

## VALUE CHAIN STATEMENTS

# Value chain statements

### V1 SCOPE OF THE VALUE CHAIN STATEMENTS

The value chain and society theme focuses on potential impacts on society that we have as a company through our activities, products and services. For reporting, all entities of the group are considered. While we focus primarily on our activities directly linked to clean mobility and recycling, other initiatives targeting suppliers, customers or society in general are being tracked and appropriately reported, be it via communication such as this annual report or via other specific communication channels.

### V2 CRITICAL RAW MATERIALS

Securing adequate volumes of raw materials is an essential factor in the ongoing viability of our product and service offering and in being able to achieve our Horizon 2020 growth objectives. The risks and opportunities vary considerably from one business unit to another and for this reason we have taken a decentralised approach to risk and opportunity management. We have determined to seek a competitive edge in terms of our access to critical raw materials and in our ability to secure these raw materials in an ethical and sustainable way.

#### SCOPE

The indicator presented covers all activities that were still part of Umicore on 31 December 2017, except for the Technical Materials activities, for which Umicore is assessing strategic options.

The reporting is done according to the business units reported in group structure on page 10.

#### IDENTIFICATION OF THE CRITICAL RAW MATERIALS

In 2016, each business unit was asked to follow a 3-step process to identify the raw materials that are critical in achieving the Horizon 2020 objectives.

The process consisted of the following elements:

- Definition of the criteria applicable to the raw material specific to the business unit's activity;
- Identification of the raw materials with a high probability of restrictions in supply, taking the selected criteria into account;
- Calculation of the impact on the Horizon 2020 objectives of the supply risk identified.

Twenty-one supply criteria, covering various aspects of sustainability, have been offered to the business units as input into the mapping. The criteria can be clustered in the following themes:

- EHS or regulatory aspects of the raw material
- Concentration in the market or restrictions in the country of origin
- Ethical aspects and potential conflicts with the code of conduct linked to the raw material
- Unavailability due to end-of-life of the mineral source
- Physical constraints at origin

As supply risks and opportunities can change the identification of the critical raw materials is a dynamic process. In 2017 8 of the 9 business units have updated their mapping. The optics and electronics activities from the former Thin Film Product have been integrated, as of January 2018, into the Electro-Optic Materials business unit, which has a process for criticality assessment in place. Therefore, we considered this as not covered yet.

#### MITIGATION ACTIONS

For those materials that have been identified as critical it is particularly important to define actions to mitigate the risk of supply disruption.

Mitigation actions can vary depending on the materials and the position of the business unit in the market. Action plans and dedicated mitigation measures must be in line with the identified risks and opportunities and are therefore regularly updated. The reviewing frequency and process vary from business unit to business unit depending on the specific supply conditions.

The approach on cobalt sourcing further evolved in 2017. Umicore uses cobalt in materials that go into rechargeable batteries, tools, catalysts and several other applications.

The Sustainable Procurement Framework for Cobalt that covers Umicore's cobalt purchases worldwide was adapted in 2017 to be fully aligned with the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals and this constitutes a first in the cobalt industry. The main effect of this alignment lies in the communication of risks in our supply chain, which will now be communicated on our website and in the compliance report. Umicore obtained, for the third year in a row, third party assurance from PwC that its cobalt purchases in 2017 are carried out in line with the conditions set out in the revised framework. The Umicore Responsible global supply chain of minerals from conflict-affected and high-risk areas has also been revised to include cobalt in the scope of the document.

As the focus on sustainable supply of cobalt further increased in 2017 Umicore's approach continued to provide welcomed risk mitigation in this regard.

In the context of the developments in rechargeable battery materials, Umicore has been looking at ways to further promote its actions on sustainable supply both internally and externally. The function of Senior Vice-President in charge of the sustainability aspects of the value chain for rechargeable batteries has been created and is fulfilled since 1 January 2018. The focus lies particularly on cobalt. The function entails representing Umicore at various high-level institutions, including as Chairman of the Cobalt Institute, in the steering committee of the "Global Battery Alliance" which was formed under the auspices of the World Economic Forum and more generally being a spokesman for sustainability for our RBM and CSM businesses. The function also includes supporting initiatives that promote the collection and recycling of cobalt-containing devices and interacting with NGOs on improving health and safety for sustainable cobalt mining in Africa.

