

A woman with long brown hair, wearing a green jacket, is leaning out of the open driver-side window of a white car. She is looking forward with a slight smile. The car is parked on a dark surface, and the background is a soft, out-of-focus landscape. The Nokian Tyres logo is in the top left corner.

**nokian<sup>®</sup>**  
**TYRES**

# **CORPORATE SUSTAINABILITY REPORT 2022**

# CONTENT

## Corporate sustainability report 2022

Nokian Tyres in a nutshell.....	3
Greetings from our CEO.....	4
Highlights in 2022.....	5

## Fundamentals

Nokian Tyres' sustainability road map and main targets.....	8
Guiding principles for Nokian Tyres' sustainability.....	9
Material topics.....	10
Nokian Tyres as a part of society.....	11

## Climate and the environment

Our goal is to minimize the environmental impacts.....	14
Climate-related risks and opportunities.....	16
Energy, emissions, water, and waste.....	19
Tire recycling.....	23
Tire life cycle.....	24

## People

A committed team.....	26
Safety is a choice.....	27
Our people and way of working.....	29

## Products and services

Safety is a priority.....	32
We develop the eco-friendliness of our tires.....	34
Recycled and renewable raw materials.....	36
Green Step concept tire.....	39
Improving safety with innovative services.....	40

## Supply chain


We track the sustainability of our suppliers.....	42
Sustainable sourcing of natural rubber.....	43
Human rights in the supply chain.....	44
Reporting principles.....	45
Performance in figures.....	47
GRI content index.....	52
Independent assurance report.....	55





# NOKIAN TYRES IN A NUTSHELL

Nokian Tyres operates in the manufacturing and service sector, developing and manufacturing premium tires for people who value safety and sustainability. Our purpose is to empower the world to drive smarter. Inspired by our Scandinavian heritage, we craft innovative products for passenger cars, trucks and heavy machinery, and our Vianor chain provides tire and car services.

In 2022, the company's net sales were EUR 1.8 billion and it employed some 4,500 people. Nokian Tyres plc is listed on Nasdaq Helsinki. You can read about the company's ownership structure [here](#) .

Nokian Tyres operates two tire factories, one in Finland and one in the US, and a wheel manufacturing plant in Finland. The Nokian Tyres' test tracks are located in Nokia and Ivalo in Finland, and Santa Cruz de la Zarza, Spain. The company headquarters is in Nokia, Finland.

In 2022, Nokian Tyres' products were sold in approximately 60 countries. Our branded distribution network includes the Vianor and Vianor Partner chains and the Nokian Tyres Authorized Dealers (NAD) network. In the end

of 2022, the Vianor network included a total of 1,008 service centers in 13 countries. The NAD network operated in 25 countries with 2,295 stores.

The Nokian Tyres Group consists of the parent company in Finland, the sales companies in Sweden, Norway, the US, Canada, Czech Republic, Germany, Switzerland, Poland, Ukraine, Kazakhstan, Russia and China, and the tire chain companies in Finland, Sweden and Norway.

In June, the Nokian Tyres' Board of Directors decided to initiate a controlled exit from Russia, and the company is in the process of finalizing the sale of its Russian operations at the time of publishing this report.

# AMIDST CHANGES, SUSTAINABILITY REMAINS AT THE CORE OF WHAT WE DO

The hopes and expectations for the year 2022 were high, as in 2021 Nokian Tyres delivered record high net sales and improved profit, combined with a stronger market position in all key areas. However, our operating environment changed profoundly with the war in Ukraine, and the company found itself in a situation where it was no longer feasible nor sustainable to continue operations in Russia.

This dramatic change challenged the whole Nokian Tyres' team, accompanied by the specific worry about our Ukrainian employees' well-being and safety. With the grit and determination typical for our team, 2022 ended up becoming the year when the foundation for the new Nokian Tyres was laid.

Several things are changing, but sustainability remains at the core of what we do. Even though the changes posed challenges, they also gave us an opportunity to show that sustainability indeed is the foundation that our future growth is built on. In November, the Board of Directors made a decision to invest in a new passenger car tire factory in Romania – the first zero CO<sub>2</sub> emission factory in tire industry. Construction will begin soon, and commercial tire production is expected to start in early 2025.

Nokian Tyres was also again included in the Dow Jones Sustainability Europe Index, meaning the company is among the most

sustainable listed companies in Europe. Additionally, we were recognized for our leadership in climate change mitigation as Nokian Tyres received the score A- in the CDP 2022 report. Our Nokian Tyres' team also made 2022 a record year in occupational safety, as the lost time incident frequency was at all-time low. We are committed to the UN Global Compact and together with other stakeholders, we are improving working conditions and human rights along the supply chain in the long term.

2022 was a year of resilience, and we proved that we can get through anything as long as we work as a team. This year we continue our dedicated work and focus on the implementation of our plans.

March 14, 2023

**Jukka Moisio**  
President & CEO

“ The new Romania car tire factory is the first zero CO<sub>2</sub> emission factory in tire industry.



# HIGHLIGHTS IN 2022



The greenhouse gas emission intensity from our factories has decreased by **43%** compared to year 2015



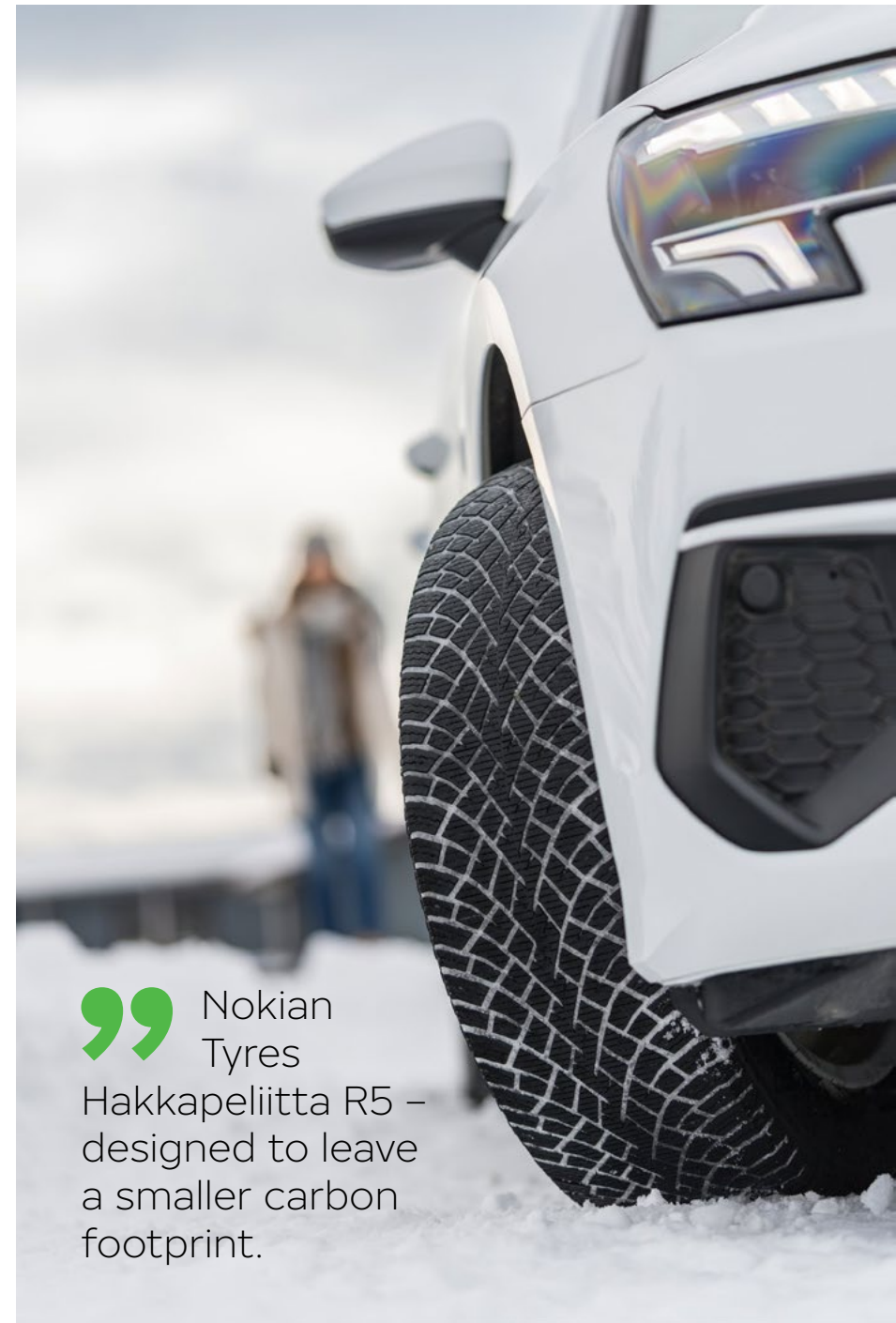
Nokian Tyres was again included in the **DOW JONES SUSTAINABILITY EUROPE INDEX** – among the most sustainable listed companies in Europe

**LAUNCHED** our flagship Nordic non-studded winter tire Nokian Tyres Hakkapeliitta R5 – designed to leave a smaller carbon footprint



**PREMIUM QUALITY** means premium safety: no significant product recalls in 21 years

**RECORD YEAR** in occupational safety: the lost time incident frequency was at all-time low



” Nokian Tyres Hakkapeliitta R5 – designed to leave a smaller carbon footprint.



# FUNDAMENTALS

Management of sustainability at Nokian Tyres is driven by our core values:  
we care, drive innovation and succeed together

# MANAGING SUSTAINABILITY

Nokian Tyres develops and manufactures premium tires for consumers and customers who value safety, sustainability, and innovative products. Sustainability is at the core of Nokian Tyres’ business and one of the five cornerstones of the company’s strategy.

Management of sustainability at Nokian Tyres is based on our values: We care, drive innovation, and succeed together. Sustainability is an essential part of our daily work and leadership. Through sustainable business practices, we can offer safety and security to all our stakeholders, e.g. employees, customers, local communities, shareholders, our suppliers, and local governments.

Nokian Tyres’ business is guided by the ethical principles presented in the Board-approved Code of Conduct. The document specifies the principles for Nokian Tyres’ business, including instructions for various matters related to ethics and anti-bribery guidelines. Nokian Tyres does not condone any form of bribery within the company’s operations.

Every employee needs to adhere to the Code, and Nokian Tyres has an online training for all personnel. The majority of employees conducted the training in 2019 when it was introduced, and the training is included in the induction for new employees.

Read more: [Managing sustainability at Nokian Tyres](#) ➔

The company’s sustainability activities are led by SVP, Supply Operations, who is a member of the Group’s Management Team. The Group’s Sustainability Steering Group supervises and monitors the sustainability work within the Group and comprises senior representatives from Supply Chain, Products & Innovations, Finance, Human Resources and Communications. The Group’s Greenhouse Gas (GHG) Steering Group supervises and monitors the progress in reducing greenhouse gas emissions within the Group. The duties of all supervisors include day-to-day leadership of sustainability.

## MANAGING SUSTAINABILITY AT NOKIAN TYRES






# NOKIAN TYRES' SUSTAINABILITY ROAD MAP AND MAIN TARGETS










## NOKIAN TYRES' SUSTAINABILITY ROAD MAP

The Nokian Tyres Sustainability Road Map guides our work on sustainability. It defines seven areas of sustainability, and there are currently over 80 projects related to the themes listed under each area.

<b>CLIMATE ACTIONS</b>	<ul style="list-style-type: none"> <li>Climate risks</li> <li>SBT action plans and implementation</li> <li>Product development</li> <li>Energy efficiency</li> <li>Energy mix (renewable and non-renewable)</li> </ul>
<b>OTHER ENVIRONMENTAL ACTIONS</b>	<ul style="list-style-type: none"> <li>Compliance</li> <li>Water efficiency</li> <li>Circular economy</li> </ul>
<b>PEOPLE</b>	<ul style="list-style-type: none"> <li>Occupational Health &amp; Safety</li> <li>Human rights</li> <li>Development of sustainability culture</li> </ul>
<b>SUPPLY CHAIN</b>	<ul style="list-style-type: none"> <li>Supply chain risk management</li> <li>Natural rubber sourcing</li> </ul>
<b>PRODUCTS AND SERVICES</b>	<ul style="list-style-type: none"> <li>Sustainable materials</li> <li>Microplastics</li> <li>Services</li> </ul>
<b>FINANCE, CORPORATE GOVERNANCE</b>	<ul style="list-style-type: none"> <li>Governance &amp; Compliance</li> <li>Sustainability summary to the Board</li> <li>Enterprise risk management</li> <li>Value creation for society</li> </ul>
<b>COMMUNICATION &amp; STAKEHOLDER ENGAGEMENT</b>	<ul style="list-style-type: none"> <li>Reporting</li> <li>Investor relations</li> <li>Customer &amp; consumer communication</li> <li>Vianor communication</li> </ul>

## NOKIAN TYRES' SELECTED FIVE KEY SUSTAINABILITY TARGETS

All our sustainability targets are presented on the company's website [Sustainability Goals and Achievements](#) . The climate goals are aligned with the CO<sub>2</sub> emissions reduction targets approved by the Science-Based Targets initiative. The chart below describes five of Nokian Tyres' sustainability targets, with respective KPIs and results for 2022.

AREA	TARGET	KPI	PROGRESS IN 2022
<b>SAFE AND ECO-FRIENDLY TIRES:</b> increasing the share of sustainable materials in tires  	Increase the share of recycled or renewable raw materials in tires to 50% by 2030	Report annual improvement	One new recycled raw material taken into production use
<b>CLIMATE:</b> reducing CO <sub>2</sub> emissions in line with our four Science Based Targets 	Reducing CO <sub>2</sub> emissions from tire production (scope 1+2) by more than 50% by 2030, base year 2015	Report annual improvement	Proceeding as planned. Status in 2022: 43% decrease from 2015
<b>SAFETY:</b> securing safer and better work  	Accident frequency LTIF: Decrease from 8.3 (2018) to 1.5 by 2025	20% annual improvement in LTIF compared to the previous year	Positive development. LTIF decreased from 4.1 to 3.2
<b>HUMAN RIGHTS:</b> auditing all significant high-risk suppliers  	100% of significant high-risk suppliers audited by 2025	Annual increase in the share of audited high-risk suppliers	Status in 2022: 83% audited (64% in 2021)
<b>PERSONNEL WELL-BEING:</b> developing human rights policies  	Developing human rights practices	Report annual improvement in sentiments about equal opportunities in the personnel survey, base year 2021	Status in 2022: score on equality was 66 on a scale of 0-100 (65 in 2021)*






\* Both figures exclude BA Russia and Asia



# GUIDING PRINCIPLES FOR NOKIAN TYRES' SUSTAINABILITY

Sustainability is a part of our company's culture, strategy and goals. The graph describes the areas of sustainability in the company, our guiding principles, and the most important standards and policies that guide our work.

The UN's 17 Sustainable Development Goals (SDGs) are created to promote prosperity while protecting the environment. These goals provide a tool to examine sustainable business in the long term. The seven SDGs that Nokian Tyres has determined important for the company are listed at the bottom of the page.

AREAS OF SUSTAINABILITY				
 <b>PRODUCTS / R&amp;D</b>	 <b>PEOPLE</b>	 <b>ECONOMY</b>	 <b>ENVIRONMENT</b>	 <b>PROCUREMENT</b>
We develop and manufacture ecofriendly, safe and high-quality tires that reach their destination safely even under demanding conditions.	We are committed to acting in the manner required by the UN's Guiding Principles for Business and Human Rights as well as OECD's Guiding Principles on Labour and Human Rights, and to following the International Labour Organization's (ILO) Declaration on Fundamental Principles and Rights at Work. We respect human rights and treat all individuals equally.	Through profitable growth, we enable the further development of our operations and ensure financial security, work and well-being for our stakeholders.	We are committed to acting in a way that does not harm the environment or people.	We are committed to sustainable procurement and further developing sustainability in our supply chain.
ESSENTIAL STANDARDS, GROUP POLICIES AND PROCEDURES RELATED TO SUSTAINABILITY				
Tire/vehicle safety regulations (UN tire regulations), various tire labelling (consumer information) regulations and standards (EU Tyre Labeling regulation), chemical regulation, UN Global Compact, Nokian Tyres tire testing policy.	ISO 45001, UN Global Compact, Policies and procedures related to safety, well-being, hiring, traveling, induction, people reviews and competence development, human rights and equality.	Stock exchange rules, IFRS, UN Global Compact, Corporate Governance, risk management, Know Your Counterparty, Tax Policy.	ISO 14001, Responsible Care program, Science Based Targets, UN Global Compact, Environmental Management, Chemical Safety Management.	ISO 9001, ISO 14001, UN Global Compact, Procurement policy, Supplier Code of Conduct, Sustainable Natural Rubber Policy.
LOCAL GUIDELINES AND PROCEDURES				



# MATERIAL TOPICS

Through continued focus on sustainability at Nokian Tyres, the company is committed to minimizing its negative impacts and maximizing its positive impacts on the economy, environment, and people. An essential part of driving this positive change is understanding how Nokian Tyres' stakeholders view sustainability and what sustainability topics are relevant for society and our business. This is done by conducting materiality assessments every three years. The assessments form a basis for sustainability work at Nokian Tyres. A chart of the five most relevant topics in the four main stakeholder groups can be seen here: [Our stakeholders and memberships](#) ➔.

Read more: [Materiality analysis of Nokian Tyres](#) ➔

Nokian Tyres conducted a materiality assessment in 2021. The assessment consisted of online surveys and interviews among our most relevant stakeholders. The aim of the online survey and interviews was to ask stakeholders' opinions about the most relevant sustainability topics to Nokian Tyres.

In 2021, five topics were selected material for Nokian Tyres' operations:

1. Sustainable raw materials
2. Actions to mitigate climate change
3. Safety and well-being at Nokian Tyres
4. Promoting human rights in all operations
5. Safety properties of tires

## Other sustainability themes

In addition to material topics that Nokian Tyres considered most relevant to the company's sustainability reporting, we identified four sustainability themes that were of moderate significance in the materiality assessment. Those themes were:

- Good governance
- Other environmental challenges, such as tire and road wear particles, or TRWP's, biodiversity and water consumption
- Strengthening ties with local communities, and
- Customer satisfaction.



# NOKIAN TYRES AS A PART OF SOCIETY

Nokian Tyres' objective is to create value for its various stakeholders, such as consumers, customers, its personnel, and shareholders. We want to meet stakeholder expectations. Through sustainable business practices and financial success, we can offer security, work and well-being for our personnel and contribute to the well-being of local communities.

