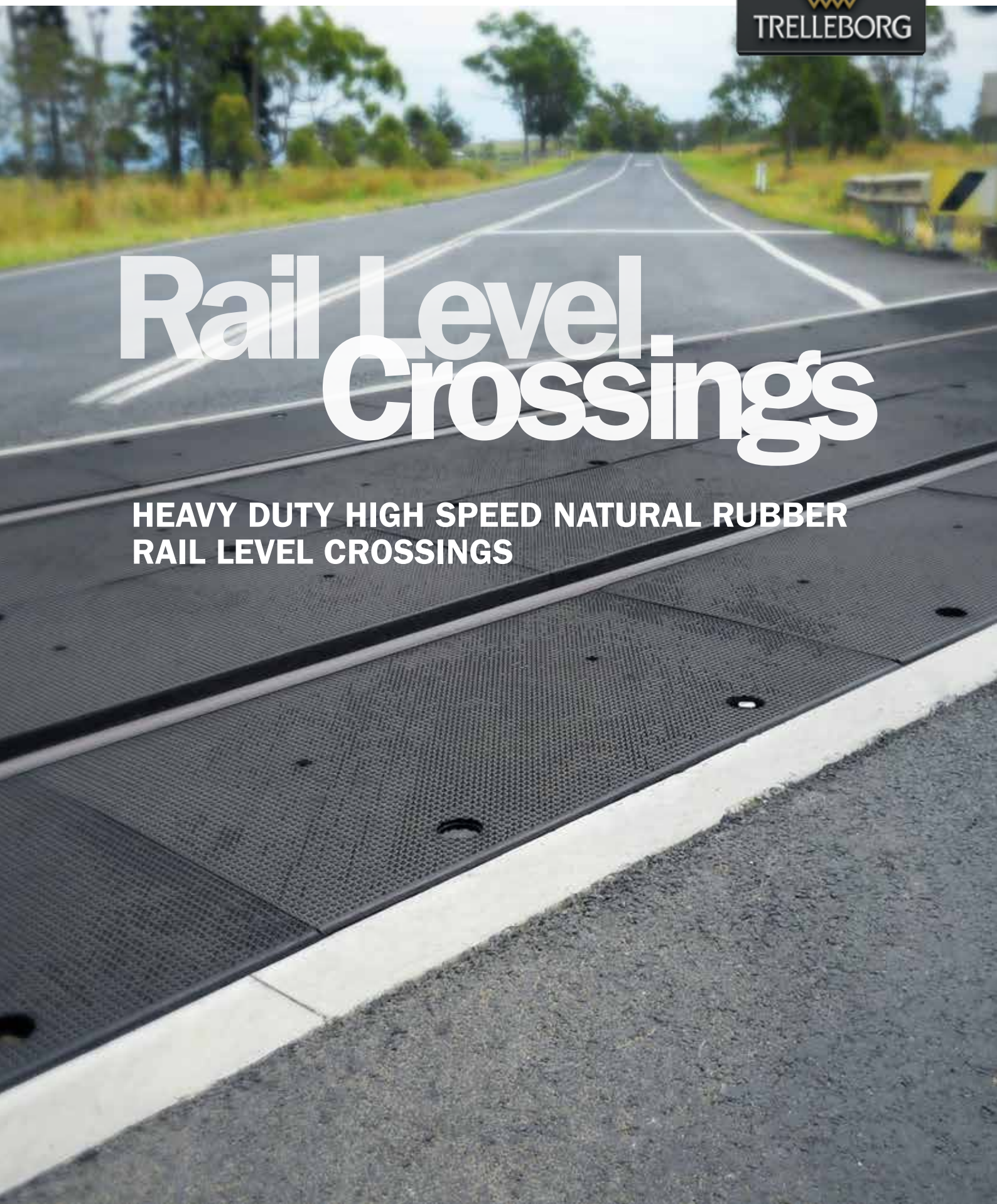




# Rail Level Crossings

**HEAVY DUTY HIGH SPEED NATURAL RUBBER  
RAIL LEVEL CROSSINGS**



# Trelleborg in Australia.

**Trelleborg Engineered Systems is part of the worldwide Trelleborg Group. The Trelleborg Group purchased Queensland Rubber Company Pty Ltd in 2001 and was combined into the Trelleborg Engineered System Division which has a very extensive range of engineered rubber products focused on Offshore, Infrastructure, Construction and Marine Industries.**

