

WINTER TYRE DEVELOPMENT AND FUTURE OUTLOOK

冬季轮胎发展现状及未来趋势

NOKIAN TYRES GROUP

芬兰诺记轮胎

- Head office in Nokia, Finland
总部位于芬兰诺基亚市
- Number of employees approx. 4,600
全球员工数量4,600名
- Net sales in excess of approx. EUR 1.6 billion in 2017
2017年销售额约16亿欧元
- Shares are quoted on Nasdaq Helsinki
是赫尔辛基纳斯达克上市企业
- Factories in Nokia, Finland and Vsevolozhsk Russia
工厂位于芬兰的诺基亚和俄罗斯圣彼得堡
- New factory to Dayton, USA
2017年末，位于美国田纳西州代顿的工厂奠基建设
- Own test centers in Ivalo and Nokia
测试中心分别位于芬兰的诺基亚和北极圈内的伊瓦洛
- New technology center to Spain
2018年5月，位于西班牙圣亚鲁斯-德拉萨尔萨的测试中心奠基建设

VIANOR 品牌旗舰连锁

1,466 stores in
26 countries
分布在26个国家共
计1,466家门店

SALES COMPANIES 销售公司

in 13 countries
分布在全球13个国家

NAD 授权店

1,855 stores
21 European
countries and
China
共计1,855家，分布
在21个欧洲国家以及
中国

N-TYRE 签约店

127 stores in
Russia and CIS
countries
共计127家，分布在
俄罗斯和一些独联
体国家

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PRODUCTION 工厂



NOKIA, FINLAND 芬兰, 诺基亚

At the headquarters in Nokia, centralized product development is carried out and prototypes and test runs are completed. The Nokia factory manufactures car tyres, heavy tyres and retreading materials for truck tyres.

芬兰诺记轮胎总部所在，负责产品研发、原型胎以及各类轮胎测试，另外也生产轿车胎、重型胎。



VSEVOLOZHSK, RUSSIA 俄罗斯, 圣彼得堡

The production in Vsevolozhsk started in 2005. Tyres are delivered to over 35 countries and Nokian Tyres is Russia's largest exporter of consumer goods. The annual capacity of the Vsevolozhsk factory is 17 million tyres.

2005年芬兰诺记轮胎开始在俄罗斯圣彼得堡的工厂投产。生产出来的轮胎被出口到全球35个国家，诺记轮胎已经是俄罗斯消费品出口排名第一的产品，俄罗斯工厂的总产能约在1700万条/年。



DAYTON, TENNESSEE, USA 美国, 田纳西州, 代顿

The new factory will be located in Dayton, Tennessee. The annual capacity of the factory will be **4 million tyres** with an expansion potential in the future. The site will also house a distribution facility with a storage capacity of **600,000** tyres. The first tyres are to be produced in 2020.

我们的新工厂位于美国田纳西州的代顿。年产能约在4百万条，并能根据实际情况进一步扩大产能。同时，它也是一个分销中心，有能力分销约60万条轮胎。预计该新工厂会在2020年投产。

HIGHLIGHTS OF WINTER TYRE TECHNOLOGY

冬季轮胎技术发展的几个重要的里程碑



1898

1934

1936

2016

2017

2018

2020's

Suomen Gummitehdas Oy, predecessor of Nokian Tyres

"Kelirengas", world's first winter tyre

Lumi-Hakkapeliitta. First winter tyre designed for passenger cars.

Nokian Hakkapeliitta R2. The world's most energy-efficient winter tyre.

Tire Technology of the year 2016.

Nokian Hakkapeliitta 9 and Hakkapeliitta 9 SUV - patented double stud grip.

New era of winter safety. New generation: Nokian Hakkapeliitta R3
Nokian Hakkapeliitta R3 SUV

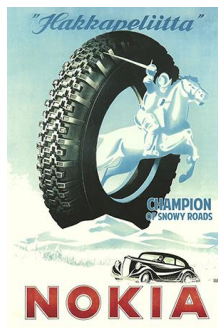
Sensor technology. Renewable raw materials. Development of vehicle technology.



