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# How Hitachi Drives Thailand 4.0

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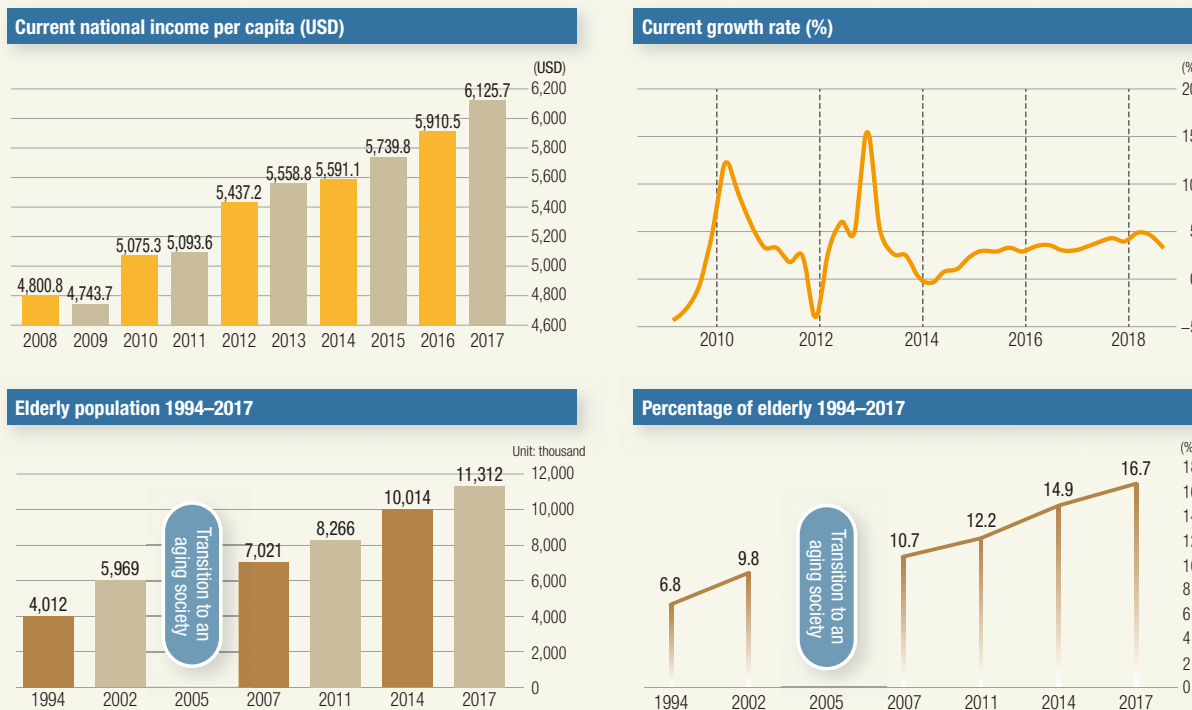
In 2018, the Thai government launched the first-ever Thailand National Strategy (2018-2037), the Master Plan that runs in line with Thailand 4.0 and the Eastern Economic Corridor project started by the government in 2017, which are aimed at bringing Thai society into the digital world and achieving more advanced living standards. To do so, the Thai government needed collaboration and support from the Thai people and other countries. The good relationship between Thailand and Japan, which has lasted for 130 years, has brought huge investment to Thailand, especially over the last four decades during which time Japan was the leading overseas investor in Thailand. Dr. Somkid Jatusripitak, the Deputy Prime Minister who is in charge of Thailand's economy, went to Japan several times to invite Japanese firms to invest and collaborate on innovation and new technologies for the benefit of both countries and to transform Thailand into a digital society. Hitachi is also looking to expand business in Thailand, which has a strong potential for growth and it is the task of Hitachi Asia (Thailand) Co., Ltd. to fulfill both sides' expectations.