Queensland Rubber Pty Ltd was established in 1946 by entrepreneurial dentist Stratton Russell and focused on specialty engineered rubber products for Infrastructure. In 2001 the company was marketing its products to over 40 countries.

The Trelleborg Group was established in Sweden in 1905 and concentrated on the manufacture of industrial rubber goods and tyres. Subsequent to the Second World War, Trelleborg built substantial export operations and in 1964 was listed on the Stockholm Exchange.

At the beginning of the 1990's the Trelleborg Groups operations included mining and metals, mineral processing, distribution of products to the building sector and paper and pulp industries. In the 1990's, Trelleborg divested their non core operations and focused on concentrating and expanding in its original core business of elastomer and polymer related products.

With an emphasis on product development, flexibility, team work and a close working relationship with our clients together with the strength of the Trelleborg Group, Trelleborg Engineered Systems is an ideal partner in solving

challenges associated with modern elastomers.

Trelleborg uses its extensive engineering skills and experiences to design, develop, manufacture, market and distribute solutions based on polymer materials to leading customers worldwide.

Trelleborg Engineered Systems produces specialty engineered products for:

- **Anti vibration and acoustic isolation for rail systems**
- **Acoustic isolation for major Performing Arts Complexes**
- **Movement supports and bearings for bridges, buildings and offshore structures**
- **Specialty water seals for dams, dry docks, canals, tunnels and reservoirs**
- **Marine fendering systems**
- **Specialty safety products for electrical utilities**
- **Sheeting for all industrial and mining purposes**



As an AS 4801 and OHSAS 18001 certified company, we are able to work with you to design and develop special safety products to meet your specific needs.





## The Trelleborg Advantage

### Durable

- Durable, type tested since 1991. Access to Trelleborg technical staff for assistance with specification details or installation training

### ARTC Approved

- Concrete Edgebeams are ARTC approved for high speed and are rated to 110km/h and tested to 140km/h - within the tyre load ratings 'Interstate Road Transport Regulations 1986 - Schedule 4'
- The system comprises a minimum number of components, resulting in less track possession time and road closures significantly reduced
- Delkor Screws on both Field panels & Gauge Panels ensure stable structure.

### Flexible Design

- The design flexibility ensures compatibility with all types of rail and sleeper combinations

### Easy Installation



## Practical Australian Design

The full depth virgin rubber construction allows for years of maintenance-free service and ensures that panel separation cannot occur while providing maximum load bearing capabilities for heavy duty applications.

The panels are contoured to ensure full contact with the sleeper surface.

