



VIT ENGINEERING PVT. LTD.
Your Assets, Our Priority

Contact Us

020-45017574

Website

www.viteng.in

Address

VIT Engineering Pvt. Ltd
Bungalow No 2, Riverside Villas,
Boat Club road,
Pune, India
411001



ABOUT OUR COMPANY

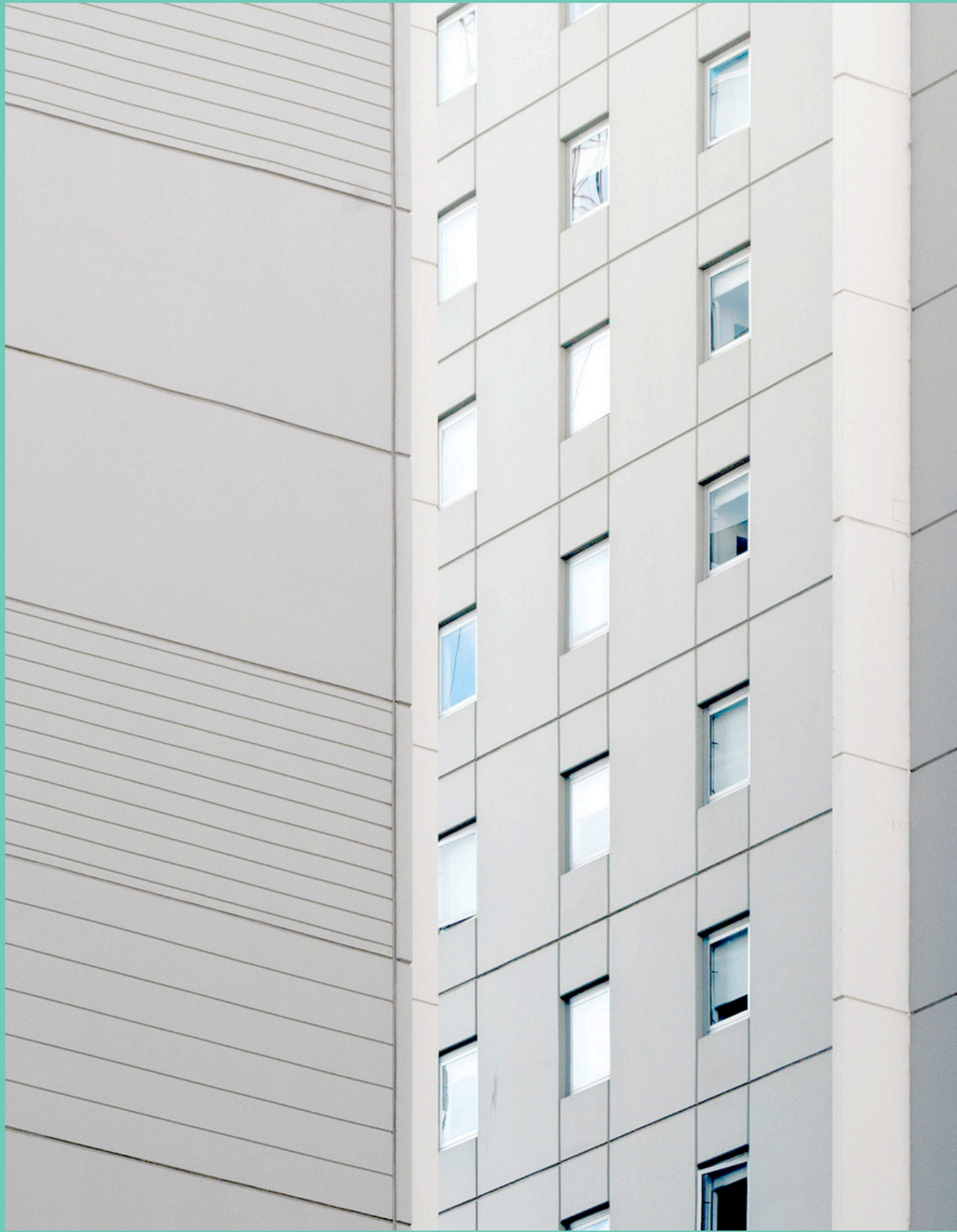
VIT Engineering: Smarter Solutions for Safer Infrastructure

VIT Engineering is a technology company redefining infrastructure safety through innovation. Headquartered in **Pune**, we specialise in Structural Health Monitoring (SHM), combining deep engineering expertise with **Advanced and Distributed Fiber Optic Sensing (AFOS)** and analytics to create intelligent, self-monitoring systems for dams, bridges, tunnels, pipelines, railways, and many more infrastructures.

