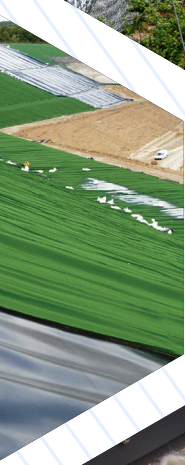
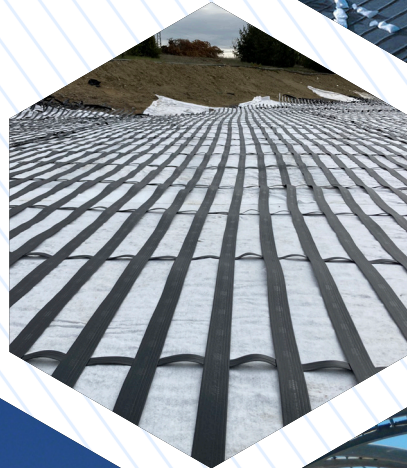


Geoquest

Products

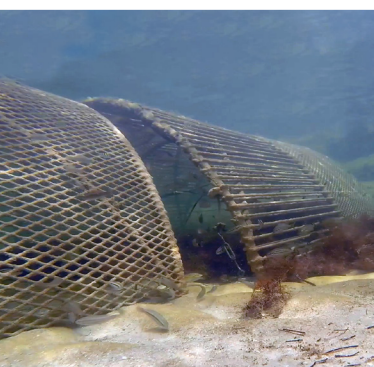
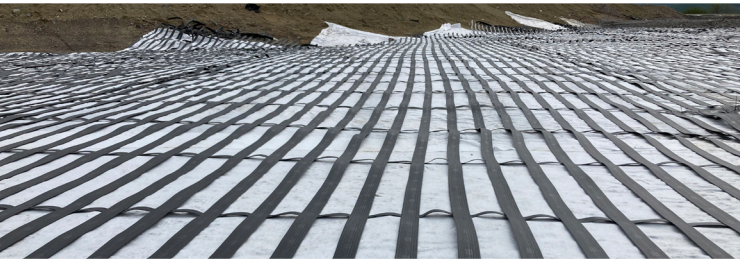


CORPORATE PROFILE





TECHRETVETMENT FOR COASTAL PROTECTION



Geoquest Products Asia Pte. Ltd. was established in 1980. The company operates in East Asia, South-East Asia and Middle-East Asia. It offers premium quality technical products in the field of civil infrastructure and hydraulic protection, geohazard and industrial risk mitigation, basal reinforcement, ground stabilization and drainage improvement. Geoquest's products and solutions are defined by two main business lines: **Protect and Strengthen.**

Geoquest Products steadily operates on its fundamental principle of providing quality certified products and services to its customers. All our products are tested and validated according to the applicable International standards and guidelines. **ISO, CE, ETAG (EAD) and WLV** are few of the certifications that signifies our approach and commitment towards product quality. Our organization conducts stringent and regular internal audits to ensure that its processes meet and satisfy the client's requirements. Geoquest Products adequately complies with all regulatory requirements. We have in place a systematic method for proactively identifying and correcting any discrepancies and preventing any potential non-compliance from occurring.



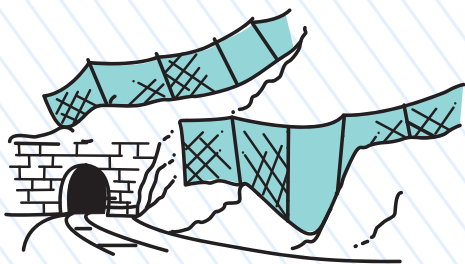
PROTECT

Preventing & Protecting Infrastructures

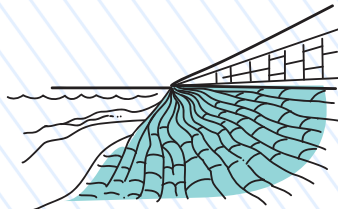
The PROTECT applications assist the owner and our customer to prevent and protect critical and sensitive infrastructures from natural and man-made (including industrial) disasters.

The approach is to integrate our specialized products supported by our engineering knowledge and knowhow, and offer our customers the best-in-class solutions based on project specific needs. We also work closely with the best-in-the-industry associates and our strategic alliance partners to offer the best practices; as well as proven and time tested products.

Geoquest Products offers a complete protection systems package against erosion, rockfall, unstable rock and loose rock slopes, landslides, debris flow and avalanches.



