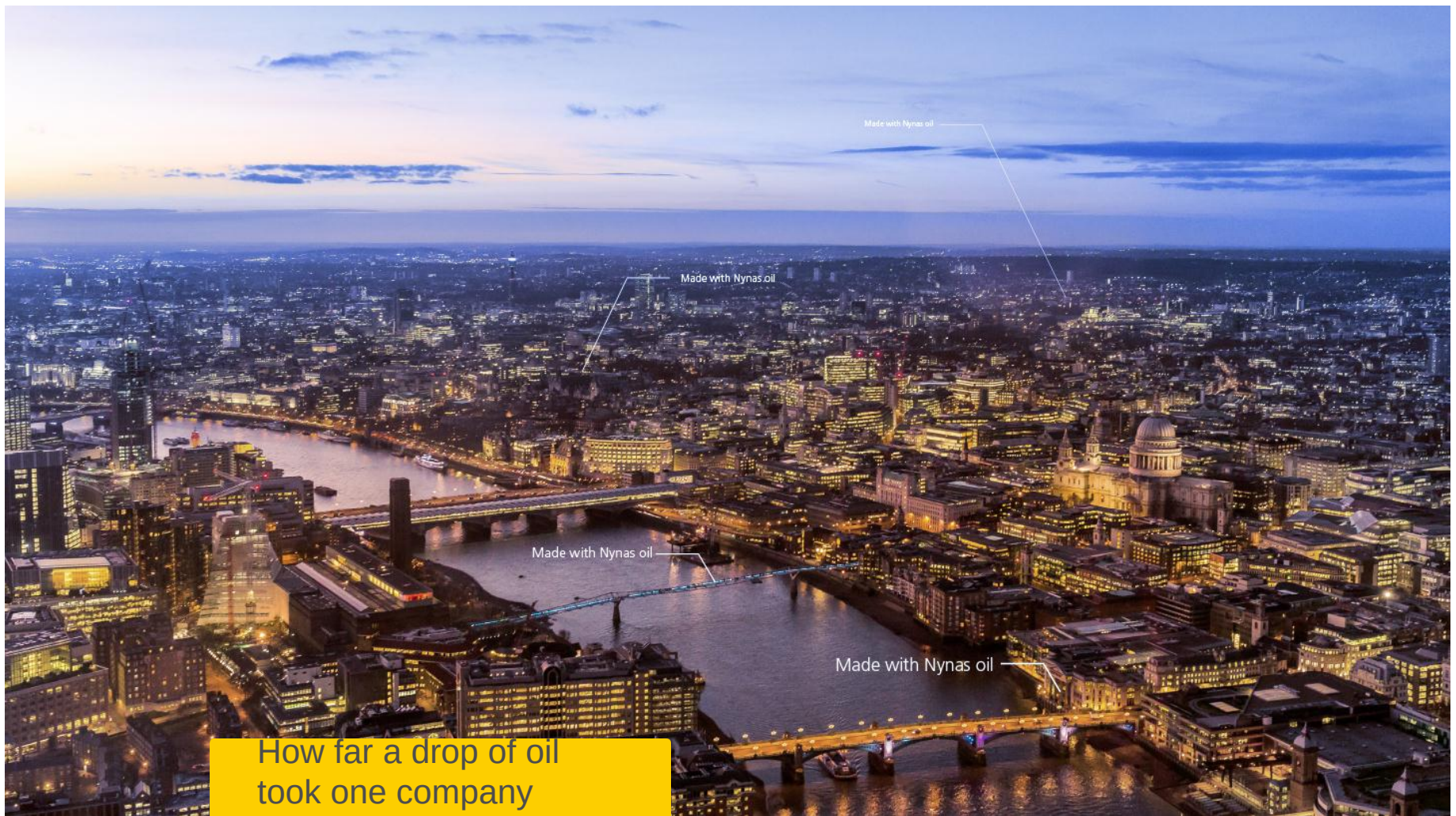




How far a drop of oil
took one company
一滴油可以将一家公司带多远

Welcome to Nynas欢迎来到尼纳斯



A different kind of oil company一家与众不同的油品公司



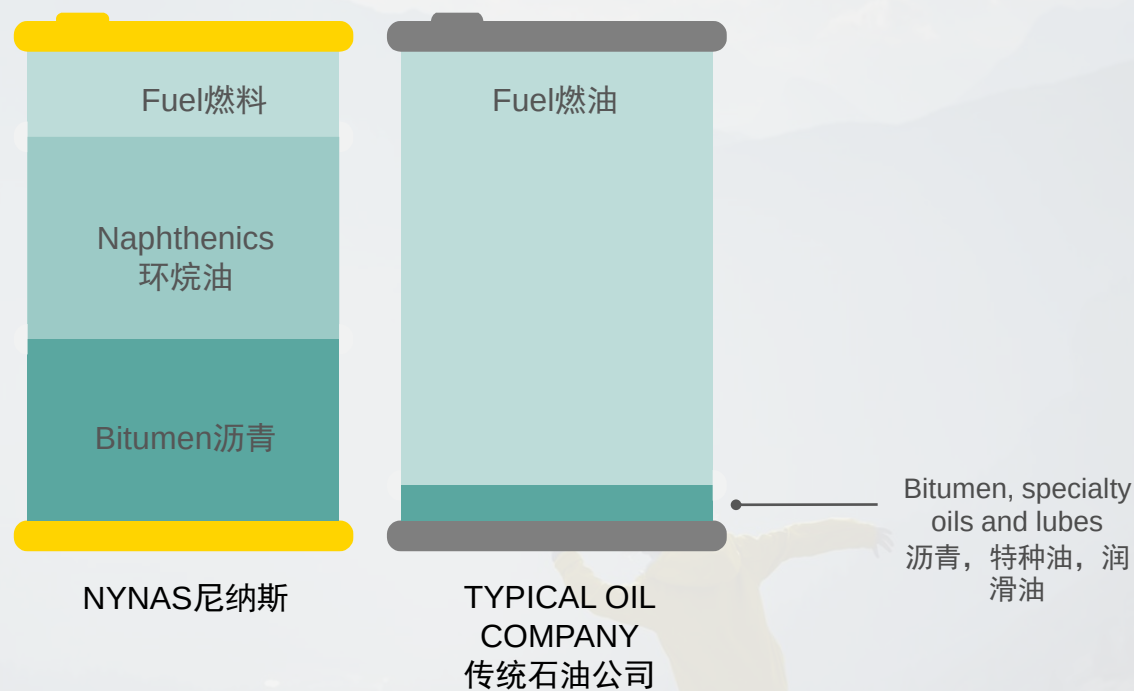
When you have a magical substance that can dissolve, purify, lubricate, cool, insulate, bind and protect, why would you burn it?
如果你拥有一种神奇的物质，它可做溶剂，可净化，润滑，冷却，绝缘，粘合并能提供保护作用，那为何要烧掉它

