



Do we have to
use steel and concrete?

Resilience

Vietnam

A man with dark hair and a mustache, wearing a blue and white striped button-down shirt, is sitting in a large, open structure made of many vertical bamboo poles. He is smiling and gesturing with both hands. The structure is made of bamboo poles tied together with dark bands. The background shows green foliage. A semi-transparent grey bar is overlaid on the image, containing the text "Bamboo — 'green steel'" in green and "Vo Trong Nghia" in white.

Bamboo — "green steel"

Vo Trong Nghia



Vietnam



Vietnam



Khudi Bari

Floating temporarily during floods

Resilience

Bangladesh

<https://www.big-fishdesign.com/blog/hcrzm2pk8z6aa2gbsf2jfcneb2rrtc>



Bangladesh

A large, complex structure made of bamboo poles is being assembled in a tropical environment. The structure features a series of horizontal and diagonal poles connected by dark, cylindrical joints. Several people are visible: one person stands high up on the structure, while others are on the ground, some reaching up to adjust the poles. The background is filled with lush greenery, including large banana leaves. To the left, there is a partially completed wall made of vertical bamboo strips. The overall scene suggests a rapid construction process in a rural or developing area.

Quickly assembled



Marina Tabassum

Bangladesh



“Sponges”
absorbing heavy rain and floods

Resilience

Thailand





Floating community

Netherlands

Resilience



Netherlands



Netherlands



Netherlands



Resilience

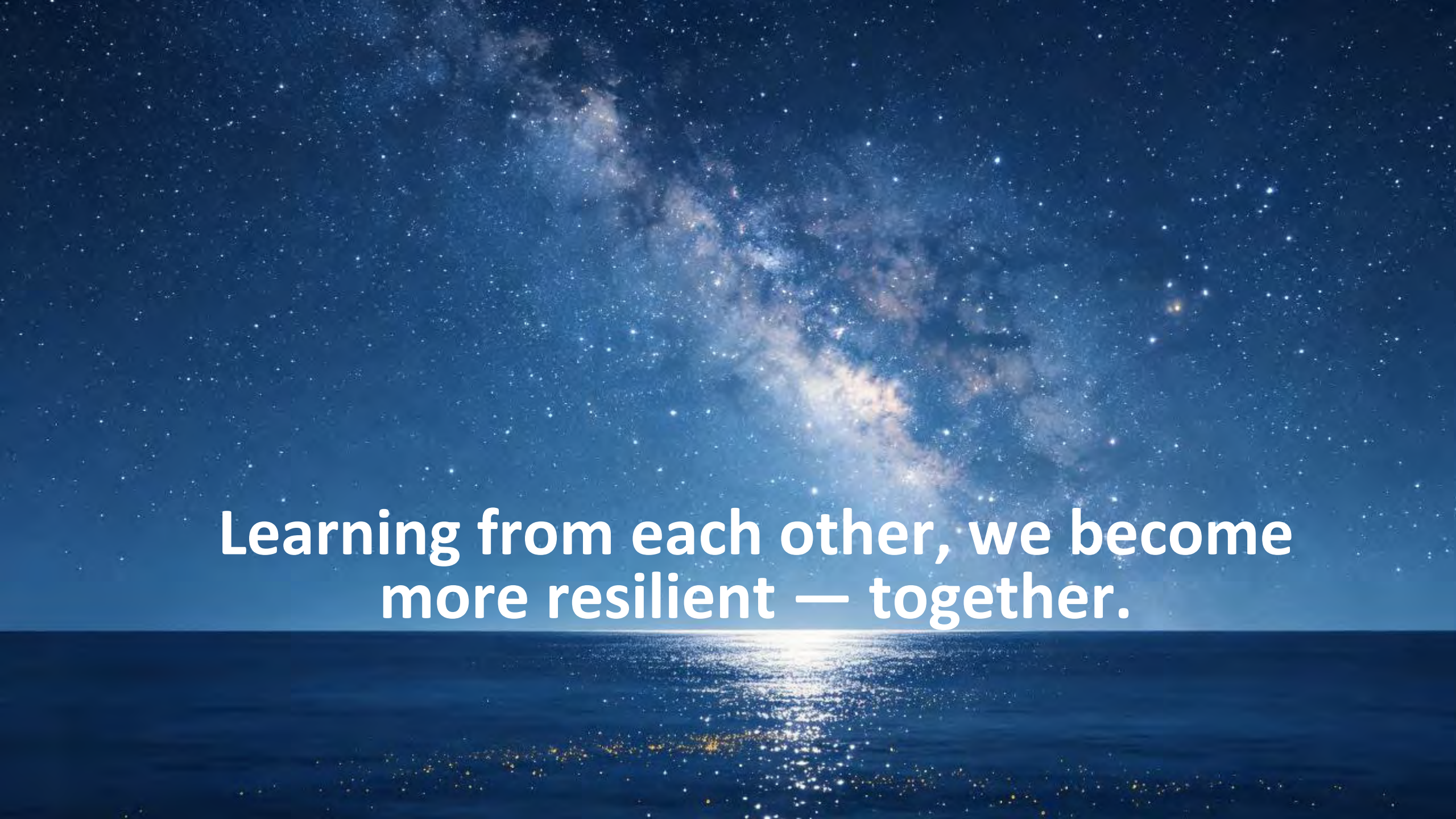
Norway



Norway



Norway

A full-page background image featuring a night sky with the Milky Way galaxy visible as a bright, hazy band of light. The sky is filled with numerous stars. Below the horizon, the Milky Way and stars are reflected on the surface of a body of water, creating a shimmering effect.

Learning from each other, we become
more resilient — together.

A full-page background image featuring a deep blue night sky filled with stars and the Milky Way galaxy. The lower portion of the image shows a dark blue body of water with a bright, shimmering reflection of the stars and the Milky Way, creating a sense of depth and tranquility.

A cherished journey

Framework for Describing Resilience

OTHER

Physical Property

Object: Physical

Impact

Magnitude

Measurement. Magnitnent

und (Elasticity)

