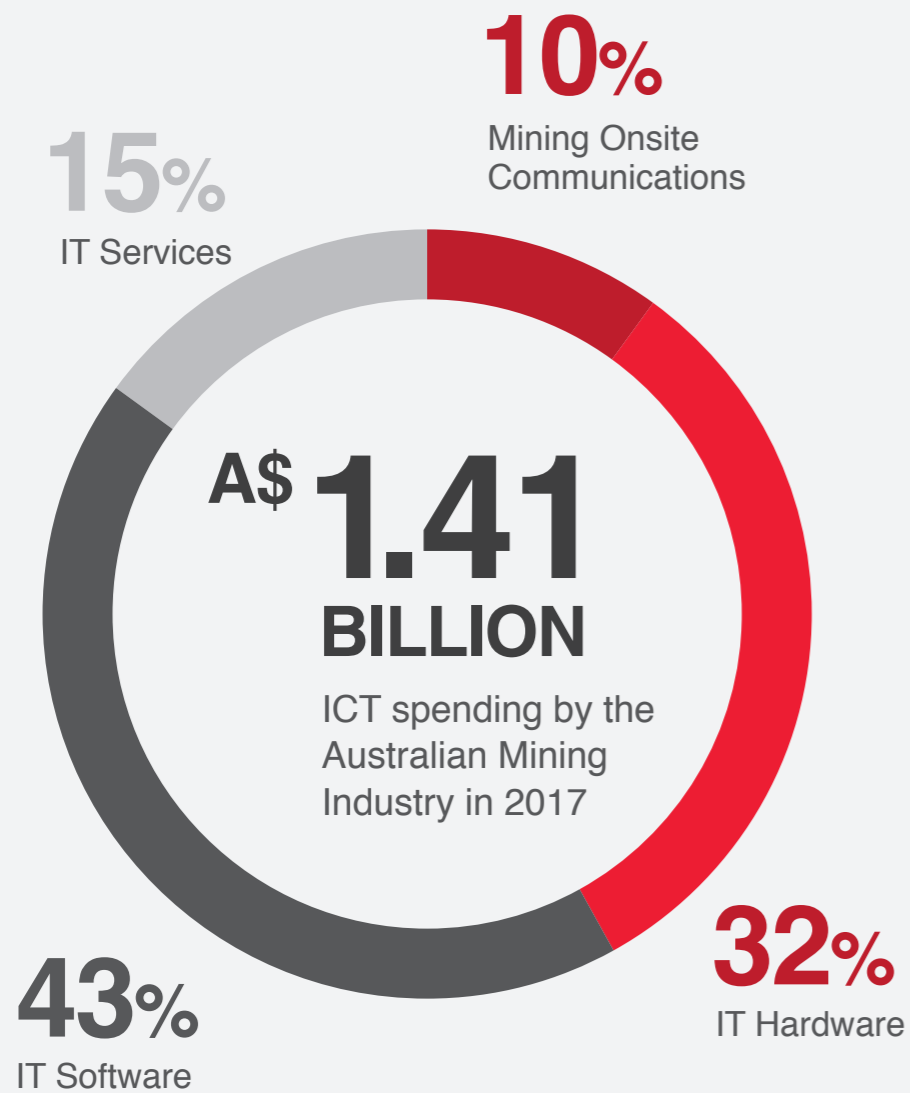


# The Future of Mining

Why digital transformation is key to a cleaner, safer, and more efficient mining sector

Created by: Frost & Sullivan and Hitachi Australia



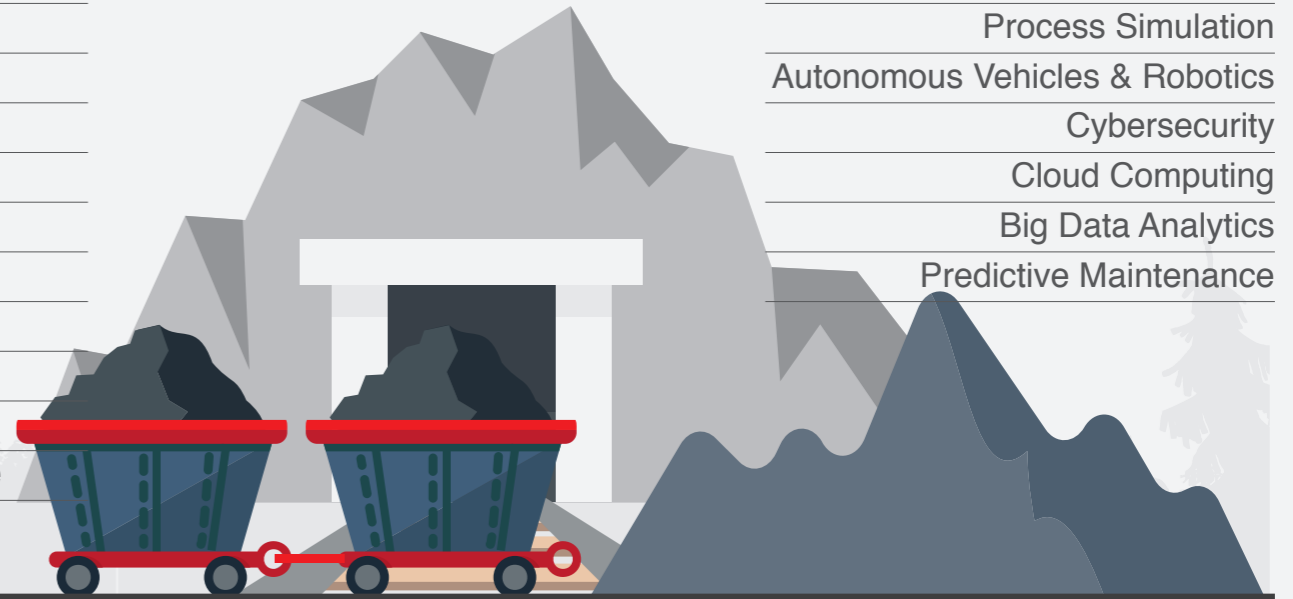
## Industrial IoT Solutions Resolving Challenges

