Fire protection in healthcare facilities

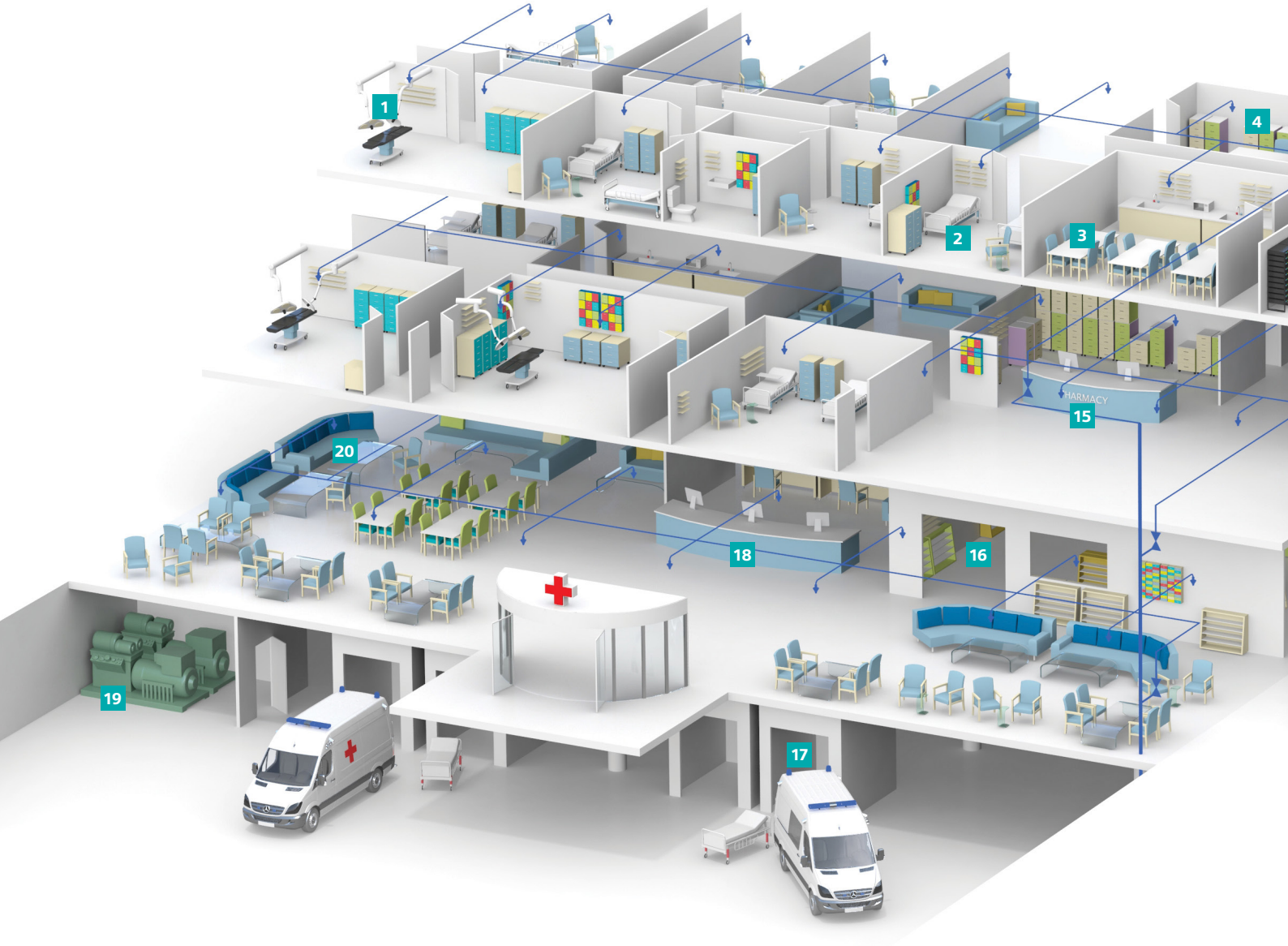
with the Sinorix™ high-pressure water mist system

