

2018 **SUSTAINABILITY** REPORT



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REPORT

SUSTAINABILITY
2018

SUSTAINABILITY IN FIGURES

In this Sustainability Report, we have compiled our economic, environmental and social initiatives, and achievements.

Content: **General** **Environment** **Economy**

Sustainability General

AN OVERVIEW BY OUR CEO



RESPONSIBILITY IS PART OF MIRKA'S IDENTITY AND A NATURAL PART OF OUR BUSINESS OPERATIONS.

The objective of Mirka's business strategy is long-term, profitable growth, allowing us to ensure **sustainable development**.

As markets globalise, responsibility becomes more important. It is particularly notable that working environment and occupational safety perspectives, alongside the significance of **environmental responsibility**, are being emphasised increasingly in all collaboration with stakeholders. We want to **work proactively** on corporate responsibility and stand out as a pioneer of sustainable development in our sector.

In recent years we have invested specifically in the further development of **occupational health and safety**, and are aiming for **zero workplace accidents** throughout all of our units.

We also want to be involved in developing our customers' working environments, by offering innovative, comprehensive **dust-free sanding solutions and ergonomically designed sanders**.

We also aim to continually enhance our environmental responsibility by shifting to more **environmentally friendly forms of energy and raw materials**.

Open communication and listening to our personnel are key to the company's successful growth. At Mirka, we want to involve our personnel in the planning of operations.

EMPLOYEES

EMPLOYEES FEMALE/MALE 2018

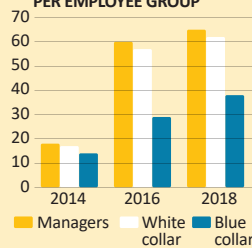


Employees Finland, Total 796



Employees Subsidiaries, Total 645

TRAINING HOURS PER EMPLOYEE GROUP



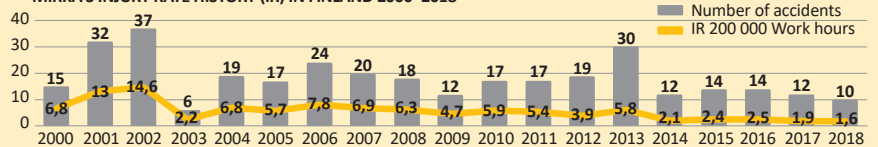
EMPLOYEES RECEIVING APPRAISAL AND PERFORMANCE REVIEWS 2018



WORKFORCE TRAINING HOURS PER PERSON PER YEAR



MIRKA'S INJURY RATE HISTORY (IR) IN FINLAND 2000-2018



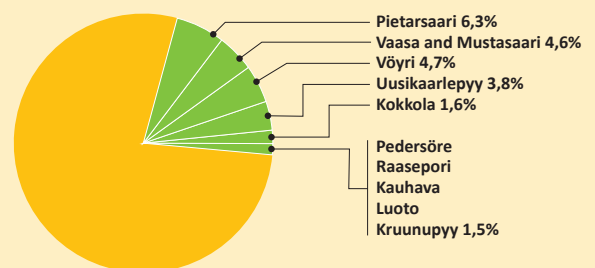
SUPPORT OF LOCAL SUPPLIERS 2018 (FINLAND)

We always use local suppliers whenever possible.

Supplier expenses to local municipalities 2018

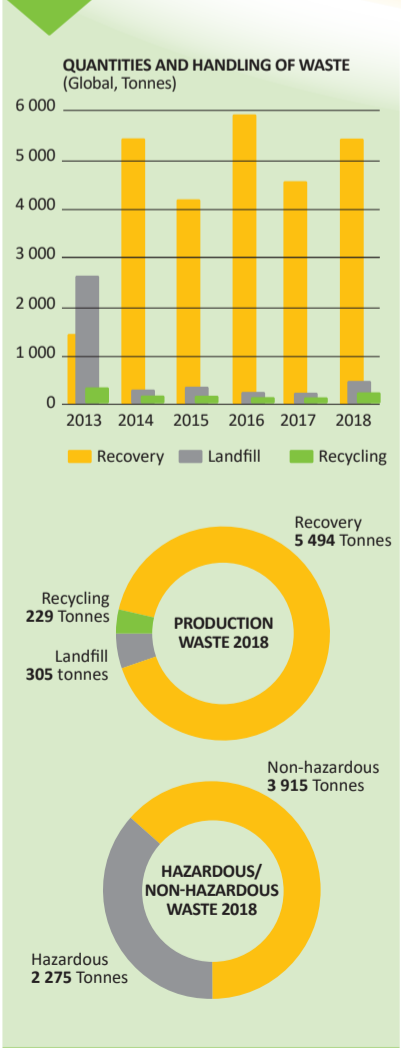
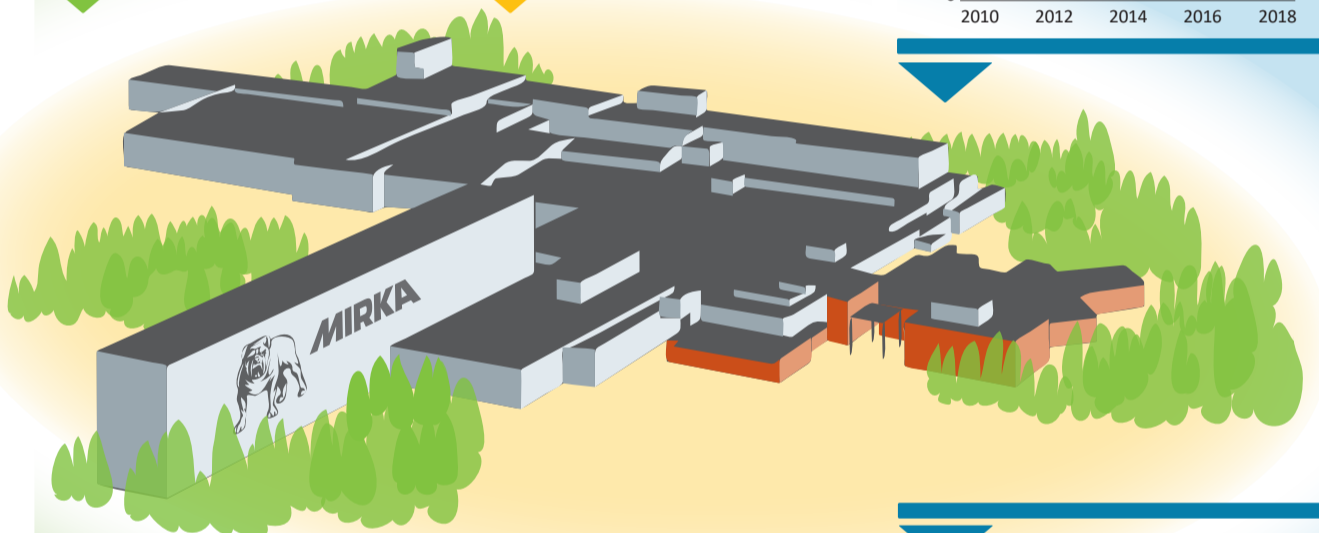
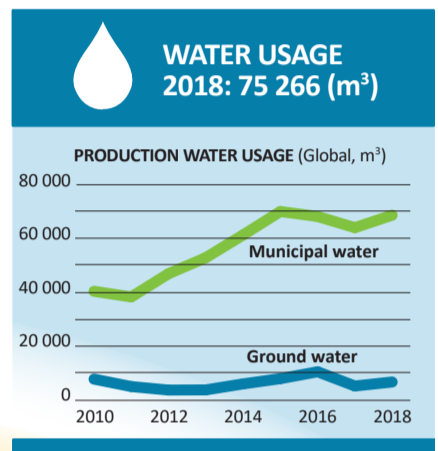
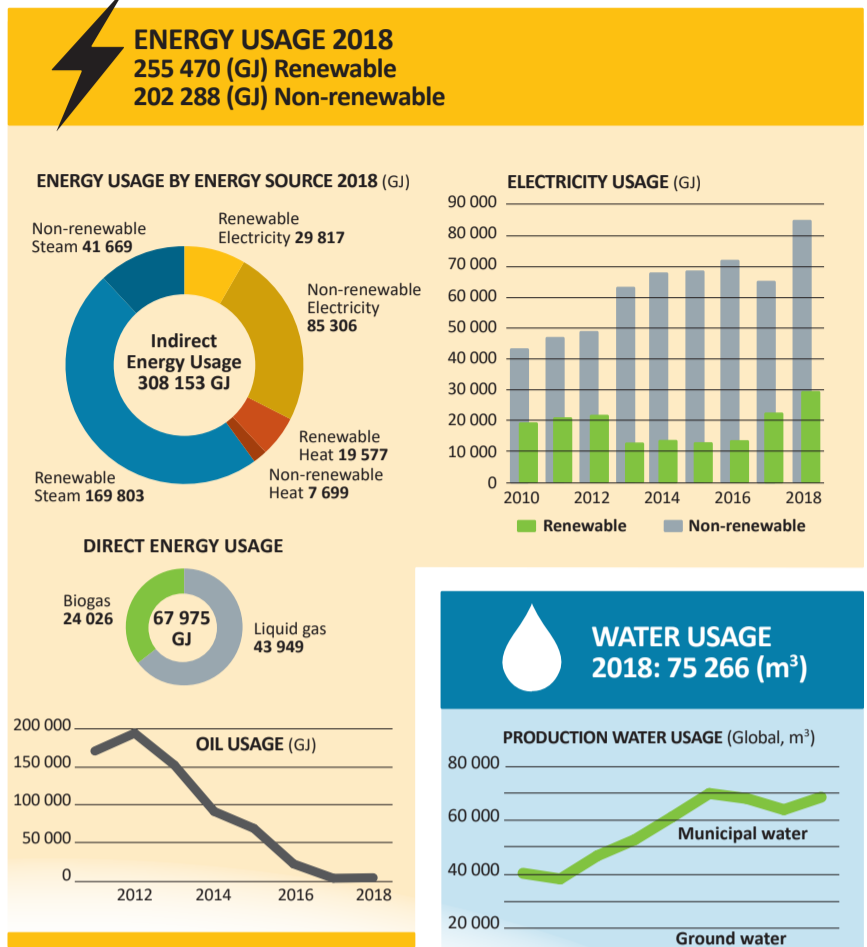
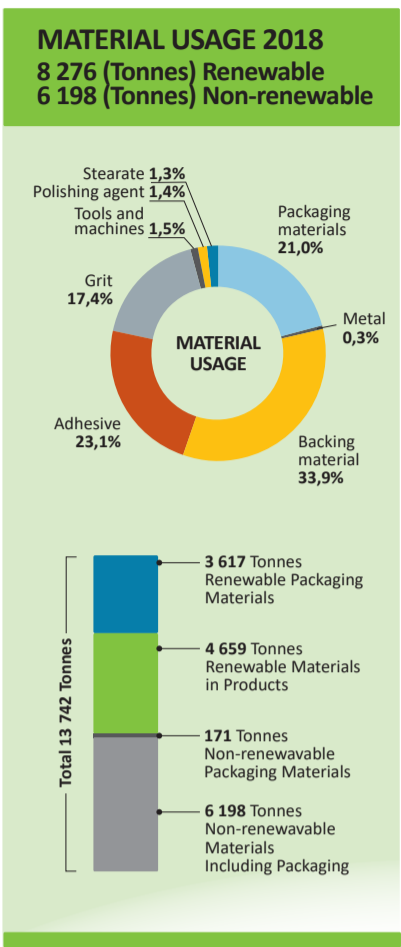
(< 100 km from all four of our manufacturing sites in Finland)

