As we began to write our first CSR report, we felt we were entering new territory. However, as time went on, it actually turned out to be familiar terrain. From the outset, JSR Micro has always aimed to provide innovative materials that will benefit society. Responsible operations and sensitivity to stakeholder expectations form our foundation.

Having started up as a small emerging player in the semiconductor industry in the 1980s, we managed to get traction with large established players by delivering superior quality. We achieved this by carefully listening to the needs of our customers while simultaneously taking care of the well-being and development of our employees.

I do not think it is possible to pursue excellent quality and fully focus on customers and employees without addressing CSR. Efforts to minimise negative environmental impact and potential hazards to health and safety are a logical extension of our business strategy. This is why CSR values have been embedded in our culture and operations from the very beginning.

The reporting process provided us with an opportunity to take stock of these efforts and place them in the larger context of current sustainability trends. Such trends include scarcity of resources, climate change, shifting regulations and consumer opinions, and supply chain impacts. Whilst we have gone beyond our due diligence obligations within our own operations, we are planning to extend our knowledge and efforts in the future to our supply chain partners. Our aim is to reach out to support a truly sustainable future for everyone.

This report is our first step in creating transparency towards our stakeholders regarding the CSR activities that come so naturally to us. We hope that you will enjoy reading it and we look forward to receiving your feedback and suggestions.

“I do not think it is possible to pursue excellent quality and fully focus on customers and employees without addressing CSR.”

Sincerely,

Bruno Roland
President JSR Micro
JSR Micro NV is a privately owned subsidiary of JSR Corporation. [G4-7]
Our operations are located in Leuven, Belgium, and we serve customers in Europe, Japan, Malaysia, Israel, Singapore, the United States and Russia. Our mainstay is to provide specialty chemicals for the semiconductor industry. In the last decade we have expanded our expertise into new growth markets in the life sciences and energy sector.

Strategically located in Belgium
The quest to produce at the lowest cost level has pushed many manufacturing facilities to relocate to Asia. We do not consider this option. Our sister companies are situated in Japan and the US. By virtue of having operations in Belgium, we are able to provide an extra assurance in terms of business continuity. Our location in Leuven also puts us strategically situated close to our European customers.

Specialized workforce
Since our founding in 1986, we have worked hard to put together an engaged and specialized workforce. Therefore, we are committed to remaining in Belgium and continuing to nurture and expand our workforce here in the EU region.

<table>
<thead>
<tr>
<th>PEOPLE</th>
<th>PLANET</th>
<th>PROFIT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total workforce</strong></td>
<td><strong>Energy use</strong></td>
<td><strong>Net sales</strong></td>
</tr>
<tr>
<td>in 2013</td>
<td>21,652 GJ in 2013</td>
<td>48 mio euro in 2013</td>
</tr>
<tr>
<td>in 2014</td>
<td>21,827 GJ in 2014</td>
<td>54 mio euro in 2014</td>
</tr>
<tr>
<td><strong>Women in workforce</strong></td>
<td><strong>Water use (in K m³)</strong></td>
<td><strong>Debt vs Equity</strong></td>
</tr>
<tr>
<td>in 2013</td>
<td>16 in 2013</td>
<td>20% in 2013</td>
</tr>
<tr>
<td>in 2014</td>
<td>12 in 2014</td>
<td>23% in 2014</td>
</tr>
<tr>
<td><strong>100% of employees covered by collective bargaining</strong></td>
<td><strong>Hazardous waste</strong></td>
<td><strong>Non-hazardous waste</strong></td>
</tr>
<tr>
<td></td>
<td>578 metric ton in 2013</td>
<td>36 metric ton in 2013</td>
</tr>
<tr>
<td></td>
<td>513 metric ton in 2014</td>
<td>40 metric ton in 2014</td>
</tr>
</tbody>
</table>

Reported in Calendar Years
exploring CSR

CSR: What it means to us
Responsibility, respect and transparent communication are the values that guide how we do business. These values also describe our approach to CSR.

