



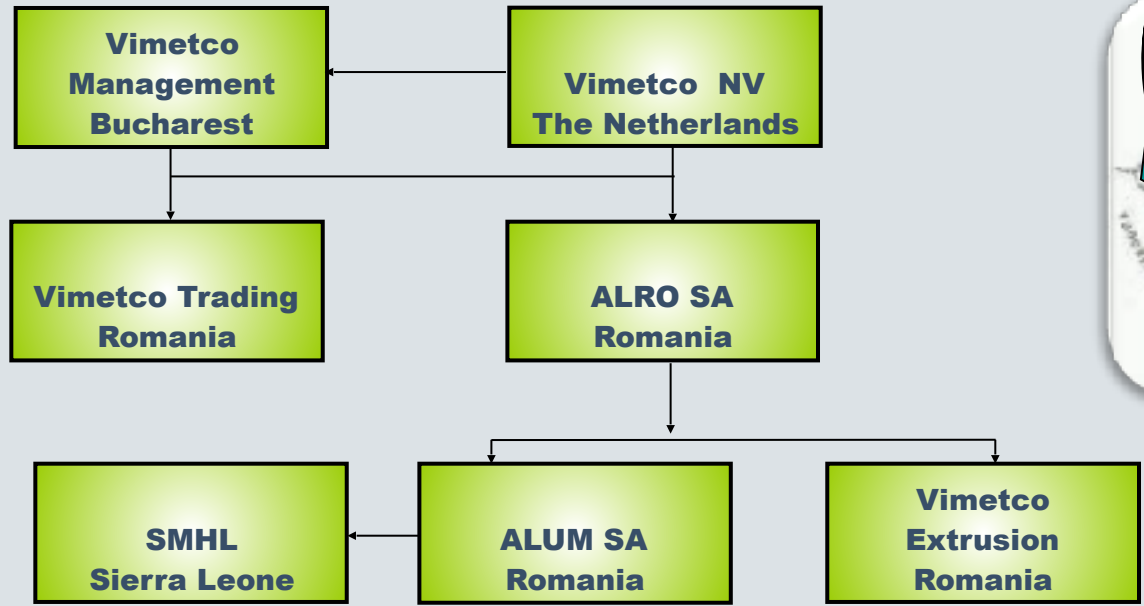
ALRO

General Presentation and Health and Safety Statistical Report

Section 1. Overview

ALRO - General Information

- ✓ ALRO is a private-owned company, the largest primary aluminum smelter in the Eastern Europe.
- ✓ Its products: billets, slabs, wire rod, plates, sheets and strips.
- ✓ ALRO's shareholders:
 - ✓ VIMETCO - 84.19%
 - ✓ PROPRIETATEA Fund - 10.03%
 - ✓ Others - 5.78%
- ✓ Since 1997 it has been listed in the Bucharest Stock Exchange
- ✓ ALRO is part of the VIMETCO Group
- ✓ ALRO is member of the European Aluminum Association and of the Aluminium REACH Consortium



Alro's Outstanding Accomplishments

- In terms of energy efficiency, according to a study made in 2015 by the JRC Institute upon the European Commission's request, Alro is situated at 99% of its potential as result of implementing the continuous improvement policy;
- As concerns the CO₂ emissions generated for producing electrolytic aluminium, Alro occupies the 3rd place out of the 20 EU companies subject to analysis;
- Alro obtained the following system certifications: ISO 9001, ISO 14001, ISO 18001, ISO 50001 for energy efficiency, EN9100 for the aircraft industry, IATF 16949 for the car industry, NADCAP for special processes (heat treatments, nondestructive testing, laboratory analyses);
- Alro obtained Det Norske Veritas, Bureau Veritas, Germanischer Lloyd etc. certifications for products of special destination such as pressure vessels, ship construction, industrial constructions, heat exchangers, etc;
- The Alro Group has 4000 direct employees in Romania, with an average wage that is much above the national average, and provides indirect jobs for approximately 20,000 people;
- Alro qualified as a supplier for the aircraft and car industries, its most outstanding accomplishment being the contract concluded for a 5-year period with Airbus.
- Alro and Alum have already met the Occupational Health and Safety objectives – the decrease of the TRI index: no. of hours of inactivity caused by the accidents at work recorded for 1,000,000 of hours worked, as set in the roadmap of the European Aluminium Association for year 2025.