Read more: [Financial Review 2022](#) ➔

Nokian Tyres contributes to society and communities as a responsible employer and through the fair payment of salaries and taxes. Our tire factories are significant employers in their operating areas. When we include all of our subcontractors, our role as a job creator becomes even more significant. The salaries and taxes that we pay support the structures of society and improve the quality of life for thousands of people.

The Group's effective tax rate (ETR) in 2022 was negative (20.1% in 2021) due to Russian operations write downs. When excluding the items affected by the Russian operations write downs, the effective tax rate is 20.7%. The operational tax rate is expected to be at this level in 2023.

## INCOME TAX EXPENSE

Region	MEUR in 2022
Nordic countries	-6.3
Russia and Asia	32.2
Other Europe	2.5
North America	2.0
Other	-1.2

Nokian Tyres' Tax Policy defines the general framework and guidelines for tax matters administration and decision making in the Group. The Tax Policy is aligned with other internal key policies, manuals and instructions related to the tax management, e.g. Code of Conduct. The key overall goals directing Nokian Tyres tax policy are continuous enhancement of shareholder value on a sustainable basis, adherence to applicable laws and regulations and protection of Nokian Tyres reputation and brand. Nokian Tyres is committed to pay the amount of tax legally due in any territory in accordance with rules set by the relevant authorities. Nokian Tyres maintains an open, professional, and transparent relationship with tax authorities.

In its decision-making and administration, Nokian Tyres adheres to the Finnish Limited Liability Companies Act, the Finnish

## GENERATION OF ADDED VALUE

- +** CUSTOMERS  
**Sales**  
**MEUR 1,776.1**
- SUPPLIERS  
**Cost of goods, materials,  
and services purchased**  
**MEUR 1,023.0**

**==** ADDED VALUE  
**MEUR 753.1**

Economic  
value retained in the company  
**MEUR 229.5**

## DISTRIBUTION OF ADDED VALUE

- EMPLOYEES  
**Wages and salaries MEUR 281.0**
- PUBLIC SECTOR  
**Direct taxes MEUR 29.2**
- SHAREHOLDERS  
**Dividends MEUR 76.0**
- GROSS INVESTMENTS  
**MEUR 129.9**
- FINANCIAL INSTITUTIONS  
**Net Financing Payments**  
**MEUR 7.5**

Securities Markets Act and the rules issued by Nasdaq Helsinki Ltd, Nokian Tyres' Articles of Association, and the Finnish Corporate Governance Code 2020 for listed companies. Nokian Tyres complies with the code without exceptions. The code is published at [www.cgfinland.fi/en/](http://www.cgfinland.fi/en/) ➔.

The company is included in the OMX GES Sustainability Finland GI index, which provides transparent, objective and reliable information for making responsible investments. Companies are selected for the index based on their compliance with requirements that focus on the management of environmental, social, and corporate governance (ESG). Nokian Tyres is also included in the prestigious Dow Jones Sustainability Europe Index, comprised of corporate leaders in sustainability as identified by S&P Global.

Nokian Tyres has a Disclosure Policy that describes the key processes related to Nokian Tyres' external communications as well as the main principles that Nokian Tyres follows when communicating with the capital markets and media. You can read about our communication principles [here](#) ➔.

## Risk management

Nokian Tyres' business and financial performance may be affected by several uncertainties. The Group has adopted a risk management policy, approved by the Board of Directors, which supports the achievement of strategic goals and ensures business continuity. The Group's risk management policy focuses on managing both the risks pertaining to business opportunities and the risks affecting the achievement of the Group's goals in the changing operating environment. The risk management process aims to identify and evaluate the risks and to plan and implement the practical measures for each risk. Nokian Tyres describes the overall business risks and risk management in its annual Corporate Governance Statement.

In this report, we concentrate on environmental risks, in particular on climate risks. You can find more information on them on pages 17 and 18. Other risks are described in the Financial Review, and you can read more about them [here](#) ➔.

## Critical concerns

Most disputes and suspicious situations are handled by the line organizations and the various co-operation and specialist functions in their normal operative work. In addition, Nokian Tyres has had a whistleblowing channel available since 2011. The same channel is available to external stakeholders by email at [whistleblow@nokiantyres.com](mailto:whistleblow@nokiantyres.com) or by letter. In addition, complaints can be made via the company website on a contact form, emailing the company directly, sending a regular letter or contacting the company on the phone.

The whistleblowing process was last updated in 2018 and is reviewed annually. Nokian Tyres' Whistleblowing committee was formed in 2019. The committee consists of persons responsible for internal audit, legal affairs, and HR matters within the Nokian Tyres Group. In 2022, the compliance of the company's whistleblowing process was evaluated against the EU whistleblowing guidelines as they are currently expected to be implemented in the EU countries.

The Chief Audit Executive (CAE) coordinates the whistleblowing process as well as handling of any compliance breaches found during the investigations or in other related processes at the Group level. All material findings and general statistics are reported to the Audit committee of the Board of Directors. In 2022, altogether 6 suspected cases of misconduct were reported via the official channel or brought to the attention of the CAE via other channels. One of the cases resulted in internal disciplinary actions. In the other cases, no misconduct was identified. There were no material critical concerns in 2022.

## A global company with local impacts

Corporate philanthropy is our company's way of giving back to our community locally, regionally, nationally, and internationally. Donating our time, products, services, and money to charities and nonprofits helps us to build trust with our communities, consumers, and other companies as well as to improve our employee engagement.

Our purpose is to empower the world to drive smarter. Nokian Tyres' approach to philanthropy mirrors its purpose, entrepreneurial and inventive company

culture, and sustainable way of doing business. The company does not support any governmental, political, or religious entities. The company offers resources to projects based on the Nokian Tyres' Philanthropy Approach.

In Finland, we promote tire recycling as the founding member of Finnish Tyre Recycling. Nokian Tyres' R&D is also involved and supports several research programs, such as PoDoCo, a matchmaking program supporting long term competitiveness and strategic renewal of companies and employment of young doctors in the private sector.

In 2022, Nokian Tyres continued to support the traffic safety education for local school children in Nokia, Finland, and donated books for safety education. The company also offered financial and other support for our Ukrainian employees and donated to humanitarian efforts in Ukraine. Vianor donated to Save the Children, an international advocate of children's rights, to support low-income families and children at the risk of alienation.

In the US, Nokian Tyres has donations committees in Dayton, Nashville, and Colchester. The company poured itself into the Dayton, Tennessee community, where we provided scholarships to two high-achieving students at the local high school. Other areas of community involvement included:

- Financial and advocacy support of Thrive Regional Partnership, an organization committed to responsible growth through environmental conservation

- Support of a scholarship given during Chattanooga Engineering Week
- Support of a robotics competition at nearby Bryan College
- Support of several local sports teams, including Rhea County High School soccer, softball, anglers and volleyball
- Summer reading program donation to the Rhea County Library
- Advocacy and financial support of the Rhea County Community Center for programs and facilities improvements
- Financial support for local efforts to bolster women in manufacturing
- Support of a hygiene drive through the Dayton Chamber of Commerce
- Provision of Thanksgiving meals through United Way of Rhea County

The strong partnership with POWDR ski resort company continued in 2022 to educate guests and the public about the importance of winter driving safety. Nokian Tyres and POWDR also joined with One Tree Planted to commit to planting 50,000 trees in areas of the United States impacted by deforestation.

## War in Ukraine

On February 24, 2022, Russia started the war in Ukraine, which had a significant impact on Nokian Tyres' operating environment and manufacturing capacity. Nokian Tyres has taken active measures to manage the impacts of the war in Ukraine to its personnel and business. Read more in our [Financial Review 2022 on pages 19-20](#) ➔ and [our stock exchange releases published in March 2023](#) ➔.



An aerial photograph of a winding road through a dense forest in winter. The ground is covered in snow, and the trees are dark. A bright sun is low on the horizon, creating a strong lens flare and illuminating the scene with a warm, golden light. The road curves through the forest, and a small car is visible in the distance.

# CLIMATE AND THE ENVIRONMENT

We are committed to saving winters for the future generations and want to show leadership in actions against climate change

# OUR GOAL IS TO MINIMIZE THE ENVIRONMENTAL IMPACTS

Nokian Tyres has uncompromising respect for the environment and safety, as well as for ensuring high quality and a good customer experience throughout our operations. We consider the product's entire life cycle and all of its functions in terms of environmental responsibility and follow the Precautionary Principle.

Most of the annual environmental and sustainability targets are linked to the longer-term 2025 or 2030 sustainability development targets. The Vice President for Quality & Sustainability is involved in drawing up the annual targets together with the Senior Manager, Sustainability.

Working together with environmental experts, the Senior Manager, Sustainability prepares an annual environmental program for the factories. The program specifies the detailed targets, actions, schedules, and responsible persons for the goals presented in the strategy. In addition, individual units have their own projects for developing the operations and processes.

The development of environmental aspects and quality is reviewed monthly at the management meetings.

## KEY MEASURES IN 2022 AND TARGETS FOR 2023

OBJECT	TARGET IN 2022	STATUS IN 2022	TARGET IN 2023
STATUTORY REQUIREMENTS	Implementation according to the Nokian Tyres' environmental permits and legislation at the factories.	Implemented, except for the VOC emission limit at the Finnish factory.	Implementation according to the Nokian Tyres environmental permits and legislation at the factories.
VOC EMISSIONS	Compliance with the new environmental permit of the factory in Finland and start evaluation of further measures to solve the problem.	Exceeded the emission limit for VOC emissions. Started discussions with authorities. Commissioned a spread modelling of the VOC emissions.	Applying for a new updated environmental permit.
ENERGY	Our target for reducing energy consumption by 10% from 2015 to 2025.	Implemented, 2022 energy intensity 2% lower compared to 2015.	Reaching 2.75 kWh/ton energy efficiency by 2030. No numeric intermediate target for 2023.
CLIMATE	Green electricity procured for the Finnish factory. Started implementing actions for the suppliers' CO <sub>2</sub> reduction plans.	Zero CO <sub>2</sub> emission electricity for Finnish factory. Receive emission reduction action plan from 40 raw material suppliers.	Continue lowering factory GHG emission intensity. Product Carbon Footprints for 40 raw materials from suppliers.
CHEMICAL SAFETY	Two factory audits by chemical specialists concentrating on the use and storage of chemicals.	Implemented.	Two factory audits by chemical specialists concentrating on the use and storage of chemicals.
MATERIALS DEVELOPMENT	Ensuring that no Substances of Very High Concern as referred to in REACH are contained in the products.	Implemented.	Ensuring that no Substances of Very High Concern as referred to in REACH are contained in the products.
INCREASING ENVIRONMENTAL AWARENESS AMONG THE PERSONNEL	Regular trainings and environmental communication.	Implemented.	Regular trainings and environmental communication.
BUILDING PROJECTS	The Spain test center: assuring chemical and environmental safety in ramp-up phase.	Implemented.	The Oradea factory: realizing zero CO <sub>2</sub> emission solutions, assuring chemical and environmental safety in the construction phase.



## Control of chemicals

Control of chemicals aims at ensuring the safest possible use of chemicals for our employees, the environment and end users. Our company meets all the requirements of the European (the REACH and CLP regulations) and local legislation.

We do not use carcinogenic chemicals or SVHC chemicals (Substances of Very High Concern) as per the EU's REACH regulation in our production. Our products do not contain any conflict minerals. All our products also meet the EU REACH requirements concerning PAHs (Polycyclic aromatic hydrocarbons). We also intend to ensure that no products sold in Vianor service centers now or in the future contain any such chemicals.

No auxiliary chemicals are taken into use at Nokian Tyres factories before our chemical control team has issued a department-specific usage permit for the substance in question. The purpose of this practice is to harmonize the use of chemicals throughout the company and, whenever possible, to replace harmful chemicals with safer ones.

We require all of our chemical suppliers to provide us with chemical safety data sheets (SDS) in compliance with the valid legislation prior to the purchasing of chemicals. The SDSs of the chemicals that we use are registered in a database that all employees can access. We also organize regular trainings on chemicals for our employees.

## Audits

Regular audits' purpose is to ensure eco friendliness in production and a safe working environment that meets high standards of

quality. The audits aim to verify that our operation complies with the legislation, Environment, Safety, and Quality policy, and the instructions in the ISO 14001 certified management system. We carry out internal environmental audits regularly according to an annual plan.

An external auditor performs an audit once a year in order to assess our activities' compliance with the relevant standards. Moreover, legal and regulatory compliance is supervised by the authorities and insurance companies annually or as required.

## Permits and complaints

Our production facilities have valid environmental permits as well as chemical handling and storage permits. These permits and other environmental and safety activities are supervised by several authorities according to the local laws. Nokian Tyres immediately notifies the authorities of any disruptions, accidents, and major deviations from permit requirements.

The company actively monitors the trends in environmental and safety regulations within the EU and in all of the countries where Nokian Tyres operates. The company also anticipates the effects of pending regulations on its operations.

Nokian Tyres documents the annual environmental impacts of its tire factories and reports them to the local authorities as required by the laws and regulations in each country. The company records complaints into an internal environmental incident register and takes the necessary corrective actions. Complaints can be done via our

company website on a contact form, by emailing the company directly, or sending regular mail or contacting the company on the phone.

In Finland, Nokian Tyres received one environmental complaint in 2022 concerning noise at the Finnish factory. The company was also contacted concerning odor emissions from local residents in Sastamala, Finland, where our retreading materials are produced. Nokian Tyres has reported actions related to odor issues monthly to the authority until May 2022, and discussions with the authorities have continued throughout the year when necessary. The company received no other environmental complaints.

In 2022, Nokian Tyres did not receive any environmental fine for instances of noncompliance with laws and regulations.

You can read more about our environmental complaint mechanism [here](#) ➞.

## Biodiversity

We were part of a biodiversity working group in creating Finnish Chemical Industry's biodiversity vision 2045 that was published in 2022. We also developed biodiversity work by organizing internal workshops and mapped potential concrete biodiversity actions. In Finland, we started negotiations with local environmental authorities in the fall on participating in a national biodiversity project maintained by authorities.



“Regular audits' purpose is to ensure eco friendliness in production and a safe working environment.”



# CLIMATE-RELATED RISKS AND OPPORTUNITIES

Tire industry can be subject to risks caused by climate change, such as changes in consumer tire preferences, regulatory changes or impact of extreme weather events on natural rubber producers. Nokian Tyres has defined its climate-related risks and opportunities according to the recommendations of Task Force on Climate-Related Financial Disclosures (TCFD). In 2022, the risks and opportunities were reassessed.

Nokian Tyres is committed to reducing GHG emissions from its operations in order to combat climate change. We calculate the GHG emissions from our operations annually and reduce them systematically.





## CLIMATE-RELATED RISKS

RISK GROUP	SUB CATEGORY	EXAMPLES OF CONCRETE RISKS	TIME HORIZON	FINANCIAL IMPACT	ADAPTATION / MITIGATION PLAN
REGULATORY	Emerging regulation	Deforestation-related regulation, mostly concerning natural rubber	Medium	Medium	Follow-up of emerging regulation
		Green regulation on aviation and maritime fuels can significantly increase costs of logistics	Long	Medium	
	Further environmental fees	Additional taxes and duties e.g. EU's CBAM for fossil raw materials can increase prices. Certification costs	Short	Medium	Participation in industry sector working groups
	Stricter expectations to oversight	Increased verification testing of products and emission measurements	Short	Low	Follow-up of emerging regulations
PHYSICAL	Extreme weather events	Disruptions in logistics and force majeure situations	Short	Medium	Alternative transportation routes
		Permanent changes in logistics and/or increased force majeure situations	Long	High	Alternative transportation routes
		Impact of extreme weather events on natural rubber producers	Medium	Low	Alternative sourcing locations
	Extreme temperatures	Contamination/lower quality of raw materials	Short	Low	Multiple supply sources
TECHNOLOGICAL	Climate-related demands for new tire technology	A+ rolling resistance tires required for Evs	Medium	Low	Anticipation of future expectations in R&D development road maps
		150 km/h max speed for EU – demand for UHP (Ultra High Performance) tires falls	Long	Medium	
MARKET AND REPUTATION	Market changes	Shift from car ownership to mobility-as-a-service i.e. changing customer base	Long	Medium	Update product and service offering
	Tire raw materials	Increase use of expensive renewable materials	Medium	High	Road map for selective use of renewable and recyclable raw materials
	Energy	Green energy prices go up due to strong demand	Short	Medium	Long term power purchasing agreements
		Raw material price increases due to higher energy prices	Short	Medium	Long term contracts
	Tire raw materials	Availability of renewable and recycled raw materials can limit plans for sustainability	Medium	Low	Aiming for multiple sources
	Tire demand	Increased demand for all-season tires and less winter tires	Short	Low	Update product offering
	Reputational risk	Deforestation scandals (natural rubber)	Medium	Low	Co-operation with supply chain in line with GPSNR recommendations

## CLIMATE-RELATED OPPORTUNITIES

OPPORTUNITY GROUP	SUB CATEGORY	EXAMPLES OF CONCRETE OPPORTUNITIES	TIME HORIZON	FINANCIAL IMPACT	IMPLEMENTATION PLAN
INNOVATION	Raw materials	Innovations with renewable / recycled / local materials	Medium	Medium	Material development road map to reach 50% share of renewable or recycled raw materials by 2030
	Recycling	Co-operation with innovative recycling companies	Medium	Medium	Screening of opportunities and widening of cooperation
	Climate-friendly technology	Lower rolling resistance products. Climate-friendly production	Short	High	Product development road map. New zero CO <sub>2</sub> factory to Romania being implemented
	Energy-efficient production	Modern machinery used in Nokian Tyres' factories	Short	Medium	New zero CO <sub>2</sub> factory to Romania being implemented
PRODUCT RANGE	Competitive advantage	Nokian Tyres is an expert in demanding and challenging weather conditions. We have a strong share in winter tire markets and are prepared to increase the share further, should the extreme weather phenomena increase in the future.	Short	Medium	Developing product portfolio, increasing consumer awareness
		Increase of all-season tire sales in Europe due to milder winters	Medium	Medium	Developing product portfolio
	EU further green regulation	Increased focus on sustainable natural rubber	Long	Low	Co-operation within GPSNR
		Tire regulation for wear resistance (abrasion) e.g. intelligent sensor technology	Medium	Medium	Product development
	Industrial (heavy) tires	We have existing expertise to provide climate-friendly solutions, e.g. intelligent sensor technology	Short	Medium	Product development
ENGAGEMENT	Consumers	Increase awareness of how tires can affect safety and carbon footprint	Short	Medium	Consumer education through communications and marketing
	Policy makers	Increased preparedness for new regulations or incentives	Long	High	Industry-wide cooperation and information sharing with decision makers
	Shareholders / stakeholders	Green / sustainable financing	Short	High	Transparent sustainability targets, public reporting, collaboration with financial institutions, information sharing with stakeholders
REGULATORY	Renewable Energy Directive and other green regulation	More renewable energy available in EU, prices can decrease	Long	Low	Own investments/partnering for green energy
		Global carbon tax or similar would improve the company's competitive position	Long	Low	Further improvement of corporate carbon footprint

# ENERGY, EMISSIONS, WATER AND WASTE

The environmental impacts from tire production include odor, particle emissions, noise, waste, and solvent emissions (VOC emissions). We constantly strive to reduce these impacts in the best possible ways: we improve our operations and find efficiencies, and correct identified deviations. In accordance with our Environmental, Safety, and Quality Policy, we aim for zero defects in our activities within these areas. We sort the waste and deliver it for reuse whenever technologically and economically feasible.

