

A night sky with the Milky Way galaxy visible, arching across the frame. The stars are bright and numerous. Below the horizon, the Milky Way's light is reflected on a body of water, creating a shimmering path of light. The overall color palette is deep blues and purples, with the warm tones of the galaxy's core providing a focal point.

Resilience, Friendship, and a Shared Future





Myanmar

<https://baijiahao.baidu.com/s?id=1873568046726212996&wfr=spider&for=pc>



Myanmar



Myanmar



Indonesia



<https://baijiahao.baidu.com/s?id=1873490756227427417&wt=spider&for=pc>

Colombia



Venezuela

A night sky with the Milky Way galaxy visible, arching across the upper half of the frame. The galaxy's core is bright and yellowish, surrounded by a dense field of stars. The lower half of the image shows a dark blue body of water with a bright, shimmering reflection of the galaxy's core. The text is centered in the middle of the image.

**Disasters know no borders.
Resilience demands we stand together.**

A night sky with the Milky Way galaxy visible, reflected in a body of water. The text "What SC20 is doing ?" is overlaid in the center.

What SC20 is doing ?

Resilience



The ability of a system, community or society exposed to hazards to resist, **absorb, accommodate, adapt to, transform and recover** from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions through risk management.

TECHNICAL
REPORT

ISO/TR
22845:2020

Ed 1
2020-08

Resilience of buildings and civil
engineering works



Approved by
ISO/TC 59/WG 4

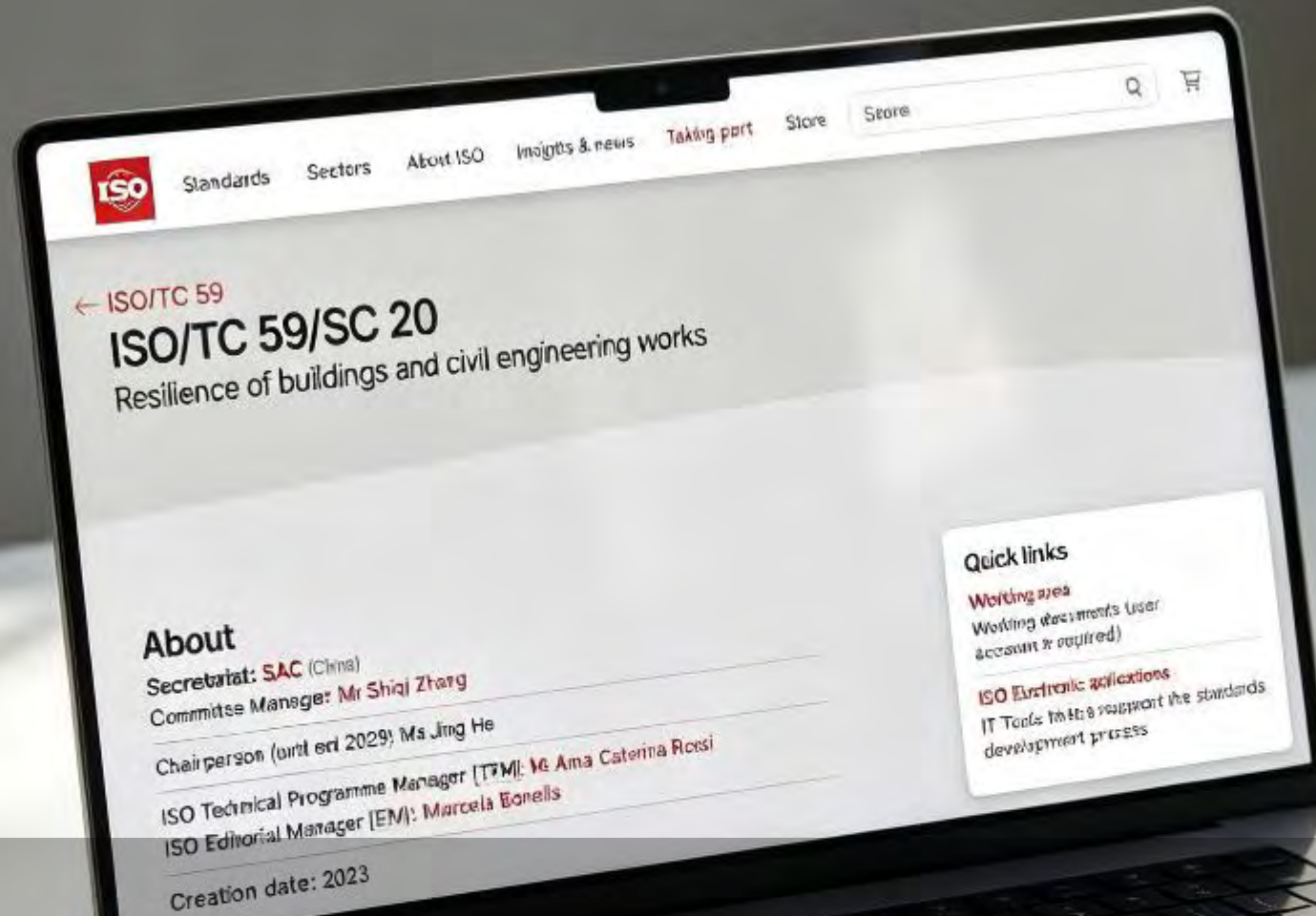
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Resilience of buildings and civil engineering works