Key Objectives

The most important objectives of ALRO strategy are as follows:

1. Health, Safety and Environment

Protecting the environment and the employees. Prevent incidents and accidents;

2. Continuous compliance with highly evolving environmental legislation

i.e. Best Available Techniques (BAT) that were revised recently as the European Decision 2016/1032 of 13 June 2016;

3. Increase competitiveness

Improving performance, producing high profitability products, improving quality and increase customers satisfaction;

4. Energy efficiency

Increasing the efficiency of industrial operations, improving the energy efficiency and the power supply security;

5. Full conversion to digital economy

Use more and more electronic devices and decrease paper documents

More than 500.000.000 USD were invested in last 10 years for the above mentioned projects out of which at least 70.000.000 USD were for environmental protection and health and safety related projects.

Safe Storage of Red Mud – ALUM SA (1)

Red mud – process waste resulted from the extraction of alumina from bauxite; the waste is transported along a 5 km distance, by pipes, to the mud pond where it is thickened and stored in dense phase, as per the new EU requirements.

The technology of storing red mud in liquid phase was changed starting 2010. The solid concentration of the mud stored in the pond was thus increased from ~ 17% to ~54%. In consequence, a dense phase mud settling system was installed. It comprises:

- Mud thickener (Neyrtec France technology);
- Automation system with continuous monitoring of red mud density;
- Thickened mud pumping system that pumps thickened mud on the mud pond;
- Pumping system that pumps solution resulted from the mud back to the refinery in order to be reutilized for profit.



Safe Storage of Red Mud – ALUM SA (2)

The main improvements achieved for the safe storage of red mud are listed below:

- ✓ Consolidate dams;
 - ✓ Environmentally-friendly partial closure of the pond in the main dam area and planting of 40,000 trees;
 - ✓ Execute rainwater accumulator and deviation channel to prevent flooding;
 - ✓ Water spraying system to moisten mud surface to prevent dust formation;
 - ✓ Underground water quality monitoring system – piezometric drillings.
- All the modifications were made in compliance with the EU recommendations and directives on red mud storage. The projects were prepared in collaboration with the specialists from Hatch Ltd Australia, UTCB Bucharest and Iprolam SA Bucharest, checked by authorized experts and approved by the National Dams Commission.



Profitable Use of Red Mud – ALUM SA (1)

- In the past years several research works were undertaken by ALUM in cooperation with research institutes to identify solutions to convert red mud into a usable commercial product:
 - ❑ in the metallurgical or construction industry;
 - ❑ as an additive to amend acid soils.

- *In-house testing of vegetation to observe the effect of acid soil amending by using red mud (acid soil from Albota <the county of Argeş>, albeluvisols type; the tested plant was corn)*



Image of experiment no. 6, two plants in a pot



Sequential image of corn cobs, upon harvest

Profitable Use of Red Mud – ALUM SA (2)

The results obtained by ALUM were presented in two international conferences:

- ❑ Redmud Conference – Bauxite Residue Valorization and Best Practices – Catholic University of Leuven, October 2015;
- ❑ The 22nd International Minerals and Nonferrous Metals Congress, 2016, in Krasnoyarsk Russia, where ALUM was awarded the Honorary Diploma for the paper “Bauxite residue safe disposal and possibilities for further utilization”.

- During the period 2012 – 2017, several industrial tests for the use of red mud in the production of cement were made.
- Currently Alum, through Innovation Hub organized by the European Aluminium, is part of the consortium that applied for the funding of a research study under the programme Horizon 2020, which has been granted. The study will unfold on a 5-year period and aims at developing technologies for the use of red mud in other industries.
- At the red mud pond, ALUM plans to implement an investment project for the purchase and erection of filter presses that will allow mud moisture to drop from ~48% to ~20% in order to increase:
 - The operating lifetime of the red mud pond;
 - The opportunities to make profitable use of the red mud.