### **1 | Introduction**

Hitachi Asia (Thailand) Co., Ltd. is excited to have a key role in the growth of Hitachi's business and to be involved in work toward Thailand 4.0. This article provides more details about the Thailand National Strategy, Thailand 4.0, Eastern Economic Corridor (EEC) project, the situation in Thailand, and Thailand's targets for the next decade, and also describes how Hitachi will contribute to Thai society and its medium-term targets.

Thailand currently faces a number of risks and challenges that could obstruct its ongoing development, including the middle income trap,

Figure 1 | Thailand Statistics



the inequality trap, imbalances, political issues, labor shortages, aging of the population, and consequences of this year’s election result. To transform Thailand into a developed nation, the model being pursued by the government has a target of increasing research and development (R&D) expenditure to 4% of gross domestic product (GDP), achieving the nation’s potential economic growth rate of between 5 and 6% within five years, and increasing national per-capita income from 5,470 USD in 2014 to 15,000 USD by 2032. Thailand already ranks as an upper-middle-income country (with per-capita income of 6,700 USD), and policymakers believe that this strategy will result in the country graduating to high-income-country status. On the other hand, with challenges including labor skill shortages and an aging population\*1, achieving this status will not be easy (see Figure 1).

\*1 The percentage of elderly in the population of Thailand is projected to reach 20% by 2020.

## 2 | Vision for How to Achieve Thailand National Strategy

### 2.1 20-year National Strategy

The 20-year National Strategy is a national development plan to achieve the vision of “Thailand, a Nation of Stability, Prosperity, and Sustainability.” The plan will be run for 20 years, from 2018 to 2037, and encompasses the following six areas.

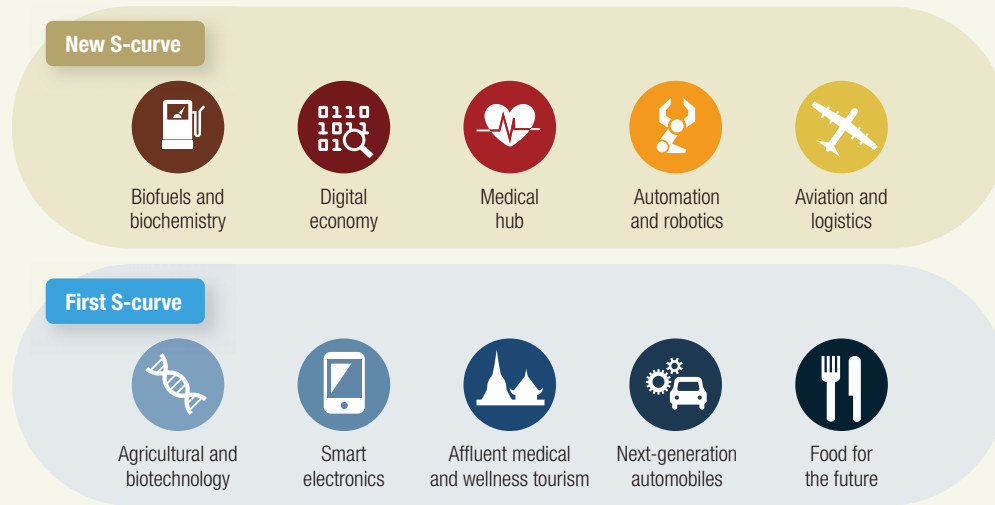
- (1) Security
- (2) Competitiveness enhancement
- (3) Human resource development
- (4) Social equality
- (5) Green growth
- (6) Rebalancing and public sector development

### 2.2 Thailand 4.0

In line with the National Strategy, Thailand 4.0 has objectives that emphasize “security, wealth, and sustainability.”

- (1) Economic prosperity: Create a value-based

Figure 2 | 10 Targeted S-curve Industries



economy that is driven by innovation, technology, and creativity.

(2) Social well-being: Achieve the full potential of all members of society.

(3) Raising human values: Transform Thais into competent human beings.

(4) Environmental protection: Become a livable society, smart living.

Thailand is adopting technology in businesses based on a mind-set that believes technology can create business opportunities, facilitate work processes, and enhance good business results, thereby enhancing Thailand’s comparative advantage through knowledge, technology, and innovation. Ten future industries (the First S-curve and New S-curve) have been identified by the government (see [Figure 2](#)).