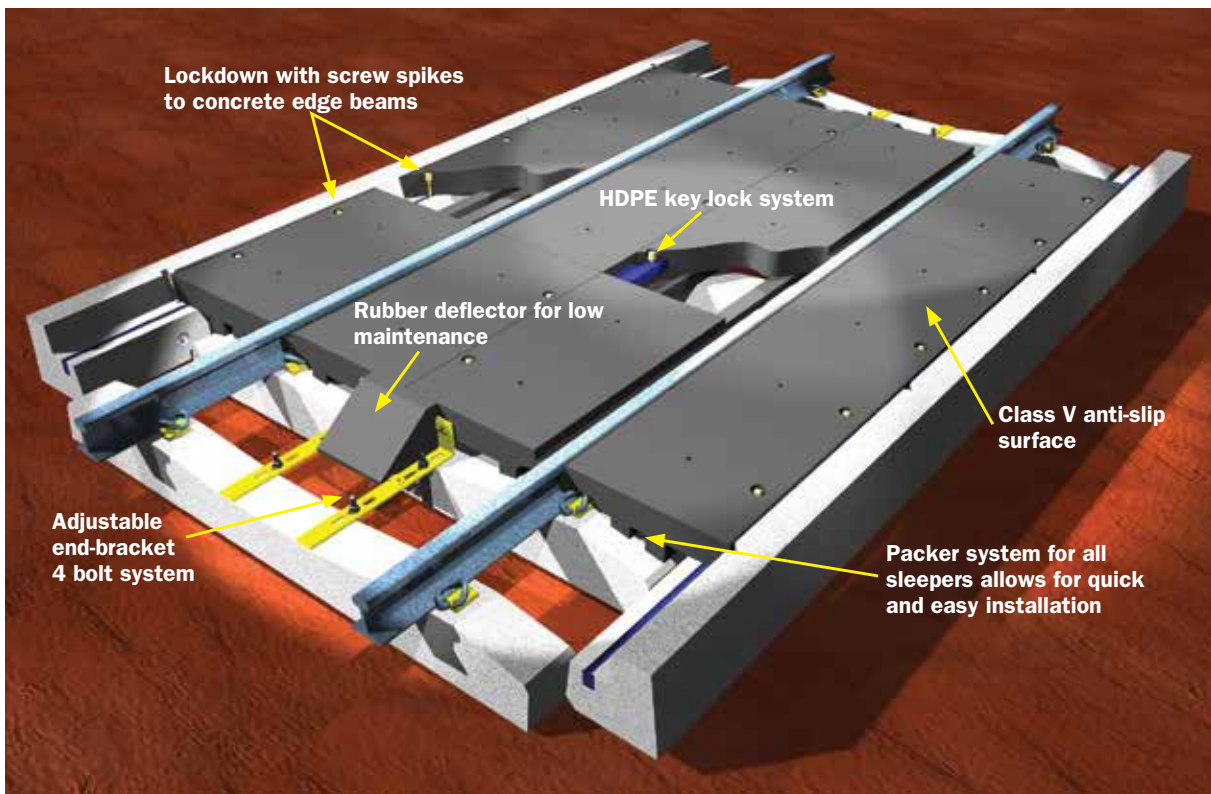
The raised anti-slip road surface pattern, ASNZ 4586 Class V (IS > 44 = V.Low), has been designed to allow for efficient water drainage to minimise fouling of the track bed with debris.

Field panels are designed to fit our unique edge beam assembly.

Another unique feature is the quick removal of individual panels for safety and maintenance inspections without disturbance to the remainder of the crossing.

The use of concrete edge beams allows the panels to be removed for track maintenance without any disturbance to the road surface on either side while keeping road material away from track drainage areas.

Trelleborg Engineered Systems Australia has a quality assurance accreditation and maintains a comprehensive in-house testing facility to ensure components surpass industry standards.



## Australian designed and tested since 1991

The field panel was loaded to 10 tonne to simulate a truck stopping suddenly on the crossing. The deflection was recorded.

At the 10 tonne load, a deflection of 1.72mm was noted at the spacer.

The deflection was localised at the spacer and returned to zero once the load was removed.

The FB/11 rail panels exhibit little, or no deflection when coming under the vertical load equivalent to 10 tonne per tyre load of a heavy truck in the position midway between support points.



## Load tested to 3 times the required safety factor

Trelleborg Rail Panels exceed all loading criteria as laid down in Australian regulations by a minimum factor of 3, ie;

- Interstate Road Transport Regulations 1986 - Schedule 4
- National Heavy Vehicle Reform, Vehicle Operations, Heavy Vehicle Mass, Loading and Access - Roads and Traffic Authority, NSW.
- The rapid impact load test indicates that the Trelleborg all rubber panel compound maintains rigidity and its structural integrity under very high loads.