Responsibility means being accountable for the broader impacts of our operations. This refers to the well-being of our employees, the quality of our products and the health of our environment.

We believe that treating each other with respect enables open communication. And this is not restricted to communications between employees and their superiors, but also applies to our relationships with other stakeholders.

CSR: embedded in our culture
Although we do not have a dedicated CSR department, we have always addressed important sustainability topics through our management systems. In 1991, JSR Micro was one of the first companies in Belgium to obtain an ISO9001 certificate. This was expanded with the ISO14001 and OHSAS18001 certificates. These management systems provide checks on our performance and a structure to continuously improve.

However, they only work if the company culture supports them.

CSR: engaging our stakeholders
Stakeholders are defined as those groups that either impact or are impacted by JSR Micro. We engage both proactively and continuously with those groups that have a critical influence on our success. Such groups include employees, customers, business partners, suppliers, industry associations and regulatory agencies. In addition, we always respond to the requests that we receive from stakeholder groups with which we have less frequent contact, such as neighbours and Non-Governmental Organisations (NGOs).

CSR: determining material topics
To determine the most impactful, or ‘material’ topics to report about, we sent out a survey to all stakeholder groups.

To assess the impact of CSR topics on the future of the company, we asked the CSR team and executives to rank the topics of the GRI guideline and the industry specific CSR topics. The results were plotted together in the materiality matrix.

Our stakeholders

Governance and Ethics
JSR Micro’s daily operations are run by an Executive Committee made up of four people. Meanwhile, both long-term decisions and strategy development are overseen by a seven person Board of Directors that consists of the Executive Committee and three members of JSR Corporation.

As JSR Corporation is a shareholder, business partner, supplier and customer of JSR Micro, we work closely together in many areas. In 2011, we adopted the JSR Group Principles of Corporate Ethics, which outline the basic rules for business conduct and responsibilities to stakeholders. To improve accessibility, we also translated it into Dutch and distributed it to all employees.

The industries that we operate in are complex environments where our researchers and sales people work closely together with our customers and regularly encounter competitors (e.g. during exhibitions and conferences). In order to ensure that our colleagues clearly understand the principles of antitrust, we provide them with regular training that is facilitated by external experts.

Materiality Matrix

Impact on our Company

Not material
Material
Confidential (Not disclosed)
"CSR is not new for JSR Micro. It has a name now."
Jos Jacobs,
trade union representative

/we walk our talk

2002

Action: New facility at the Technologielaan
Result: Minimal resource use

Action: Product process optimisation
Result: Energy saving

2003

Action: Optimisation of packaging for locally produced products
Result: Less polystyrene usage

Action: Investments for QC equipment and production automation
Result: Less hazardous waste

2004

Action: Switch off boiler in summer
Result: Energy saving

Action: Frequency control on electrical motors
Result: Energy saving

2005

Action: ISO 14001:2004 certification
Result: Environmental management system

Action: ‘Ik Kyoto’ campaign - bike to work
Result: 22 participants - 1,811 kg CO₂ reduction

2006

Action: Investment in Semitool equipment for wafer cleaning with Ozon & DI-water
Result: No more hazardous chemicals - Cost reduction

Action: ‘Ik Kyoto’ campaign - sustainable commuting (bike, carpooling, public transport)
Result: 26 participants - 3,951 kg CO₂ reduction

2007

Action: ‘Ik Kyoto’ campaign - sustainable commuting & Home office
Result: 33 participants - 3,716 kg CO₂ reduction

Action: Frequency control on electrical motors
Result: Energy saving

Action: Switch to drinking water dispensers using tap water
Result: CO₂ + cost reduction & ergonomics improvement

2008

Action: Reduce printers / standard: 2-sided printing
Result: Save paper

Action: Optimisation of cooling water chiller
Result: Energy saving

Action: Started to recycle waste solvent
Result: Less waste

Action: Optimisation of the bottle washing process
Result: Less water consumption

Action: OHSAS 18001:2007 certification
Result: Health & Safety Management System

Action: Kill a watt’ sensibilisation campaign on hidden consumers
Result: Energy saving

Action: Switch to drinking water dispensers using tap water
Result: CO₂ + cost reduction & ergonomics improvement

Action: Change from air freight to sea freight for products imported from Japan
Result: CO₂ reduction
“Although JSR Micro does not have a dedicated CSR department, we have always addressed important sustainability topics through our management systems.”

