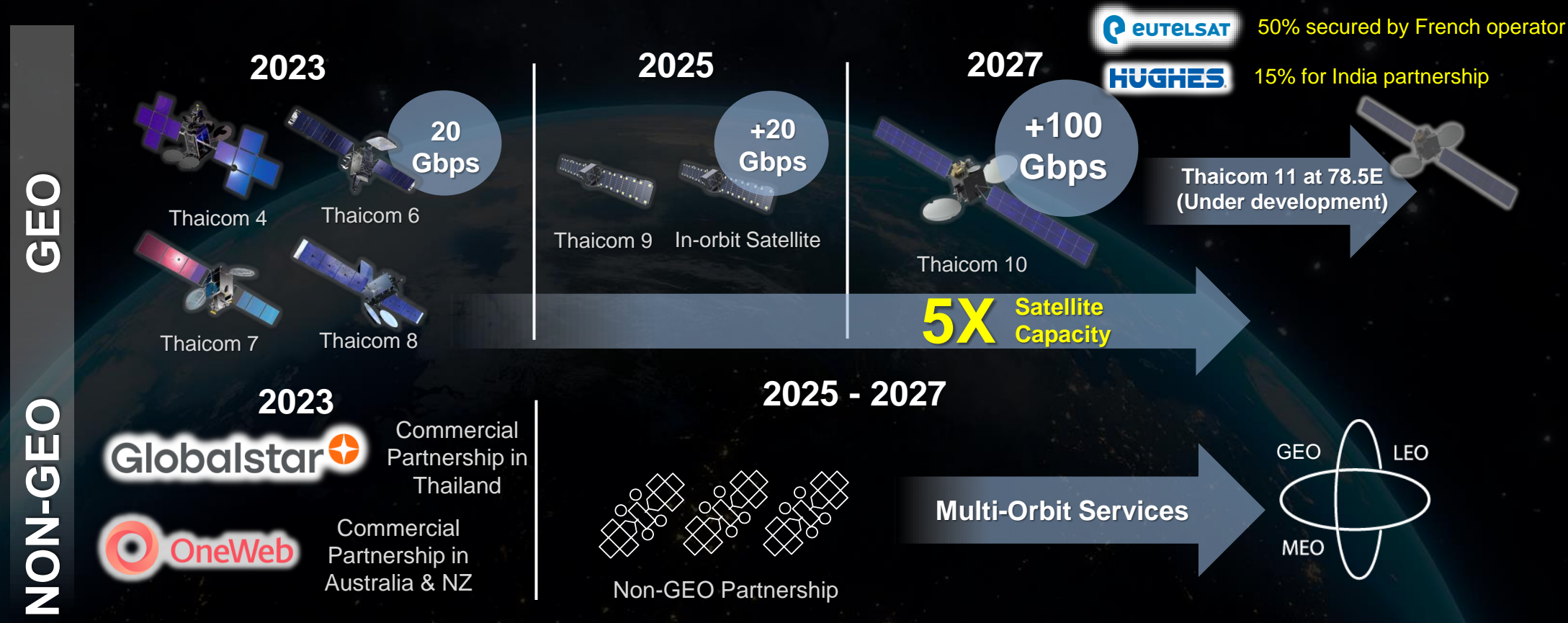
CORE SATELLITE BUSINESS

Strategy

- 1. To seek for new technologies to strengthen the company's competency and reduce risk from technology disruption
- 2. To seek for local and international partners for product and service development

Goal

To launch and have THAICOM 9, THAICOM 10, and ground systems ready by 2025 and 2027



Note: GEO is geostationary orbit and Non-GEO is non-geostationary orbit, including LEO (Low earth orbit) and MEO (Medium earth orbit).

AIRBUS



Next Generation Satellite Technology

Thaicom signed a satellite procurement agreement with Airbus for the **next generation software defined** satellite technology, which uses electrical propulsion (vs chemical), reduces the satellite's weight by 40%, and increases its capacity by more than 5 times, thus **significantly increasing efficiency.**

SPACEX



Reusable Rocket Technology

Thaicom signed a **dual launch** ride-share service agreement with SpaceX using **environmentally friendly** reusable rocket (20+ times) for Thaicom 10 satellite. This reusability is estimated to **reduce emissions by around 300 tons of CO2e** per rocket over its lifetime compared to using single-use rockets.

