

Media Release

18 March 2019



Kids, robots and industry: a sense-ible combination

On the 29th of March, primary and secondary students in years 3-10 from schools across the CQ region will come together to demonstrate their skills at designing, building and coding robots. Participants will compete for several coveted awards that recognise talents that will set these youngsters up for success in the 21st Century, including GRC (Grit, Resilience and Cooperation) Champions, Most Enthusiastic and Innovative, Best Robot Design, Most Improved, and Best Team Spirit.

In 2018, 180 students attended the event, and even bigger numbers are expected at this year's competition. Students will compete in either the beginner 'alumina transport' challenge or advanced 'alumina transport and refinement' challenge division. In the competition, teams code their robots to race against the clock to follow the transportation pathway of bauxite from Rio Tinto's mining operations in the Gulf of Carpentaria to be processed into alumina at the Queensland Alumina Limited (QAL) and Rio Tinto Yarwun refineries. The bauxite-alumina corridor will be represented by a black line and student will encounter real-life obstacles along the way, including bumps from cyclone waves and a dugong in the pathway that must be avoided.

Advanced division students will complete the beginner transport mat and take the next step of designing additional attachments and programming to mimic the process of bauxite moving through the Bayer Process to be refined into alumina, including spins during digestion and the pushing of waste slurry to the red mud dam during clarification.

Preparing for this competition has been no mean feat for students or for their teachers. Teachers undertook a teachers-teaching-teachers model of training in skills needed to achieve the challenges. Participating students then spent several weeks designing their robots and coding them to sense their surroundings by using colour-detecting and ultra-sonic (sonar) sensors that are manually attached to the robot. Students have designed their own sensor attachments and used sophisticated problem solving skills and teamwork to program their robot to complete the competition challenges.

Mentors from QAL and Rio Tinto Yarwun have been visiting the many schools competing in the event, sharing their STEM thinking, problem-solving and coding knowledge with students.

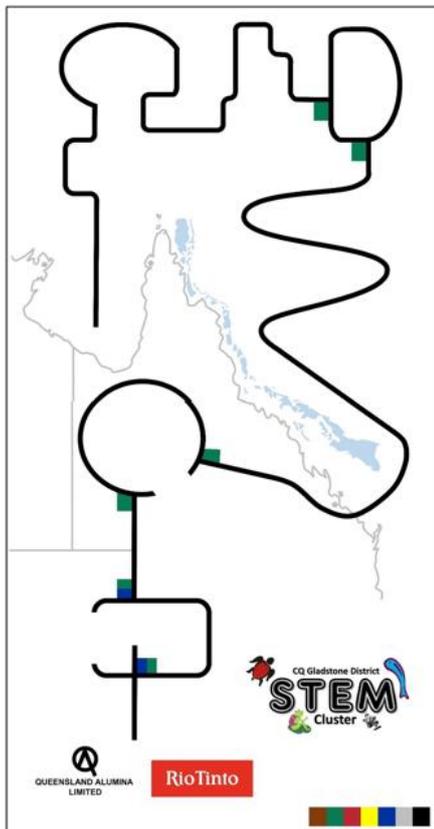
The industry-themed mats for Gladstone Robotics Competition have been generously funded through Rio Tinto's Community Sponsorships Program, and development of the mats has been a collaborative effort between local teachers and engineers from QAL and Rio Tinto Yarwun. According to Dr. Carol Devney, an event organiser, Rio Tinto's generous financial and in-kind contributions have provided a platform for real-world processes to spur student interest in STEM. Students are excited not only about the competition, but also they are gaining invaluable experiences through seeing potential career pathways first-hand as they engage with the robotics challenges and the professional mentors.

"It is with great pleasure that we continue to provide mentors and sponsorship for the Gladstone Robotics Competition, to nurture our next generation miners within our local Gladstone community. The teachers and students should be highly commended for their efforts and commitments and we look forward to

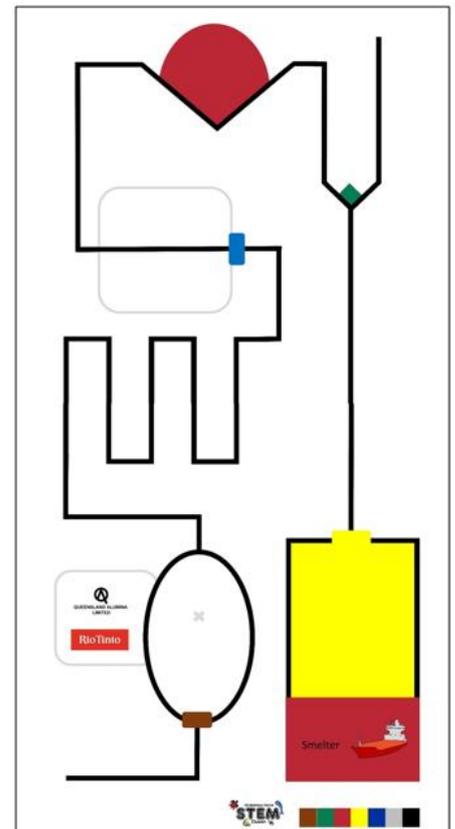
seeing the results of both of the alumina challenges” said Mark Gilmore, General Manager Rio Tinto Yarwun Operations.

Please join us as we host the 2019 Gladstone Robotics Competition. The event is open to the public with no entry fee.

**Beginner
mat:**



**Advanced
mat:**



Event Date/Time: 29th March 2019

8:30 am Opening & Welcome – Advanced Division

Confirmed special guest: Mayor Matt Burnett

9:00 am – 11:00 am Advanced Division ‘Alumina Transport and Refinement’ Rounds

11:15 am Closing & Awards Advanced Division

Confirmed special guests: Cr Peter Masters & Cr Desley O’Grady

12:15 pm Opening & Welcome – Beginner Division

Confirmed special guest: Crs Desley O’Grady and Peter Masters

12:30 – 2:15 pm Beginner Division ‘Alumina Transport’ Rounds

Confirmed special guest: Cr Natalia Muszcat

2:30 pm Closing & Awards Beginner Division

Confirmed special guest: Cr Kahn Goodluck

Tentative confirmation of special guest: MP Glenn Butcher

Venue: Clinton State School Hall

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