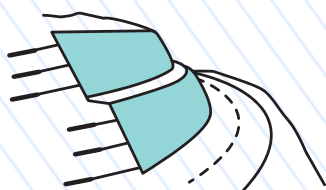
Rock Fall Protection



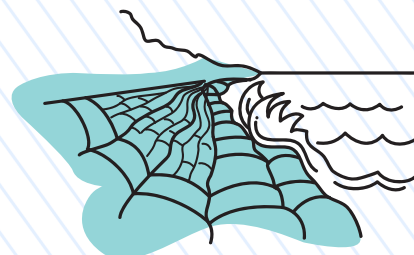
River Training



Avalanche
Barriers



Slope Retention and
Slope Stabilization



Containment Dykes

Slope Retention



Geoquest Products offers engineered products for **Slope Retention** to retain the masses in situ and prevent erosion and shallow landslides. This system is designed on a site to-site basis. Depending on the site characteristics and strength requirements, a large variety of net and netting products are available. Re-stabilization of the slope using mesh and natural vegetation is highly encouraged.

Furthermore, our innovative ArmaMat_{eco} is a custom-made erosion control product made from rectangular mesh and TerraGreen offers excellent protection to the slope surface against erosion and



Rockfall Barrier



Geoquest Products offers passive engineered structural solutions that mitigate rockfall risk and control levels of damage. **Rockfall protection barriers** are made of metallic or composite materials and certified by EAD (ETA) and/or WLV. It is primarily applied to arrest and catch rocks, boulders, shooting stones that can be flowing or falling due to natural causes. The **rockfall protection barrier** is a support solution allowing to hold these disintegrating and falling elements, subsequently avoiding damages to infrastructure, public/private assets and preventing disruptions such as traffic blockages.



PROTECT

Avalanche Barriers



Avalanche Barrier systems are designed on a site-to-site basis to protect infrastructure, utilities, buildings, reforestation, and lives from avalanches. Snow nets, snow rakes and steel snow bridges are installed in the initiation zones to prevent avalanches from forming. Static defense structures, snow catchment fences/ barriers effectively reduce the run-out length of an avalanche.

Debris Flow Barrier



Climate change raising the global temperature, thawing of permafrost areas, deforestation, natural hazards like cloud burst, flash floods etc. increase the threat of debris flows and shallow landslide. Geoquest offers **Debris Flow Barriers** in the form of either Gully Net or Debris Catcher that are used to protect infrastructure, utilities, buildings and lives from such debris flows and debris floods. Typically, these barriers are installed in the run-out or deposition zones, close to the elements at risk that they protect or in series in the torrent channel.



TerraGreen



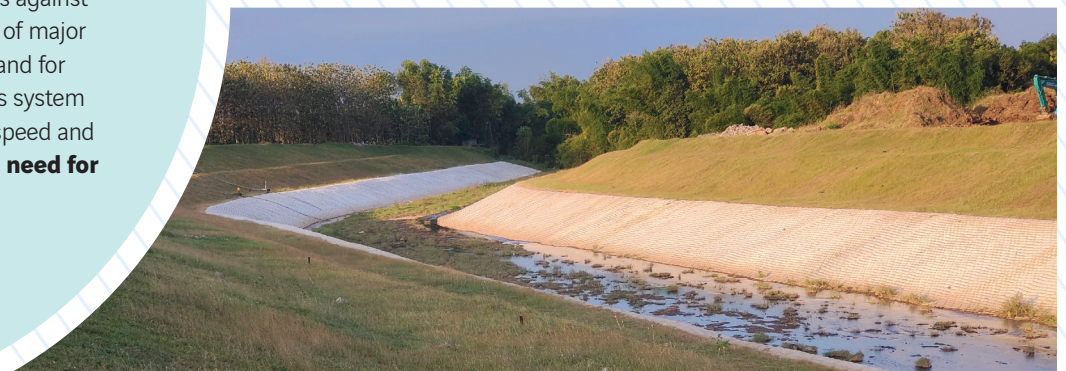
TerraGreen is a custom designed erosion control mat / blanket useful for protecting dry and intermittently wet and erodible slopes. **TerraGreen** as a stand-alone technique or mixed with other products like TerraNail or TerraAnchor and high-tensile steel netting is often used to mitigate low to medium grade surface erosions and soil slips and slides.



