

Terrafame's net sales increased in January-September 2021 to EUR 261.7 million - A Memorandum of Understanding with Renault on battery chemicals deliveries in October

(The financial information presented about Terrafame Ltd in this bulletin consists of unaudited FAS figures. The figures in brackets refer to the corresponding period of the previous year unless otherwise stated.)

July-September 2021 in brief

- The battery chemicals plant started deliveries to customers.
- Nickel production was 6,542 (4,679) tonnes, representing an increase of 39.8% year-on-year. Zinc production was 13,583 (10,134) tonnes, with an increase of 34.0% year-on-year. The low production figures in the comparison period were due to a long maintenance shutdown.
- The average price of nickel on the London Metal Exchange was USD 19,125 (14,210) USD/t, which is 35% higher than in the comparison period.
- The average price of zinc on the London Metal Exchange was 2,991 (2,335) USD/t, with an increase of 28% year-on-year.
- The average EUR/USD exchange rate for the third quarter was 1.18 (1.17 in the third quarter of 2020).
- Net sales were EUR 76.7 (62.0) million, representing an increase of 23.7% year-on-year. Net sales increased through higher nickel delivery volumes and higher realised price for zinc.
- EBITDA was EUR -5.1 (-13.0) million. EBITDA was burdened by the operating costs of the new battery chemicals plant and increase in WIP inventory, in a situation where the company is transferring from the sale of nickel intermediates to the sale of battery chemicals.
- The operating result was EUR -15.7 (-23.1) million.
- Free cash flow from operating activities was EUR -19.3 (-38.0) million.

January-September 2021 in brief

- Nickel production in the review period was 20,606 (20,141) tonnes, representing an increase of 2.3% year-on-year. Zinc production was 39,157 (40,053) tonnes, with a decrease of 2.3% year-on-year.
- The average price of nickel on the London Metal Exchange in the review period was USD 18,029 (13,068) USD/t, which is 38% higher than in the comparison period.
- The average price of zinc on the London Metal Exchange in the review period was 2,886 (2,145) USD/t, with an increase of 35% year-on-year.
- Net sales in the review period were EUR 261.7 (234.6) million, representing an increase of 11.5% year-on-year. Increase in net sales was restricted by metal price hedges.
- EBITDA in the review period was EUR 11.2 (6.1) million, or 4.3% (2.6) of net sales.
- The operating result was EUR -20.0 (-23.7) million in the review period.
- Free cash flow from operating activities was EUR -54.2 (-25.9) million. Increase in net working capital, which stood at EUR 28,8 (1,2) million, had a negative impact on cash flow.
- The combined lost-time injury frequency rate (LTIFR) of Terrafame and all its partners was 8.7 (10.9).
- After the review period: Terrafame and the Renault Group announced on 8 October 2021 that they had signed a Memorandum of Understanding (MoU) stating that Terrafame will

supply Renault Group with low-carbon and fully traceable nickel sulphate for electric vehicles.

Financial and production key figures

	2021 Q3	2020 Q3	Change, %	2021 Q1-Q3	2020 Q1-Q3	Change, %	2020
Financial figures							
Net sales, EUR million	76.7	62.0	23.7 %	261.7	234.6	11.5 %	338.3
EBITDA, EUR million ¹⁾	-5.1	-13.0	na	11.2	6.1	83.6 %	23.8
Operating result, EUR million	-15.7	-23.1	na	-20.0	-23.7	na	-16.9
Work in progress, EUR million	196.5	186.5	5.4 %	196.5	186.5	5.4 %	190.2
Free cash flow, EUR million ²⁾	-19.3	-38.0	na	-54.2	-25.9	na	13.8
Capital expenditure, total, EUR million	30.2	51.3	-41.1 %	133.6	148.7	-10.2 %	201.8
Sustaining capex, EUR million	14.9	9.2	62.0 %	33.5	31.2	7.4 %	39.5
Development and growth capex, EUR million	15.3	42.1	-63.7 %	100.1	117.5	-14.8 %	162.3
Equity, EUR million	483.5	413.4	17.0 %	483.5	413.4	17.0 %	442.1
Total assets, EUR million	957.8	830.1	15.4 %	957.8	830.1	15.4 %	918.5
Metals production							
Nickel produced, tonnes	6,542	4,679	39.8 %	20,606	20,141	2.3 %	28,740
Zinc produced, tonnes	13,583	10,134	34.0 %	39,157	40,063	-2.3 %	55,100

1) Battery chemicals plant's ramp-up had an around EUR -10 million impact on EBITDA and operating result in January-September 2021.

2) Free cash flow from operating activities after sustaining capital expenditure = EBITDA - change in net working capital - sustaining capital expenditure without right-of-use assets.

Joni Lukkaroinen, CEO of Terrafame:

"The global sales of electric vehicles continue to be strong. More than 3.5 million electric vehicles were sold globally in January–August 2021, compared with around 1.5 million EVs in the corresponding period of 2020. Increased demand for electric vehicles is directly reflected in the demand for batteries. According to the latest estimate by Rho Motion, the demand for batteries will grow by around 76% in 2021 compared with 2020.

The ramp-up of production in our new battery chemicals plant started in June. In the third quarter, we delivered the first product batches for our customers' quality assurance processes. In October, we signed a Memorandum of Understanding (MoU) regarding battery chemicals with the Renault Group. If the MoU is executed, it will secure significant annual nickel sulphate deliveries from Terrafame to the Renault Group. The delivery volumes would be sufficient for up to more than 300,000 EV's battery cathode materials annually. This type of direct partnership between a leading car manufacturer and an operator focused on upstream production is developing the whole battery materials value chain.

The MoU sets proper guidelines for Terrafame for the coming decade. Our cooperation will begin by paying particular attention to sustainability systems and defining detailed metrics for traceability

beyond solutions currently used for EV battery chemicals production. We are very proud to be able to strengthen the sustainable European battery value chain together with Renault Group. We are also impressed by the level of ambition that Renault has in relation to clean and sustainable transport. We are looking forward to many years of fruitful cooperation in helping to decarbonize mobility and transport.

Metal production volumes in the review period were at the same level as in the corresponding period of 2020. Net sales in January–September 2021 were EUR 261.7 (234.6) million, representing an increase of 11.5% year-on-year. Increase in net sales was restricted by metal price hedges. EBITDA in the review period was EUR 11.2 (6.1) million, or 4.3% (2.6) of net sales. EBITDA increased year-on-year, but it was burdened by the operating costs of the new battery chemicals plant and increase in WIP inventory in the third quarter, in a situation where the company is transferring from the sale of nickel intermediates to the sale of battery chemicals.

Our work to strengthen the safety culture on our industrial site continues. The ongoing development project has produced good results, and accidents have decreased clearly, especially among our own employees. Our partner companies' performance has not been sufficient, which is why we will be paying special attention to their safety culture. The combined rolling 12-month lost-time injury frequency rate (LTIFR) of Terrafame and its partners was 8.7 (10.9) at the end of the review period."

Market environment

Electric vehicle and battery markets

The global sales of electric vehicles continue to be strong. More than 3.5 million electric vehicles were sold globally in January–August 2021, compared with around 1.5 million EVs in the corresponding period of 2020. The comparison figure for 2020 is affected by the decrease in production volumes caused by the coronavirus pandemic.

The sales of electric vehicles continued strong in China, where the sales of passenger cars and light duty vehicles in January–August 2021 increased by around 180% compared with the corresponding period of 2020. The corresponding increase in sales in the United States and Canada was around 120%. In Europe, the summer holiday months reduce sales seasonally. Nevertheless, the sales of passenger cars and light duty vehicles in Europe increased by around 120% during the review period.

Including all vehicle categories, the sales-weighted average pack size was 45 kWh in August 2021 (47 kWh). The growing market share of PHEVs in Europe in particular is reflected in the decrease in the average pack size.

The market share of nickel-rich NCM 811 batteries increased to around 13% in January–August 2021 (around 8% in January–August 2020). The market share of NCM 622 batteries was around 29% in January–August 2021 (around 38% in January–August 2020). The market share of NCM 712 batteries, which were introduced in the summer of 2020, was around 8% in May 2021. According to the latest estimate by Rho Motion, the demand for batteries for electric vehicles will grow by 76% in 2021 compared with 2020.

Nickel and zinc

The prices of base metals on the London Metal Exchange (LME) in the review period were markedly higher than in the corresponding period of 2020.

The average market price of nickel in January–September 2021 was USD 18,029 (13,068) USD/t, which is 38% higher than in the corresponding period of 2020. The average market price of nickel in the third quarter of 2021 was USD 19,125 (14,210) USD/t, which is 35% higher than in the comparison period and 10% higher than in the second quarter of 2021 (17,359).

The average market price of zinc in January–September 2021 was USD 2,886 (2,145) USD/t, which is 35% higher than in the corresponding period of 2020. The average market price of zinc in the third quarter of 2021 was USD 2,991 (2,335) USD/t, which is 28% higher than in the comparison period and 2.6% higher than in the second quarter of 2021 (2,916).

The total combined nickel stocks on the London Metal Exchange (LME) and the Shanghai Futures Exchange (SHFE) stood at 162,199 tonnes at the end of the review period. The stocks decreased significantly compared with the end of the second quarter of 2021 (237,604) and the end of the third quarter of 2020 (266,608). The stock level corresponds to demand for around 3 weeks (6). Zinc stocks stood at 261,177 tonnes at the end of the review period, corresponding to demand for around 1 week (1). The stock level was slightly lower compared with the end of the third quarter of 2020 (266,136), but decreased markedly from the end of the second quarter of 2021 (289,539).

Currency exchange rate

The average EUR/USD exchange rate for the third quarter was 1.18 (1.17 in the third quarter of 2020). The EUR/USD rate strengthened during the third quarter compared with the second quarter of 2021 (1.21). The EUR/USD rate was 1.10 in the second quarter of 2020.

Metal production

Nickel production in the review period was 20,606 (20,141) tonnes, representing an increase of 2.3% year-on-year. Zinc production was 39,157 (40,053) tonnes, with a decrease of 2.3% year-on-year.

Nickel production in the third quarter was 6,542 (4,679) tonnes, representing an increase of 39.8% year-on-year. Zinc production was 13,583 (10,134) tonnes, with an increase of 34.0% year-on-year.

Net sales and financial performance

Net sales in the review period were EUR 261.7 (234.6) million, representing an increase of 11.5% year-on-year. Increase in net sales was restricted by metal price hedges.

Net sales in the third quarter were EUR 76.7 (62.0) million, representing an increase of 23.7% year-on-year. Net sales were improved by increased nickel delivery volumes and higher realised price for zinc.

EBITDA in the review period was EUR 11.2 (6.1) million, or 4.3% (2.6) of net sales.

EBITDA in the third quarter was EUR -5.1 (-13.0) million. EBITDA was burdened by the operating costs of the new battery chemicals plant and increase in WIP inventory, in a situation where the company is transferring from the sale of nickel intermediates to the sale of battery chemicals.

The operating result for the review period was EUR -20.0 (-23.7) million, and free cash flow from operating activities* was EUR -54.2 (-25.9) million. Increase in net working capital, which stood at EUR 28.8 (1.2) million, had a negative impact on cash flow.

The operating result for the third quarter was EUR -15.7 (-23.1) million, and the free cash flow from operating activities* was EUR -19.3 (-38.0) million.

* Free cash flow from operating activities after sustaining capital expenditure = EBITDA - change in net working capital – sustaining capital expenditure without right-of-use assets.

Capital expenditure

Capital expenditure totalled EUR 133.6 (148.7) million in the review period. Of this total, EUR 100.1 (117.5) million was used to improve productivity and increase capacity, and EUR 33.5 (31.2) million was used to sustain production.

The most significant investments in capacity growth were related to the construction of the battery chemicals plant and the extension of sections 2 and 3 of the primary leaching area by 150 metres. The ramp-up of production at the battery chemicals plant started in June.

The most significant investment projects related to sustaining production were the construction of a new section of the waste rock area, the purchase of spare parts for mining equipment and the ore crushing lines, and increasing the bond capacity related to water management.

Financing arrangements

During the review period, Terrafame drew out a total instalment of around EUR 92 million of the equity financing (EUR 115 million in total) negotiated with the Finnish Minerals Group and Galena in August 2020. As a result, Terrafame has used drawn out the whole financing package.

At the end of the review period, the shareholders' holdings were distributed as follows:

Finnish Minerals Group	67.0%
Galena Funds (Trafigura)	31.2%
Sampo plc	1.8%

In September, the company signed a USD 90 million unsecured financing facility with an international bank. The arrangement is for four years starting with 12 months grace period. Due to the start of production and sales of battery chemicals, the company estimates that its working capital will increase by approximately EUR 100 million during the next 12 months. The signed financing arrangement is planned and significant action on this working capital growth financing. The facility had not been drawn down during the review period.

In September, the company also refinanced its Environmental Guarantee with an international insurer syndicate. The new agreement is for four years and amounts to EUR 161 million.

Governance

Terrafame's organisation was renewed, the management responsibilities were clarified and the composition of the Management Team was streamlined during the review period. The Management Team and its members' areas of responsibility from 1 September 2021 are as follows:

Joni Lukkaroinen, CEO
 Janne Palosaari, Chief Commercial Officer
 Seppo Voutilainen, Chief Production Officer
 Antti Arpalahti, Chief Technology Officer
 Veli-Matti Hilla, Chief Sustainability Officer
 Ville Sirviö, Chief Financial Officer
 Heini Hämäläinen, Chief People Officer.

Personnel and partner network

Terrafame had 894 (843) employees at the end of the review period, which represents an increase of 6% year-on-year. The battery chemicals plant and its support functions (e.g., laboratory and logistics)

represent 157 people of the increase. The total includes 48 people participating in a two-year apprenticeship training programme leading to a vocational qualification in the process industry. The programme is organised by Terrafame in cooperation with Kainuu Vocational College and Educational Consortium OSAO.

An average of around 150 long-term partner companies operated on Terrafame's industrial site during the review period. An average of 935 (1,160) people employed by contractors and subcontractors worked on the site during the review period (FTE). The reduction in the number of personnel was mainly due to a decrease in the number of people working for the battery chemicals plant construction project.

Sustainability

Sustainability is an integral part of Terrafame's business operations. The company is committed to the UN Global Compact principles in its operations. The company also respects the ILO Declaration on Fundamental Principles and Rights at Work in its operations. In addition, Terrafame's employees and partners, as well as its suppliers of services and materials, must comply with its Code of Conduct and the principles of its sustainability policy. Policy implementation is supported by Terrafame's certified management system (ISO 9001, ISO 45001 and ISO 14001) and more detailed operating guidelines. Terrafame operates fully in accordance with the laws and regulations issued by the authorities.

Sustainability programme

Terrafame's strategic goal is to enhance low-carbon mobility with responsible battery chemicals. Terrafame started a sustainability programme in 2020, setting ambitious numerical and qualitative targets for the development of its operations for 2020–2024. The themes and targets of the sustainability programme are linked to the UN Sustainable Development Goals as far as applicable. The implementation of the sustainability programme is monitored in our sustainability review, which is published annually. The latest sustainability review is available on the company's website at www.terrafame.com > Terrafame Ltd > Responsibility.

Competence development and operating culture

Highly competent employees are key resources for Terrafame.

During the review period, the focus areas in employees' competence development included the operation and maintenance of the battery chemicals plant and the development of the company's safety and management culture, as well as production reliability skills.

The annual personal performance and development appraisals were conducted during the first half of the year. The apprenticeship training group that started in the autumn of 2019 completed their vocational qualifications in the process industry at the end of the third quarter. Most of the 23 graduates are continuing to work for the company under employment relationships that are valid until further notice. A total of 23 students are participating in the apprenticeship training programme in the group that started in the spring of 2020. Apprenticeship training enables Terrafame not only to train new skilled personnel, but also to further develop the professional skills of its existing employees.

In 2021, the most significant investment in the development of the company's operating culture is the ROTI project, which focuses on developing the safety and management culture and production reliability. The project strengthens a culture of continuous improvement through learning, inclusion and a systematic approach. All employees – supervisors and production staff in particular – will

participate in the project in practice through safety discussions and safety and shift meetings, for example.

Terrafame expects its partners to make a commitment to the Code of Conduct, high-quality operations, safety and continuous improvement of efficiency. Terrafame assesses the operations of its partner companies through regular audits and evaluations conducted during the contract period, after the completion of work and when selecting new partners through competitive bidding.

A total of 4 (3) supplier audits were carried out in January–September 2021. In addition, a total of 6 supplier audits were conducted during the year using the tool introduced in June 2020. During 2021, four separate partner meetings have been held to discuss the company's operating principles, the principles of the UN Global Compact initiative and the zero tolerance rules adopted by the company as part of its enhanced safety work in 2020. Representatives from more than 100 partner companies have been present at the partner meetings. This also includes the contractors related to the construction project of the battery chemicals plant.