KRATOS

DEFENSE & SECURITY SOLUTIONS



Intelligence Ground System Technology

Thaicom signed an agreement for **intelligence ground system** of Thaicom 10 satellite using **AI technology** which will be one of the first in Asia-Pacific. This system reduces manual processes.



Broadcast Business Challenges

Existing broadcast technology (Linear TV) was disrupted by new media technology (OTT)



Solution

State-of-the-Art technology to increase revenue stream for broadcast players (channel operators)



- ✓ The global leader in addressable TV advertising
- ✓ Success in USA and opening markets in Asia-Pacific region

Addressable Ads Technology

Deliver advertisement to the target audiences: increasing value to advertisers and channel operators



Conventional Ads

Addressable Ads



Toyota Hybrid



Lexus



Camry



Toyota Fortuner

Addressable Advertising: Industrial collaboration in need

THAICOM



Note: DTH is Direct-to-Home and STB is Set-Top-Box

A globe of the Earth is centered in the background, overlaid with a complex network of white and green nodes and lines, representing a global network or data flow. The background is a dark blue space with streaks of light and stars.

3. Managing Systemic Risks from Technology Disruption

Diversifying from core businesses with the new S-Curve (Space Tech) focusing on ESG agenda



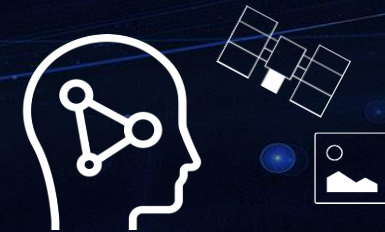
NEW SPACE TECHNOLOGY BUSINESS

Strategy

1. To seek for new technologies to strengthen the company's competency and reduce risk from technology disruption
2. To seek for local and international partners for product and service development

Goal

To commercialize at least two new space tech (including LEO) projects or customers in each year from 2024 to 2030





Carbon Credit

Baseline



Year 0



Year 1, 2, 3



Time Consuming



Costly



Labor Intensive

Thaicom unveils **CarbonWatch**, the first certified carbon assessment by **satellite remote sensing** & AI in **ASEAN**

THAICOM

Remote Sensing and Platform Technologies



Satellite



Platform

CARBON
WATCH



BENEFITS



50X Less Time Consuming¹



30% Lower Cost



Up to 90% Accuracy
(Less Labor & Human Error)



Carbon Footprint
(compared with the conventional method)

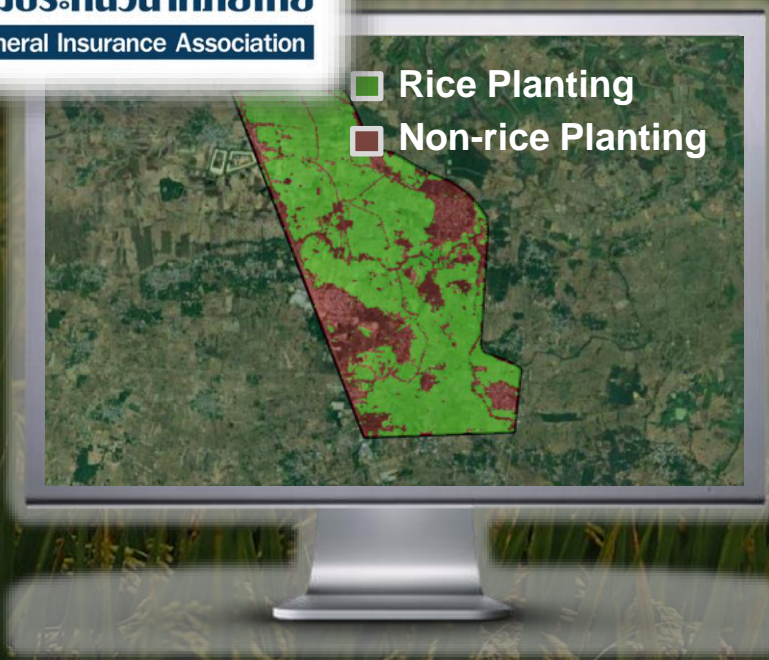
- ✓ Fostering its **space tech services** and **promote sustainable development**
- ✓ Certified by the **Thailand Greenhouse Gas Management Organization** (Public Organization) (TGO)