Bruno Roland, President, General Manager
JSR excels in materials knowledge and we apply this in different sectors. As such, we are not merely innovative in the sense of coming up with new materials and chemistries, but we are also often pioneering as we bring entirely new propositions to society.

Innovation ‘one-on-one’

Innovation is not an isolated activity. To understand future materials needs, we cooperate in various R&D-projects with customers, business partners, industry peers, universities and research organisations. We listen carefully to understand what our customers’ requirements are and jointly create and optimise that unique product that fulfils their needs. We call our approach ‘innovation one-on-one’.

Sharing our discoveries

We share the findings of our research through the publication of technical briefs and research papers and by delivering presentations at conferences.

<table>
<thead>
<tr>
<th>Publication type</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presentations, posters &amp; roundtable discussions</td>
<td>9</td>
<td>24</td>
</tr>
<tr>
<td>Research paper (peer reviewed)</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Technical brief (not peer reviewed)</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>13</td>
<td>32</td>
</tr>
</tbody>
</table>

OUR AIM: PRODUCE AT LEAST SIX PUBLICATIONS PER YEAR

Nano-electronics that hold the promise of accurate, quick and low cost diagnosis

Recently, both imec and JSR have crossed a new boundary by applying expertise in nanoscale technology to the life sciences sector. Together with partners, imec is developing advanced bio-electronic technology to enable the introduction of the next generation of life science tools. These tools will cover life science research, diagnosis and treatment. One of the platforms that imec is developing is an image-based cell sorting system that is fully integrated on a chip approximately the size of a microscope slide.

The system enables one to image, classify and sort cells in blood in a matter of minutes, which will make it accessible for point-of-need applications.

Imec and JSR: Crossing disciplinary boundaries to innovate

Imec is a leading research centre that specialises in nano-electronics and nanotechnology. Since its inception in 1984, the partnership between imec and JSR in itself has been innovative. It was not common for a chemical company to cooperate with a nano-electronics research centre. Nevertheless, the result has been a true synergy: we develop processes and products that have accelerated the pace of innovation.

With their state-of-the-art cleanroom, which includes the most advanced semiconductor tools, and their R&D platform covering the entire semiconductor value chain network (tool vendors – chemical suppliers – chip manufacturers – fabless and fablite companies), imec provides a unique ecosystem that enables companies to develop and test new technologies. More info: www2.imec.be
Our products

Electronic materials: Photoresist

Explanation of the technology

Microchips are manufactured through a layer-by-layer production process. Photoresist is applied to a silicon wafer and is then baked to dry. A pattern is created by exposing part of the photoresist to UV light that falls through a stencil or ‘mask’. The parts exposed to UV light become soluble in a caustic solution that is called a developer. The developer removes the exposed parts and leaves the desired pattern, which is consequently used as an etch or implant barrier layer.

Impact on society

Improving the functionality of microchips is the key to increasing the performance of smartphones, tablets, computers, cars and satellites, and it plays a pivotal role in trends such as ‘the internet of things’. Improvements in microchip performance and reductions in size also imply reduced energy consumption of electronic devices.

Customers and markets

Semiconductor manufacturers in the electronics market.

Challenges

The main challenge involves developing and manufacturing materials for next generation lithographic technologies such as Extreme Ultraviolet Lithography (EUV) or Directed Self-Assembly (DSA). The number of customers that have the capability to apply these technologies is shrinking. R&D advanced tools can only be accessed through third party collaborations. Manufacturing and QA need new kinds of partnerships.

Life Sciences:

Microbeads

JSR’s microscopically small magnetic beads are functionalised so that they can link with bioreceptors. The bioreceptors pick up biological markers in the blood that could indicate a disease. The beads are then extracted with a magnet and analysed to make a diagnosis.