TechRevetment



TechRevetment is a pre-engineered factory customized grouted mattress system used for permanent erosion protection works. This engineered product is used to protect wet/dry embankments, protect bridge abutments against scour, for bed protection of major rivers and waterways, and for shoreline protection. This system can be installed at rapid speed and under water **without the need for dewatering.**



PROTECT

TechCanvas



TechCanvas is a high-performance geocomposite comprising a special blend of minerals encapsulated between two or more needle punched geotextiles. In contact with water, the material solidifies into a permanent, rigid, high tensile and puncture resistant layer. This can be used for erosion protection of water channels, lining of surface drains, waterproofing and alternate to shotcrete. It is easy and quick to install and provides long performance.

Artificial Reef



Climate change is affecting significantly the global coast lines. More than 70% coast lines are either eroded or damaged. Coral reefs already provide excellent natural protection for coastal regions. On an average they reduce wave heights by 84%. Unfortunately, the majority of these reefs have died and 90% are projected to be lost by 2040.

Geoquest Products can rapidly grow artificial reefs that dampen the waves and protect coasts from erosion using advanced digital technologies, natural seawater minerals and renewable power. We analyse the wave dynamics and design high tech steel structures that are easy to install underwater. These steel structures act as an attenuator by breaking the wave at a designated location and reduces its impact on the shoreline.

Our digital system continually monitors the environment, and uses a safe current to make seawater minerals crystallise into calcium carbonate rock. This forms a structure that mimics natural reefs. Within a year this transforms into a living reef that adapts and evolves with time.





Avalanche Barrier



Slope Retention



TerraGreen



Rockfall Barrier



TechRevetment

Business line: STRENGTHEN



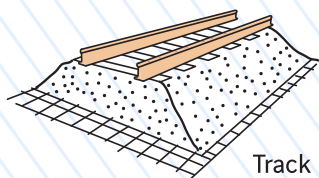
STRENGTHEN

Soil Reinforcement and
Ground Stabilization

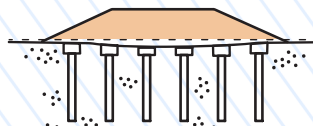
The STRENGTHEN applications relates to products that involve Basal Reinforcement, Ground Stabilization and Drainage solutions.

We also deal in products that help in subgrade stabilization and improvement works, engineered solutions like bridging of voids and protection against subsidence, capping and piggy bagging of landfills, reinforcing lagoon closures, reinforcing and stabilizing embankments on soft and very soft foundations, load transfer platforms over piles, controlled modulus columns and stone columns.

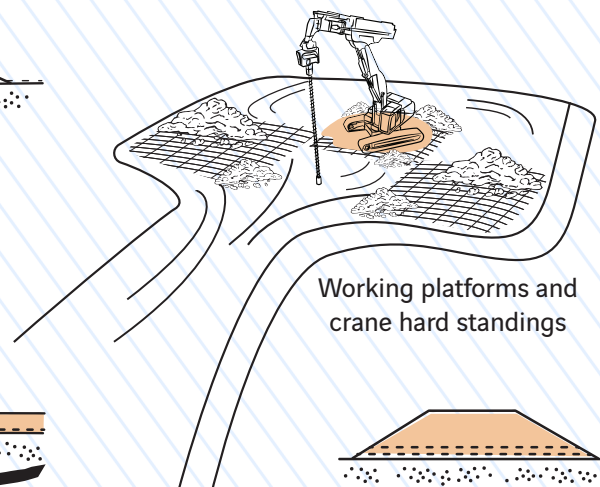
Our engineered products help improve foundation of soil using high strength, low modulus proprietary geosynthetics for Basal Reinforcement applications, bi-axial geogrids and woven geotextiles for ground stabilization applications, cellular confinement system for load support and distribution alongside improvement of drainage systems with low creep and low intrusion drainage geocomposites.



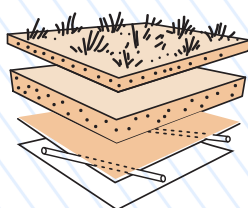
Track Bed
Stabilization



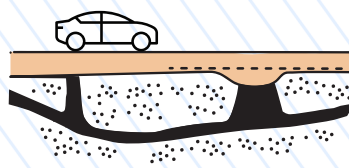
Load Transfer
Piled Embankment



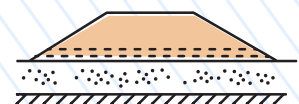
Working platforms and
crane hard standings



Sports Field Drainage



Voids Bridging and
Protection from Subsidence



Embankment over
Soft and Very Soft Soils

STRENGTHEN



DRAINTUBE



DRAINTUBE is a specialised sub-surface drainage product made from polypropylene(PP) TerraTextile filter(s), PP draining mat and mini-pipes; needle punched together to form a multi-linear drainage geocomposite. **DRAINTUBE** is a perfect product to be used in landfills (for leachate and landfill gas), mines, sportsfields and civil infrastructures to ensure long term drainage performance. Each roll performs the functions of separation, filtration and drainage.

