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KAUST partners with digiLabÂ to adopt AI in world's largest coral restoration project

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Saudi Arabia, King Abdullah University of Science and Technology (KAUST) isÂ partnering with digiLabÂ to develop a first-of-its-kind AI for coral conservation. This groundbreaking collaboration leverages cutting-edge technology for global coral conservation through ambitious KAUST Coral Restoration Initiative (KCRI), the world's largest coral restoration project.Â

The integration of digiLab's AI platform will provide scientists with real-time simulations and predictions of the 100-hectare reefscape's behavior, greatly advancing understanding of how coral resilience, thermal tolerance, and growth are affected by changing environmental conditions. The integration, which is expected to take two years and is supported by KCRI's Dr. Liz Goergen and led by digiLab co-founder Dr. Anhad Sandhu, aims to significantly expedite reef restoration and conservation at an unprecedented scale.

Specifically, digiLab's technology will assist with computer vision, significantly reducing the monitoring time from two months to two weeks, and with the deployment of sensors, enabling optimal placement, reducing both the time and cost. Furthermore, a massive 22-petabyte digital twin, managed by digiLab's chatReef platform, will enable KAUST researchers to easily monitor the ecosystem, uncover crucial data on issues like algae growth and disease, and make data-driven decisions.

KAUST's vision for KCRI is vast, including plans to plant two million corals by 2030 and massive coral nurseries producing hundreds of thousands annually. The AI tools developed with digiLab will be crucial to achieving this efficiency, drastically reducing coral assessment times from months to weeks and optimizing environmental sensor placement for more accurate

data collection.

As Professor Dave Suggett, KCRI Director, emphasizes, this partnership allows KAUST to "leverage cutting-edge AI technology to monitor, predict, and optimize our restoration strategies in real-time, potentially revolutionizing how we approach coral reef conservation on a global scale."

This collaboration between KAUST and digiLab will set a new standard for coral restoration worldwide. The integration of AI demonstrates a scalable model for conservation efforts, offering insights and techniques that can be adapted globally to protect and restore coral reef ecosystems in the face of continued environmental challenges.