Our cutting-edge tools such as **BFDA, BFDR** and the **AI enabled analytical platform Strucmon®** deliver real-time, actionable insights that empower infrastructure owners to detect issues early and make informed, cost-effective decisions. With a strong focus on precision, reliability, and a commitment to **"Make in India,"** we provide customised solutions tailored to your specific needs.

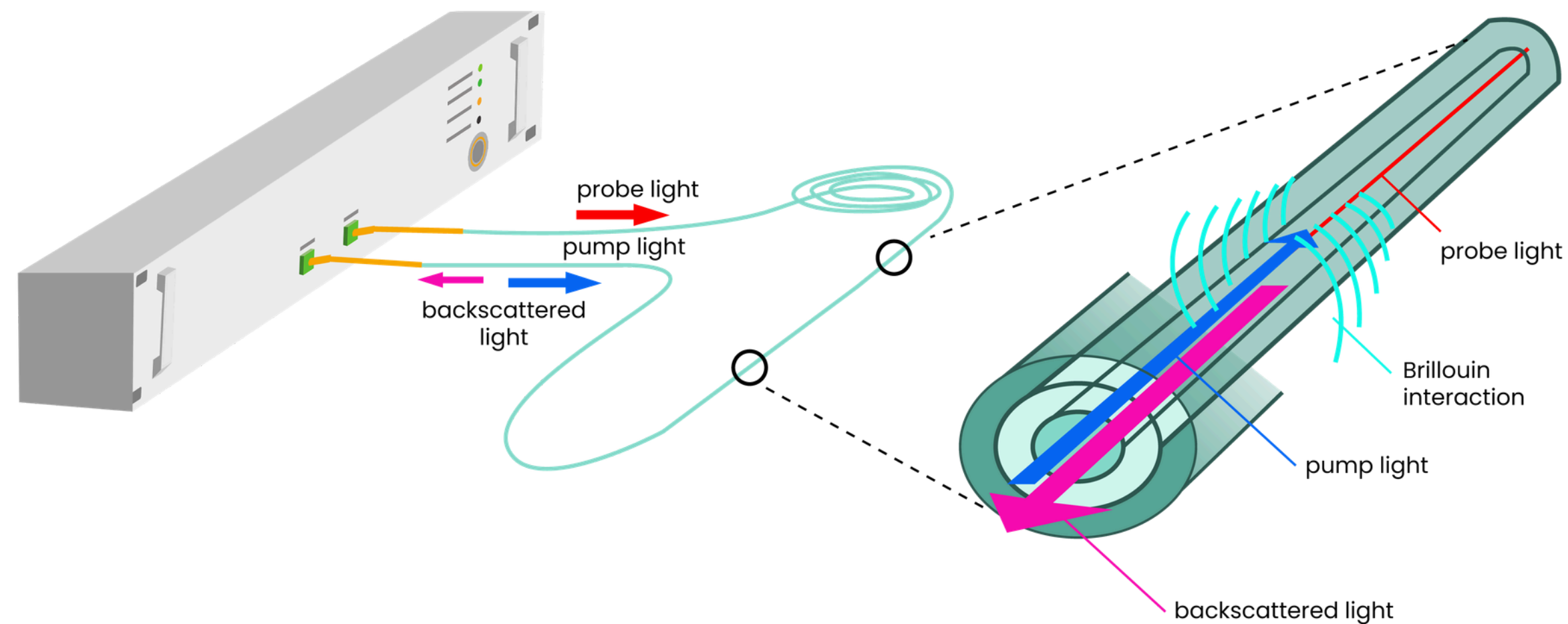
Driven by a team of experts and a passion for innovation, VIT Engineering is your trusted partner in building safer, more resilient infrastructure.

Think smart. Act early. Protect what matters.





HOW DTSS WORKS



Our system, consisting of an interrogator and sensing cable, which transforms standard optical fibers into continuous, long-range strain and temperature sensors, in this the fiber itself functions as the sensor using cutting edge Brillouin Sensing (DTSS). Our sensing technology enables, measurement across several kilometers of fiber optic cables with exceptional precision offering

