

**>> TERRAFAME LTD  
INTERIM REPORT Q4 2017**

## Terrafame's net sales more than doubled in 2017 - EBITDA positive

### Key figures in January–December 2017 (2016 reference period in parentheses)

- 46,200 tonnes of nickel (37,042) and 91,827 tonnes of zinc (70,299) were stacked on the primary heap.
- 20,864 tonnes of nickel (9,554) and 47,205 tonnes of zinc (22,575) were produced.
- Net sales totalled EUR 218.8 million (101.0).
- EBITDA was EUR 13.4 million (-120.4).
- EBITDA without change in value of work in progress (WIP) was EUR -74.5 million (-170.0).
- The value of work in progress (WIP) was EUR 138.0 million (50.1).
- Lost-time injury frequency, meaning the number of injuries per one million person-hours worked, was 3.5 (8.4).

### Key figures in October–December 2017 (Q3 2017 reference period in parentheses)

- 11,900 tonnes of nickel (13,192) and 22,742 tonnes of zinc (25,697) were stacked on the primary heap.
- 5,840 tonnes of nickel (5,506) and 13,772 tonnes of zinc (12,242) were produced.
- Net sales totalled EUR 66.4 million (63.9).
- EBITDA was EUR 17.0 million (47.6).
- EBITDA without change in value of work in progress (WIP) was EUR -9.1 million (-7.9).
- The cost-based value of work in progress (WIP) was EUR 138.0 million (111.9).

### Key events in October–December 2017

- In the fourth quarter, 4.2 million tonnes of ore was stacked on the primary leaching heaps. Stacking equipment was moved from section 2 of the primary leaching area to section 3.
- A new quarterly record of 13,772 tonnes was achieved in zinc production at the metals production plant. During the year, 20,864 tonnes of nickel and 47,205 tonnes of zinc were produced.
- The first commercial deliveries of copper were made at the end of the year.
- Over one third of the yearly sulphate discharge quota was not used during 2017. The amount of water stored at the site was at a safe level of 2.4 million cubic metres at the end of December.
- At the end of October, Terrafame submitted to the Finnish government a permit application concerning the recovery of uranium. In December, The Finnish Radiation and Nuclear Safety

Authority (STUK) granted a permit for a laboratory trial to research the extraction of uranium as well as rare earth elements.

- Exploring the battery chemicals production was continued, and a new private funding to support the investment was secured in November.
- Based on the funding of the new battery chemicals production plant, Terrafame Group Ltd's shareholding in Terrafame will decrease to approx. 71.2%, Galena Fund's shareholding will increase to approx. 28.7%, and Sampo plc's shareholding will remain at approx. 0.1%.

### Events following the reporting period

- At the turn of the year, the southern part of the Kuusilampi open pit was taken into production use.

### Financial and production figures

	2017 Q4	2017 Q3	2016 Q4	2017	2016
<b>Financial figures</b>					
Net sales, EUR million	66.4	63.9	47.6	218.8	101.0
EBITDA, EUR million	17.0	47.6	16.0	13.4	-120.4
EBITDA without change in WIP*, EUR million	-9.1	-7.9	-31.2	-74.5	-170.0
Operating profit/loss, EUR million	10.9	42.5	12.2	-6.4	-134.4
Work in progress, EUR million	138.0	111.9	50.1	138.0	50.1
Capital expenditure, EUR million	23.0	28.3	20.2	92.7	84.3
Equity, EUR million	295.4	245.7	165.1	295.4	165.1
Total assets, EUR million	618.2	557.2	370.7	618.2	370.7
<b>Ore processing</b>					
Ore mined, million tonnes	4.2	4.9	4.1	17.5	14.2
Nickel to heaps, tonnes	11,900	13,192	11,757	46,200	37,042
Zinc to heaps, tonnes	22,742	25,697	22,144	91,827	70,299
<b>Metals production</b>					
Nickel produced, tonnes	5,840	5,506	3,875	20,864	9,554
Zinc produced, tonnes	13,772	12,242	8,680	47,205	22,575

\*) The work in progress (WIP) is calculated based on both the cost value and the net realisable value and the lower of these two is used.

## CEO Joni Lukkaroinen's review

“During the last quarter of 2017, we continued the ramp-up of production and streamlining the cost-efficiency of our operations. Thanks to improved efficiency, our unit costs continued to decrease.

The average global market prices of our main products, nickel and zinc, were at a higher level in the fourth quarter compared to the previous quarter, which had a positive effect on our business. Compared to the third quarter, the average price of nickel increased by 10.0% in the global market and the average price of zinc increased by 9.2%. The prices of copper and cobalt also continued to develop favourably.

In 2017, our overall mining volumes totalled 35.1 million tonnes. At the metals production plant, we reached a new quarterly record in zinc production and annual records both in nickel and zinc production. In November, we made the first customer deliveries of copper.