Nynas is a different kind of oil company.
尼纳斯是一家与众不同的石油公司

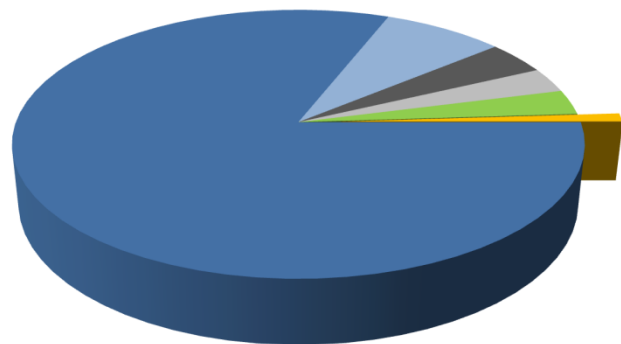


Making the most of every barrel 最大限度的利用石油

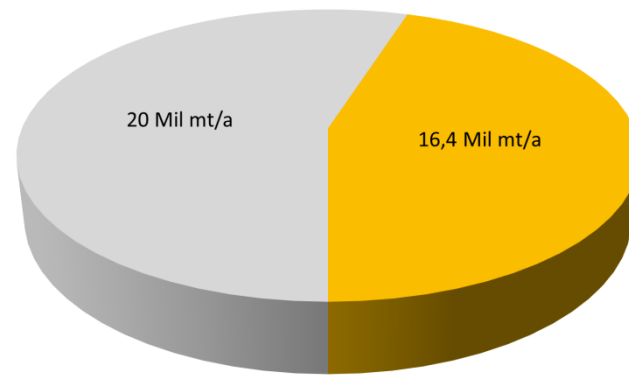
稳定的特种原油供应决定了稳定的品质保证---我们与众不同



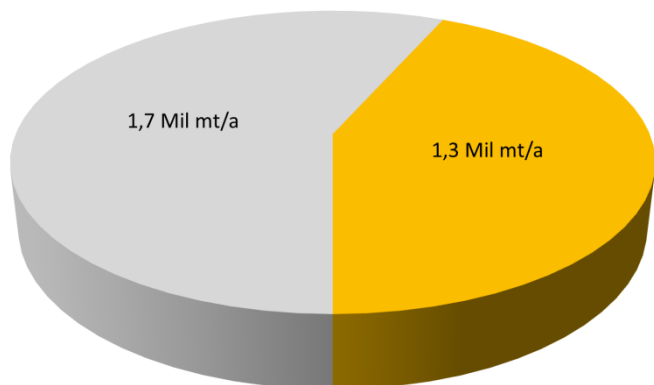
Global oil consumption全球油品消耗



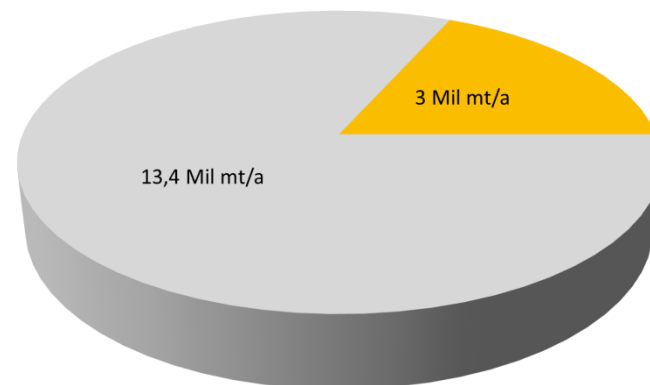
Fuels: 81% Gas: 8%
 Coke: 4% Bitumen: 3%
 Chemical feedstocks: 3% Lubricants: 1%