OR

System Property

Object: System

Impact

Many Types

Magnitude

Measurement

Recovery Time

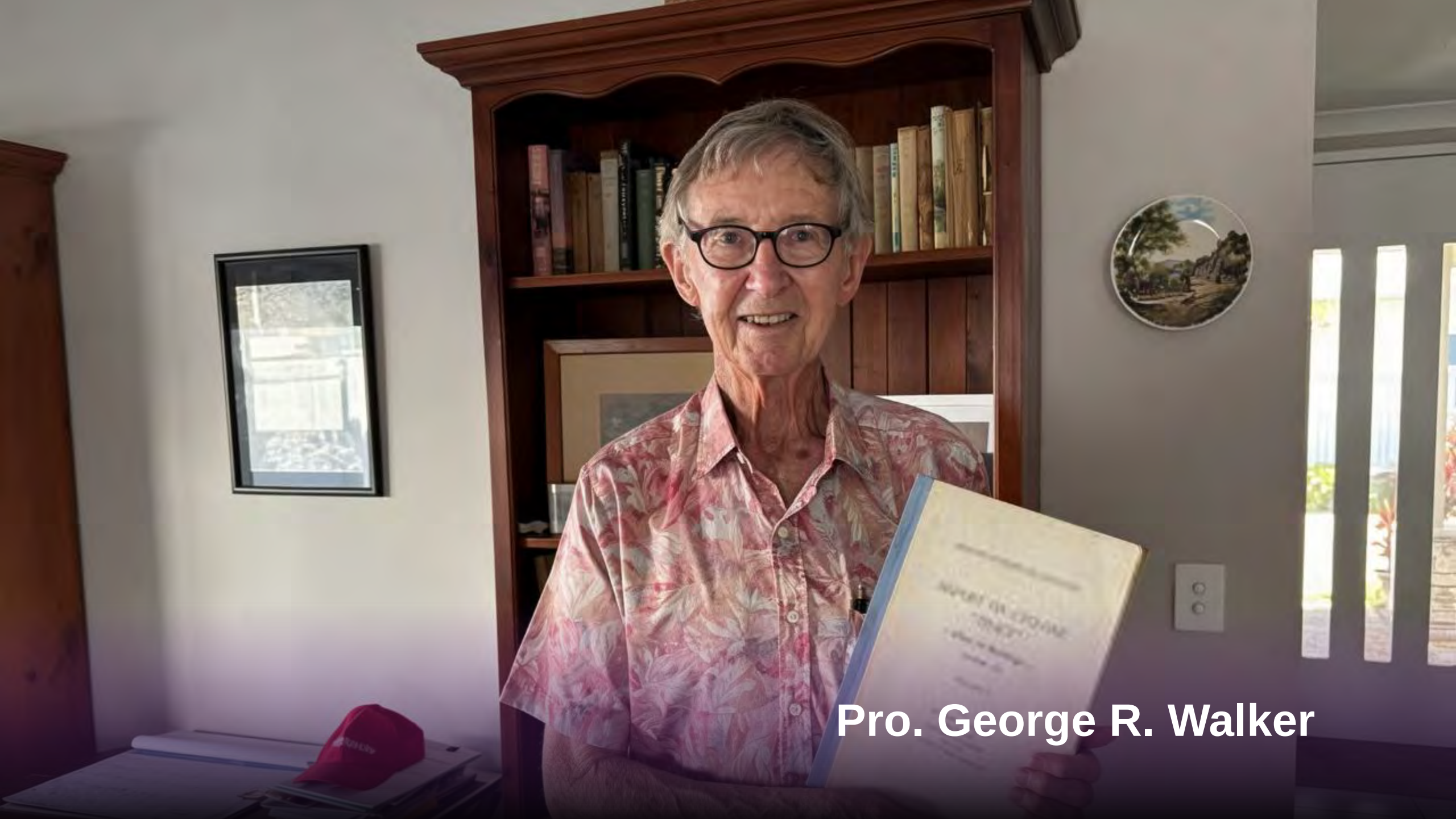
Resilience:

System: Timeovernt Community of interest.
tastrophe event characteristest.
y Resilience is a function of the Contributory Resilience of each o
ents and External Syenponents and External Systemswt the
important form of Resilience.

2014

George R. Walker

Bernard Leservoisier,
Ron Watermeyer,
Andreas Wolf



Pro. George R. Walker

80年代
我国形成了历史上空前的建设高潮，并从国外引进了一批工业化住宅结构体系，加上科学技术的进步和建筑新材料的涌现，促成了八十年代标准的编制和颁布。

《建筑统一模数制》(GBJ2-73)改为
《建筑模数协调统一标准》(GBJ2-86)；
《厂房建筑统一化基本准则》(TJ6-74)改为
《厂房建筑模数协调标准》(GBJ6-86)；
又增加了：《住宅建筑模数协调标准》(GBJ100-86)
《建筑楼梯模数协调标准》(GBJ101-87)
《建筑门窗洞口尺寸系列》(GBJ5824-86)
《住宅厨房及相关设备基本参数》(GB11228-89)
《住宅卫生间功能和尺寸系列》(GB11977-89)
初步形成了我国的建筑模数协调标准体系。