### Challenges

- Flexibility to market needs
- Fast access to knowledge experts and data
- Value chain integration
- Customer engagement
- Environmental standards compliance
- Better visibility on global footprint
- Track and trace
- Equipment failure and maintenance
- Focus on customisation
- Economic volatility
- Production efficiency
- Product innovation to stay competitive

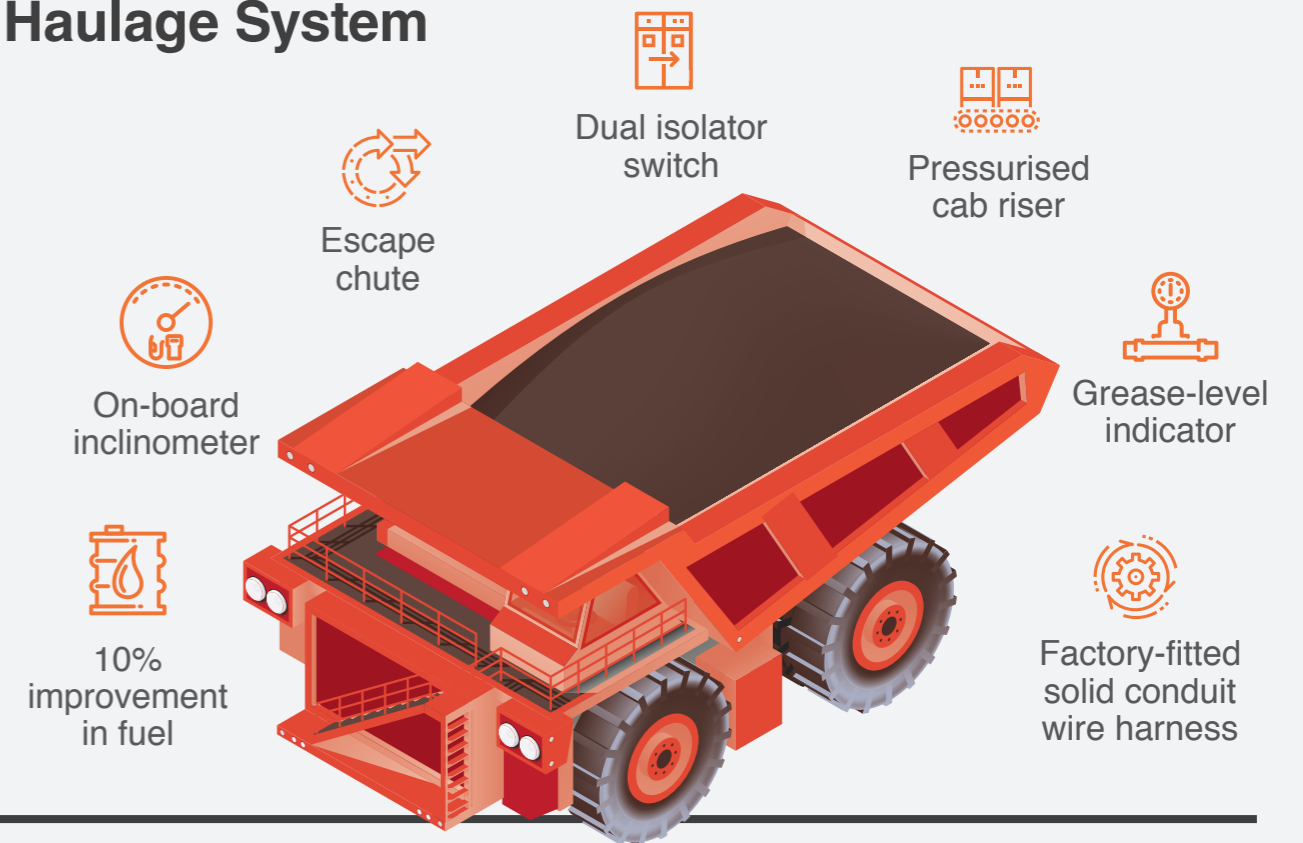
### Solutions

- Smart Sensors
- Drone Technologies
- Process Simulation
- Autonomous Vehicles & Robotics
- Cybersecurity
- Cloud Computing
- Big Data Analytics
- Predictive Maintenance



## Hitachi's Autonomous Haulage System

- Efficient operation in a dynamic and complex environment
- Enables automated navigation, route optimisation, negotiation of traffic conditions, self-correction for unplanned obstacles (e.g., fallen rocks, slip conditions), optimised acceleration/braking/steering control, site awareness and collision avoidance
- Fully integrated All Hitachi System – truck, fleet control and traffic control
- Allows the smart truck to make decisions on its own regarding travel paths within a defined section
- Retro-fit components enable customers to purchase a truck today and convert to AHS in the future



## 8 Trends Driving the Mining Industry Toward Digitisation

- 1 Declining ore grades
- 2 Competition from emerging countries
- 3 Price volatility
- 4 Energy security risk
- 5 Sustained long-term demand for commodities
- 6 Rise in operating costs
- 7 Focus on non-traditional mining commodities
- 8 Digital disruption