Created in 2016 the Umicore internal "Metals and minerals" group has now been running for a full year. This group of corporate services and several business units aims at sharing group practices around sustainable supply. Next to the activities around cobalt, the approach for conflict minerals and other upcoming issues are being discussed. Other topics include the identification of critical raw materials and mitigation actions.

### V3 CONFLICT MINERALS

On 1 January 2021, the Conflict Minerals Regulation will come into full force across the EU. This law is similar in scope to the US Dodd Frank Act of 2012. The new law aims to help stem the trade in four minerals – tin, tantalum, tungsten and gold – that sometimes finance armed conflict or are mined using forced labour.

In addition to existing policies and charters such as the Umicore Code of Conduct, Human Rights Policy and Sustainable Procurement Charter, Umicore also has a specific policy regarding "Responsible global supply chain of minerals from conflict-affected and high-risk areas".

In 2017, Umicore continued to ensure that its operations with a production of gold are certified as conflict-free. Increasingly Umicore customers request such a guarantee and we provide these customers with the necessary documentation to assure the conflict-free status of our products. The Umicore internal "Metals and Minerals" working group streamlines and optimises the efforts required for this growing customer demand through best practices sharing.

The Precious Metals Refining operations in Hoboken and Guarulhos are certified as "conflict-free smelters" by the London Bullion Market Association (LBMA). In 2018, UPMR Hoboken will be submitted to an LBMA conflict-free silver audit of its 2017 activities for the first time. Such audits are voluntary for 2017, but will be mandatory for the LBMA accredited silver refiners in the future.

The Jewellery & Industrial Metals operations in Pforzheim, Vienna and Bangkok are certified as part of the Responsible Jewellery Council's (RJC) Chain of Custody program. The Jewelry & Industrial Metals sites of Pforzheim is also accredited by the LBMA as Good Delivery refiner. Although platinum does not belong to the list of conflict minerals, the business unit Jewelry & Industrial Metals has passed the audit for responsible platinum sourcing by the RJC. The sites of Pforzheim and Vienna are also certified for palladium and rhodium. Both the RJC Chain of Custody and LBMA Good Delivery accreditations qualify the accredited sites for listing in the Responsible Minerals Initiative conformant smelters and refiners (formerly CFSI (Conflict Free Sourcing Initiative) Conflict Free Smelter List).

The Responsible Minerals Initiative is used by many customers to streamline the process to guarantee conflict-free products in complex supply chains. A typical example is the automotive industry, where a structure has been created to assure that all individual elements of a car can be certified as not containing conflict minerals sourced from non-certified origins. This procedure is not a ban on those materials (tin, tantalum, tungsten and gold), but is a process to create transparency in the supply chain to ensure they can source conflict-free minerals. Other industries such as the electronics industry implement the same or similar processes.

## V4 INDIRECT PROCUREMENT

While the metal-bearing raw materials are purchased directly by the business units (direct procurement, see notes V2 and V3 for specific sustainable supply related actions), Umicore's purchasing and transportation teams worldwide take care of the energy and other goods and services which is referred to as indirect procurement.

### SCOPE

The indicators presented are based on 2017 data from our Procurement & Transportation department covering indirect procurement for Belgium and Germany. This represents roughly 10% of total spend.

### ASSESSMENT OF SUPPLIERS

Sustainability performance of specific suppliers is assessed by EcoVadis, a well-known collaborative platform providing Supplier Sustainability Ratings.

52 assessment scores were made available to the team in 2017. The total number of scores received since 2011 amounts to 350. This represents the number of unique suppliers that have been assessed since 2011 and does not consider the regular re-assessment of a supplier. This number is very similar to the 2016 figure of 349 and shows that the most critical suppliers have now been covered.

Since 2017, a "quick scan" based on criteria such as size, geographical location and type of product or service provided is systematically used for new suppliers. This tool determines the need for an EcoVadis assessment.

