

Chapter Reports

ACI Singapore Chapter Board Members Discuss Future Collaboration with Samwoh Smart Hub

Led by Lu Jin Ping, President of the ACI Singapore Chapter (ACI SC), seven Board members visited Samwoh's new building, Samwoh Smart Hub, in Singapore. The Samwoh Smart Hub is Singapore's first energy-positive industrial building using modern technologies, such as solar panel systems, energy-efficient cooling, and lighting systems.

A discussion with Samwoh's management was held to talk about future collaboration between ACI SC and Samwoh. This may be possible by using Samwoh's state-of-the-art lab facilities for ACI's certification programs.

Samwoh is a renowned engineering and construction firm that provides a variety of services, such as waste management options, building construction, and infrastructure work. They have a reputation in the area for completing high-quality projects and have worked on numerous sizable projects. In addition, Samwoh has a strong research and development team that can perform tests on construction materials, new materials, and recycled materials for buildings, roads, and airport runways.



Seven ACI Singapore Chapter Board members visiting Samwoh

Vincent Tan Jun Yew, Assistant General Manager of Samwoh, and one of ACI SC's Board members, led the tour and explained Samwoh's history of innovation in the past, present, and future. He highlighted that Samwoh had set the bar high for sustainability initiatives by incorporating waste into its concrete and asphalt mixtures.

Overall, the visit to Samwoh Smart Hub was an eye-opening experience that provided an opportunity for ACI SC's Board members to learn about recent developments in the construction sector, as well as the creative and sustainable solutions offered by Samwoh.

ACI Singapore Student Chapter Tours Samwoh Smart Hub

The ACI Singapore Student Chapter worked with Samwoh Corporation Pte Ltd to organize a tour of the Samwoh Smart Hub.

During the tour, Samwoh provided details on an airport runway project. The runway's design has been updated to accommodate a heavier load; however, this also increased construction complexity. Now that the base course consists of cement, it is



The ACI Singapore Student Chapter visiting the Samwoh Smart Hub

important to account for the time needed for it to cure during construction. Additionally, the strength requirements of the cement base course must also meet both minimum standards and be within a maximum threshold, as high differences between the base course and asphalt surface can lead to additional potential failures.

In place of cement, for example, they use slag cement and pulverized coal fly ash. Recycled concrete aggregates are used in place of coarse aggregate, and manufactured sand and washed copper slag are used in place of sand due to difficulties associated with importing sand.

Samwoh is also testing new techniques for incorporating waste into concrete and asphalt in collaboration with regional academic institutions. An example of a scientific breakthrough is the use of crumb rubber, which is made by shredding used car tires to lessen road noise when added to the asphalt mixture.

Finally, Samwoh presented Samiphalt, a hybrid of asphalt and concrete. When used for pavements, hot mix asphalt (HMA) is less durable than concrete but can be ready the next day. Concrete, on the other hand, is more resilient but takes longer to harden. Using Samiphalt may be a practical solution for paving because it combines the strength of concrete with the quick-hardening qualities of HMA.

ACI Welcomes New Chapter

A newly formed chapter, the ACI Dominican Republic Chapter, is focused on creating a space to discuss the latest advancements in concrete technology, thus elevating the already booming Dominican construction industry. Chapter directors include Piero Caputo, President; Fray Pozo, Vice President; Sarah Miranda, Secretary; and Damariel Caceres, Treasurer.