22,5% of total expenses



Environmental Sustainability

At Mirka we continually improve our environmental responsibility by shifting to more environmentally friendly forms of energy and raw materials.



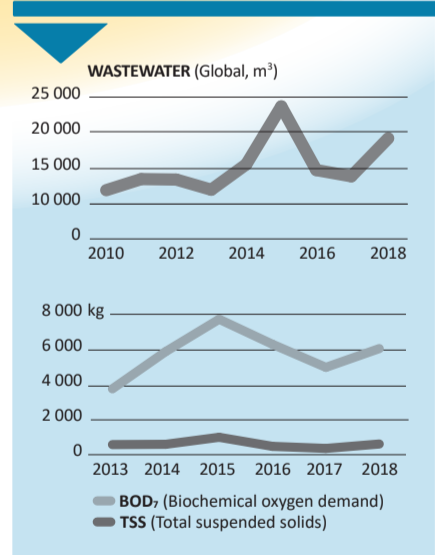
TONNES CARBON DIOXIDE (CO₂)

	2017	2018
Jeppo		
Adven (biofuel)	7 071	6 395
Propangas	2 821	3 192
Electricity	5 036	5 033
Oravais		
Adven oil	43	104
Electricity	1 122	1 349
Karis		
Propangas	615	777
Electricity	529	604
Jakobstad		
Electricity	961	982
Belgium		
Electricity	109	
Cafro		
Electricity	286	
Total	18 893	19 673

TONNES CO₂ FROM COMPANY CARS 2018 (Equivalent)

- Finland 144
- Subsidiaries 2 170

CARBON DIOXIDE (CO₂) 2018: 21 987 TONNES

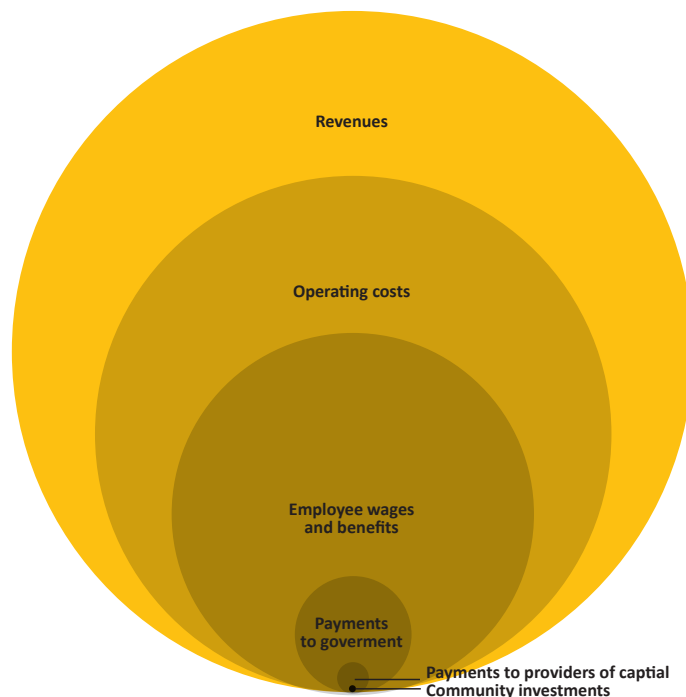


PRODUCTION WASTE 2018 6 028 TONNES

Profitable business ensures sustainable development

Good financial performance provides a stable basis for our social and economic responsibility, as well as for realising and further developing our environmental responsibility. Our objective is self-sufficient, sustainable development of operations.

DIRECT ECONOMIC VALUE GENERATED 2018



About Mirka

Mirka Ltd is a global company and is part of the family-owned KWH Group Ltd. Mirka's business concept is to be world-leading by offering a broad range of ground-breaking sanding solutions for surface finishing and precision industry. Our business focuses on our customers' needs.

Continuous improvements of our operations, our expertise and our customer interactions help us to offer tailored systems and comprehensive commercial solutions that are supported by a wide range of technically superior abrasives and

polishing products, as well as innovatively designed tools.

Approximately 97% of Mirka's production is exported, with products being sold in over 100 countries. Mirka's business areas are focused on the automotive, wood and boat industry, and the company's typical customers include manufacturers of wood products, auto body shops and garages and automotive manufacturers and subcontractors. Mirka's products and services also serve both the construction and renovation industry and the composite industry. Mirka also supplies innovative solutions for precision

industries, including; microfinishing, powertrain, industrial rollers, consumer electronics, and glass sanding.

For more than 75 years, our brand has paved the way for technological breakthroughs in surface finishing, and we continue shaping the industry with our expertise. We follow our company values by being responsible, committed, innovative and respectful. We offer our customers sustainable solutions that consider financial, health, technical and environmental aspects.

Our Clean Commitments

We have compiled our economic, environmental and social initiatives and achievements on our sustainability platform (www.mirka.com/sustainability). Under these topics, we transparently detail the development of our corporate sustainability ethos with various KPIs.



Association membership

EPTA
F.E.P.A.
IEC
Kemianteollisuus r.y
Kotel r.y.
Marklines Co
Nollis-foorumi
Nykarleby Företagare r.f.
SESKO
Suomalaisen Työn Liitto
Suomen Laatu yhdistys
Suomen Tekstiiliteknillinen Liitto r.y.
Veromaksajain Keskusliitto r.y.
Västra Nylands Handelskammare
Österbottens Handelskammare

Corporate governance

We continuously aim to improve our work with stakeholders and maintain high ethical standards in all our operations. These efforts are supported by Mirka's corporate governance and ethical guidelines for all group personnel. Mirka's corporate governance creates a consistent framework for the entire group's global operations, thereby enabling open and reliable local operations. The Board of Directors reviews and updates the corporate governance materials on a regular basis. In addition, the company's ethical guidelines instruct our employees to work in a way that does not create personal obligations to outsiders. These ethical guidelines are part of the induction process for new employees and training is arranged regularly.

Significant stakeholders

Our stakeholders are defined based on how our business operations affect them and how their activities impact the development of our business operations. Mirka's most

significant stakeholders are the customers, owners, employees, suppliers and service providers.

Stakeholder engagement

We believe in sustainable and honest stakeholder engagement, and our objective is to maintain a continuous and active dialogue with our partners.

In stakeholder engagement, we utilize our Enterprise Resource Planning (ERP) and Customer Relationship Management (CRM) systems. Our CRM system enables a customer-oriented approach where sales operations and sales planning are managed using the system. This helps us to better develop our customer relationships and respond swiftly to any customer needs. Systematic planning of our sales operations also optimises our travel, which enables us to reduce our environmental impact.