ExoCap

JSR’s ExoCap technology offers a new approach for the ultra-selective detection of exosomes, which are small particles used by the cells in our body to communicate. Analysis of the exosomes can diagnose severe diseases (like cancer), without harmful scans or surgery.

Bioprocessing

JSR’s protein A resin is used in the development and manufacturing of the latest generation of therapeutic antibody drugs. The resin captures and purifies the antibodies with high selectivity. JSR’s bead polymer technology has resulted in a high capacity resin that offers clients both productivity and cost benefit in manufacturing. Our facility in Haasrode is the principal manufacturing site for the protein A ligand.

Impact on society

With aging populations, the demand for effective and affordable healthcare will continue to grow. JSR’s life sciences products help to meet this demand.
Energy: Lithium Ion Capacitors (LIC)

Explanation of the technology
An LIC is an electrical storage device that occupies the middle ground between batteries and capacitors. It is able to release energy more quickly than batteries and stores more energy than capacitors. As such, it fills a gap in the market.

Impact on society
Nowadays, the energy market is in flux. To achieve sustainability, we will need to shift from using fossil fuels to using renewable energy. Energy storage devices play a key role in this shift, for instance in terms of quick local energy storage, uninterrupted power supply or electric transportation. Compared to regular batteries, the life expectancy of an LIC is very long, which in turn reduces resource usage and waste.

Customers and markets
Companies in the industrial market, with solutions for public transportation and energy storage systems.

Challenges
The LIC is a new technology and it does not fit in with existing regulatory frameworks. For example, regulations are in place for recycling lithium ion batteries but not for lithium ion capacitors. We proactively engage with regulatory agencies for the recognition of the LIC technology in these frameworks so that it can be integrated into future recycling guidelines and best practices. In some ways, the LIC is ahead of its time. For proactive companies, this is an environmentally friendly solution enabling them to anticipate regulations. However, as implementing LIC solutions entails new electronic designs, this means that introducing this product to the market also requires partnerships with module and system providers.

"We started working with JSR Micro to model applications for the LIC. This has been very interesting as JSR’s LIC technology is at the forefront of current innovations in energy storage technology, enabling reductions in fuel consumption and CO2 emissions”.
Prof. Dr. Eng. Noshin Omar
The Battery Innovation Centre (BIC) of the research group MOBI of the Vrije Universiteit Brussel (VUB)

How LIC can be applied in public transport
In comparison to batteries, LICs are small and light. This makes them highly suitable for use in the transport sector. This short film explains how LIC’s can be used in buses as in this one in Leuven.

Protecting delicate equipment against power dips
With the introduction of renewables to the electricity grid and the disipation of older technologies, power fluctuations and outages have become more common. LICs are used to neutralise these power dips.

Watch the movie clip youtube.com/watch?v=ecslHC53sYk
risk management and business continuity planning

Minimising risks through a preventive approach

The first step in minimising risks is preventing them. Risks at our company, such as an environmental spill or a loose wire that someone could trip over, are assessed and handled through our management systems and compliance with rules and regulations. As many European laws take the precautionary principle as a point of departure, proof of risk mitigation is an essential part of compliance. Our approach minimises risks by preventing avoidable accidents from occurring in the first instance.

Planning for business continuity in the face of uncertainty

Business continuity planning then takes the broader approach and evaluates risks outside the company. Such risks include employee strikes, IT security, terrorist attacks, supply chain risks, storms and floods, natural disasters such as earthquakes, and much more.

By planning for these unlikely but impactful events, we ensure resilience, recovery and contingency in the face of uncertainty. This preparedness is important not only for us but also for our stakeholders.

Due to the intricacy of semiconductor processing, finding substitutes for our products would pose a challenge to our customers. We cooperate with our corporate parent and sister companies to attune and test response strategies to potential disasters. To this end, each of our plants is able to take over the production of the others.

It is impossible to predict the future. However, we believe that these complementary approaches go a long way towards reducing risks and ensuring that we are prepared for the unexpected.

“We review risks to business continuity on an annual basis.”

the imperative of excellent quality

Quality is guided by our customers who expect products with a consistent performance that meets their expectations, every time, batch after batch.

Semiconductor production technology is one of the most complex technologies out there. Microcomputers and memories are fabricated at nanoscale and producers continuously push the technological boundaries. Even the slightest deviation can have a dramatic impact on the manufacturing process of our customers. Continuous improvement is essential if we are to remain in sync with the evolution of our customers. Whereas semiconductor manufacturing technology sets the quality standards, we are now applying these decades of experience to the life sciences and energy domains.

Tracking quality

To achieve excellent quality, we take a proactive approach. This involves defining and measuring 1/ the cost of preventing and detecting defects and 2/ the cost of failures. By focusing on the optimization of the first two concepts, we attempt to bring the latter down. For example, in recent years we have hired two additional QA engineers and invested in further process automation.

Total cost of quality as % of sales

<table>
<thead>
<tr>
<th>Year</th>
<th>Cost of Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>4%</td>
</tr>
<tr>
<td>2012</td>
<td>3%</td>
</tr>
<tr>
<td>2013</td>
<td>5%</td>
</tr>
<tr>
<td>2014</td>
<td>7%</td>
</tr>
</tbody>
</table>

Managing quality

In the short term, we find input for quality improvements from different sources, such as audits and our own people’s proposals. We reward the best suggestion on a bimonthly basis.

After certifying for ISO9001, we have also implemented many elements of the TS16949. The Failure Mode and Effect Analysis (FMEA), for example, is more elaborate and more precise in terms of detecting and measuring risks. The identified risks are either eliminated or extra controls to processes are added. This results in a plan that comprehensively anticipates potential errors.

The voice of our customer

We regularly receive evaluation scorecards from our customers and have worked extremely hard to achieve the very high scores that our customers give us. Having received the score, improvement programs are defined in order to address the gap that remains between the score given and perfection.

Supplier Awards

Customer appreciation for our services is also clearly demonstrated by the many awards that we have received over the years.

“It is impossible to predict the future. However, we believe that these complementary approaches go a long way towards reducing risks and ensuring that we are prepared for the unexpected.”

“We review risks to business continuity on an annual basis.”

“Quality in itself will not reduce costs but the best way to cut costs is to produce quality.”

Jim Mulready
Global Quality Director

unseen
employees: the key to our success

The entrepreneurial and convivial atmosphere, working at the cutting edge of the most advanced technologies and a drive to be the best, are joint factors that make it attractive to work at JSR Micro. We place a high premium on employee satisfaction. Our management team facilitates this through various programs, such as employee development plans, the company health plan, as well as by providing training and education opportunities and coaching. Our low turnover rates confirm the success of this approach.

Employee development plans

At JSR, we encourage an open process in which employees and managers match tasks to the company strategy and discuss both development and educational needs. Every JSR Micro employee has an annual review with his or her manager about the previous year’s performance and the development strategy for the forthcoming year. Employees have the opportunity to provide input and request specific training or education. Due to the dynamic nature of our business, a midterm adjustment of the plan is sometimes necessary.

We provide an annual workshop for all of our employees to ensure that everyone understands the performance management system. We also take this opportunity to educate employees in an area that will support workplace relations. For example, the 2014 workshop included a section on providing feedback.

Maintaining our company culture while growing

When we hire new employees, we not only look for a technical match to a functional description, but we also seek people who match with our company culture. Since JSR Micro was founded, we have intentionally and carefully fostered values such as quality, safety, a customer focus and collaboration.

As we are growing quickly, balancing growth and sustaining our company culture will be one of the challenges that we face in the coming years.

“When I had a muscle ache in my shoulder, colleagues brought me devices, such as a track ball and an ergonomic keyboard. That helped!”

Henry Volders, QA Engineer

“The atmosphere here is very collaborative. Colleagues always try to help each other. You can also easily go to the President whose door is always open.”

Xavier Bucx, Sales and R&D Manager

JSR Micro employee facts

Total workforce (headcount, contractors included)

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>122</td>
</tr>
<tr>
<td>2014</td>
<td>125</td>
</tr>
</tbody>
</table>

Women/man

<table>
<thead>
<tr>
<th>Year</th>
<th>Women</th>
<th>Men</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>43</td>
<td>79</td>
</tr>
<tr>
<td>2014</td>
<td>46</td>
<td>79</td>
</tr>
</tbody>
</table>

Turnover rate

<table>
<thead>
<tr>
<th>Year</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>2%</td>
</tr>
<tr>
<td>2014</td>
<td>3%</td>
</tr>
</tbody>
</table>

New hire rate

<table>
<thead>
<tr>
<th>Year</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>11%</td>
</tr>
<tr>
<td>2014</td>
<td>14%</td>
</tr>
</tbody>
</table>

Average hours of training per year per employee (CY)

<table>
<thead>
<tr>
<th>Year</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>21</td>
</tr>
<tr>
<td>2014</td>
<td>25</td>
</tr>
</tbody>
</table>

More detailed figures about our employees: jsrmicro.be
providing a safe and healthy workplace

Employees spend a considerable proportion of their time at work. Consequently, their workplace has to be safe and healthy.

In line with our company culture, we take a proactive approach to managing safety. The kind of goals that are set will play a major role in steering behaviour. By setting a goal to minimise accidents only, one can create an incentive to cover them up. Therefore, to prevent accidents, we set targets for reporting a maximum amount of risks and near misses, which are also called incidents.

To stimulate incident/accident reporting, we put a direct link to the reporting database on every employee’s desktop. In this file they can also review what action has been taken in response. The management review board regularly gives an award to the person who has made the most valuable contribution towards preventing accidents.

Furthermore, a cross departmental team attend the monthly ‘EHS tours’ (Environment, Health and Safety) during which they take a close look at different departments.

“For every accident, at least 10 incidents are reported.”

Anja Vander Elst, EHS Manager

Continuous improvement
Continuous improvement is embedded in the ISO/OHSAS management standards through the Plan-Do-Check-Act (PDCA) cycle. We first assess the risks to health and safety and then develop a plan to manage and control these risks. The assessed risks are broad and include ergonomics as well as psychosocial factors. During the year we work on eliminating these risks. The midterm plan sets out a five year course and is reviewed and updated each year.

Involving employees: The Committee for Prevention and Protection at Work
Under Belgian law, companies with over 50 employees are required to have in place a committee for prevention and protection at work. At JSR Micro, we formed such a committee in 2005, prior to our being legally required to do so.

The committee is made up of representatives of both the employer and the employees. Representatives of the employees are elected every four years. During monthly meetings they are informed about topics covering safety and the environment, as well as the performance of our business. They are also encouraged to present subjects of their own. Together with other EHS information, such as the KPIs, the results of these meetings are communicated to all employees in the monthly EHS newsletter. The committee also has the power to approve or amend both the annual EHS plan and the five year plan.

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Our company health plan goes above and beyond supporting the health and well-being of all our employees - this is because the employees are the company. Our commitment towards employee well-being has earned us the ‘NV health award’ that was presented by VIGeZ, the Flemish Institute for health promotion and disease prevention.

We have organised the company health plan around three themes: creating awareness, healthy food and exercise.

The health compass: creating health awareness
The core of our company health plan is the ‘health compass’, which is an assessment that creates insights into eight areas of physical and mental health.

Participating in the health assessment is voluntary and through our partnership with Premed we can guarantee that results are handled on a confidential basis. Due to the low threshold for participation, rates of participation have been high: 84% in 2013 and 87% in 2014.

The results are shared with employees on an individual basis. Organisation-level results are presented in information sessions, during which Premed gives advice to encourage healthy habits. The aggregated organisation-level results help us to understand company-wide risks and expand our company health plan.

Healthy food & drinks
Employees are provided with free fruit and fresh water in coolers. Some of our employees have founded a ‘Soupbank!’ On a given day, a participant makes soup for the entire group. Meanwhile, in the winter months, participants enjoy a fresh cup of soup on a daily basis.

Providing an ergonomic workplace
When purchasing office furniture, we have always chosen high quality and ergonomic options. We also provide employees with an individual analysis of the workplace and, if necessary, additional supportive furniture is also arranged.

To stimulate people to take regular breaks, we installed ergo software on all PCs. This software recommends short breaks and offers exercise suggestions that employees can easily do behind their desks.

Car travel is becoming increasingly complicated in our region. Commuters have to fight daily traffic jams and things are getting worse all the time. To give our employees a chance to try out a healthier and, sometimes, even faster transportation alternative, JSR Micro introduced the ‘company bike’ program.

Lease a bike
Each employee is entitled to choose a suitable bike - be it an electric bike, a road or mountain bike, a folding bike or another type of bike.

JSR Micro will lease the bike for the employee for a period of three years. The only condition is that the employee must use the bike for commuting to work on a regular basis.

We introduced the company bike program in December 2014 and the first bikes arrived on 27 February 2015. Meanwhile, as at 30 March 2015, fifty-five of our colleagues had already signed up for the program, committing to regularly cycling to work during the next three years.

The company bike program is good for:
- Planet: CO2 emission (almost) nil
- People: improved physical and mental health - people are happier and take fewer sick days
- Profit: special tax treatment and less fuel costs

This program is a great addition to our annual Ik kyoto campaign: during the summer months, we encourage our employees to use more eco-friendly ways of commuting to work.

“Since we have been offered fruit at work, I’ve been eating more fruit - not only at work, but also at home.”

Veroniek Motmans, Supply Chain Planner

“Previously, I never biked to work and always drove my car. Since I have my company bike, I use it to get to work at least once a week.”

Sylvie Janssens, Process Technician

“We developed the compass in close collaboration with the External Service for Prevention and Protection at Work (ESSW) Premed and the Committee.

“Programs to stimulate health represent an investment in the employees and consequently in the future of the company.”

Anja Vander Elst, EHS Manager

Our award-winning company health plan:
JSR Micro - commit to be fit

Our company health plan is the ‘health compass’, which is an assessment that creates insights into eight areas of physical and mental health.

Our ‘company bike’ program:
Benefitting People-Planet-Profit
Responsible environmental management is part of our company philosophy and is also a basic requirement for maintaining our permits. Belgian law sets out stringent environmental demands for companies from our sector. Harsh realities such as resource shortages, climate change and pollution drive us to take our responsibility even further.

Preparing for the future: Assessing and evaluating impacts

Within the framework of our environmental management system, each year we assess the different environmental impacts of all of our processes, such as energy consumption, emissions, resource usage, water and waste. The biggest environmental impacts are in the areas of energy and hazardous waste and consequently these represent the focus of our improvement programs. We track and evaluate performance with key performance indicators (KPIs) in all of these areas and use a goal setting approach to reduce impacts.

Recycling non-hazardous waste

Non-hazardous waste represents a small proportion of our total waste. We nevertheless encourage our employees to dispose of it separately so that it can be recycled.

Waste from laboratory research is largely independent from production, although the addition of the life sciences departments has increased this waste stream.

Furthermore, in 2013, the installation of the Protein-A fermentation process caused an increase in waste. The start of a new process always increases waste and there is a learning curve in bringing it down again.

Reducing waste by extending the shelf life of products

Photoresist is a sensitive material with a limited shelf life. Sometimes the product expires before our customers are able to use it due to market fluctuations. If the quantities are substantial, our customers seek our support in order to find solutions to prolong the use of the affected material without running into quality risks.

Water use and reuse

Semiconductor processes require very clean or ‘ultrapure’ water. We purify municipality water at our plant so that we can use it for production. The efficiency of this process is 74%; the remaining 26% only has a concentrated amount of minerals and it is used in our greywater system to flush the toilets.

In 2013, a leak caused a spike in water consumption and this was subsequently detected and repaired. As a response, we began to monitor usage on a quarterly basis.