All the statistics can be found also on the [Performance in figures section](#).

## Energy

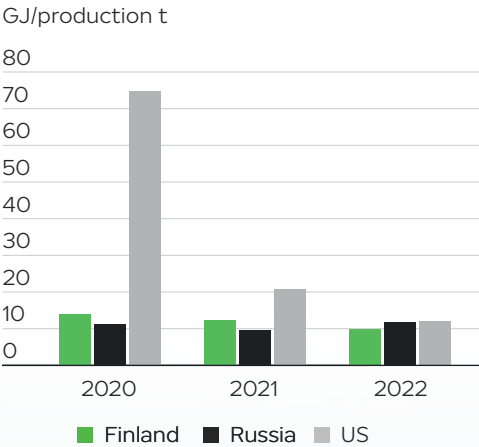
The energy we use can be divided into electricity, heat and steam. We purchase energy for our factories from external suppliers. We generate some of the electricity and steam ourselves in 2022, about 19% of all energy used in our tire factories was produced from renewable energy sources.

In 2022, only CO<sub>2</sub> emission-free electricity was procured for the Finnish factory. Steam is generated in the nearby biomass power plant. Energy is provided by solar panels to our administration building in the US factory and to the Visitor Center building in the Nokian Tyres Spain test center, for example.

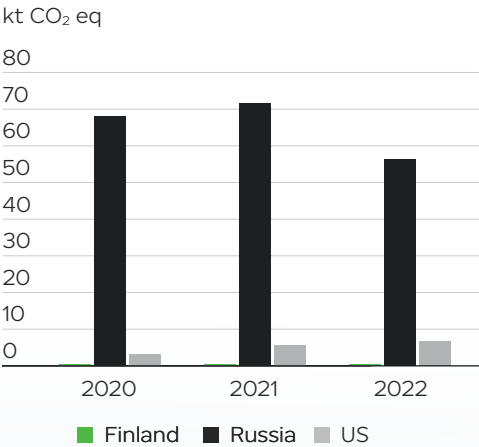
FINLAND	RUSSIA	US
<b>EMISSIONS</b> <p>Solvent emissions VOCs 51 t</p> <p>Particle emissions 2 t</p> <p>CO<sub>2</sub> (scope 1+2) 91 kg CO<sub>2</sub> eq/production t</p> <p>Noise &lt;50 dB</p>	<b>EMISSIONS</b> <p>Solvent emissions VOCs 71 t</p> <p>Particle emissions 8 t</p> <p>CO<sub>2</sub> (scope 1+2) 632 kg CO<sub>2</sub> eq/production t</p> <p>Noise &lt;50 dB</p>	<b>EMISSIONS</b> <p>Solvent emissions VOCs 10 t</p> <p>Particle emissions 42 t</p> <p>CO<sub>2</sub> (scope 1+2) 517 kg CO<sub>2</sub> eq/production t</p>
<b>INPUT</b> <p>Energy 701 TJ</p> <p>Municipal water 68,000 m<sup>3</sup></p> <p>Surface water 9,065,000 m<sup>3</sup></p> <p>Raw materials 136,000 t</p>	<b>INPUT</b> <p>Energy 1,196 TJ</p> <p>Municipal water 201,000 m<sup>3</sup></p> <p>Raw materials 102,000 t</p>	<b>INPUT</b> <p>Energy 223 TJ</p> <p>Municipal water 76,000 m<sup>3</sup></p> <p>Raw materials 21,000 t</p>
<b>PRODUCTS</b> <p>Tires 71,000 t</p>	<b>PRODUCTS</b> <p>Tires 102,000 t</p>	<b>PRODUCTS</b> <p>Tires 18,000 t</p>
<b>WASTE</b> <p>Landfill 0 t</p> <p>Utilized 5,290 t</p> <p>Hazardous 230 t</p> <p>Wastewater 80,000 m<sup>3</sup></p> <p>Surface water discharge 9,053,000 m<sup>3</sup></p>	<b>WASTE</b> <p>Landfill 0 t</p> <p>Utilized 6,510 t</p> <p>Hazardous 1,050 t</p> <p>Wastewater 156,000 m<sup>3</sup></p>	<b>WASTE</b> <p>Landfill 0 t</p> <p>Utilized 1,900 t</p> <p>Hazardous 0 t</p> <p>Waste water 74,000 m<sup>3</sup></p>



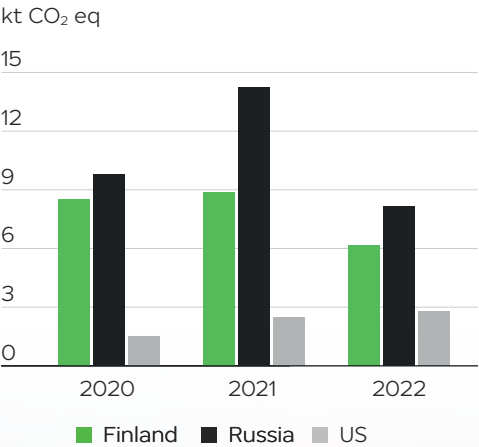
ENERGY INTENSITY



DIRECT GREENHOUSE GAS EMISSIONS, SCOPE 1



INDIRECT GREENHOUSE GAS EMISSIONS, SCOPE 2 (MARKET BASED)



INDIRECT GREENHOUSE GAS EMISSIONS, SCOPE 3

Category	Emissions t CO <sub>2</sub> eq
Purchased goods and services	652,200
Capital goods	n.a
Fuel and energy related activities	31,200
Upstream transportation and distribution	64,500
Waste generated in operations	400
Business travel	500
Employee commuting	3,100
Leased assets	10,900
Downstream transportation and distribution	34,500
Use of sold products	4,543,600
End-of-life treatment of sold products	10,300
Franchises	40,500
Investments	n.a
<b>Total</b>	<b>5,391,700</b>

n.a = not applicable



## Emissions


### Carbon dioxide (CO<sub>2</sub>)

We calculate our tire production's greenhouse gas (GHG) emissions from raw material purchasing to the disposal of the product in compliance with the ISO 14064 standard and GHG protocol. We generate part of the energy needed in our own power stations excluding the factory in Finland. Therefore, the Finnish factory's direct GHG emissions are below those of the other factories.

In 2022, our location-based scope 2 emissions from tire production were approximately 38,870 tons CO<sub>2</sub> eq. The emission calculation is based on the average emissions intensity of power grids in our production facility countries.

Market-based scope 2 emissions were approximately 17,070 tons CO<sub>2</sub> eq. In Finland, the emission calculation is based on the suppliers' certificate of the actual energy sources used. In other locations emission calculations are based on emission factors of purchased electricity.

Nokian Tyres wants to show leadership in tackling climate change by setting ambitious climate targets. In May 2018, the company joined the Science Based Targets (SBT) initiative with the aim of setting more precise climate targets that are assessed and validated by an external organization. The climate goals, Science Based Targets, were published in May 2020, and Nokian Tyres was the first company in tire industry to have its targets officially approved by the Science Based Targets initiative.

The four targets are in line with the Paris Agreement, and the base year for the first three targets is 2018 and 2015 for the fourth target. All the targets should be achieved by 2030. You can see the targets [here](#) .

In November 2022 Nokian Tyres sent a new, more ambitious target for SBT for validation. New scope 1 + 2 emission targets will be aligned with the 1.5 degrees pathway.

### VOC emissions

Solvents or volatile organic compounds (VOCs) form our most significant emissions into air at Nokia factory. As the legislation concerning VOC emissions is country-specific, our calculation and reporting of VOC emissions varies by country.

In Finland, we calculate the VOC emissions according to the EU VOC directive, which is based on the used solvents. We use solvents in our factory only in the production of heavy tires (also known as industrial tires).

No solvents are used in passenger car tire manufacturing. The VOCs from the assembly of heavy tires are collected and conveyed to a catalytic incineration plant. However, collecting solvent emissions from the production of heavy tires poses a challenge. In the production of heavy tires, it is not possible to seal the emission sources in such a way that all emissions could be collected and conveyed for incineration.

In Finland, we aim to comply with the total emission limit set in the environmental permit, which is 60% of the solvents used. In 2022 the total solvent emissions were 68% of used solvents. In spring 2022 we started

## NOKIAN TYRES' SCIENCE BASED TARGETS

TARGET	WHAT IT MEANS	EXAMPLES	ACTIONS 2022
<b>REDUCE EMISSIONS FROM TIRE RAW MATERIAL PRODUCTION BY 25%</b>	We encourage our raw material producers to implement their own actions in order to reduce CO <sub>2</sub> emissions.	Raw material producers will be transitioning to zero or low-emission energy and improving the energy efficiency of the entire production process.	Study regarding suppliers' CO <sub>2</sub> emissions reporting capabilities and short and long term emission reduction plans focusing on suppliers in the highest CO <sub>2</sub> emitting raw material categories.
<b>REDUCE CO<sub>2</sub> EMISSIONS BY 25% PER TON OF TIRES IN LOGISTICS</b>	Achieving it requires emission improvements from road, train, marine and air transportation.	Increasing the share of biofuels, improving the efficiency of engines, and optimizing routes further are key methods.	Study regarding suppliers' CO <sub>2</sub> emissions reporting capabilities and short and long term emission reduction plans focusing on biggest spend suppliers.
<b>REDUCE CO<sub>2</sub> EMISSIONS FROM TIRE USE BY 25%</b>	This improvement will have the largest impact on reducing global CO <sub>2</sub> emissions, as our tires are used on millions of vehicles.	Overall reduction of vehicle emissions plays a big part in improvements. Lowering the rolling resistance of a tire also reduces the fuel consumption of the vehicle.	Adding new tires to the best A class of rolling resistance in the EU Tyre Labelling.
<b>CUT TIRE PRODUCTION'S CO<sub>2</sub> EMISSIONS BY 52% PER TON OF TIRES</b>	The CO <sub>2</sub> emissions are mainly the result of the energy mix used for the factories.	Most of the energy that we purchase should be low-emission or zero-emission and produced with renewable forms of energy. Improvements in energy efficiency will also reduce emissions.	Continued purchasing zero CO <sub>2</sub> emission electricity for the Finnish operations. Investigated possibilities to purchase green electricity in the US.

discussions with environmental authorities related to our VOC emission requirement in the environmental permit. The key topic in the conversations were the environmental effects of the VOC emissions.

As a result, in the fall we conducted a spread modelling of the VOC emissions in order to estimate the impacts of the VOC's in the nearby surroundings of the Nokia factory. According to the modelling, the VOC

concentrations and the environmental effects are minor. Furthermore, our solvent use has decreased over 40% compared to 2018. As a next step, we will continue discussions with the authorities and plan to have our environmental permit updated.

The VOC emissions from other locations are calculated according to the local legislation based on usage of raw materials.

#### Other air emissions

According to the surveys, our odor emissions are momentary. The mastication process for softening natural rubber causes discharges of compounds during the precipitation and dehydration phases of rubber milk that results in an unpleasant odor in the near surroundings. We use droplet separators to reduce the odors from mastication, and we have managed to lower the number of separate mastication processes. In addition, our factories' odor control equipment represents the best available technology. Some odors are generated during the tire curing process. The quantity of the curing fumes released in the process is directly proportional to the amount of cured rubber.

Particle emissions are caused by the processing of powdery chemicals in the compound mixing department. The mixing equipment is fitted with effective ventilation and dust collection devices, and the best separation rates achieved by water cleaners exceed 99%. We measure particle emissions with particle concentration and differential pressure gauges.

Outside experts carry out regular particle concentration measurements. The measured particle concentrations comply with the permit limits at our factories. The dust that passes through the filter system mainly causes an aesthetic inconvenience and poses no harm to the environment or health.

An independent company also measures the nitrogen and sulfur emissions from our own energy production plants. Our nitrogen and sulfur emissions are below the set emission limits.

Our production facilities also have noise limits subject to their environmental permits. We regularly track and measure noise emissions. According to the measurements, we are below the noise limits.

#### Water and wastewater

Our tire manufacturing processes use large quantities of cooling water. Mainly, we use municipal water for process cooling in circular system and after usage deliver it to a wastewater treatment plant. In our Finnish factory, we take surface water for cooling from the nearby Nokianvirta river and discharge it back into the river after use. The cooling water has no contact with production chemicals at any stage and, therefore, does not become contaminated.

#### Waste

Waste is generated both in our actual production and in the support functions. We weigh all production waste and record the department-specific volumes on a daily

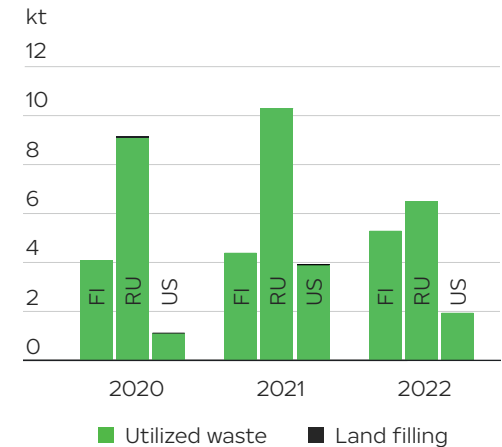
basis. We sort the generated waste at our factories in accordance with separate waste management instructions.

Scrap tires, or tires that do not meet our high standards of quality, are taken to recycling. Non-vulcanized scrap rubber is generated in the production stages preceding vulcanization or curing. For other types of waste, the volumes are monitored monthly.

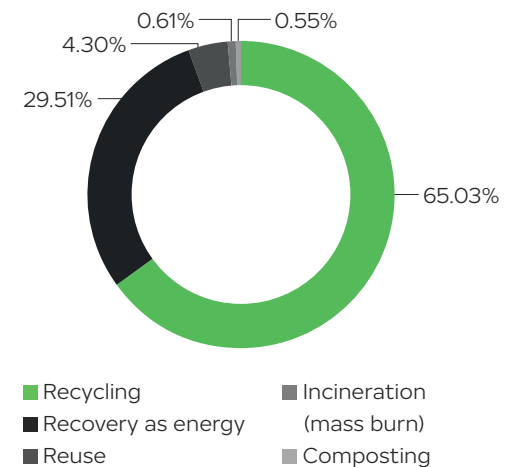
The utilization rate of our production waste has been growing for years. 2022 was the first year when 100% of our production waste was sent for utilization and there was no landfill waste from production. Information on waste disposal methods and quantities is provided by the waste disposal contractors.

In late 2022, due to the changes in the operating environment Nokian Tyres had to dispose of a large amount of raw materials as we were not able to utilize them in the production as planned.

#### AMOUNT OF WASTE, FINLAND, RUSSIA AND THE US



#### TOTAL WASTE BY DISPOSAL METHOD, TIRE FACTORIES 2022





# TIRE RECYCLING

Tire retreading allows the operator to save money, resources, and the environment. A good tire carcass can easily be retreaded two times, which cuts tire costs by approximately 30%. Nokian Tyres' retreading unit offers retreading for trucks and buses as well as for heavy machinery.

CO<sub>2</sub> emissions are generated during tire production as well as while driving. Retreading has a significant impact on the carbon footprint of tires: manufacturing a new tire results in approximately 220 kg of CO<sub>2</sub> emissions, whereas the figure for retreading is only approximately 40 kg. Furthermore, each retreading operation saves 40 kg of rubber and 70 liters of oil per tire when compared to manufacturing new tires.

## Where do tires end up after use?

Luckily for the environment, discarded tires are not worthless and can serve various purposes when reused or recycled. Among other things, the tires can be used in noise barriers along motorways, or as an elastic base material in horseback riding arenas.

Another way to utilize recycled tires is to combust them for energy, as the heating value of tires is close to that of oil. The use of recycled tires as an energy source has been growing for years and, today, approximately half of the tires recycled in Europe are used in waste-to-energy applications. However, in line with the EU's sustainable development goals, the material recovery of used tires is to be increased and incineration reduced.

Nokian Tyres is a member of the Finnish Tyre Recycling Ltd and the US Tire Manufacturers Association (USTMA) to promote the centralized collection and utilization of tires nationally.

The recycling rate of our passenger car tires was 87% of our total sales in 2022 (2021: 80%).