The CRM system is also essential in terms of quality management. The system enables us to work systematically on any issues related to quality, the environment, health and safety and involve our customer in our development process, for example, when developing new products and solutions.

Digital systems also enable increasingly paperless office work. The Mirka intranet, for example, plays an important role here. It makes all internal information and instructions available in digital format to personnel, regardless of where their workstation is located.

Certification of subsidiaries

Most of Mirka's subsidiaries are ISO 9001 certified. Our goal is to have

all subsidiaries certified by 2020.

Anti-corruption

In 2018, anti-corruption training was given to all new employees in Finland.

During the reporting period, we received no reports of corruption involving our personnel or our business operations.

Collective bargaining agreements
100% of employees are covered by collective bargaining agreements. As an employer, we follow Kemianteollisuus ry's (The Chemical Industry Federation of Finland) collective bargaining agreements with trade unions Pro, YTN and Teollisuusliitto. Pro, YTN and Teollisuusliitto have their own representatives in negotiations between employer and personnel.

No discrimination

During the reporting period, we received no reports of discrimination.

Child labour

When auditing suppliers Mirka always check the minimum employment age to avoid using child labour.

Global Mirka



- Sales offices**
Denmark, Norway, Estonia and Belgium
- Markets served**

All Mirka's subsidiaries, production facilities and sales offices are fully owned by Mirka Ltd. Mirka's 17th subsidiary Cafro MCF (Italy) was established in June 2017. Cafro is a leading manufacturer of Diamond and CBN wheels as well as PCBD and PCBN tools. The 18th subsidiary, Mirka Belgium Logistics in Opplabbeek, was established in January 2018 for stock-keeping operations.



- Subsidiaries**
- Mirka Brasil Ltda. (Brazil)
- Mirka Belgium Logistics (Belgium)
- Mirka Canada Inc (Canada)
- Mirka Trading Shanghai Co., Ltd. (China)
- Mirka France Sarl (France)
- Mirka GmbH (Germany)
- Mirka (UK) Ltd (United Kingdom)
- Mirka India Pvt Ltd (India)
- Mirka Italy s.r.l. (Italy), Cafro MCF (Italy)
- KWH Mirka Mexicana, S.A. de C.V. (Mexico)
- Mirka Rus LLC (Russia)
- Mirka Scandinavia AB (Scandinavia)
- Mirka Asia Pacific Pte Ltd (Singapore)
- KWH Mirka Ibérica S.A.U. (Spain)
- Mirka Turkey Zimpara Ltd Şirketi (Turkey)
- Mirka USA Inc. (USA)
- Mirka Middle East FZCO (United Arab Emirates)



Our most well-known brands

Our most well-known brands Abranet®, Autonet®, Abralon®, Mirka® DEOS, Mirka® DEROS, Mirka® LEROS, Mirka Iridium®, Mirka Novastar™, Gold, Mirlon Total®, Polarshine®, myMirka®, Q.Silver®, Net by Mirka and Dust-free sanding

An overview by our CEO

Long-term sustainable development has always been an important and natural part of Mirka's business, from start to finish. It is an integral part of Mirka's vision: to be seen by customers and interested parties as the most responsible company. This vision of sustainability is expressed in our clean commitments. This means that we strive to manage all parts of our operations and manufacturing with as little impact on the environment as possible and ensure that using our products improves health and ergonomics for end users.

When considering the environment, our goal is to develop environmentally friendly manufacturing processes and use sustainable raw materials. A good example of the latter are our water-based polishing compounds which are better for users and the environment than solvent-based compounds.

We have a policy of sourcing raw materials, components and services locally when possible, and great care is taken in auditing and approving all suppliers. We are only as sustainable as our whole network is together.

Mirka's factories in Finland are located in the countryside, and we continue to invest heavily in our world-class facilities. Not only are we proud of our capabilities and technology, but we are also proud to contributing greatly, both directly and indirectly, to keeping the countryside alive and thriving.

The cornerstones for our customers are of course our dust-free sanding solutions and ergonomic tools. Over the past years, these have been complemented with the myMirka® app. Through the app, the user can monitor, for instance, vibration exposure and thus take health and ergonomics to the next level.

Health and ergonomics, naturally, also apply to our employees here at Mirka. Over the past years, there has been substantial investment in Health and Safety development and ergonomics, for example, improved lighting at our sites. For years our zero-accident policy has led us to continuously improved occupational safety and well-being in the company towards world-class levels.

Details on the topics mentioned here and much more can be found in this Sustainability report. All in all, we feel that we are following our vision of being the most responsible company in our industry. We are proud of our achievement, but also humble regarding future challenges for creating a more sustainable world. We are committed to doing our part!



Stefan Sjöberg, CEO.

The Mirka Way and Our organisation

Our Company Culture

At Mirka we understand that every job has its own unique requirements, which is why we work closely with customers to provide tailored solutions that precisely meet their needs.

After gaining a clear understanding of exactly what each customer requires, our technical customer support specialists recommend high-quality products, processes, and training that ensure that successful results can be achieved at every step of the operation.

Sustainability is built into The Mirka Way. When the system is set up with all of the right parts and customers have all the information needed to get great results, then their work is more sustainable.



Our Vision

“We wish to reach a market position, where customers and interested parties see us as a market leader and the most responsible company who drives innovation in our core business sectors.”

Our Mission

“We want to give people the opportunity to perform better.”

Our Values

Responsible

For all results & resources.
Ethical business practice.
Structured and well organised.
Cost-aware.

Innovative

Open to new ideas.
Continuously seeks to improve.
We create solutions that are good for us, our customers and society as a whole.

Committed

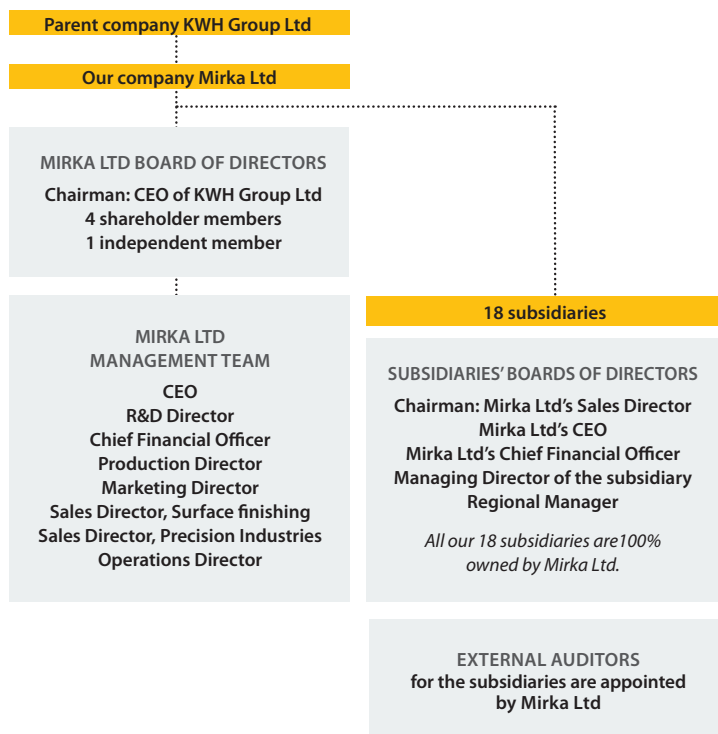
Keep our promises.
Close to the customer.
Dedicated to high performance.
Passionate people.

Respectful

Every individual is valuable and can contribute.
Open work environment.
Warm and genuine.
Fair.

Our organisation

Mirka’s long-term group strategy serves as the basis for the group’s comprehensive business plan, which is drawn up annually and approved by Mirka’s Management Team and the Board of Directors. All business and factory units are involved in drawing up the business plan. Department-level goals are set based on the business plan. The management team for the parent company Mirka Oy has one employee representative.



Success driven by people - Aiming for healthy and happy employees

“Mirka wants to offer its employees the chance to develop and grow,” explains Mirka Finland’s HR Manager Ulla Kauppi.

“Thanks to the diverse range of training on offer, our staff can develop their expertise, which, combined with a positive, can-do attitude, a healthy work ethic, and a good approach to their work, enables Mirka staff to advance in their careers and take on new challenges.”

One of the objectives of Mirka’s HR

policy is to increase staff wellbeing in different ways. For example, employee ergonomics is a key focus area, both in the offices and in production facilities, in addition to which staff are offered a diverse range of exercise opportunities and cultural experiences to enjoy in their free time. Any shortcomings are addressed swiftly, and solutions are sought for problem situations in ways that are satisfactory to all involved. Employees are provided with good tools for their work and

investments are made in workplace comfort.

“Taking care of our staff is just one way in which we look after our responsibilities,” states Ulla. “We don’t take staff well-being for granted, and we continue to make sustained efforts to promote it. Our objective remains to improve staff satisfaction and ensure that Mirka retains and further develops its reputation as a good employer.”



Ulla Kauppi, HR Manager.

