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## The development of Bio-Smart Concrete® (BiSCo)

### - Development of large-scale cultivation technology for the AH strain and trial construction of BiSCo -

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Bio-Smart Concrete® (BiSCo) is a high-performance concrete developed using a strong alkali-resistant bacterium (AH strain) discovered by our research team. Ongoing research and development aim to achieve its practical application. Adding the AH strain, which can survive under strong alkali conditions, and nutrients to concrete enables it to precipitate calcium carbonate, thereby providing self-healing properties that rapidly seal cracks. It also actively consumes dissolved oxygen, thereby providing a rust-proofing effect for reinforcing bars. To demonstrate the practical application of BiSCo, the development of large-scale cultivation technology for the AH strain was undertaken, successfully producing AH strain sufficient for over 200m<sup>3</sup> of fresh concrete in a single cultivation. A trial construction was carried out at a port facility, with 10m<sup>3</sup> of cast-in-place BiSCo using the AH strain being placed in the flood barrier.

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