Section 2: Safety Statistics Report

Safety Statistics Report (1)

Environment, health and safety (EHS) is the number one priority for ALRO SA Slatina.

Safety First, which means safety comes first, comes from the acronym:

- F - Follow the EHS rules even you are in a hurry;
- I - Intervene immediately if someone is taking risk or deviating from EHS rules;
- R - Report EHS hazards to prevent injuries;
- S - Search out EHS risks before any changed or non-routine activity;
- T - Take EHS as your first priority.

The 2025 Sustainability Road Map developed by European Aluminum, to which ALRO and ALUM have subscribed, has a 50% TRI reduction target as compared to 2012, where Total Recordable Incident (TRI) is the number of injuries reported at 1,000,000 working hours.



Safety Statistics Report (2)

ALRO SA Slatina pays particular attention to the prevention of incidents that may cause injury or sickness to its employees.

Consequently, the company undertakes permanent actions to increase the workers' and team leaders' awareness by:

- carrying out proper occupational safety training classes for all levels and stages: upon employment, periodic training, additional training and training when new technologies are implemented;
 - organizing and performing better supervision of the subordinated employees' activities by the leaders and managers of the production departments;
 - checking, both by the OHS workers as well as by the workplace managers, that the occupational health and safety provisions are complied with by all employees;
 - zero tolerance to improvisations or to not using the PPE.
- For each activity sector OHS representatives are assigned; they identify the specific OHS issues and monitor the manner in which such issues are addressed.
 - To address OHS issues, an Occupational Health and Safety Committee is set up at company level; the Committee has 20 members who meet on a quarterly basis or whenever required.

To train workers in the OHS provisions, ALRO SA Slatina organized training classes held by authorized speakers for:

- the OHS representatives within each activity sector;
- the workers' representatives who are members of the OHS Committee;
- the managers of the activity sectors.

Safety Statistics Report (3)

ALRO SA Slatina makes it a top priority to both monitor its employees' health upon employment and during annual medical checks, as well as to perform additional checks to those employees with particular health issues.

- Both operating locations have medical dispensaries provided with the necessary equipment and medication to provide first aid;
- The healthcare professionals within the dispensaries provide emergency medical assistance during all three shifts, including on Saturday, Sunday and legal holidays;
- For emergencies, the medical dispensaries have been provided with a B2 ambulance equipped according to current relevant standards;
- ALRO's Medical Dispensary employs 10 post-secondary education general medical practice professionals, who also undertook emergency and CPR classes, and one OHS nurse;
- Specialized medical assistance is provided by a specialist occupational doctor;
- Additionally, in each production sector, employees that perform first aid procedure to workers with health issues are assigned;
- The first aid responsible employees underwent specialized first aid training organized by the Romanian Red Cross - Olt County Branch.

Safety Statistics Report (4)

Objective of ALRO and ALUM HSE Department is to prevent work accidents and occupational diseases by:

- train workers to comply with health and safety at work provisions, including the requirement to use PPE;
- identify and evaluate risk factors and prevention measures;
- ensure adequate PPE and optimal work conditions;
- control the activity of ALRO workers and subcontractors workers regarding compliance with legal requirements in the field of health and safety at work;
- monitor the health of the employees.

