Overseas business and Future Plan

SE Corporation

Company profile

SEC 株式会社 エスイー

（As of 1st April 2023）

■Company name : SE Corporation

■Start of business : August 1967

■Establishment : December 1981

■representative : Chairman Mr. Mineo Morimoto

: President Mr. Ichiro Miyahara

■Head office address : 5-1-6, Nishi-Shinjuku , Shinjuku-ku, Tokyo

■Capital stock : JPY 1,228M

■Number of subsidiaries : 5

■Number of employees : Non-consolidated 190, Consolidated 535

■Listed market : Tokyo Stock Exchange Standard Market（3423）

Overview of the SEC Group

株式会社 エスイー

The SEC Group's business is organised by four segments

Manufacture and sale of Civil materials and equipment

- Manufacture and sale of construction materials for structures, steel products in the construction sector, etc.

エスイー　エスイー鉄建

Manufacture and sale of construction materials and equipment

Manufacture and sale of building related products for buildings.

A＆Kホンシュウ　エスイー鉄建

Construction consultancy business

- Providing a wide range of construction consultancy services, for Domestic, ODA for roads, bridges, construction machinery, water, energy fields.

アンジェロセック

Repair and reinforcement

- Construction and inspection/survey work, mainly repair and reinforcement works (bridge structures, tunnels, etc.)

エスイーリペア　ランドプラン

History of activities in Vietnam

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Sep 2007 Vietnam Japan Engineering Consultants (VJEC), a construction consultancy, established in Hanoi.

May 2010 Supervising of Hanoi-Hai Phong Expressway

Jul 2012 METI “Infrastructure systems export promotion studies works” for Ha Long- Hai Phong Expressway, BachDang bridge

Jul 2013 METI “Project feasibility studies for the development of individual infrastructures for the realization of the Action Plan” Dan Nha Mac area

Aug 2013 Establishment of Representative office in Hanoi city

Dec 2013 JICA “Preparatory studies of PPP infrastructure projects” for Ha Long- Hai Phong Expressway, BachDang bridge project

Jul 2014 JICA "SME Overseas Support Project, Case Study” Survey on technology dissemination projects for land slide prevention countermeasures, Ground anchor method.

Mar 2017 JICA “Disseminating Japanese Technologies for Ground Anchor Construction Method for Disaster Prevention of Road Slope” Project

① Background to the proposal.

Challenges in Viet Nam “Overcoming vulnerabilities in disaster preparedness”

In Viet Nam, with a harsh natural environment, disaster management measures have not been drastically implemented due to budgetary constraints and lack of technical capacity.


Situation of road slope collapse in Viet Nam and recurrence after countermeasures.

Consistent with Japan's development policy towards Vietnam.

Japan's aid policy for Vietnam identifies 'addressing vulnerability' and states that it will support the country's response to disasters, climate change.

Conducting a 'case study'.

As a result of JICA's 2014 survey on technology dissemination projects for road slope disaster countermeasures “Ground anchor method”, the method is effective as a slope countermeasure method in Viet Nam, but found the need for pilot works and standards.

② Features of the proposed technology/product

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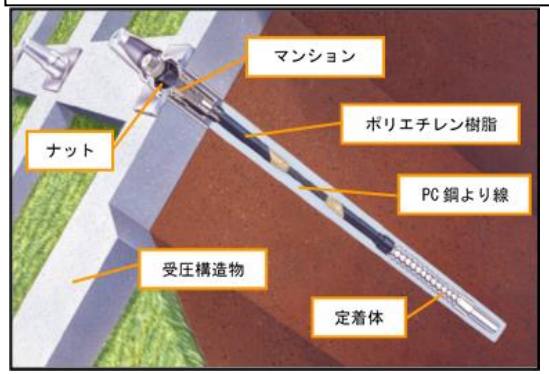
Anchoring method (technology) Features.

- ✓ A method of stabilizing slopes by using PC steel strands. to connect the underground rock to the ground surface and apply tension to stabilize the slope or structure.
- ✓ Introduced to Japan 1950s and has been popular as an effective method of landslide prevention.
- ✓ The advantages of diverse designs, use in a limited area and reduced time of works.

SEEE anchor (product) features

- ✓ 60% of share in domestic market in Japan and has delivered more than 700,000.
- ✓ It features a 'nut fixing system' , easy to adjust the tension, and the PC steel strand wire is double anti-corroded with oil and polyethylene for enhanced durability.
- ✓ Construction Technology Review Certificate has been obtained.
- ✓ SEEE anchors have advantages, in terms of ease of installation and maintenance.



