



VIDYASIRIMEDHI INSTITUTE OF SCIENCE
AND TECHNOLOGY (VISTEC)

"We want to create future scientists and engineers to become the locomotives that help drive the Thai economy forward."

- Prof. Dr. Chamrat Limtrakul,
Rector of Vidyasirimedhi Institute

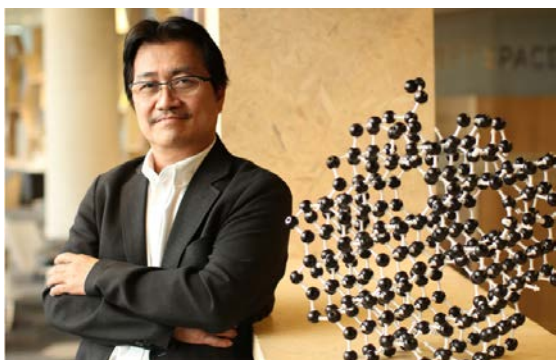
Innovation to fuel Thailand's future growth

In 2005, Thailand's biggest company, Fortune Global 500-ranked oil and gas giant PTT Public Company Limited, funded the establishment of the Vidyasirimedhi Institute of Science and Technology (VISTEC) in Wang Chan District, Rayong Province, which aims to be a world class university and the center of cutting-edge innovation for all of Thailand. Thus far, they have succeeded in achieving a number of important academic milestones; VISTEC faculty members and researchers have made a large number of high-quality researches in the fields of advanced science and technology that have been included in the nature publishing index, a global indicator for evaluating high-quality research by universities and research institutions across the world.



For all science subjects in the period December 1, 2016 to November 30, 2017, VISTEC was ranked second among all Thailand universities in Nature's output index, behind only Chulalongkorn University, and up five places compared with the previous year. Particularly, the 2017 nature index in chemical sciences showed that VISTEC came in third place among all of ASEAN's top universities and ranked first in Thailand. It is a crucial element of Thailand's Eastern Economic

Corridor of Innovation (EECi), a specialized region within Thailand's Eastern Economic Corridor (EEC) that has been established to promote the sharing of research, development and innovation between the public and private sectors as well as universities and local communities. The EEC was created by the government as a promoted region to help drive Thailand's industrial development into the future, through setting up measures which are designed to support entrepreneurs at all levels. As a part of that goal, the EECi was organized to provide an appropriate environment for innovation by building a specialized ecosystem for that purpose. This is seen as an important mechanism for the upgrading and development of existing industries, as well as for the promotion of new industries, both within the EEC and other areas throughout the country.



VISTEC presently consists of the following four schools:

1. School of Energy Science and Engineering (ESE)
2. School of Molecular Science and Engineering (MSE)
3. School of Biomolecular Science and Engineering (BSE) (supported by Kasikorn Bank)
4. School of Information Science and Technology (IST) (supported by the Siam Commercial Bank)

There is also the Frontier Research Center (FRC) to support researchers.

Prof. Dr. Chamrat Limtrakul, Rector of Vidyasirimedhi Institute explained that the reason for opening the School of Energy Science and Engineering (ESE) is that presently 80% of the universities around the world are performing research related to energy issues. VISTEC is focusing on research related to energy storage units such as batteries, which are likely to replace the energy that is currently being provided by the burning of fossil fuels in the near future. Next, the School of Molecular Science and

Engineering (MSE) was formed to focus on research related to materials science, in order to create innovative new materials with the potential to provide significant benefits in the future. For example, there has been research on OLED lamps, which is presently being applied commercially, and research on catalysts for changing carbon dioxide gas into longer chain chemicals of higher economic value. The School of Biomolecular Science and Engineering (BSE) will become increasingly important as the government aims to promote and develop the bio-economic industry. VISTEC, for example, is researching enzyme technology in order to reduce the volume of, and add value to, plastic waste. Finally, the School of Information Science and Technology (IST) focuses on advanced automation and artificial intelligence. For example, the VIS-RA project is technology which is being developed for facilitating interactions between humans and machines, and that is being applied to an experimental walking-aid robot. This project is supported by PTT Public Company Limited.

Creating a platform to drive Thai industry

"We want to create future scientists and engineers to become the locomotives that help drive the Thai economy forward." said Prof. Dr. Chamrat, in explaining VISTEC's goal of creating personnel for the industrial sector through the School of Science and Technology that focus on industrial research according to current global demands.

The Rector of VISTEC explained that the most important elements of a quality higher education institution include:

1. Having passionate scientists. *"If people doing research in science technology have no passion for science, they will fail at everything. So firstly, we must choose the professors and students who have a strong passion for science. I consider them the DNA of VISTEC."*
2. Having the best equipment and tools. Required in order to properly support the research projects of the professors, students and researchers within the institute as well as being able to provide consulting services for members of the private sector who are

interested in collaborating with the institute's research.

3. Selecting research projects in useful fields, because when researchers can see that their works are beneficial, it will encourage them to excel in the future.

4. Appropriate budgets supporting research both from the public and private sectors.

With the above elements in hand, he believes VISTEC can produce the desired results; i.e. published research projects (papers), patents, and finally innovative products. But the most important outcome is to produce knowledgeable engineers and scientists for the benefit of future Thai society.



VISTEC and the EEC

Since the target of establishing the Eastern Economic Corridor (EEC) and the Eastern Economic Corridor of Innovation (EECi) is in line with the founding concept of Vidyasirimedhi Institute of Science and Technology, there are many investors interested in investing in EECi who visit the

institute for discussions on innovation and opportunities to create cooperative opportunities between themselves and VISTEC.

The Rector of VISTEC concluded that the institute's role is to support the industrial sector both within the EEC and outside of it, namely by providing personnel education, research consultation, assistance in patent development and the creation of innovative quality products. Their schools provide courses to meet industry's requirements within the EEC. Meanwhile, the private sector can collaborate in research and development with VISTEC in the following ways:

1. Establishing a laboratory within VISTEC
2. Obtaining consultation from their professors in various areas
3. Making use of the facility's modern experimental equipment and research tools

Attractive BOI Incentives

The Thailand Board of Investment (BOI) offers a wide range of tax and non-tax incentives for projects that meet national development objectives. Tax-based

incentives include an exemption or reduction of import duties on machinery and raw materials, as well as corporate income tax exemptions of up to eight years. Non-tax incentives include permission to bring in expatriates, own land and take or remit foreign currency abroad. Please click [here](#) for more information.
