Building The Future

Greening buildings start with the use of sustainable materials for construction

By Christina Ching

When Samwoh's Eco-Green Building was built in 2010, it was the first building in the region to use up to 100 per cent recycled materials for its concrete aggregate. This is the material added to cement, sand and water to make the final concrete product.

For its remarkable achievements in green construction technology, the Eco-Green Building was awarded the Building and Construction Authority (BCA) Green Mark Platinum Award in 2010 and 2014.

Last year, it received the Institution of Engineers Singapore's (IES) Prestigious Engineering Achievement Award – Technology Innovation, as well as the ASEAN Outstanding Engineering Achievement Award. Presently, it is nominated for the Singapore's Top 50 Engineering Achievements by IES, which is open to public voting till 30 May 2016.

Mr Eric Soh, chief executive officer of Samwoh Corporation, highlights that the building represents how buildings of the future could possibly be like.

He explains: "Previously, it was thought that recycled concrete aggregate (RCA) was not strong enough to be used in building structures and it was used mainly for non-structural applications.

"But through our research, we found that RCA could be used for building structures and we used it to build our Eco-Green Building. As a result, the BCA now allows for up to 20 per cent RCA in other building projects. "Apart from being made of recycled materials, RCA has a lower carbon footprint compared to natural aggregate."

Green to the core

Sustainability and innovation are rooted in the core values of Samwoh and have been major drivers of growth for the company. It has been investing heavily in sustainable construction practices since 2000, creating many innovative products using green technologies and recycling materials for construction use.

Incorporated 40 years ago as a transport and logistics firm in Singapore, Samwoh has grown into a market leader in civil and infrastructure construction, building materials supply, construction and industrial wastes recycling, and pavement consultancy.

"Sustainability and innovation is in our DNA. Even as our business grows, we remain committed to developing innovative solutions and products to ensure sustainability in all that we do," Mr Soh stresses.

"Samwoh embraces sustainability because we understand we're not just building infrastructure, but also building the future. Sustainable development is necessary, both for today and for generations to come."

He adds that when people think of environmental issues, they usually think of saving trees or reducing global warming.

"What they don't realise is that our buildings also play an important role in environmental sustainability.

"Singapore is an urbanised city. By making our buildings, roads and infrastructure greener and less carbon intensive, we are transforming the landscape while enhancing our living environment."

In a speech by Mr Lee Yi Shyan, former Senior Minister of State for Trade and Industry and National Development, at the 8th International Green and Energy-Efficient Building Conference 2012, he highlighted that globally, buildings consume about 40 per cent of total energy and contribute up to 30 per cent of total greenhouse gas emissions.

As such, there is much that construction companies can do to help buildings lessen their environmental impact, through using recycled materials for construction or using eco-friendly materials.

This is especially pertinent in land-scarce Singapore with few natural resources. To ensure the nation's sustainable growth and development, there is a need for the industry as a whole to embrace sustainable practices.

"For instance, by recycling waste materials and using materials such as RCA, we can provide a substitute for natural materials and lighten Singapore's dependency on imported construction materials like sand and granite," cites Mr Soh.

"Recycling waste materials also alleviates the problem of waste disposal given our shrinking landfill space."

Ongoing research

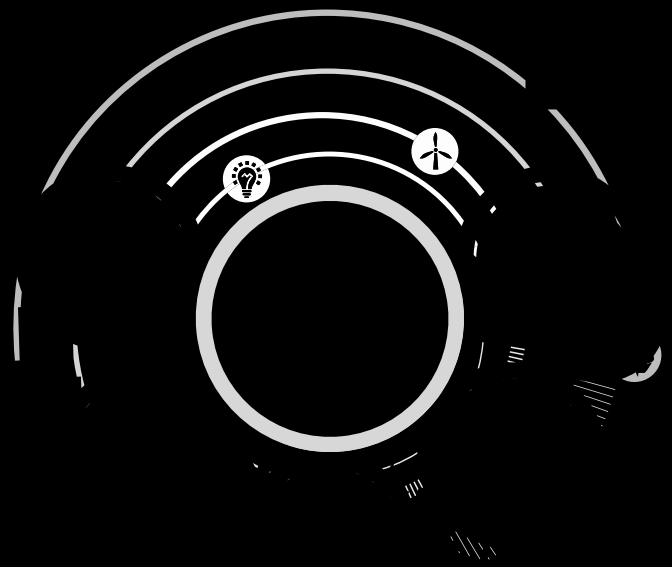
To this end, Samwoh has spearheaded various research projects on the development of green technologies and the use of recycled materials for construction applications.

These projects have been awarded research grants from various authorities and the findings published in conferences and journals.

Some examples include the recycling of construction and demolition waste for use in road and aircraft parking apron, the production of green ready-mixed concrete and green precast concrete components, as well as the recycling of asphalt pavement waste generated from road maintenance to produce new asphalt mixture for road construction.

Last year, the company started a joint research and development (R&D) programme with Jurong Town Corporation on the use of sedimentary rocks from Jurong Rock Caverns for concrete production in Singapore, to replace natural aggregates in concrete.

It has also worked with the Land Transport Authority to develop and trial warm-mix asphalt technology. Typical asphalt roads are constructed at very high temperatures of about 130 to 140 deg C. The new technology enables the temperature of asphalt mixture to be reduced by at least 30 deg C, without compromising on the performance of the



Since our formation in 1975, Samwoh has evolved into a leading civil and infrastructure engineering firm and building materials supplier for the construction industry.

Driven by continuous innovation and sustainable technologies, our services and products are highly sought after by the industry we serve.

As Samwoh looks ahead into the future, we remain committed towards sustainable development and growth.

Our Key Engineering Services:

- Civil engineering and infrastructure construction
- Supply and lay of quality asphalt premix
- Supply of ready-mixed concrete and green concrete
- Supply of precast concrete products
- Quarrying and supply of building materials
- Recycling of industrial wastes
- Explosives and controlled blasting systems
- Research and development
- Pavement evaluation and consultancy services

Samwoh Corporation Pte Ltd
25E Sungei Kadut St 1, Singapore 729333
TEL: 6269 7288 (10 Lines) FAX: 6368 2886
info@samwoh.com.sg
www.samwoh.com.sg

Our certifications:

Green and sustainability: