

# 2019 CSR REPORT



JSR

JSR Micro   
MATERIALS INNOVATION



# Contents.

01	About this report
02	Message from the President
03-06	Introducing JSR Micro
07-09	JSR Micro: a culture of care for our employees
10	Finding ways to improve mobility
11	Health & Safety
12	Extending excellent quality
13	Innovation: our core competence
14	The next generation
15	Product stewardship through compliance
16	Managing environmental impacts
17	Business Continuity Planning and risk management
18	Responsible supply chain management
19-24	2019 GRI Content Index

## About this report.

### REPORTING PERIOD

This CSR report covers the period from April 1, 2017, to March 31, 2019.

### GRI STANDARDS

This report has been prepared in accordance with the core option of the Global Reporting Initiative (GRI) Standards.

### ASSURANCE

We did not pursue external assurance. However, most of the data contained in this report was

tracked in management systems that are certified by independent third parties.

### EXPLANATORY NOTE

JSR Micro denotes the JSR Micro NV operations located in Leuven, Belgium. JSR may represent a broader selection of JSR group companies, including JSR Micro NV.

### WE WELCOME YOUR FEEDBACK!

If you have questions or suggestions, please do not hesitate to contact our CSR coordinator.

**Contact:** Katleen Gorissen

**E-mail:** CSR@jsrmicro.be

## Message from the President.



*In the past two years our company went through a process of change in all its aspects, so thorough that it is unlikely it will ever happen again.*



For this third edition of our CSR report, we once again look back on two years. As the saying goes, nothing is certain but the fact that everything changes. In the past two years our company went through a process of change in all its aspects, so thorough that it is unlikely it will ever happen again. From being a relatively small production unit serving the semiconductor business in Europe with our own products and imported JSR products, we evolved into being a global provider of some of the most advanced products in this sector; on top of that, we took on a new global manufacturing role in bioprocess products with Amsphere™ Protein A resin.

These activities make our drive toward sustainability even more important, as we not only show steady growth, but also our impact is felt more widely. In the semiconductor sector, we continue to play our role in enabling technological progress. We see this sector striving toward not only denser integration of functionality but also toward applications in the medical domain that improve people's lives.

The scope extends into enabling society, providing a multitude of sensor-based applications, many of which have an impact on energy consumption, avoiding pollution, and other aspects of sustainability.

In the life sciences domain, our products contribute to the call for affordable medicines for all by improving efficiency and cost in the production process. Of course, a CSR report should be about the efforts that we ourselves made in terms of sustainability, but it is clear that our direction and boundary conditions both align with the expectations of you, our stakeholder. With that in mind, we present a summary of our activities in this report. We hope that we may receive in turn your open feedback and guidance on the important aspects for the two years to come.

Sincerely,

**Bart Denturck**

# Introducing JSR Micro.

JSR Micro is a materials innovation company with roots in the production of specialty chemicals for the semiconductor industry. In the last decade, we branched out into the life sciences and emerging energy and environment markets. We are located in Leuven, Belgium, and we deliver products to customers in the EMEA market and Singapore. Through close cooperation with our sister companies in Asia and the United States, we achieve a global reach.

## A company in motion

COMBINING  
PRODUCTIVITY WITH  
COST EFFICIENCY

AMSPHERE™ A3  
PROTEIN A RESIN

During the reporting period, JSR Micro grew considerably. In 2017, we produced the first batch of leading-edge EUV photoresist for our semiconductor clients.

Simultaneously, a new production line for Amsphere™ Protein A was built for our life sciences activities. To accommodate the growth, a new building was constructed for offices, labs, and warehousing. These major projects required constant learning, adaptation, and resilience in the face of change.

## Managing change: 6 “batteries”

Constant change is a sign of the times, and being able to manage change effectively is a key attribute of successful companies. To support responsible growth, we have reviewed and updated our management systems, using the “batteries of change” approach. The “batteries” are six factors that determine the total “energy level” of an organization. It is a practical framework for reinforcing any company. A company with its six batteries filled will be able to cope with rapid and large change. By reviewing them regularly, we keep a pulse on the dynamics of constant change. The following overview lists the “batteries” and the initiatives that we have taken up to strengthen the resilience of our operations.



### Clear strategic direction

The vision, mission, and strategy were updated and reformulated. Strategic objectives were defined for the period to 2023.



### Ambitious top team

The leadership team was expanded from 3 to 6 members, an Executive Committee was founded, and gathered every month. The Balanced Scorecard (BSC) was implemented in all departments of the organization.



### Management infrastructure

A weekly department-heads meeting was launched as an open forum for information sharing and discussion. A KPI system was introduced in levels: Level 1, companywide; Level 2, departmental.



### Action planning and implementation

We started with portfolio management, appointing a coordinator who helps departments introduce projects with the right categorization to a portfolio board. This prioritizes and facilitates project execution. We started working with squads: small, independent, cross-functional teams dedicated to addressing or solving a specific issue in a short time frame. We realized a complete overhaul of our ICT infrastructure, responding to a manifest call for efficiency from all levels of the organization.



### Healthy culture

We conducted a culture survey to actively solicit employee feedback. The resulting values are promoted by a companywide campaign with mascots and cartoons that illustrate examples.



### Connection with employees

Communication with employees was increased in monthly “Newsflashes”. A direct line to management was created for questions, remarks, suggestions, criticism, and discussions through a software platform (U&I).



## Culture survey: shared company values, now and in the future

In a survey conducted to assess our company culture, we asked employees about their own values, how they perceive the values of JSR Micro, and the values we want to aspire to in the future. We were very pleased to find that despite the many changes, JSR Micro is still a unified company: there was little difference between the responses of employees who have been with the company for a long time and those of new employees. There was also little difference between age groups. JSR Micro’s employees still have shared values focused on excellent performance, individually and as a company. Based on the survey results, we formulated these core company values:







## Governance and ethics

JSR Micro is a fully owned subsidiary of JSR Corporation. The daily business operations are run by a six-person executive committee. Oversight takes place through the board of directors, which includes members of our corporate parent and JSR Micro NV.

Our corporate code of conduct, “The JSR Group Principles of Corporate Ethics,” provides the baseline for ethical business conduct internally as well as toward our stakeholders.



Left to right: Koichi Nagasaka, Kurt Adams, Xavier Buch, Paul Buysse, Johan Desimpelaere and Bart Denturck

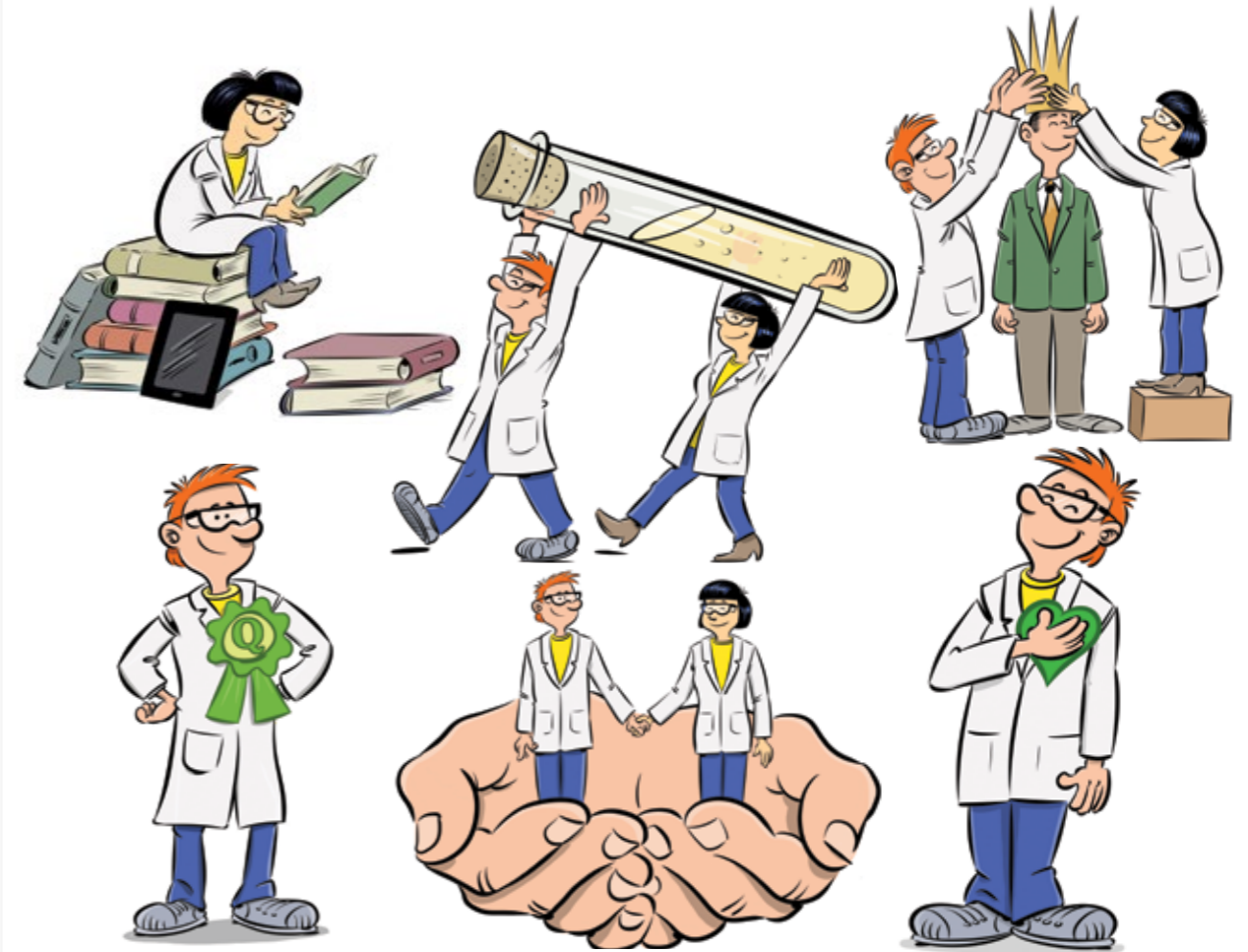
## Managing Corporate Social Responsibility (CSR)

Core aspects of CSR are managed through our certified management systems: [ISO9001](#), [ISO14001](#), and [OHSAS18001](#). These systems are audited by independent third parties, and require cycles of planning, risk assessment, measurement, review, and improvement. These management systems are deeply embedded in our organization and culture.

## Stakeholder interests

For the first two CSR reports, we initiated extensive stakeholder engagement to identify CSR priority topics. For this report, even though the company has gone through significant changes, the expectations and interests of our key stakeholders remained consistent: our customers value quality above all, and cost comes in second place. For our employees, stress management and mobility were key concerns. The list below provides a comprehensive overview of the CSR topics that have a high impact and are prioritized by our stakeholders:

- JSR Micro: a culture of care for our employees
- Finding ways to improve mobility
- Innovation: our core competency
- Extending excellent quality
- Business continuity planning and risk management
- Health and safety
- Product stewardship through compliance
- Managing environmental impacts
- Responsible supply chain management



# Vision

Our vision is to **excel in know-how and expertise** in our domains of activity and to offer our people a path for continuous learning. We want to be recognized for our **best-in-class manufacturing and customer support**; we will continuously deliver at the highest **quality, environment and safety** standards. We believe in offering a chance to **enrich our lives in a sustainable way**, in an atmosphere of mutual respect.



# JSR Micro: a culture of care for our employees.

Since our founding in 1986, JSR Micro has grown organically from a small start-up to the successful company that we are now. Throughout all those years we have always taken pride in our personable, respectful, and “flat” company culture. A company culture that has a strong focus on quality, efficiency, and serving the needs of our customers.

During the reporting period we experienced a growth of 35% in employees. Mainly because of our expansion in the life sciences business, we grew from 133 to 179 employees.

This growth of course created challenges: firstly, the job market within Belgium is saturated, making it challenging to find employees who align with both the job profile and our company culture. Secondly, once we found the right fit, it was imperative to ensure that new employees were not only up to the task at hand, but also firmly embedded in our company culture and values. Last but not least, we needed to ensure that our existing employees did not overstretch themselves amid all the changes.

### A culture of care for our employees

#### COMPANY GROWTH

	2015	2016	2017	2018
Employees (total headcount)	111	133	160	179
% female	39%	37%	39%	39%

#### NEW HIRES & TURNOVER

New hire rate in 2017	23%
New hire rate in 2018	21%
Turnover rate in 2017	4%
Turnover rate in 2018	10%

#### CONTRACT TYPE

	2017	2018
Total HC	160	179
Part-time employees	18%	18%
Employees working outside the Leuven facility	6%	5%
Temporary employees (FTE)	8	5

#### AVERAGE HOURS OF TRAINING PER YEAR PER EMPLOYEE

in 2017	49,7
in 2018	53,4

#### AGE (HR)

	2017		2018	
Under 30	18	7	26	14
30-50	58	48	61	43
Over 50	22	7	22	13

#### NATIONALITY (HC)

	2017		2018	
Belgian	90	54	100	61
European (Belgium excl.)	7	4	7	5
Asian	0	4	0	4
American	1	0	1	0
African	0	0	0	1



## 4 areas of activities

### “The resilience chart”:

in order to support our employees in maintaining healthy stress levels, we offer them a menu with activities to boost their resilience. Each employee can choose individually or with their team from a list of activities that help them deal with stress and stay healthy. Some examples of these activities include energy management, individual coaching, Stress Reset, yoga, a healthy cooking workshop, and much more.

### Welcoming new employees:

new employees are welcomed to JSR Micro during an informal breakfast with executives. Each new employee is also appointed to a “peter” or “meter” (mentor) who introduces him or her to all practical aspects of the organization. In addition, there are formal trainings, for example regarding quality, and health and safety. Together with the HR Department and their manager, new employees create a training and development plan.

### Development and education:

employees have always been encouraged to pursue additional education, for their day-to-day work, and for career development. The company has grown so rapidly that capturing training needs on an individual basis was no longer the most effective approach. Therefore, our HR Department now centralizes the shared training needs of employees, as well as capabilities

needed for the future growth of our organization. In this way, in the future we can offer a comprehensive training and education program to larger groups of employees.

**Diversity:** internationally, the topic of diversity has received much attention. We operate in an international environment, and in a multicultural society. Our workforce at JSR Micro reflects this. Within our hiring policy, non-discrimination is prerequisite. We look for the person that is fit for the job, regardless of gender, ethnicity, religion, age, or other factors.



In February 2019, our HR Department successfully applied for the “Sustainable Career” call of the European Social Fund. We are now engaged in a project. Its aim is to enhance the development of our employees through sustainable careers. The topics we will be addressing in this project are: hiring and onboarding, motivation and wellbeing, feedback, personal development, and roles and responsibilities.

All employees receive an annual performance review within our company.

All employees are covered by collective bargaining agreements.

### STAFF MEMBERS

x51	x57
x27	x34
in 2017	in 2018

### DEPARTMENT HEADS

x9	x9
x9	x9
in 2017	in 2018





## Our personnel club: connecting JSR employees, caring for each other, and making a difference

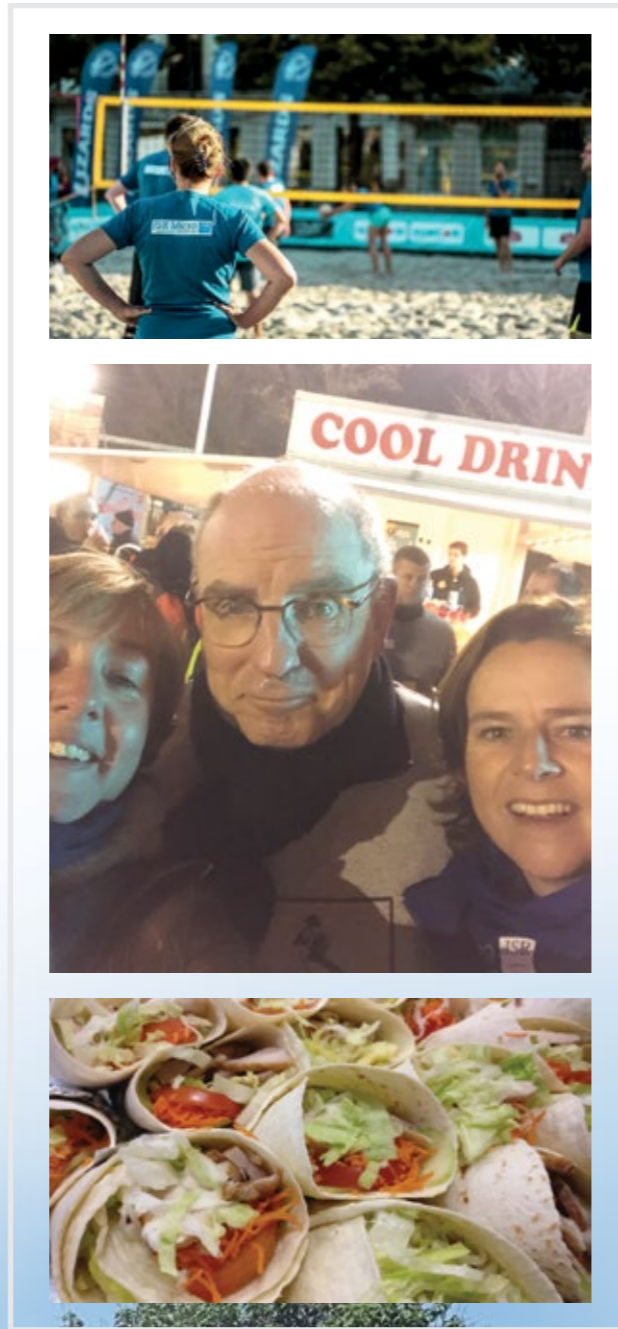
JSR Micro's personnel club organizes various casual and fun events throughout the year aiming to get to know each other outside the work environment. The highlight of our program is joining "the warmest week", a charity event of radio station Studio Brussel, where people throughout Flanders volunteer for a wide range of charitable causes.

€ 6.545,00

At JSR Micro we organized different events where we cooked and sold delicious snacks to raise money. However, the highlight of our charity campaign was without a doubt the "Warmathon". With no

fewer than 103 JSR Micro employees, we headed to Leuven to join this StuBru fundraising run/walk event, aiming to accomplish as many "JSR Micro challenges" as possible. For every challenge achieved, JSR Micro donated. With joined forces, JSR Micro and its personnel raised the total sum of € 6.545,00.

We donated € 5.000,00 to Lola's family. Lola is a 16-year-old Belgian girl who was hit by a car when she was walking to the annual camp of her youth movement. The surgeries and care that she now needs have put financial stress on her family. We hope our contribution will help to pull her family through these difficult times. The remaining money was transferred to RuimteVaart, an NGO in Leuven that supports families living in poverty in various ways such as connecting children with nature in urban food gardens, offering money-saving tips, providing basic needs and homemade food for an affordable price, and much more.



# Finding ways to improve mobility.

Mobility is becoming an increasingly important topic for JSR Micro. Every year, it takes our employees longer to travel the same distance to our company site. Moreover, the challenge of a long commute reduces the radius within which we can find new employees. For many, the prospect of traveling a long distance in rush-hour traffic discourages them from applying for a position at JSR Micro. Therefore, we try everything possible to make the commute easier.



### Company bike plan

For employees who live close to the company site, biking to work is a suitable alternative to taking the car. JSR Micro offers a bike leasing plan to employees who commit to biking to work on a regular basis. For the first bike, the full cost is paid by JSR Micro. When the lease ends after 3 years, there is an option for a new lease. For the second lease term, the cost is partly borne by the employee, but can easily be earned back via the allowance an employee receives for commuting by bike.

### Car fleet

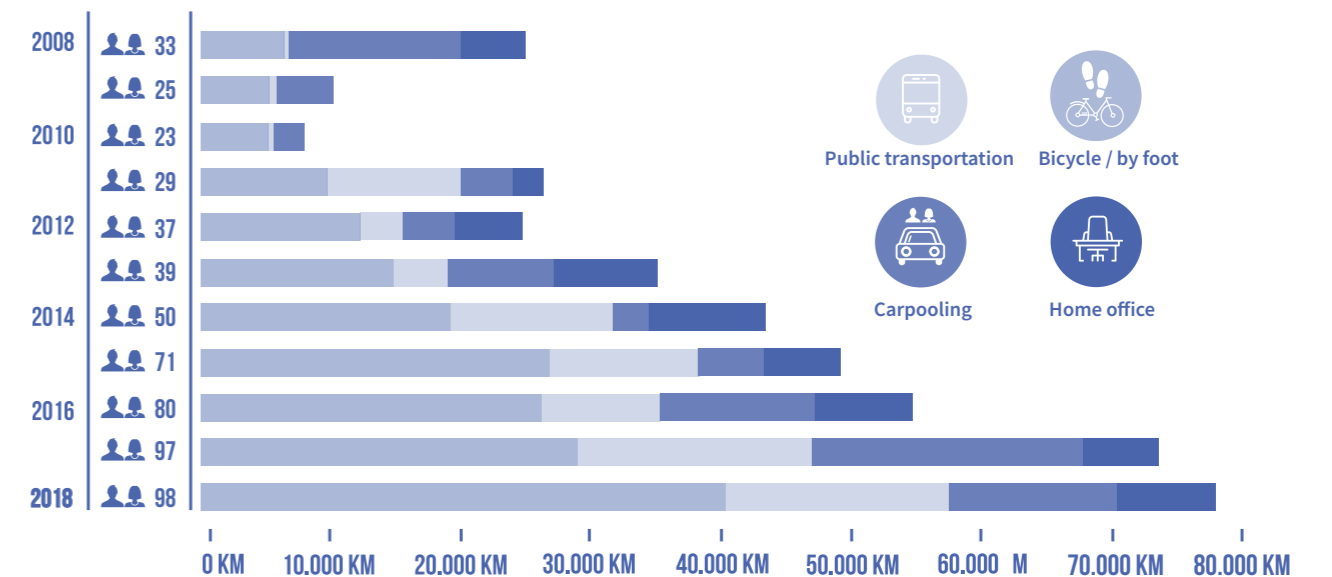
We encourage employees to choose electric or hybrid cars. During the reporting period, 3 employees made use of this option when their old lease ended. A total of 6 employees are now driving a hybrid or electric car. When the new building was constructed, we added 6 charging stations to the parking lot. The charging stations supply green energy.

### Public transport

Employees who commute by bus are compensated for 72 percent of their public-transit travel costs.

### Ik Kyoto

Ik Kyoto started out as an initiative that was promoted by the Flanders Region, but has become a household tradition at JSR Micro. During the spring and summer months we track all kilometers that employees commute with sustainable transport: bike, bus, carpool, and teleworking. At the end of the period, we celebrate with a breakfast for all participants. During the reporting period, 98 participants made 151.779 sustainable kilometers, and saved 20.474 kg CO2. As a token of appreciation for participation, they receive a gift. In 2018, they were offered a fruit tree of their choice: apple, cherry, pear, or plum. They could be taken home or planted at the site of JSR Micro. 70 trees were ordered, of which 15 were planted at our site.







# Health and Safety.

Because of the nature of JSR Micro's operations, employees are required to work with hazardous materials and industrial equipment. The employees that do not work in the production environment spend a lot of time behind their computers. When this is not done in the right posture with adequate breaks, there is a risk of injury. It is therefore of prime importance that employees have the skills, knowledge, and support to do their work safely. Our Health and Safety Department assures safe operations through providing training, conducting inspection rounds, performing safety assessments for products and processes, analyzing safety risks, and organizing awareness campaigns. Performance is embedded in processes through our certified OHSAS Occupational Health & Safety management system.

## Committee for prevention and protection at work

Belgian law requires companies with more than 50 employees to organize a committee for prevention and protection at work. JSR Micro's committee members include both managers and employees. The employee members are elected every four years.

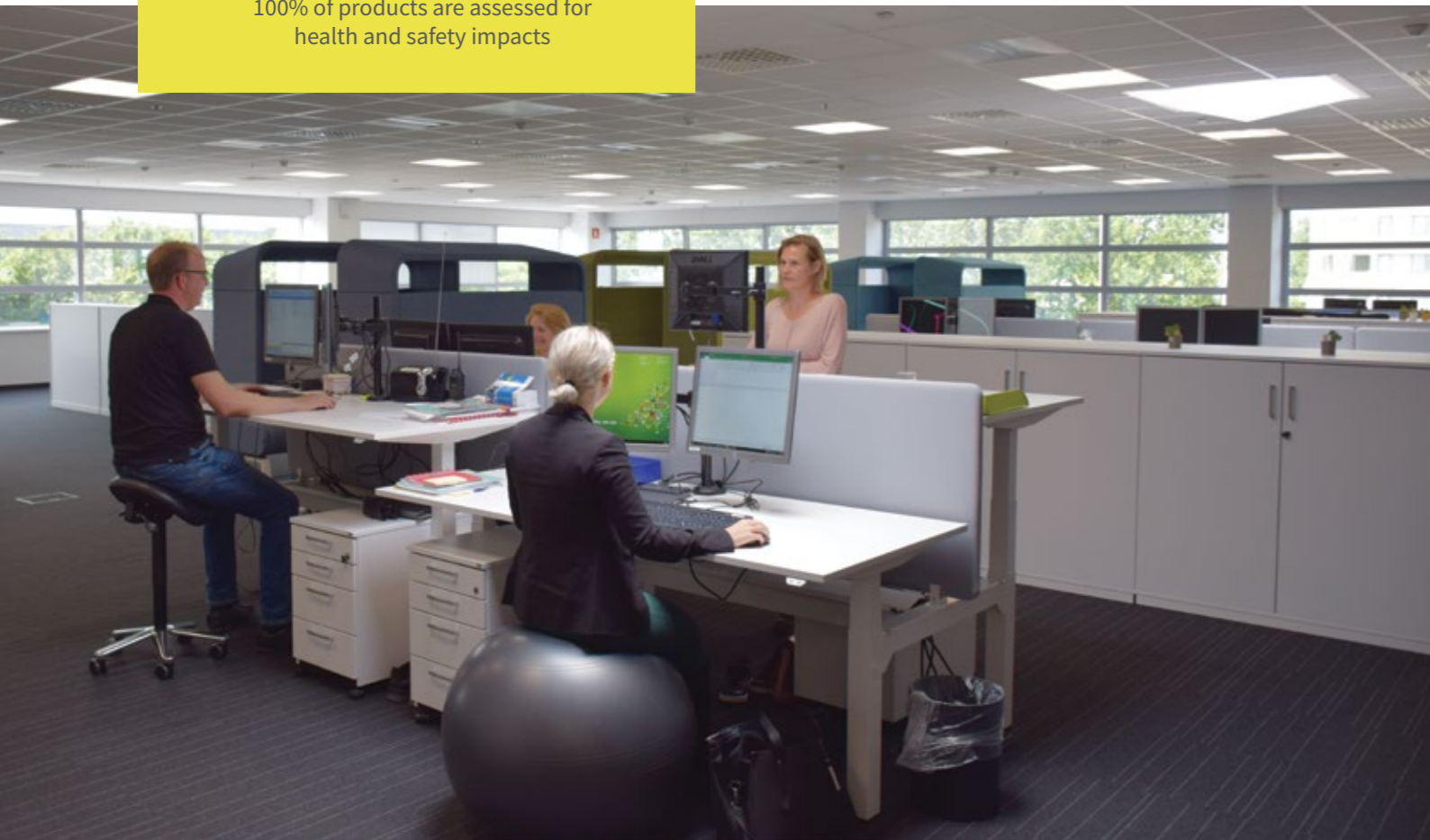
Each month, the committee meets and discusses health and safety topics. Managers present plans and report on performance and the handling of accidents, and employees have an opportunity to ask questions and make requests—such as for new work shoes or more showers.

In addition, the committee conducts monthly safety rounds. Employees review departments of the organization in which they normally do not work in order to look at a situation with fresh eyes. The safety rounds are an important part of our efforts to take preventive measures.



100% of the workforce is represented by the committee for prevention and protection at work

100% of products are assessed for health and safety impacts

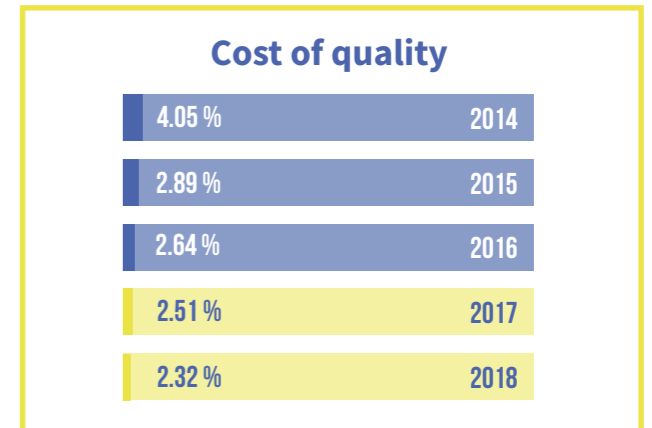


# Extending excellent quality.

JSR has a long history of quality. Our quality mindset is what has made us successful in the semiconductor industry. We aim to leverage this skill into our life sciences activities and all new businesses that we engage in.

This requires conscious dedication. During the last 20 years, JSR Micro has grown organically. In the early years, everyone who joined the company was immersed in the organizational culture, which allowed us to build strong and consistent shared values. With the rapid growth of the last years, we are actively looking to find new ways to instill the quality mindset in new employees, through training, communication, and mentorship. We believe that executives who “walk the talk” are the best role models of the company culture and values. In various settings, such as an informal breakfast with executives, newsletters, and lunch presentations, the importance of quality is highlighted.

Processes are optimized in data-driven continuous improvement cycles, resulting in efficient use of resources and energy. In this way, our quality system is foundational for CSR, enabling us to be responsible and efficient.



*“ It is never a question of what to choose, it is always quality first ” - Xavier*



*“ The awareness that the smallest deviation from the standard procedure can have enormous consequences ” - Mathieu*

## Customer recognition

In the end, our customers determine whether we have succeeded in delivering quality. We are proud to report that we have received the following awards during the reporting period:

- In 2017, we were awarded by Infineon for outstanding supplier performance in the category of Best Quality Award 2017.
- ON Semiconductor presented us with an award in recognition of Perfect Quality in 2013, 2014, 2015, 2016, and 2017.
- ST Microelectronics presented JSR with the Preferred Supplier Award in 2017.
- In 2017, JSR was awarded with Intel's Preferred Quality Supplier Award, and in 2018 we received Intel's Supplier Achievement Award.

## Leveraging the ISO9001 quality standard

We manage our quality performance using the ISO9001 quality standard as a foundation. However, many of our customers deliver products to downstream sectors that adhere to different standards with different focus and conditions. To meet customer needs, our quality management system includes many elements of the IATF standard (former TS16949), the quality standard for the automotive industry, and of GMP (Good Manufacturing Practice), which stipulates requirements for the production of pharmaceuticals.

## Quality and CSR

Our quality management system enables us to have sound and efficient processes.

We assess our quality performance through measuring the cost of quality (CoQ). The CoQ includes three components: prevention, appraisal, and failure. By investing in prevention and appraisal, we keep the costs of failure as low as possible. Overall, we aim for a CoQ that is less than 2.5 percent of revenue.



# Innovation: our core competence.



JSR Micro develops and produces advanced products and materials to support the semiconductor, the life sciences, and the energy and environment industries. The mission of our corporate parent guides the innovation of responsibly produced materials that benefit our society:

***We create value through materials to enrich society, people, and the environment.***

### Environmental considerations of materials used

JSR Micro takes a proactive approach to selecting materials for product development. Each substance that is imported into our site is thoroughly assessed by two in-house expert toxicologists. They not only review compliance with existing regulations, but also assess whether a substance may be a candidate for future regulation. Each substance is labeled with instructions for safe use and responsible disposal. At the end-of-life our customers send spent materials to dedicated waste processors. Because most of our products are processing aids, they do not end up in consumer products.

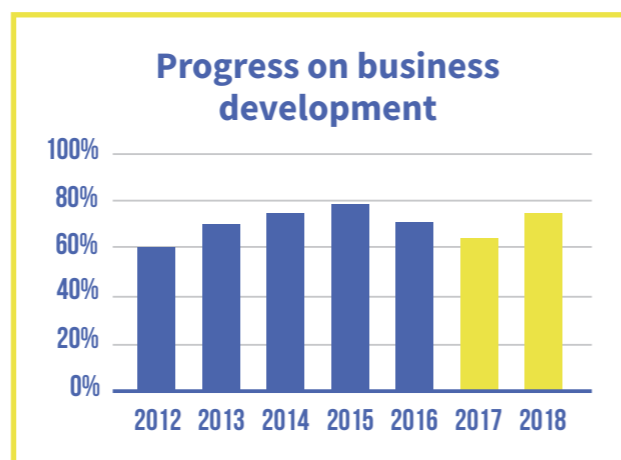
### Semiconductor materials

For years, innovation in the semiconductor industry has been driven by “Moore’s Law,” which dictates that the number of transistors on a microchip doubles every two years. Now that dimensions on a computer chip are approaching the limitations posed by the laws of physics, it is becoming increasingly challenging to achieve progress in a cost-effective way.

Recently, the semiconductor industry introduced the concept of “more than Moore,” which predicts that it is possible to create additional performance (or to lower the cost for a similar performance) not only by shrinking the dimensions of a microchip (the traditional Moore’s Law) but also by introducing more functionalities in a microchip instead of using several chips on a circuit.

JSR Micro is contributing to both innovation paths.

Firstly, we are pushing “Moore’s Law” to its limit by delivering advanced materials that enable the creation of ever-smaller lines on a microchip.



With EUV photoresist, the current leading-edge technology, it is possible to create 7-10nm lines in only single or double exposure steps, significantly reducing energy use and waste

during production. In January 2017, we produced our first commercial batch of EUV photoresist.

Secondly, we support the “more than Moore” innovation trend: applications such as the internet of things, big data, autonomous vehicles, automation, and the digital society require a lot of processing power and sensors, but not necessarily from the most advanced technologies. In the past, this demand would usually shift to Asia. In the last two years, we have seen that customers are reinvesting in Europe, with JSR receiving requests to develop and innovate the traditional photoresists such as i-line, ARF, and KRF.

## Green energy applications

JSR has developed a range of products that support trends such as the transition to green energy and electric transportation. For example, our ULTIMO™ Lithium Ion Capacitor (LIC) is used for energy recuperation in tram systems that run in Nice, France, and Kaohsiung, Taiwan. JSR’s aqueous binders are applied in batteries, replacing toxic products.

Our application lab is always looking for opportunities to employ JSR’s products in different contexts. Using our aqueous binder we developed a special functional coating which, when applied to textile, can push water through the textile using a very low current.

The technology is now applied in ski gear: with the touch of a button, sweat is removed from clothes during heavy exercise. At the end of 2017, the clothing was tested by a professional cross-country team. The jacket with this technology has been on the market since Christmas 2018. We are looking for other applications of the functional textile coating; for example, it could be used for bed-ridden patients in hospital settings.

## Life sciences.

### Biotech pharmaceuticals: antibody therapy

One of the recent generations of therapeutics uses antibodies that are designed to recognize and suppress pathologies such as cancer and immunological and neurological diseases. The producers of these drugs need to guarantee a very high level of quality and purity, as prescribed by regulators such as the FDA.

JSR’s Amsphere™ Protein A is used to purify such antibodies during the production process. JSR’s Amsphere™ Protein A is more efficient than competitive products, resulting in less waste and an overall lower cost, which benefits the end user: the patient.

### Creating capacity for full production in Leuven

In previous years, JSR Micro produced Protein A for Amsphere™, and our sister company in Japan finalized the product. In 2017, it was decided to bring the full production in-house. In the following year, the production line was set-up, a new building was constructed, personnel was hired and trained. In October of 2018, JSR Micro’s production processes were validated, and commercial production started.

# The next generation.



The NGO Vlajo aims to build bridges between education and professional life. After a successful presentation in 2017, JSR Micro’s president, Bart Denturck, was again invited to share his experiences with entrepreneurship with different groups of students who are about to start their careers. People outside industry are seldom aware of B2B companies. The students were quite surprised at the relevance of JSR Micro’s products to technologies that they use on a daily basis. The students were also very interested in the practice of strategy development, and had several follow-up questions. We hope that some of them will be inspired into entrepreneurship or chemistry.



JSR Micro’s president Bart Denturck with the students



# Product stewardship through compliance.



  
**100% compliant with:**  
 Chemical legislation  
 Environmental legislation  
 Labelling requirements  
  
 0 Euro fines during the reporting period

Compliance is not merely about obeying the law and complying with rules and regulations. It is the basis of product stewardship. Any product should be designed, produced, and used with respect for people and the environment. This is achieved firstly by being compliant, and secondly by taking a proactive and precautionary approach.

JSR Micro's regulatory department assesses any material that is imported into the company. It reviews which laws are applicable, and under what conditions the material can be safely used. The life sciences

activities fall under different legislation than the semiconductor activities. In some cases, different laws apply to the same materials, depending on the context of use. During this process, the department will also review whether the substance may be subject for future legislation, and will notify R&D in Leuven and our sister companies if this is the case.

Not all materials that are selected by R&D have ample data available. In these cases, JSR Micro's toxicologists will conduct a structural analysis of the chemical, and compare it with substances with a similar structure for which more data is available. This allows us to extrapolate findings from other research. In this way we are able to take a precautionary approach even when limited data is available.



# Managing environmental impacts.



A fundamental aspect of CSR is the sound management of environmental impacts, and a dedication to minimize our environmental footprint whenever possible. JSR Micro's energy and water use, greenhouse gas (GHG) emissions, and waste are managed through a certified ISO 14001 environmental management system.

### A learning curve for new production lines

As mentioned in previous sections, during the reporting period we started commercial production for new production lines in the semiconductor and the life sciences businesses. Simultaneously, the production of our existing product lines also increased. Unfortunately, this has led to an overall increase of environmental impacts. New production processes always include a learning curve during which more waste is created. Now that the new processes are settled, we can focus on improving efficiency and reducing waste.

### Environmental performance of the new building

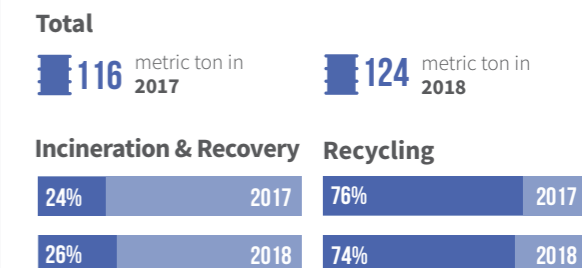
To accommodate the company's growth, a new building was constructed on our site in Leuven. It complies with the upcoming building standard of the city of Leuven. The following elements were integrated to reduce environmental impact: use of rainwater to flush toilets, skylights with rotating sun reflectors, building insulation, a pervious parking lot, a new bicycle parking, and charging stations for electrical cars.

### Reducing life sciences hazardous waste

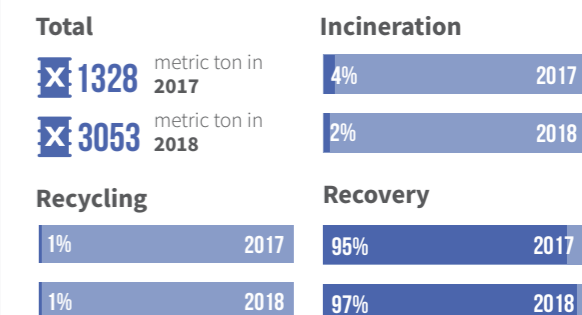
The largest component of the increase in hazardous waste originates from our life sciences activities. This waste stream contains mostly water. Because it needs to be neutralized, it is discarded with a dedicated waste processor. We intend to neutralize and treat the waste water generated by our production activities on site and reuse the purified water in our own production afterwards. This will reduce our waste handling and treatment as well as the emissions during transport significantly.

## Environmental performance

### NON-HAZARDOUS WASTE (CY)



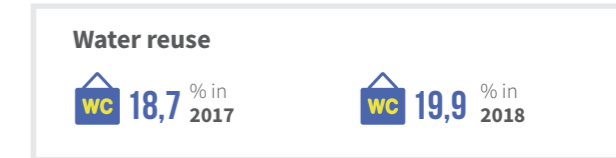
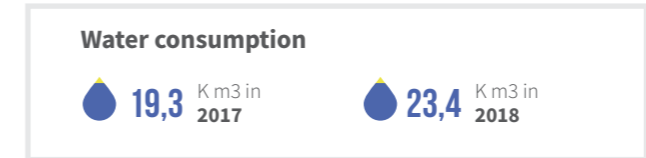
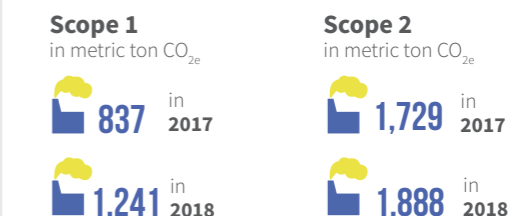
### HAZARDOUS WASTE (CY)



### ENERGY USE (FY)



### GHG EMISSIONS (FY)







# Business Continuity Planning (BCP) and risk management.

JSR Micro operates in a dynamic, complex, and global environment. This makes us acutely aware of the importance of business continuity and recovery planning.

BCP starts with the identification and reduction of risks. On a regular basis, we conduct an in-depth evaluation of existing risks such as a fire, explosion, terrorist attack, pandemic, or extreme weather event. Based on that analysis, we take precautionary measures and plan for business continuity. During the reporting period, the risk and impact of cybercrimes significantly increased. To protect us against this increased risk, we worked with an external expert consultancy to update the security of our IT systems.

In addition, worldwide we witness the increase of extreme weather events, putting global supply chains at risk. That is why, where possible, we aim to create redundancy in our supply chains. Finally, to anticipate on calamities, elaborate action plans are in place.

These plans do not only exist on paper, they are tested annually in coordination with our sister companies in the US and Japan. During BCP drills, we simulate how other sites will take over production if one site goes down. The BCP plans are then adjusted based on what we learn during these annual drills.



# Responsible supply chain management.

Most of the CSR impacts and risks do not occur at our company site, but within our supply chains. For this reason, responsible supply chain management is an important component of JSR Micro's CSR program. To influence the CSR performance of our suppliers, we asked existing key suppliers to sign the Responsible Business Alliance (RBA) code of conduct in 2016. The RBA is an industry coalition dedicated to fostering CSR practices in global supply chains. The code of conduct covers a wide range of topics, such as ethics, labor, health and safety, and environmental management practices.

Most of the raw materials used in JSR Micro's products are sourced from our corporate parent in Japan. Suppliers of these materials fall under the corporate "CSR procurement" and "green procurement" programs. JSR Micro's other suppliers are located in Europe. They operate in high-tech environments and adhere to strict regulations. Therefore, there is a reduced risk of violations of human rights, labor rights, and environmental responsibility.



**Supply chain performance**  
70 percent of key suppliers have signed the RBA code of conduct, or have shared their own code of conduct.  
11 audits were performed during the reporting period.

### The lean project: optimizing logistics

Currently, our customer service and logistics department is working with an external consultant to optimize these processes. Several actions have already been implemented: reduction of transport rounds through combining different orders on one route, kpi measurements on logistics operations, and a reduction of paper use through automatization.

### Supplier audits

Supplier practices can critically influence JSR Micro's quality performance. Consequently, we perform risk assessments to determine whether an audit is necessary. During our supplier audits, we not only assess quality, but also safety and environmental topics.

### Supply chain descriptions

	Production of raw materials		JSR Activity	Distribution		Use phase	End-of-life
Semiconductor materials	Polymers Solvents Photoactive compound Resin		Manufacturing electronic materials (photoresist)	Transport		End use by B2B customer	Disposal
Life Sciences	Polymer Protein		Manufacturing Protein A	Transport		End use by B2B customer	Disposal
LIC's	Polymer Aluminum Copper	Manufacturing of LIC by JM Energy	Distribution, technical and sales support of LIC	Transport	Integration of LIC in UPS and public transportation systems	Use of LIC	Disposal



# 2019 GRI Content Index

GENERAL DISCLOSURES				
GRI Standard	Disclo- sure #	Disclosure description	Page number and/or URL(s)	Direct answer / Reason for omission
GRI 102: General Disclo- sures 2016	102-1	Name of the organization	Message from the President, page 2	JSR Micro N.V.
	102-2	Activities, brands, products, and services	Introducing JSR Micro, page 3-6 Innovation: our core competency, page 13	<a href="https://www.jsrmicro.be/electronic-materials">https://www.jsrmicro.be/electronic-materials</a> <a href="https://www.jsrmicro.be/life-sciences">https://www.jsrmicro.be/life-sciences</a> <a href="https://www.jsrmicro.be/emerging-technologies">https://www.jsrmicro.be/emerging-technologies</a>
	102-3	Location of headquarters		JSR Micro N.V. Researchpark Haasrode 1019 Technologielaan 8 B-3001 Leuven Belgium
	102-4	Location of operations		Leuven, Belgium.
	102-5	Nature of ownership and legal form		Privately held corporation.
	102-6	Markets served	Introducing JSR Micro, page 3-6	Semiconductor manufacturers in the electronics market. Healthcare and pharmaceutical industries, biopharma companies, and universities. Companies in the industrial market, with solutions for public transportation and energy storage systems.
	102-7	Scale of the organization	JSR Micro: a culture of care for our employees, page 7-9	Total workforce is the head count excluding contractors and expats. Partial disclosure. Financial and production information is omitted because it is confidential. Our parent company JSR Corporation publishes an annual report that includes JSR Micro N.V.'s performance. Refer to the Fine Chemicals and Other Product Business section of JSR Corporation's 2018 Annual Report: <a href="http://www.jsr.co.jp/jsr_e/ir/annual_csr_report.shtml">http://www.jsr.co.jp/jsr_e/ir/annual_csr_report.shtml</a> .
	102-8	Information on employees and other workers	JSR Micro: a culture of care for our employees, page 7-9	Data was compiled in our payroll system in. In principle, the organization's activities are performed by JSR Micro's permanent employees. Our temporary employees consist of interim contracts, and 'job students'. We often make use of a 3-month interim contract before offering a permanent contract. During the summer holiday, we employ students to fill in for permanent employees, using temporary contracts.
	102-9	Supply chain	Responsible supply chain management, page 18	
	102-10	Significant changes to the organization and its supply chain	Introducing JSR Micro, page 3-6	A new building was constructed on the company's perimeter. A new production line was set up for JSR Micro's semiconductor and life sciences activities.

GENERAL DISCLOSURES				
GRI Standard	Disclo- sure #	Disclosure description	Page number and/or URL(s)	Direct answer / Reason for omission
	102-11	Precautionary principle	Product stewardship through compliance, page 15	
	102-12	External initiatives	Managing Corporate Social Responsibility (CSR), page 5	ISO9001:2015 ISO14001:2015 OHSAS18001:2007 Responsible Business Alliance.
	102-13	Membership of associations		Essenscia
	102-14	Statement from senior decision-maker	Message from the president, page 2	
	102-16	Values, principles, standards, and norms of behavior	Culture survey, page 4. Governance and ethics, page 5	JSR Group Principles of Corporate Ethics. <a href="https://www.jsrmicro.be/about-jsr/corporate-social-responsibility/corporate-code-conduct">https://www.jsrmicro.be/about-jsr/corporate-social-responsibility/corporate-code-conduct</a>
	102-18	Governance structure	Governance and ethics, page 5	
	102-40	List of stakeholder groups		Employees, customers, business partners, industry associations, government agencies, neighbors, suppliers, shareholders.
	102-41	Collective bargaining agreements	JSR Micro: a culture of care for our employees, page 7-9	100% of employees are covered by collective bargaining agreements.
	102-42 102-43	Identifying and selecting stakeholders  Approach to stakeholder engagement	Stakeholder interests, page 5	Interactions with stakeholders are an integral part of daily business operations. We engage proactively and continuously with stakeholders that critically influence our success: employees, customers, business partners, industry associations, and government agencies. In addition, we are always responsive to the requests that we receive from stakeholder groups with which we have less frequent contact, such as neighbors and NGOs.
	102-44	Key topics and concerns raised	Stakeholder interests, page 5	
	102-45	Entities included in the consolidated financial statements		JSR Micro N.V.
	102-46	Defining report content and topic Boundaries	Stakeholder interests, page 5	The boundary for all aspects of CSR, except for supply chain management, is JSR Micro N.V. This is where most of our impacts occur, and where we have most control to influence impacts. The supply chain falls outside of our boundaries though we do try to influence CSR behavior through our supplier relations.
	102-47	List of material topics	Stakeholder interests, page 5	
	102-48	Restatements of information		During the reporting period the Cost of Quality model was reviewed and updated. We standardized the collection of data, and reduced complexity in the collection of CoQ data and calculation of the total CoQ. Based on the new calculation method, we revised the CoQ in previous years: FY14 increased from 3,45% to 4,05%, FY15 increased from 2,26% to 2,89% and FY16 increased from 2,08% to 2,64%.



GENERAL DISCLOSURES				
GRI Standard	Disclo- sure #	Disclosure description	Page number and/or URL(s)	Direct answer / Reason for omission
	102-48	Restatements of information		In our previous report zinc was listed as a raw material for the LIC. This was part of a miscommunication, there is no zinc in JSR LIC's.  JSR micro N.V. is a subsidiary of the Japanese JSR Corporation. Each year, several Japanese assignees work with us. In previous years, we have included them in the employee headcount. However, they are not on the JSR Micro N.V. payroll. To make the headcount fit with the employees that fall under our organizational boundaries, we decided to recalculate the total employees excluding the assignees.
	102-49	Changes in reporting		In previous reports mobility was discussed as a part of environmental impacts and employee engagement. Because the importance of the topic has increased, in this report we discuss mobility as a separate material topic.
	102-50	Reporting period		April 1, 2017, to March 31, 2019
	102-51	Date of most recent report		August 2017
	102-52	Reporting cycle		Biennial
	102-53	Contact point for questions regarding the report		Katleen Gorissen Email: CSR@jsrmicro.be
	102-54	Claims of reporting in accordance with the GRI Standards	About this report, page 1	
	102-55	GRI content index	2019, GRI content index, page 19-22	
	102-56	External assurance		JSR Micro does not have a policy for external assurance, nor did JSR Micro seek external assurance for this report.
<b>Quality</b>				
GRI 103: Management Approach 2016	103-1 103-2 103-3	Management approach to material topic	Managing Corporate Social Responsibility (CSR), page 5 Extending excellent quality, page 12	See disclosure 102-46 for an explanation of how the topic boundaries are determined. ISO9001:2015
Company-specific indicator	Cost of Quality		Extending excellent quality, page 12	
<b>Innovation</b>				
GRI 103: Management Approach 2016	103-1 103-2 103-3	Management approach to material topic	Managing change: 6 “batteries”, page 3 Innovation: our core competency, page 13-14	See disclosure 102-46 for an explanation of how the topic boundaries are determined.
Company-specific indicator	Progress on business development		Innovation: our core competency, page 13-14	

GENERAL DISCLOSURES				
GRI Standard	Disclo- sure #	Disclosure description	Page number and/or URL(s)	Direct answer / Reason for omission
<b>Health and Safety</b>				
GRI 103: Management Approach 2018	103-1 103-2 103-3	Management approach to material topic	Managing Corporate Social Responsibility (CSR), page 5 Health and Safety, page 11	See disclosure 102-46 for an explanation of how the topic boundaries are determined. OHSAS18001:2007
GRI 403: occupational health and safety 2018	403-1	Occupational health and safety management system	Health and Safety, page 11	a. i. It is a requirement of the SEVESO III legislation for JSR Micro to have a health and safety management system. ii. The certified OHSAS18001:2007 standard is used to implement the management system. b. All workers, workplaces and activities are covered by the management system.
GRI 416: customer health and safety 2016	416-1	Assessment of the health and safety impacts of product and service categories	Health and Safety, page 11	100% of JSR Micro products are assessed for health and safety impacts. We improve the health and safety impacts if possible.
GRI 417: marketing and labeling 2016	417-1	Requirements for product and service information and labeling	Health and Safety, page 11	All significant products and services includes information on sourcing of components, content and its environmental impact and safe use.
<b>BCP and risk</b>				
GRI 103: Management Approach 2016	103-1 103-2 103-3	Management approach to material topic	Managing Corporate Social Responsibility (CSR), page 5 Business Continuity Planning (BCP) and risk management, page 17	See disclosure 102-46 for an explanation of how the topic boundaries are determined.
Company-specific indicator	Annual risk review		Business Continuity Planning (BCP) and risk management, page 17	
<b>Employee Engagement</b>				
GRI 103: Management Approach 2016	103-1 103-2 103-3	Management approach to material topic	JSR Micro: a culture of care for our employees, page 7-9	See disclosure 102-46 for an explanation of how the topic boundaries are determined.
GRI 401: Employment 2016	401-1	New hires and turnover	JSR Micro: a culture of care for our employees, page 7-9	
GRI 404: Training and Education 2016	404-1	Average hours of training per year per employee	JSR Micro: a culture of care for our employees, page 7-9	
	404-3	Performance and career development reviews	JSR Micro: a culture of care for our employees, page 7-9	

GENERAL DISCLOSURES				
GRI Standard	Disclo- sure #	Disclosure description	Page number and/or URL(s)	Direct answer / Reason for omission
<b>Environment</b>				
GRI 103: Management Approach 2016	103-1 103-2 103-3	Management approach to material topic	Managing Corporate Social Responsibility (CSR), page 5 Managing environmental impacts, page 16	See disclosure 102-46 for an explanation of how the topic boundaries are determined. ISO14001:2015
<b>Waste</b>				
GRI 306: Effluents and Waste 2016	306-2	Waste by type and disposal method	Managing environmental impacts, page 16	The waste disposal method was determined in co-operation with the waste contractor and according to legal requirements. Recovery: waste is incinerated with recovery of energy
	306-3	Significant spills		There were no significant spills during the reporting period.
<b>Emissions</b>				
GRI 305: Emissions 2016	305-1	Direct (Scope 1) GHG emissions	Managing environmental impacts, page 16	Conversion factors from Indea Greenhouse gas emissions include gas, electricity and HFC's . Other emissions were not included because we did not track them during the reporting period. However, we are convinced that gas and electricity use account for most of our GHG emissions. Consolidation approach: operational control.
	305-2	Energy indirect (Scope 2) GHG emissions	Managing environmental impacts, page 16	Conversion factors from Indea Greenhouse gas emissions include gas electricity and HFC's. Other emissions were not included because we did not track them during the reporting period. However, we are convinced that gas and electricity use account for most of our GHG emissions. Consolidation approach: operational control.
<b>Energy</b>				
GRI 302: Energy 2016	302-1	Energy consumption within the organization	Managing environmental impacts, page 16	Data (kWh consumption) was retrieved from the invoices. Energy use reported include gas and electricity. Other emissions were not included because we did not track them during the reporting period. However, we are convinced that gas and electricity use account for most of our GHG emissions.
<b>Water</b>				
GRI 303: Water 2016	303-1	Water withdrawal by source	Managing environmental impacts, page 16	All water withdrawn is third-party freshwater from our municipality. All water is withdrawn from an area with water stress, as Belgium is indicated as a water stressed area: <a href="https://www.eea.europa.eu/data-and-maps/figures/water-stress-in-europe-2000-and-2030/fig-3-3-water-stress.eps/image_large">https://www.eea.europa.eu/data-and-maps/figures/water-stress-in-europe-2000-and-2030/fig-3-3-water-stress.eps/image_large</a>
<b>Compliance</b>				
GRI 103: Management Approach 2016	103-1 103-2 103-3	Management approach to material topic	Managing Corporate Social Responsibility (CSR), page 5 Product stewardship through compliance, page 15	See disclosure 102-46 for an explanation of how the topic boundaries are determined.

GENERAL DISCLOSURES				
GRI Standard	Disclo- sure #	Disclosure description	Page number and/or URL(s)	Direct answer / Reason for omission
GRI 307: Environmental Compliance 2016	307-1	Non-compliance with environmental laws and regulations	Product stewardship through compliance, page 15	There were \$0 fines in FY17 or FY18. During the reporting period, there has not been any health and safety penalty.
GRI 416: Customer Health and Safety 2016	416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	Product stewardship through compliance, page 15	There were \$0 fines in FY17 or FY18. During the reporting period, there has not been any environmental penalty.
GRI 417: Marketing and Labeling 2016	417-2	Incidents of non-compliance concerning the health and safety impacts of products and services	Product stewardship through compliance, page 15	During the reporting period, there have not been any chemical label or SDS noncompliance violations.
<b>Supply Chain Management</b>				
GRI 103: Management Approach 2016	103-1 103-2 103-3	Management approach to material topic	Managing Corporate Social Responsibility (CSR), page 5 Responsible supply chain management, page 18	See disclosure 102-46 for an explanation of how the topic boundaries are determined.
Company-specific indicator	% of key suppliers that have signed the RBA code of conduct, or have shared their own code of conduct		Responsible supply chain management, page 18	





Questions or suggestions  
about this CSR report?  
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**WINNER OF THE  
JSR MICRO CSR  
PHOTO CONTEST  
2019**



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