Clean, economical progress with biogas

Continuous Improvement Manager **Staffan Stenvall** has had his bio-gas-powered Volkswagen Touran for three years and has only positive things to say about it. "Biogas is undeniably one of the solutions of the future," he explains. Biogas is a domestic, renewable transport fuel, and the easiest way to reduce transport-related carbon dioxide emissions by up to 85%. Biogas production is intrinsically linked to the circular economy, as biogas is produced from biowaste from agriculture, industry and households, amongst other sources. In the circular economy, one person's waste is another's raw material.

"Biogas isn't just an environmentally-friendly means of transport, it's also wallet friendly. We save €1,000–1,200 annually on fuel and tax costs compared what we would be paying with diesel."

The popularity of gas-powered vehicles in Finland is growing rapidly, and registrations of gas-powered cars almost doubled in 2018 compared to the previous year. There are currently

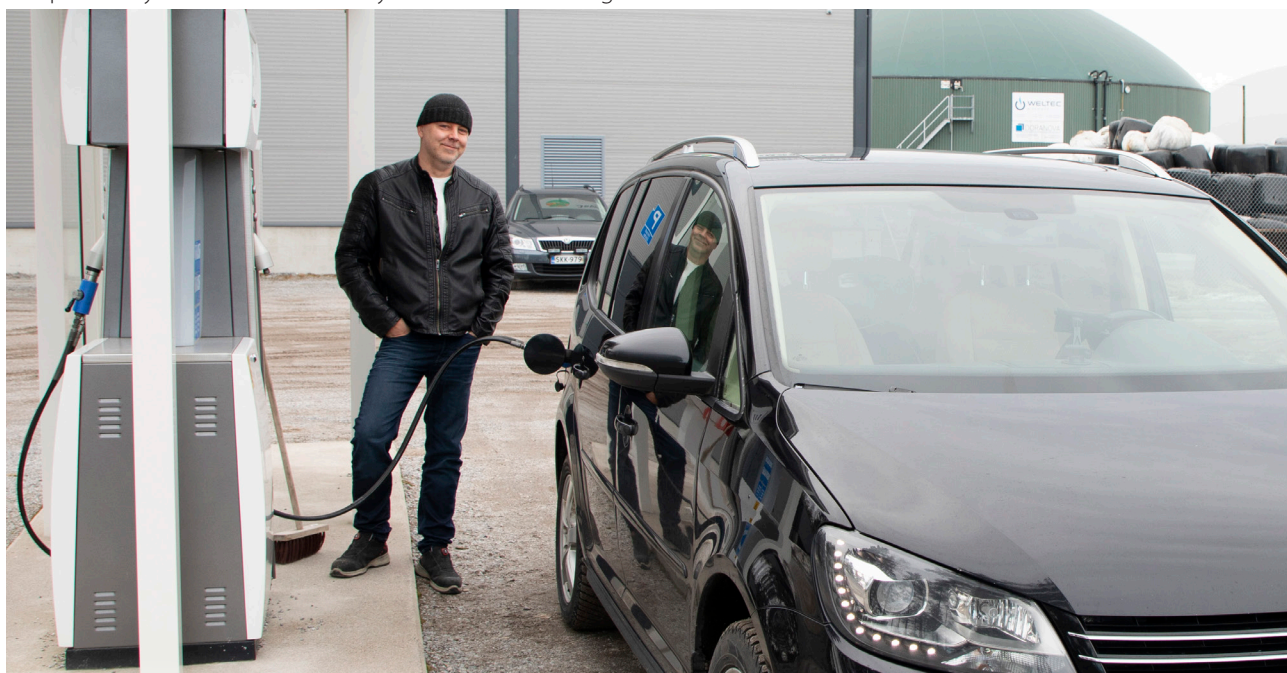
approximately 6,700 gas-powered vehicles in Finland, with the refuelling network for gas-powered cars expanding exponentially. In southern Finland the network is becoming relatively comprehensive, and even in the north the number of fuelling stations is growing. Fortunately for Mirka employees, Jeppo Biogas is located close to Mirka's Jeppo unit, providing an easy refuelling point. One benefit of biogas vehicles is that the engines can also run on standard petrol if you happen to run out of fuel and don't have a refuelling point nearby.

"Compared to electric vehicles, biogas vehicles are more environmentally friendly," states Staffan. "The manufacturing of electric cars and generation of electricity cause significant carbon dioxide emissions, while biogas emissions levels are notably lower. Furthermore, the carbon dioxide emissions of biogas also form part of the natural carbon cycle, unlike fossil fuels."

The only downside Staffan can think of when it comes to biogas cars is the limited range of models available.

Thankfully more and more vehicle manufacturers are producing their own biogas vehicles, and converting a petrol vehicle to one that can run on biogas is a relatively simple process. Currently, Audi, Volkswagen, Škoda, SEAT, Opel (sold under the name Vauxhall in the UK), Fiat and Mercedes produce biogas vehicles as factory standard. On the surface, the only thing that distinguishes these vehicles from non-biogas alternatives is the fact there are two fuel gauges. The Stenvall family's environmentally friendly choices don't stop with the car – they are also making efforts to do their part when it comes to recycling and composting, and the roof of their house is equipped with solar panels for heating domestic hot water.

"My next car will also, without a doubt, be a biogas car," Staffan states. "A biogas car is an obvious choice if you want to reduce your transport-related carbon footprint."



Staffan Stenvall, Continuous Improvement Manager.

Pumped for the day by cycling to work

Jarmo Saviaro cycles the two and a half kilometres to work come rain or shine.

“If I were driving, I’d be significantly more tired,” he states.

“I’d much rather jump on my bike than start up my car when it’s -25 °C. Cycling also offers a number of other benefits, being unsurpassed as a form of exercise that exerts minimal pressure on the joints.” Jarmo explains that he has had to give up running due to knee pain, but cycling doesn’t trouble his knees.

Mirka encourages its employees to lead an active life, and cycling is an excellent way of doing this. And we’re a pretty active bunch – in the summer the bike parking facility is usually full. Jarmo’s commutes now take place on a Trek hybrid bike, and

a quick glance at the bike rack will reveal all different kinds of wheels, from single gear basic models all the way up to modern road bikes. According to Jarmo, you need to have the right equipment to cycle to work. Your bike needs to be in good condition, and your clothes and shoes need to up to the task. In the winter, it’s impossible to overstate the importance of front and rear lights. You can always cycle if you’ve got the right gear! However, it’s important to have the right attitude, too; for those who prioritise comfort above all else, year-round commuting by bike might not be the best option. Jarmo is quick to point out, however, that you don’t lose anything by cycling to work, but you do stand to gain a range of health and other benefits.

Jarmo does not claim to be a data nerd, and he doesn’t keep a record of kilometres cycled; cycling is a great way to get from A to B, which is enough motivation for him. Cycling is also likely to save a significant amount of fuel over the years, which means that it also brings personal savings. Years ago, when Jarmo began cycling to work, no one was talking about the environmental impacts of driving, and the environmental reasons were not really a factor in his decision-making either. But nowadays, as environmental factors become ever more important, it’s a nice feeling knowing that cycling to work has benefits not just for the cyclist but also for the environment!

“Mirka encourages its employees to lead an active life, and cycling is an excellent way of doing this”



Jarmo Saviaro, Warehouse Supervisor.

Benefits provided to full-time employees that are not provided to temporary or part-time employees. Benefits for full-time employees are:

- 1) life insurance;
- 2) disability and invalidity coverage
- 3) occupational health care
- 4) retirement provision
- 5) parental leave, also 1-4 days when a child is sick.
- 6) Food (lunch) compensation 50% during a workday in our canteens
- 7) physical training vouchers and massage
- 8) other one-timers

Minimum notice periods regarding operational changes

The minimum number of weeks' notice typically provided to employees and their representatives prior to the implementation of significant operational changes that could substantially affect them is 2 weeks at Mirka.

Occupational health and safety management system

The Safety Committee has its meeting 4 times a year. The members of the safety committee are:

- Occupational Safety Manager
- HR Manager
- representatives of production management (unit managers)
- health and safety representatives (personnel, all units)
- representatives of occupational healthcare (all units)

The Safety Committee has its formal agenda and follows up on different actions.

Worker participation, consultation, and communication on occupational health and safety

All of the workers (100%) whose work, or workplace, is controlled by the organization, that are represented by formal joint management-worker health and safety committees.

Percentage of employees receiving regular performance and career development reviews

Personal development and career development/opportunities are highly appreciated by personnel. Everyone has the possibility to discuss these with his or her manager at least once a year. Managers have received instruction on how to lead these discussions. At this moment we do not have a system which tracks the number of individuals who have had a personal review in production. White collar-employees have their annual discussions because they are bound to personal targets and a yearly bonus. In production, we have a salary model which is based on competencies and the development of competencies.

Incidents of discrimination and corrective actions taken

During this period there were no reports of discrimination.