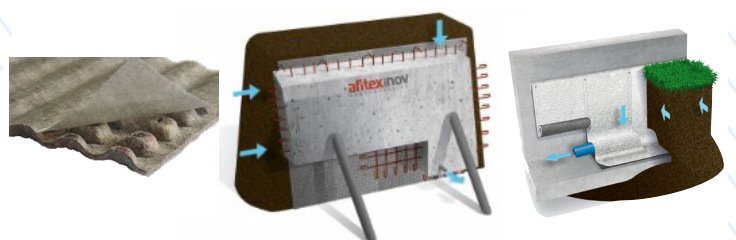
AlveoDrain



The geocomposite **AlveoDrain** combines two functions (drainage + protection mechanism) in only one product and also has a certification from the SOCOTEC group (Society of Technical Control and expertise of Construction).

Using **AlveoDrain** allows to facilitate and speed up the installation. In addition, the non-woven thermobonded filter prevents the fine particles from entering the draining layer and increases the lifetime of the system. Finally, the connection to the collecting pipe is simple by inserting the collecting pipe under the filter non-woven, without adding any draining material.

AlveoDrain is used for protection and drainage of basement walls. It can be installed against retaining walls, behind bridge abutments and along buried walls.



STRENGTHEN

ArmaGrid



ArmaGrid is a uniaxial or bi-axial geogrid made from either polyester or polypropylene or HDPE. It is used as soil reinforcement in various applications such as foundation improvement, track bed stabilization, asphalt reinforcement, basal reinforcement etc. **ArmaGrid** is inert to chemicals, including acids, alkalis and salts, normally found in soils and does not suffer any attack by microorganisms in soil.

It can be used for Improvement of sub-grade and sub-base performance in roads, railways and airport runways, taxiways and aprons by incorporating the **ArmaGrid** – BXPET within appropriate interlayers. It's used as soil reinforcement for reinforced soil steep slopes and embankments, improves the stability of soft sub-soils by interacting with engineered fill and providing a strong mattress foundation for embankments and platforms. Supports shallow structural foundations, by improving stability, enhancing load distribution and reducing differential settlement.

Geoquest Products uses in-house design capacity to select and recommend the type and strength of material based on the actual site condition.





ArmaLynk is manufactured in-house by our Group Sister Company, Reinforced Earth India Pvt. Ltd. Our state-of-the-art geosynthetics manufacturing facilities are located in India. The factory is operational since 2014, and produces a wide variety of soil reinforcement products like geostrips made of PET (GeoStrap) and PVA (EcoStrap) coated with PE, and high strength welded geogrids (**ArmaLynk**) coated with PE, which are being exported to more than twenty countries across the globe. The facility produces 50mm, 70mm and 90mm wide geostrips and high strength (up to 1800 kN/m) and wide width (up to 5.8m) geogrids for soil reinforcement and basal reinforcement applications. The extra friction enhancing high adherence geostrips and high adherence geogrids, designed to be used with low friction soils are also manufactured in this plant.

Our factories have rapidly augmented world-class certifications and declarations to remain globally competitive. The factories boast of having certificates from GAI-LAP, NABL, GEO-CEDD, EPD, CE, NTPEP, ISO 9001, ISO 45001, ISO 14001, BIS 17372 & 17373, and more.

ArmaLynk is a soil reinforcement geosynthetic, manufactured from high tenacity polyester yarns, extruded to form polymeric strips encased in polyethylene sheath, and welded together with cross strips to generate a stable and strong geogrid structure. **ArmaLynk** is used for various basal reinforcement applications like embankment over soft soils, protection against subsidence, void bridging and challenging ground stabilization for building roads, bridges, runways, railways, working platforms, and heavy-duty pavements.



TerraLine



TerraLine Geosynthetic Clay Liners (GCL) and Geomembranes (GM) are factory made hydraulic barriers used in various applications. **TerraLine - GCL** consists of very low permeability bentonite powder supported by geotextiles and/or geomembranes. **TerraLine - GM** are made from HDPE or LLDPE - smooth or textured and they are available in various thicknesses. The engineering function of a **TerraLine** is containment as a hydraulic barrier to water, leachate or other liquids and sometimes gases.