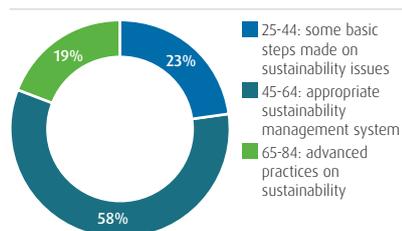
### AVERAGE SCORE OF SUPPLIERS BY TOPIC

The proportion of suppliers with a score of 45 or higher, so-called suppliers "engaged in CSR" (Corporate Social Responsibility), has increased significantly to 77% compared to 62% in 2016.

None of the scores received in 2017 are indicating a "high risk", whereas the number of "medium opportunity" suppliers is growing. This indicates that more and more suppliers are organising to create vision and transparency on CSR.

In September 2017, the Umicore Group was re-evaluated by EcoVadis and was scored 68, which confirms the gold recognition level. This result includes our company among the top 5% performers evaluated by EcoVadis.

### SUPPLIERS' SCORE IN ECOVADIS ASSESSMENT



	AVERAGE SCORE
Environmental	57.8
Labour practices	54.3
Fair business practices	48.2
Suppliers	48.2
<b>Overall</b>	<b>53.3</b>

More information on Umicore's relationship with suppliers can be found in the Stakeholder engagement section on page 53 and in the performance review on pages 26-27.

## V5 PRODUCTS AND SERVICES

### RESOURCE EFFICIENCY

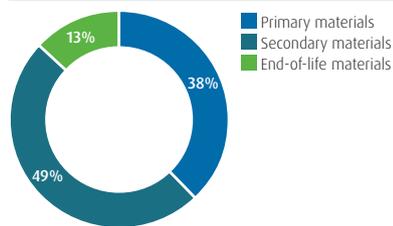
**Primary raw materials:** are those materials that have a direct relation to their first lifetime hereby excluding streams of by-products.

**Secondary raw materials:** are by-products of primary materials streams.

**End-of-life materials:** are those materials that have ended at least a first life cycle and will be re-processed through recycling leading to a second, third...life of the substance.

Incoming materials are regarded as primary by default if their origin is unknown. The collected data are expressed in terms of total tonnage of incoming material.

### RESOURCE EFFICIENCY



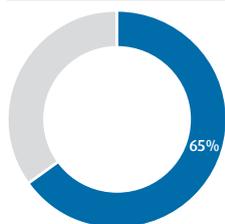
In 2017, 62% of the materials were from end-of-life or secondary origin while 38% were of primary origin, compared to 55% and 45% in 2016, respectively. The shift towards more secondary and end-of-life raw materials is mainly due to the divestment of the business unit Building Products and due to the effect of the capacity increase in the Hoboken smelter.

### PRODUCTS AND SERVICES CONTRIBUTING TO SPECIFIC SUSTAINABILITY ASPECTS

Our primary focus in terms of sustainable products and services is to leverage those activities that provide solutions to the megatrends of clean mobility and resource scarcity. For more information please see the Value chain and society performance discussion on pages 26-27.

We developed an indicator to underline our focus on clean mobility and recycling. In 2017, the revenues of those activities that deliver products or services that are directly linked to one of these two megatrends was 64.6% of 2017 Group revenues up from 62% in 2016. The increase is the result of a higher activity both in recycling and clean mobility. As we work towards our Horizon 2020 goals and bring even more focus to our business, we would expect this percentage to continue to increase. It should be noted that many of the materials and services making up the remaining 35.4% of revenues provide answers to specific societal needs such as improved connectivity (materials for high quality glass, displays) or reduced energy consumption (materials for use in energy efficient lighting such as LEDs).

### REVENUES FROM CLEAN MOBILITY AND RECYCLING



## VALUE CHAIN STATEMENTS

Business units continue to develop specific solutions for sustainability aspects of our products and their applications in close relationship with customers. Typical subjects dealt with in such developments are the reduction of risks related to the use of products, reduction of the hazard of products or a higher material efficiency in the delivery or the use of our products.

### MANAGEMENT OF PRODUCT REGULATION

Worldwide, changes to existing product related legislation as well as the introduction of new legislation might impact our business. Although the European REACH regulation is still the most relevant one for Umicore, the Korean-REACH is gaining importance. Two dossiers will be submitted for the June 2018 registration deadline.