Suomen Gummitehdas Oy
建立公司



"Kelirengas",
第1条冬季轮胎



Lumi-Hakkapeliitta,
第1条轿车使用的冬季轮胎



Nokian Hakkapeliitta R2
是2016年发布冬季轮胎花纹，高效节能，代表着当时最先进的冬季轮胎技术



Nokian Hakkapeliitta 9
and Hakkapeliitta 9 SUV是
2017年发布的冬季轮胎花纹，
双镶钉抓地专利技术



Nokian Hakkapeliitta R3
Nokian Hakkapeliitta R3 SUV是
今年发布的新花纹，代表着冬季
轮胎的一个新时代的到来，带给
使用者更安全舒适的驾乘体验



传感器技术，新材料，伴随
汽车工业新技术发展的新技术

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RESEARCH AND DEVELOPMENT

研发



MATERIAL DEVELOPMENT

- Responsible for the materials used
- Primary focus is safety
- Actively seeking new innovations

原材料部分的研发

使用最安全的材料生产轮胎，
并进一步寻求新的技术革新



CONSTRUCTION & TREAD PATTERN DEVELOPMENT

- Focuses on the different tyre components
- Sketches and designs tread patterns

结构和胎面花纹的研发

关注在不同的轮胎组成，改
进轮胎结构和设计新的胎面
花纹



TYRE TECHNOLOGY DEPARTMENT

- Get new tyres into production, develop recipes, test new ideas
- Plan and assemble the tyre test series

轮胎技术部门

新产品投产
产品质量反馈
新产品路线规划及准备



TESTING DEPARTMENT

- Indoor testing
- Outdoor testing
- Test drivers

轮胎测试部门

室内测试
室外测试
专业车手测试

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TEST CENTERS

测试中心



WHITE HELL | Ivalo

白色地狱 | 芬兰北极圈内的伊瓦洛

The company has its own testing center spanning over 700 hectares with more than 30 different test tracks.
占地超过700公顷，拥有30个不同的测试赛道



NOKIA TESTING CENTER | Nokia

诺基亚测试中心 | 芬兰的诺基亚

Almost all driving situations on northern roads are tested here. Testing is conducted from April to November.
几乎所有的北方道路的路况都能在这里被测试。测试时间是每年的4月-11月。



NEW TECHNOLOGY CENTER | Santa Cruz de la Zarza

新的技术中心 | 西班牙圣亚鲁斯-德拉萨尔萨

Nokian Tyres plans to open a new technology center in Spain, which will include a 7 -kilometer oval track that circles the area.
诺记轮胎计划在西班牙设立一个新的技术中心，它具有1个7公里的椭圆形赛道。