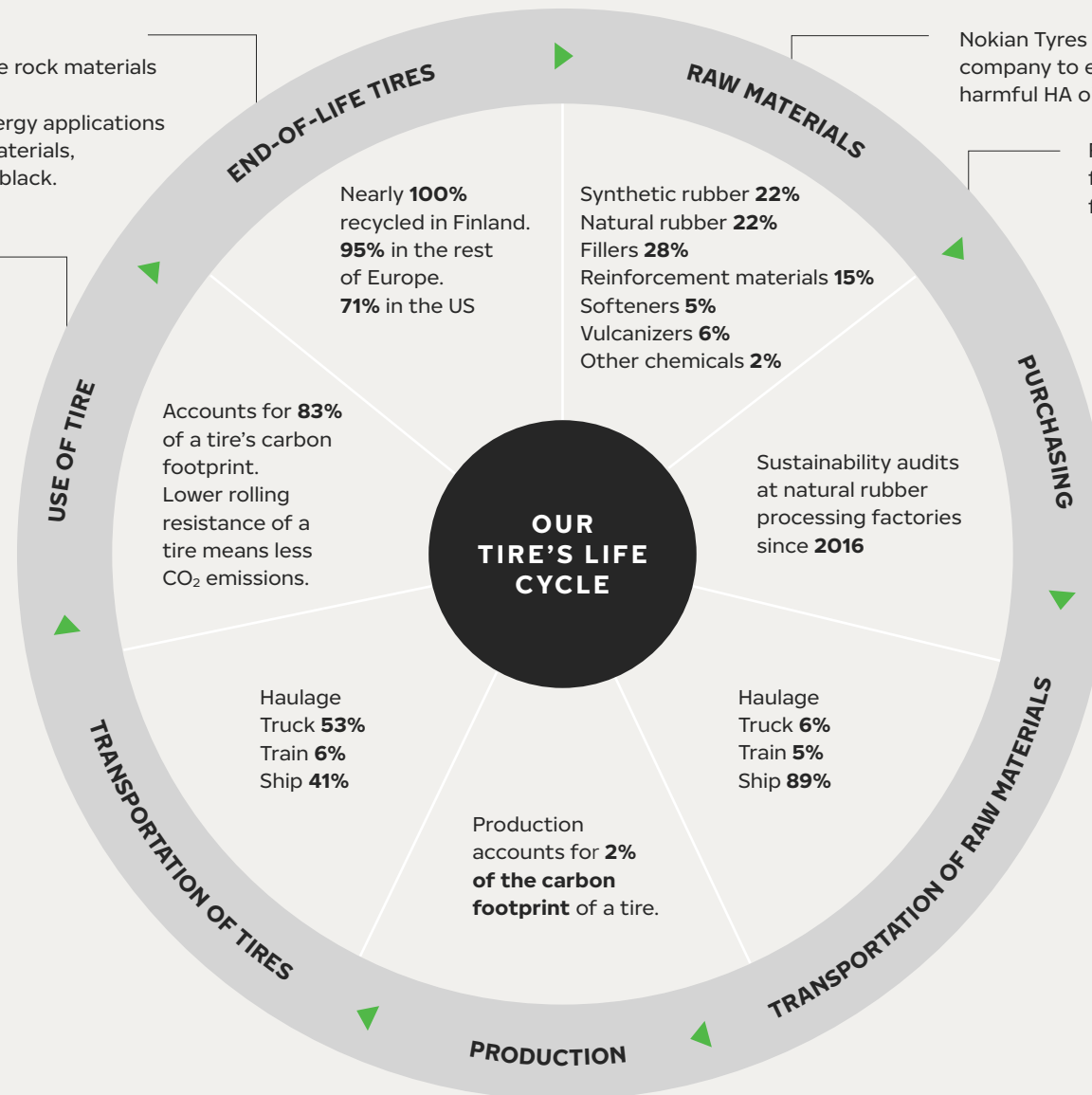
# TIRE LIFE CYCLE

Nokian Tyres has adopted a life cycle approach: We take responsibility for the environmental impacts of our activities and products from raw materials to end-of-life tires. Most of the environmental impacts during a tire's life cycle are generated during its use.

Used tires can be

- granulated to replace rock materials in road construction
- used in waste-to-energy applications
- used for recycling materials, e.g. recycled carbon black.

The impacts of tire and road wear particles (TRWP) are being researched.







# PEOPLE

Nokian Tyres empowers a culture where employees actively participate in their own work development and take responsibility for everyone's safety and well-being



# A COMMITTED TEAM

As the COVID-19 pandemic continued especially in the first half of the year 2022, Nokian Tyres focused on keeping its personnel safe. Factories were protected by strict rules and guidelines, and white-collar employees continued working in flexible ways whenever possible.

After the war in Ukraine started, we took an active role to manage its impacts on our personnel. Ukrainian colleagues and their families were contacted on a daily basis and helped to stay safe. We ensured financial stability and support for them, and offered opportunities to work and live in other Central European countries. There was continuous communication to all Nokian Tyres' employees, crisis support was offered, and managers were provided with support and tools on how to lead and communicate in a crisis.

To build the new Nokian Tyres, we reorganized the Group's organization and management structure to be able to strengthen go-to-market execution and to improve operational efficiency. Collaboration across the organization and working seamlessly together were emphasized. Accordingly, we continued implementing the company values and leadership principles.

The global engagement survey Drive! was conducted in late fall 2022 to follow up the development of engagement, including

KEY MEASURES IN 2022		
Record year in safety: in 2022 there were less accidents leading to absences than ever before.	Developed managers' skills to lead according to our leadership principles especially in a crisis.	
Continued implementing leadership principles by renewing leadership assessment tool 360 to better reflect renewed leadership principles.	Shifted our focus to building the new Nokian Tyres also in employer branding and talent acquisition development.	
Improved sentiment of equal opportunities according to Drive! engagement survey.		
TARGETS FOR 2023		
70% of personnel have completed safety management self-evaluation	Developing leadership together for building the new Nokian Tyres	Developing employer brand and talent acquisition
Defining Human rights approach and needed actions	Improving continuously the sentiment of equal opportunities	

equality, diversity and inclusion. Despite of the challenging year, the overall engagement score remained at the same level as previous year.

### Inclusion, diversity, and equality of our personnel

The company's principles in all operations are fair treatment and respect of human

rights when collaborating with its personnel or other stakeholders. During 2022 Nokian Tyres conducted a review of human rights content and arranged human rights training for HR, Communications, Sustainability, Finance and R&D teams. In 2023 we continue defining our Human Rights Road Map and needed actions.

### DRIVE! ENGAGEMENT SURVEY: INCLUSION, DIVERSITY, AND EQUALITY

QUESTION	2022 SCORE ON A SCALE OF 0-100*	VS. 2021*	VS. EXTERNAL GLOBAL BENCHMARK
I feel a sense of belonging at our company.	68	+2	-5
Diverse perspectives are valued at our company.	63	0	-12
Regardless of background, everyone at our company has an equal opportunity to succeed.	66	+1	-7

\*excluding BA Russia & Asia

The first measurement regarding diversity, equality and inclusion was made as a part of the Drive! engagement survey in 2021, and repeated in 2022, with three questions specifically measuring the topics. The scores, development and the global benchmarks for those questions can be seen in the table above.

# SAFETY IS A CHOICE

Nokian Tyres actively promotes occupational health, and the goal is to minimize the number of occupational accidents. The company encourages its people to think that every accident can be avoided by the choices they make. In our engagement survey Drive!, safety stood out as a strength, and people perceive safety as one of our priorities.

On the way to an accident-free workplace, Nokian Tyres long-term goal is to reduce lost time injuries 20% annually. In 2022 the group-wide accident rate (LTIF) decreased by 22% to 3.2 (4.1 in 2021). Our LTIF has improved significantly during the past six years, as compared to 2016, the LTIF has decreased by 77%.

In September 2022, the passenger car tire production unit in Nokia celebrated one year without accidents leading to absences, and in November 2022 Levypyörä also celebrated one year.

We encourage our employees to make safety observations and carry out safety actions with the goal of 5 safety actions per employee on average: this resulted around 20,600 safety actions in 2022. This amounts to 3.8 actions per employee.

Occupational health and safety are an integral part of our daily management and

operations. During 2022 we continued our safety development by following our slogan "Safety is a choice". This means that everyone is responsible for safety and all choices matter regarding safety development: adhering to occupational safety guidelines, observing defects and shortcomings, and reporting and removing hazards.

In order to bring leadership in safety closer to everyday operations, we have utilized our own managers as safety trainers. This has supported our global safety messaging as it forces the teams to integrate safety as a part of their daily practices. Developing a safe working culture continues in 2023 with the focus on removing possibilities for human errors.

Nokian Tyres collects safety data through a global reporting system accessible to all employees. Collected data includes safety observations, occupational hazards and accidents in the workplace. The reporting system covers Nokian Tyres' own employees, agency workers, and subcontractors. Starting from 2022, agency workers were also included in the LTIF goal.

Training on occupational health and safety is based on the local laws and specific job training requirements described in the

safety training matrix. Supervisors are responsible for following training completion and the training requirements needed for daily tasks. The implementation of training is followed in the people management system.

Internal safety inspections are performed by supervisors and employees. These all are reported in the global safety reporting tool.

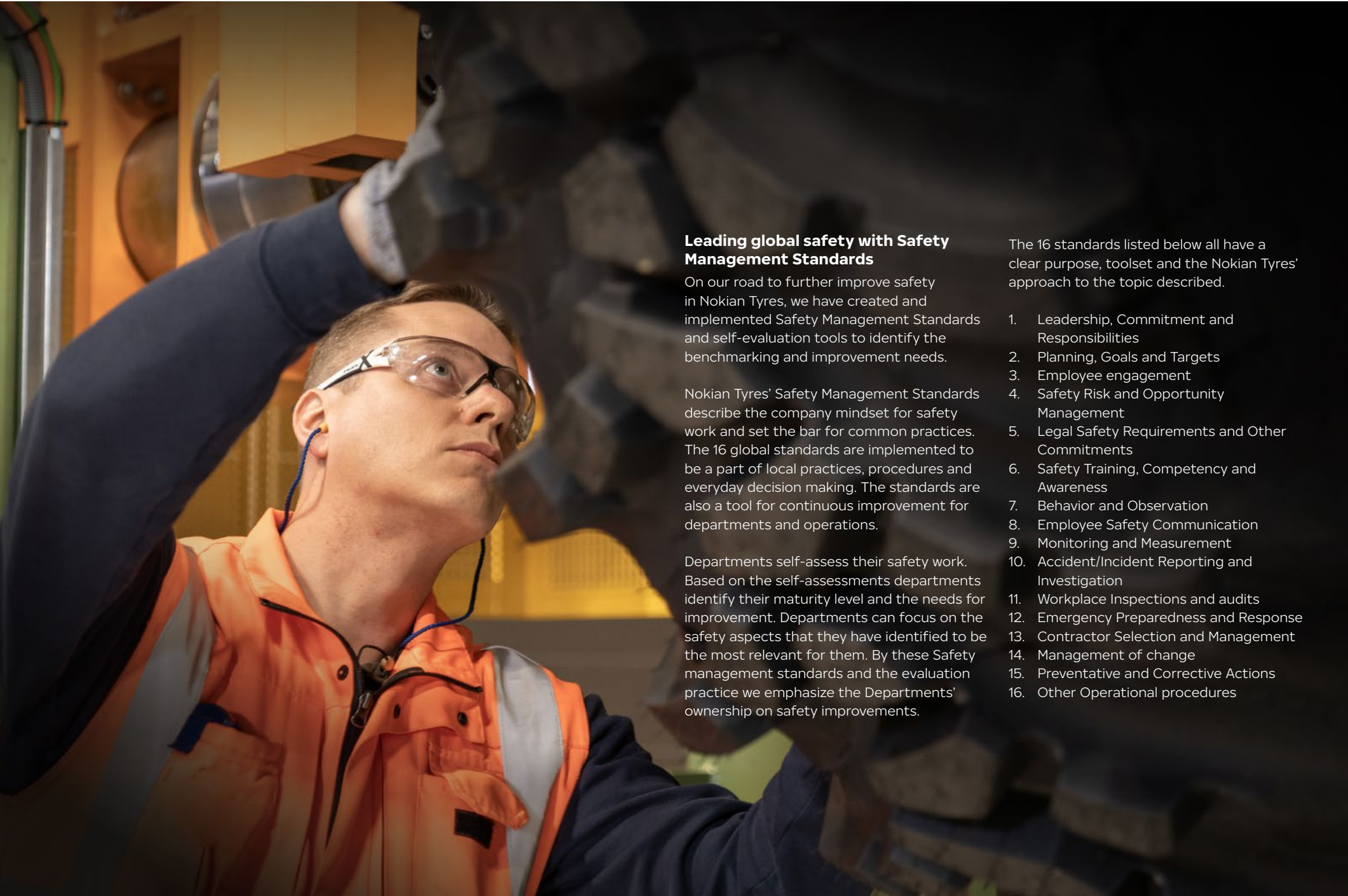
Safety actions include safety incident reports (such as safety observations, near-miss reports, safety walks and toolbox meetings), safety inspections, risk evaluation, and the implementation of the improvements based on these. Every non-conformity in safety is investigated and if needed, corrective actions are taken according to the hierarchy of controls.

The lost-time accident frequency and the number of safety actions per employee form the safety KPIs. The current LTIF situation is visible to all employees on the company's intranet.

Each employee of the Group has the right and the duty to refuse or stop unsafe or unhealthy work. It is a right that the company strongly supports and we guarantee that there will be no negative consequences for the worker.

In cases where a work phase is stopped by an employee, supervisors will assess the situation, define possible corrective actions and look for an alternative way to perform the task.

You can read about occupational health at Nokian Tyres [here](#) ➞.



### Leading global safety with Safety Management Standards

On our road to further improve safety in Nokian Tyres, we have created and implemented Safety Management Standards and self-evaluation tools to identify the benchmarking and improvement needs.

Nokian Tyres' Safety Management Standards describe the company mindset for safety work and set the bar for common practices. The 16 global standards are implemented to be a part of local practices, procedures and everyday decision making. The standards are also a tool for continuous improvement for departments and operations.

Departments self-assess their safety work. Based on the self-assessments departments identify their maturity level and the needs for improvement. Departments can focus on the safety aspects that they have identified to be the most relevant for them. By these Safety management standards and the evaluation practice we emphasize the Departments' ownership on safety improvements.

The 16 standards listed below all have a clear purpose, toolset and the Nokian Tyres' approach to the topic described.

1. Leadership, Commitment and Responsibilities
2. Planning, Goals and Targets
3. Employee engagement
4. Safety Risk and Opportunity Management
5. Legal Safety Requirements and Other Commitments
6. Safety Training, Competency and Awareness
7. Behavior and Observation
8. Employee Safety Communication
9. Monitoring and Measurement
10. Accident/Incident Reporting and Investigation
11. Workplace Inspections and audits
12. Emergency Preparedness and Response
13. Contractor Selection and Management
14. Management of change
15. Preventative and Corrective Actions
16. Other Operational procedures



# OUR PEOPLE AND WAY OF WORKING

Our goal is to be a globally attractive employer known for its sustainability, leadership, and international working community. At the end of 2022, we employed a total of 4,542 (-7,6%) employees with different skills and backgrounds. We report the number of all employees, including also those on a long leave of absence.

Our external workforce is mainly used for production workforce needs. At the end of 2022, we had 371 external workers (head count, figure excluding BA Russia and Asia), most of them working in the Finnish factory production as private employment agency workers (303).

During 2022, we employed a total of 1,206 seasonal employees at Vianor. We have two seasons in a year when the headcount increases temporarily with approximately 400-600 employees.

54.6% of our employees were covered by collective bargaining (51.0% in 2021). If there is no CLA available, the company follows the employment regulations that are available. We comply with the country level legislation and regulation in each country.

During 2022, we continued to increase capacity at our factories in Finland and in the US, creating new jobs in Nokia and in Dayton.

During 2022, we continued to develop our hybrid working culture based on feedback from our employees. Teams have been encouraged to discuss and agree the best working practices for their own team. The management team fully supports the hybrid way of working when possible. The modern working environment with digital tools helps teams to flexibly organize their work while supporting the individual wellbeing of our employees.

As digital has become the primary way of working, the need for information security skills has grown. Already during 2021, the company developed information security capabilities and published an Information security eLearning course targeted to everyone at Nokian Tyres. With the eLearning course the company drives to build information security skills and thus enhance both Nokian Tyres' and our employees' personal information security. This has been important to us also in 2022 and the topic has been raised in internal communication regularly.

Nokian Tyres' commitment and efforts related to data protection continued throughout the year. The renewed eLearning course was made available for all Nokian Tyres employees during 2022.

The engagement survey Drive! was conducted for all employees in November 2022. The survey included 18 questions and received the response rate of 72%, which was a bit lower than the year before, but still close to the global benchmark of 75%. The overall engagement score was 73 on a scale of 0-100 (global benchmark value 75) and 71% of responses to engagement questions were positive (4 or 5 on a scale of 1-5). Trainings of effective result discussions (Leading Drive! result discussions with impact - how to initiate real changes?) were organized for all managers globally. Results were discussed in teams, where actions were agreed on together.

Due to the many uncertainties in 2022, we developed our managers abilities to communicate and lead according to our leadership principles. We had regular information sharing sessions to all employees and manager trainings both locally and globally. Managers were provided with support and tools on how to lead and communicate in crisis.

The company continued the Working Well concept to support its employees in the exceptional environment. As part of the concept, the company organized global and local-level activities:

- workshops for leaders to learn and share best practices, e.g. in Vianor

- workshops for teams to develop way of working, e.g. in teams in IT and Finance
- individual coaching sessions available for all employees in Finland

The company also continued the personal development discussions, People Reviews. The People Reviews focus on managing performance and personal goals and development.

In 2022, a total of 92.3% of our personnel took part in a People Review (96.3% in 2021). Personal People Reviews have a key role in personnel development. Internal job rotation, on-the-job learning, and different training solutions continued being essential part of personnel development. We created a new concept for internal job rotation to boost opportunities for learning and development, and also put more effort on systematic internal succession planning.

During 2022, the implementation of company values and leadership principles continued. Teams discussed how they put the values into practice in daily work. We also renewed our leadership assessment tool 360 to better reflect our renewed leadership principles.

As our operating environment has changed profoundly, during the last months of 2022 we shifted our focus more on building the

new Nokian Tyres, leveraging our strengths and working closely together. In December we organized a face-to-face leaders' event for appr. 70 leaders globally to discuss our future direction and leadership. We also organized global information sharing for all employees.

### Learning and development

We continued our new learning culture approach:

- Moving away from traditional classroom training
- Making full use of digital tools
- Offering a portfolio of modular solutions
- A pick-and-choose approach to the content and method
- Opportunities to combine common and personalized learning paths
- Piloting new ways of learning together (e.g. learning circle, peer coaching)
- Enabling learning that is independent of time and space (mobile, on-the-go)
- Tightly integrating learning with business targets ('on-demand' learning)

In line with this approach, a nine-month training on lean thinking was organized to 11 participants from different parts of the organization in Nokia. The training consisted of face-to-face sessions, learning materials, a personal problem-solving exercise, and a final exam. As the core of lean thinking is continuous learning on the organization level, the target of the training was to achieve a common understanding on what lean thinking is and to practice using lean tools in a problem-solving case that was based on the participants' or their teams' goals or work.

Nokian Tyres' people development philosophy supports employees' development with internal job rotation, on-the-job learning and various development solutions, and follows the

70–20–10 principle: 70% of the development through learning on the job, 20% through learning from others, and 10% through training.

### Pay for performance

Nokian Tyres has a Global Total Rewards Philosophy and Guideline, created by Nokian Tyres' Management Team and Board of Directors in 2018. The guideline is designed to ensure the fair and equal treatment of Nokian Tyres' employees, as well as to allow countries and units to provide locally competitive pay to attract, retain, and motivate the best talent. It is based on position evaluation, consistent goal setting, and benchmarking of rewarding practices in relevant markets.

Nokian Tyres has several incentive plans in use, to measure performance in both the short and long term. Starting from 2022, achieving greenhouse gas reduction targets (scope 1 + scope 2) has been part of Nokian Tyres' Management Team incentives. The company has two share plans that are intended to align the long-term goals of Nokian Tyres' shareholders and key personnel. The current performance criteria in the company's main long-term incentive plan, the Nokian Tyres Performance Share Plan, are segments Earnings Per Share (EPS) and segments Return on Capital Employed (ROCE). Nokian Tyres Restricted Share Plan serves as a complementary long-term incentive tool, used selectively for retention of Nokian Tyres key employees. Both plans were resumed during 2022, Nokian Tyres Performance Share Plan for a performance period between 2022-2024 and Nokian Tyres Restricted Share Plan for a restriction period between 2022-2024.