Automotive Industrial



Other Rubber Oils Tyre Rubber Oils



Other Industrial applications Rubber Process oils

Rubber process oils: ca 0.082% of total oil consumption

Tyre oils: ca 0.035% of total oil consumption

橡胶操作油：仅占有油品消耗量的0.082%

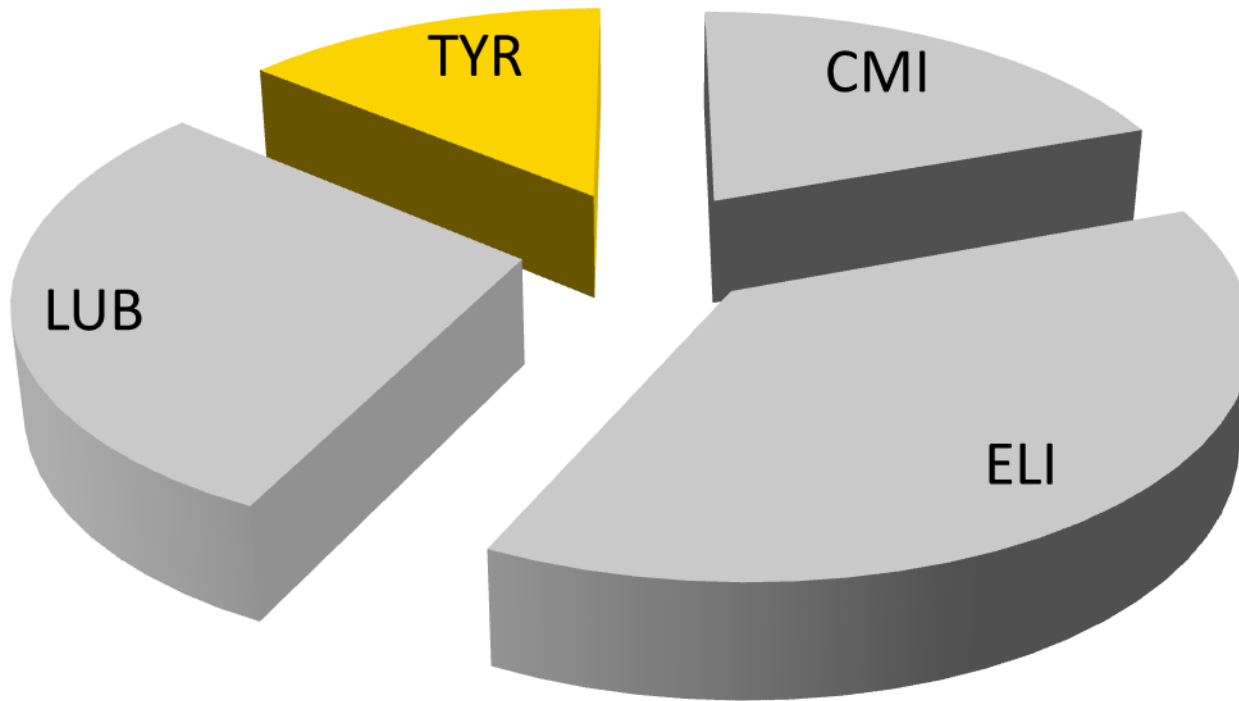
轮胎油：仅占有油品消耗的0.035%

Sources:

Nynas Internal research
Kline

在轮胎油领域，我们比以燃料油为主业的石油公司更专注、更专业。

The market for tyre oil is small –
look for a specialized supplier
轮胎油市场是一个很小的细分市场



Delivering value 传输价值

Together with our customers, we help create valuable products using Nynas naphthenic oils and bitumen 和我们的客户一起，以尼纳斯环烷油和沥青，共同创造价值

尼纳斯是欧洲最大的沥青供应商、是全球产能最大的环保轮胎油生产商；全球1/4人口使用的电能是通过使用尼纳斯变压器油提供的。

We have made it our business to unlock oil's potential.