## Product Specifications

### Field panels:

Length - 1200 mm

Width - to suit sleeper length

### Gauge panels:

Length - 1200 mm

Width - to suit track gauge and sleeper profiles

### Weight:

Field panel - Approximately 140 kg

Gauge panel - Approximately 140 kg

### Concrete Edge Beams:

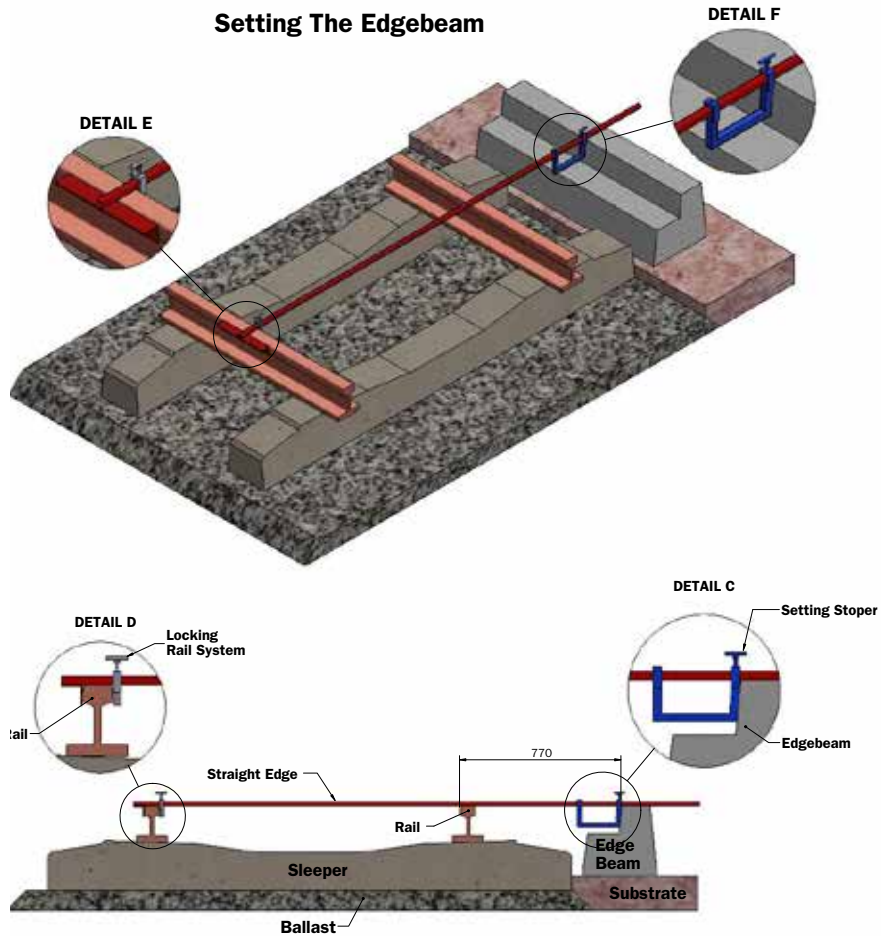
40 mpa concrete with HDPE inserts

**All steel - galvanised beams also available with same high density plastic inserts to lock down panels**



*Certified for high speed 50km/h +*

## Simple Installation Tools for Onsite Solutions

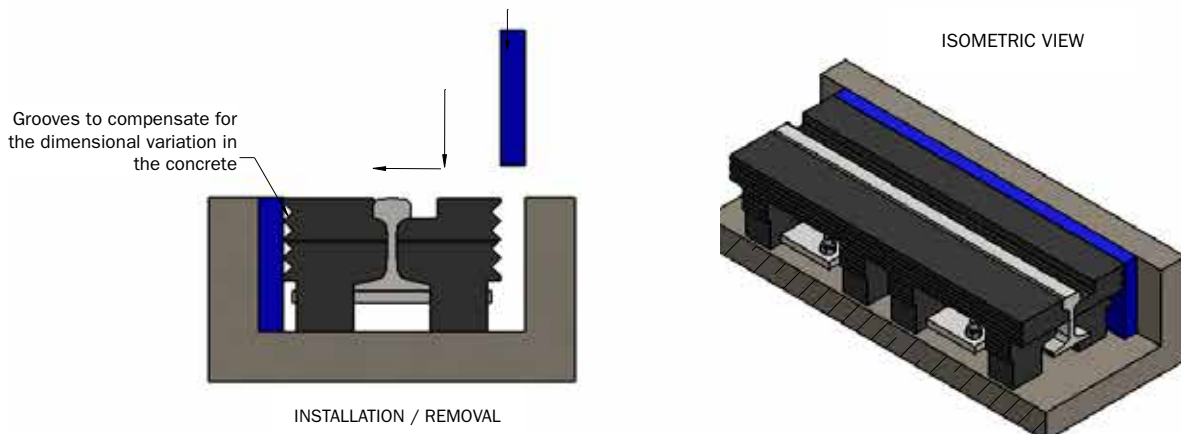


## Custom Solutions

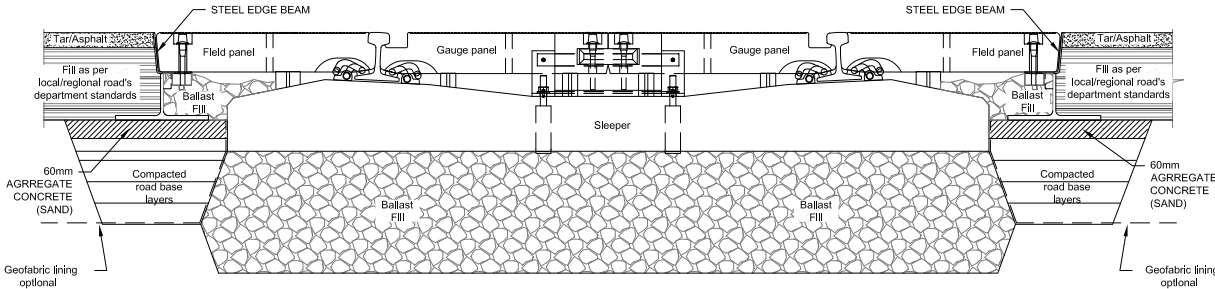