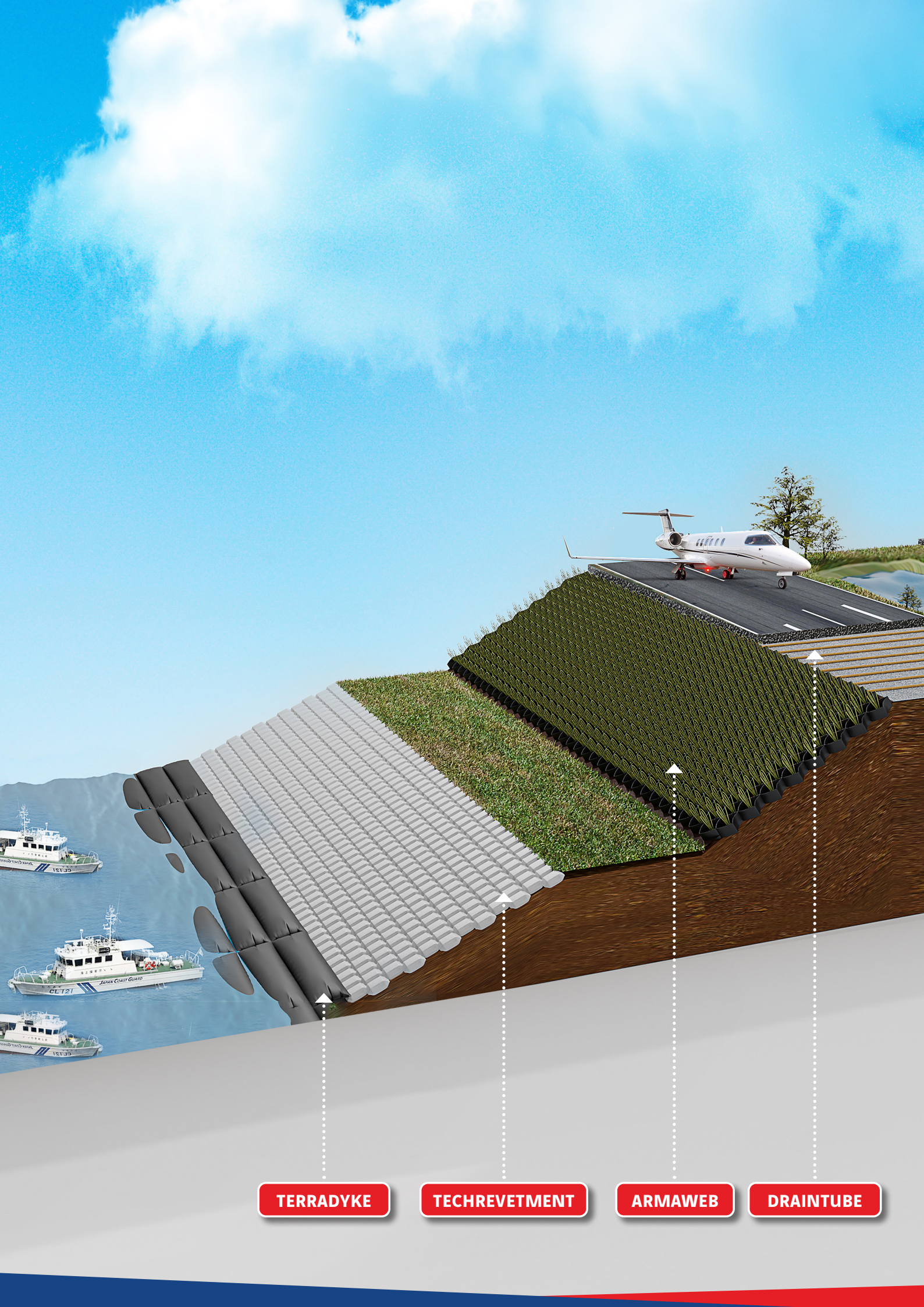
TerraTextile (Woven + Non - Woven)



TerraTextile is a specially made technical textile, either woven or non-woven. They offer excellent strength and hydraulic characteristics; and cater for a wide range of applications. **Woven TerraTextile** is used for soil reinforcement, separation and filtration, secondary reinforcement, erosion control, ground stabilisation, silt fence etc. **Non-woven TerraTextile** is very popular in applications such as filtration, separation, sub-surface drainage and transmission.