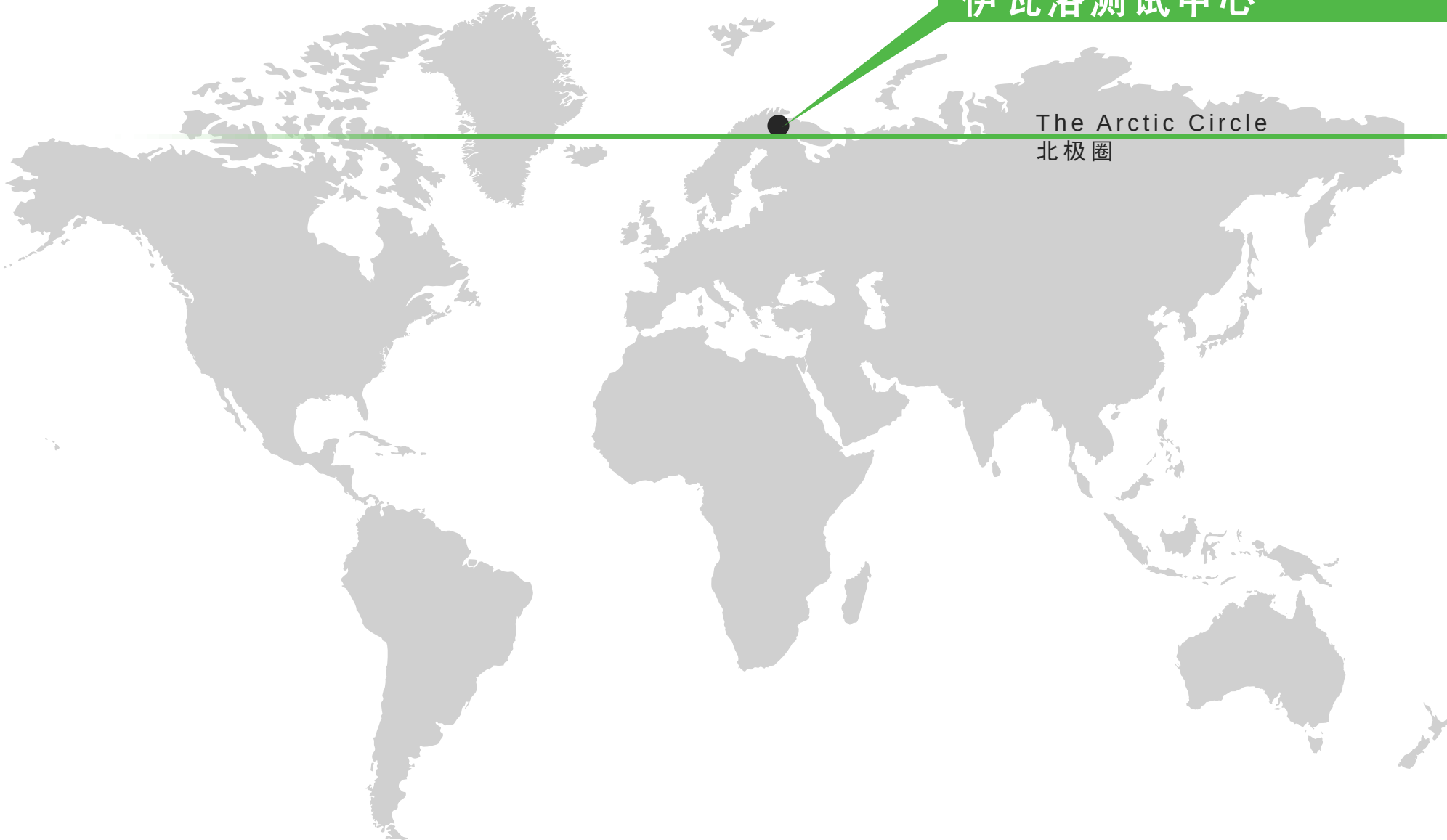


WHITE HELL

白色地狱

Ivalo Testing Center
伊瓦洛测试中心

The Arctic Circle
北极圈



IVALO TESTING CENTER – WHITE HELL

OVER
700
HECTARES

占地超过700公顷

WE DRIVE MORE
THAN
40,000
KILOMETRES ON
THE TESTED
TYRES

测试总里程超过4万公里

MORE THAN
200
DAYS WITH
FREEZING
TEMPERATURES
PER YEAR

测试时间超过200个冰雪天

MORE THAN
30
DIFFERENT
TEST TRACKS

拥有30个不同的
测试赛道

OVER
20,000 WINTER
TYRES ARE
TESTED EACH
SEASON

每年测试超过2万条冬季轮胎

TEMPERATURE
VARIATIONS CAN
REACH UP TO
40 C°

测试温差可达40摄氏度



EVERYTHING BEGINS WITH
SAFETY

一切从安全开始

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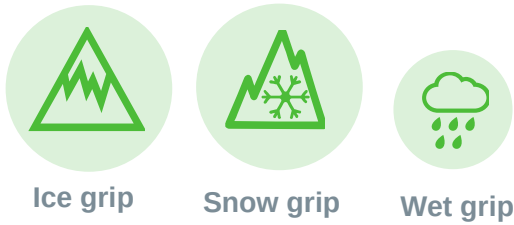
WINTER TYRES FOR DIFFERENT CONDITIONS AND NEEDS