**The First S-curve:** This builds on five existing industries that already have solid foundations but require further improvement through innovation and R&D to add value and keep up with global competition (agricultural and biotechnology, smart electronics, affluent medical and wellness tourism, next-generation automobiles, and food for the future).

**The New S-curves:** This involves developing five new industries to enhance their capabilities to support future competitiveness (biofuels and

biochemistry, digital economy, a medical hub, automation and robotics, and aviation and logistics). Through the development of these S-curve technologies, Thailand aims to become a hub for various industries within the region.

These include:

(1) Innovation hub for agriculture and food: This aims to develop an “advanced bio-based economy” that makes the transition from basic food industries, basic petrochemicals, and bio-fuels to nutraceuticals, bio-based medicine, specialty chemicals, and high-value bio-based plastics.

(2) Innovation hub for an aging society: This aims to turn a crisis into an opportunity by developing an “elderly industry”<sup>\*\*2</sup> founded on medical technology but also supplemented by robotics, digital, and other technologies.

(3) Smart city development: This aims to develop five smart cities within ten years using digital technology as a foundation, supplemented by other technologies.

(4) Innovation hub for smart energy: This will be based on energy technology and supplemented by other technologies such as digital- and bio-technology.

<sup>\*\*2</sup> The industry associated with the delivery of products and care services to the elderly.

Figure 3 | Overview of Eastern Economic Corridor Projects



EV: electric vehicle AV: autonomous vehicle

### 2.3 Eastern Economic Corridor

The EEC is the three-province advanced development zone near Bangkok that will serve as a showcase for Thailand 4.0. The Corridor consists of Rayong, Chonburi, and Chachoengsao provinces. The government has a plan to invest 4.5 billion dollars to be a pillar of digital transformation in Thailand. The government is developing new growth hubs by starting with the EEC with a total area of 13,000 square kilometers. The government is also set to accelerate the area’s readiness to support all aspects of investment and economic growth, and fully expects that the EEC will be an important center for trade, investment, and regional transportation, as well as being a strategic gateway to Asia that will connect with ASEAN-China-India through world-class infrastructure, including roads, ports, airports, high-speed trains, and freight (see Figure 3).

Dozens of global corporations have committed to invest in the EEC and the government and private industries are already building some of

the cutting-edge infrastructure required to turn the vision of the EEC into a reality.

Thailand is at the center of Cambodia, Laos, Myanmar, Vietnam, and Thailand (CLMVT) in terms of its being a geographic and economic leader. The ASEAN economy is estimated to double in value by 2030 from 2.6 trillion US dollars currently. To become a real regional hub, Thailand must begin to shift its focus from “border” to “bridge” and from “nation to nation” to “city to city” through the concept of an “extending nation.” This means borders between Thailand and neighboring countries should be gradually perceived as bridges linking economies, trade, and investment together. At the same time, Thailand should view the four neighboring countries as internal markets, along with the region’s major cities.

### 3 | Hitachi Business in Thailand

Hitachi sees Thailand as one of the markets with the most potential in this region and has



promised to bring innovation and advanced technologies to Thailand. Hitachi hosted the Hitachi Social Innovation Forum in 2017 and twice in 2018 to express Hitachi's intention to expand its business by showing its innovation and cutting-edge technologies to government sectors as well as to existing and prospective customers.

The company had invited the deputy prime minister, ministers, and the country's top business leaders to be guest speakers and panelists. The forums were successful and satisfied visitors, gaining higher brand awareness and reputation for Hitachi as one of Japan's top technology and innovation solutions providers.