siemens.com/water-mist-fire-suppression

SIEMENS

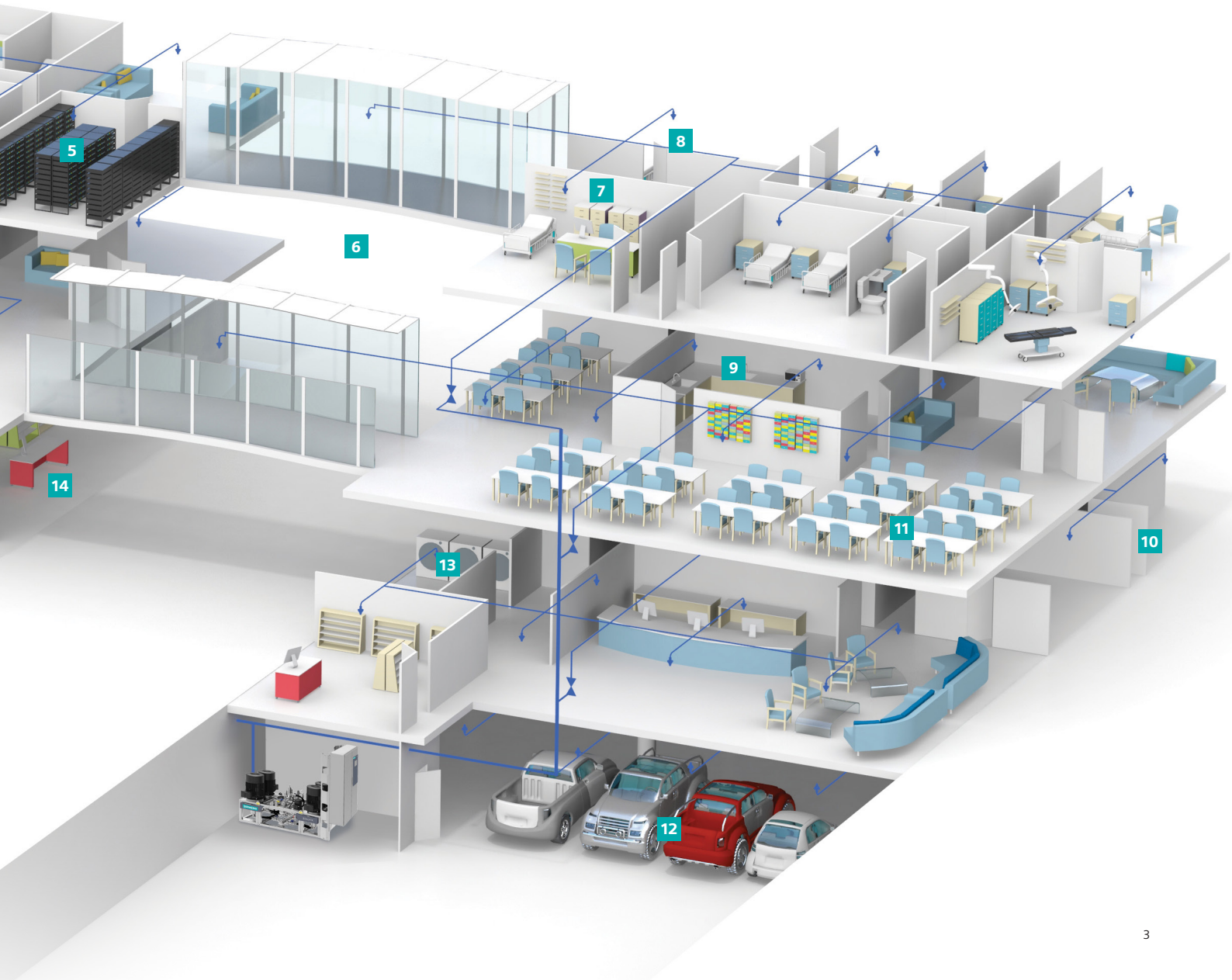
Sinorix high-pressure water mist system

One fire safety solution to protect all areas of a hospital



Siemens provides fire suppression solutions for the following areas:

1. Operating theatres
2. Patient rooms
3. Staff facilities rooms
4. Offices
5. Server rooms
6. Glass corridors
7. Consultation rooms
8. High-sensitivity equipment rooms
9. Kitchens and ducts
10. Corridors
11. Canteens
12. Car parks, including parking garages with electric vehicles
13. Laundry rooms
14. Archives
15. Pharmacy / Shops
16. Storage areas
17. Underground ambulance areas
18. Reception areas
19. Emergency generator rooms
20. Lobbies and waiting rooms



Safer and smarter fire protection for healthcare facilities

Hospitals, clinics, and care homes face complex fire safety challenges: protecting immobile patients, ensuring uninterrupted care, and safeguarding critical equipment.
The Sinorix high-pressure water mist developed by Siemens meets these requirements with a reliable fire suppression system that combines safety, performance, and sustainability.

Why choose Sinorix high-pressure water mist by Siemens?

- Reduces heat and smoke for safer evacuation
- Minimizes water damage to equipment and infrastructure
- Speeds up recovery and reduces downtime
- Uses clean water – safe for people and the environment
- Fits seamlessly into both modern and historic buildings
- Protects sensitive areas like ICUs, labs, and server rooms

Proven experience across the world

From clinics across Germany to a 450,000 m² super hospital complex in Denmark, our portfolio spans a broad spectrum of healthcare facilities worldwide. In the Netherlands, our systems have been integrated into healing-focused environments featuring organic interior design, blending in seamlessly without disrupting the architectural intent. We have delivered installations in children's recovery centers, often within fully operational hospitals, as well as senior care homes, hospitals built with mass timber structures, heritage-listed buildings, and state-of-the-art medical facilities in Shanghai.
Across these diverse projects, clients have consistently benefited from our water mist fire suppression systems, offering highly effective, unobtrusive protection tailored to the sensitive and demanding nature of modern healthcare environments.

Key benefits of the Sinorix high-pressure water mist system

Facilitates safe evacuation

- Rapid cooling and smoke particles absorption
- Zone-specific operation controls disruption
- Improved visibility as a result of sooth captured by the fine water droplets
- Creates tenable conditions for people to evacuate

Less damage, faster recovery

- Uses significantly less water than sprinklers
- Corrosion-resistant stainless-steel piping ensures clean water delivery and system integrity
- Reduced water damage enables minimum downtime

Flexible, scalable design

- Modular system for expansions, retrofits or new builds
- Easy-to-route pipes and compact pump units
- Small system footprint

Discreet integration

- Compact nozzles blend with ceilings
- The small pipe diameter allows for easy integration with other building installations
- Ideal for renovations and heritage buildings

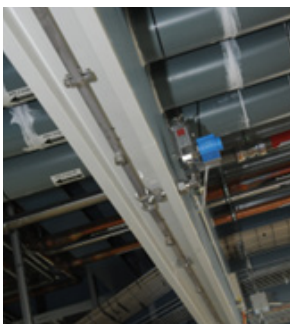
Operational continuity and cost saving

- Protects assets
- Fewer components for lower installation, service, and maintenance costs
- Lower water demand can reduce supply and reservoir needs

Innovative water mist spray bars

The Sinorix spray bar forms a fine water mist curtain to block heat, smoke, and fire spread through corridors and door openings (up to 3m high). It enables performance-based design in locations where fire doors or walls cannot be used, giving architects greater design freedom without compromising safety.

Spray bar installation in hospital:



Key components of the **Sinorix system**

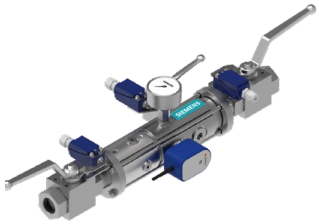
The Sinorix high-pressure water mist system integrates advanced fire suppression technology through a comprehensive set of components, including a high-pressure modular pump unit, section valves, specialized nozzles, press fittings, and a stainless-steel piping network.

