

Humanitarian Innovation Hackathon



3.6 Billion

people live in areas highly
vulnerable to climate change

Global Goals Alignment

SDG 13: Climate Action. Consider how your solution strengthens climate adaptation for rural communities.

SDG 11: Sustainable Cities and Communities. Consider how your solution supports resilient and sustainable communities.

SDG 9: Industry, Innovation and Infrastructure. Consider how your solution drives innovation and strengthens resilient infrastructure.

SDG 15: Life on Land. Consider how your solution supports healthy ecosystems and sustainable land management.



Challenge B

Employing digital twins for rural communities
to assist in climate change adaptation

Overview

Planning effective climate change adaptation is complex, influenced by climate conditions, infrastructure, and local geographic and social contexts.

Digital twin models offer an AI-driven approach to better capture this complexity. However, their use has largely been limited to urban infrastructure in high-income countries.

Applying digital twin models to rural communities in low- and middle-income countries presents an opportunity to support better climate adaptation decisions, provided local needs, contexts and priorities are carefully considered.

Challenge Task

How can digital twins of rural communities be best employed in a low- or middle-income country to guide climate change adaptation? To better account for local geographic and social contexts, it is recommended that you select a case-study location.



THE GLOBAL GOALS
For Sustainable Development



Hackathon Challenge B

Employing digital twins for rural communities to assist in climate change adaptation

Geographical Context

Unless otherwise stated, all challenge responses should be developed for application within the Pacific Islands region. Teams are encouraged to consider the environmental, cultural, social, economic and logistical characteristics of Pacific Island region and communities when developing their solutions.

Considerations

In designing your innovations, the principles of Humanitarian Engineering need to be employed. These principles can be summarised as solutions that are:

Effective

The solution addresses the key elements of the challenge.

Resources considered

the solution takes into context the resources (e.g. human, IT and finances) available for low and middle income settings.

Appropriate

Considers community needs and is culturally acceptable within the regional context.

Sustainable

Consideration for how the solution will be sustained into the future (e.g. changes in technology).

Do no harm

The innovation considers inclusiveness and does not cause harm.