Workforce (2018)

Workforce (Finland)	796
Total number of employees on parental leave	59
Total number of employees (women) on parental leave	12
Total number of employees (men) on parental leave	47
Total number of employees (women) that returned to work in the reporting period after parental leave ended	2
Total number of employees (men) that returned to work in the reporting period after parental leave ended	43
Total number of employees (women) still on parental leave	8
Total number of employees (men) still on parental leave	

New employee hires and employee turnover (2018)

Age	
18-24	20
25-29	11
30-34	15
35-39	11
40-44	15
45-49	6
50-55	7
55-60	1
60-	

86

Average hours of training per year per

2014			2016			2018		
Training hours [h]	Female	Male	Training hours [h]	Female	Male	Training hours [h]	Female	Male
Managers			Managers			Managers		
	624	2068		1242	3100		1307	3264
White collar	1308	1788	White collar	1714	4450	White collar	1805	4686
Blue collar	1867	5241	Blue collar	2454	5850	Blue collar	2584	6160
			White collar (DC)			White collar (DC)	7697	
			Managers (DC)			Managers (DC)	2451	
Totalt MSF [h]	12895		Totalt MSF [h]	18810		Totalt MSF [h]	19806	
			Total DC [h]	8781		Total DC [h]	10148	
			Tot	27591		Tot	29554	

2014		2016		2018	
Average h per gender	[h]	Average h per gender	[h]	Average h per gender	[h]
Female MSF	21	Female MSF	30	Female MSF	32
Male MSF	19	Male MSF	28	Male MSF	30
		Female DC	18	Female DC	16
		Male DC	20	Male DC	20
Average h per employee group	[h]	Average h per employee group	[h]	Average h per employee group	[h]
Managers	38	Managers	62	Managers	65
White collar	29	White collar	57	White collar	60
Blue collar	14	Blue collar	17	Blue collar	18
		White collar (DC)	11		
		Managers (DC)	6		

Reducing our products' environmental footprint

We proactively look for ways to reduce the environmental footprint of our products. We do not use chemicals on the List of Substances of Very High Concern (SVHC) and are in full compliance with the EU's Registration, Evaluation, Authorisation and Restriction of Chemicals legislation (REACH).

Sustainable Innovation

We see sustainable innovation as smart and profitable. Here are some of the advancements we are making:

- developing new low-energy technologies – this decreases the amount

of energy needed to manufacture our coated abrasives.

- switching to a non-heavy metal colouring agent – this reduces the amount of heavy metal in our products.

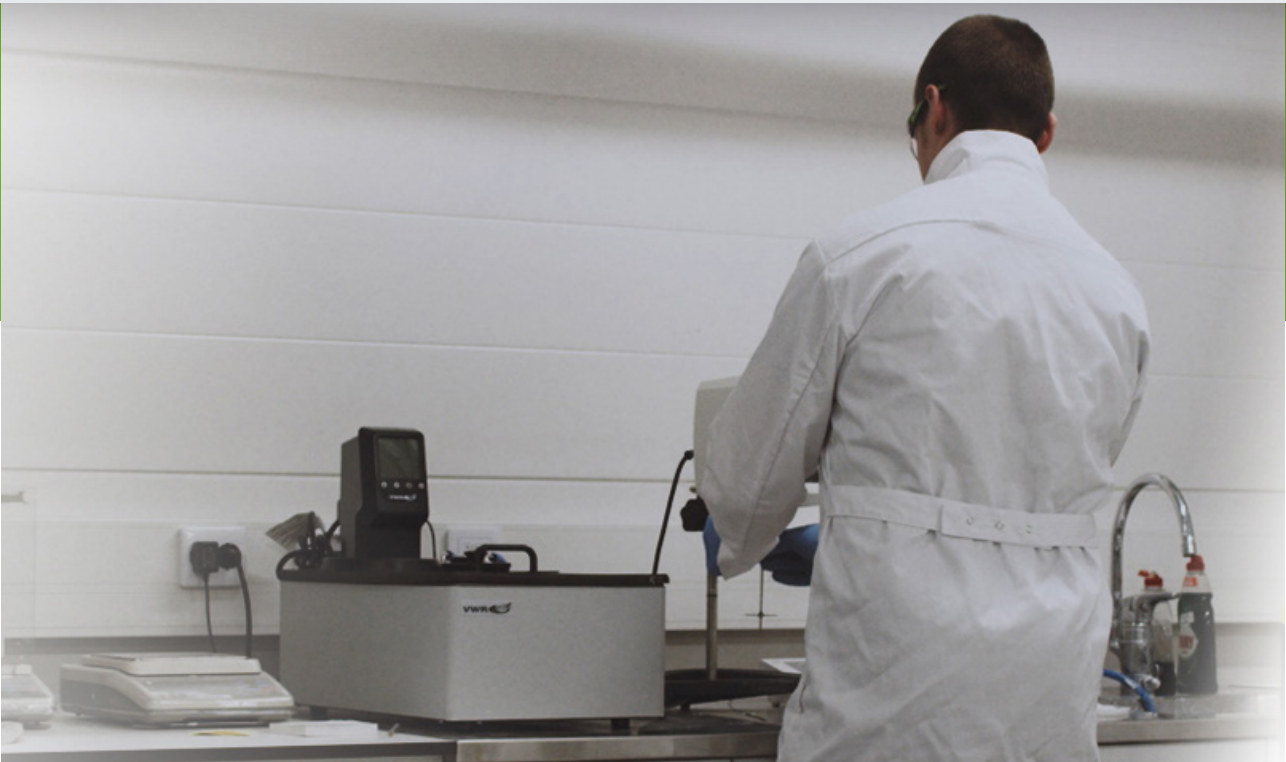
- improving the handling and processing of waste resin – this ensures better health and safety for our workforce and decreases the chance of disposal hazards.

- innovating new catalyst technology – this makes our thermal machine lines more efficient, reducing the energy consumption needed to make our products.

- designing efficient product transport routes – this reduces our carbon footprint.

In order to be a pioneering company in our industry and to continue offering our customers innovative, high-quality sanding technology solutions, product development has a key role in our operations. The focus of product development is to create comprehensive solutions that not only solve the customer's everyday challenges but also address occupational safety and working environment concerns.

Clean Proactivity





Low environmental impact with Mirka Power tools

Mirka Power Tools have been on the front line regarding compliance with environmental laws and regulations for many years, but things ramped up in 2016, with a separate team within the Power tools unit focusing on compliance. The key focus of the team is making sure that Mirka Power tools have as little impact on the environment as possible.

It is also becoming increasingly clear that customers have become more environmentally conscious, and the company has been receiving more and more requests for compliance certificates and documentation.

“For example, the German market has for many years focused on recycling, and there are often inquiries from there regarding the recyclability of Mirka sanders,” explains Compliance Manager **Annika Stenmark**.

Whenever there is suspicion of non-compliance the product in question is sent to an external independent laboratory for testing. There is also continuous internal auditing of components used in production, their supply chain, and other aspects to ensure that no electronic components contain conflict minerals. Development and manufacture of power

tools are controlled by five EU directives:

- Restriction of Hazardous Substances (RoHS)
- Machinery Directive (MD)
- Radio Equipment Directive (RED)
- Registration, Evaluation, Authorization and restriction of Chemicals (REACH)
- Waste Electrical and Electronic Equipment (WEEE)

Besides those, there are also product-specific standards that apply. Compliance is declared in the user’s manual of all machines, which is compulsory for Mirka sanders to receive CE certification.

Digital tools ensure healthier work conditions

The possibility to monitor health and safety at work took a leap forward with the launch of the myMirka® App. One aspect is the possibility to monitor vibration levels and exposure to, for example, prevent white-finger syndrome.

By connecting a Mirka electric sander to the app via Bluetooth* the user can monitor vibration levels in both real-time and

over a longer period**. With the myMirka Dashboard, which visualizes the vibration monitoring collected through the myMirka App, workplace conditions can easily be followed up and analysed and ergonomics are significantly improved.

Besides vibration, the app can also measure energy consumption, workloads, and speed when sanding. There is also a feature

that monitors the temperature status of the machine motor and motor drive; if any of these show signs of overheating, the machine will automatically switch to safety-mode. With this, the lifetime of the tool is increased and the carbon footprint reduced.

*Bluetooth connectivity is not available in all countries

**Some features are available as in-app purchases

The customer's needs in focus for Mirka Power tools

The Mirka® CEROS was released ten years ago to revolutionise the market. The design was based around the objective of developing an electric sander that was as light, small and effective as the pneumatic tools that were far more common at the time. This required the implementation of new brushless motor technology and close cooperation with end customers and the design agency.

"The end result is history, CEROS, and its successor, the Mirka® DEROS, are still the best electric random orbital sanders in the world, which many have attempted to copy with little success," explains Unit Manager **Veli-Pekka Västi** of the Power tools unit.

By switching from pneumatic tools to electric ones, you can save a significant amount of energy. For example, in the case of the Mirka DEROS, this means up to 90% less electricity consumption than that of an equivalent pneumatic tool. The trend is moving increasingly towards electric and battery-operated devices, and Mirka is working actively on developing

new solutions to replace pneumatic machinery for the automotive manufacturing industry.

The design process for a new tool is based on the customer's needs, with ergonomics as a key factor. At first, the product is tested internally, but end customers are also an intrinsic part of the design work; they are actively involved in testing the prototypes, and they provide invaluable feedback when it comes to developing the product to be the best it can be. In terms of ergonomics, we've received nothing but positive feedback on the finished products!

