Rio Tinto

The Jadar Project

Health & Safety

Managing health and safety risks

There is nothing more important than people's safety.

Community members have raised concerns about the safety of the project, and how we can be sure incidents, like water and soil contamination, or catastrophic events, like fires or explosions, won't happen. Our safety management system focuses on preventing these worst-case scenarios, no matter how unlikely they are.

We strive for a zero-harm work environment and believe all incidents and injuries are preventable. Our approach is to focus on identifying, managing and, where possible, eliminating risks. This starts right from the way the project is designed.

Potential impacts we must manage:

- Health and safety of employees and contractors on-site
- Water and soil contamination from our operations
- Air pollution from dust and processing emissions gases

Protection measures:

- Mining in a zone that's naturally hydro isolated, far from the sources of water used for drinking and agriculture;
- Using protective liners and water collection system, used for treatment and prevention of pollution;
- Using a modern filtering system to collect over 99% of processing gases;
- Applying all available measures for dust suppression;
- Using advanced technology and automation to do risky jobs;
- Using a vertical shaft miner, during the mine shaft construction, eliminating a range of risks during construction including falling objects, confined space and geotechnical risks;
- Conducting air, soil and water monitoring with independent experts and community members.

Our approach to safety

The nature of our work means we need to manage a range of health and safety risks.

Our approach starts with conducting detailed assessments to help us understand the project's risks. We perform several different kinds of risk analysis at all major project milestones.

We also learn from incidents at our other projects, to help us improve the way we design our projects and run our operations.

During operation, we combine strict procedures with careful monitoring and audits - including regular inspections - to help employees and leaders identify and control risks on jobs.

We are required by Serbian law to undertake external safety audits twice a year. In addition to these statutory audits, we conduct health and safety risk assessments and audits as part of our governance processes.

Our safety management system incorporates several layers of protection that are designed to identify, minimize and manage any potential risks from the project. When the layers are combined, the likelihood of something going wrong is significantly reduced. This approach is also known as the hierarchy of control: a step-by-step approach to eliminating or reducing risks.

The design, construction and operation of the Jadar Project would be carried out in accordance with all statutory requirements, safety regulations and standards.