Together, we bring value to life



1.25 billion

people today use Nynas
oil-assisted electricity
使用尼纳斯油品传输的电力受众达12.5亿人次

15 times

around the globe on roads
paved with Nynas bitumen
尼纳斯沥青铺设的路面可环绕地球
15圈

215,000,000

drivers on the road with Nynas oil in their tyres
驾驶含有尼纳斯油品的轮胎的司机

7,500M

diapers per year made
with Nynas oil 每年用尼纳斯
油品制造的尿不湿长度达
7500米

1.6 billion

newspapers printed with
Nynas oil every year以尼纳
斯油品制造的油墨所印刷的
报纸有16亿份

18 million

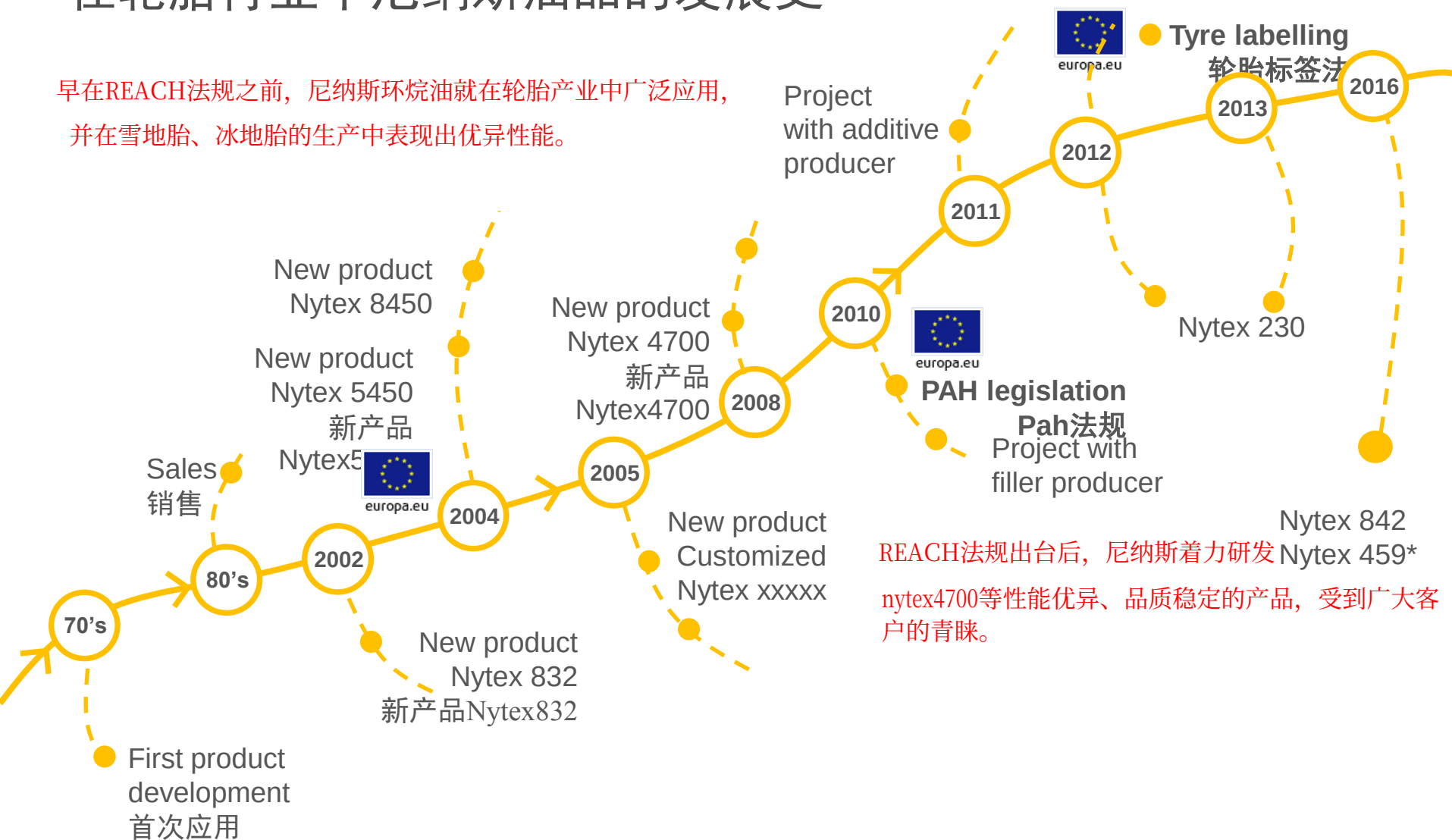
cars manufactured every year
with Nynas oil in their grease
每年使用尼纳斯油品生产的润滑脂,
使用于18,000,000辆汽车中