As short-term incentives, there are several different plans in use and all employees are

eligible for some of them. These plans are designed to drive the company's strategy and reward for the achievement of stretching performance goals. All short-term plans are based on criteria measured on either group, business area/unit, team and/or individual performance.

Performance-based rewarding supports the achievement of results by creating motivation and commitment. Different people are motivated by different things, and while rewarding helps to build motivation, it is not based only on monetary rewards. At Nokian Tyres, we want to drive performance and support employee motivation and commitment by offering competitive total reward packages, which consist of both monetary and non-monetary reward elements.

We will continue to develop and assess aspects of our rewarding structure to make

sure we are complying with the prevailing market conditions and securing the best possible future performance.

### Our rewarding philosophy

The Total Rewards Guidelines form the basis for our reward principles in Nokian Tyres. The principles have been defined to support our goal of an engaged and high-performing organization. Our guidelines form a consistent framework for recognizing, rewarding and promoting our employees.

The overall objective of Nokian Tyres' rewarding and the guidelines is to align rewarding with the company's strategy and value generation. We want to provide locally competitive pay, to attract, retain and motivate the best talent. We are to operate in accordance with globally consistent reward guidelines, to ensure fair and equal treatment of all our employees.

## NOKIAN TYRES' REWARDING PHILOSOPHY

**THE REWARDING PHILOSOPHY AND GUIDING PRINCIPLES ARE BUILT AROUND FOUR ELEMENTS. OUR REWARDING IS TO BE:**

**STRATEGIC**  
to ensure successful execution of  
Nokian Tyres' strategy.

**PERFORMANCE & VALUE BASED**  
to drive and reward group, business unit,  
team and individual performance and  
customer & value based behavior.

**COMPETITIVE**  
to attract, motivate and retain talent by  
offering competitive total  
reward packages.

**TRANSPARENT & CONSISTENT**  
to strive for transparency and  
consistency in reward program design,  
implementation and communication.

# PRODUCTS AND SERVICES

Smart, sustainable innovations and solutions offering safety,  
comfort and performance



# SAFETY IS A PRIORITY

Safety is our priority, both on the road and in production. Nokian Tyres was the first tire company to eliminate the use of harmful high-aromatic (HA) oils in its tire compounds, and the world's first tire manufacturer to have fully introduced low PAH content oils in its production.

Nokian Tyres is continuously improving the quality, safety and environmental friendliness of its products, services and processes. We want to empower the world to drive smarter, also by educating drivers on how to make the best out of their tires by driving responsibly, with tires that produce less emissions with lower rolling resistance.

The development and functional testing of tires' safety characteristics requires constant effort. Extreme weather phenomena caused by climate change and varying road conditions have increased the importance of safe tires even further. As a tire manufacturer, we must also ensure that the tires that we develop, produce, and market are verifiably safe to use, and that they meet the quality requirements as well as expectations of our customers and end users.

Traditionally, tire development has been constant balancing between three main properties: grip, durability and rolling resistance. Enhancing one property affects

the other properties and may lead to diminishing their effect. Developing safety properties like the wet grip of a tire further affects the rolling resistance. Concerning sustainability, this is the dilemma in developing the perfect tire that is both A class in safety and A class in fuel efficiency, to reduce emissions from traffic.

Sustainability has been at the core of our product development for a long time, as we have strived to create energy-efficient, safe and durable premium tires. In 2022 Nokian Tyres included sustainability to be the fourth main cornerstone in tire development, to emphasize its key role in our company's strategy and in our product development even more. With the new zero CO<sub>2</sub> emission factory that we are building in Romania, we have new possibilities to influence the sustainability of our products.

In terms of technical characteristics, a car tire is an extremely demanding product that needs to ensure that the driver retains control of the vehicle under all conditions. At the same time, the tire needs to save fuel, be produced in an environmentally safe way, reduce road wear and noise – and look good. Nokian Tyres uses high-quality raw materials that contribute to the safety and high quality of the tires. We ensure the technical quality and safety of our products by testing

## KEY MEASURES IN 2022

We reached our goal for the winter tire safety performance level: 100% of Nordic Nokian Tyres Hakkapeliitta winter car and SUV tires fulfill the new 2021 EU ice grip criteria.

We introduced our concept tire Green Step made 93% of either recycled or renewable materials.

Recycled carbon black was included in a product line in 2022.

3 new products included in the rolling resistance class A of EU Tyre Labelling. This was lower than our target, mainly due to changes in our operating environment.

Improvement in the wet grip performance of our premium tire portfolio: share of tires in the best A or B class in the EU Tyre Labelling\* increased from 89% to 90%.

## TARGETS FOR 2023

We aim to increase the share of recycled or renewable materials in tires to 50% by 2030. In 2023, we aim to add at least one new recycled or renewable raw material in a product line.

We aim to include 100% of our premium tires in the best wet grip A or B class in the EU Tyre Labelling by 2025\*.

\*Scope: Tires in price category A and included in the EU Tyre Labelling, the latest generation. Does not include Nordic winter tires.

and studying each raw material used in tire manufacturing and by continuously improving our rubber compounds. We also use process controls during production for ensuring the quality of tires. Each finished tire passes through production quality control, which includes the tire's force variation, out-of-round and run-on measurement as well as a visual inspection.

At Nokian Tyres' test tracks in Nokia and Ivalo in Finland, and Santa Cruz de la Zarza, Spain, we test tire behavior in a wide range of circumstances: wet and dry asphalt, ice, snow and slush, uphill and downhill, as well as corners and straights, and even cobble stones. The tires are tested during acceleration and braking, in aquaplaning conditions, and on the handling track, when the weather is freezing cold or sizzling hot.

Our leadership and product development are guided by our [Code of Conduct](#), the Environmental, safety and quality policy, and testing policies. We also comply with several requirements concerning noise, studs, chemicals, testing, and tire markings, among other things. Our tires sold in the EU are also included in the EU Tyre Labelling. EU Tyre Labelling rules help consumers make an informed purchase decision when they replace their tires, as the label highlights the performance of the tire on issues relating to fuel efficiency, wet grip and noise, and now with the latest addition for tires made for Nordic conditions, snow and ice grip.

You can read more about managing sustainability in product development [here](#).

### Developing wet grip and ice grip performance

Nokian Tyres participates actively in developing the EU Tyre Labelling test method standards, such as wet grip and ice grip. Wet grip and ice grip performances are critical safety features as they relate to how quickly a tire can stop on wet or icy roads, respectively.

The EU Tyre Labelling rates the wet grip of tires from A to E, A being the shortest braking distances in the wet, E being the longest braking distances. Wet grip is one of Nokian Tyres' R&D's continuous development targets. This is aligned with one of the topics that are material to us: safety properties of tires. Nokian Tyres' goal for 2025 is to include 100% of the company's premium tires in the best wet grip A or B class in the EU Tyre Labelling. We will report the progress annually.

The safety of winter tires is one of our top priorities in traffic safety of tires. As of May 2021, the EU Tyre Labelling has also included the possibility to inform about the snow grip and ice grip performances of the product with the respective markings. A tire that is approved for severe snow conditions has the snow grip marking, and a tire that passes the international ice grip test has the ice grip marking on their label. Our goal for the winter tire safety performance level was that 100% of Nordic Nokian Tyres Hakkapeliitta winter passenger car and SUV tires fulfill the new 2021 EU ice grip criteria. In 2022, we achieved that goal.



” Wet grip and ice grip performances are critical safety features as they relate to how quickly a tire can stop on wet or icy roads, respectively.

# WE DEVELOP THE ECO-FRIENDLINESS OF OUR TIRES

The use of fossil fuels accounts for most of human-generated carbon emissions. Carbon dioxide, CO<sub>2</sub>, is the most significant greenhouse gas generated by traffic. When a tire rolls against the road surface, energy is lost due mainly to heat build-up; this is referred to as the rolling resistance. The higher the rolling resistance is, the higher the fuel consumption and CO<sub>2</sub> emissions will be. Fuel consumption during driving is the single most significant environmental impact over a tire's service life. Tires with low rolling resistance may save more than 0.5 liters of fuel per 100 kilometers, and thus reduce CO<sub>2</sub> emissions.

As the automotive industry is going through a radical realignment, the design of tires is also shifting towards the demands of electric vehicles or EV's. The lower the rolling resistance, the further the EV can go without recharging the battery. In addition to rolling resistance, noise is also a factor when designing tires for EV's. As the engine does not provide as much cabin noise in EV's as the fuel engines, tire noise levels are expected to be low as well.

The level of lower rolling resistance tires (class A, B, and C tires) manufactured by Nokian Tyres is slightly over 90%. The EU Tyre Label reports fuel efficiency on a scale from A to E. At the moment, class C is

the most common fuel economy rating for Nokian Tyres' passenger car tires. The company aims to have at least 60 products in the best rolling resistance A class by 2028 (status in 2022: 14).

## **Tire abrasion – Cooperation for reducing tire and road wear particles**

A new emission standard called Euro 7 is under development with the purpose to reduce air pollution from new motor vehicles sold in the EU to meet the European Green Deal's zero-pollution ambition. Euro 7 is expected to be implemented from 2025. The Euro 7 emission standards will be the first worldwide ones to move beyond regulating exhaust pipe emissions. The standards will set additional limits for particulate emissions from brakes and rules on wear particle emissions from tires.

The friction between tire and road is essential to ensure drivers' safety. However, the friction also leads to abrasion of both the tire and road. The particles generated, known as Tire and Road Wear Particles (TRWP), are a mixture of tire tread fragments and road surface elements, approximately 50% each. These particles are commonly considered microplastics because of their size and composition.

TRWP generation and levels in the environment do not depend on tire design only. Several external factors, such as driving behavior, road and vehicle characteristics and weather, can together have a bigger influence on the rate at which TRWP are formed. Therefore, to consider all these factors, solutions for TRWP require a holistic, science-based and stakeholder-driven approach.

To help build the scientific knowledge as well as develop practical solutions for reducing the levels of these particles found in the environment, the European Tyre and Rubber Manufacturers' Association (ETRMA) launched the multi-sectorial TRWP Platform in July 2018. As a member of ETRMA, Nokian Tyres contributes to the work.

Nokian Tyres is also a full member of the European Tyre and Rim Technical Organisation (ETRTO) and participates in global standardization work. Currently ETRTO is contributing to the creation of tire abrasion test method development. Its target is to have a feasible tire abrasion rate test method with the following characteristics: repeatable, reproducible, cost efficient and practicable, representative of real driving environment, usable for regulation purpose and open to all worldwide.

Read more about microplastics and tires from [ETRMA's tire and road wear particles platform](#) [↗](#).

## **Noise emissions**

Road and tire interaction generates noise emissions, tires alone do not generate noise. The EU Tyre Labelling classifies the pass-by noise of tires from A to C, A being the highest class for the lowest external noise levels of tires. Pass-by-noise is affected by several factors, such as the model and type of the vehicle, rims, tire type and size, road surfaces, driving speed, and climate conditions.

According to the European Tyre Manufacturers Association ETRMA, tire manufacturers have halved the noise emissions from tires in 15 years, but these efforts have been negatively affected by the trend for bigger cars with bigger tires.

Nokian Tyres is constantly developing tires with less noise emissions. The state-of-the-art test center in Santa Cruz de la Zarza, Spain, has a 1.9-kilometer "comfort road" track that allows for testing on different types of asphalt and rough roads, as well as crossing cobblestone streets.

Our flagship winter tires, the Nordic non-studded Nokian Tyres Hakkapeliitta R5 EV and studded Nokian Tyres Hakkapeliitta 10 EV,



are especially designed for electric vehicles. In both of them there are innovations designed to reduce noise, including a layer of foam, which has reduced the noise both on the inside of the vehicle and on the outside.

### The most important factor

In the end, eco-friendliness in traffic comes down to a very simple fact: the driver has all the power to make a positive impact. Approximately 83% of a tire's carbon footprint is created during its use. A wise choice of tires, the right tire pressure, and a careful driving style significantly reduce the CO<sub>2</sub> emissions from driving.

Also, adopting more eco-friendly driving practices such as constant speeds, slow acceleration and deceleration as well as best practices for optimal tire maintenance can reduce the amount of tire and road wear as well as reduce noise emissions.

” Our flagship winter tires, the Nordic non-studded Nokian Tyres Hakkapeliitta R5 EV and studded Nokian Tyres Hakkapeliitta 10 EV, are especially designed for electric vehicles.



# RECYCLED AND RENEWABLE RAW MATERIALS


Low rolling resistance alone does not define the eco-friendliness of a tire. Tires are made of over 100 different raw materials, and the sustainability of these materials is another important factor when evaluating the eco-friendliness of tires. Many recycled and renewable raw materials are regarded as particularly sustainable ones. One approach employed is to replace non-renewable raw materials with recycled and renewable materials and thus enable more sustainable tire manufacturing.

Nokian Tyres is committed to increasing the share of renewable or recycled raw materials in its tires to 50% by 2030.

Developing sustainable raw materials is something that Nokian Tyres cannot succeed in alone. To be able to increase the share of sustainable raw materials in tires, we need active collaboration with external stakeholders and new innovations from different sectors. For example, the global research of bio-based elastomers to replace synthetic rubbers is active, but their commercial availability is still limited in the tire industry.

As the research into alternative raw materials is ongoing, the mass balance approach is relevant also in the tire industry. While we work on ways to replace fossil materials with

renewable or recycled materials, the shift must be conducted in a controlled way, by gradually substituting fossil materials with alternative ones.

In 2022, Nokian Tyres organized an [open competition](#)  for students, academics, startups and other businesses all over the world to innovate solutions for more sustainable tires. The solution could be e.g. a new renewable or recycled material, an innovation that affects the tire's rolling or wear resistance, or a new digital technology application. We received ideas from contestants from almost 20 different countries, and four of the innovation ideas made it to the finals. The finals were held at our test track in Ivalo, Finland in January 2023. The winner of the challenge got the chance to explore a business relationship with Nokian Tyres and received a monetary prize.

## Recycled materials

Nokian Tyres actively researched the use of recycled carbon black in tires. In line with our goals, we included recycled carbon black in a commercial product line during 2022.

Another type of recycled material for use in tires could be rubber retrieved from used tires. Securing a stable recycled raw

material has proved to be a demanding task, but there are now more raw material providers on the market, and Nokian Tyres has several ongoing projects on the matter.

Nokian Tyres is a founding member of the Finnish Tyre Recycling, which is currently building a new recycling plant in Loppi, Finland. The new plant is expected to be fully operational in 2023. The plant enables the collection of recycled materials to be further refined for industrial use. The recycling of used tires in Finland is at the level of 100% so raw material for recycled material options is readily available for various applications.

## Renewable materials

The use of new raw materials requires a great deal of product development efforts and testing to find the best combination of properties for a tire, as new raw materials can modify the compound properties. In materials development, the use of renewable materials must not alter a tire's safety characteristics. The choice of new materials can also be affected by the material not being fossil based, as that makes the material a more sustainable option.

Nokian Tyres was the first tire company to give up the use of harmful HA (high-aromatic) oils in production. The global research of oils and resins from renewable sources to

replace the low PAH content oils is active, but their commercial availability is still limited in the tire industry. Nokian Tyres has an active role in this constantly evolving research and industrialization process. We are already using renewable oils such as rape seed oil and tall oil in our rubber compounds and we continue to research them. Our work to increase the renewable oil content in our rubber compounds is aligned with our goal of increasing the share of renewable and recycled raw materials in our tires to 50% by 2030.

Fillers, mainly carbon black and silica, are one of the main raw material groups in a tire. The amount of fillers is around 28% of the tire, meaning that, in theory, it should be possible to increase the renewable raw material portion of the tire significantly by substituting fossil-based fillers with ones from renewable sources. There are several research programs ongoing, for instance researching materials based on forest industry side streams.

## NOKIAN TYRES' TIRE MATERIALS AND THEIR ALTERNATIVES

MATERIAL	% OF A TIRE APPROX	SOURCES	REPLACEMENTS AND ALTERNATIVES
SYNTHETIC RUBBER	22	crude oil	<ul style="list-style-type: none"> <li>Needs active engagement from raw material producers</li> <li>Mass-balance approach being discussed inside the industry</li> <li>Recycled rubber crumbs</li> </ul>
NATURAL RUBBER	22	natural rubber	<ul style="list-style-type: none"> <li>Guayule as an alternative for natural rubber which is currently cultivated in Southeast Asia and some parts of Africa</li> <li>Recycled rubber crumbs</li> </ul>
FILLERS	28	silica, carbon black	<ul style="list-style-type: none"> <li>Recycled carbon black in a tire family researched</li> <li>Active research of different biobased fillers, for instance from forest industry side stream-based materials</li> <li>Potential to use silica produced from rice husk in some products</li> </ul>
REINFORCEMENT MATERIALS	15	steel, textile	<ul style="list-style-type: none"> <li>Recycled steel is being used in our reinforcement materials</li> <li>Increasing the share of recycled steel in reinforcement materials is being researched</li> <li>Researching the use of renewable or recycled sources for textiles</li> </ul>
SOFTENERS	5	low PAH oils	<ul style="list-style-type: none"> <li>Increase renewable or recycled oil and resin content in tires. Rape seed oil and tall oil already in use, various vegetable oils researched.</li> </ul>
VULCANIZERS	6		<ul style="list-style-type: none"> <li>Reduction &amp; elimination of harmful chemicals</li> </ul>
OTHER CHEMICALS	2		<ul style="list-style-type: none"> <li>Reduction &amp; elimination of harmful chemicals</li> </ul>

“Nokian Tyres is committed to increasing the share of renewable or recycled raw materials in its tires to 50% by 2030.






### Researching guayule – the European source of natural rubber

Guayule-based natural rubber is one of the active initiatives that Nokian Tyres has been working on for several years. As guayule originates from the desert, it can survive in very dry and poor soil conditions. It is a plant that does not exploit areas of any other vegetation or food production; on the contrary, it makes use of wastelands. Nokian Tyres is collaborating with local farmers, universities, research institutes, and companies in Spain. Guayule is an opportunity not only for Nokian Tyres but also for the local agriculture and industry.

Nokian Tyres has been testing the suitability of different guayule varieties for cultivation in Central Spain, near our new test center in Santa Cruz de la Zarza, together with local universities and farmers.

Studies have been continued mainly on the Parthenium Argentatum variety of the plant. Researchers have developed a sustainable way of managing the plant where no synthetic biocides are needed. Experiments with cultivating the plants on poor soils in total absence of irrigation have also been promising.