### Flexible Ballestless Solutions for Rail Yard/Bulk Handling Areas

We custom manufacture panels for special applications. Ideal for concreted areas, loading zones, bulk handling, tunnels and rail yards or weigh stations.

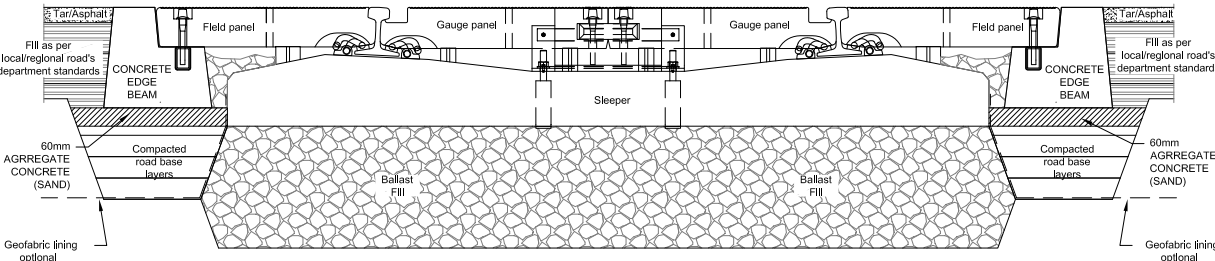
An excellent solution where rail has to be lifted, maintained or access to foundations level, below rail infrastructure or drainage maintenance is required.



### Typical Cross Section - Steel Edge Beam



### Typical Cross Section - Concrete Edge Beam





Trelleborg is a world leader in engineered polymer solutions that seal, damp and protect critical applications in demanding environments. Our innovative engineered solutions accelerate performance for customers in a sustainable way. The Trelleborg Group has local presence in over 40 countries around the world.

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