

CONTACTLESS TECHNOLOGIES: TAKING CONCRETE STEPS TO IMPLEMENT SAFER CONSTRUCTION WORKPLACE PRACTICES

- Using technology and digitalisation to increase contactless touchpoints at workplaces
- Helping construction companies maintain COVID-safe worksites and improve operational efficiency
- Enabling the observance of safe distancing rules during Singapore’s Phase Two

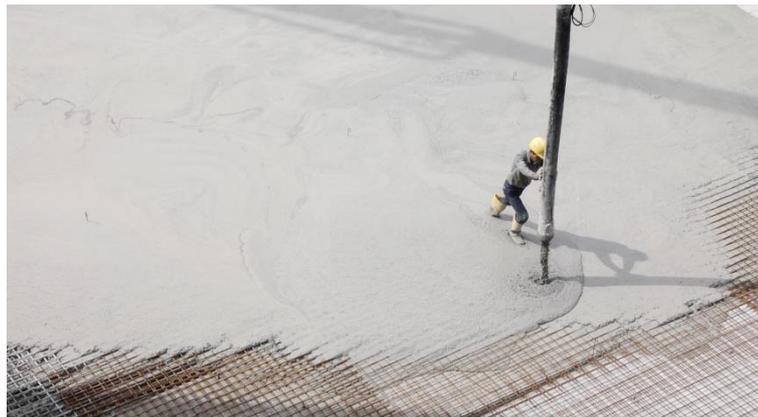
SINGAPORE, 17 JUNE 2020 – As Singapore enters Phase Two of its reopening, concrete innovations and digitalisation can play a leading role in enhancing safe distancing at worksites. Pan-United Corporation Ltd (“Pan-United” or “泛联集团”) has introduced initiatives that will minimise physical interactions and improve productivity at construction worksites.

These concrete innovations include:

1. PanU New Generation Self-Compacting Concrete (“PanU NewGen SCC”)

Pan-United has enhanced its product mix design of a specialised rheologic concrete that flows easily to reach hard-to-fill corners. Unlike regular concrete, which requires several concreting workers to manually vibrate and compact the material into place, the PanU NewGen SCC requires just a single worker to guide the concrete pumping pipe. It allows workers to better keep a safe distance from each other during concreting work.

Besides reducing the manual labour required, the PanU NewGen SCC can also improve productivity by 75% and reduce casting time by 40%, resulting in faster construction completion. Previous generations of SCC have been used to build skyscrapers in densely populated areas (e.g. Tanjong Pagar Centre, Singapore’s tallest building, and HDB projects).



With PanU NewGen SCC, only one worker is required to guide the concrete pumping pipe around the slab area. Regular concrete will require several workers to work closely together to manually vibrate and compact the material into place.

2. AiM (Artificial Intelligence Mixing) in-transit concrete management system

The company has also equipped its concrete mixer trucks with an in-transit concrete management system called AiM, which calibrates each truck's concrete consistency during the journey from the batching plant to the project site. If changes in concrete consistency are detected, the system will remotely adjust the concrete mix, maintaining the specified concrete properties by the time the mixer truck reaches its destination.

This system eradicates the need for quality assessors and product technicians to be physically present at the worksite to test and approve the concrete quality from each mixer truck. Apart from minimising the number of workers and employees on-site, the system also increases product quality consistency and minimises the risks of project delays.



Pan-United's AiM in-transit concrete management system calibrates the consistency of concrete in mixer trucks. This increases product quality consistency among mixer trucks and minimises the number of workers and employees required on-site to test and approve the concrete quality.

3. AiR (Artificial Intelligence for Ready-Mix Concrete) operations optimisation platform

Digitalisation of concrete operations across the entire supply chain, through the development of an optimisation platform called AiR, has enabled the automation of back-end processes such as delivery orders and invoices. Pan-United issues electronic delivery orders (“eDOs”) and electronic customer invoices (e-invoices) that make it far easier for the customers' employees to work from home, and save them time and costs from not having to logistically collate and despatch physical documents around everyday. This minimises physical contact among employees at its premises, and between employees and customers or workers at construction sites.



The AiR platform digitalises the entire supply chain, increases resource efficiency and optimises manpower usage, by assigning the lowest-cost or nearest tipper or concrete mixer trucks to the customer order.

Ms May Ng (“黄美美”), Chief Executive Officer of Pan-United Corporation Ltd, said: “As the leader in concrete and logistics technologies, we have always looked for new and effective ways to address our customers’ pain-points and improve project efficiency. Amid the COVID-19 outbreak, we recognise that additional measures are necessary for the safe restart of construction projects. By enhancing our products and using IoT (the internet of things) to improve service delivery, Pan-United hopes to play our part in ensuring that construction work can be carried out safely and seamlessly, mitigating risks of construction delays.”

She concluded: “There is a heightened need to be innovative and accelerate digitalisation. We are excited about other new solutions we intend to introduce to support safe distancing requirements at construction sites and enhance operational efficiency for our customers.”

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ABOUT PAN-UNITED CORPORATION

panunited.com.sg

Concrete innovation company Pan-United Corporation Ltd (Pan-United) is the market leader in the supply of ready-mix concrete to Singapore's public and private sectors. It has operations in four Asian countries and a total workforce of more than 1,200 people. It is a global leader in concrete technologies harnessing innovation and cutting-edge digital platforms to develop industry-leading, sustainable solutions in the concrete and logistics space.

With a strong base as Singapore's largest concrete and cement company, Pan-United has extended into markets in Malaysia, Indonesia and Vietnam, where it is the top brand in Ho Chi Minh City. It is a renowned and trusted brand for high quality concrete solutions and excellent customer service.

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