Chief Engineer **Caj Nordström** has been at the forefront of Mirka's product development in terms of tools, and his uncompromising stance on ergonomics and balance has rubbed off on the new designers too. The designers are motivated by the thought of healthy and happy end users who can do their work with the best possible tools. In addition to Mirka's electric tools being light, reducing vibration has also been a key area of focus, and

daily vibration exposure can be measured using the MyMirka app. Dust-free work is another key element of the products' ergonomics, as users need to be able to work without breathing dust into their lungs. The combined effect of all these factors makes working with Mirka tools a far more pleasant experience for the workers, while also keeping managers happy by reducing absences due to illness.

"In spring 2018 the lightest long-neck sander on the market, the Mirka® LEROS, was launched. The product has been very well received," as Veli-Pekka Västi explains. Customers have told us how happy they are not only with its lightness and good balance, but also with how pleasant it is to use, thanks to the flexibly maneuvering oscillating head. "Helping customers is what motivates me. It's great to be involved in the development of unique new products that make the lives of end customers that bit easier and healthier," concludes Veli-Pekka.



Unit Manager Veli-Pekka Västi, Power tools.

Sustainable abrasives

When aiming for the perfect finish, you are never satisfied. There is always a hunger to explore and improve. This is at the heart of Mirka's R&D team, they are continuously breaking new ground and developing new solutions - pushing the frontier of what we can expect from an abrasive, sander or polish.

One example of Mirka leading the way is the invention of Abranet. With one genius idea - to use a net instead of paper for the abrasive - we revolutionized sanding.

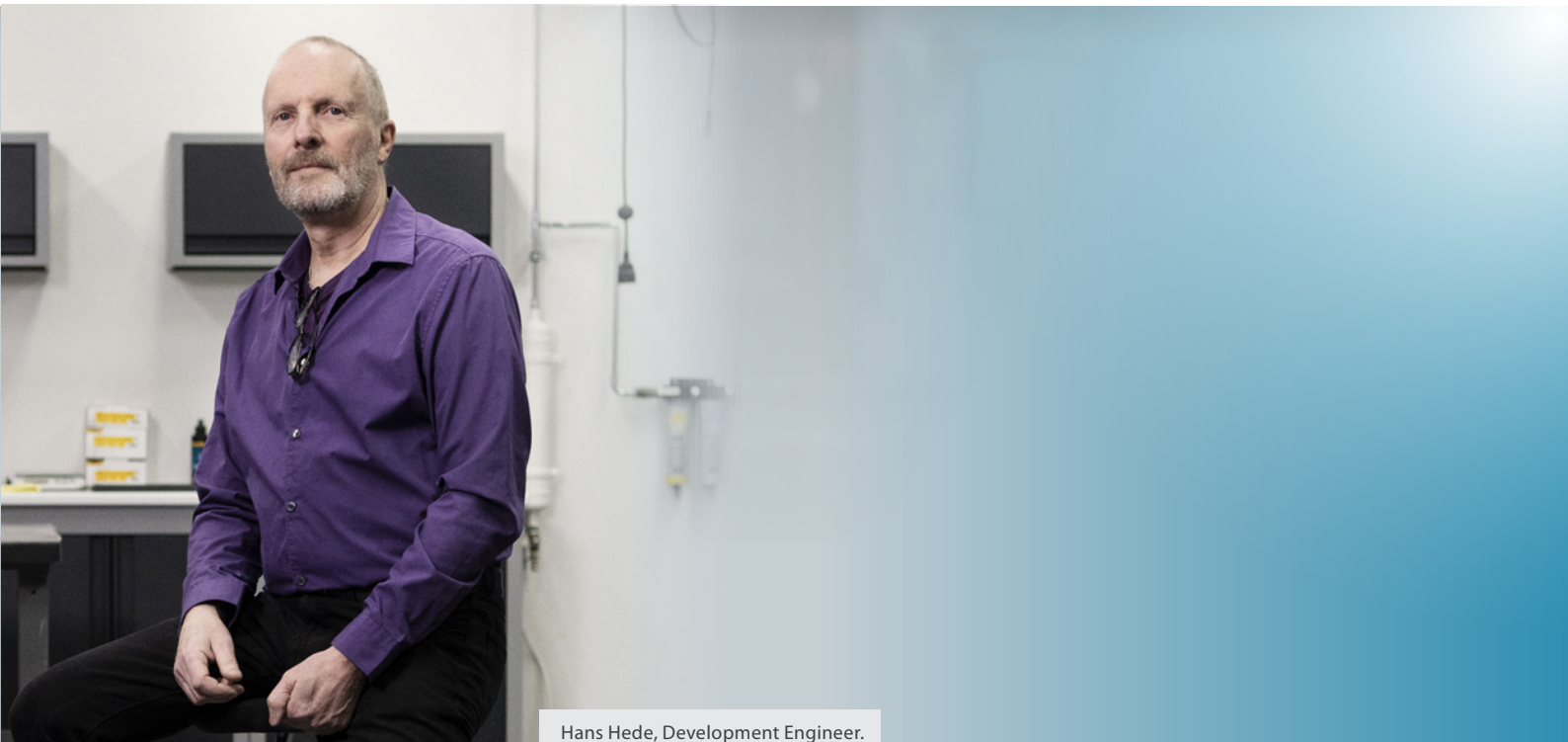
Our goal at Mirka is to create sustainable abrasives that provide you with the perfect finish while protecting both your health and the environ-

ment, whether during the manufacturing process or when you are using them. With our abrasives, you can work more effectively, since the dust-free solutions save you time, both when sanding and when cleaning afterwards. You can save money, water, and also the environment when there's less waste from the sanding process.

We have come a long way, and our products set new standards, but the Mirka Way is one of continuous improvement and always being one step ahead. Our ongoing fight for the environment is how we can make abrasives even more sustainable.

Meet Development Engineer **Hans Hede**, better known as Pukka, who has given us the groundbreaking Abranet, Abralon and Mirlon.

"You can always try to make abrasives more sustainable. They can be less wasteful, made of better raw material, eco-friendlier chemicals, and so on. It is possible to do all these things, but still, an abrasive is a wear-and-tear product, with a very short lifespan. My idea that I'm working on now is to prolong the lifetime of an abrasive with new technology."



Hans Hede, Development Engineer.

Water-based polishes – A better choice for both you and the environment

Every polish that Mirka produces is water-based. We sat down with Compliance Manager **Maria Sundqvist**, who develops our polishes, to find out why.

“Every one of the nine polishes that we produce are water-based. It’s a sustainable commitment from our side. Solvent-based products may be effective in the short run, but they are more damaging and harmful, both for the user and the environment.” Mirka’s polish production takes place in Jakobstad, Finland.

“It’s a close partnership with our production team and we always keep sustainability in mind when developing new polishes,” Maria tells us.

Kim Rönnholm, Mirka’s polish portfolio manager, notes that it is very important for customers that Mirka produces water-based polishes.

“If they aren’t water-based, they have a terrible smell. You need a mask when polishing. Our water-based polishes are very user-friendly.”

“It’s also easier to cheat and hide mistakes when using a solvent-based polish. With a solvent-based polish you’ll have a fast result, but it’ll wear off quickly and you need to re-do it very soon,” Kim explains. “With water-based polishes, you need to put a little bit more effort into the polishing, but you’ll have a better, longer-lasting result.”



Compliance Manager Maria Sundqvist.

Strong relationship built on trust and mutual benefit

We consider ourselves a partner to our customers, suppliers, and co-workers. Being a clean partner means developing strong relationships built on trust and mutual benefit. It also means setting up two-way communication to promote honesty, integrity, and collaboration.

Customer Partnerships

We are both a supplier and a partner

to our customers. We provide them with products, services, and solutions while they provide us with customer feedback and continued business.

Supplier Partnerships

We believe in developing long-term, fair partnerships with suppliers that are consistent, reliable, and secure.

Our goal is to reduce risks for both our business and our suppliers.

A foundation of our lasting and genuine cooperation with stakeholders is a constant and active dialogue with all partners. This allows us to react quickly and effectively to needs arising within our customer base.

Clean Partner



Mirka's glass sanding solutions - Better for the environment while saving you time and money

In 2018, Mirka France was training the Mont Blanc team on the top of the mountain, at an altitude of 3 842 m / 12 605 ft. Mirka provided an efficient, sustainable, and economic maintenance solution; instead of replacing the scratched glass panels, which would have to be brought in by helicopter, the team would sand and polish the glass panels on the spot.

The goal was to sand the glass on the glass walkway that leads to the "Step into the Void"- Aiguille du Midi Skywalk. This is 8mm thick protective glass. It is extremely complex to replace, so the Compagnie du Mont Blanc preferred to sand and polish the glass to eliminate the scratches from the wear and tear of tourist traffic. It was a challenging project.

Christophe Pichon, Salesman, and **Nicolas Vermorel**, Technician, Mirka France, tell us.

"It's not easy to see at 3 842m. There was also a lack of oxygen, risk of altitude sickness, and the temperature of the glazing made it difficult."

But in the end, the result was great. The customer was delighted because they avoided transporting new glazing to the top. There were also a significant saving of time and money, renting a helicopter costs 12 000 € per hour.