### 3.1 Hitachi Asia (Thailand) Co., Ltd

In Thailand, Hitachi has 34 subsidiary companies. Hitachi Asia (Thailand) Co., Ltd. (HAS-TH) is one of Hitachi's representative companies in Thailand and plays a leading role in the Social Innovation Business, the information and communication technology (ICT) and Internet of Things (IoT) business, as well as the power and energy, the healthcare, the railway, and the industrial component and equipment businesses. HAS-TH's mission is "Contribute to Thai society with creativity through sophisticated and sustainable solutions to meet customer satisfaction." HAS-TH is the center of Hitachi Group companies promoting its Social Innovation Business that will contribute to Thailand 4.0 directly. Its strategies are:

#### (1) "One Hitachi"

Collaboration among Hitachi group companies here in Thailand and Hitachi, Ltd. under the One Hitachi concept to lead big projects or projects that need a combination of several solutions and systems, especially mixed-use smart city projects. HAS-TH receives useful assistance from Siam-Hitachi Elevator, Co., Ltd., Hitachi Consulting Corporation, Hitachi Solutions, Ltd., Hitachi Vantara Corporation, Hitachi Capital Corporation, Hitachi Hi-Technologies Corporation, Hitachi Transportation System Vantec (Thailand),

Ltd., Hitachi Medical Systems (S) Pte Ltd., Santec Power Solutions Co., Ltd., and other companies. These companies have already worked together to provide solutions for several projects.

#### (2) Partnership with big conglomerates

There are several groups of companies that play a leading role in business in Thailand, with each of them having business in several industries and needing new systems and technological support to expand their business. Hitachi has business relationships with several companies as a major client, with the company providing services for them and seeking to find more business opportunities together.

#### (3) Government sector approach

Hitachi plans to tighten up its relationship with the government sector to provide public solutions by utilizing Hitachi's know-how and public sector solutions from Japan. Although Hitachi is recognized at the ministerial level, it will take time to initiate new projects with departments in the ministries. Along with good solutions, the company sees local partners as being a key part of its success.

#### (4) Solution orientation

Nowadays, digitization, the IoT, and artificial intelligence (AI) are impacting on all industries and Hitachi plans to use the IoT and Lumada as a door-knocking tool to approach new prospects. Based on marketing survey results, around two-thirds of enterprises are still seeking information and exploring IoT solutions. There are considerable opportunities for introducing IoT and other digital solutions.

With this strategy, the Account Development Center (ADC) of HAS-TH will work with both internal departments and customers to create more business channels and add new value in its solutions to satisfy customers' needs. ADC uses "4C: Coordinate, Collaborate, Co-creation and Cooperation" to proceed with projects.

#### (5) Localization

To increase opportunities, facilitate progress, expedite delivery, and respond to government

Figure 4 | Lumada Center Southeast Asia Located in Chonburi



knowledge transfer, HAS-TH plans to hire more engineers to transfer technologies to local staff so as to serve customers directly.

### 3.2 MoU with government and private sector

Hitachi signed several memoranda of understanding (MoUs) to tighten relations with the government and private enterprises. These have included an MoU with the Eastern Economic Corridor Office (EECO) to promote the EEC, a new initiative, enhancing the industrial revolution by applying digital technologies and by establishing an innovative environment. Another MoU was with Thailand Post for collaboration on a proof-of-concept project for digitalized mail services. Others include an MoU with SCG Cement-Building Material Co., Ltd. (SCG-CBM) for collaborative creation to promote energy saving across SCG-CBM factories and make the dispatching process more efficient, and several nondisclosure agreements with other enterprises to start co-creation discussions for further business opportunities.

### 3.3 Lumada Center Southeast Asia

Hitachi has established the Lumada Center Southeast Asia in Chonburi province (one of the EEC provinces), which is just 75 km from the center of Bangkok. The center will introduce Hitachi digital and IoT solutions to both government and the private sector. In particular, the company will focus on manufacturing initially and will expand to logistics, supply chain management, and service industries as well. In term of service areas, it has started services in the EEC, and will expand to cover Thailand and the Southeast Asia region. The center has several meeting rooms as well as a co-creation room to present and demonstrate Hitachi's solutions and initiate customer challenge discussions to find real or unmet needs and concerns and to create solutions to serve their needs. The company also has a mini production line to exhibit how it utilizes human data, equipment data, and business/process data from sensors, cameras, radio frequency identification (RFID), and control systems for smart manufacturing (see [Figure 4](#)).