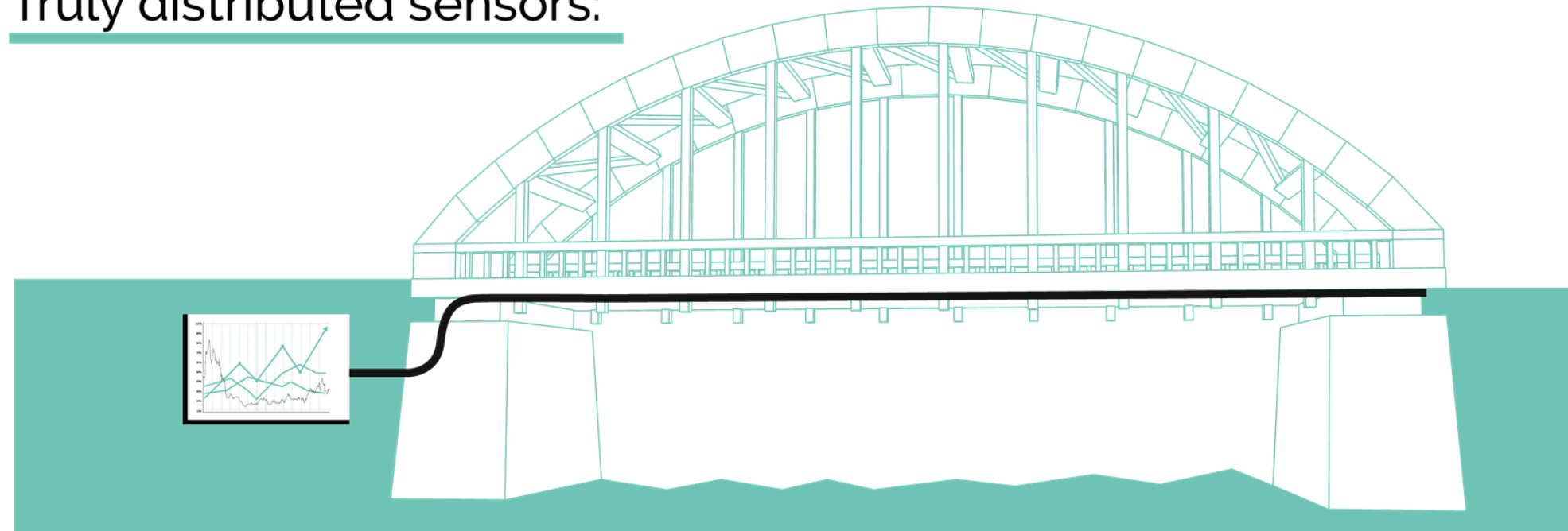
- **High Spatial Resolution:** Less than 1 meter, with up to 20 cm resolution over shorter distances.
- **Unmatched Accuracy:** Measurement repeatability of $2 \mu\text{m}/\text{m}$ for strain and 0.1°C for temperature under ideal conditions.



TECHNICAL SPECIFICATION OF STRUCMON

- The monitoring unit is abled to **detect the fiber length** as well as **attenuation** during operation.
- The unit is **dust proof** and **fan less to minimise heating effect**.
- The monitoring system **covers an extended warranty period of 10 years** to showcase **reliability** during operation.
- The monitoring system is **supplied with** required length of fully compatible **sensing cable, optical switches, optical connectors and other accessories**.
- The smart monitoring system **complies with “Make in India/ Aatmanirbhar Bharat”** guidelines to support indigenisation of **technology in India**.
- The monitoring system has **data visualisation software** to graphically show the technical features as enumerated below:
 - 1.Live measurement data.
 - 2.Absolute, relative and differential measurement data as recorded by the Interrogator under View screen mode for enabling detailed data analysis viz. position wise (Full length, partial length as chosen by the user) or node wise plot of strain, temperature
 - 3.Prediction of the strain or temperature data over time
 - 4.Triggering alarm/ notifications to authorized users whenever threshold limit as set up by the user is exceeded under AAA (alarm, alert, action) modes
 - 5.GPS visualizer showing monitoring points situated on surface
 - 6.A data viewer screen to show all monitored points

Truly distributed sensors:



- Unparalleled Spatial Resolution
 - Real-Time Monitoring
 - Minimal Sensor Installation
 - High Sensitivity and Accuracy
 - Quantum-Level Analysis
 - Distributed Temperature Sensing
 - Distributed Acoustic Sensing
 - Distributed Strain Sensing
 - DTSS Advancement
- + Uses frequency domain interrogator.
 - + 99.9% clean signal quality.
 - + Sweeping time is in minutes which allows proper transfer from the sensing cables
 - + Includes AI powered cloud which has prediction solver on live data.
 - + 32 Channels capacity
 - + Segregation of thermal strain from total strain