Sinorix high-pressure water mist nozzle

- 100% capacity and spray pattern tested
- High nozzle spacing (5.5m)
- Aesthetic nozzle design

Sinorix high-pressure water mist section valve

- Easy servicing, installation and testing
- Excellent performance
- High-corrosion proof

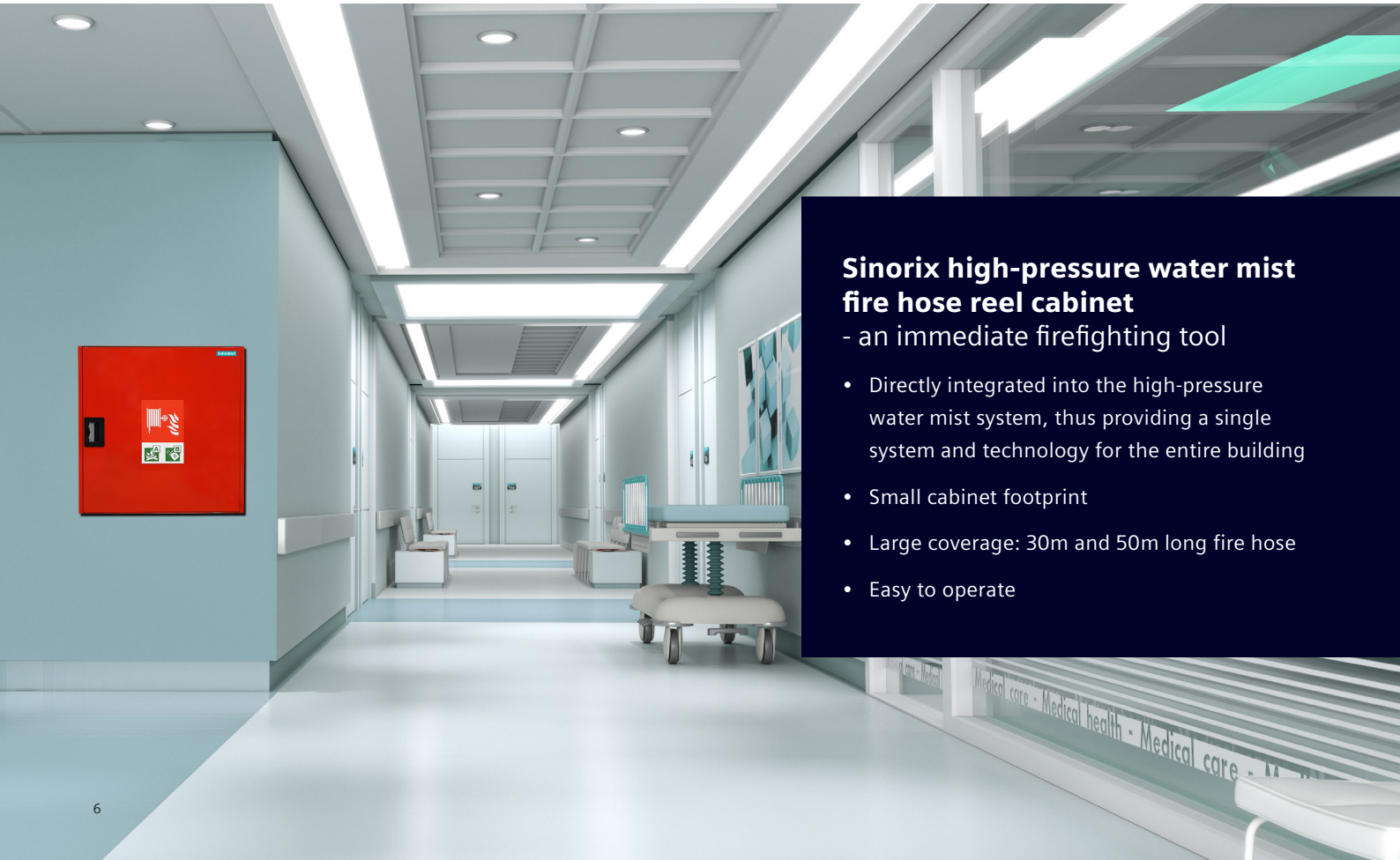


Sinorix high-pressure water mist pump unit

- Lubricated by water, making the pump maintenance free
- Durable and compact design
- Low energy consumption

