

▶ DID YOU KNOW?

LONGEST RAIL NETWORKS

United States of America

- Length: 250 000 km, privately owned
- Freight rail network – 215 000 km
- Passenger rail network – 35 000 km
- Plans to build 27 000 km of high-speed rail by 2030
- California high-speed rail will be the first high-speed rail project in the country

China

- Length: 100 000 km, state-owned
- Transported 2.08 billion passengers (second after India) and 3.22 billion tons of freight (second after USA) in 2013
- Plans to expand to more than 270 000 km by 2050
- Beijing–Ghangzhou line is the world's longest high-speed railway line
- High-speed rail network is projected to reach 50 000 km by 2020

Russia

- Length: 85 000 km, state-owned
- Transported 1.08 billion passengers and 1.2 billion tons of freight (third highest freight volume) in 2013
- The Trans-Siberian Railway (Moscow

to Vladivostok) is the longest and one of the busiest railway lines in the world, spanning over 9 289 km

- A stretch of 2 500 km of high-speed rail in Russia between Moscow and Kiev, Minsk and Kursk is expected to be completed by 2015

India

- Length: 65 000 km, state-owned
- Transported 8 billion passengers (highest in the world) and 1.01 million tons of freight (fourth highest) in 2013
- Operates more than 19 000 trains per day, including 12 000 passenger trains and 7 000 freight trains
- Indian Railways is the eighth largest employer in the world, employing 1.4 million people
- Plans to add 4 000 km of new rail lines by 2017 and 3 300 km of dedicated freight corridors
- Six high-speed rail corridors have been identified; the Mumbai–Ahmedabad high-speed rail, spanning 534 km, is being implemented as a

pilot study, with an estimated investment of \$9.65 billion

South Africa

- Length: 20 250 km, state-owned
- The Blue Train between Pretoria and Cape Town, spanning 1 600 km, is the longest train service in the country
- While the Passenger Rail Authority of South Africa (PRASA) transports passengers, Transnet transports freight
- Transnet Freight Rail (TFR) is the largest division of Transnet, employing about 25 000 employees
- Shosholoza Meyl, owned by PRASA, offers long-distance passenger train services in South Africa
- Metrorail, a division of PRASA, provides commuter and passenger rail services in Gauteng, Western Cape, Eastern Cape and KwaZulu-Natal
- PRASA owns 317 stations of the 468 stations that Metrorail operates, while the remainder belong to TFR

*Avinash Menon
menonavi@gmail.com*



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AQUALIBRIUM

SAICE–Rand Water Schools Water Competition 2014



Totally engrossed in the task of distributing water optimally

THE FINALS OF AQUALIBRIUM, the exciting SAICE–Rand Water Schools Water Competition 2014, were held at the Sci-Bono Discovery Centre in Newtown, Johannesburg, on Friday 25 July 2014. This competition, which encourages learners to take mathematics and science to enable them to choose a career from the list of top-priority scarce skills (i.e. civil and other engineering disciplines, including water-related professions), never fails to excite the teams, spectators and everybody involved.

The new streamlined equipment used by the teams to design, construct and operate a water distribution network within an hour, minimises water loss. It illustrates to participants the realities which municipalities face in curbing water losses in cities and towns every day.

The 2014 champions, with only 35 penalty points conceded, were the team from **Brackenfell High School**, Cape Town. The team members were Angelique le Roux, Aldo Siegling and Bennie van Eeden. In second place was **Winnie Mandela Secondary School** from Tembisa, with 85 penalty points. The team consisted of Gugulethu Mkhwebane, Lerato Dhlamini and Collen Rapelego. **Dendron Secondary School** from Limpopo, with team members Seokedzi Mothoka, Masuila Pihhlela and Alvin Seakamela came in third with 177 penalty points. The winning teams and their educators shared the prize-money of just more than R17 000.