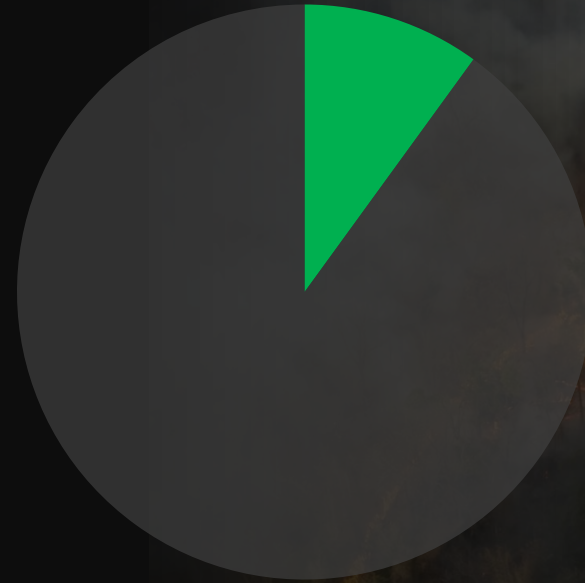


# Advancing Climate Adaptation with Digital Technology

# Climate Adaptation must be Addressed

GHG emissions  
from damage and  
reconstruction

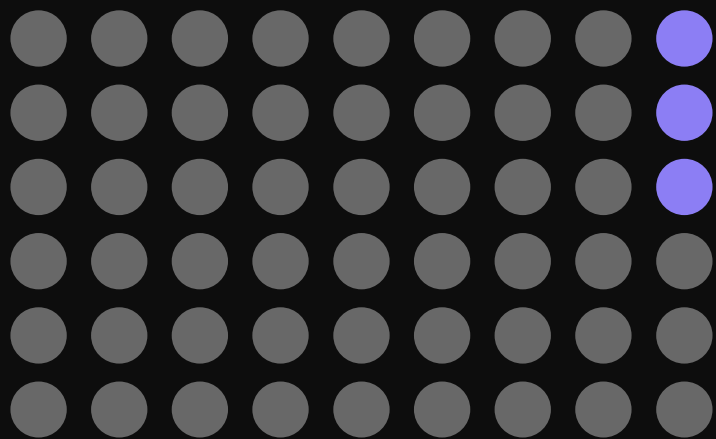
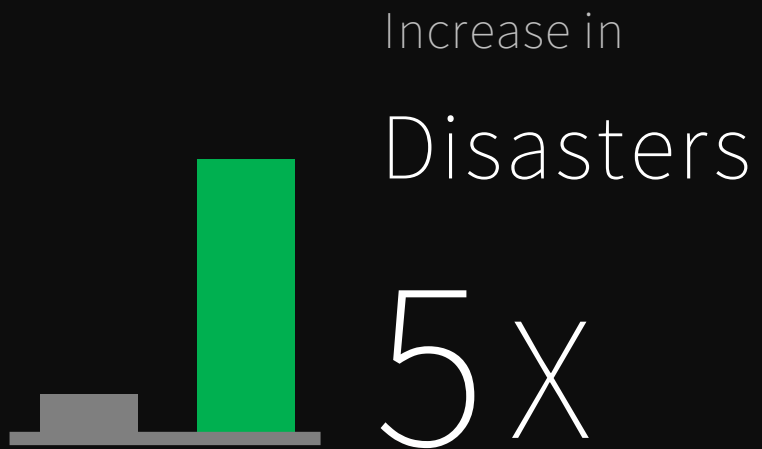
more  
than **10** %



Negative economic impact  
of natural disasters

Human Right issue  
such as loss of lives





Adaptation Investment vs.  
Mitigation Investment

1/18

# Proposals to Accelerate Adaptation Measures

Evaluation standards  
for adaptation value



New financial approaches  
for adaptation



# Overall Adaptation Value



Economic losses  
reduced by adaptation measures

Disaster damage reduction value



GHG emissions  
reduced by adaptation measures

Environmental value



# Advancements in Digital Technology

## Enable Calculating Adaptation Values

A satellite in space, with solar panels and a gold-colored body, is positioned in the foreground on the right. The background shows a vast view of Earth from space, with blue oceans, white clouds, and a thin layer of atmosphere at the horizon.

1 Accurate observation of the real world

An aerial view of a city, showing a dense grid of streets and buildings. The image is tinted with a blue color scheme, giving it a digital or data-like appearance.

2 Processing and prediction of complex and enormous information



# CASE 1 Flood in Japan

Actual Impact  
of disaster

Economic loss \$ 5.1 billion  
GHG emission \$ 0.16 billion

Simulator development : Institute of Industrial Science,  
the University of Tokyo, Gaia Vision Inc., NEC Corporation

Simulated Impact  
of disaster

Economic loss \$ 1.1 billion  
GHG emission \$ 0.04 billion

Simulator development : Institute of Industrial Science,  
the University of Tokyo, Gaia Vision Inc., NEC Corporation

## Calculated Value

Disaster damage  
reduction value \$ 4.0 billion

Environmental value \$ 0.12 billion

**Adaptation value**

\$ 4.1 billion



## CASE 2 Peatlands Fires in Indonesia

Actual Impact  
of disaster

Economic loss \$ 5.2 billion  
GHG emission \$ 17.9 billion

- FARSITE (Fire Area Simulator) Ver. 4.1.055 Copyright 1995-2008,  
Mark A. Finney USDA Forest Service, Fire Science Laboratory  
- AW3D (JAXA)  
- Geospatial Information Authority of Japan, Chiba University and  
collaborating organizations

Simulated Impact  
of disaster

Economic loss \$ 0.8 billion  
GHG emission \$ 2.7 billion

- FARSITE (Fire Area Simulator) Ver. 4.1.055 Copyright 1995-2008,  
Mark A. Finney USDA Forest Service, Fire Science Laboratory  
- AW3D (JAXA)  
- Geospatial Information Authority of Japan, Chiba University and  
collaborating organizations

Calculated Value

Disaster damage  
reduction value \$ 4.4 billion

Environmental value \$ 15.2 billion

**Adaptation value**

\$ 19.6 billion

## Evaluation Standards for Adaptation Value

Digital technology enables everyone  
to have a common understanding  
of the value of adaptation measures

# Proposals to Accelerate Adaptation Measures

**Evaluation standards**  
for adaptation value



New financial approaches  
for adaptation



# Current

Investors

Financial  
Institutions

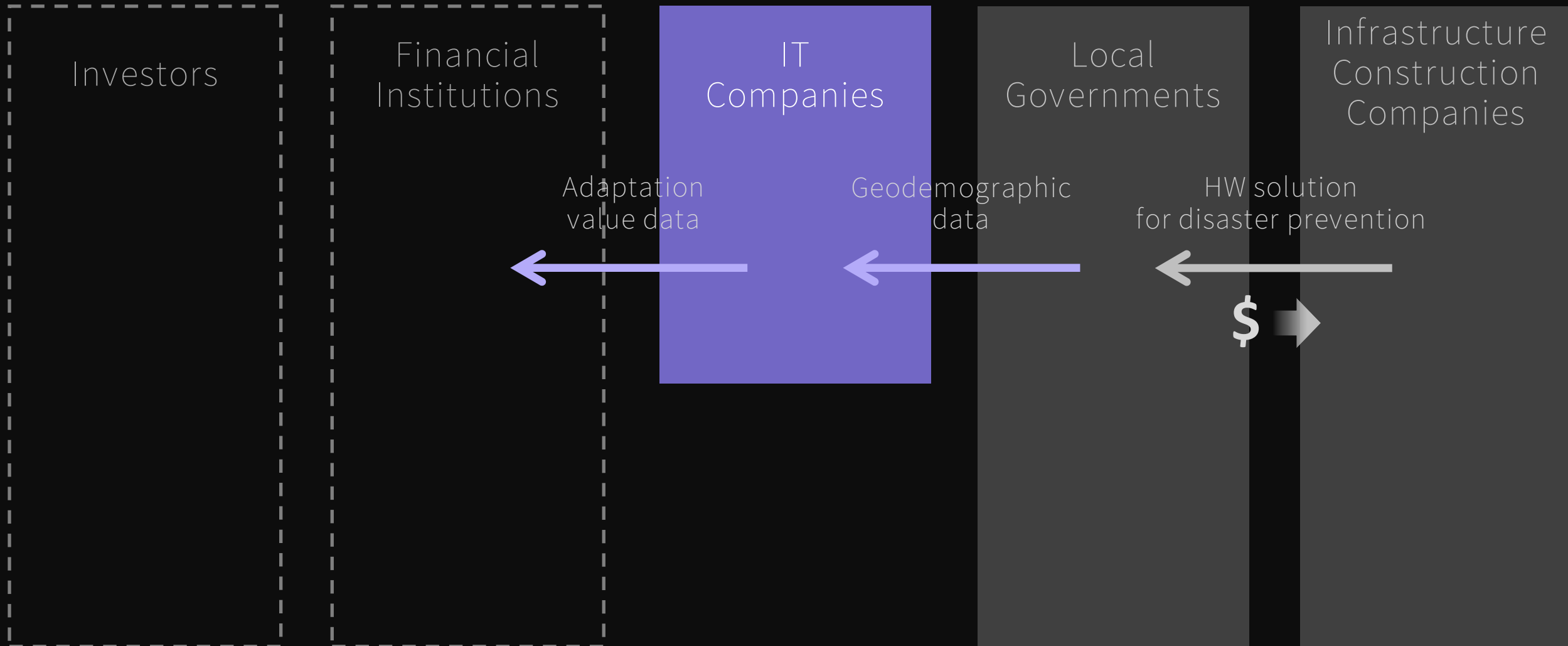
Local  
Governments

Infrastructure  
Construction  
Companies

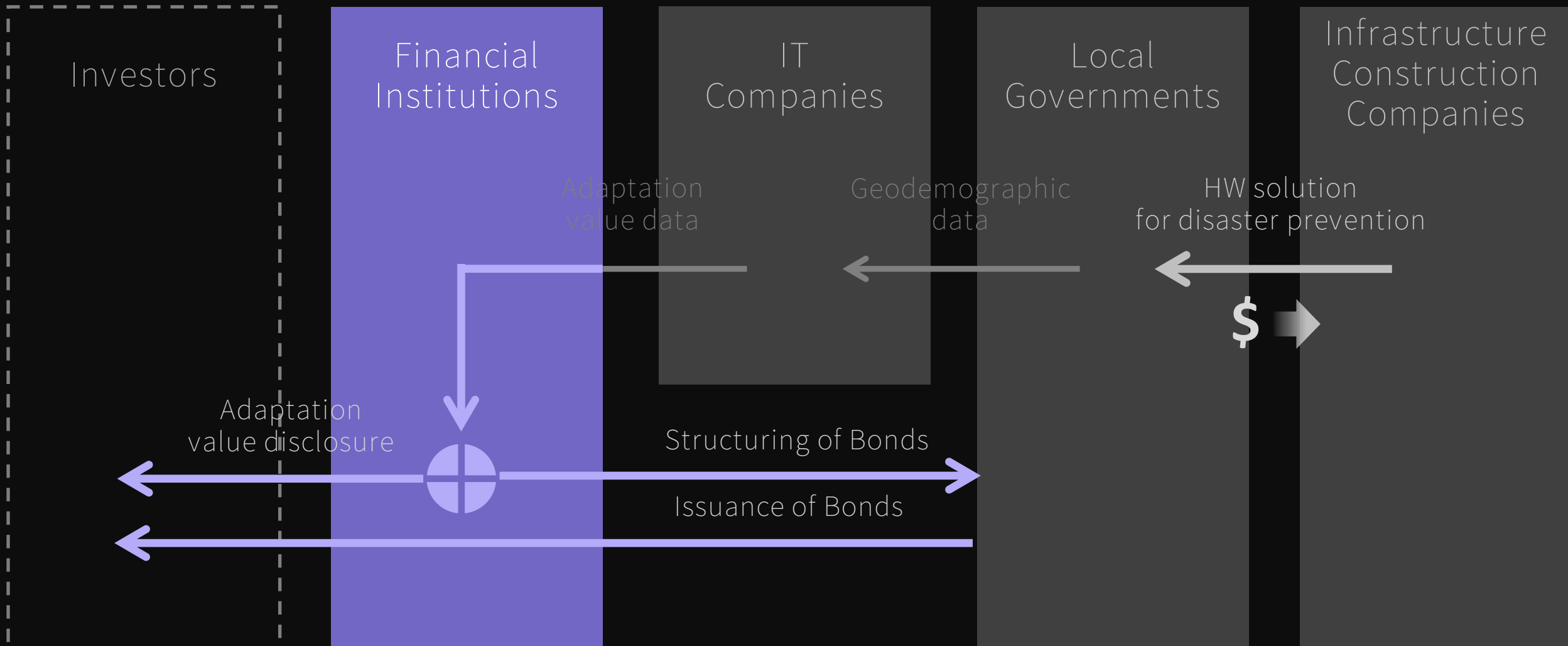
HW solution  
for disaster prevention



# New Adaptation Finance Approaches

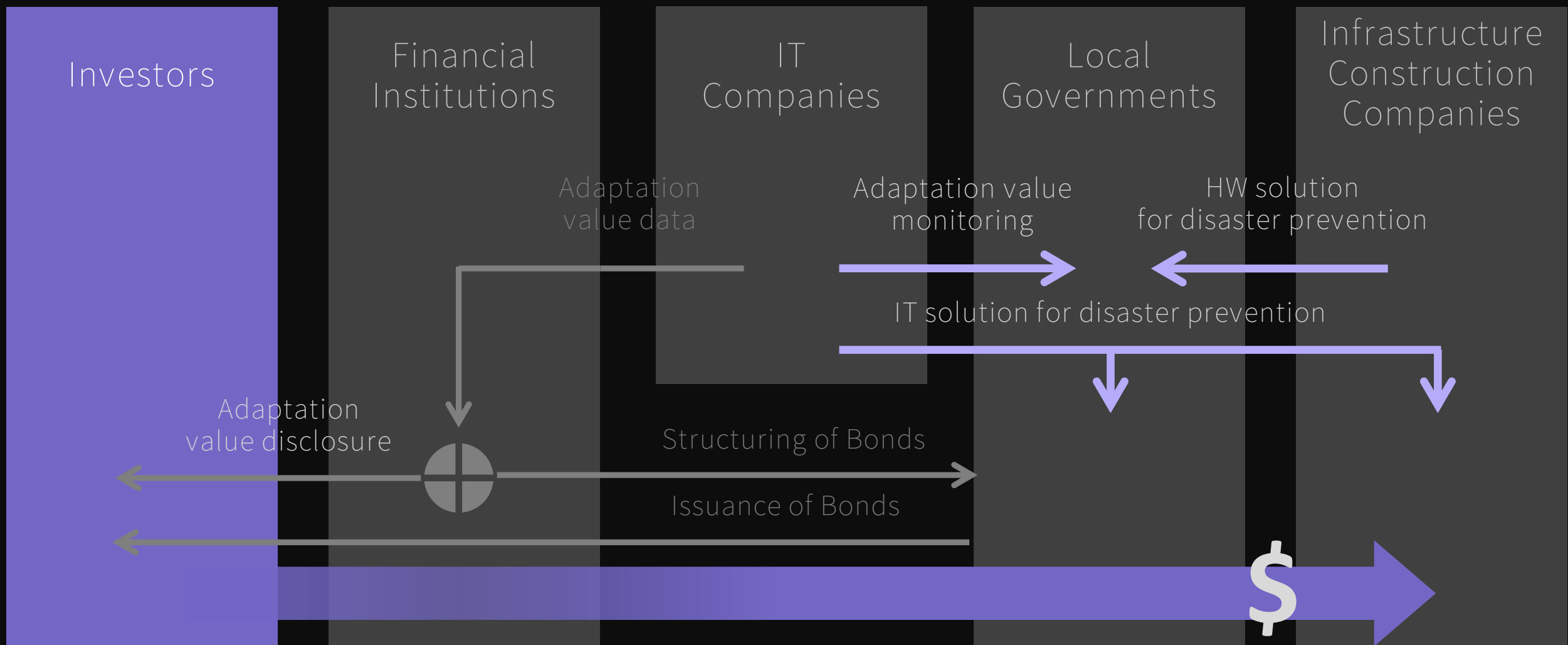