APPLICATIONS



BUILDINGS



POWER PLANTS



BRIDGE



POWER CABLE



PIPELINE



TUNNELS



CONVEYER BELTS



MINES



DAMS



LANDSLIDE



RAILWAYS



PORTS



OFF SHORE



FLYOVER



AEROSPACE



PAVEMENT



URBAN
INFRASTRUCTURE



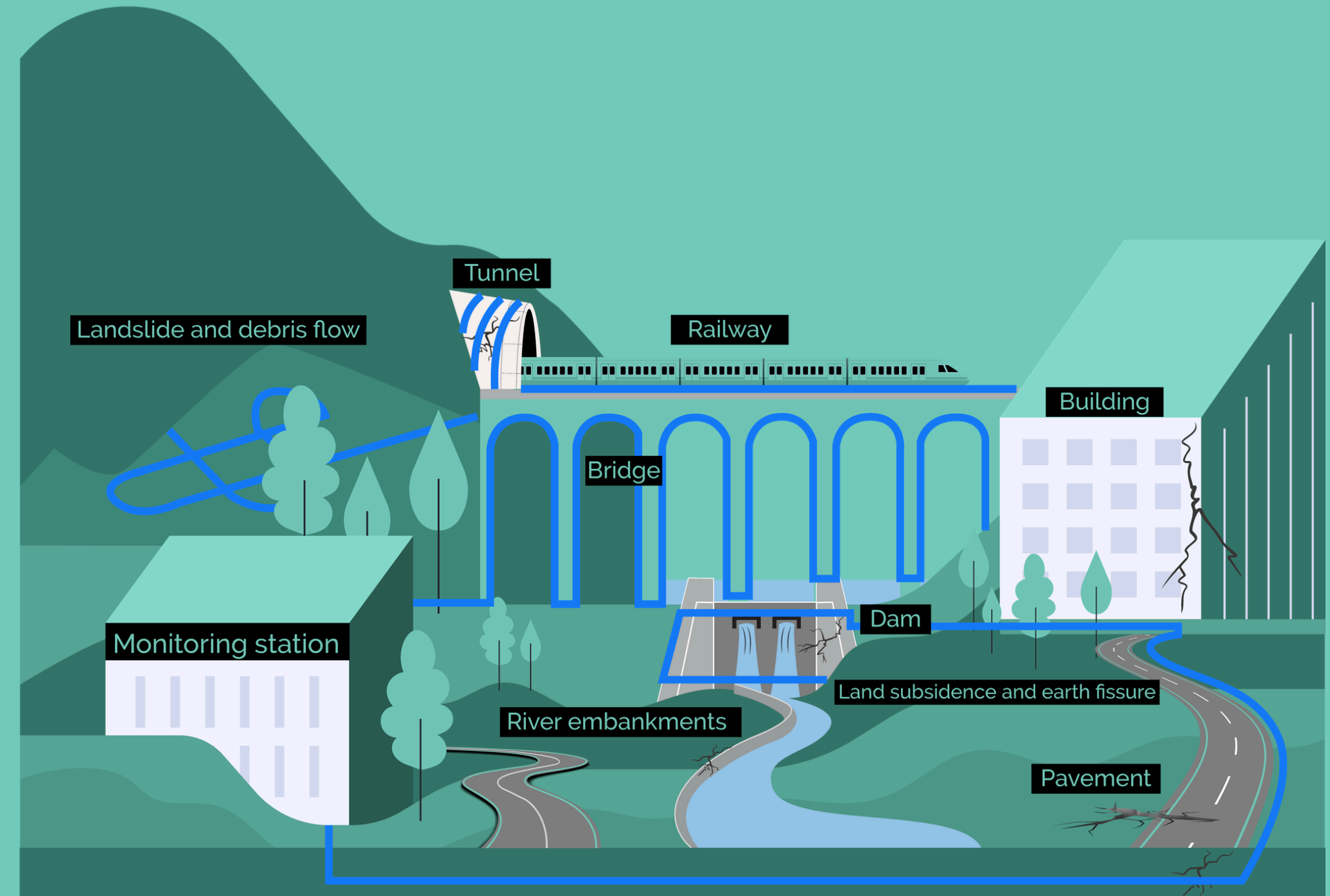
SHAFTS



INDUSTRIAL
USAGE



STEEL
STRUCTURES



APPLICABILITY OF DFOS FOR MONITORING HEALTH OF STRUCTURES

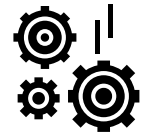


OUR INTUITIVE SOLUTION

VIT Engineering provides, real-time Structural Health Monitoring (SHM) for critical infrastructures.

VIT's Strucmon advanced analytical tool delivers 24x7 real time insights detecting early warning signs before the issue becomes critical. This aids in proactive maintenance planning, minimizing risks, unexpected failures and costly repairs. Strucmon provides deep actionable insights into structural health, setting a new benchmark for safety and performance. Backed by cutting-edge technology and a "Make in India" commitment, we ensure infrastructure stays safe, efficient, and future-ready.

ALARM



ALERT



ACTION



PREDICTION



DATA ANALYSIS ON THE STRUCMON® AI ENABLED ANALYTICAL PLATFORM





THANK YOU

HARNESSING PHYSICS, SAFEGUARDING STRUCTURES: THE SENTINEL SYSTEM.

Address

VIT Engineering Pvt. Ltd
Bungalow No 2, Riverside Villas,
Boat Club road,
Pune, India
411001

Contact us

info@viteng.in
020-45017574

Website

www.viteng.in