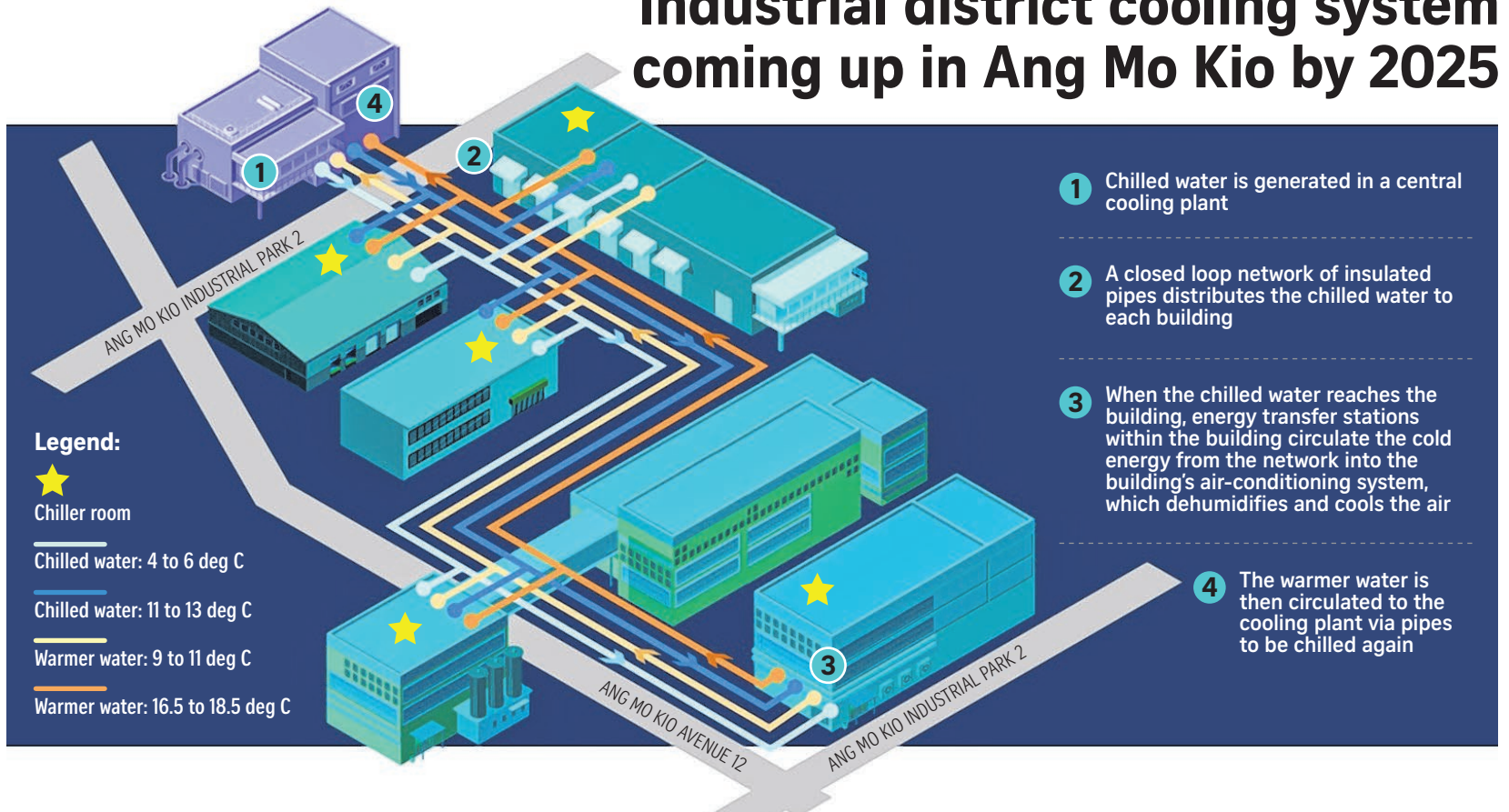


Industrial district cooling system coming up in Ang Mo Kio by 2025



- 1 Chilled water is generated in a central cooling plant
- 2 A closed loop network of insulated pipes distributes the chilled water to each building
- 3 When the chilled water reaches the building, energy transfer stations within the building circulate the cold energy from the network into the building's air-conditioning system, which dehumidifies and cools the air
- 4 The warmer water is then circulated to the cooling plant via pipes to be chilled again

