Joint Commission of Government
and Private Sectors of Japan and Kazakhstan
on Economic Cooperation

Efforts in Forest Fire Management and Carbon Neutrality in Kazakhstan

1st Nov 2023

Fitech Co.,Ltd.
Tomonori Hayashi
CEO

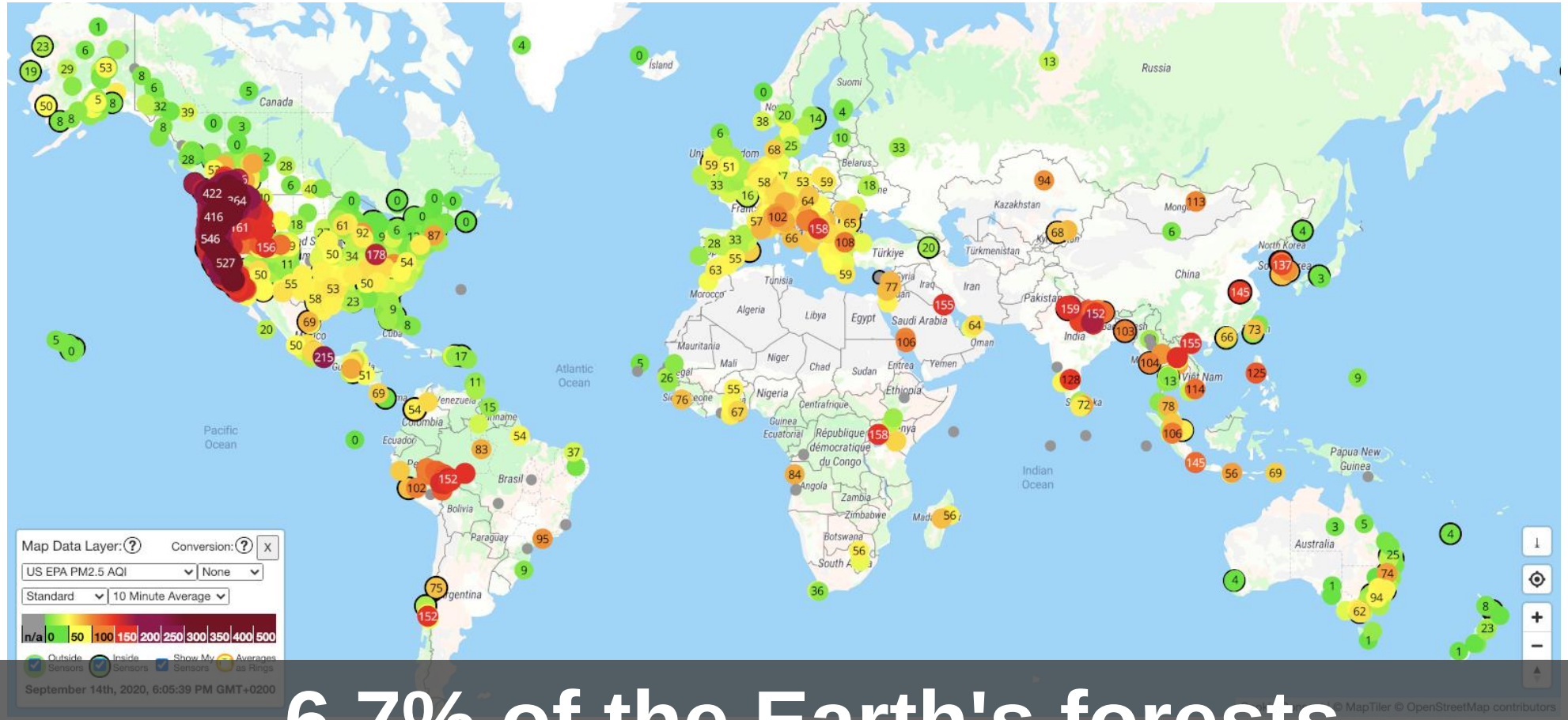
Corporate Philosophy

Protecting as many lives as possible
from fire and contributing to humanity

We want to stop forest fires around the world and contribute to the common global issue of global warming and CO2 reduction.

Background

68.4Mha of Earth's forests burned between 2002 and 2021



6.7% of the Earth's forests have lost their forest resources

Background
Wildfire in Kazakhstan in 2023

- In June 2023, forest fires spreading in northeastern **Kazakhstan destroyed 60,000 hectares of forest and killed 14 people**
- President Tokayev ousted Emergency Situations Minister Ilyin on June 10.
- More than 1,000 people, mostly from the defense and emergency situations ministries, were taking part in the effort to put out the fires.

President Tokayev meeting relatives of people killed in the fires

https://eurasianet.org/kazakhstan-mass-wildfire-deaths-provoke-anger-at-corruption

Background
Forest Fires Increasing Worldwide

- The 27th Conference of the Parties (COP27) to the United Nations Framework Convention on Climate Change (UNFCCC), held in Egypt in November 2022, included "compensation for loss and damage caused by climate change" as an official COP agenda item for the first time.
- A historic agreement was reached to establish a fund to assist countries that are vulnerable to climate change-related disasters.

Forest fires are recognized as an issue that the international community must work together to address.

International Cooperation for Kazakhstan

METI
Ministry of Economy, Trade and Industry

Fitech

Under Joint Commission of Government and Private Sectors of Japan and Kazakhstan on Economic Cooperation,

the Ministry of Emergency Situations of the Republic of Kazakhstan and Fitech signed a MOU on cooperation in fire prevention in 2012

and have discussed initiatives aimed at reducing CO2 emissions from forest fires in the Republic of Kazakhstan.

And as a result of a large-scale firefighting experiment to confirm the effectiveness of fire extinguishing agents, Fitech's fire extinguishing agents were officially adopted in the Republic of Kazakhstan. However, the Republic of Kazakhstan is facing a forest fire problem that could be called a national crisis, as forest fires have broken out in the artificial forests that were planted at enormous expense to stop the desertification that is looming in the northwestern part of the capital Astana.

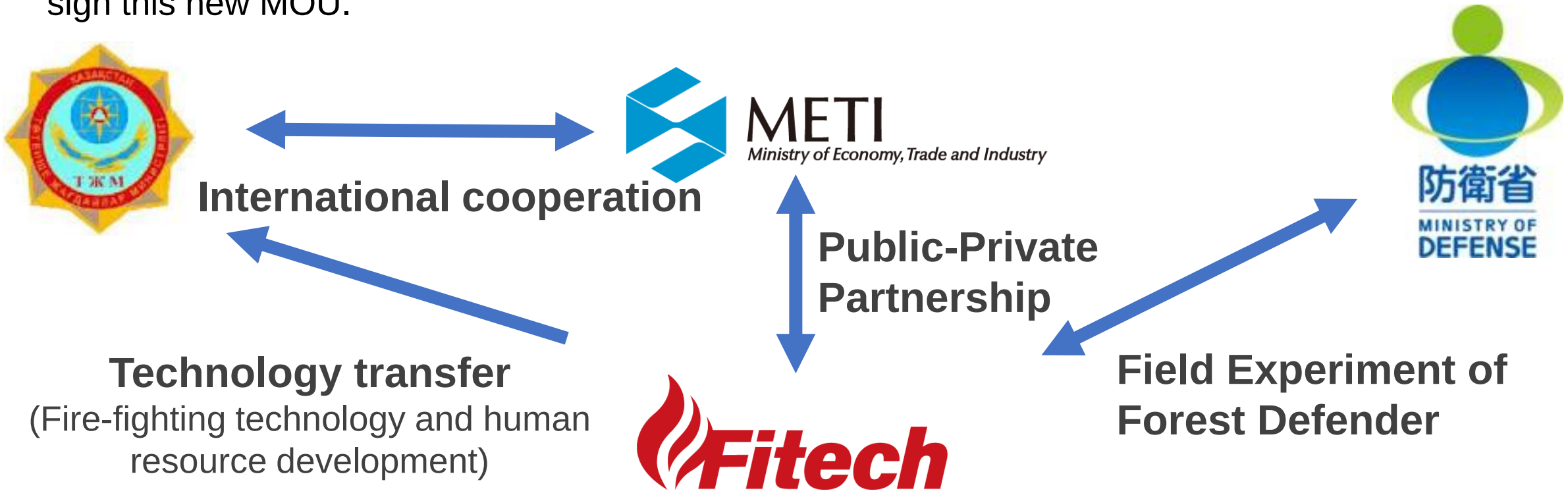
In order to cope with forest fires on a global scale, Fitech's fire suppressant technology, aerial firefighting from helicopters, and other new frameworks to minimize forest fire damage are currently being discussed.

Joint Commission of Government and Private Sectors of Japan and Kazakhstan on Economic Cooperation in 2018

Mr. Eshimbekov Saabul, Ambassador of the Republic of Kazakhstan to Japan (left) and Tominori Hayashi, President of Fitech (right) in 2021

International Cooperation for Kazakhstan

- To prevent a repeat of the forest fires in Kazakhstan in 2023, and to reduce global CO2 emissions, Kazakhstan and Japan are strengthening their economic partnership.
- Fitech, as a fire extinguishing agent developer and firefighting support specialist, is pleased to sign this new MOU.

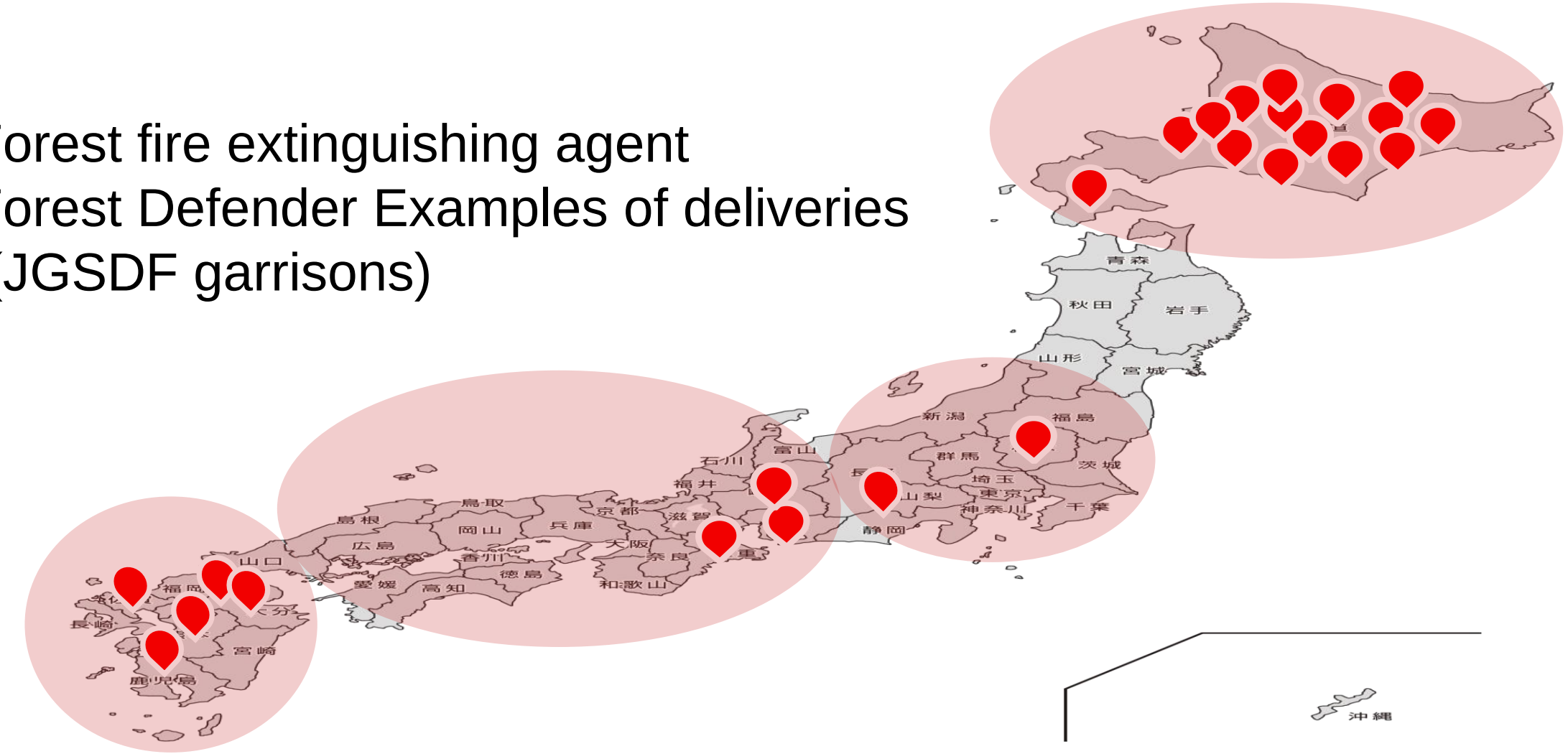


Global Use Cases

Installed in 48 countries globally

Use Case: Government
Ministry of Defense

Forest fire extinguishing agent
Forest Defender Examples of deliveries
(JGSDF garrisons)



Fire Extinguishing Agent for Forest Fires

FOREST DEFENDER [FTL-05B]

～Next-generation Technology against Forest Fires～

Forest Defender FTL-05b is a fire extinguishing agent developed with a new technology to quickly and effectively extinguish forest fires at a low cost.

- **Maximum effect with a small amount**
- **Well-suited against peatland fire**
- **An environment-friendly extinguishing agent**

Use Case: Government
Ministry of Defense

In the event of a natural disaster in Japan that is too large for the fire department or police to handle, the Minister or the Prime Minister decides to dispatch the Self-Defense Forces (SFD) based on a request by the local government for disaster relief.

