Annual Report
in accordance with No.5/2018 of Regulation Romanian National Securities Commission for financial exercise of 2021

Date of the report: 31.12.2021

Name of the company: **ALUM SA TULCEA**
Headquarter address: Tulcea, 82 Isaccei Street
Telephone/fax: 0240.535.022 / 0240.535.495
Registration no. in Commerce Registry: J36/29/1991
Unique Identifier at European Level (EUID): ROONRC J36/29/1991
LEI Code (Legal Entity Identifier): 254900TPAV17KVG33J81
Fiscal Code: 2360405
Regulated market on which the issued shares are transactioned: AeRO
Social capital subscribed and paid: 488,412,907.85 RON
Class, type, number and main details about securities issued by SC ALUM SA: 82,086,203 shares at a nominal value of 5.95 lei/share.

1. Activity of the company

1.1. a) Main activity class is (as per NACE classification): Manufacture of basic precious and other non-ferrous metals (NACE code 244) and the main activity object is aluminum metallurgy (NACE code 2442).

In addition to the main activity object, there are the following secondary activities:

- Support services to forestry (NACE code 0240);
- Extraction of crude petroleum (NACE code 0610);
- Extraction of natural gas (NACE code 0620);
- Mining of other non-ferrous metal ores (NACE code 0729);
- Support activities for petroleum and natural gas extraction (NACE code 0910);
- Support activities for other mining and quarrying (NACE code 0990);
- Manufacture of other food products n.e.c. (NACE code 1089);
- Manufacture of made-up textile articles, except apparel (NACE code 1392);
- Manufacture of work wear (NACE code 1412);
- Sawmilling and planing of wood (NACE code 1610);
- Manufacture of veneer sheets and wood-based panels (NACE code 1621);
- Manufacture of assembled parquet floors (NACE code 1622);
- Manufacture of other builders' carpentry and joinery (NACE code 1623);
- Manufacture of wooden containers (NACE code 1624);
- Manufacture of other products of wood; manufacture of articles of cork, straw and plaiting materials (NACE code 1629);
- Manufacture of paper and paperboard (NACE code 1712);
- Manufacture of corrugated paper and paperboard and of containers of paper and paperboard (NACE code 1721);
- Manufacture of other articles of paper and paperboard (NACE code 1729);
- Other printing n.c.a. (NACE code 1812);

This is a free translation from the official Romanian version

- Manufacture of coke oven products (NACE code 1910);
- Manufacture of refined petroleum products (NACE code 1920);
- Manufacture of industrial gases (NACE code 2011);
- Manufacture of other inorganic basic chemicals (NACE code 2013);
- Manufacture of other organic basic chemicals (NACE code 2014);
- Manufacture of other technical ceramic products (NACE code 2344);
- Manufacture of other non-metallic mineral products n.e.c. (NACE code 2399);
- Production of ferrous metals in primary forms and ferroalloy (NACE code 2410);
- Cold forming or folding (NACE code 2433);
- Other non-ferrous metal production (NACE code 2445);
- Casting of iron (NACE code 2451);
- Casting of steel (NACE code 2452);
- Casting of light metals (NACE code 2453);
- Manufacture of metal structures and parts of structures (NACE code 2511);
- Manufacture of doors and windows of metal (NACE code 2512);
- Treatment and coating of metals (NACE code 2561);
- Machining (NACE code 2562);
- Manufacture of tools (NACE code 2573);
- Manufacture of light metal packaging (NACE code 2592);
- Manufacture of other fabricated metal products n.e.c.(NACE code 2599);
- Manufacture of electronic components (NACE code 2611);
- Manufacture of communication equipment (NACE code 2630);
- Manufacture of instruments and appliances for measuring, testing and navigation (NACE code 2651);
- Manufacture of electric motors, generators and transformers (NACE code 2711);
- Manufacture of electricity distribution and control apparatus (NACE code 2712);
- Manufacture of wiring devices (NACE code 2733);
- Manufacture of electric lighting equipment (NACE code 2740);
- Manufacture of other electrical equipment (NACE code 2790);
- Manufacture of lifting and handling equipment (NACE code 2822);
- Manufacture of other general-purpose machinery n.e.c. (NACE code 2829);
- Manufacture of metal forming machinery (NACE code 2841);
- Manufacture of other machine tools (NACE code 2849);
- Manufacture of machinery for metallurgy (NACE code 2891);
- Manufacture of machinery for mining, quarrying and construction (NACE code 2892);
- Manufacture of other special-purpose machinery n.e.c. (NACE code 2899);
- Manufacture of railway locomotives and rolling stock (NACE code 3020);
- Manufacture of medical and dental instruments and supplies (NACE code 3250);
- Other manufacturing n.e.c. (NACE code 3299);
- Repair of fabricated metal products (NACE code 3311);
- Repair of machinery (NACE code 3312);
- Repair of electronic and optical equipment (NACE code 3313);
- Repair of electrical equipment (NACE code 3314);
- Repair and maintenance of other transport equipment. (NACE code 3317);
- Repair of other equipment (NACE code 3319);
- Installation of industrial machinery and equipment (NACE code 3320);
- Production of electricity (NACE code 3511);
- Transmission of electricity (NACE code 3512);

- Distribution of electricity (NACE code 3513);
- Trade of electricity (NACE code 3514);
- Distribution of gaseous fuels through mains (NACE code 3522);
- Trade of gas through mains (NACE code 3523);
- Steam and air conditioning supply (NACE code 3530);
- Water collection, treatment and supply (NACE code 3600);
- Sewerage (NACE code 3700);
- Collection of non-hazardous waste (NACE code 3811);
- Collection of hazardous waste (NACE code 3812);
- Treatment and disposal of non-hazardous waste (NACE code 3821);
- Treatment and disposal of hazardous waste (NACE code 3822);
- Dismantling of wrecks (NACE code 3831);
- Recovery of sorted materials (NACE code 3832);
- Remediation activities and other waste management services (NACE code 3900);
- Development of building projects (NACE code 4110);
- Construction of residential and non-residential buildings (NACE code 4120);
- Construction of roads and motorways (NACE code 4211);
- Construction of railways and underground railways (NACE code 4212);
- Construction of bridges and tunnels (NACE code 4213);
- Construction of utility projects for fluids (NACE code 4221);
- Construction of utility projects for electricity and telecommunications (NACE code 4222);
- Construction of other civil engineering projects n.e.c. NACE code 4299);
- Demolition (NACE code 4311);
- Site preparation (NACE code 4312);
- Electrical installation (NACE code 4321);
- Plumbing, heat and air-conditioning installation (NACE code 4322);
- Other construction installation (NACE code 4329);
- Joinery installation (NACE code 4332);
- Floor and wall covering (NACE code 4333);
- Painting and glazing (NACE code 4334);
- Other building completion and finishing (NACE code 4339);
- Roofing activities (NACE code 4391);
- Other specialised construction activities n.e.c. (NACE code 4399);
- Maintenance and repair of motor vehicles (NACE code 4520);
- Agents involved in the sale of fuels, ores, metals and industrial chemicals (NACE code 4612);
- Agents involved in the sale of timber and building materials (NACE code 4613);
- Agents involved in the sale of machinery, industrial equipment, ships and aircraft (NACE code 4614);
- Agents involved in the sale of a variety of goods (NACE code 4619);
- Wholesale of electrical household appliances (NACE code 4643);
- Wholesale of computers, computer peripheral equipment and software (NACE code 4651);
- Wholesale of electronic and telecommunications equipment and parts (NACE code 4652);
- Wholesale of machine tools (NACE code 4662);
- Wholesale of mining, construction and civil engineering machinery (NACE code 4663);
- Wholesale of office furniture (NACE code 4665);
- Wholesale of other office machinery and equipment (NACE code 4666);
- Wholesale of other machinery and equipment (NACE code 4669);
- Wholesale of solid, liquid and gaseous fuels and related products (NACE code 4671);

- Wholesale of metals and metal ores (NACE code 4672);
- Wholesale of wood, construction materials and sanitary equipment (NACE code 4673);
- Wholesale of hardware, plumbing and heating equipment and supplies (NACE code 4674);
- Wholesale of chemical products (NACE code 4675);
- Wholesale of other intermediate products (NACE code 4676);
- Wholesale of waste and scrap (NACE code 4677);
- Non-specialised wholesale trade (NACE code 4690);
- Carried out Retail stores, stalls and markets (NACE code 4799);
- Freight transport by road (NACE code 4941);
- Removal services (NACE code 4942);
- Transport via pipeline (NACE code 4950);
- Sea and coastal passenger water transport (NACE code 5010);
- Sea and coastal freight water transport (NACE code 5020);
- Inland passenger water transport (NACE code 5030);
- Inland freight water transport (NACE code 5040);
- Warehousing and storage (NACE code 5210);
- Service activities incidental to water transportation (NACE code 5222);
- Cargo handling (NACE code 5224);
- Other transportation support activities (NACE code 5229);
- Other food service activities (NACE code 5629);
- Book publishing (NACE code 5811);
- Publishing of directories and mailing lists (NACE code 5812);
- Publishing of newspapers (NACE code 5813);
- Publishing of journals and periodicals (NACE code 5814);
- Other publishing activities (NACE code 5819);
- Publishing of computer games (NACE code 5821);
- Other software publishing (NACE code 5829);
- Sound recording and music publishing activities (NACE code 5920);
- Radio broadcasting (NACE code 6010);
- Television programming and broadcasting activities (NACE code 6020);
- Wired telecommunications activities (NACE code 6110);
- Wireless telecommunications activities (NACE code 6120);
- Satellite telecommunications activities (NACE code 6130);
- Other telecommunications activities (NACE code 6190);
- Computer programming activities (NACE code 6201);
- Computer consultancy activities (NACE code 6202);
- Computer facilities management activities (NACE code 6203);
- Other information technology and computer service activities (NACE code 6209);
- Data processing, hosting and related activities (NACE code 6311);
- Web portals (NACE code 6312);
- Activities of holding companies (NACE code 6420);
- Buying and selling of own real estate (NACE code 6810);
- Renting and operating of own or leased real estate (NACE code 6820);
- Real estate agencies (NACE code 6831);
- Management of real estate on a fee or contract basis (NACE code 6832);
- Accounting, bookkeeping and auditing activities; tax consultancy (NACE code 6920);
- Activities of head offices (NACE code 7010);
- Public relations and communication activities (NACE code 7021);
- Business and other management consultancy activities (NACE code 7022);

- Architectural activities (NACE code 7111);
- Engineering activities and related technical consultancy (NACE code 7112);
- Technical testing and analysis (NACE code 7120);
- Research and experimental development on biotechnology (NACE code 7211);
- Other research and experimental development on natural sciences and engineering (NACE code 7219);
- Research and experimental development on social sciences and humanities (NACE code 7220);
- Market research and public opinion polling (NACE code 7320);
- Other professional, scientific and technical activities n.e.c. (NACE code 7490);
- Renting and leasing of cars and light motor vehicles (NACE code 7711);
- Renting and leasing of trucks (NACE code 7712);
- Renting and leasing of construction and civil engineering machinery and equipment (NACE code 7732);
- Renting and leasing of office machinery and equipment (including computers) (NACE code 7733);
- Renting and leasing of other machinery, equipment and tangible goods n.e.c. (NACE code 7739);
- General cleaning of buildings (NACE code 8121);
- Combined facilities support activities (NACE code 8110);
- Other building and industrial cleaning activities (NACE code 8122);
- Other cleaning activities (NACE code 8129);
- Technical and vocational secondary education (NACE code 8532);
- Sports and recreation education (NACE code 8551);
- Cultural education (NACE code 8552);
- Other education n.e.c. (NACE code 8559);
- Educational support activities (NACE code 8560);
- Other human health activities (NACE code 8690);
- Repair of computers and peripheral equipment (NACE code 9511);
- Repair of other personal and household goods (NACE code 9529).

b) The Company was set up as a Commercial Society in 1991.

c) During 2021, the shareholding structure remained unchanged, at December 31st, 2021 being as follows:

No.	Shareholder	Number of shares	Percentage (%)
1	ALRO SA	81,595,860	99.4026
2	Other shareholders (natural persons)	472,647	0.5758
3	Other shareholders (legal persons)	17,696	0.0216
Total		**82,086,203**	**100.00**

At December 31st, 2021, the share capital of the Company is **RON 488,412,907.85** and the number of issued shares is **82,086,203** at a nominal value of **RON 5.95** per share.

d) Acquisitions or transfer (sale) of property
During 2021, the Company bought fixed assets with a gross book value of RON 23,987,468.

Total assets of the Company as of December 31, 2021 are as follows:

RON

	01.01.2021	**31.12.2021**	**Differences**
A. Non-current assets	166,428,386	364,942,841	198,514,455
B. Current assets	472,809,445	207,730,123	(265,079,322)
Total assets	639,237,831	572,672,964	(66,564,867)

e) Company's activity evaluation - Description of main results

Indicators that define the activity of the company in 2021 are described below:

SYNTHETIC INDICATORS	**Actual 2020**	**Actual 2021**	**Difference as compared to 2020**	**%**
	RON	**RON**	**RON**	
TURNOVER	**672,651,026**	**809,498,972**	**136,847,946**	**120**
TOTAL OPERATING REVENUES	**744,591,940**	**845,321,890**	**100,729,950**	**114**
TOTAL OPERATING EXPENSES	**671,779,491**	**786,304,233**	**114,524,742**	**117**
of which:- raw material and material expenses	395,660,286	453,061,587	57,401,300	115
- other expenses (non-stocked, inventory objects)	1,875,652	2,646,003	770,351	141
- energy and water expenses	148,138,127	250,890,125	102,751,998	169
- staff expenses	63,450,284	70,077,103	6,626,819	110
- depreciation expenses	24,719,493	23,517,689	(1,201,804)	95
- third parties services	28,718,243	30,968,957	2,250,714	108
-merchandise expenses	285,773	363,546	77,774	127
-fixed assets expenses	2,354,821	20,744,139	18,389,318	881
-value adjustments	6,576,813	(65,964,915)	(72,541,728)	**(1,003)**
Operating result	**72,812,449**	**59,017,657**	**(13,794,792)**	**81**
FINANCIAL REVENUES	**47,243,640**	**40,257,845**	**(6,985,795)**	**85**
FINANCIAL EXPENSES	**50,262,690**	**108,590,873**	**58,328,183**	**216**
Financial result	**(3,019,050)**	**(68,333,028)**	**(65,313,979)**	**2,263**
TOTAL REVENUES	**791,835,580**	**885,579,735**	**93,744,155**	**112**
TOTAL EXPENSES	**722,042,181**	**894,895,106**	**172,852,925**	**124**
GROSS PROFIT	**69,793,399**	**(9,315,371)**	**(79,108,771)**	**(13)**
PROFIT TAX	**12,208,676**	**20,153,603**	**7,944,927**	**165**
SPECIFIC TAX	**32,303**	**21,731**	**(10,572)**	**67**
NET PROFIT	**57,552,420**	**(29,490,705)**	**(87,043,126)**	**(51)**

1.1.1 Elements of general evaluation:

	RON
Profit / (loss)	(29,490,705)
Turnover	809,498,972
Cash and cash equivalents	703,542

1.1.2. Technical evaluation of the Company

a) In 2021 the main incomes of the Company were obtained from sales of the followings:
- calcined alumina;
- hydrate;
- scrap iron;
- utilities;
- various activities.

This is a free translation from the official Romanian version

b) New products taken into consideration for the future financial exercise, that requires to allocate a substantial assets volume and the actual development stage of those products.

Not the case.

1.1.3. Evaluation of procurement activity

The main raw materials and utilities, as percentage of total expenses with raw material and utilities are: bauxite, caustic soda, natural gas and electricity.

1.1.4. Sales activity evaluation

a) In the year 2021 Alum's recorded turnover was 809,499 th RON consisting in:

sales of alumina to Alro	651,734	th RON
sales of alumina to other clients	58,409	th RON
sales of hydrate	95,690	th RON
scrap sales revenues	1,691	th RON
sales of utilities	785	th RON
revenues from various activities	1,190	th RON

b) Alum SA is the sole calcined alumina producer in Romania, so, there are no internal competitors.
Since the market is challenging, Alum must continue its strategy of cost reducing. This can be achieved by reducing consumptions, developing new environmental friendly technologies, investing in human capital and development of new, competitive and high added value products.

In this respect, under the financing contract signed on September 8, 2016, Alum SA launched a project (SMIS 2014+) co-financed under the European Regional Development through Operational Program of Competitiveness 2014-2020 " Investing in Sustainable Development ".
The equipments purchased in 2018 within these investment projects were placed into operation in 2019 and the subsidies received are recognized as income on a straight line basis during the useful life of the equipments.

c) Description of any significant dependence of the Company beside a sole client or a group of clients and whose loss could have a negative impact in relation to Company's revenues,
Not the case.

1.1.5.a) Average number of staff for 2021 was 792, with the following structure:

Management	14
Administrative staff	145
Workers	633

Trade-union rating of work force is 95.08%.

b) Relationship between managers and employees are of co-operation.
In 2021, the relations between the executive management of the Company and the employees represented by unions were fair, regulated by the Collective Labour Agreement and the specific legislation in force. There were no major conflicts recorded, likely to influence the normal activities or business continuity.

1.1.6. Assessing aspects of the business impact against environment

Alum S.A. main activity is the production of calcined alumina by Bayer process. The technological process assumes the existence of alkaline solutions to various degrees of dilution.
From the technological circuit for obtaining calcined alumina, are resulting gas emissions, used technological waters and a serie of wastes that are treated properly, according to the actual legislation.
Noxes resulting from the burning of natural gas are discharged into the atmosphere through the dispersion baskets from the CET section and the Calcinare plant, their impact on air being insignificant.
The noxious resulting into heavy oil/gas combustion process from boilers and furnaces calcinations are monitored continuously trough a monitoring system commissioned in February 2006. Data monitored are on a daily basis reported to the local environmental authorities in accordance with the approved Self-Monitoring programme and the obligations imposed in the integrated environmental permit.
In 2018, Alum SA has completed the National Transition Plan measure to reduce NOx emissions so that it falls within the maximum limit of 100 mg / Nmc.
The impact generated by the resulted gas emissions on protected areas, from aria of influence of the society is insignificant.
The impact on the environment factor, water, consists in discharging through the sewage system of the Company, of different categories of water: pluvial and "conventionally clean", technological waste and household.
Before discharging in the Danube river, the wasted water is neutralized in the cleaning station, being transferred in the retention basin and then discharged, Rainwater and conventionally clean are discharged through the rainwater collector in Somova Pond and the sewage is discharged in the municipal sewage system.
Permanent monitoring of the indicator "pH" is achieved through placement of "pH" continuous measuring device, both in the offtake of pluvial water and neutralizing station and retention basin,
The impact on the environment factors, soil, consists in possible release of dust on the ground, in case of malfunction of various installations, and the solid residue resulting from processing bauxites.
Soil analyses carried out in the impact zone of society have highlighted the insignificant impact of the activity of ALUM S.A. on soil quality in the area.
Monitoring is also done at the red mud lake for: the water level in the red mud lake, state of contour dams, the system of pumping mud and water, the groundwater quality in the drillings control located in the area of red mud lake, the condition of the pluvial water offtake, the quality of environmental factors with the help of the meteo station placed near the red mud thickener, etc.
Also, the heap wetting system is constantly monitored to avoid entrainment of solid particles in air. Also in this regard, the forest curtain created along the two sides of the sludge deposit is maintained, in order to prevent the dispersion of any dust to the inhabited areas.
In 2019, Alum SA obtained the Environmental Agreement for the project Raising dams at the slam dump. In March 2020 began monitoring for: sedimentable dust, total suspended dust, immissions of exhaust gases specific to fuel combustion, soil and noise.
In 2018, Alum SA obtained a new integrated environmental permit, with a 10-year validity and implemented an integrated Quality-Medium-SSO-Energy system.
As of December 31, 2021, ALUM SA is in the process of reviewing the new integrated environmental permit.
Through the approved environmental policy, ALUM S.A. is oriented towards business performance, achieved on a sustainable path, by targeting processes to the best available technologies, both in terms of the quality of the products and the impact on the environment.
ALUM S.A. has no disputes for violations of environment legislation.

In 2021, the company did not record income from subsidies related to the indirect emissions due to the fact that Europe entered into a new phase for ETS legislation, Phase 4 valid for 2021-2030. The Romanian authorities need to implement the European ETS Guidelines post 2021, no. C (2020) 6400 final* into the local legislation and only then we will be entitled to recognise the subsidy for indirect emissions (*Communication from the Commission Guidelines on certain State aid measures in the context of the system for greenhouse gas emission allowance trading post 2021).
In October 2021, the Company received the amount of RON 9,427 thousand representing the compensation for the indirect emissions costs embedded in the energy costs incurred in 2020.

In 2022 the refinery has the following investments program:

No.	Investment objective	Values (thousand $)
1	Increasing the storage capacity of the red mud pond by elevating the dikes throughout the perimeter +51mdm	1,250
2	Extending the surface of the red mud pond and securing the red mud storage in the S + SE area	3,086
3	Construction of industrial installation for the efficiency of the soda unloading process from railway wagons and autotanks	130
4	Steam flow and temperature adjustment for Digestion batteries	350
5	Acquisition and installation of steam flow measurement systems	215
6	Modernization of a Digestion line by replacing the registers at the preheating and rehabilitation of two autoclaves agitation system (Amber)	80
7	Fostering investments within ALUM SA by acquiring high technology fixed assets	43
8	Maintenance Capex	448
9	PPE	170
10	Endowments	290
TOTAL		**6,062**

1.1.7. Research and development activity evaluation

The Innovation Development Research Department is actively engaged in the following directions:

- Identifying and satisfying the needs and expectations of its clients, as well as all stakeholders, respectively: employees, suppliers, owners, company, in order to obtain a competitive advantage in an efficient manner;
- Obtaining, maintaining and improving the overall performance and capabilities using as the main vector the commitment to achieve quality.

The purpose of setting up the Innovation Development Research Department was to support, in a technical, scientific way, the industrial sectors of Alum in order to improve the technological processes for:

- improving the quality of the products;
- continuous improvement of our activities, processes and products, as well as energy and environmental performance;
- decrease of specific consumption;
- decrease of utility consumption;
- correlating some production results with the technical and technological aspects;
- increasing the competitiveness of the products;
- training and improvement of human resources.

The necessity of setting up the Innovation Development Research Department is supported by:

- the special importance of increasing the share of value-added products;
- the need to create new products with specific niche applications in the field of alumina and aluminum hydroxide;
- the need to increase the degree of capitalization of raw materials;
- identification of new methods of processing and recovery of waste resulting from the technological flow.

The main R&D activities carried out within the Alum company consist of:

- establishing the technical/technological parameters and the technical-qualitative parameters for new product ranges possible to manufacture within the company;
- realization of the documentation for product development - advance product quality planning;
- achievement of industrial research topics received from the sectors of the company;
- producing tracking reports on the technological flow of new products and qualification batches;
- monitoring the technological flows for establishing the influences of the process parameters and finding optimization solutions;
- management of collaborative missions with highly qualified specialists in the country or abroad;
- managing visits from other companies to solve and improve technical problems;
- implementation of the programs of measures resulting from the missions of collaboration, visits and trips;
- management of the technical documentation regarding the research activity of the company.

Research projects:

1) RemovAL project: „Removing the waste streams from the primary Aluminium production and other metal sectors in Europe"

RemovAL, 16.03.2018 – 31.10.2022, where ALUM participates together with 7 industrial partners and 20 academic and research partners, aims to remove the waste streams from the primary Aluminium production and other metal sectors in Europe. In RemovAL ALUM continue to participate as stakeholder, providing appropriate samples of bauxite residue have been tested at lab or pilot scale under at various technological nodes of the project and continue to participate to the feasibility studies and business plan development, especially in regards to potential technology deployment at ALUM.
In 2021 ALUM participated in the meetings within the ongoing project (85%) offering active support in connection with the possible implemented technologies at industrial pilot level.

2) ReActiv project: „Industrial Residue Activation for sustainable cement production"

ReActiv project, 01.10.2020 - 31.09.2024, where ALUM is one of the industrial partners together with 6 other international companies in the alumina industry and 14 academic partners, is coordinated by Lafarge Center De Recherche by SAS.
ReActiv project aims to create a novel sustainable symbiotic value chain, linking the by-product of the alumina production industry and the cement production industry.
Bauxite residue (BR) is the main by-product of the alumina sector, obtaining approximately 7 million tonnes per year in the EU, while recycling capacities are below 200 thousand tonnes per year. The ReActiv project aims to modify the properties of bauxite residue turning it into an active material used to obtain new cements with a low CO2 footprint. In 2021, ALUM continued to participate in the actions undertaken within the ongoing project (30%) by providing sustained

know-how related to the current management of bauxite residue in connection with potential future reuse technologies.

3) REEScue project: „Integrated process for the recovery of Rare Earth Elements and Scandium from Bauxite Residues"

In the REEScue research project, 01.10.2020 - 31.03.2023, ALUM participates together with 2 other companies in the alumina industry and 2 academic partners, under the coordination of the Technical University of Athens**.**The main aim of the project is to secure the supply of EU in critical raw materials and contribute to building a sustainable future and a circular economy, with waste valorization and extraction of metal values from secondary sources, such as landfilled or industrially produced bauxite residues. Bauxite residue (BR) is the by-product of the Bayer process for alumina production. It contains considerable amounts of Rare Earth Elements (REEs), Scandium and other refractory metals and EU has included them in a priority list for their exploitation from indigenous resources.
In 2020 the Company received as non-refundable funds the amount of de 14 520 RON, representing step 1 of REEScue project.
In 2021, the company received non-reimbursable funds in the amount of RON 96,800, representing the second stage of the REEscue Project (52% of the total).

In 2021 the Company recognized research and development costs of RON 2,814 (in 2020: RON 2,575) after the placing into operation in the beginning of 2019 of the equipments under the EU funded project for the project for the research of aluminum hydroxide technology (dry and wet). The target of these projects is to increase the level of innovation and market competitiveness of the Company, while expanding the products portfolio to include new products.

1.1.8. Assessing commercial activity on risk management (description of the Company exposure to price risk, credit, liquidity and cash flow)

Credit Risk

The credit risk represents the risk that one of the parties participating in the financial instrument will fail to fulfill an obligation, thus causing a financial loss to the other party.
Financial assets that expose the Company to the potential credit risk concentrations comprise mainly receivables from the main activity. The Company has policies to ensure that sales are to customers with appropriate references on their creditworthiness. Date of maturity of debt is carefully monitored and the overdue amounts are promptly pursued.
These are presented at the net adjusting value for uncertain receivables.
On 17 May 2018, Alum concluded a loan in amounting to USD 20 million with Black Sea Trade and Development Bank and USD 5 million with Garanti Bank Romania S.A., respectively. The scope of these loan facilities are mainly investments, and they will be repaid in seven half-yearly instalments after a grace period of two years. On 31 December 2021 the amounts were drawn in full and the first four installments were reimbursed.
The bank borrowings of the Company will mature until 2023. In 2021, the interest rates ranged between 3.25% și 3.76% (2019: 3.41% și 5.40%).

In December 2020, the Extraordinary General Meeting of Alum Shareholders approved the contracting of two credit facilities with Garanti Bank Romania. On February 17, 2021, the credit agreement was signed, which includes a revolving facility for financing the current activity of the Company in the amount of maximum 3 million USD, maturing on November 1, 2022 and a non-cash revolving facility for issuing commitments (letters of guarantee and letters of credit), amounting to a maximum of 3 million USD, maturing on November 1, 2024.
The maximum cumulative exposure reserved for the two facilities will never exceed the amount of the loan, respectively USD 3 million. The loan is secured by movable and immovable mortgages

on the Company's movable and immovable property, with collateral on stocks, receivables and current accounts.

From the maximum cumulative exposure, on December 31, 2021, USD 2,920 thousand was used to finance the current activity and USD 77 thousand for the issuance of a letter of guarantee. On December 21, 2021, the contract was supplemented with a non-revolving credit facility in the amount of USD 2,000,000 to finance the current activity. The facility was fully repaid on December 22, 2021. The loan will be repaid in 36 equal monthly installments. The maturity for the $ 2,000,000 credit facility is December 2024.

According to the existing borrowing agreements the Company is subject to certain restrictive covenants. These covenants require the Company, among other things, to maintain a minimum or maximum level for certain financial ratios, including: financial debt to EBITDA and current ratio. At 31 December 2021, the Company was in breach of one of the covenants in respect of one of its loans, with a corresponding long-term balance of RON 21,259 thousand. The Company discussed the situation with the bank and received the necessary waiver within the specified testing period. A breach of covenants in respect of a liability that entitles the creditors to require repayment at a future date within one year from the reporting date is unlikely, and therefore the amounts that are not expected to be paid within one year are classified as long-term liabilities.
Alum has entered into export factoring contracts with non-regressive factoring operations. The global factoring limit is in the amount of 3,000,000 euros, of which 439,599 euros were used.
The factoring ceiling is of the “revolving” type, which is reconstituted as the covered receivables are collected.

The net book value of leased assets at Company level as of December 31, 2021 was RON 334,774 (31 December 2020: RON 574,257).

In 2016 the Company entered into a operating lease contract for vehicles, with lease terms of up to 5 years. The operating lease expense amounted in 2021 to RON 281,103 (in 2020: 271,222 RON).

Liquidity risk

The liquidity risk, also named financing risk, is the risk that a plant has difficulties in accumulating funds in order to fulfill the obligations related to the financial instruments. The liquidity risk can arise from the inability to sell quickly a financial asset at a value close to its actual value.
Prudent liquidity risk management implies maintaining sufficient cash and available credit lines, through continuous monitoring of estimated and real cash flows and matching the estimated maturities of financial assets and liabilities.
Due to the nature of the business, the Company seeks to maintain flexibility in funding opportunities, including majority shareholder support.

Cash flow risk

By the nature of the activity, the Company is not subject to a risk of change in the projected cash flows, both from financial instruments fluctuation and the changing interest rate.

Market risk

The Romanian economy is developping continuously, Due to the fact that almost 90% of the production of calcined alumina is sold to ALRO Slatina, the main shareholder of ALUM SA Tulcea, the management considers that the market risk is low.

1.1.9. Elements of perspective on the business company
a) Presentation and analysis of trends, items, events or factors of uncertainty that affects or could affect the liquidity of the company compared to the same period of previous year.

For this purpose the Company established the following main objectives:

- Ensuring the operational continuity by extending the lifetime of the red mud pond in compliance with the provisions of the environmental agreements to which ALUM is obligated to comply with;
- Continuation of the modernization process in order to meet the new demands regarding the economical efficiency, environmental protection and social responsibility;
- Ensuring raw materials and energy resources on long term basis;
- Increasing the energetical efficiency for the entire production process;
- Active management of contractual and market risks (financial), taking into account the evolution of the domestic and international market;
- Continuous compliance with environmental rules ;
- Achieving savings in fuel consumption / primary energy prince of high efficiency cogeneration processes ;
- Increasing the safety in operation of static and dynamic equipments necessary to carry out the activity of ALUM's departments.

b) The financial resources for supplying are provided from company's own resource.

c) Main development directions of ALUM S.A.

The future development projects which ALUM put into commissoining intend to implement are briefly presented below:

1. Environmental projects to ensure operational continuity:

- Increasing the storage capacity of the red mud pond by elevating the dikes throughout the perimeter;
- Extending the surface of the red mud pond and securing the red mud storage in the SE area (30 ha);
- Construction of industrial installation for the efficiency of the soda unloading process from railway wagons and autotanks;

2. Projects to ensure the operating conditions and the safe continuity of the production process:

- Improving the process of filtering and reslurryng the coarse seed by purchasing and installing a new disc filter;
- Increasing the performance of precipitation vessel agitation systems and the efficiency of the Precipitation process by mounting four agitation systems;
- Optimization of a precipitation line by modifying the pulp transfer systems between precipitation vessels (troughs);
- Increasing energy efficiency and improving the monitoring of the steam and compressed air distribution system;
- Progressive reduction of specific electricity consumption by replacing pumps with advanced degree of wear with high energy efficiency pumps;
- Modernization of a Digestion line by replacing the registers from the preheating and rehabilitation autoclaves agitation system (Amber);
- Eco-efficient investments meant to reduce the use of primary resources and to increase waste recycling in the technological process ALUM SA;
- Rehabilitation of 6 kV electricity distribution system;
- Maintenance Capex;
- PPE;
- Endowments;
- 12 MWe high efficiency cogeneration power plant.

2. Tangible assets of the Company

2.1. Emplacement and main characteristics of productions capacities of the Company

The Alumina Plant from Tulcea was commissioned in 1973, with the destination of processing of raw material from import. The emplacement of this factory at Tulcea, on the right side of the Danube, was choosing for its transportation facilities of raw material (bauxite). Also, the alumina process is high water consumer and such placement would cover the required quantity of water to the process.
The designed capacity of the factory is 400,000 MTA, from which 395,000 MTA is calcinated alumina and 5,000 MTA as hydrate (aluminium hydroxide). This capacity was reached in 3 stages; the last stage was completed in 1980.
In 2001, the static kiln was put into function. That increased the production up to 600,000 MT of calcined alumina.
The main raw material from which alumina is extracted is the bauxite ores from import. The content of aluminium oxide is between 46 to 48%.
The others raw materials necessary to obtain alumina are: caustic soda, industrial lime, industrial flour, sulfuric acid etc, and natural gas as fuel.
The extraction of aluminium hydroxide from bauxite is based on Bayer process that is moist hydro - metallurgical process. The dissolving process is realized with caustic soda.
The bauxite is transported with ore ships to Constanta port where is transferred into barges then transported and downloaded in port of Tulcea. From there, the bauxite is transported inside the plant (Alum), at the bauxite site.
The technological process is developed inside Alum, The location of Alum's premises is on the west side of Tulcea city, 82 Isaccei Street, The productive area is of 393,215 sqm. The main operation units are:

- **The storage system of bauxite** - Bauxite managing site. This includes: downloading system (tilter, rail bridge with clamp bucket), transporting system (belt conveyors), stocking system, stocking machine, (in two large space of stocking), feeding equipment and heavy equipment (bulldozers).
- **Bauxite grinding**: through this operation, the bauxite granulation is reduced to under 100 microns; the purpose is to speed up the digestion of bauxite.
  At this stage, the strong liquor is dosed properly (is added to the process). The grinding operation is done by 6 grinding mills with a capacity of 100-125MT/hr each, depending of the bauxite type.
- **The lime milk preparation**: this operation is meant to bring calcium oxide into the process. The lime milk is produced inside of 3 lime slaking drums. Discharging and storing is done at lime storage are, with a capacity of 1,000 MT, provided with gantry crane and clamp bucket bridge.
- **De-silication:** this process is done inside 12 tanks of 1,000 cubic meters each.
- **Slurry transportation** is made under pressure by 15 pumps (Duplex pump type).
- **The digestion**: this process is made inside two high pressure digesting batteries E and D and four low pressure digestion batteries, depending on the mineralogical composition of the processed bauxite. The high pressure batteries consists of 16 autoclaves and 8 expansion vessels and the low pressure ones consists of 7 autoclaves and 3 expanders. The digestion process is taken place at a temperature of 145 to 245 Celsius degrees depending on the type of bauxite processed.
- **The control filtration** is performed with four Gaudfrin vertical filters, each with a filtration area of 338 m2. Tricalcium aluminate (ATC) is used as a filtration additive, which is obtained by reacting milk of lime with part of the filtered aluminate solution.

- **The muds in the washing line** are sent to red mud pond that is located at 4.5 km far from the plant. The available storage capacity of the red mud pond is about 11 million cubic meters. The red mud is sent in the thickener installed at the red mud lake in 2010. The resulting water from settling process is pumped back to the plant and sent to treatment area - neutralization collector- where is treated with sulphuric acid, then is cleaned and pumped to the Danube. The red mud, evacuated in dense phase, having a concentration of minimum 52% solids, is stored in the red mud lake.
- **The precipitation installation** of pregnant liquor includes 37 vessels, with 2,000 cm capacity and two hydro-separators by 750 cm capacity each.
- **The filtering installation** for coarse seed includes 4 disc filters with a filtering area of 100 sqm and 2 disk filters with 80 sqm filtering area. The hydrate filtration is made on drum filters and an horizontal filter installed in 2012. Currently, the coarse seed filtration is made on a Bokela disc filter with full automatic operation that was installed and put into operation during 2020. The aluminium hydroxide coarse seed is repulped with part of the filtered aluminate solution and pumped towards the first growth vessels of the Precipitation line.
- **Evaporation installation** includes 2 evaporation batteries Kestner type, 2 super-concentrators of solution, a VN evaporation battery. The Kestner battery is a battery with multiple effects, is working in counter-current and includes 6 evaporation units, each of them including a separators and a boiling vessel, 4 pre-heaters of mixing, 4 expanders- auto-evaporators, 3 pure condensate auto-evaporators, 4 auto-evaporators for impure condense, vacuum installation, etc.
- **The wet aluminum hydroxide storage** allows the bulk storage of a maximum quantity of 10,000t of wet aluminum hydroxide. The aluminum hydroxide is taken from the white filtration installation via the conveyor belt 701 and sent to the hydrate buffer depot, equipped with a graft bridge or is taken over by the drying-calcination installation. The aluminum hydroxide tank is equipped with a graft bridge, loading bunkers, bucket conveyor, etc. During 2020, the runway of the graft bridge was rehabilitated. Also in 2020, next to the wet hydrate warehouse, a new covered warehouse was built in order to store aluminum hydroxide packed in bag-bags with a capacity of about 1,700 t.
- **Kiln Installation** Hydrate calcination process is realized in three rotate kilns with a length of 112 m and/or one vertical kiln (calcinations in suspension) put into operation in February 2001. Alumina is cooled in kiln coolers and transported to the silos with a pneumatic transportation system. Waste burning gasses are passed through dust removal system and evacuated through funnel.
- **Alumina storage** - alumina is stored in five silos with a capacity of 2,000 MT each. The alumina production activity implies, beside technological base, utility and services sectors which mainly concerns primary materials supplying (bauxite), auxiliary materials and services (sodium hydroxide solution, heavy fuel, steam, acids, industrial water, technological air, lime, etc), workshops for repairs and maintenance, supplying of circulating means, waters evacuation systems (waste, sewage, rain water), solid residue deposits (red mud pond, solid waste deposit, etc).
- **Power plant installation** generates thermal and electrical energy for calcined alumina production. The facility structure consists in heavy fuel unloading facility (unloading and pumping heavy fuel oil station, heavy fuel tanks by 3000 MT), demineralization water facility, central heating system (one boiler by 105 to of steam/h) and power plant building (3 boilers each with 120 to of steam/h, electrical power generator CKTR 12 MW, and CSL 12 MW, 5 Sigma feeding pumps), etc.
- **Installation for cooling water** - is compounded by three cooling towers with 3000 cm/h cooling capacity, a forced circulation cooling tower installed in 2011 with a capacity of 1,300 cm/h, a forced circulation cooling tower installed in 2014 with a capacity of 250 cm/h and two pumping station, a cooling tower mounted in 2019 for cooling a water flow of 800 m3/h from a temperature of 50 degrees Celsius to 30 degrees Celsius.

- **Compressed air installation** - is designed in three parts, Centrifugal compressor hall with two centrifugal equipments K 250-61-2 manufactured VPDS, with functional parameters: V=250 cm/min, p=9ata, n=10923rot/min, The hall L100 is endowed by 5 "Resita" compressors with rate flow = 94.3 cm/min,, p ref,=8 ata, Atlass hall is equipped with 5 Atlass-Copco type compressors, p=7,5 ata and 4 Ingesol compressors p=7.5 ata.
- **Independent installation for researching the technology for obtaining dry aluminum hydroxide**. The installation aims at drying the wet aluminum hydroxide (hydrate). The wet aluminum hydroxide looks like a fine powder with a maximum humidity of 6%. The plant is composed of a dry aluminum hydroxide drying system and a flue gas filtration system. The equipment produces a dry hydrate with a maximum humidity of 0.1%.
- **Independent installation for researching and developing the technology of grinding and sorting of dry hydrate.** The grinding installation has the technological role of grinding the dry hydrate and sorting the milled aluminum hydroxide, with the possibility of obtaining separately 4 granulometric fractions. The technological process of grinding dry aluminum hydroxide and sorting the granulometric fractions of different sizes and comprises the following technological phases: the grinding, sorting and recirculation at the milling phase of fractions with different granulation than required.
- **Aluminum hydroxide classification installation**. The installation for researching the classification technology of wet aluminum hydroxide allows through the hydrocyclone process to perform the operations of:
    - Separation by granulometric classes of the wet aluminum hydroxide to obtain a certain particle size distribution for the fine-primed aluminum hydroxide and for the production of aluminum hydroxide;
    - Separation of the solid substance from the recirculated solution up to a maximum value of 1 g/L.

Utilities area

- **Water intake facility is 66,580 mp area -** Water intake is done from Danube river into a tank fitted pocket type, positioned upstream of Tulcea city, mile no, 39 + 500m. The captation of water is made by two floating pumping station equipped with 4 Bratesh 500 type electro-pumps, Q=2400 cm/hr, H=2,5cmA, N=132 kW, n=739 rot/min. The water is repressed through two pipes into one buffer collector by 1500 cm capacity. From collector the water is pumped (step I of pumping) with two Brates 500 type electro-pumps through 3 Dn 800 pipe lines till the node ''B" from where is supplied Water treatment station.
- **Water treatment station** is spread on a 27,422 sqm area, Water treatment station is positioned on industrial road which made the connection with Industrial port, half way from the plant. Water treatment station is equipped with 3 suspension decanters by 500 L/s, one underground water reservoir with 5000 cm capacity, station with sand filters, two clarified water decanters by 200 L/s, lime unload station, water pumping station (step II) to plant, etc.
- **Red mud pond** has 794,039 sqm areas. The red mud pond is positioned at about 4.5 km west of plant and Tulcea city, on the road DN 22, being made by closing a wide valley - named "Flam valley", by building a dam, actually at a level of + 44.00 m RMN. The red mud storage area is equipped with red mud discharge pipes, pipes for clear liquid taking over, pumping station, emergency collector, etc. The connection between pumping station and plant is assured by three pipe lines (red mud, clarified liquors and spare line) on concrete trestles.

2.2. Description and analysis of wear degree of company's buildings and equipment

The company construction activities were initiated in 1969 – 1970. The first facility was put into function in 1973, and functioned continuously till present, appreciatively **48** years. Is normal that some buildings to be affected, taking into account mechanical and also chemical stress they are subject.

The installations and equipments which were considered with advanced wear degree were restored, replaced permanently to continue the production flux. The affected installations which not longer had technological interest were disaffected. Example: bauxite step II crushing installation, evaporation VN type Oradea installation, etc, or restored: sulphuric acid unloading installation etc. Because of alkaline processes of calcined alumina production were affected especially concrete structures, reinforced and prefabricated and also bricks closing elements. The structures from steel (iron materials) resisted better at alkaline attack of aerosols.

From affected structures with a difficult restoration can be highlighted the sewerage system. Difficult functioning of sewerage because of evacuated waters chemistry conducted at an increasing of level of groundwater, process which seems to be stabilized in the last period due to new measures for water management and to fluidization operations of some portions of sewerage system. The operation is still monitored by decisional factors.
Because the level of the groundwater increased, were identified some corrosions on some bearing structures, for which are underway consolidation works for the following buildings or affected areas: foundation of the Precipitation tanks, Crushing building, Caustification building, Laboratory building, Chemical Treatment building, White Filtration building.
To increase the degree of safety for the red mud pond dam action was taken and works were made to improve exploitation conditions by modification of discharge system and the erection of a deep settler with technology provided by Neyrtec Mineral (France) that allows to deposit thickened red mud with a concentration of minimum 52% solids and also performing red mud pond dam elevation works based on Hatch and UTCB studies.
Also, in parallel with the dam, at a distance of approx 80 m inside the red mud lake, there has been built a separation dam and a surface of 4.8 acres have been ecologized.
During 2013 the Company finalized an extensive work to capture the rainwaters from the hills around the red mud lake through a collector channel to prevent them from entering in the red mud pond. Also, starting from 2011, on the ecologized surface there have been planted over 67,313 willow trees, acacia, rosehips and thuja.
The facilities affected by chemical corrosion are: caustic unloading area, unloading sodium hydroxide unit, white filtration unit, grinding unit etc. At this buildings are intended to make rehabilitation work.

2.3. Analyzing the wear degree of our company' s properties can be concluded that:

- Functionally point of view, technological installations are maintained, restored or replaced, eliminating at a high degree physical wear, and trying both with own forces and cooptation of new technologies in advance (implementation in calcination process the fluidized bed calcinations technology, the use of new calculation system, process calculators, etc) to minimized moral depreciation of facilities. In this purpose are foresighted aspects regarding environmental protection.
- All buildings have a good status, especially for metallic structures and there are in the process of rehabilitation and maintenance of the technological equipments. The buildings will support during the time some rehabilitation works, which is a normal process for continuing the plant activity.

3. Company's Stock and Shares market

3.1. Company's shares are operated by Bucharest Stock Exchange – AeRO segment.

3.2. Description of Company's policy regarding its dividends.
For the 2020 year, the company registered profit which has been distributed as follows: 5% to legal reserves and the rest to cover the loss from previous years and in 2021 the company recorded a loss.

3.3. Description of any intend of the Company to buy its own shares.
In 2021 ALUM didn't purchase or detained its own shares.

3.4. If the company has any branch, state the number of shares and nominal value issued by the mother company and detained by the branch
Not the case.

3.5. In case that the Company has issued bonds and/or outstanding debts, should be indicated the proceeding of clearing its duties toward such securities holder.
Not the case.

4, Company's management

The Board of Directors is representing both the interests of the Company and those of its shareholders and is responsible for the overall management of the Company.

For the period 01.01.2021 – 31.12.2021 based on GSM Decision no. GSM Decision no. 43 dated August 9, 2019 the Board of Directors consisted of:

1. Dobra Gheorghe	-	Chairman
2. Barabanov Aleksandr	-	Vice Chairman
3. Cilianu Marin	-	Member
4. Popa Ioan	-	Member
5. Duralia Mihaela	-	Member

In 2021 the members of the Board of Directors attented to 17 meetings.

The remuneration of the members of the Board of Directors and the CEO during 2021 was in amount of RON 1,431,984.

4.1.a) Details about the members of the Board of Directors

Dobra Gheorghe (1959), President of the Board, Executive Member of the Board of Directors

Mr. Gheorghe Dobra, PhD, Executive MBA, graduated from the Bucharest Polytechnic Institute, Romania. Mr. Dobra joined Alro in 1984 and held various engineering and executive positions since then. Starting with 2005 Mr. Dobra became CEO of Alum, being currently also the president of the Board of Directors of the Company.
Mr. Dobra's main achievements in the Company are:

- The increase of the Company financial performances;
- Both technical and technological modernization;
- Increase of production quality;
- Substantial investments for environment protection that led to the improvement of the working conditions and overall greening of the Company;
- Decrease of the production costs, with a high accent on the increase of the energy efficiency.

Barabanov Aleksandr (1979), Vice-President of the Board, Non-executive Member of the Board of Directors

Mr. Aleksandr Barabanov graduated cum laude from the Moscow State Institute of International Relations and is a Certified Internal Auditor, a member of the Chartered Alternative Investment

Analyst Association (CAIA) and an ACCA fellow member. Mr. Barabanov has an extensive experience of more than 16 years in accounting, reporting and auditing of large industrial companies, which activate mainly in the energy and mining and metals industries. He joined Rinco Group/Vi Holding in 2006 and is currently Head of Accounting and Corporate Reporting Department and prior to its employment at Rinco Group/ViHolding. Mr. Barabanov was the Senior Manager of the Financial Analysis Department at JSC Tatnelf. He also worked as an audit consultant at CJSC PricewaterhouseCoopers Audit, in the Energy and Mining Department.

Cilianu Marin (1965), Non-executive Member of the Board of Directors

Mr. Cilianu Marin holds a degree in Metallurgical Engineering issued by the Bucharest Polytechnic Institute, where he claimed and received his PhD in 2004. Mr. Cilianu also holds an MBA degree issued by the University of Washington and Romanian School of Business ASEBUSS.
Mr. Cilianu entered the aluminum industry in 1991 at CEPRAL Slatina where he worked until 1994. In 1994, Mr. Cilianu started his career in Alro Slatina, where he fullfilled various management positions over time.
Mr. Cilianu currently serves as Chief Operating Officer of the Primary Aluminium Division at Alro Slatina. He had and has supported scientific activity in the metallurgy of aluminum field.