The following criteria are used to evaluate the HSE performance:

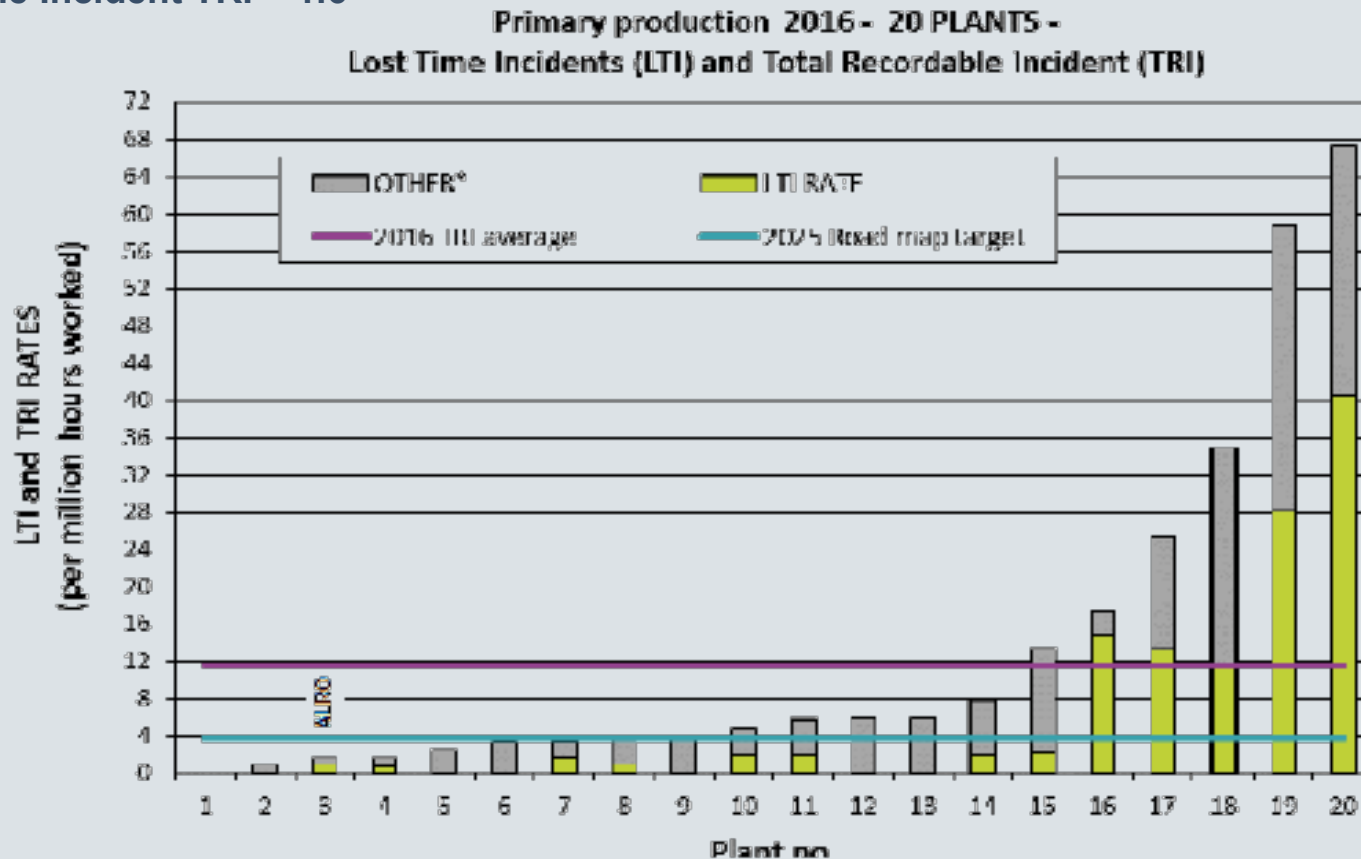
1. Total Recordable Incident (TRI) is the number of injuries reported at 1,000,000 hours

$$\text{TRI} = \text{number of accidents} \times 1,000,000 \text{ hours} / \text{number of hours worked during the reporting period}$$
2. LTI = Lost Time Incident

$$\text{LTI} = \text{number of days of temporary work interruption} \times 1,000,000 / \text{number of hours worked during the reporting period}$$

Safety Statistics Report (5)