The SDF then continues to plan, research, develop, and train for the coming natural disaster on a daily basis.

Fitech is jointly developing extinguishing agents and spraying methods to support their activities in terms of firefighting. In addition, we have already delivered to certain units

Forest fire extinguishing agent
Forest Defender

Helicopter fire extinguishing agent injection system, FEI

Use Case: Government
Fire and Disaster Management Agency

When a forest fire occurs in Japan, the Fire and Disaster Management Agency is the first to extinguish the fire. The following photos show on-site demonstrations and firefighting drills using Fitech's fire extinguishing agents and dispose of embers by the Ashikaga Fire Brigade in the Ashikaga City Forest Fire.

Results of Fire Extinguishing Performance Verification by Helicopter (UH1J)

Location:

Ground Self-Defense Force Onohara Training Area

Condition:

- Water,
- 3% of Fitech Fire Extinguisher
- 6% of Fitech Fire Extinguisher

Helicopter (UH1J)

Fire Fighting Performance Verification Results

Firebreak：Water → Reinflamed
Firebreak： 3 % → Extinguished
Firebreak： 6 %: → Extinguished

Fire prevention zone performance verification results

Firebreak：Water → Fire Spread
Firebreak： 3 % → Prevention of fire spread
Firebreak： 6 %: → Prevention of fire spread