Figure 5 | Large Projects in Bangkok Ranked by Size of Investment

Project	Developer	Year of completion	Value (billion baht)
One Bangkok	TCC Group	2025	125
Forestias	Magnolia Quality Development Corporation	2022	90
The Grand Rama 9	Grand Canal Land Plc	2020	60
Icon Siam	Magnolia Quality Development Corporation and Siam Piwat	2018	50
Park Origin Thonglor	Origin Property Plc	2023	37
Dusit-Central	Dusit Thani and Central Group	2025	36.7
Four Season Private Residence	Country Group	2018	32
Whizdom 101	Magnolia Quality Development Corporation	2018	30
Bangkok Mall	The Mall Group	2023	30
Park Origin Prom Pong	Origin Property Plc	2025	23
The PARQ	TCC Group	2025	20
Supalai Icon	Supalai Plc	2025	20
Singha Complex	Singha Estate Plc	2021	10
Park Origin Phayathai	Origin Property Plc	2025	10
Samyan Mitrtown	Golden Land Property Development Plc	2020	8.5

### 3.4 Hitachi smart city solutions

The government plans to develop smart cities in certain provinces, such as Phuket, Khon Kaen, Chang Mai, the three provinces in the EEC (Rayong, Chonburi and Chachoengsao), and Bangkok. This requires that criteria be determined for everything smarter, including energy, mobility, community, environment, economy, building, governance, innovation, education, security, and tourism. Transit-oriented development (TOD) for high-speed train stations is also included.

The private sector, meanwhile, will develop huge high-end/mixed-use facilities in Bangkok such as the projects in Figure 5 that will change the image of Bangkok to that of a luxurious and smart city. On the other hand, some big property developers or consortiums will get concessions to build TODs, such as the Bangsu New Center station, Makkasan TOD, Sriracha TOD, and so on.

Investments in mixed-use projects centered in Bangkok’s business district, including condominiums, stores, offices, and conference halls, etc.

is expanding. Figure 5 shows how top property developers have developed many mixed-used projects based on smart city concepts, functions, facilities, and services. The capabilities of Hitachi’s Social Innovation Business mean it can provide total systems and services as a partner, extending from consultation to new business models in the form of concessions such as solution-as-a-service (SaaS), with customers also considering energy-as-a-service (EaaS) or infrastructure-as-a-service (IaaS) and so on. In more detail, the company can provide building systems such as elevators, escalators, power and energy systems, energy management systems, security and surveillance systems, enterprise resource planning, customer management systems, mobile service applications, surrounding system interfaces, and the integration of these systems in a monitoring control center. Hitachi’s involvement can extend up to the district command center that connects all these projects together. Meanwhile, Thailand also has a plan to be a medical hub for the region, where

the number-one disease that people are afraid of is cancer and where there are many cancer patients. Accordingly, plans by national hospitals to consider new proton beam therapy systems for treating cancer present an opportunity for Hitachi to contribute to Thailand's smart health-care. For transportation, Hitachi will also provide rolling stock for the Red Line in Bangkok.

## 4 | Conclusions

Given the current situation in Thailand and the government's strategy to transform the nation into Thailand 4.0, the country needs new technologies and investment to achieve its goals. With Hitachi's technologies and social innovation solutions, this will be possible. Hitachi can develop total solutions to meet customer needs and satisfy customer expectations while at the same time contributing to Thai society. HAS-TH will take on the role of co-creation and provide the right solutions to customers to benefit both them and Hitachi. As a member of Hitachi Group ("I am Hitachi") the company will continue to inspire the nation's future as it strives to achieve Thailand 4.0.

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**Somsak Garnjanakarn**  
General Manager at Hitachi Asia (Thailand) Co., Ltd.  
*Current work and research:*  
New business development and internal coordination of measures for expanding public and private sector business channels and proposed solutions for meeting customer needs.