Popa Ioan (1950), Non-executive Member of the Board of Directors

Mr. Popa Ioan was Director of International Economic Relations Department of the Faculty of International Economic Relations, Academy of Economic Studies Bucharest. The main tasks were to develop the curriculum of the Department of International Economic Relations, Master coordination of the Department of International Economic Relations and organization of scientific meetings.
Between 1991 and 2004, Mr. Popa was Dean of the Faculty of International Economic Relations and has made major contributions to:
- Establishment of the Faculty of International Economic Relations, Development of the curriculum of the Faculty of International Economic Relations;
- Entering and managing the following courses: international capital markets, international commodity Scholarship, risk management in international business, international business transactions, commercial negotiation, engineering operations of foreign trade, international management, international payments engineering;
- Coordination Module for Advanced Studies “international business management";
- Development and coordination of the inter-university partnership in European programs Tempus and Temper;
- Development, in partnership Tempus and Temper, of the the curricula of partner faculties by introducing new disciplines and coordinating the publication of course materials;
- Establishing and coordinating the Centre for Research in International Economic Relations, NURC accredited.
Chairman of the Editorial Board of the Journal of Economic (Romanian Economic Journal)
Founding member and President of the Foundation "REI 50" organization with educational and research purposes.
Visiting Professor at the Université de Lille I, France, 1-2 months/year.

Duralia Mihaela (1976), Executive Member of the Board of Directors

Mrs. Mihaela Duralia graduated Romanian-American University, Bucharest, Faculty of Computer Science Management, having academic skills in Investment Banking, Financial Management,

Corporate Finance, Financial and Managerial Accounting, Options & Futures, Financial Risk Management, Operational Research & Statistics, Computer Science.
Mrs. Duralia is part of Alum's team since 2000 and advanced from the position of economist to the executive management of the Company. Starting with May 2005 Ms. Duralia acts as CFO of the Company and has the following main responsibilities: business development, strategy, financial planning, Corporate & Project Finance, recruitment, budgeting, supervision of financial control and reporting, investor relations and focus on financial risk management.
Mrs. Duralia is a member of the Board of Directors of Alum SA Tulcea since 2013.

4.1.b) Any agreement, understanding or family connection between administrators and other persons

Alum is administered under a unitary system and the Board of Directors members are elected in the General Shaeholders Meeting based on the vote of shareholders and in compliance with applicable legal requirements.
Therefore the Board of Directors members are not elected by a certain person or a certain shareholder and thus there are no such agreements/contracts concluded, to be detailed in this sub-section.
Also, no agreements or understandings between administrators and others due to which those persons have been appointed administrator.

4.1.c) Participation of the members of the Board of Directors to the Company share capital

At the date of this report Alum's Board of Directors members do not hold shares in the capital of the Company.

4.2. Details about Company management

4.2.a) Between 01.01.2021 – 31.12.2021 the Company's management was provided by:

Dobra Gheorghe - General Director
Iliev Sorin Gheorghe - Operational Director
Durău Nicu – HR & General Services Director
Duralia Mihaela - Financial Director
Bărbulescu Aurel - Logistics-Sales Acquisitions Director
Coteţ Ioan Lucian - Technical Manager
Feodorof Mariana - HR & General Services Manager
Jugănariu Marian - Production Manager
Ion Marcel - Deputy Production Manager 01.01-31.03.2021
Țiu Dorin Gabriel - Mechanical-Energetic Manager
Dadinopol Eduard Valentin - Energy Manager
Velici Eugen Valeriu – Chief of Production Technology

4.2.b) Participation of Alum's management to the Company share capital

At the date of this report the members of Alum's management that hold shares in the Company capital are as follows:

No.	Name and surname	Function	Number of shares
1	Țiu Dorin Gabriel	M.E. Manager	39
2	Dadinopol Eduard Valentin	Energy Manager	40

5. Financial Statement

a) Assets that are representing at least 10% of total assets and liquid assets:

	2019	2020	2021
	RON	RON	RON
Tangible assets	187,241,899	166,143,329	168,852,487
Stocks	399,963,473	334,164,241	172,280,014
Receivables	23,680,568	133,307,503	34,746,567
Cash and bank accounts	1,512,397	5,337,701	703,542

b) Profit and Loss Account

	2019	2020	2021
	RON	RON	RON
Net turnover	784,359,001	672,651,026	809,498,972
Operational revenues	871,199,338	744,591,940	845,321,890
Operational expenses	781,804,719	671,779,491	786,304,233
Financial revenues	47,258,040	47,243,640	40,257,845
Financial expenses	44,781,894	50,262,690	108,590,873
Gross result	91,870,763	69,793,399	(9,315,371)
Net result	76,315,201	57,552,420	(29,490,705)

c) Cash flow

	Year ended December 31, 2020	Year ended December 31, 2021
Cash flows from operations		
Net profit	**69,793,399**	**(9,315,371)**
Adjustments for:		
Amortization/depreciation of intangible and tangible assets	25,869,308	23,517,689
Adjustment for the impairment of tangible and financial assets	(237,532)	68,040,024
Adjustments for the impairment of receivables	(4,055,160)	(41,729,239)
Provisions	4,388,735	(2,944,027)
Adjustments for the impairment of inventories	(1,319,736)	(21,313,222)
Profit/(Loss) from foreign exchange differences	(2,382,122)	572,099
Net earning pertaining to disposals of tangible assets	-	16,032
Interest income	(72,585)	(34,036)
Interest expenses	5,430,693	3,008,855
Dividend income	-	-
Cash from operations before changes to working capital	**97,415,001**	**19,818,803**
(Increase)/decrease of inventories	67,118,968	(23,193,437)

This is a free translation from the official Romanian version

	Year ended December 31, 2020	Year ended December 31, 2021
(Increase)/decrease of trade receivables and other receivables	(107,980,781)	89,676,635
Increase/(Decrease) in trade payables and other payables	29,063,507	(24,374,161)
Cash flow from operations	**85,616,695**	**61,927,840**
Interests received	67,600	34,036
Interests paid	(5,094,473)	(2,722,244)
Income tax paid	(2,596,007)	(31,688,851)
Net cash from operations	**77,993,815**	**27,550,781**
Cash flow from investment activities		
Purchases of tangible and intangible assets	(11,880,149)	(22,556,775)
Investments in subsidiaries	-	-
Net cash used for investment activities	**(11,880,149)**	**(22,556,775)**
Cash flow from financing activities		
Variation of short-term loans	(32,001,790)	11,684,064
Long-term loans	-	8,764,200
Repayment of bank loans	(30,286,571)	(30,076,428)
Net cash used in financing activities	**(62,288,361)**	**(9,628,164)**
Cash and cash equivalents at the beginning of the year	1,512,397	5,337,701
Net increase/(decrease) in cash and cash equivalents	3,825,304	(4,634,159)
Cash and cash equivalents at the end of the year	**5,337,701**	**703,542**

General Director,

Ph.D. Eng. Dobra Gheorghe

Financial Director,

Ec. Duralia Mihaela

This is a free translation from the official Romanian version