“<i>We even use our ‘greywater’ to flush the toilets!</i>”

Bart Denturck,
Director Operations
Reducing emissions by selling concentrate

Our developer products contain approximately 97% water. However, transporting water is not a sustainable way of working.

In 2012, one of our customers worked with a local facilities partner to design and build an installation to dilute developer to the point-of-use concentration starting from a tenfold concentrate delivered by JSR Micro. We supported this transition with our metrology and production expertise.

Everyone benefits from this solution. The customers reduced their transport costs, we reduced storage volume and we also reduced transport GHG emissions by 90%. We are currently involved in similar projects with other customers. [G4-26]

Energy and greenhouse gas (GHG) emissions

The reality of climate change increases the worldwide need to reduce fossil fuel consumption and GHG emissions. To minimise our contribution to this very important area of concern, we have set an annual target since 2008 to reduce energy consumption by 10%.

However, it is sometimes difficult to achieve this goal. Our operations were already lean initially and minimal resource usage was an integral part of the facility’s design. Once we were fully operational in 2003, we conducted various projects to optimise production processes. During the period 2004-2008, we reduced the total energy consumption by 23.6%.

After we had picked all of the so-called ‘low-hanging fruit’, we faced the challenge of identifying new opportunities for improvement.

Simultaneously, the growth of our company and starting the Protein-A production increased our energy consumption.

We are currently working with specialist in energy management, Schneider Electric, a global specialist in energy management, to assess the possibilities for using renewable energy.

“Annual target: Reduce energy consumption by 10%”
More than ever before, consumers care about how the products they buy were made. Although we are supplying business-to-business and our products rarely end up in end-products, many of our customers are asking how we manage labour rights, human rights, safety and environmental impacts in our supply chains. (G4-12 and G4-26)

This creates an impulse to extend our responsibility outside of company boundaries and to integrate CSR considerations within our supplier management programs.

Managing our supply chain
When we register new suppliers, we ask them to declare “the compliance with laws and ordinances, protection of resources, environmental conservation, safety and human rights”. In the future, we plan to develop a code of conduct to detail our expectations regarding the base levels of responsible business.

New suppliers will be screened based on the criteria set out in the code of conduct.

We are currently also reviewing our supplier evaluation system. This provides a good opportunity to integrate CSR elements in this process, as well as in our audit protocols.

Most of our raw materials are sourced from our parent company in Japan. Their suppliers are covered by JSR Corporation’s ‘green procurement’ and ‘CSR procurement’ programs. For further information regarding these programs, see www.jsr.co.jp/jsr_e/csr/2014/customer.shtml

CSR concerns in our supply chains
The CSR impacts on our supply chains are similar to our own as they involve labour conditions and emissions to the environment. The suppliers that we deal with directly are mostly located in Europe, where there is a reduced risk of law violations.

Conflict minerals
In the electronics supply chain, the use of conflict minerals - minerals that have been extracted and sold to finance local warfare - is a major area of concern. Some customers have requested detailed information about our approach to this issue. We are glad to report that no conflict minerals are used in the production of any of our products.

“Sustainable purchasing starts with not purchasing”
Katleen Gorissen,
Procurement Administrator

Value chain overview

Influence
- Production of raw materials
  - Polymers
  - Solvents
  - Photoactive compound
  - Resin

Control
- Transportation
- Manufacturing of photore sist
  [JSR Micro Activity]
- Distribution

Influence
- End use by B2B customers
  [Semiconductor manufacturers]
- Disposal
The values that made our company successful – quality, innovation, and care for our employees and the environment - also represent the cornerstones of CSR. By embarking on the journey to create transparency and report about CSR, we have been provided with the opportunity to view our operations through a clearer lens.

By looking at how the manifold aspects of sustainability have been addressed in our organisation, we have come to see CSR as a thread that weaves these aspects together. We have been able to see more clearly than ever the connections between employees, departments and external stakeholders and how different activities interrelate.

Going forward, we are excited to build upon this momentum. We are eagerly searching for new ways of bringing together quality, innovation, care, and that crucial element - sustainability.