¹based on 10,000 Rai assessment



Thaicom partners with TGIA for Phase 2 using the satellite technology for crop insurance expanding from **3 Million Rais to 13 Million Rais**



Drought



Flood



Dry spell



✓ Expansion from 6 provinces to 16 provinces



✓ Space-based data with AI and Machine Learning



DEPA and ATI, Thaicom's subsidiary, partner to support Thailand digital ecosystem and agriculture

THAICOM



Drone Technology for Agriculture (Spraying Drone)

Designed and developed in Thailand

- ✓ Productivity Improvement
- ✓ Lower Cost
- ✓ Higher Income
- ✓ Increase Efficiency
- ✓ Health Safety



STRATEGIC ACTIONS

1. Management of Business Partner Relationship
2. Network Investment
3. Managing Systemic Risks from Technology Disruption

SUSTAINABILITY FOR SUCCESS

1. Leverage our brand equity and strengthen partnerships
2. Best-In-Class through innovative and clean technologies
3. Space Tech is our new S-Curve focusing on ESG



THAICOM

To empower people with **Innovative Space Technology** for a better life



THAICOM PUBLIC COMPANY LIMITED

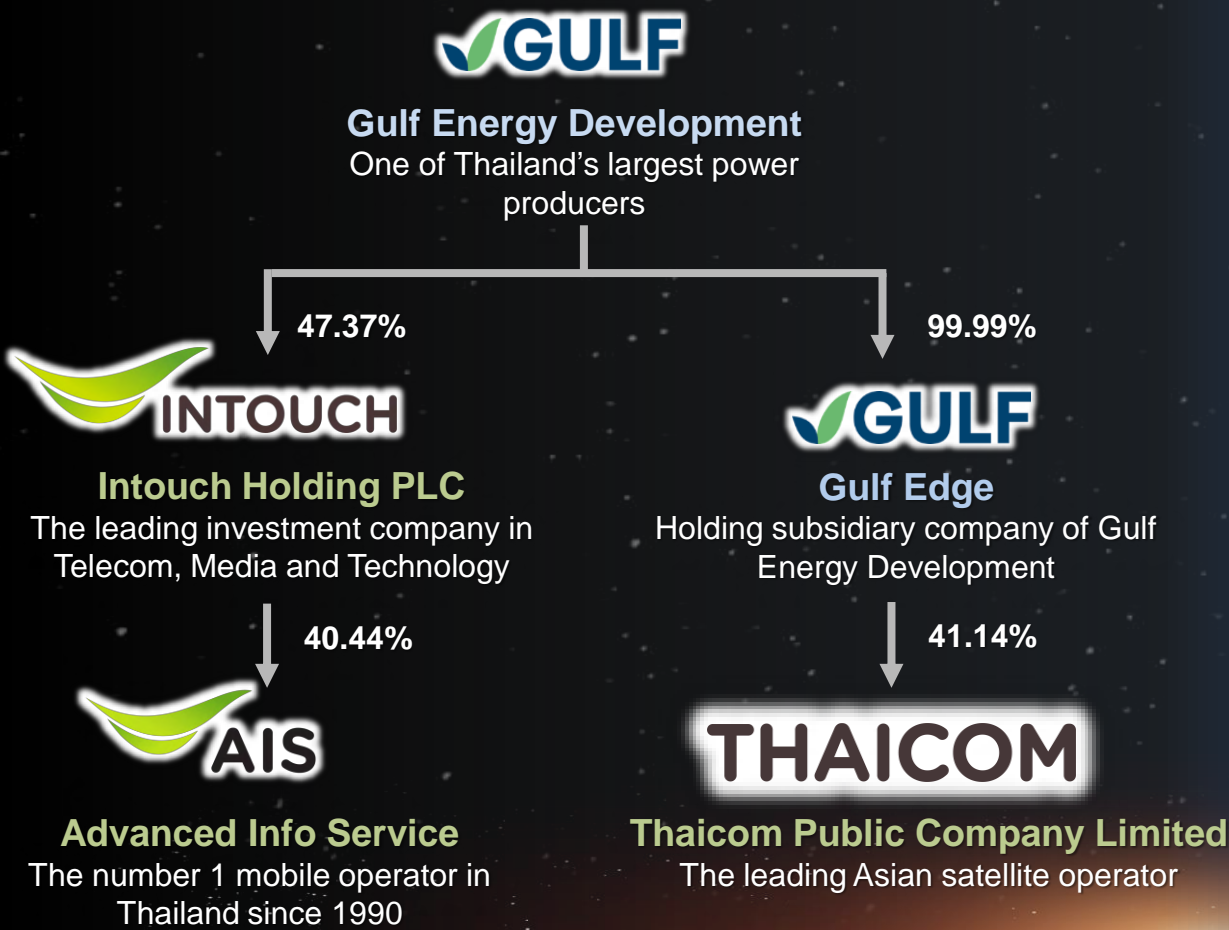
Appendix

09 September 2024

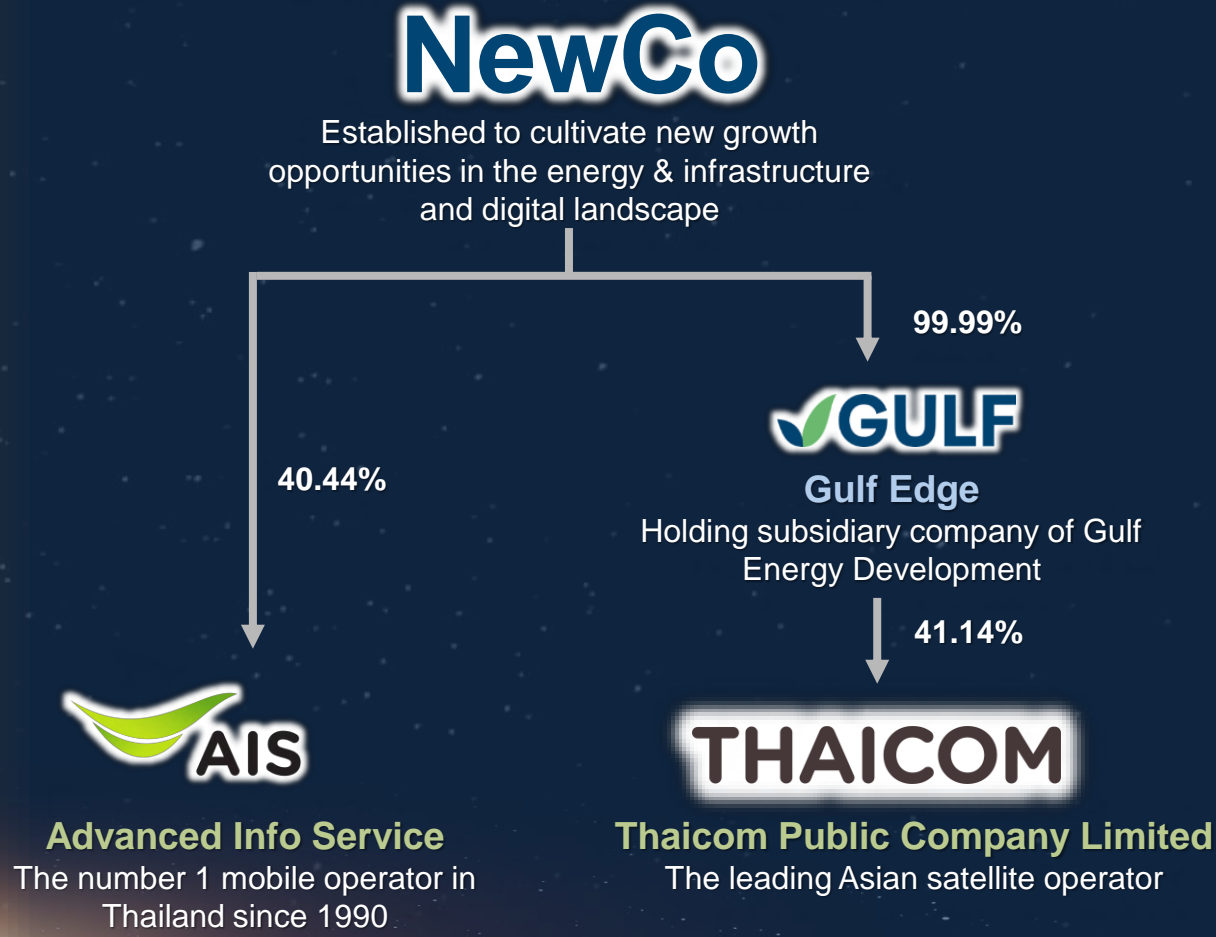
Thaicom's major shareholder announces a strategic amalgamation to optimize future operations and investments.