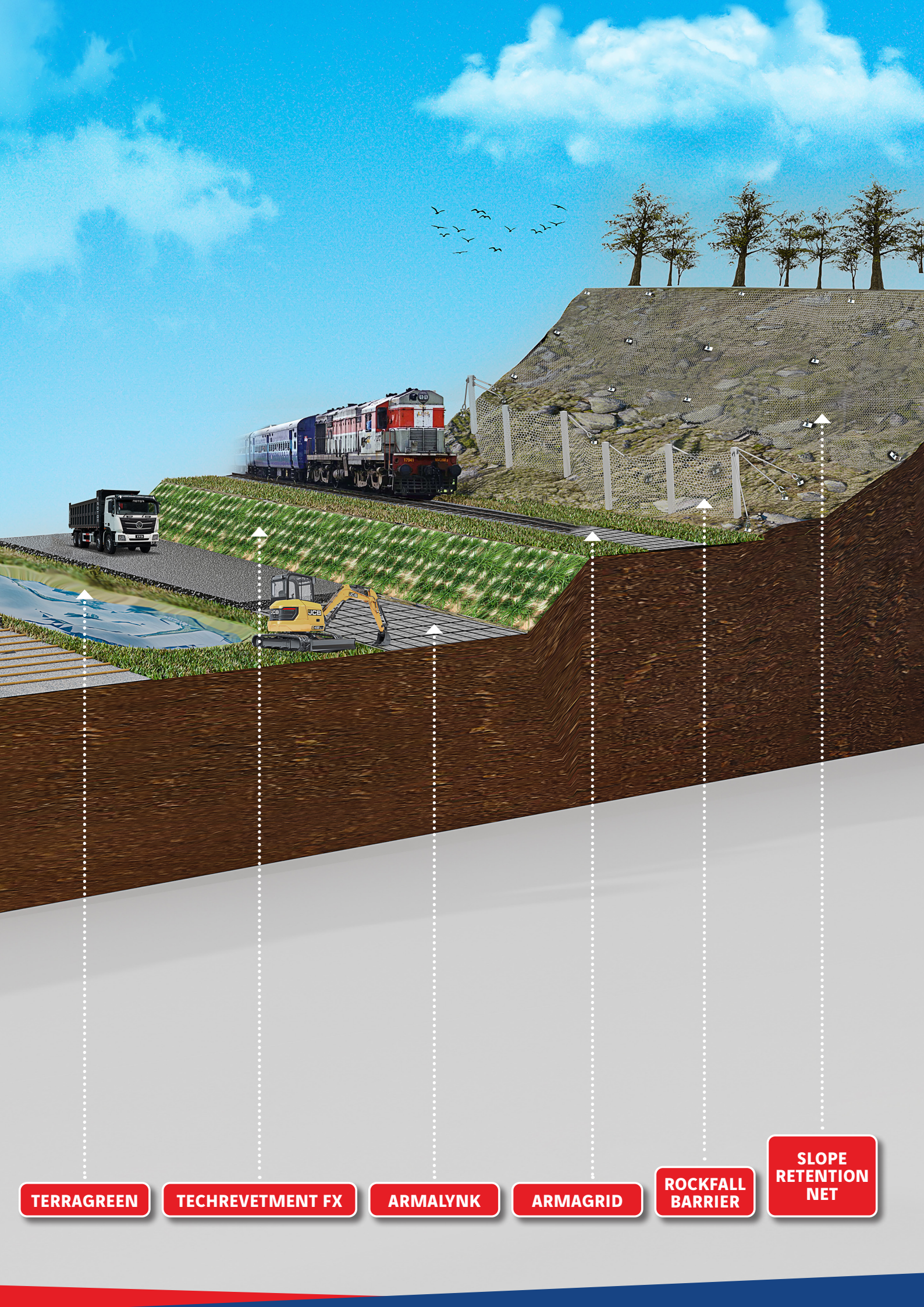


TERRADYKE

TECHREVTMENT

ARMAWEB

DRAINTUBE



TERRAGREEN

TECHREVTMENT FX

ARMALYNK

ARMAGRID

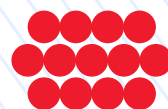
ROCKFALL
BARRIER

SLOPE
RETENTION
NET





FLEXIBLE BARRIERS FOR ROCKFALL PROTECTION



geoquest
Products

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