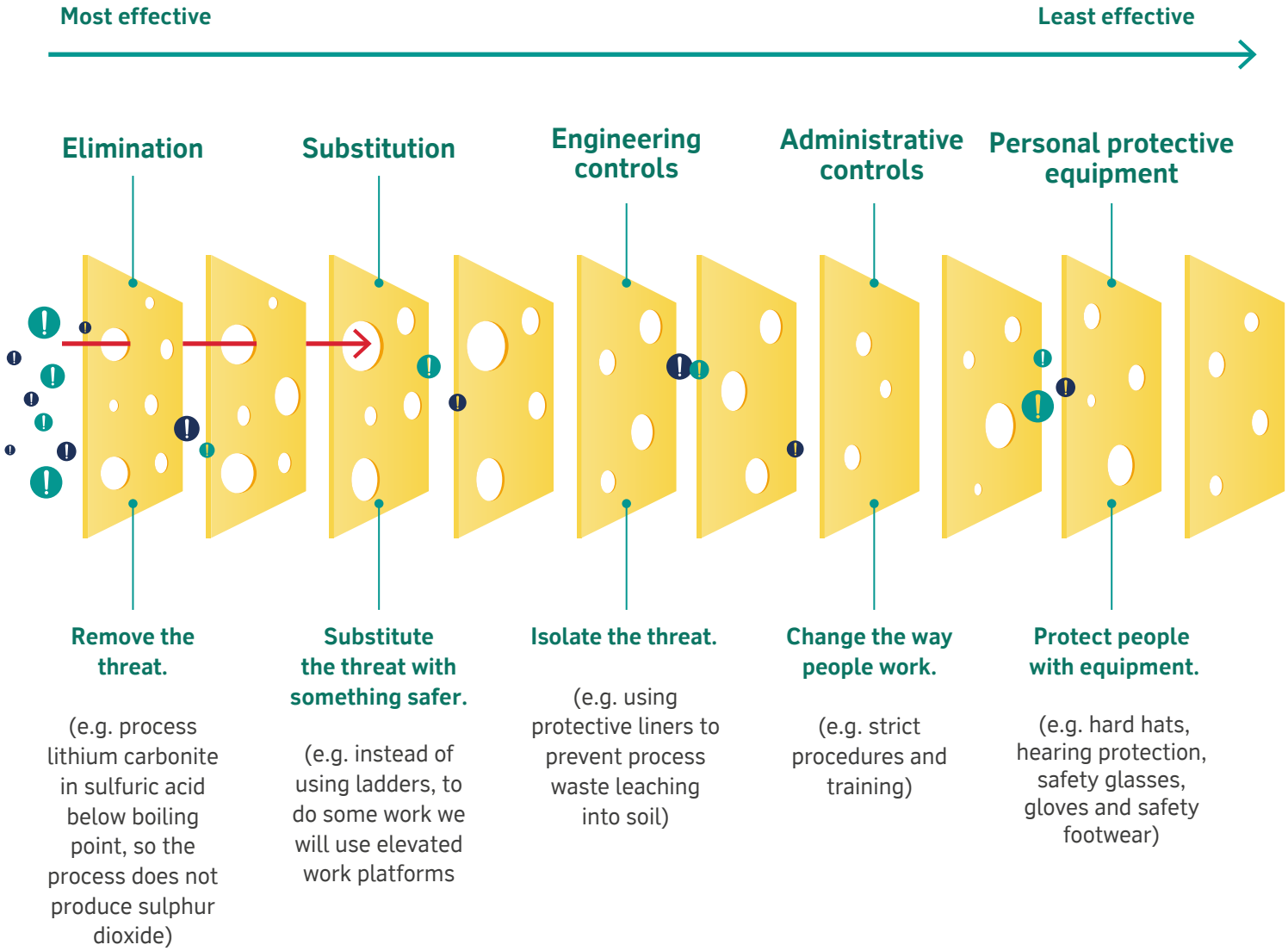

Figure 1: Using the hierarchy of controls approach to safety means that if one control fails, another layer of defence is in place to help eliminate or reduce the threat. This diagram shows examples of some of the controls we have in place at Jadar. Adapted from the concept presented in **"Human error: Models and management, James Reason (2000)".**

Underground mining safety

Nothing is more important than the safety and wellbeing of our employees, contractors and communities. We take our health and safety responsibilities very seriously. We also recognize that for many people, our word may not be enough on such an important matter. As a mining company, we have a regulatory duty to manage health and safety risks. Indeed, breaches of health and safety laws can result in penalties including fines, operational shutdowns and imprisonment.

Our preferred approach is to identify risks in the design stage and eliminate them where possible. Where we can't eliminate them, we'll minimize and manage them as much as reasonably possible.

During construction and operation of the underground mine, we would plan to use the safest technologies available. For example, rather than building the mine shafts traditionally, we would plan to use specific equipment (known as a vertical shaft miner) that will allow us to remove our people from a high-risk falling object and confined space situation on the shaft floor.

Some examples of other controls we have in place include:

- Using safety pillars that work like load-bearing walls in civil buildings.
- Filling excavated voids with a specially designed high-strength paste.
- Installing a modern high-capacity ventilation system with electric refrigeration.

We also plan to use zero-emissions battery-electric vehicles. These would initially operate underground before being progressively introduced across the whole project. This would reduce noise and emissions and contribute to better air quality for employees and nearby communities.

Managing major hazards

To mine and process materials, we would need to transport, store and use hazardous materials such as explosives. We understand the severity of consequences if things go wrong. We have a series of safety standards that govern how we manage major hazards across our operations. This includes ensuring necessary safeguards are incorporated in the project's design. You can find our standards and policies on riotinto.com.