MIDAS is a four-year EU financed project of marginal agricultural lands, climate-resilient and biodiversity-friendly industrial crops for innovative bio-based value chains. The project started in the end of 2022, aiming to develop innovative bio-based products following a bio refinery concept and the circular use of biomass. During the MIDAS project, our target is to explore further the use of guayule-based natural rubber in tires.

You can read more about our work on guayule [here](#) .





# GREEN STEP CONCEPT TIRE

## Green Step – a concept tire made with 93% of recycled or renewable materials

The Nokian Tyres Green Step concept tire is an example of sustainable innovation with its ambitious design consisting of 93% of the materials either recycled or renewable. It moves Nokian Tyres even closer to its goal that was set in 2021: by the year 2030, 50% of all the raw materials used in its tires will be recycled or renewable.

Drivers are more and more interested in the sustainability of their tires, and this creates demand to create tires for these standards. It also puts pressure on the industry to develop more eco-friendly materials, as well as for tire manufacturing technology to adapt to these materials.

All rubber used in the Green Step concept tire is from renewable sources, and renewable oils such as rape seed oil are used. Almost all plasticizer, resin and processing aids are from renewable resources. In addition, natural rice husk ash silica works as a main filler for the tread and sidewall, and renewable cord fiber is used to make the tire tougher.

*"We learned something new with every innovation made for the concept tire. For*

*example, one of the most demanding tasks was to find the right balance between raw material selection and tire properties," says Jouko Ilomäki, Development Manager at Nokian Tyres.*

## The share of recycled materials will increase in the future

Almost every component of the Green Step includes some recycled materials. For example, the carbon black used in the rubber compounds was derived from end-of-life tires, and the butyl used in the inner surface as well as the steel in the steel belts and bead wires in the structure are mainly recycled. Some of the materials used in the concept tire are familiar from various Nokian Tyres' previous tire models.

*"Even though the process of designing the Nokian Tyres Green Step was relatively fast, it is actually a result of decades of innovation and accumulated expertise on sustainable tire design," says Teemu Soini, Head of Innovation and Development. "We made new innovations during the process of designing the Green Step, and they will be incorporated in the future tires. We wanted to explore the limits of our sustainable innovation capabilities and the result was Green Step."*



**93%**  
OF MATERIALS  
RECYCLED OR  
RENEWABLE



**RENEWABLE MATERIALS  
INCLUDE NATURAL  
RUBBER, RENEWABLE  
OILS AND NATURAL  
RICE HUSK ASH  
SILICA**



**RECYCLED  
MATERIALS  
USED IN  
ALMOST EVERY  
COMPONENT OF  
THE TIRE**



**RECYCLED  
MATERIALS  
INCLUDE  
RECYCLED  
STEEL AND  
CARBON BLACK**



**INNOVATIONS  
CREATED FOR  
THE CONCEPT  
TIRE WILL BE  
INCORPORATED  
IN FUTURE TIRES**

# IMPROVING SAFETY WITH INNOVATIVE SERVICES

## Nokian Tyres Intuitu™ – Safer and more sustainable work

From one vehicle to a fleet of dozens, the Nokian Tyres Intuitu smart tire monitoring system brings vital tire information to smartphones. Nokian Tyres Intuitu combines sensor-equipped smart tires with a mobile application that records the sensor data from tires, keeping the user informed about the tire pressure and temperature data.

With Intuitu, Nokian Tyres helps its customers work more safely, more efficiently and more sustainably. The driver can stay up to date and get alerts on the currently used vehicle, while the fleet manager can look at the big picture and get the most out of the tires and the machinery.

Intuitu smart tires help catch any problems before serious damage occurs, thus making work safer. High tire temperature indicates that something may be wrong and can be a significant safety risk.

*"We have received customer feedback saying that before Intuitu smart tires, the customer checked the tires only a few times a year with the pressure meter and by visually checking, whereas now they can check the tire pressure and temperature*

*every day. Additionally, all data is based on facts, not just on a visual check,"* says **Matthew Crocker**, Product Manager at Nokian Tyres.

Quality tires are a valuable asset, and correct tire pressures for the work at hand help maximize the tires' service life and make work more efficient – good for business and good for the environment.

The first tires equipped with Nokian Tyres Intuitu are agricultural tires. Optimal tire pressure prevents damage to the soil, which can improve crop yields. Tire pressure is also linked to the tire rolling resistance, which has a direct effect on fuel consumption. The lower the rolling resistance, the less fuel the vehicle consumes, which helps reduce emissions.

Nokian Tyres Intuitu is currently available for tractor tires - Nokian Tyres Ground King, Nokian Tyres Tractor King, Nokian Tyres TRI 2 and Nokian Tyres Hakkapeliitta TRI.

## Vianor's digital tire condition reports aim at improving road safety in the Nordics

Tires' tread depth is a key factor in cars' safety, as worn tires make braking distance longer and increase the risk of aquaplaning. Also very old tires pose a risk, as over time the tread compound hardens, which affects grip properties and makes the tire susceptible to cracks. However, a big part of car drivers are not aware of the condition or age of their tires.

To decrease the number of cars with unsafe tires in traffic, Vianor, the tire and car service chain fully owned by Nokian Tyres, collects data on their customers' tires digitally and keeps car owners up-to-date on the tire condition and its impact on road safety.

When a passenger car comes to Vianor for tire change or car maintenance, the tires' tread depth is digitally measured. The tires are checked for their age, possible uneven wear, as well as studding, when applicable. If they wish, the customers will then receive an email report on the condition of their tires and its impact on driving safety. The email reports are included in all Vianor's services.

*"Nordic driving conditions are demanding, so safe tires are a necessity. Drivers sometimes*

*simply forget to monitor the tread depth, or they are not aware of different factors affecting the safety of tires, so the email reports are an easy way to provide information on tire condition and make the roads safer for all,"* says **Mikko Lehtinen**, Head of Business Areas B2C & B2B at Vianor.

As separate sets of winter and summer tires are needed in the Nordics, Vianor also checks the condition of all tires that are stored in its tire hotels between seasons. Owners of unsafe tires are then contacted before its time for seasonal tire change.

*"We piloted the digital tire measurement in some Vianor service centers in 2018 and have since made development to make the service and reports available for a bigger number of customers. In near future, we aim to provide a portal for our customers where they can log in to check their tire condition whenever they wish. Eventually our goal is to predict our customer's tire condition based on the data, so we can proactively inform them that their tires may be at the end of their lifecycle,"* Lehtinen says.

Vianor is the largest tire and car maintenance chain in the Nordics with over 170 equity-owned service centers in Finland, Sweden and Norway.



# SUPPLY CHAIN

Our Supplier Code of Conduct expects our suppliers to commit to respecting human rights and prohibits discrimination and the use of child labor or forced labor, among other things

# WE TRACK THE SUSTAINABILITY OF OUR SUPPLIERS

Nokian Tyres' supply chain consists of approximately 2,000 suppliers, including more than 250 raw material suppliers. Most of our supply chain suppliers are located around our factory areas, and raw material suppliers are located globally.

The work of Nokian Tyres' procurement unit is guided by the Group's procurement policy, which establishes the general principles of sustainable procurement. As a participant in the UN Global Compact initiative, we follow the UNGC's ethical principles as well as our own. We require that all the suppliers that Nokian Tyres has identified to be Sustainability Critical adhere to our Supplier Code of Conduct. When assessing our suppliers, several factors such as ISO certifications and different risk ratings, are taken into account. [The Supplier Code of Conduct](#) ➔, updated in 2021, expects the suppliers to commit to respecting human rights and prohibits discrimination and the use of child labor or forced labor, among other things.

You can read more about our value chain [here](#) ➔.

All raw material suppliers must, at a minimum, have an ISO 9001 certified quality management system in place. In addition, we prefer suppliers with an ISO 14001 certified environmental management system.

In 2022, Nokian Tyres performed a supply chain carbon emissions study, and we created a new sustainability KPI to assess our suppliers' capabilities to calculate, report and reduce their CO<sub>2</sub> emissions. The KPI in 2022 included the target of CO<sub>2</sub> emissions reduction plan from at least 40 raw material and 20 transport suppliers. The results of this study gave us a good view on the supply chain carbon emissions management. As a result, for 2023 we defined a new KPI to gather Product Carbon Footprint from suppliers for 40 raw materials.

Nokian Tyres assesses the possible risks attached to our suppliers, globally. The model has four different categories: quality, sustainability, business/strategic criticality and safety at work.

A risk mitigation plan is created for all new suppliers that are classified as critical or medium critical in any of the four categories in the classification model. The plan includes actions such as sustainability on-site audits, requesting a management system certification in terms of quality, environment or safety, and responding to self-assessments, for example.

Additionally, the backgrounds of all new suppliers are checked according to Nokian Tyres' Due Diligence process before supplier approval.

KEY MEASURES IN 2022	
The sustainability audit model was updated to evaluate the suppliers' alignment with the Nokian Tyres Sustainable Natural Rubber Policy.	3 sustainability audits by a third party at new suppliers' sites.
Reached the KPI of receiving a CO <sub>2</sub> emissions reduction plan from at least 40 raw material suppliers.	Share of sustainability high-risk suppliers audited so far: 83%.
TARGETS FOR 2023	
5 third-party sustainability audits performed.	New sustainability KPI: Expect Product Carbon Footprints for 40 raw materials from suppliers.
New sustainability KPI for 2023: 100% of natural rubber processor suppliers either GPSNR members or signed Nokian Tyres sustainability commitment.	Natural rubber traceability study.



# SUSTAINABLE SOURCING OF NATURAL RUBBER

The life cycle of our tires begins in a tropical forest, probably on a small natural rubber tree farm in Malaysia or Indonesia. Natural rubber is the livelihood of hundreds of thousands of families living in countries where the local legislation and working conditions have not been fully developed.

Natural rubber is a renewable resource and one of the main ingredients of tires. Sourcing natural rubber in a sustainable way is considered to be the most critical stage in a tire company's supply chain. As a member of the Global Platform for Sustainable Rubber (GPSNR) Nokian Tyres is committed to a shared responsibility towards improving the social, environmental and economic sustainability of the global natural rubber value chain.

In 2021, Nokian Tyres adopted a Sustainable Natural Rubber Policy that is fully aligned with the policy framework of the GPSNR. The policy was approved by SVP, Supply Operations, who is a member of the Group's Management Team, and the company's sustainability in natural rubber is developed through the framework of this policy. The policy includes eight major components:

- commitment to legal compliance
- healthy functioning ecosystems

- respecting human rights
- community livelihoods
- increased production efficiency
- supply chain assessment and traceability
- monitoring & reporting and
- driving effective implementation of all these components.

In 2022, 78% of Nokian Tyres' approved natural rubber processors were either members of GPSNR or committed to develop their operations according to Nokian Tyres Sustainable natural rubber policy.

The supply chain of natural rubber is fragmented, which is why its traceability remains problematic and why it can be challenging to drive sustainability throughout the entire value chain. There are approximately 3–6 million farmers of natural rubber who collect the milky latex or cup lumps and sell them to local dealers. More than 85% of the world's natural rubber is produced on farms smaller than two hectares in size whose daily output may be just a couple of kilograms of latex. The local dealers collect the latex from several farmers and then sell the latex forward to processing plants.



# HUMAN RIGHTS IN THE SUPPLY CHAIN

Nokian Tyres has conducted a human rights assessment that covered 32 internationally recognized human rights, included in the Bill of Human Rights. The following document, 'The relationship between Business and Human Rights' [↗](#), published by the UN Guiding Principles Reporting Framework, was used as support and normative through the assessment. The rights to health, right to privacy and right to family life were defined as being exposed to the most salient risks.

Promoting and ensuring decent working conditions is an essential aspect of sustainable and responsible development. Decent working conditions involve, for example, opportunities for work that is productive and delivers fair income, security in the workplace and social protection for families, and better prospects for personal development.

Nokian Tyres is committed to conducting its business operations in a manner that respects all internationally recognized human rights, understood as, at a minimum, those expressed in the International Bill of Human Rights and the principles concerning fundamental rights set out in the International Labour Organization's Declaration on Fundamental Principles and Rights at Work and expects the same of its suppliers.

Nokian Tyres expects its suppliers to share the strive towards a more socially sustainable supply chain, where decent working conditions are promoted. Nokian Tyres is committed and further expects its suppliers, for example, to:

- Actively prevent child labor.
- Provide its employees at least with the minimum wage as required by local laws.
- Provide its employees with a safe working environment.
- Respect the rights of migrant and foreign workers and promote ethical recruitment practice and take reasonable steps to ensure that recruitment fees and other associated costs are not born by employees.
- Provide decent living conditions (e.g. adequate housing, access to drinking water and the right to food and food security) for employees working and living on site, and to support the same for local communities.
- Ensure that labor rights related safeguards apply to all employees, with no distinction being made on discriminatory grounds or employment status.

## Audits help identify the topics to be improved

Nokian Tyres started a partnership with an external auditor already in 2016 to improve sustainability in its natural rubber value chain. The natural rubber sustainability auditing process has been developed together with a consulting company, and it is based on Nokian Tyres' Supplier Code of Conduct and principles that comply with the UN Global Compact goals. In 2022 the audit model was updated to also evaluate the suppliers' alignment with the Nokian Tyres Sustainable Natural Rubber Policy.

Nokian Tyres exclusively purchases rubber processed in the plants our company has approved. In 2022, Nokian Tyres conducted 3 new sustainability audits of natural rubber processing plants that are our suppliers.

The most common problem remains the same in most of the places: the recruitment of foreign workers. Foreign workers are recruited through a recruitment agency network, and the amount of recruitment costs to the employee can be significant: up to a year's salary. As the agencies are often approved by local governments, it is difficult to improve the process. However, we require our suppliers to improve also on this issue. The suppliers have requested support from the local officials, but the progress is slow.

Another common problem is the language and contents of the employment contracts. The contract is not necessarily available in the employees' mother tongue, or the translated content differs from the original. In several cases the records of working hours, rest times and holidays are missing or only partial. In some audits it has also been identified that the rest times and holidays are not always granted in accordance with local law.

After the audit results from Nokian Tyres, most suppliers have introduced several different language versions of employment contracts. This shows that many things can be improved once an external party reviews the processes and indicates improvements.

# REPORTING PRINCIPLES

## Accuracy

The majority of the reported environmental data is based on measurements, with the exception of VOC and CO<sub>2</sub> emissions. VOC emissions are a combination of measurements provided by an external consultancy and our calculations. CO<sub>2</sub> emissions calculations are based on energy consumption measurements or estimations, and the calculations are made using general emission factors.

In 2022, the emission calculation of the location-based scope 2 emission calculation is based on the factories' average emissions intensity of grids. In Finland, the market-based emission calculation is based on the suppliers' certificate of the actual energy sources used. In other locations, emission calculations are based on the emission factors of the residual grid mix.

Information regarding waste disposal methods and quantities is provided by the waste disposal contractors. Social data concerning our employees and top management is compiled via our HR system Workday. Safety data is compiled via our internal reporting system Keto.

In the 2022 sustainability report, the calculations for the transportation of raw materials and tires have been changed to improve the accuracy by using more accurate

data and less assumptions. Tire transportation emission data was partly received directly from the transportation service suppliers. As there are hundreds of transportation lanes, it is not always possible to verify the exact route. When the exact inland route could not be verified, the calculation is based on the assumption that truck transportation was used. Hence, the figures cannot be directly compared with the figures from 2021.

The majority of the disclosures for economic responsibility are based on our company's financial statements, which are prepared and presented in accordance with the IFRS standards. The scope of GRI environmental responsibility is divided between our factories. The scope of GRI social disclosures is Group-wide, excluding the subcontractors if not specifically mentioned in the report.

As taxes were not identified as a material topic for Nokian Tyres by stakeholders in the 2021 materiality analysis, the company has not included full disclosures as described in the GRI 207: Tax 2019 in the sustainability report. However, tax information is available on page 11 of this report.

## Balance

In the report, we consistently follow previously set indicators, be they favorable or unfavorable. The indicators are consistent

with our mid-term and long-term sustainability targets. The emphasis has been put on topics that are material to our business.

Our operating environment changed profoundly in 2022, and because of that, some of our sustainability KPIs and indicators were changed as well. However, our long-term sustainability target areas remained the same. In the 2022 report we do not report the indicators related to recycled or renewable raw materials, as at the time of writing the report we are renewing the way of calculating and verifying those figures, and thus do not have the figures available for 2022.

## Clarity

We publish our Corporate Sustainability Report annually on our website in English and in Finnish. Where applicable, Nokian Tyres uses graphics and consolidated data tables to make the information more accessible and understandable.


## Comparability

Disclosures for our Group's environmental responsibility are mainly compiled and calculated according to the same methods as in our earlier reports. During 2022, we started to use new software for environmental reporting (indicators for

water, energy, waste and air emissions), and are now even more aligned with the GHG protocol. We have also unified the emission factors used in the calculations. These changes affect all the greenhouse gas Scope categories, and thus the greenhouse gas emission figures cannot be directly compared with the figures from 2021.

In the 'Performance in figures' section we present figures from at least three consecutive years, and the base year, when they are included in our mid- and long-term sustainability goals. This mainly concerns our climate-related goals.

## Completeness

The figures in the People section cover the same companies as the financial reports for Nokian Tyres plc. Companies with no actual employees (e.g. holding companies for administrative purposes and real estate companies) and companies with less than 50% share of ownership are not included in the reporting. The list of companies included in the financial reporting and their relations to the Group can be found in the [Financial review / Related party transactions](#) . The safety figures are reported according to the existing division in managing these business areas.



As an agreement for the sale of the Russian operations was signed in October, some figures in the People section exclude BA Russia & Asia. The Group level score of Drive! does not include BA Russia & Asia, as the survey was not conducted there. Also the number of external workers, absences, and the average training hours are reported excluding BA Russia & Asia.

As tire manufacturing is considered as having the biggest impacts environmentally in Nokian Tyres' operations, the environmental indicators cover all factory locations. The indicators for the wheel manufacturing plant Levpyörä are reported separately in the 'Performance in figures' section. Sales companies and Vianor service centers are included in the climate targets reporting but excluded from other environmental reporting as their meaning is not as significant as the factory sites. Both the environmental responsibility disclosures and supply chain disclosures exclude the test centers. In the environmental reporting, Nokian Tyres uses accepted international metrics as required by the applicable GRI standards. The company provides contextual information where certain numbers may not be directly applicable.

Nokian Tyres reports its impacts on a year-to-year basis, and the company also addresses impacts in the long term. In 2022, we updated our climate change related risks aligned with the recommendations of TCFD in December. The results are presented in this report.

### Sustainability context

Nokian Tyres conducts a materiality analysis every three years to better understand the sustainability context and the impacts of the company's operations. The latest analysis was conducted in 2021 in cooperation with an independent third party.