Both Christophe Pichon and Nicolas Vermorel agree that it was a unique experience.

"It was magical being up there!"



Sustainability at the core of a global Mirka

At Mirka, we opt for using energy more efficiently in every process, by using more renewable energy resources. We do this to combat climate change and to lower our environmental footprint. Sustainability is part of “The Mirka Way” and is integrated throughout all areas of the business and daughter companies.

Two years ago, there were three Mirka daughter companies using

electricity from renewable resources, now there’s six, **Mirka USA** is one of them.

“At **Mirka UK**, we believe we can make a positive change, both through grand actions but also implementing small changes, such as changing all our office light bulbs or introducing a cycle to work scheme. Sustainability is ingrained into who

we are as a business,” Jennifer Marshall, Marketing Executive at Mirka UK explains.

Another example of our clean commitments is **Mirka Brazil**, which is using biofuels for company cars. Here we have collected some other great examples of how Mirka locations across the world are doing their part to be more energy efficient.

“Sustainability is ingrained into who we are as a business”

Mirka Belgium (MBL)

Mirka Belgium has solar panels on the roof and is heavily committed to sorting and recycling a large percentage of their recyclable waste (cardboard, shrink-wrap plastics, pallet straps etc...). They have also found ways to reduce the amount of electricity consumed, such as installing LED lighting and next-generation battery chargers for the warehouse

equipment. Site Manager **Richard Tattum** explains, “We have recently installed LED lighting to reduce electricity usage and installed a temperature control system to reduce the amount of gas we use to heat the building during the winter. We are also looking at minimising the packaging we add to our orders in line with the “reduce, reuse, recycle’ idea.

In 2018 we launched paperless picking in the warehouse, saving a huge amount of paper, and introduced new types of boxes, padded bags and paper tape for small orders so that our customers can also easily ‘reuse or recycle’ our packaging too.”

Mirka Mexicana (MMX)

For Mirka Mexicana, sustainability means being able to optimally use the resources we have.

“We are aware that we leave a mark and impact on the environment with the simple fact that we are working.

We follow the sustainability program, but we also do other things to preserve our ecosystem,” **Maribel González**, Operations Manager, Mirka Mexicana S.A. de C.V. explains.

At the office in Mexico, recycling and waste sorting are very important.

“We are a paperless office. Since 2013 we have prioritized using digital media for documentation to use fewer paper resources.”

This sustainability work is also present in the field. “We support our employees with car maintenance, so the cars can be in good condition and reduced emissions”.



“We follow the sustainability program, but we also do other things to preserve our ecosystem”

Cafro MCF (Italy)

Cafro has 20kW of solar panels installed on the roof of Hall 3, supplying approximately 4% of Cafro electrical energy needs: this energy is not used directly by Cafro but reintroduced in the electrical grid, **Federica Bonifacio**, Cafro’s QHSE Manager, tells us. The solar panels now cover less than 10% of the roof surface, a possible investment for the future could be to install 200kW of solar panels covering the whole roof in order to supply almost 50% of Cafro’s electrical energy

needs, for internal use instead of grid reintroduction.

Sustainability is an important principle for Cafro and the management has taken important steps towards the reduction of fossil fuel consumption, for example:

- 2 years ago, Cafro changed electrical energy supplier to a company that relies primarily on renewable sources
- Since 2018 an electrical car is used by the employees for business trips.

A charging station was installed in the parking lot, with room for another electric car. A hybrid car is also rented when needed, instead of a typical diesel.

- All waste managed by the municipality (food scraps, plastic, glass and paper containers non-related to manufacturing) is now 100% separately collected for recycling.

Safety, quality and efficiency

Our production work culture is team-oriented. We work together to reach high-level safety, quality, efficiency, and sustainability goals in all of our manufacturing facilities.

Over the years, we have:

- reduced the amount of VOCs by 250 000 litres by eliminating Iso-propanol as a solvent for stearate

coating.

- phased out phthalates, used for softening purposes, in 2004.
- found a phenolic resin to use with a lower content of free monomers over 17 years ago.
- eliminated use of chromium (for colour).

In 2012, we eliminated the use of the

toxic substance cryolite (two tonnes per year) entirely.

Currently, we are developing a xylene-free process for fine grit production. This process will be used to manufacture waterproof finishing sheets, a Mirka niche product.

Clean Production

Mirka Workplace Safety Evolution 1997–2018

Year	Action
1997	Started nearby reporting process for accidents
1998	ISO 14001 certification achieved
1999	Began system for managing inspections
2000	Introduced OHSAS 18001 into our facilities (Occupational Health & Safety)
2001	Developed change management risk analysis
2002	Formed first safety group
2003	Introduced Zero Accident thinking
2004	Began new machinery acceptance inspection
2005	Started using Occupational Safety Card
2006	Established safety walks
2007	Developed root cause analysis
2008	Introduced Japanese 5S efficiency and effectiveness organisation system
2009	Initiated machinery risk analysis
2010	Oravais factory sets Zero Accident target
2011	Began systematic work of eliminating hazards
2012	Company-wide Zero Accident programme launched; achieved in Karis factory
2013	All factories have equal Occupational Health & Safety plans and metrics
2014	Full-time machine safety group initiated in Jeppo factory
2015	Improving warehousing and handling of chemicals
2016	Safetymoments and Environmental Safety Card training in Karis factory
2018	Occupational atmosphere survey conducted



On-site manufacturing reduces transportation

The largest project during the past two years has been the phase-out and closing of the old landfill in Oravais where left-over and discarded material from conversion was deposited. The landfill was considered unsustainable and superfluous since materials in question had been transported to the Adven power plant for some time, and in 2018 the landfill was capped. The project was planned

by the consulting firm Ramboll and monitored to meet environmental requirements.

Also, the use of fossil heavy fuel oil in heating has been changed to a renewable energy source, i.e. wood chips. However, the launch of the new combi-maker line has increased water and electricity usage due to the manufacturing processes demands.

At the same time, the new maker will lead to reduced transportation emissions, since the possibility of manufacturing a wide range of materials used in on-site conversion has decreased the need for transport between Oravais and the high-bay warehouse in Jeppo.

Different areas of Mirka's general safety vision:

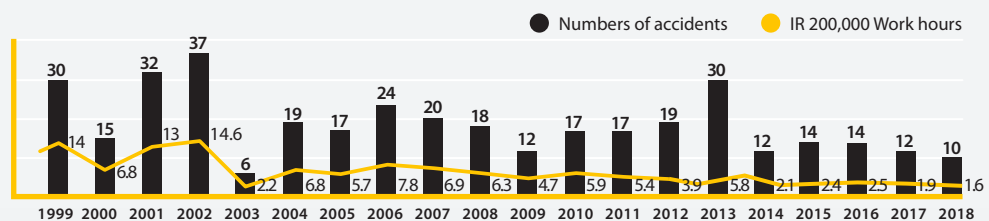
- Risk management
- Safety communication
- Personnel safety
- Information security
- Facility safety
- Environmental safety
- Rescue operations
- Production and operations safety
- Occupational security

During 2015–2016 there were no instances of environmental damage or negligence of environmental regulations, and as such Mirka did not receive any related fines or sanctions.

Incidents of non-compliance concerning the health and safety impacts of products and services

We have not identified any non-compliance with regulations and/or voluntary codes.

Mirka's Injury Rate history (IR) in Finland 1999 – 2018



During the reporting period (1999–2018) no fatal accidents occurred.

$$IR = \frac{\text{Total number of injuries}}{\text{Total hours worked}} \times 200,000$$

The factor 200,000 is derived from 50 work weeks at 40 hours per week per 100 employees.

Improved ergonomics through robotics

In Karis, there has been significant investment in both energy efficiency and ergonomics over the past two years. The new production hall that was introduced in 2017 only uses LED lighting in both the ceiling and as work lights at the machines. All in all, it has been a successful introduction and feedback from production workers has been positive regarding the brightness.

Also, changing the lighting in the entire factory to LED, has been considered, but since lighting fixtures in the older part were updated recently, a more feasible solution is to gradually change the fluorescent tubes to the corresponding LED tubes.

The biggest advance in ergonomics has been the automation of yarn roll

handling in the weaving process. Before, the rolls, weighing approximately 3-6 kg, were loaded into the machine manually, and since there are thousands of rolls the task was repetitious and unergonomic. Now there are three robotic arms that load rolls for most of the material qualities. This has meant that the operators can focus more on manufacturing itself.

Customer success

We are systematic in our approach – we have a long-term economic strategy and are focused on sustainability. Once we have decided what the right thing to do is, then we will do it right.

With customer performance, health and safety in mind

The success of our customers' business is key to our own company's success. Designing products and services that improve our customers' performance, health and safety in their workplace help us achieve our financial performance goals.

Profitable business ensures sustainable development

Mirka Ltd is part of the KWH Group and is an independent, internationally competitive, family-owned group, whose business strategy aims to ensure stable long-term profitability. Mirka's objective is self-sufficient, sustainable development of operations. This is made possible by a solid financial foundation based on the positive development of the company result and strong solidity.