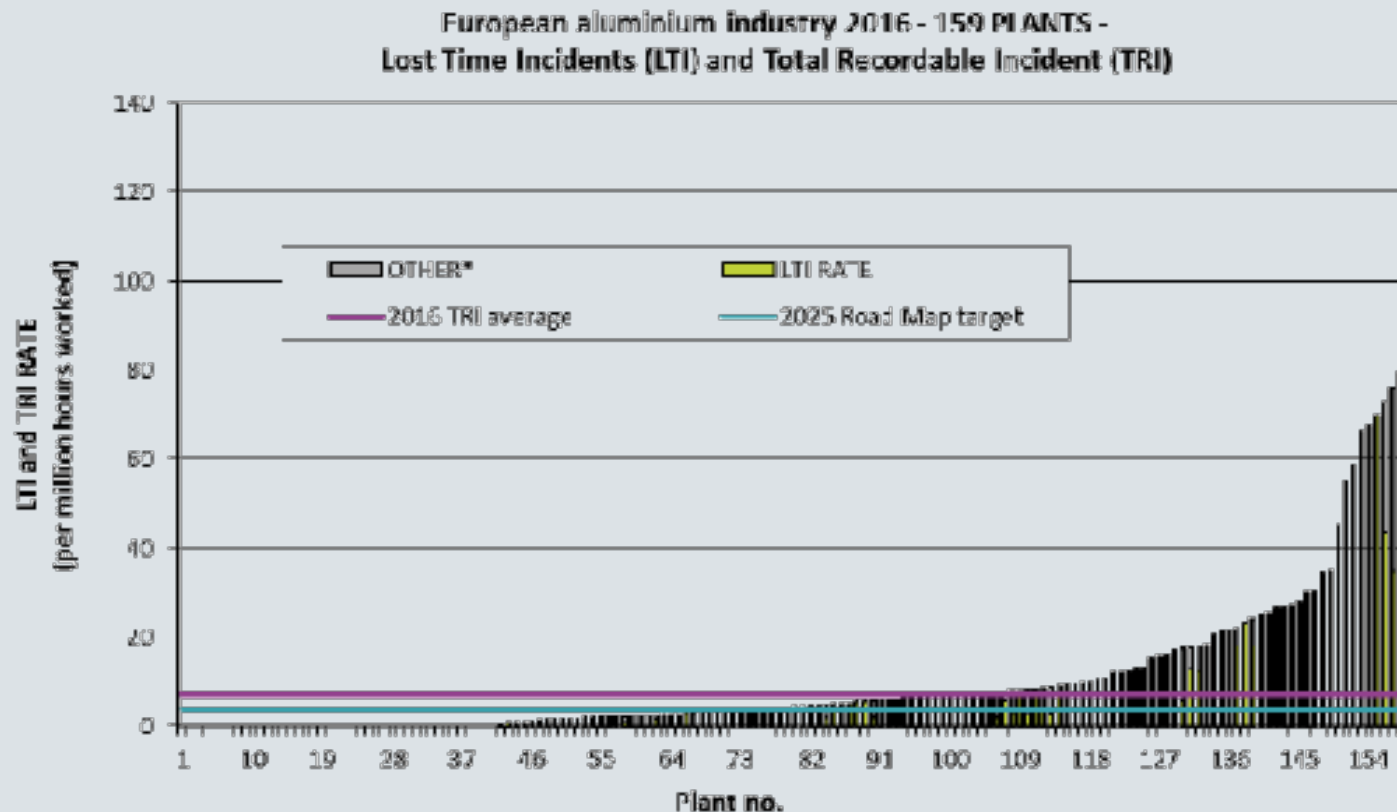
It is noticed that, according to European Safety Statistical Report for 2016, ALRO Primary Aluminium Division ranked third out of twenty companies which reported and is among the seven companies that have reached the target set in the 2025 Sustainability Road Map with Total Recordable Incident TRI = 1.6



* European Aluminium report

Safety Statistics Report (6)