THAICOM

Pre-Amalgamation Shareholding Structure



Post-Amalgamation Shareholding Structure



SATELLITE COMMUNICATIONS

THAICOM

END-TO-END SATELLITE SOLUTIONS



Government



Cellular Backhaul



Residential

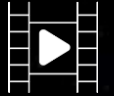


Maritime

BROADBAND



Satellite TV
DTH and
Distribution



Satellite Capacity

VIDEO

NEW SPACE TECH SOLUTIONS



Agriculture



Government



Enterprise



Carbon Credit

EARTH INSIGHTS
(GEOSPATIAL DATA ANALYTICS)



Agriculture



Enterprise

DRONE ANALYTICS



IoT solutions

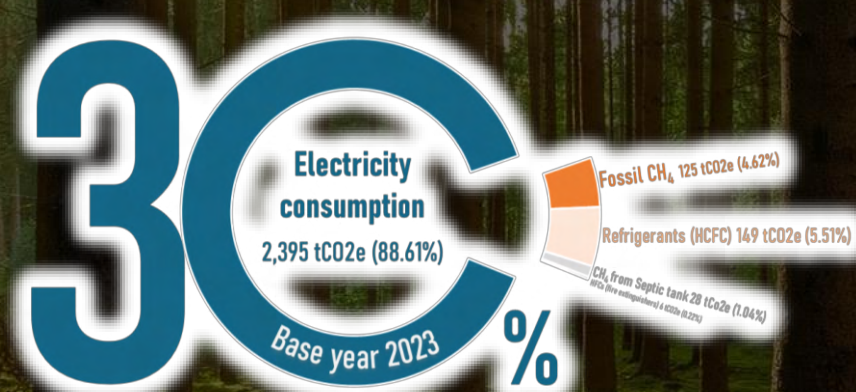
INTERNET OF THINGS
(IoT)

NEW SPACE TECH

Thaicom Public Company Limited has been conducting plans to reduce the greenhouse gas emissions, covering scope 1 Direct emissions and scope 2 Indirect emissions. The goal is to reduce the organization's greenhouse gas emissions by 30% within 2030 from the base year of 2023 which, emitted greenhouse gas emissions of 2,703 metric tons of carbon dioxide equivalent (scope 1+2) and Set the goal to achieve carbon neutrality within 2050.

GHG REDUCTION WITHIN 2030

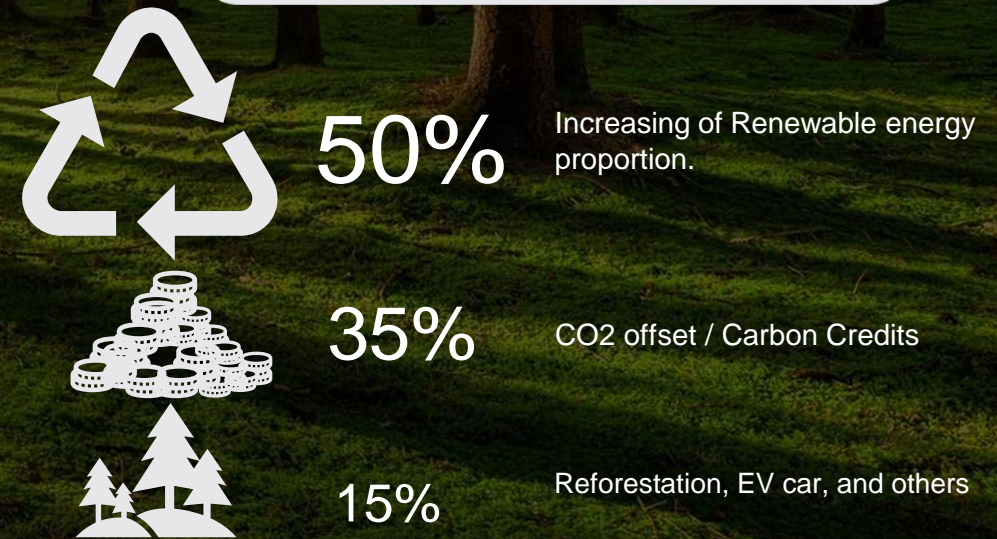
CARBON NEUTRALITY WITHIN 2050



GHG Reduce greenhouse gas emissions by 2030 from base year of 2023 with the following measures:

- 28%** Use of Renewable energy
- 2%** Energy efficiency measures

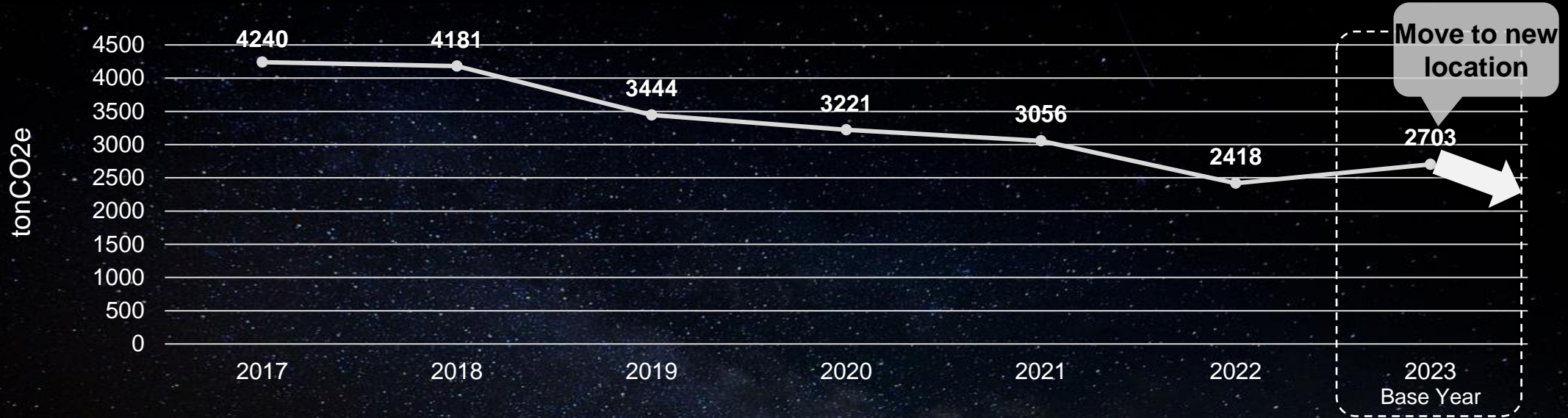
CARBON NEUTRALITY



*According to Company's Greenhouse gas inventory in 2023, it revealed that the primary activities contributing GHG emissions were from electricity usage at 88.61%, and 11.39% from the use of fossil fuels, refrigerants, and methane from septic tank, respectively.

Thaicom GHG Emission (2017 – 2023)

THAICOM



Solar panel installation at Thaicom Satellite Station in Pathum Thani (Q1 2024)



THAICOM PPA
(Power Purchasing Agreement)
Annual estimated energy production: 876.40 MWh/year
(Installed capacity: 0.690 MW)



CO2 Reduction for 20 Years
8,762.20 TonCO2e
(438.11 TonCO2e/year)



Equivalent to Growing
584,146 - 973,578 plants

Projects in 2024



AC Units Replacement at Downlink room
Energy Saving 51,194 kWh/year
CO2 Reduction 25,600 kgCO2e



Uninterruptible Power Supply (UPS) Replacement
Energy Saving 240,000 kWh/year
CO2 Reduction 119,976 kgCO2e



Solar panel installation
Energy Saving 972,360 kWh/year
CO2 Reduction 486,083 kgCO2e

Note: 1 Plants can absorb 9-15 kgs of CO2 per year (Ref.: Department of Public Work and Town & Country Planning)

THAICOM connects the unconnected people through digital technology for lifelong education (4 สอ)



Communications
Rural Internet Access

🎯 Achieved the expansion of technology access to reach 24 communities in 2023



Health
Telemedicine



Education
Long Distance Learning

🎯 Achieved the expansion of education through satellite internet, enabling the management of educational activities in 24 learning centers, covering 850 students in 2023.



Environment
Community Forest Management



Ensure healthy lives and promote well-being for all at all ages



Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all



Reduce inequality within and among countries



Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss



Goal

Short Term
2024

Expanding project covers 24 communities within 2024 in **Public Health**

Long Term
2026

Expansion to cover remaining segments including health, education, and environment