Corporate governance

We continuously aim to improve our work with stakeholders and maintain a high ethical standard in all our opera

tions. These efforts are supported by Mirka's corporate governance and the ethical guidelines for all group personnel. Mirka's corporate governance creates a consistent framework for the entire group's global operations, thereby enabling open and reliable local operations. The Board of Directors reviews and updates the corporate governance materials on a regular basis. In addition, the company's ethical guidelines instruct our employees to work in a way that does not create personal obligations to outsiders. These ethical guidelines are part of the induction process for new employees and training is regularly arranged.

Clean Performance



Mirka's own indicators

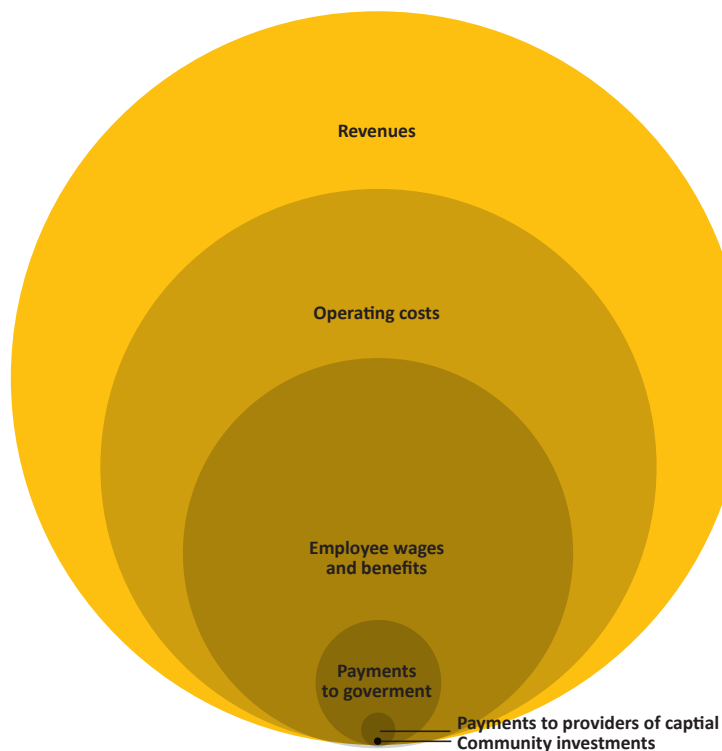
Mirka's commitments to the environment 2016-2018

Type of environmental protection (in EUR)	Expenditures	
	2016	2018
Waste disposal, Emissions treatment and remediation costs	1 156 466	1 989 347
Prevention and environmental management	870 908	647 828
Subtotal	2 072 374	2 637 175

Type of environmental protection	Investments	
	2016	2018
Combined waste disposal, emissions treatment, prevention and environmental management	3 126 333	4 212 613
Total expenditures and investments	5 153 707	6 849 788

Good financial performance provides a stable basis for our social and economic responsibility, as well as for realising and further developing our environmental responsibility. Our objective is self-sufficient, sustainable development of operations.

DIRECT ECONOMIC VALUE GENERATED 2018



Reporting Principles

Mirka publishes its Sustainability Report every two years. This report is for corporate sustainability in 2017–2018 and the information in the report is collected from all units that are under direct control of Mirka Ltd, unless otherwise specified. In addition to the Sustainability Report, Mirka publishes its annual review including the most significant financial indicators as part of the KWH Group Ltd's Annual Report.

Mirka's Sustainability Report 2018 is a GRI Standards 2018 referenced report (for more details see Content index). The reported topics

and indicators have been selected based on their business significance, impact and stakeholder expectations and needs. We have also made a cross-reference to the United Nation's Sustainable Development Goals.

The reported indicators and topics provide our stakeholders extensive and reliable information for assessment and a transparent picture of Mirka's economic, social and environmental responsibility. We want to present our information in a comprehensive, clear and understandable way. Our goal is to provide an objective overview of our

operations rather than only focus on positive developments. Where possible, we have reported the information from the current and previous periods for comparison purposes. Our Board of Directors has approved this publication and confirmed that the presented information is accurate and verifiable.

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For more information about GRI, go to: www.globalreporting.org

Disclosure	GRI Reference	Location	Omissions
GRI 102: General Disclosures 2016			
1. Organizational profile			
Name of organisation	102-1	www.mirka.com/sustainability	
Activities, brands, products, and services	102-2	www.mirka.com/sustainability and Global Mirka	
Location of headquarters	102-3	www.mirka.com/sustainability and Global Mirka	
Location of operations	102-4	www.mirka.com/sustainability and Global Mirka	
Ownership and legal form	102-5	www.mirka.com/sustainability and Global Mirka	
Markets served	102-6	www.mirka.com/sustainability and Global Mirka	
Scale of the organization	102-7	Infographics , www.mirka.com/sustainability , The Mirka Way	Net sales, total capitalization broken down in terms of debt and equity
Information on employees and other workers	102-8	Infographics , www.mirka.com/sustainability , The Mirka Way	"Total number of employees by employment contract, by gender and by region"
Significant changes to the organization and its supply chain	102-10	www.mirka.com/sustainability , Infographics	
Association	102-13	About Mirka	
2. Strategy			
Statement from senior decision-maker	102-14	An overview by our CEO	
3. Ethics and integrity			
Values, principles, standards and norms of behavior	102-16	About Mirka , www.mirka.com/sustainability	
4. Governance			
Governance structure	102-18	www.mirka.com/sustainability , The Mirka Way	
5. Stakeholder engagement			
List of stake holder groups	102-40	About Mirka	
Collective bargaining agreements	102-41	Infographics , About Mirka	
Identifying and selecting stakeholders	102-42	About Mirka	
6. Reporting practice			
List of stake holder groups	102-40	About Mirka	
Collective bargaining agreements	102-41	Infographics , About Mirka	
Identifying and selecting stakeholders	102-42	About Mirka	
Changes in reporting	102-49	Reporting principles	
Reporting period	102-50	Reporting principles	
Date of most recent report	102-51	Reporting principles	
Reporting cycle	102-52	Reporting principles	
Contact point for questions regarding the report	102-53	Reporting principles	
Claims of reporting in accordance with the GRI Standards	102-54	Reporting principles	
GRI content index	102-55	Content Index	

Disclosure	GRI Reference	Location	Omissions	UN-SDG
GRI 201: Economic Performance 2016				
Direct economic value generated and distributed	201-1	Infographics		
GRI 204: Procurement Practices 2016				
Proportion of spending on local suppliers	204-1	Infographics		
GRI 205: Anti-corruption 2016				
Communication and training about anti-corruption policies and procedures	205-2	About Mirka	Categorisation by region and employee category	
Confirmed incidents of corruption and actions taken	205-3	About Mirka		
GRI 301: Materials 2016				
Materials used by weight or volume (Associated process materials not included)	301-1	Infographics		
GRI 302: Energy 2016				
Energy consumption within the organization	302-1	Infographics		
GRI 303: Water 2016				
Water withdrawal by source	303-1	Infographics		
GRI 305: Emissions 2016				
Direct (Scope 1) GHG emissions	305-1	Infographics		
GRI 306: Effluents and Waste 2016				
Water discharge by quality and destination	306-1	Infographics		
Waste by type and disposal method	306-2	Infographics		
Workenvironment and environmental protection expenditures and investments by type	Mirka's own indicators	About Mirka		
GRI 307: Environmental Compliance 2016				
Non-compliance with environmental laws and regulations	307-1	Clean Production		
GRI401: Employment 2016				
New employee hires and employee turnover	401-1	About Mirka , Success driven by people		
Parental leave	401-3	About Mirka , Success driven by people		
GRI402: Labor/management realations 2016				
Minimum notice periods regarding operational changes	402-1	About Mirka		
GRI 403: Occupational Health and Safety 2016				
Occupational health and safety management system	403-1	About Mirka , Success driven by people	ODR, LDR and AR not reported. IR not splitted by gender or region. First aid level injuries are excluded from the InjuryRate (IR)	
"Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities"	403-2	Clean Production		
Worker participation, consultation, and communication on occupational health and safety	403-4	About Mirka , Success driven by people		
GRI 404: Training and Education 2016				
Average hours of training per year per employee	404-1	About Mirka , Success driven by people		
Percentage of employees receiving regular and career development reviews	404-3	About Mirka , Success driven by people		
GRI406: Non-discrimination 2016				
Incidents of discrimination and corrective actions taken	406-1	About Mirka		
GRI408: Child labor 2016				
Operations and suppliers at significant risk for incidents of child labor	408-1	About Mirka		
GRI 103: Management Approach 2016				
Explanation of the material topic and its Boundary	103-1, 103-2, 103-3	Reporting principles		
The management approach and its components	103-1, 103-2, 103-3	Reporting principles		
Evaluation of the management approach	103-1, 103-2, 103-3	Reporting principles		
GRI: Customer Health and Safety 2016				
Assessment of the health and safety impacts of product and service categories	416-1	Clean Proactivity		
Incidents of non-compliance concerning the health and safety impacts of products and services	416-2	Clean Proactivity		