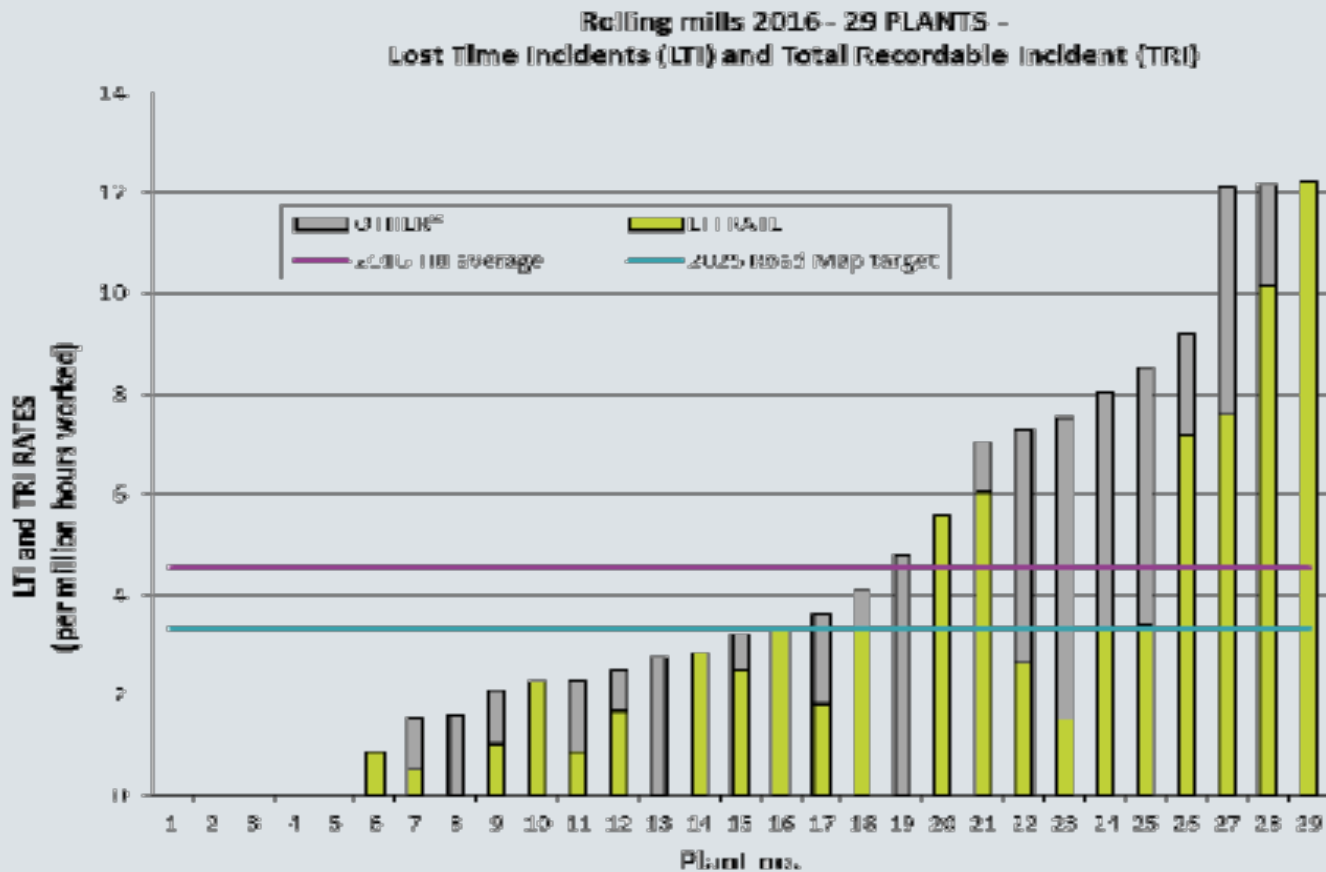
The same Safety Statistical Report prepared by European Aluminum for 2016, places ALRO Primary Aluminium Division among the 49 factories out of a total of 159 factories that reached the target TRI = 3.7 of the 2025 Sustainability Road Map, the European average for the aluminum industry in 2016 being TRI = 7.4



* European Aluminium source

Safety Statistics Report (7)