360 million

square metres of road resurfaced
with Nynas bitumen yearly尼纳斯
沥青每年所铺设的立方数

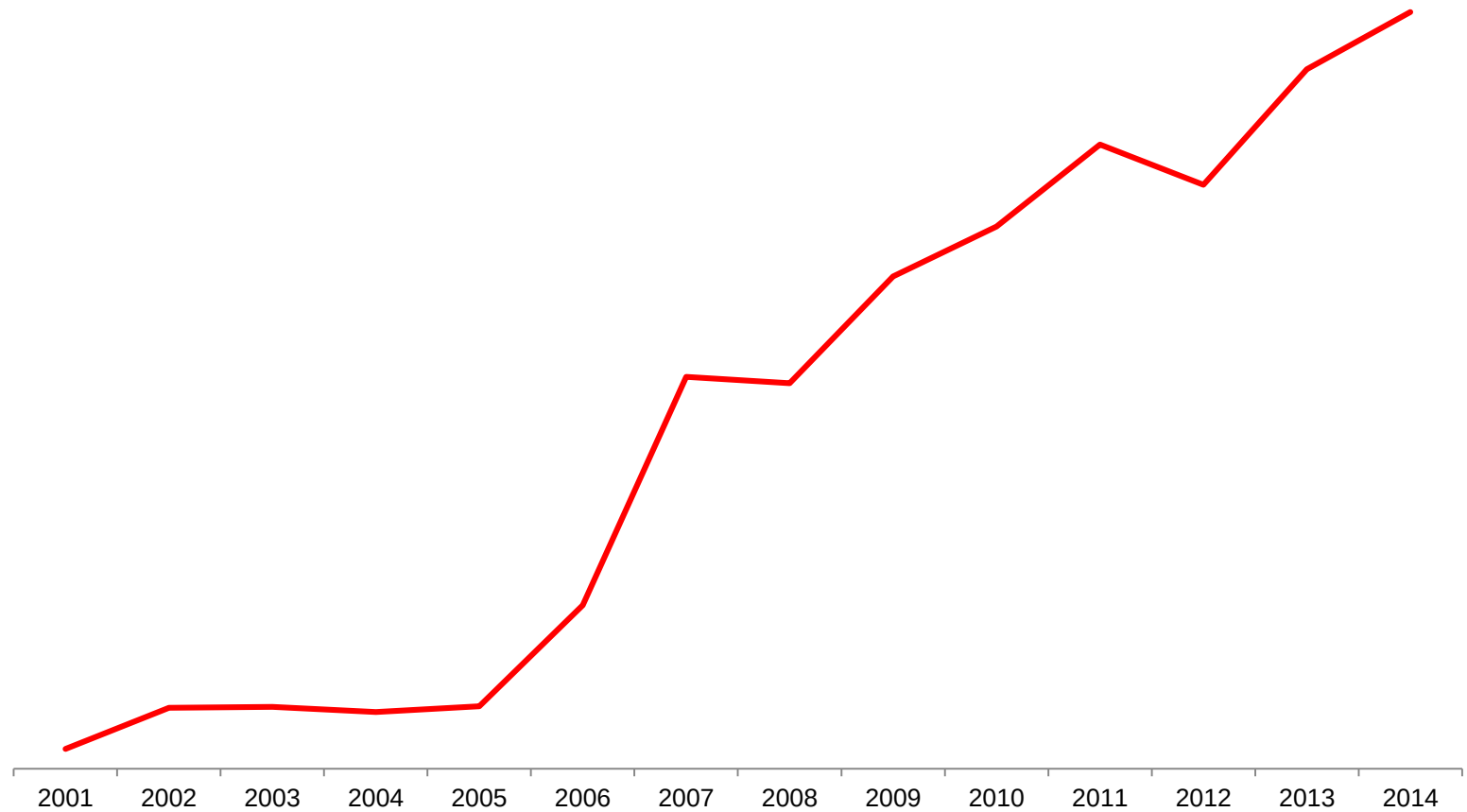
Nynas history in the Tire Industry 在轮胎行业中尼纳斯油品的发展史