Fire Spread

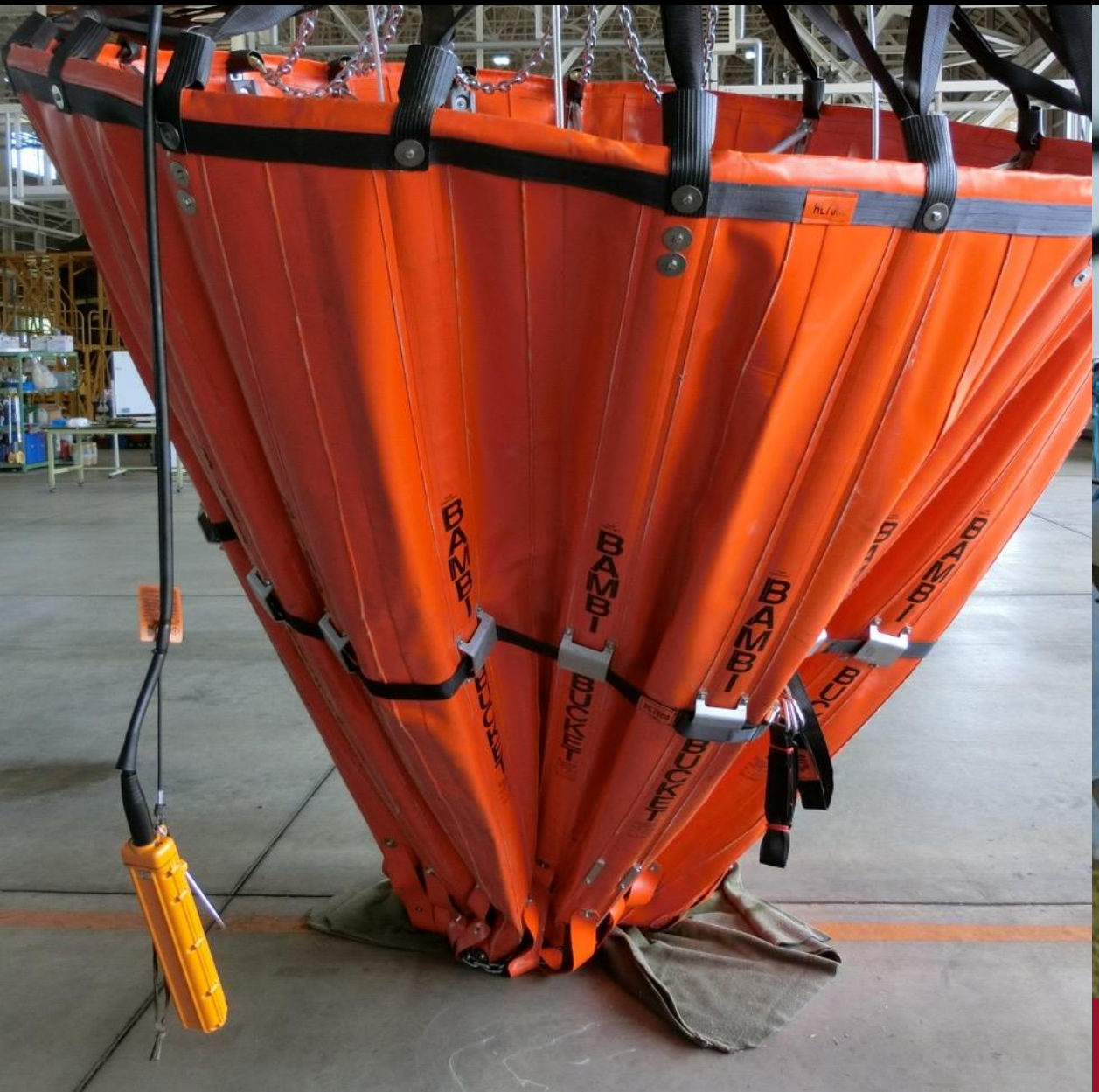
Prevention of fire spread

Prevention of fire spread

FEI (Fitech Easy Injection)
Batch counter system for injecting extinguishing agents

Fitech Easy Injecttion (FEI) is easier to handle and has a higher digestive capacity than conventional digestives.

Bambi bucket, usable for fire attackers



With these state-of-the-art technologies, we will protect the global environment by preventing large-scale forest fires that have not been extinguished in the Kazakhstan so far.

Thank you

Fitech Co.,Ltd
CEO
Tominori Hayashi