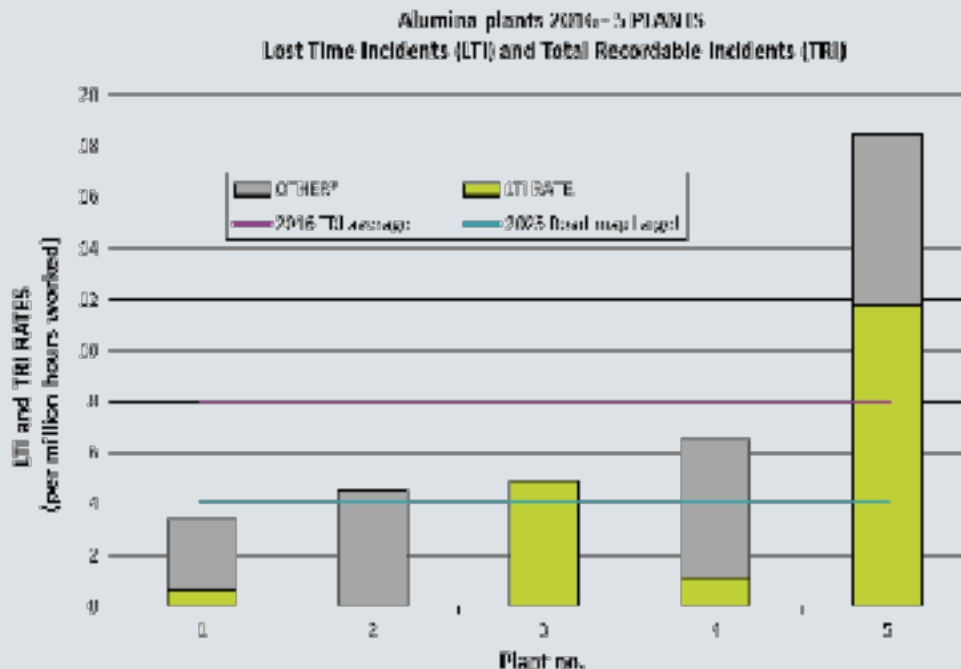
ALRO Processed Aluminum Division has TRI (2016) = 0.876 and target of 2025 Sustainability Road map target is TRI (max) = 0.969



* European Aluminium source

Safety Statistics Report (8)

The same European Aluminium Report mentions that ALUM for the year 2016 ranks third with a Total Recordable Incident (TRI) equal to 4.9, while the European average for alumina plants being 8.0.



**2016 European average
(per 10⁶ hours worked)**

- LTI: 4,3
- TRI: 8,0

Highlights:

- -3% in comparison with Road Map baseline based on 2012
- 1 plant in 2016 below 2025 Road Map target

* European Aluminium source

European Aluminium Benchmarking – 2016 data

Plants performing below the TRI target for 2025 for their segment

ALUMINA

Aughinish

PRIMARY

Alcoa (Mosjoen, S.Ciprian)

Alro

Hydro (Ardal, Sunndal, Neuss)

Slovalco

RECYCLING

Real Alloys Grevenbroich

Aleris Koblenz

Intals

Novelis (Latchford,

Nachterstedt)

ROLLING

Aleris Koblenz

Alro

Constellium Neuf-Brisach

Hydro (Grevenbroich, Karmoy, Rheinwerk)

Novelis (Goettingen, Nachterstedt, Sierre)

EXTRUSION

Constellium (Singen, Decin)



Environmental Report (1)

According to the Quality, Environment, Health and Safety Integrated Management Systems, the policies concerning the application of the best available technics in the environmental protection area and prevention of the major environment accidents represent for ALRO commitments for sustainable development focused on the protection of the human health, on the natural environmental safety and prosperous competitive economy.

The main environmental goals are as follows:

- Reduction to the minimum of the potential environmental risks generated by the hazardous substances;
- Compliance with the legal norms and regulations;
- Training and raising awareness of the entire staff concerning the specific performed activities implying use, handling and storage of flammable, toxic and potentially harmful substances which can constitute the source of a major accident;
- Promotion of environmental related investments intended to support the ALRO's alignment with EU environmental safety laws.