The GHG reduction targets are aligned with our Science Based Targets and United Nations Framework Convention on Climate Change, the Paris Agreement.

### Timeliness

Nokian Tyres publishes the Corporate Sustainability Report annually on its website in the spring before the annual general meeting. The reported period covers 1.1.—31.12.2022 and is thus aligned with the company's financial reporting.

### Verifiability

The contents of the Corporate Sustainability Report for the 2022 reporting period have been verified by an independent third party. The assurance was commissioned by the executive management of Nokian Tyres plc.



# PERFORMANCE IN FIGURES

## CLIMATE AND THE ENVIRONMENT

	2015**	2020	2021	2022
<b>Emissions into the air</b>				
<b>Direct greenhouse gas emissions, Scope 1, CO<sub>2</sub> eq t</b>				
Nokia factory, Finland	1,500	310	360	310
Vsevolozhsk factory, Russia	62,500	68,000	71,690	56,220
Dayton factory, US		3,200	5,620	6,710
<b>Tire production total</b>	<b>64,000</b>	<b>71,510</b>	<b>77,660</b>	<b>63,200</b>
Wheel manufacturing plant Levvpyörä		1,810*	1,320*	1,600
<b>Indirect greenhouse gas emissions (market based), Scope 2, CO<sub>2</sub> eq t</b>				
Nokia factory, Finland	34,600	8,500	8,880	6,160
Vsevolozhsk factory, Russia	24,700	9,800	14,220	8,140
Dayton factory, US		1,500	2,480	2,770
<b>Tire production total</b>	<b>59,300</b>	<b>19,800</b>	<b>25,580</b>	<b>17,070</b>
Wheel manufacturing plant Levvpyörä		880*	740*	890
<b>Indirect greenhouse gas emissions (location based), Scope 2, CO<sub>2</sub> eq t *</b>				
Nokia factory, Finland		18,000	19,490	12,430
Vsevolozhsk factory, Russia		22,200	29,830	19,820
Dayton factory, US		2,000	2,590	6,620
<b>Tire production total</b>		<b>42,000</b>	<b>51,910</b>	<b>38,870</b>
Wheel manufacturing plant Levvpyörä		370	310	370
Others (own Vianors and warehouses)		6,600	6,450	1,960
<b>Greenhouse gas emissions intensity ratio Scope 1 + Scope 2, CO<sub>2</sub> eq t/production t</b>				
Nokia factory, Finland		0.24	0.17	0.09
Vsevolozhsk factory, Russia		0.57	0.50	0.63
Dayton factory, US		3.0	0.91	0.52
<b>Tire production total</b>		<b>0.53</b>	<b>0.44</b>	<b>0.42</b>
Wheel manufacturing plant Levvpyörä		0.58	0.36	0.47
<b>Indirect greenhouse gas emissions, Scope 3, t CO<sub>2</sub> ekv ***</b>				
Purchased goods and services		396,600	546,400	652,200
Capital goods		n.a	n.a	n.a
Fuel and energy related activities		9,000	10,500	31,200
Upstream transportation and distribution		25,300	33,700	64,500
Waste generated in operations		1,300	1,600	400
Business travel		400	300	500
Employee commuting		2,000	1,400	3,100
Upstream leased assets		500	800	10,900
Downstream transportation and distribution		31,700	43,800	34,500
Use of sold products		4,486,500	6,042,300	4,543,600
End-of-life treatment of sold products		9,800	16,100	10,300
Franchises		50,000	50,000	40,500
Investments		n.a	n.a	n.a
<b>Total</b>		<b>5,059,800</b>	<b>6,696,800</b>	<b>5,391,700</b>
n.a = not applicable				
<b>NOx, t</b>				
Vsevolozhsk factory, US		58	62	52
Dayton factory, US		0.99*	1.79*	11

	2020	2021	2022
<b>SOx, t</b>			
Vsevolozhsk factory, Russia	1.0	1.0	0.9
Dayton factory, US	0.02*	0.03*	0.09
<b>Particles, t</b>			
Nokia factory, Finland	1.0	1.0	2.0
Vsevolozhsk factory, Russia	9.6	9.8	8.3
Dayton factory, US	10.7*	36.8*	41.8
<b>VOC emissions, t</b>			
Nokia factory, Finland	36	55	51
Vsevolozhsk factory, Russia	79	79	71
Dayton factory, US	2.7*	5.4*	9.8
<b>Energy use</b>			
<b>Energy consumption within the organisation, TJ</b>			
Nokia factory, Finland	556	682	701
Vsevolozhsk factory, Russia	1,468	1,640	1,196
Dayton factory, US	120	187	223
Wheel manufacturing plant Levvpyörä	40	51	48
<b>Energy intensity, GJ/production t</b>			
Nokia factory, Finland	13.9	12.3	9.8
Vsevolozhsk factory, Russia	11.3	9.5	11.7
Dayton factory, US	74.9	20.7	12.1
Wheel manufacturing plant Levvpyörä	9.3	8.8	8.9
<b>Total energy consumption, TJ</b>			
<b>Electricity</b>			
Nokia factory, Finland	251	292	326
Vsevolozhsk factory, Russia	1,048	1,111	788
Dayton factory, US	60	83	105
Wheel manufacturing plant Levvpyörä	16	19	19
<b>Heating</b>			
Nokia factory, Finland	100	138	99
Vsevolozhsk factory, Russia	72	83	64
Dayton factory, US	13	10	12
Wheel manufacturing plant Levvpyörä	24	32	28
<b>Steam</b>			
Nokia factory, Finland	204	252	276
Vsevolozhsk factory, Russia	348	445	343
Dayton factory, US	47	94	106
Wheel manufacturing plant Levvpyörä	0	0	0
<b>Amount of renewable energy %</b>			
Nokia factory, Finland	86.2	87.7	49.9
Vsevolozhsk factory, Russia	0.0	2.5	2.0
Dayton factory, US	15.3	12.4	11.6
Wheel manufacturing plant Levvpyörä	28.4	26.3	12.9

\* calculations have been specified in 2022

\*\* base year for emission reduction targets

\*\*\* Scope 3 calculations have been specified for the year 2022

# PERFORMANCE IN FIGURES

	2020	2021	2022
<b>Water</b>			
<b>Cooling water (surface water), Nokia factory, Finland, 1,000 m<sup>3</sup></b>			
Withdrawal, Nokianvirta river	7,087	8,062	9,065
Discharge, Nokianvirta river	7,051	8,017	9,053
<b>Municipal water, 1,000 m<sup>3</sup></b>			
Nokia factory, Finland	63	65	68
Vsevolozhsk factory, Russia	268	248	201
Dayton factory, US	8	76	76
Wheel manufacturing plant Levpyyöä	5	6	9
<b>Water discharge, sewage, 1,000 m<sup>3</sup></b>			
Nokia factory, Finland	98	110	80
Vsevolozhsk factory, Russia	260	246	156
Dayton factory, US	8.2	76	74
Wheel manufacturing plant Levpyyöä	4.7	6	9
<b>Waste</b>			
<b>Hazardous waste, t</b>			
Nokia factory, Finland	158	226	234
Vsevolozhsk factory, Russia	713	1,214	1,049
Dayton factory, US	0	0	0
Wheel manufacturing plant Levpyyöä	288	258	491
<b>Hazardous waste by disposal method, Nokia factory, Finland, %</b>			
Recycling	9.4	11.0	63.0
Incineration (mass burn)	0.0	0.0	0.0
Recovery as energy	90.6	89.0	37.0
Landfill	0.0	0.0	0.0
<b>Hazardous waste by disposal method, Vsevolozhsk factory, Russia, %</b>			
Recycling	66.3	63.4	84.7
Incineration (mass burn)	2.5	0.0	0.0
Recovery as energy	31.2	36.6	15.3
Landfill	0.0	0.0	0.0
<b>Hazardous waste by disposal method, Wheel manufacturing plant Levpyyöä, %</b>			
Recycling	96.9	97.1	96.7
Incineration (mass burn)	0.0	0.0	0.0
Recovery as energy	3.1	2.9	3.3
Landfill	0.0	0.0	0.0
<b>Non-hazardous waste, t</b>			
Nokia factory, Finland	3,980	4,220	5,050
Vsevolozhsk factory, Russia	8,470	9,100	5,460
Dayton factory, US	1,110	4,020	2,030
Wheel manufacturing plant Levpyyöä	1,810	2,320	2,450
<b>Waste, t</b>			
<b>Utilized waste, t</b>			
Nokia factory, Finland	4,100	4,400	5,290
Vsevolozhsk factory, Russia	9,100	10,300	6,510
Dayton factory, US	1,100	3,900	1,940
<b>Landfill, t</b>			
Nokia factory, Finland	0	0	0
Vsevolozhsk factory, Russia	80	0	0
Dayton factory, US	10	6	0

	2020	2021	2022
<b>Waste by disposal method, Nokia factory, Finland, %</b>			
Reuse	1.8	1.0	2.7
Recycling	34.7	28.2	39.5
Composting	1.5	1.2	1.4
Recovery as energy	62.0	69.7	56.3
Landfill	0.0	0.0	0.0
<b>Waste by disposal method, Vsevolozhsk factory, Russia, %</b>			
Reuse	8.5	6.6	6.9
Recycling	75.5	81.0	79.0
Composting	5.2	0.0	0.0
Recovery as energy	10.0	12.4	14.1
Incineration (mass burn)	0.2	0.0	0.0
Landfill	0.7	0.0	0.0
<b>Waste by disposal method, United States, %</b>			
Reuse	0.0	7.7	0.0
Recycling	80.4	82.1	86.7
Composting	0.0	0.0	0.0
Recovery as energy	18.6	6.3	9.2
Incineration (mass burn)	0.0	3.7	4.2
Landfill	1.0	0.2	0.0
<b>Waste by disposal method, Wheel manufacturing plant Levpyyöä, %</b>			
Reuse	1.5	0.6	0.0
Recycling	96.5	97.4	97.6
Composting	0.0	0.0	0.0
Recovery as energy	0.4	0.8	2.4
Landfill	1.5	1.2	0.0
<b>Total waste by disposal method, tire factories</b>			
Reuse			
t	850	1,040	590
%	5.9	5.5	4.3
Recycling			
t	9,300	12,900	8,990
%	64.2	68.8	65.0
Composting			
t	540	50	80
%	3.7	0.3	0.5
Recovery as energy			
t	3,700	4,600	4,080
%	25.5	24.6	29.5
Incineration (mass burn)			
t	20	150	80
%	0.1	0.8	0.6
Landfill			
t	70	10	0
%	0.5	0.1	0.0
<b>Total waste amount</b>			
t	14,480	18,780	13,820

# PERFORMANCE IN FIGURES

## PEOPLE

### DRIVE! PERSONNEL SURVEY (ENGAGEMENT INDEX)

	2018	2019	2021	2022
Nokian Tyres Group, %	76	77	76*	73**

\* BU Vianor not included due to survey being conducted separately after winter tire season; their score was 75

\*\* Not including BA Russia & Asia. Comparison value 2021 without BA Russia & Asia: 73.

### 92.3% OF NOKIAN TYRES EMPLOYEES TOOK PART IN PEOPLE REVIEW PROCESS

	2018	2019	2020	2021	2022*
Nokian Tyres Group, %	82.2	92.2	93.0	96.3	92.3

\* Not including BA Russia & Asia

### EMPLOYEE REMUNERATION, AVERAGE EUR\*

Wages and salaries (excl. President and CEO) M EUR	228.298
Number of Group employees on average during financial year	4,947
Wages and salaries on average k EUR	46.15

\* Employee remuneration, average EUR calculated based on average number of employees during financial year, divided by total amount of wages and salaries paid to employees (excl. President and CEO) during corresponding financial year.

### PRESIDENT AND CEO REMUNERATION EUR

Wages and salaries M EUR	1.502
Wages and salaries k EUR	1,502
Ratio to average employee wages and salaries*	32.55

\* Ratio to average employee wages and salaries calculated by dividing total fees paid to President and CEO during financial year 2022, by Wages and salaries paid on average to other employees, excl. President and CEO. More information about President and CEO remuneration in Nokian Tyres Remuneration Report 2022.

### INCREASE IN ANNUAL TOTAL COMPENSATION

President and CEO remuneration increase, %	31.0
Employee remuneration average increase, %	6.0
Ratio of President and CEO compensation increase to average employee compensation increase, %	5.17

### ACCIDENT FREQUENCY

	2018	2019	2020	2021	2022
<b>Lost time Accident frequency (LTIF) *</b>					
Nokian Tyres Finland	5.3	3.7	3.4	3.1	0.7
Nokian Tyres Russia	5.0	2.0	1.0	3.0	2.1
Nokian Tyres US		1.6	1.7	3.5	1.1
Vianor	15.0	7.8	7.1	6.5	7.6
<b>NT Group</b>	<b>8.3</b>	<b>4.3</b>	<b>3.7</b>	<b>4.1</b>	<b>3.2</b>

\* Number of incidents / 1,000,000 hours worked

### Recordable Accident Frequency (rec. F)\*

Nokian Tyres Finland	8.7	8.3	6.8	6.3	7.1
Nokian Tyres Russia	5.3	4.0	2.1	4.4	2.5
Nokian Tyres US		6.2	3.5	8.7	15.7
Vianor	21.6	13.9	9.8	12.0	12.1
<b>NT Group</b>	<b>11.6</b>	<b>8.2</b>	<b>5.8</b>	<b>7.4</b>	<b>7.7</b>

\* Number of incidents / 1,000,000 hours worked

### Recordable accidents

Nokian Tyres Finland	18	18	16	14	20
Nokian Tyres Russia	16	12	6	13	7
Nokian Tyres US		4	2	5	14
Vianor	72	48	33	37	38
<b>NT Group</b>	<b>106</b>	<b>82</b>	<b>57</b>	<b>69</b>	<b>79</b>

### Occupational illness frequency OIFR\*

<b>NT Group</b>	<b>1.4</b>	<b>1.2</b>	<b>0.7</b>	<b>0.2</b>	<b>0.7</b>
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\* Work-related ill health cases / 1,000,000 hours worked

### ABSENTEEISM BY COMPANY\* 2022

	Nokian Tyres Finland				Vianor Nordic				
	Nokian Tyres (FI)	Nokian Heavy Tyres	NT Tyre Machinery	Levypöytä	Nordic Wheels AB	Vianor Holding Oy	Vianor Oy	Vianor AB	Vianor AS
Sick absences % (total)	2.88	6.38	5.20	7.13	0.14	0.0	4.22	5.09	6.00

\* The table does not include the US, as sick absences are not tracked separately from total absences in the US. The table also excludes BA Russia & Asia.



# PERFORMANCE IN FIGURES

## TOTAL NUMBER AND RATE OF NEW EMPLOYEE HIRES AND EMPLOYEE TURNOVER BY GENDER, AGE GROUP, AND REGION

	Nordics	Russia and Asia	Other Europe	North America	Total
<b>Total number of new employees</b>	<b>562</b>	<b>112</b>	<b>34</b>	<b>143</b>	<b>851</b>
Number of women	77	37	13	30	157
Number of men	485	75	21	113	694
Number of under 30 years old	252	56	9	40	357
Number of 30–50 years old	241	54	22	82	399
Number of over 50 years old	69	2	3	21	95
<b>New employee hires rate (Total), %</b>	<b>21.3</b>	<b>9.0</b>	<b>17.2</b>	<b>31.2</b>	<b>18.7</b>
Percentage of women, %	13.7	33.0	38.2	21.0	18.4
Percentage of men, %	86.3	67.0	61.8	79.0	81.6
Percentage of under 30 years old, %	44.8	50.0	26.5	28.0	42.0
Percentage of 30–50 years old, %	42.9	48.2	64.7	57.3	46.9
Percentage of over 50 years old, %	12.3	1.8	8.8	14.7	11.2

Numbers based on the official headcount.

	Nordics	Russia and Asia	Other Europe	North America	Total
<b>Total number of terminated employees (fixed terms not included)</b>	<b>324</b>	<b>450</b>	<b>59</b>	<b>85</b>	<b>918</b>
Number of women	56	42	29	16	143
Number of men	268	408	30	69	775
Number of under 30 years old	56	123	5	26	210
Number of 30–50 years old	190	307	46	46	589
Number of over 50 years old	78	20	8	13	119
<b>Turnover rate (Total), %</b>	<b>12.3</b>	<b>36.0</b>	<b>29.8</b>	<b>18.6</b>	<b>20.2</b>
Percentage of women, %	17.3	9.3	49.2	18.8	15.6
Percentage of men, %	82.7	90.7	50.8	81.2	84.4
Percentage of under 30 years old, %	17.3	27.3	8.5	30.6	22.9
Percentage of 30–50 years old, %	58.6	68.2	78.0	54.1	64.2
Percentage of over 50 years old, %	24.1	4.4	13.6	15.3	13.0

Numbers based on the official headcount.

## TOTAL WORKFORCE BY EMPLOYMENT TYPE, EMPLOYMENT CONTRACT AND REGION, BROKEN DOWN BY GENDER 2022

	Nordics	Russia and Asia	Other Europe	North America	Total
<b>Total workforce on 31.12.2022</b>	<b>2,974</b>	<b>1,249</b>	<b>213</b>	<b>477</b>	<b>4,913</b>
Women	486	224	79	88	877
Men	2,488	1,025	134	389	4,036
<b>Total number of own employees 31.12.2022</b>	<b>2,637</b>	<b>1,249</b>	<b>198</b>	<b>458</b>	<b>4,542</b>
Women	427	224	69	83	803
Men	2,210	1,025	129	375	3,739
<b>Number of supervised workers 31.12.2022</b>	<b>337</b>	<b>n/a</b>	<b>15</b>	<b>19</b>	<b>371</b>
Women	59	n/a	10	5	74
Men	278	n/a	5	14	297
<b>Total number of seasonal employments in Vianor during 2022</b>	<b>1,206</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,206</b>
<b>Permanent employees 31.12.2022</b>	<b>2,450</b>	<b>1,218</b>	<b>194</b>	<b>456</b>	<b>4,318</b>
Women	400	209	66	83	758
Men	2,050	1,009	128	373	3,560
<b>Fixed-term employees 31.12.2022*</b>	<b>187</b>	<b>31</b>	<b>4</b>	<b>2</b>	<b>224</b>
Women	27	15	3	0	45
Men	160	16	1	2	179
<b>On-call employees 31.12.2022</b>	<b>39</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>39</b>
Women	6	0	0	0	6
Men	33	0	0	0	33
<b>Full-time employees 31.12.2022</b>	<b>2,524</b>	<b>1,249</b>	<b>190</b>	<b>457</b>	<b>4,420</b>
Women	394	224	61	83	762
Men	2,130	1,025	129	374	3,658
<b>Part-time employees 31.12.2022**</b>	<b>113</b>	<b>0</b>	<b>8</b>	<b>1</b>	<b>122</b>
Women	33	0	8	0	41
Men	80	0	0	1	81

\* Fixed-term employees are mainly temporary replacements (e.g. for maternity leaves), project workers and trainees. They include also on-call employees, who work on need-only basis mainly in the tire and car service chain Vianor.