不同气候条件下不同类型的冬季轮胎



HARSH WINTER

Nordic non-studded
winter tyre



Rolling
resistance

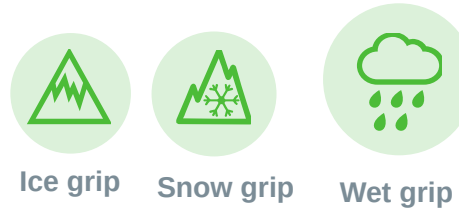
Comfort

北欧型冬季轮胎



MILD WINTER

Central European
winter tyre



Rolling
resistance

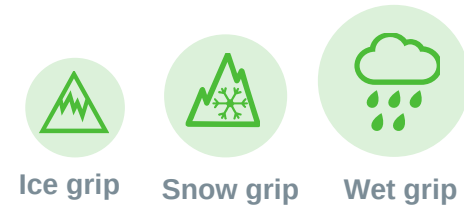
Comfort

中欧型冬季轮胎（非北欧型）



MILD WINTER/SUMMER

All-Weather
tyre



Rolling
resistance

Comfort

全季轮胎

CRYO CRYSTAL 3

第3代低温晶体

- Cryo Crystal 3 particles are microscopic crystals working like built-in studs

第3代低温晶体如同微小的钉子分布在轮胎表面

- They improve grip on ice by grabbing onto the driving surface

提供卓悦的冰面抓地力

- Made of renewable bio-material

源于生物科技材料



NOKIAN TYRES ARAMID SIDEWALL TECHNOLOGY

诺记轮胎新技术 胎侧使用芳纶纤维防弹衣材料

DURABILITY AND PROTECTION FOR SURPRISING SITUATIONS

经久耐用，可适用于各类路面，提供给使用者更安全的驾乘体验

- ✓ The sidewall compound includes extremely durable staple fibre
胎侧因为这样的新材料更加耐用
- ✓ Exceptionally resistant to wear and cuts
胎侧因为这样的新材料更加耐磨
- ✓ The Aramid fibre stiffens and reinforces the sidewall to better withstand external impacts
芳纶纤维防弹衣材料增强了胎侧的支撑



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WINTER TYRE REGULATIONS IN EUROPE AND RUSSIA

欧洲和俄罗斯的冬季胎法律法规

	Austria 奥地利	Bosnia Herzegovina 波黑	Croatia 克罗地亚	Czech Republic 捷克	Estonia 爱沙尼亚	Finland 芬兰	France 法国	FYR of Macedonia 马其顿	Germany 德国	Hungary 匈牙利	Iceland 冰岛	Italy 意大利	Latvia 拉脱维亚	Lithuania 立陶宛	Luxembourg 卢森堡	Montenegro 黑山	Norway 挪威	Poland 波兰	Portugal 葡萄牙	Romania 罗马尼亚	Russian Federation 俄罗斯	Serbia 塞尔维亚	Slovakia 斯洛伐克	Slovenia 斯洛文尼亚	Spain 西班牙	Sweden 瑞典	Switzerland 瑞士	Turkey 土耳其
Within a specified time frame 在特定的时间段		●	● 1)		●	●		●			●		●	●			● 3)				●	●	●	●				●
Within a specified time frame and during specified weather conditions 在特定的时间段内的特定天气情况下	●		● 1)	● 2)					●						●	●				●						●		
When indicated by a road sign (winter tyre and/or snow chain) 以道路指示标为准（使用冬季轮胎或者雪链）				● 2)			●			●		●						●	●						●		●	