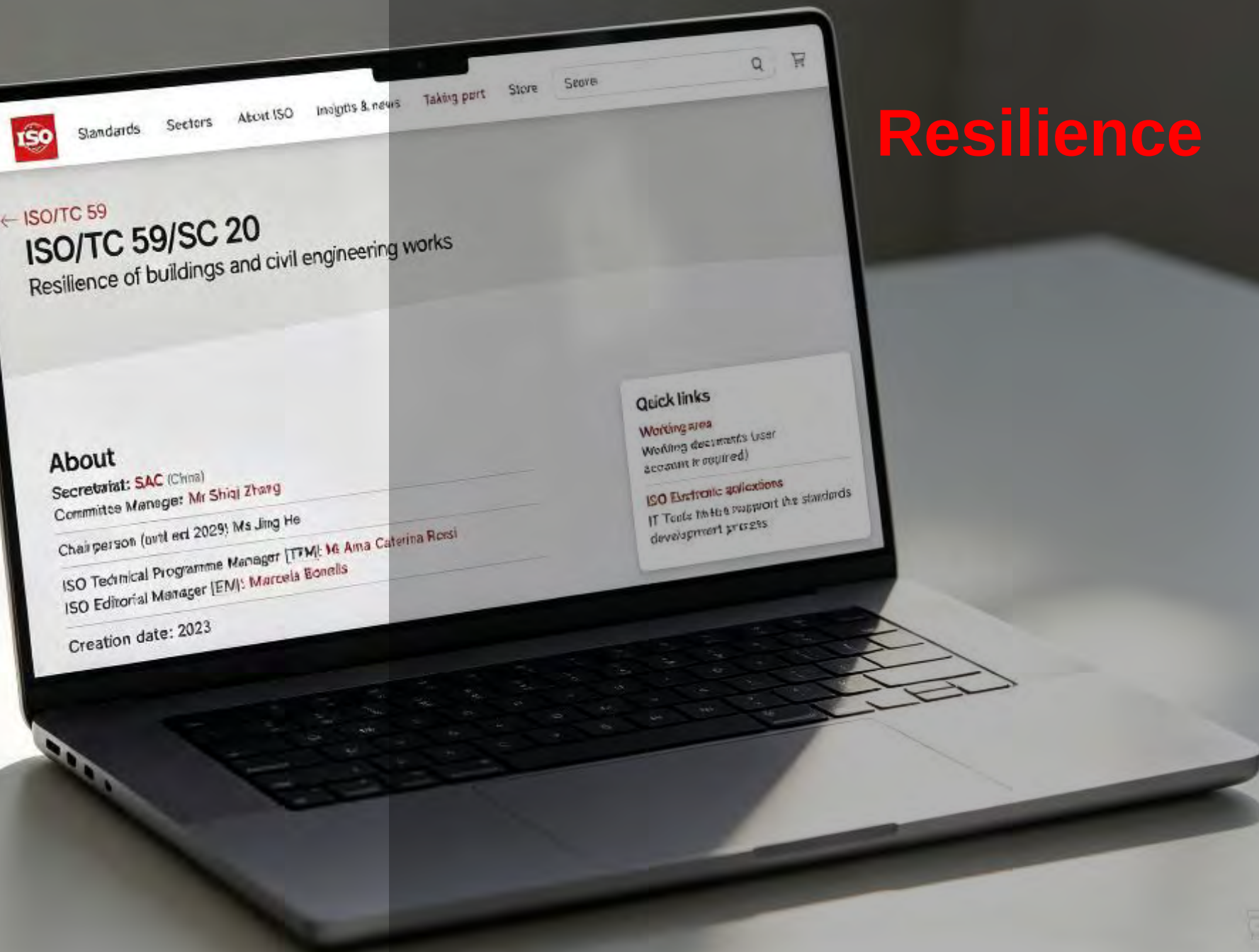


ISO/TC59/WG4

From the ISO TR 22845:2020 to standards on resilience for climate, seismic, and public health emergency...



We are translating "resilience" from concept into engineering practice.



Resilience



Resilience



Resilience design methodologies

Climate change

Earthquake

Social impact



Resilience



Resilience design methodologies

Climate change

Earthquake

Social impact



Lifecycle implementation guidance

Transportation
Infrastructure

Water
Infrastructure

Coastal
Infrastructure

Energy
Infrastructure

Built
Environment



Resilience

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Emerging technologies

We expand both depth and breadth

- Nature-based solutions — a new lens on engineering resilience
- Liaison with IAHR — water infrastructure resilience
- Liaison with SC 14, SC 17, TC 205, TC 268, and TC 292
- ...



A full-page background image featuring a night sky with the Milky Way galaxy visible as a bright, cloudy band of stars. The sky is a deep blue, and the stars are numerous and small. Below the horizon, the dark blue surface of the ocean reflects the light from the stars and the galaxy, creating a shimmering effect. The text is centered in the middle of the image.

Collaboration is our only path forward.

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

Interoperability



Interoperability

Enable systems to communicate and connect