During the fourth quarter, we continued to explore the further processing of our nickel-cobalt product. According to our studies, the production of nickel-ferro alloy for stainless steel is a very interesting possibility. However, the production of chemicals for electric vehicle battery applications is even more interesting. In early November, we secured private funding for the battery chemicals plant to be built at our industrial site in Sotkamo, Finland.

In general, the year 2017 was a good year for Terrafame, and I am pleased with our results. We increased our production volumes and strongly developed our operations. Our net sales more than doubled from the previous year to EUR 218.8 million.

Our goal in lost-time injury frequency, meaning the number of injuries per one million person-hours worked, was below 5.0 during 2017. Our personnel continued to develop the occupational safety culture with excellent results, and we achieved a lost-time injury frequency of 3.5. The longest period of consecutive days without lost-time injuries was 131 days.”

## Market development

During the last quarter of 2017, the average price for nickel was USD 11,583 per tonne, which is 10.0% higher than in the previous quarter (Q3 2017: 10,528) and 7.2% higher than in the last quarter of 2016 (Q4 2016: 10,810). The key factor affecting price development was the strong growth in nickel demand in stainless steel production.

The combined nickel stock levels of the London Metal Exchange (LME) and the Shanghai Futures Exchange (SHFE) have decreased during every quarter since the first quarter of 2016. During October–December 2017, the combined stock levels of LME and SHFE decreased by 27,000 tonnes, totalling 411,000 tonnes at the end of the year (end of Q3: 438,000). During 2017, the combined stock levels of LME and SHFE decreased by 60,000 tonnes in total.

During the last quarter of 2017, the average price of zinc was USD 3,235 per tonne, which is 9.2% higher than in the previous quarter (Q3 2017: 2,963) and 28.5% higher than in the last quarter of

2016 (Q4 2016: 2,517). The good price level was supported by the low stock levels and a strong global demand.

The combined zinc stock levels of LME and SHFE have decreased for the ninth consecutive quarter. In October–December 2017, the stock levels continued to decrease by 68,000 tonnes, and totalled 250,000 tonnes at the end of the year (end of Q3: 318,000). In 2017, the combined zinc stock levels of LME and SHFE decreased by 331,000 tonnes in total.

The prices of copper and cobalt continued to develop favourably. In October–December, the average price for copper was USD 6,807 per tonne, which is 7.2% higher than in the previous quarter (Q3: 6,349) and 29.0% higher than the year before (Q4 2016: 5,277). The outlook for battery production for electric vehicles supported, in particular, cobalt demand and price development. During October–December, the average price for cobalt was USD 64,594 per tonne, which is 9.0% higher than in the previous quarter (Q3 2017: 59,237) and 116.4% higher than the year before (Q4 2016: 29,853).

## Capital expenditure

Terrafame's capital expenditure totalled EUR 23.0 million in the last quarter of 2017 (Q3 2017: 28.3) and EUR 92.7 million for 2017 in total (year 2016: 84.3).

The most significant investments of the last quarter include the construction of foundations in section 4 of the secondary bioleaching area and foundations of section 2 of the waste rock area as well as a new hydrogen sulphide production line. The company also invested in ore stacking and transport equipment to increase the efficiency of mining operations.

## Environmental safety and permits

During the fourth quarter, Terrafame discharged purified water only to the northern discharge routes. No water was discharged towards the south during 2017.

5,869 tonnes of the yearly sulphate discharge quota of 16,300 tonnes was not used. At the end of the fourth quarter, there was 2.4 million cubic metres of water stored at the site, which was within the target level of 1–3 million cubic metres (end of Q3: 2.5 million cubic metres).

At the end of October, Terrafame submitted to the Finnish government an application for a permit concerning the recovery of uranium. In December, the Finnish Radiation and Nuclear Authority granted Terrafame a permit for a laboratory-scale uranium extraction trial. The trial will also focus on the recovery of rare earth elements.

## Personnel and occupational safety

At the end of December 2017, Terrafame employed 650 people (end of Q3 2017: 685). In addition, approximately 70 partner companies employing approximately 696 people operated at the site at the end of the fourth quarter (end of Q3 2017: 681).

During October–December, one lost-time injury occurred due to slipping. In total, four lost-time injuries occurred in 2017. Terrafame's lost-time injury frequency, meaning the number of injuries per one million person-hours worked, was 3.5 for the past 12 months (2016: 8.4), which was clearly in accordance with the target of below 5.0.

## Near-term outlook

Terrafame is continuing the ramp-up of production and increasing profitability. The permitting process of the battery chemicals production plant will be initiated and the investment decision is expected in the first half of 2018. Rare earth elements and uranium recovery will be studied in laboratory scale.

Terrafame will hire dozens of summer employees for summer 2018. The summer jobs were announced on the company's website in early January. Terrafame will also continue to support the principles of the Responsible Summer Job campaign.

*Terrafame Ltd's financial information for 2017 presented in this release are unaudited FAS figures.*

## Further information:

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Terrafame Ltd is a Finnish multi-metal company producing nickel, zinc, cobalt and copper at its mine and metals production plant located in Sotkamo, Finland. Our aim is to conduct environmentally sustainable, safe and profitable operations.