At the Jadar Project, we've improved the project's design to reduce the quantities of hazardous substances required on-site during future operations.

Examples of other controls include:

- Using modern emulsion explosives, which would be delivered to site as two separate non-explosive components.
- Mixing the two emulsion components at specific locations underground immediately prior to mining or on a special purpose vehicle designed for the mechanised pumping of explosives into selected drill holes. Only at these points will the emulsion mixture have explosive properties.
- Using modern computerised blast planning, which allows us to strictly control the level of seismic blasting waves generated. Emergency response protocols during an incident to prevent it getting worse.

The Seveso Directives

The Seveso Directives are the primary EU legislation controlling major accident hazards, such as explosions, that involve dangerous substances and are considered the international benchmark for industrial accident prevention policy. We would be the first project in Serbia to adopt the Seveso Directives at the early stages of design, having implemented them during the early study phase.

Preventing soil and water contamination

We know that soil and water contamination is a major concern among community members. On top of the broader, long-term environmental impacts, if mining and processing residue is not managed carefully, it can also have direct impacts on people's health.
We would put a range of safeguards in place to transport and store waste and processing residue safely.

Examples of other controls include:

- A system of multiple barriers containing clay and thick sheets of polyethylene to prevent pollution.
- A system to collect any leached metals and salts and return them to the processing plant for reuse or treatment.
- Water diversion channels around the waste storage facilities to reduce processing residue's contact with clean rainwater.

We would take care not to impact drinking water sources. All mining operations and activities would be separated from drinking water sources, in areas that are deeper than local wells. This way, there would be no danger from mixing mine and drinking or surface water. And all collected water would be treated to a minimum of Class II standard – the same quality as the Drina and Jadar rivers.

Air quality

Community members have raised concerns about the kinds of emissions that could be released as part of processing. We would take a number of steps to prevent harmful emissions, including:

- We would not use hydrofluoric acid in processing.
- We improved our processing technology so that we would not create sulphur dioxide as a by-product. The digestion process can't create sulphur dioxide gas.
- Design of the processing facility prevents employees from having a direct contact with sulphur acid.
- We would use technology such as scrubbers – an industrial filtering technology that remove gases and dust created during processing.

During construction and operation, we would also work closely with local weather monitoring station to anticipate and prepare for changes in weather conditions.

Traffic safety

We've completed a traffic management study, with special emphasis on safety on local roads associated with the increased traffic created by the proposed underground mine operations.

We have reviewed transport routes and recommend options to minimize impact on the community and improve safety.

Monitoring and reporting

We understand there are concerns about the transparency of monitoring results of potential impacts. Safety is also a key metric we measure and report on each year, and our performance undergoes significant scrutiny by regulators and other stakeholders, including investors.

You can view our annual safety performance on riotinto.com.

Specific details about our air, water and waste monitoring and reporting methods can be found in those fact sheets, available on riotinto.com.

Global and industry standards we must abide by:

- International Council on Mining and Metal's Global Industry Standard
- The Seveso Directives https://ec.europa.eu/environment/seveso/

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Jadar Project

The Jadar Project in Serbia is one of the largest greenfield lithium projects in the world. Jadar has the potential to produce battery-grade lithium carbonate, a critical mineral used in batteries for electric vehicles and storing renewable energy. In addition, Jadar would produce borates, which are needed for the development of renewable energy equipment such as solar panels and wind turbines.

For more information, please contact:

Rio Sava Exploration d.o.o.

Navigator 2
Bulevar Milutina Milankovića 1i
11070 Beograd
Srbija
T: (+381) 11 4041 430

Rio Tinto Informational Centre

Gimnazijska 4
15300 Loznica
Srbija
T: (+381) 15 872 834

Rio Tinto Informational Centre

Stevana Sinđelića 9
15309 Brezjak
Srbija
T: (+381) 15 610 223

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