1) On major roads, regardless of weather conditions, on other roads, in wintry weather conditions
主要道路，不管是否是特定天气情况，其他道路，特定天气情况。

Source: Nokian Tyres 03/2018

2) Both equally valid 2个情况，同时存在

3) Sufficient grip requirement; de facto mandatory winter tyres 强制使用

An aerial, wide-angle shot of a winding asphalt road that snakes through a vast, flat landscape. The terrain is a mix of light brown and green, suggesting a dry or semi-arid environment. The sky is a deep blue, filled with large, white, fluffy clouds. The sun is visible in the upper left, casting a soft glow. The road has white lane markings and a few small trees are planted along its edges.

THE FUTURE OF WINTER TYRES

冬季轮胎的未来趋势

THE FUTURE OF WINTER TYRES

冬季轮胎的未来趋势



Sensor technology
传感器技术

- Concept studded Tyres 镶钉概念冬季轮胎
- Snap Skan 轮胎扫描



Renewable
raw materials
新材料



Development
of vehicle technology
伴随汽车工业新技术发展的新技术

Electric
vehicles
电动车

Autonomous
vehicles
自动驾驶

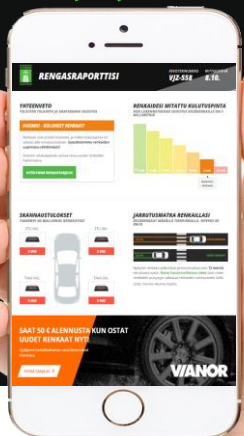
Car-sharing
共享汽车

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TYRES**

SNAPSKAN

**SOMETIMES THE SAFETY
OF YOUR LOVED ONES
DEPENDS ON MILLIMETERS**

毫厘之间，守护你心爱的人



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TYRES**



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TYRES**

THE FUTURE OF WINTER TYRES

冬季轮胎的未来趋势



Sensor technology
传感器技术

- Concept studded Tyres 镶钉概念冬季轮胎
- Snap Skan 轮胎扫描



Renewable
raw materials
新材料



Development
of vehicle technology
伴随汽车工业新技术发展的新技术

Electric
vehicles
电动车

Autonomous
vehicles
自动驾驶

Car-sharing
共享汽车

RENEWABLE RAW MATERIALS

新材料

Canola Oil 菜籽油

Nokian Tyres added Canola Oil to winter tyres in order to increase the snow and ice grip.

在冬季轮胎配方中添加菜籽油，旨在提高冰雪地面的抓地力。



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RENEWABLE RAW MATERIALS

新材料

Replacement for natural rubber 天然橡胶替代物

Already in 2017, Nokian Tyres was involved in starting a research project that studies the utilization of the guayule plant for more environmentally friendly tyre manufacturing. The guayule plant can survive under dry and barren conditions and is seen as a potential replacement for natural rubber.

在2017年，诺记轮胎就投身于利用银胶菊生产更环保轮胎的项目中。银胶菊可在干燥及贫瘠的环境下生存，被视为天然橡胶的替代物。



THE FUTURE OF WINTER TYRES

冬季轮胎的未来趋势



Sensor technology
传感器技术

- Concept studded Tyres 镶钉概念冬季轮胎
- Snap Skan 轮胎扫描



Renewable
raw materials
新材料



Development
of vehicle technology
伴随汽车工业新技术发展的新技术

Electric
vehicles
电动车

Autonomous
vehicles
自动驾驶

Car-sharing
共享汽车



INNOVATION AND TESTING

面向未来的创新及测试

A man and a woman are standing in a snowy, mountainous landscape. The woman is in the foreground, wearing a light-colored parka, a grey knit beanie, and a plaid scarf. She is smiling and looking towards the camera. The man is standing behind her, wearing a dark parka with a fur-lined hood and a grey scarf. He is also smiling and looking towards the camera. They are standing next to a dark-colored car, which is partially visible on the right side of the frame. The background is a soft-focus view of a snowy mountain range.

THANK YOU

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