③ Description of the proposed project.

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① Objectives of the project

Pilot works using SEEE anchors is carried out in Viet Nam to conduct activities to demonstrate the effectiveness of the technology and product, and to prepare draft technical standards for the method. Using SEEE anchors, the project aims to contribute to the sustainable and stable socio-economic development of the country of Viet Nam by solving the country's development challenge of overcoming its vulnerability to disasters.

② Description of business

① Pilot construction and monitoring using SEEE anchors. **“Demonstration”**

② Preparation of standards for the methods in Viet Nam. “**Promotional activities”**

③ Market research **”Business development”**

③ Expected results.

① The advantages of anchoring technology and SEEE anchor products are understood and demonstrated to be an effective solution to the Vietnamese national development challenge of 'overcoming vulnerability to disasters’.

② Technical standards for anchoring methods in Viet Nam are developed on the basis of Japanese technical standards, taking into account the regional characteristics of the country, and their content is recognised by Vietnamese stakeholders, thereby promoting the spread of anchoring technology and products.

④ Pilot project “Demonstration”

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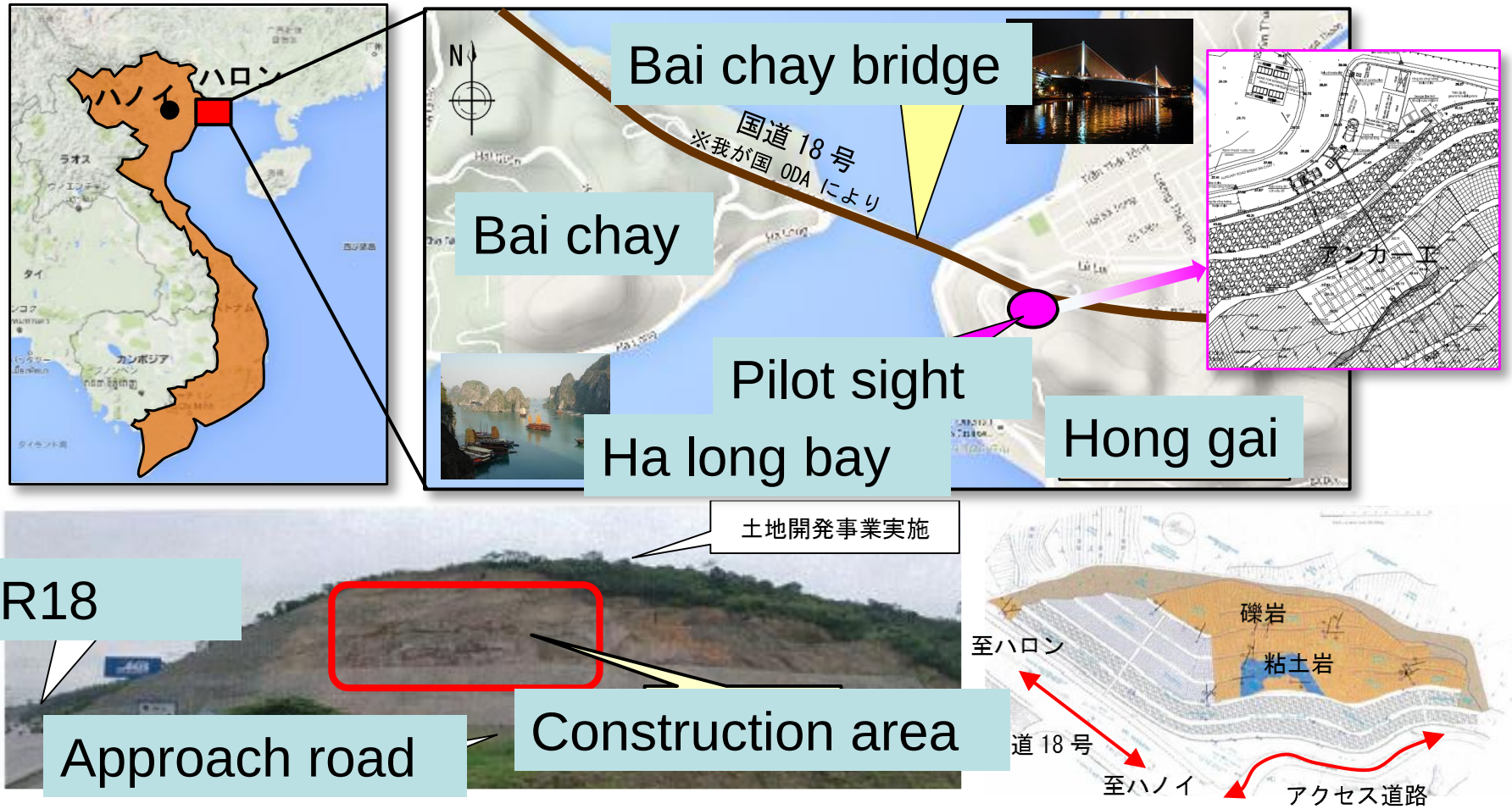
Site information