\*\* Part-time workers include on-call employees, other need-only basis resources and leaves defined in local legislation (e.g. part-time childcare leaves).

Numbers based on the official headcount.

# PERFORMANCE IN FIGURES

## COMPOSITION OF GOVERNANCE BODIES AND BREAKDOWN OF EMPLOYEES PER EMPLOYEE CATEGORY ACCORDING TO GENDER AND AGE GROUP 31.12.2022

	Nordics	Russia and Asia	Other Europe	North America	Total
<b>Number of individuals within the top management</b>	<b>9</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>12</b>
Number of women	4	0	0	0	4
Number of men	5	1	2	0	8
Percentage of women, %	44.4	0.0	0.0	0.0	33.3
Percentage of men, %	55.6	100.0	100.0	0.0	66.7
Number under 30 years old	0	0	0	0	0
Number 30-50 years old	2	0	0	0	2
Number over 50 years old	7	1	2	0	10
Percentage under 30 years old, %	0.0	0.0	0.0	0.0	0.0
Percentage 30-50 years old, %	22.2	0.0	0.0	0.0	16.7
Percentage over 50 years old, %	77.8	100.0	100.0	0.0	83.3
<b>Number of white collars</b>	<b>1,178</b>	<b>474</b>	<b>193</b>	<b>171</b>	<b>2,016</b>
Number of women	306	191	69	32	598
Number of men	872	283	124	139	1,418
Percentage of women, %	26.0	40.3	35.8	18.7	29.7
Percentage of men, %	74.0	59.7	64.2	81.3	70.3
Number under 30 years old	84	42	13	16	155
Number 30-50 years old	729	397	148	102	1,376
Number over 50 years old	365	35	32	53	485
Percentage under 30 years old, %	7.1	8.9	6.7	9.4	7.7
Percentage 30-50 years old, %	61.9	83.8	76.7	59.6	68.3
Percentage over 50 years old, %	31.0	7.4	16.6	31.0	24.1
<b>Number of blue collars</b>	<b>1,450</b>	<b>774</b>	<b>3</b>	<b>287</b>	<b>2,514</b>
Number of women	117	33	0	51	201
Number of men	1,333	741	3	236	2,313
Percentage of women, %	8.1	4.3	0.0	17.8	8.0
Percentage of men, %	91.9	95.7	100.0	82.2	92.0
Number under 30 years old	316	81	0	82	479
Number 30-50 years old	758	648	3	157	1,566
Number over 50 years old	376	45	0	48	469
Percentage under 30 years old, %	21.8	10.5	0.0	28.6	19.1
Percentage 30-50 years old, %	52.3	83.7	100.0	54.7	62.3
Percentage over 50 years old, %	25.9	5.8	0.0	16.7	18.7

Numbers based on the official headcount.

<b>Composition of the Board</b>	<b>9</b>
Number of women	3
Number of men	6
Percentage of women, %	33.3
Percentage of men, %	66.7
Number under 30 years old	0
Number 30-50 years old	2
Number over 50 years old	7
Percentage under 30 years old, %	0.0
Percentage 30-50 years old, %	22.2
Percentage over 50 years old, %	77.8

## PRODUCTS

### NOKIAN TYRES PRODUCTS IN THE ROLLING RESISTANCE A CLASS\*

	Status in 2022	Goal for 2028
	14	60

\* Tires included in the EU Tyre labeling

### PERCENTAGE OF SELECTED TIRES\* IN WET GRIP CLASS A OR B

	Status in 2022	Goal for 2025
	90	100

\* Selected scope: Tires in price category A and included in the EU Tyre Labelling, the latest generation. Does not include Nordic winter tires.

# GRI CONTENT INDEX

Statement of use  
GRI 1 used

Nokian Tyres has reported in accordance with the GRI Standards for the period January 1 - December 31, 2022.  
GRI 1: Foundation 2021

GRI Standard	Disclosure	Location	Omission			Additional information
			Requirement(s) omitted	Reason	Explanation	
General disclosures						
GRI 2: General Disclosures 2022	2-1 Organizational details	3, <a href="https://www.nokiantyres.com/company/contact/">https://www.nokiantyres.com/company/contact/</a>				
	2-2 Entities included in the organizations's sustainability reporting	45-46				
	2-3 Reporting period, frequency and contact point	52				The report is published annually. The 2022 report was published on March 28, 2023. Contact point: <a href="mailto:sustainability@nokiantyres.com">sustainability@nokiantyres.com</a>
	2-4 Restatements of information	47				
	2-5 External assurance	55				
	2-6 Activities, value chain and other business relationships	3, 42, <a href="https://www.nokiantyres.com/company/sustainability/fundamentals/our-value-chain/">https://www.nokiantyres.com/company/sustainability/fundamentals/our-value-chain/</a>				
	2-7 Employees	29, 50-51				
	2-8 Workers who are not employees	29, 50				
	2-9 Governance structure and composition	Board of Directors / Nokian Tyres, <a href="https://www.nokiantyres.com/company/investors/corporate-governance/board-of-directors/diversity-policy-for-the-board-of-directors/">https://www.nokiantyres.com/company/investors/corporate-governance/board-of-directors/diversity-policy-for-the-board-of-directors/</a>				
	2-10 Nomination and selection of the highest governance body	<a href="https://www.nokiantyres.com/company/investors/corporate-governance/board-of-directors/board-cg/">https://www.nokiantyres.com/company/investors/corporate-governance/board-of-directors/board-cg/</a>				
	2-11 Chair of the highest governing body	<a href="https://www.nokiantyres.com/company/investors/corporate-governance/board-of-directors/member/jukka-hienonen/">https://www.nokiantyres.com/company/investors/corporate-governance/board-of-directors/member/jukka-hienonen/</a>				
	2-12 Role of the highest governing body in overseeing the management of impacts	7				
	2-13 Delegation of responsibility for managing impacts	7				
	2-14 Role of the highest governance body in sustainability reporting	<a href="https://www.nokiantyres.com/company/sustainability/fundamentals/materiality-analysis-of-nokian-tyres/">https://www.nokiantyres.com/company/sustainability/fundamentals/materiality-analysis-of-nokian-tyres/</a>				
	2-15 Conflicts of interest	Financial Statement 2022; <a href="https://www.nokiantyres.com/company/sustainability/fundamentals/managing-sustainability/">https://www.nokiantyres.com/company/sustainability/fundamentals/managing-sustainability/</a>				
	2-16 Communication of critical concerns	12				
	2-17 Collective knowledge of the highest governing body	7, <a href="https://www.nokiantyres.com/company/sustainability/fundamentals/managing-sustainability/">https://www.nokiantyres.com/company/sustainability/fundamentals/managing-sustainability/</a>				
	2-18 Evaluation of the performance of the highest governance body	Corporate Governance Statement				
	2-19 Remuneration policies	30, <a href="https://www.nokiantyres.com/company/investors/corporate-governance/salaries-and-remunerations/">https://www.nokiantyres.com/company/investors/corporate-governance/salaries-and-remunerations/</a>				
	2-20 Process to determine remuneration	30, <a href="https://www.nokiantyres.com/company/investors/corporate-governance/salaries-and-remunerations/">https://www.nokiantyres.com/company/investors/corporate-governance/salaries-and-remunerations/</a>				
	2-21 Annual total compensation ratio	49	Median annual total compensation	Information incomplete	The annual total compensation is calculated as an average and not median. An average is also reported for similar purposes in our company's remuneration report, hence presenting an average is in line and fitting with the approach of our remuneration report.	



GRI Standard	Disclosure	Location	Omission			Additional information
			Requirement(s) omitted	Reason	Explanation	
	2-22 Statement on sustainable development strategy	4				
	2-23 Policy commitments	7, 9, 43-44, NT Code of Conduct, NT Sustainable Natural Rubber Policy, Environmental-, Safety- and Quality Policy				
	2-24 Embedding policy commitments	7, 43-44				
	2-25 Processes to remediate negative impacts	12, 19				
	2-26 Mechanisms for seeking advice and raising concerns	12, <a href="https://www.nokiantyres.com/company/sustainability/fundamentals/managing-sustainability/">https://www.nokiantyres.com/company/sustainability/fundamentals/managing-sustainability/</a>				
	2-27 Compliance with laws and regulations	12, 15, <a href="https://www.nokiantyres.com/company/sustainability/fundamentals/managing-sustainability/">https://www.nokiantyres.com/company/sustainability/fundamentals/managing-sustainability/</a>				
	2-28 Membership of associations	<a href="https://www.nokiantyres.com/company/sustainability/fundamentals/our-stakeholders-and-memberships/">https://www.nokiantyres.com/company/sustainability/fundamentals/our-stakeholders-and-memberships/</a>				
	2-29 Approach to stakeholder engagement	10, 44, <a href="https://www.nokiantyres.com/company/sustainability/fundamentals/our-stakeholders-and-memberships/">https://www.nokiantyres.com/company/sustainability/fundamentals/our-stakeholders-and-memberships/</a> , <a href="https://www.nokiantyres.com/company/sustainability/fundamentals/our-value-chain/">https://www.nokiantyres.com/company/sustainability/fundamentals/our-value-chain/</a>				
	2-30 Collective bargaining agreement	29				
Material topics						
GRI 3: Material topics 2021	3-1 Process to determine material topics	10				
	3-2 List of material topics	10				
Material topic 1: Sustainable raw materials						
	3-3 Management of material topics	<a href="https://www.nokiantyres.com/company/sustainability/fundamentals/materiality-analysis-of-nokian-tyres/">https://www.nokiantyres.com/company/sustainability/fundamentals/materiality-analysis-of-nokian-tyres/</a>				
GRI NT: Company and industry specific GRI	NT-1 Extent of mitigation of the environmental impacts of products and services	15, 32-36, <a href="https://www.nokiantyres.com/company/sustainability/fundamentals/materiality-analysis-of-nokian-tyres/">https://www.nokiantyres.com/company/sustainability/fundamentals/materiality-analysis-of-nokian-tyres/</a>				
Material topic 2: Actions to mitigate Climate Change						
	3-3 Management of material topics	<a href="https://www.nokiantyres.com/company/sustainability/fundamentals/materiality-analysis-of-nokian-tyres/">https://www.nokiantyres.com/company/sustainability/fundamentals/materiality-analysis-of-nokian-tyres/</a>				
GRI 305: Emissions	305-1 Direct (Scope 1) GHG emissions	20, 47				
	305-2 Energy indirect (Scope 2) GHG emissions	20, 47				
	305-3 Other indirect (Scope 3) GHG emissions	20, 47				
	305-4 GHG emissions intensity	47				
	305-5 Reduction of GHG emissions	21				
	305-7 Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions	47				
GRI 302: Energy	302-1 Energy consumption within the corporation	19, 47				
	302-3 Energy intensity	20, 47				
	302-4 Reduction of energy consumption	14, <a href="https://www.nokiantyres.com/company/sustainability/fundamentals/our-targets-and-achievements/">https://www.nokiantyres.com/company/sustainability/fundamentals/our-targets-and-achievements/</a>				
GRI NT: Company and industry specific GRI	NT-2 Reducing the rolling resistance of tires	34				
Material topic 3: Safety and well-being at Nokian tyres						
	3-3 Management of material topics	<a href="https://www.nokiantyres.com/company/sustainability/fundamentals/materiality-analysis-of-nokian-tyres/">https://www.nokiantyres.com/company/sustainability/fundamentals/materiality-analysis-of-nokian-tyres/</a>				

GRI Standard	Disclosure	Location	Omission			Additional information
			Requirement(s) omitted	Reason	Explanation	
GRI 403: Occupational health and safety 2018	403-1 Occupational health and safety management system	<a href="https://www.nokiantyres.com/company/sustainability/people/health-and-safety/">https://www.nokiantyres.com/company/sustainability/people/health-and-safety/</a>				
	403-2 Hazard identification, risk assessment, and incident investigation	27-28				
	403-3 Occupational health services	<a href="https://www.nokiantyres.com/company/sustainability/people/health-and-safety/">https://www.nokiantyres.com/company/sustainability/people/health-and-safety/</a>				
	403-4 Worker participation, consultation, and communication on occupational	27-28				
	403-5 Worker training on occupational health and safety	27-28				
	403-6 Promotion of worker health	<a href="https://www.nokiantyres.com/company/sustainability/people/health-and-safety/">https://www.nokiantyres.com/company/sustainability/people/health-and-safety/</a>				
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	27-28				
	403-8 Workers covered by an occupational health and safety management system	27-28, <a href="https://www.nokiantyres.com/company/sustainability/people/health-and-safety/">https://www.nokiantyres.com/company/sustainability/people/health-and-safety/</a>				
	403-9 Work-related injuries	27-28, 49				No fatalities as a result of work-related injuries.
	403-10 Work-related ill health	27-28, 49				No fatalities as a result of work-related ill health.
GRI 404: Training and education 2016	404-1 Average hours of training per year per employee	<a href="https://www.nokiantyres.com/company/sustainability/people/our-way-of-working/">https://www.nokiantyres.com/company/sustainability/people/our-way-of-working/</a>				
	404-2 Programs for upgrading employee skills and transition assistance programs	29-30				
	404-3 Percentage of employees receiving regular performance and career development reviews	29, 49				
Material topic 4: Promoting human rights in all operations						
	3-3 Management of material topics	44, <a href="https://www.nokiantyres.com/company/sustainability/fundamentals/materiality-analysis-of-nokian-tyres/">https://www.nokiantyres.com/company/sustainability/fundamentals/materiality-analysis-of-nokian-tyres/</a>				
GRI 412: Human Rights Assessment	412-1 Operations that have been subject to human rights reviews or impact assessments	44				
	412-2 Employee training on human rights policies or procedures	7, 26				
GRI 414: Supplier Social Assessment	414-2 Negative social impacts in the supply chain and actions taken	42-44				
Material topic 5: Safety properties of tires						
	3-3 Management of material topics	<a href="https://www.nokiantyres.com/company/sustainability/products/labels-and-standards/">https://www.nokiantyres.com/company/sustainability/products/labels-and-standards/</a> ; <a href="https://www.nokiantyres.com/company/sustainability/products/our-test-policy/">https://www.nokiantyres.com/company/sustainability/products/our-test-policy/</a>				
GRI 416: Customer health and safety	416-1 Assessment of the health and safety impacts of product and service categories	<a href="https://www.nokiantyres.com/company/sustainability/fundamentals/materiality-analysis-of-nokian-tyres/">https://www.nokiantyres.com/company/sustainability/fundamentals/materiality-analysis-of-nokian-tyres/</a> ; <a href="https://www.nokiantyres.com/company/sustainability/fundamentals/managing-sustainability/">https://www.nokiantyres.com/company/sustainability/fundamentals/managing-sustainability/</a>				
Other key topics						
GRI 303: Water and effluents 2018	303-3 Water withdrawal	19, 22, 47				
	303-4 Water discharge	19, 22, 48				
GRI 306: Waste 2020	306-3 Waste generated	22, 48				
	306-4 Waste diverted from disposal	22, 48				
GRI 307: Environmental compliance 2016	307-1 Non-compliance with environmental laws and regulations	21, 22				

# INDEPENDENT ASSURANCE REPORT

This document is an English translation of the Finnish report

We have been engaged by the Management of Nokian Tyres plc (hereafter “Nokian Tyres”) to provide limited assurance on corporate sustainability indicators presented in Nokian Tyres’ Corporate Sustainability Report 2022 (hereafter “Corporate Sustainability Information”) for the year ended 31 Dec 2022.

## Management’s responsibilities

The Management of Nokian Tyres is responsible for the preparation and presentation of the Corporate Sustainability Information in accordance with the reporting criteria, i.e. GRI Sustainability Reporting Standards, and the information and assertions contained within it. The Management is also responsible for determining Nokian Tyres’ objectives with regard to sustainable development performance and reporting, including the identification of stakeholders and material issues, and for establishing and maintaining appropriate performance management and internal control systems from which the reported performance information is derived.

## Our responsibilities

Our responsibility is to carry out a limited assurance engagement and to express a conclusion based on the work performed. We conducted our assurance engagement on the Corporate Sustainability Information in accordance with International Standard on Assurance Engagements (ISAE) 3000 (Revised), Assurance Engagements other than Audits or Reviews of Historical Financial Information, issued by the International Auditing and Assurance Standards Board IAASB. That Standard requires that we plan and perform the engagement to obtain limited assurance about whether the Corporate Sustainability Information is free from material misstatement.

KPMG Oy Ab applies International Standard on Quality Management ISQM 1 and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

We have complied with the independence and other ethical requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants IESBA, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior.

## Procedures performed

A limited assurance engagement on Corporate Sustainability Information consists of making inquiries, primarily of persons responsible for the preparation of information presented in the Corporate Sustainability Information, and applying analytical and other evidence gathering procedures, as appropriate. In the engagement, we have performed the following procedures, among others:

- Interviewed the members of Nokian Tyres’ senior management and relevant staff responsible for providing the Corporate Sustainability Information;
- Assessed the application of the GRI Sustainability Reporting Standards reporting principles in the presentation of the Corporate Sustainability Information;
- Assessed data management processes, information systems and working methods used to gather and consolidate the Corporate Sustainability Information;
- Reviewed the presented Corporate Sustainability Information and assessed its quality and reporting boundary definitions;
- Assessed the Corporate Sustainability Information’s data accuracy and completeness through a review of the original documents and systems on a sample basis and;
- Conducted site sessions to review the Corporate Sustainability Information on Nokian Tyres’ sites.

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited

assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

## Inherent limitations

Inherent limitations exist in all assurance engagements due to the selective testing of the information being examined. Therefore fraud, error or non-compliance may occur and not be detected. Additionally, non-financial data may be subject to more inherent limitations than financial data, given both its nature and the methods used for determining, calculating and estimating such data.

## Conclusion

Our conclusion has been formed on the basis of, and is subject to, the matters outlined in this report.

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our conclusions.

Based on the procedures performed and the evidence obtained, as described above, nothing has come to our attention that causes us to believe that the information subject to the assurance engagement is not prepared, in all material respects, in accordance with the GRI Sustainability Reporting Standards.

Helsinki, 27 March 2023  
KPMG Oy Ab

**Mari Säynätjoki**  
Authorized Public  
Accountant

**Tomas Otterström**  
Partner, Advisory



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