The image shows the exterior of the Gando Primary School in Burkina Faso. The building is constructed from reddish-brown mud bricks. The roof is a double-layered structure with a complex network of red metal trusses supporting a thatched top layer. Below the roofline, there is a concrete band. The facade features four windows with colorful, louvered shutters: yellow, blue, red, and green. A group of children is standing in front of the red-shuttered window. The text "double-layered roof cools down the building" is overlaid on the upper part of the image, and "natural ventilation" is overlaid near the windows.

● double-layered roof
cools down the building

natural ventilation●

Gando Primary School
Burkina Faso



Gando Primary School Burkina Faso

<https://arquitecturaviva.com/works/ampliacion-de-la-escuela-primaria-en-gando-7>

Do we have to
rely on air conditioning?



2022

Pritzker Architecture Prize

Diébédo Francis Kéré

Community Co-construction

<https://arquitectura viva.com/works/ampliacion-de-la-escuela-primaria-en-gando/>



They demonstrate how architecture can adapt to extreme climates
without relying on air conditioning





capture airflows
for natural cooling

Traditional **Badgir**

The United Arab Emirates

Resilience

A photograph of the Morden Badgir, a modern wind cooling tower in Dubai. The structure is a tall, dark brown, rectangular tower with a glowing, translucent, pyramid-shaped top. Two men in white thobes and ghutras stand at the base of the tower. The background shows a paved plaza, palm trees, and a city skyline under a clear sky.

Do we have to
rely on air conditioning?

Morden
Badgir

The United Arab Emirates

Do we have to
rely on air conditioning?

The United Arab Emirates



Do we have to
rely on air conditioning?

The United Arab Emirates