ALRO has well-regulated activities performed within the company from the point of view of environmental protection by Integrated Environmental Authorizations, Water Management Authorizations and Greenhouse Gas Emissions Authorizations.

The Company attaches great importance to the training and raising awareness of the employees, assigning responsible persons for the environmental protection at the level of all activity areas.

ALRO Environmental Report (3)

Within the Noxious Assessment and Analysis Office there is a laboratory equipped with state-of-the-art equipment and devices which performs permanent monitoring of the environment factors-air, water, soil and noise according to the monitoring programs mutually agreed with the competent environmental protection authority.

The Company has undertaken considerable efforts to modernize and introduce the most advanced and efficient technologies to the air emissions treatment plants; therefore all emissions generated within the ALRO SA premises comply with the Best Available Techniques (BAT) related to the environmental protection in the aluminium industry.

During the inspections performed onsite by the competent control authorities the conclusion was that ALRO reaches the maximum level of compliance.

ALRO's management has given a great importance to collaboration with competent environmental authorities (National Environmental Protection Agency, Environmental Protection Authority Olt, National Anti-Drug Agency within the Ministry of Internal Affairs), had a prompt reaction to all submitted requirements and was in compliance with the due dates established by law concerning the reporting of information on environmental aspects.

Alro has an ongoing action plan concerning the compliance with the new BAT requirements which were published for aluminium industry on June 30th, 2016.

Starting this date, within a 4 year timeframe all the alumina and aluminium plants in EU must comply with the new requirements.

Section 4: Future

Medium Term Development Areas (1)

Alro has always used a 5- year business plan, this year it is updated according to the constrains of the business environment.

The development areas considered for the following years are as follows:

- Occupational Health and Safety and Environmental Protection – **Company with high corporate social responsibility;**
- Energy Efficiency: continue to implement solutions to decrease the specific consumptions, use of external consultancy services in order to improve the current situation, some projects are already in progress, others are under discussions - **Company with high Energy Efficiency;**
- **Company with “Smart Maintenance Strategy”:** Maintenance Strategy Review (MSR) and work models: Reliability Centered Maintenance (RCM) + Streamlined Reliability Centered Maintenance (SRCM);
- Research and Development and increase of the level of innovation:
 - development of the product portfolio and upgrade of the technologies;
 - attraction of financing funding for the Research activity for the product portfolio development and technological upgrade (European funds - for example).
 - acknowledgment as the **“innovative company”**

Medium Term Development Areas (2)

- Increase of the very high value added products share
 - program for marine application development (shipbuilding), automotive industry, and aerospace industry
 - Continue the conversion to digital economy – “digital company”;
 - Continue to introduce new concepts, for instance:
 - “Zero Waste“ which includes:
 - Reduction of specific consumptions
 - Reuse
 - Remanufacturing;
 - Recycling;
- without waste landfill disposal.



The 2017 - 2021 Business Plan provides for total investments exceeding USD 190 million, of which more than USD 100 million in energy efficiency increase projects.

Our Arguments for the Future

VISION

Environmental friendly approach of the entire activity, more efficient operation oriented towards high value added products, BAT compliant, continuous improvement of the processes and increased customer satisfaction.

VALUES

Extensive experience, team work oriented toward environment protection, competence & highly qualified personnel.

MAJOR OBJECTIVES

ALRO will continue to make all necessary efforts in order to increase its competitiveness, to strengthen and consolidate its position as an aerospace and automotive high quality products supplier.

An aerial photograph of a university campus. The scene is dominated by lush green trees and well-maintained lawns. In the upper left, a large, modern building with a red roof and white facade is visible. A paved road curves through the center of the campus, with a few people walking. A large white sign is placed in a grassy area. The overall atmosphere is bright and sunny. Overlaid on the center of the image is the text "Thank you!" in a large, bold, white font.

Thank you !