2017

ISO

ISO/TC59/WG4
Seminar #1

Climate Change & Building Resilience

ISO/TC59/WG4 第一次学术研讨会
“气候变化与建筑弹性”
中国建筑科学研究院
2018/11/26

2018



中国建筑标准设计研究院



2018



2019



2019

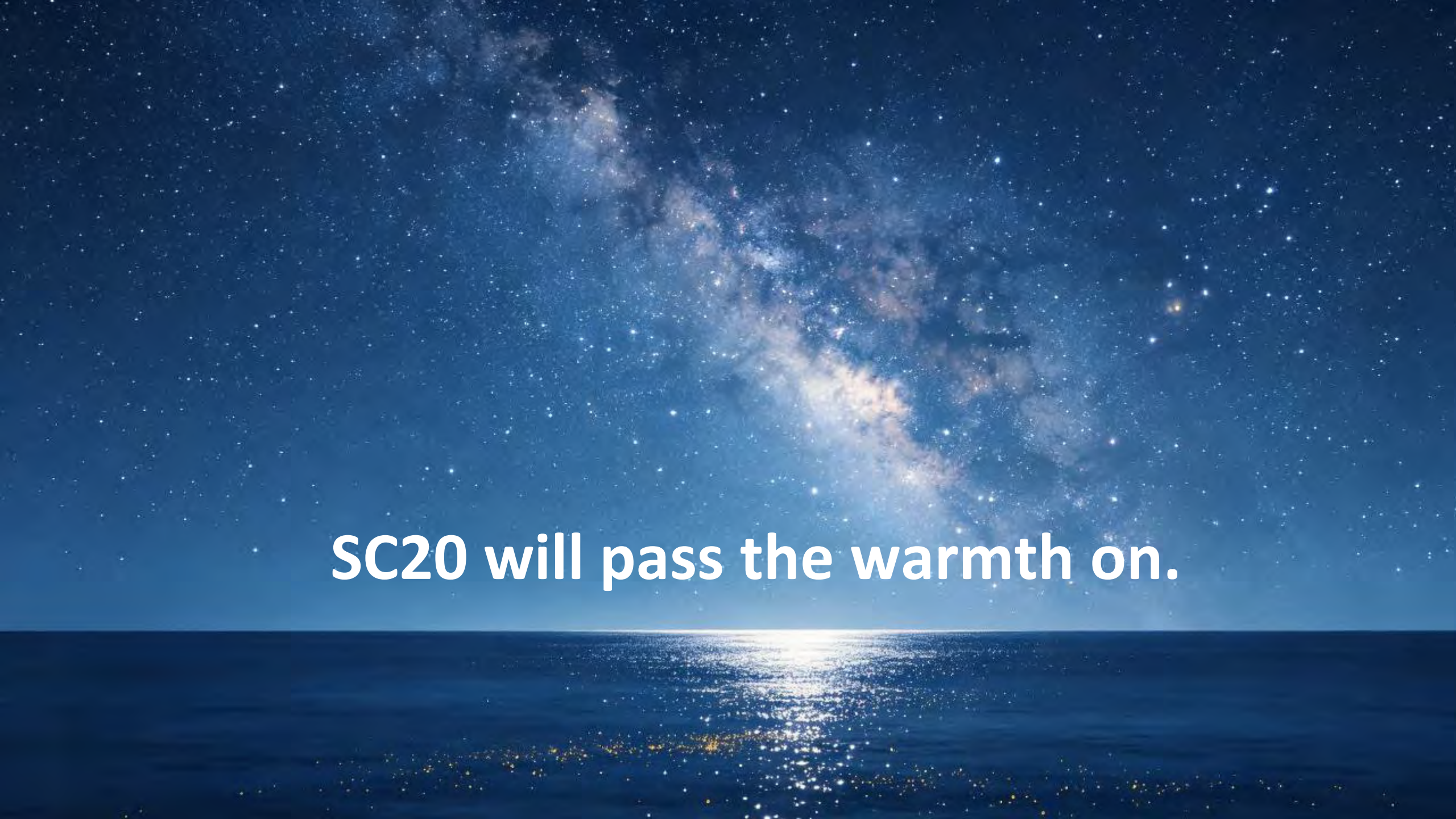


2020



2024



A night sky with the Milky Way galaxy visible, reflected in a body of water. The text "SC20 will pass the warmth on." is overlaid in white.

SC20 will pass the warmth on.

A full-page background image featuring a night sky with the Milky Way galaxy visible as a bright, hazy band of light. Below the horizon, a body of water reflects the stars and the light from the galaxy, creating a shimmering effect. The overall color palette is dominated by deep blues and purples, with bright white and yellow highlights from the stars and the galaxy.

Friendship