Umicore monitors closely all changes in interpretation as well as guidance documents which might affect its REACH implementation strategy. Umicore is actively involved in industry association working groups to make sure a consistent approach is followed and that the metal specifics are understood by the regulators and the companies.

In 2017, as part of regular maintenance, 14 REACH dossiers were updated among others to increase the tonnage band, reply to ECHA requests and to include with new information on composition, uses or Chemical Safety Report. In preparation of the third phase of the EU REACH regulation, 115 new registrations were submitted. Some 89 dossiers still need to be submitted by 31 May 2018. For most of them, submission dossiers are elaborated as part of the work done in the industry working group consortia.

While the regulatory landscape may shift in the future, only a few of Umicore's substances feature today on the "Candidate List" for potential REACH authorisation. The placing of a substance on the REACH "Candidate List" is designed as a first step in subjecting that substance to robust and detailed scientific evaluation of risk as a basis for its continued use or substitution if economically and technically feasible alternatives to that substance exist.

Umicore further expanded its Safety Data Sheets data base. The data base now contains 4,455 products and has Safety Data Sheets available for 110 countries in 41 languages.

## V6 DONATIONS

### SCOPE

The indicators presented are based on data from fully consolidated companies for a full year with the exception of the December acquisition of Haldor Topsoe.

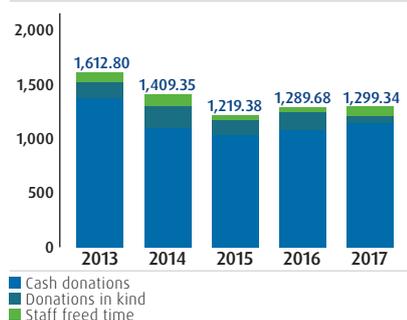
The historical numbers (2016 and before) were not restated.

### GROUP DATA

	UNIT	2013	2014	2015	2016	2017
Cash donations	Thousands of Euros	1,373.82	1,103.47	1,034.91	1,078.03	1,151.46
Donations in kind	Thousands of Euros	152.27	200.88	135.11	167.47	60.47
Staff freed time	Thousands of Euros	86.71	104.99	49.36	44.17	87.40
<b>Total donations</b>	<b>Thousands of Euros</b>	<b>1,612.80</b>	<b>1,409.35</b>	<b>1,219.38</b>	<b>1,289.68</b>	<b>1,299.34</b>

### DONATIONS

Thousands of Euros



## VALUE CHAIN STATEMENTS

Each business unit is expected to allocate an annual budget that provides sufficient donations and sponsorship support to each site's community engagement programme. By way of guidance, this budget should equate to an amount corresponding to a third of a percent of the business unit's average annual consolidated recurring EBIT (i.e. excluding associates) for the three previous years.

Donations are subdivided into cash donations, donations in kind and staff time. Group level donations are coordinated by a Committee reporting to the CEO.

## REGIONAL DATA

	UNIT	EUROPE	NORTH AMERICA	SOUTH AMERICA	ASIA-PACIFIC	AFRICA	UMICORE GROUP
Total donations	Thousands of Euros	1,027.53	133.12	35.07	97.20	6.42	1,299.34

## BUSINESS GROUP DATA

	UNIT	CATALYSIS	ENERGY & SURFACE TECHNOLOGIES	RECYCLING	CORPORATE	UMICORE GROUP
Total donations	Thousands of Euros	148.73	353.24	302.35	495.03	1,299.34

In 2017, Umicore contributed a total of € 1,299 thousand in donations. For the business units, the total amount of € 804 thousand is in line with the guidance of approximately one third of one percent of each unit's average annual recurring consolidated EBIT for the past three years. Additional group level donations were made for an amount of € 495 thousand.

Most of the donations of the units go to charity events close to their sites, in support of the local community. However, some business unit headquarters also support charity projects on other continents. At Group level, the donations have a global reach. The main areas for Group level donations in 2017 included support for two major UNICEF educational projects in Madagascar and in India, three projects coordinated by Entrepreneurs for Entrepreneurs (in Mali, Ecuador and Togo) and support for student sustainable mobility projects.