The slope beside national load 18, close to Bai Chay bridge in QNPC



Product name：SEEE ground anchor method / TIBLE anchor U-type
Standard：F40UA （1×φ15.2, tensile load 261kN, PC strand JIS G3536
Quantity： SEEEアンカー F40UA：30（L=12.5m×20, L=12.0m×10）

Before Construction (2018-Sep.)

After Completion (2019-Mar.)

⑤ Preparation of technical standards “Promotional activities”

Implementation policy

- ✓ The technical standards shall be commensurate with the basic standards (TCCS) in the Vietnamese national standards.
- ✓ The technical standards are based on “the Ground Anchor Design and Construction Standards and Commentary” and “the SEEE Ground Anchor Method Design and Construction Manual”.
- ✓ The draft technical standards will fully incorporate the regional characteristics of the Vietnamese country and the findings from the pilot works.
- ✓ Form technical committees with DRVN, counterpart and ITST to prepare draft technical standards.

Applied as TCCS in 2019


TCCS

TIÊU CHUẨN CƠ SỞ

BỘ GIAO THÔNG VẬN TẢI
TỔNG CỤC ĐƯỜNG BỘ VIỆT NAM

TCCS 28 : 2019/TCĐBVN

Xuất bản lần 1

THIẾT KẾ, THI CÔNG VÀ NGHIỆM THU
NEO ĐẤT THEO CÔNG NGHỆ SEEE

Design, construction and acceptance of SEEE ground anchor

TỔNG CỤC ĐƯỜNG BỘ VIỆT NAM
BẢN GỐC TCCS
KHÔNG SAO CHỤP ĐỂ PHÁT HÀNH

HÀ NỘI – 2019

Future plans

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- ✓ Climate change will increase demand for land slide prevention in Viet Nam and surrounding countries.
- ✓ In the extension and demonstration project, a Basic standard (TCCS) on SEEE ground anchors has been completed and approved by the MOT.
- ✓ With these background, we will try to promote the use of ground anchors for slope protection.
- ✓ Trying to contribute to a wide range of disaster prevention, not only in land slide prevention , but also in port redevelopment and seismic reinforcement of bridges due to rising sea levels.
- ✓ Not only to supplying and providing products, we are trying to proceed in technology transfer related to disaster prevention.

⇒ ***We want to contribute to disaster prevention and land resilience in Vietnam and surrounding countries.***

Vietnam Japan Engineering Consultants（VJEC）

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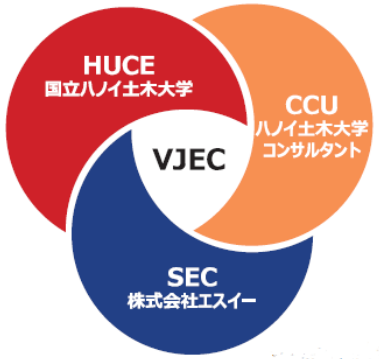
◆ Cooperation with VJEC社

A construction consultancy company in Vietnam established by SE Corporation and Hanoi University of Civil Engineer Consultants as an industry-academia-university joint venture.



On the strength of a joint venture between SEC and HUCE,

To be the bridge for technology and human resources between Japan and Vietnam.

- CAD BIM/CIM offshore drawing business

  Japanese architectural drawings in Vietnam.

- Technology transfer from Japan to Vietnam

  Bridge repair and reinforcement, land slide prevention, etc.

  In cooperation with several Japanese and Vietnamese companies.

- Introducing highly skilled engineers to Japanese companies

  Preparing an education project 'language skills to work in Japan' to solve the mismatch in language skills, which is the biggest barrier to utilising overseas high-level human resources in Japan.