BENEFITS

 <p>Singapore's largest industrial district cooling system will have a capacity of up to 36,000 refrigeration tonnes</p>	 <p>Reduce up to 120,000 tonnes of carbon emissions from the environment a year</p>	 <p>Equivalent to taking 109,090 cars off the road</p>	 <p>Repurpose more than 4,000 sq m of chiller plant space</p>
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Source: SP GROUP STRAITS TIMES GRAPHICS

AMK to have largest district cooling system

It can cut power consumption in STMicroelectronics' Technopark by 20%

Ang Qing

Ang Mo Kio will have the largest district cooling system to date, with the network in STMicroelectronics' TechnoPark capable of cutting the industrial development's annual electricity consumption by 20 per cent.

Announcing the project yesterday, utilities company SP Group and global semiconductor manufacturer STMicroelectronics said the network has the potential to reduce carbon emissions by up to 120,000 tonnes per year.

That is the equivalent of taking 109,090 cars off the road.

The news comes on the heels of announcements over the last month of plans to install or expand district cooling networks around Singapore, namely Kent Ridge, Jurong Lake District, Tampines and Marina Bay.

Singapore has been looking to cut electricity usage and carbon emissions with district cooling net-

works, which allow clusters of buildings to share and optimise the load of cooling through centralised chiller plants.

The project in Ang Mo Kio is slated to be operational in 2025, with STMicroelectronics investing US\$370 million (S\$513 million) over 20 years, the two companies said.

Along with lower energy consumption, the estimated decarbonisation stems from repurposing more than 4,000 sq m set aside for chiller plants, which will be free once the district cooling system becomes operational.

This will provide space for solar energy and perfluorocarbon (PFC) abatement equipment – systems that reduce PFC emissions produced from manufacturing semiconductors that are harmful to the environment.

Under an agreement signed between the companies yesterday, SP will design, build and operate the system, pumping chilled water to meet both the manufacturing and spatial cooling needs of the in-

dustrial development in Ang Mo Kio.

Under a joint venture between SP and Daikin Singapore, the new district cooling plant supplying chilled water to STMicroelectronics' TechnoPark will be built in Daikin Airconditioning Singapore's main office in Ang Mo Kio.

Hailing district cooling as key to empowering a low-carbon future for cities, townships and industrial parks, SP group chief executive Stanley Huang said the solution was customised to help energy-intensive manufacturing developments such as STMicroelectronics' TechnoPark reduce their energy consumption and carbon footprint in line with sustainability strategies.

Yesterday, SP and Daikin also signed an agreement to explore the potential of district cooling in South-east Asia, starting with Indonesia.

Mr Liu Shaw Jiun, chief executive of Daikin Airconditioning Singapore, said the upcoming shift of Indonesia's capital from Jakarta to Kalimantan made the country the top choice for expanding its business model for district cooling.

"In the shaping of a new township, they can implement such technology before the town is built, which will be a more economical and efficient way of managing cooling capacity for mass populations and buildings," he said.

He added that projects in Indonesia could pave the way for similar forays into Thailand and Vietnam, countries Daikin has projects in.

Talks of future district cooling projects in Indonesia have begun with various stakeholders, said an SP spokesman, adding that further details cannot be disclosed as these discussions are still at a preliminary stage.

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120k

Amount of carbon emissions, in tonnes, that the project will help to reduce each year.

\$513m

What STMicroelectronics is investing in the project over 20 years.