# New Adaptation Finance Approaches





# New Adaptation Finance Approaches



# Financial Products for Adaptation

## Bond

Landslides / Storms /  
Flood / Drought



## Loan

Climate Change



## Fire Insurance

Wildfire



## Property Insurance

Landslides / Storms /  
Flood / Drought





# Co-Creation to Develop New Approach for Adaptation Finance

Disaster  
Prevention  
Solution  
Companies

Financial  
Services  
Corporations

Local  
Governments

Government  
Ministries

International  
Standardization  
Organizations

Universities

Research  
Institutes

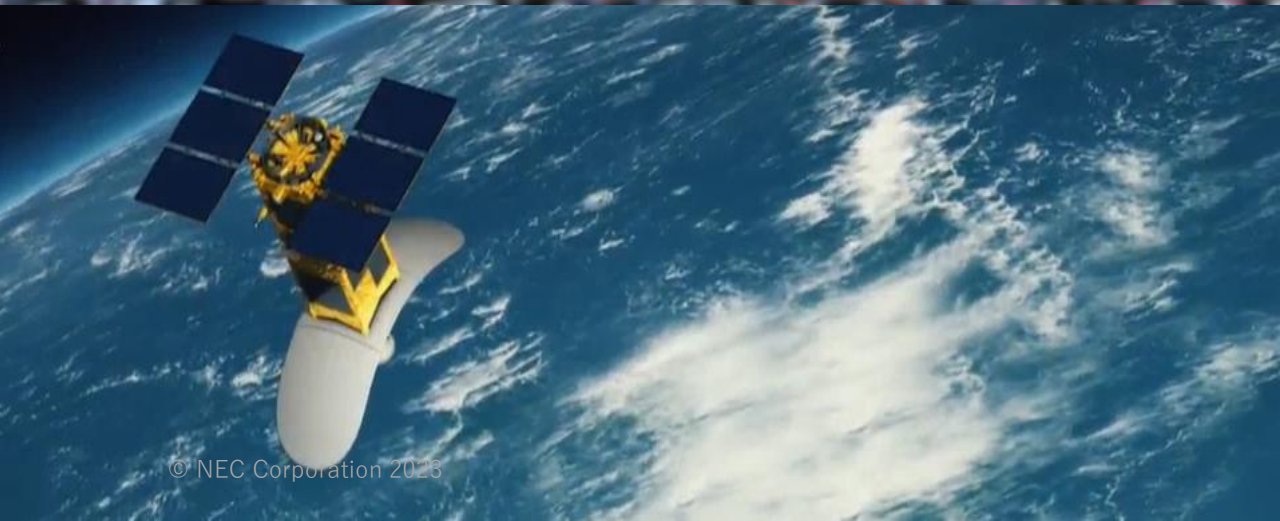
International  
Conferences



# NEC can deliver Disaster Prevention Technologies

Image of  
Optical Fiber Sensing Technology

\*The image has been removed due to copyright.







# Advancing Climate Adaptation with Digital Technology