Sinorix high-pressure water mist pipes and fittings

- Reduced pipe diameter
- Quick and flexible installation
- Lightweight and space-saving



Sinorix high-pressure water mist fire hose reel cabinet
- an immediate firefighting tool

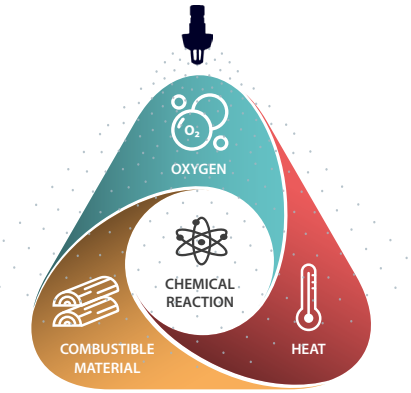
- Directly integrated into the high-pressure water mist system, thus providing a single system and technology for the entire building
- Small cabinet footprint
- Large coverage: 30m and 50m long fire hose
- Easy to operate

The **intelligent** use of water

How does it work?

Fire needs three elements of the “fire triangle” to ignite and burn: oxygen, heat and combustible material. The removal of any one of these elements will extinguish a fire.

The Sinorix high-pressure water mist system goes further. It attacks two elements of the fire triangle: oxygen and heat. The uniqueness of high-pressure water mist is that it combines the suppression effect of gas and sprinkler systems. In addition to removing oxygen like gas systems, it simultaneously cools the fire like a traditional sprinkler. The cooling effect additionally lowers the risk of re-ignition.



The power behind Sinorix

The system operates with precise technical specifications, delivering water droplets ranging from 10 to 200 microns under working pressures of 60 to 100 bars through a clean water delivery system.

When activated, the system releases micro droplets through specialized nozzles, creating rapid evaporation upon contact with fire. This process expands the water volume up to 1,700 times, simultaneously providing cooling effects and oxygen displacement at the fire source. The system's efficient operation ensures comprehensive fire protection while optimizing water usage.

Engineering excellence

Our fire safety engineering team delivers expert guidance grounded in in-depth knowledge of local regulations and hands-on experience. From initial design and installation to testing, commissioning, and ongoing maintenance, we support our clients at every stage through a global network of specialists. Our water mist systems are engineered to meet the highest standards of sustainability, aesthetics, and performance - while ensuring full compliance with all relevant regulations.

Compliance with ISO standards

Quality, Environment and Health and Safety management systems at Siemens are compliant with corresponding ISO standards and are certified by classification society DNV. Achieving an ISO quality management system is proof of our commitment to the environment, quality, safety and productivity, as well as to meeting our customers' needs and providing efficient products, systems and services.

Tested and approved

The design of the Sinorix high-pressure water mist system is based on full-scale fire tests. Approvals are obtained by testing according to specifications from, for example, FM Approvals and VdS, as well as following European guidelines.

VdS

FM APPROVED

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We create technology to transform the everyday, for everyone. Our world is changing at an unprecedented rate. Demographic change, urbanization, globalization, environmental change, resource efficiency, and digitalization are presenting new challenges and opportunities.

Siemens Smart Infrastructure addresses these topics by combining the real and the digital worlds.

Our technology transforms infrastructure, across buildings, electrification, and grids, at speed and scale, enabling collaborative ecosystems to accelerate our customers' digital journey to become more competitive, more resilient, and more sustainable.

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