Safety at work

Safety is one of the core values at Terrafame, and the continuous development of a safety culture has been one of the main priorities since the company was established. Operations within the industrial site must be safe for both the company's own employees and those of its partners in all circumstances and situations. We aim for zero accidents.

Occupational safety indicators, 12-month LTIFR1	Q1–Q3 2021	Q1–Q3 2020	Change, %	2020
Accident frequency rate, Terrafame employees	4.7	10.4	-55	8.3
Accident frequency rate, partner companies	11.9	11.2	6	10.6
Total accident frequency rate on the industrial site	8.7	10.9	20	9.8

The ROTI project, which started in late 2020, has begun to be visible in the results of safety work. Accidents involving Terrafame's employees have decreased clearly during 2021. Increasing attention will be paid to the safety culture of partner companies.

The environment and environmental permits

Terrafame monitors the state of the environment on the industrial site in accordance with the permit decisions and the monitoring programme approved by the authorities. Annual environmental monitoring reports for 2020 are available in Finnish on the Terrafame website at www.terrafame.fi > [Ympäristö > Ympäristövaikutukset ja -tarkkailu > Ympäristötarkkailuraportit](#). The metal and sulphate concentrations of discharge waters were in line with the environmental permit conditions in January–September 2021. In September, one deviation related to the release of discharge waters was reported to the authorities and resolved promptly.

On 20 January 2021, the Regional State Administrative Agency for Northern Finland granted an environmental permit to Terrafame for its battery chemicals plant.

On 22 June 2021, the Supreme Administrative Court issued its decision on the environmental permit for Terrafame's KL2 waste rock area. With its decision, the Supreme Administrative Court rejected the appeals filed against the decision issued by the Vaasa Administrative Court on 16 December 2019, meaning that the decision of the Vaasa Administrative Court remains valid. The environmental

permit for the KL2 waste rock area is valid until the case concerning Terrafame's main permit has been resolved by means of a final or executable decision.

On 24 June 2021, the Supreme Administrative Court issued its decision on the uranium recovery permit granted by the government to Terrafame on 6 February 2020. The Supreme Administrative Court confirmed the permit granted by the government. The Supreme Administrative Court issued its decision as a yearbook decision. The company filed a permit application for uranium recovery under the Nuclear Energy Act (990/1987) to the Finnish Government on 30 October 2017.

On 2 July 2021, the Regional State Administrative Agency for Northern Finland granted an environmental permit to Terrafame for the extension of the primary leaching area. The production use of the primary leaching area was extended by 150 metres in sections 2 and 3 during the summer of 2021.

Significant events after the end of the review period

Terrafame and the Renault Group announced on 8 October 2021 that they had signed a Memorandum of Understanding (MoU) stating that Terrafame will supply Renault Group with low-carbon and fully traceable nickel sulphate for electric vehicles. The delivery volumes would represent up to 15 GWh of annual capacity, and the nickel sulphate would be sufficient for more than 300,000 EV batteries annually. This type of direct partnership between a leading car manufacturer and an operator focused on upstream production is developing the whole battery materials value chain. The parties seek to introduce a set of binding agreements involving also other actors in the EV battery value chain to take part in this development step.

Near-term outlook

The company has several customer negotiations and product approval process on-going.

The price development of base metals and battery chemicals involves uncertainty.

The ramp-up of the battery chemicals plant is progressing. The production of battery chemicals is expected to increase the company's net sales from late 2021.

Terrafame continues to invest in improving its safety culture, production and cost-effectiveness.

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A Finnish-language webcast for the media will be held on 28 October 2021 at 1 pm. Joni Lukkaroinen, CEO of Terrafame, will review the company's result at the event. The webcast can be followed live at terrafame.videosync.fi/q3-2021. Questions can be submitted using the form at the bottom of the page.

Terrafame reduces the carbon footprint of transport by delivering responsibly produced battery chemicals to the global battery industry. One of the world's largest production lines for chemicals used in electric car batteries is located on Terrafame's industrial site. The plant is capable of producing nickel sulphate for around 1 million electric cars per year. The carbon footprint of the nickel sulphate produced by Terrafame is among the smallest in the industry.

Terrafame's integrated, unique and energy-efficient production process from the mine to battery chemicals is located on a single industrial site. It provides customers with a transparent, traceable and truly European battery chemical supply chain.

Terrafame Ltd was founded in 2015. Its net sales in 2020 were EUR 338 million. Around 1,600 people work on its industrial site, half of whom are employees of partner companies.