早在REACH法规之前，尼纳斯环烷油就在轮胎产业中广泛应用，并在雪地胎、冰地胎的生产中表现出优异性能。



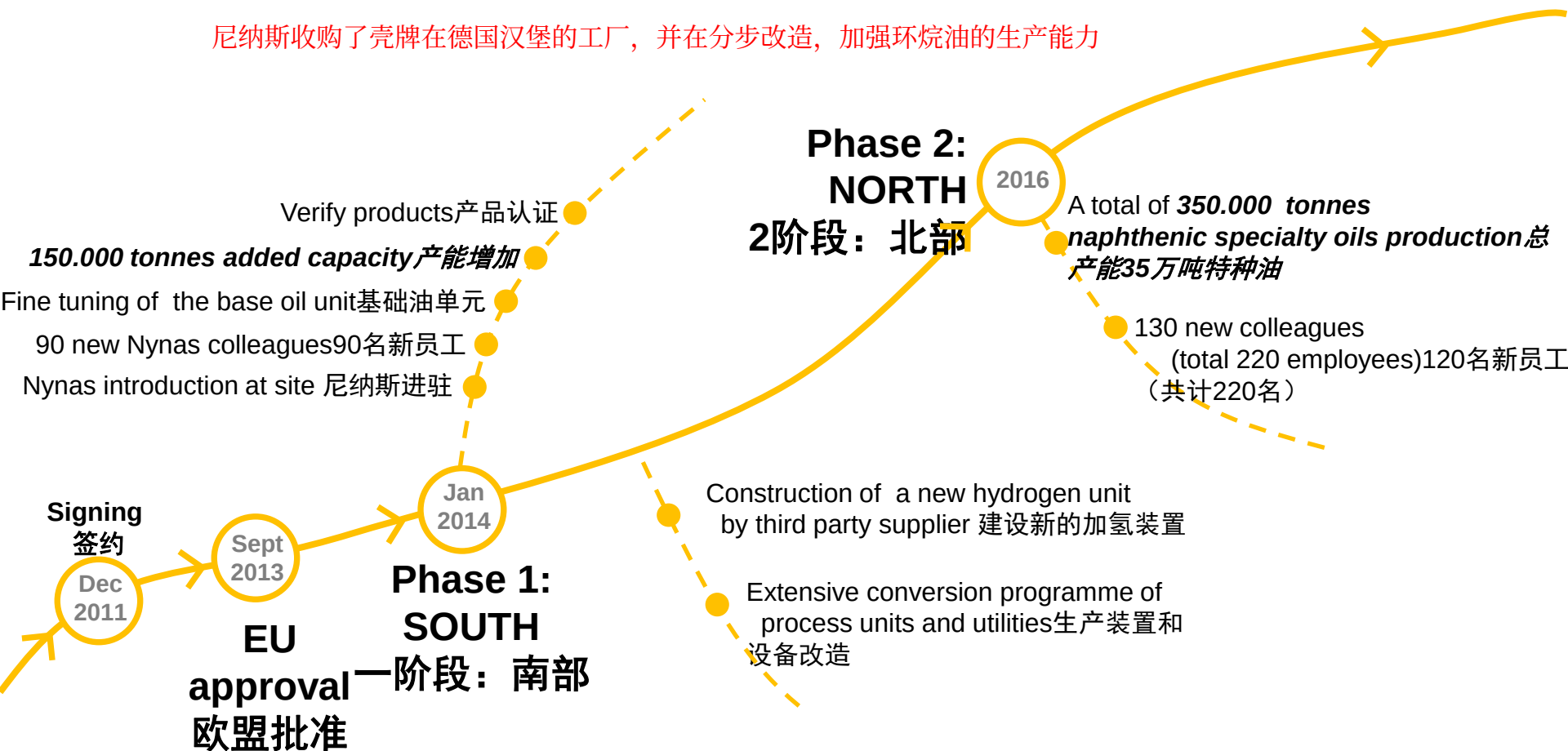
Nynas: Tyre oils sales

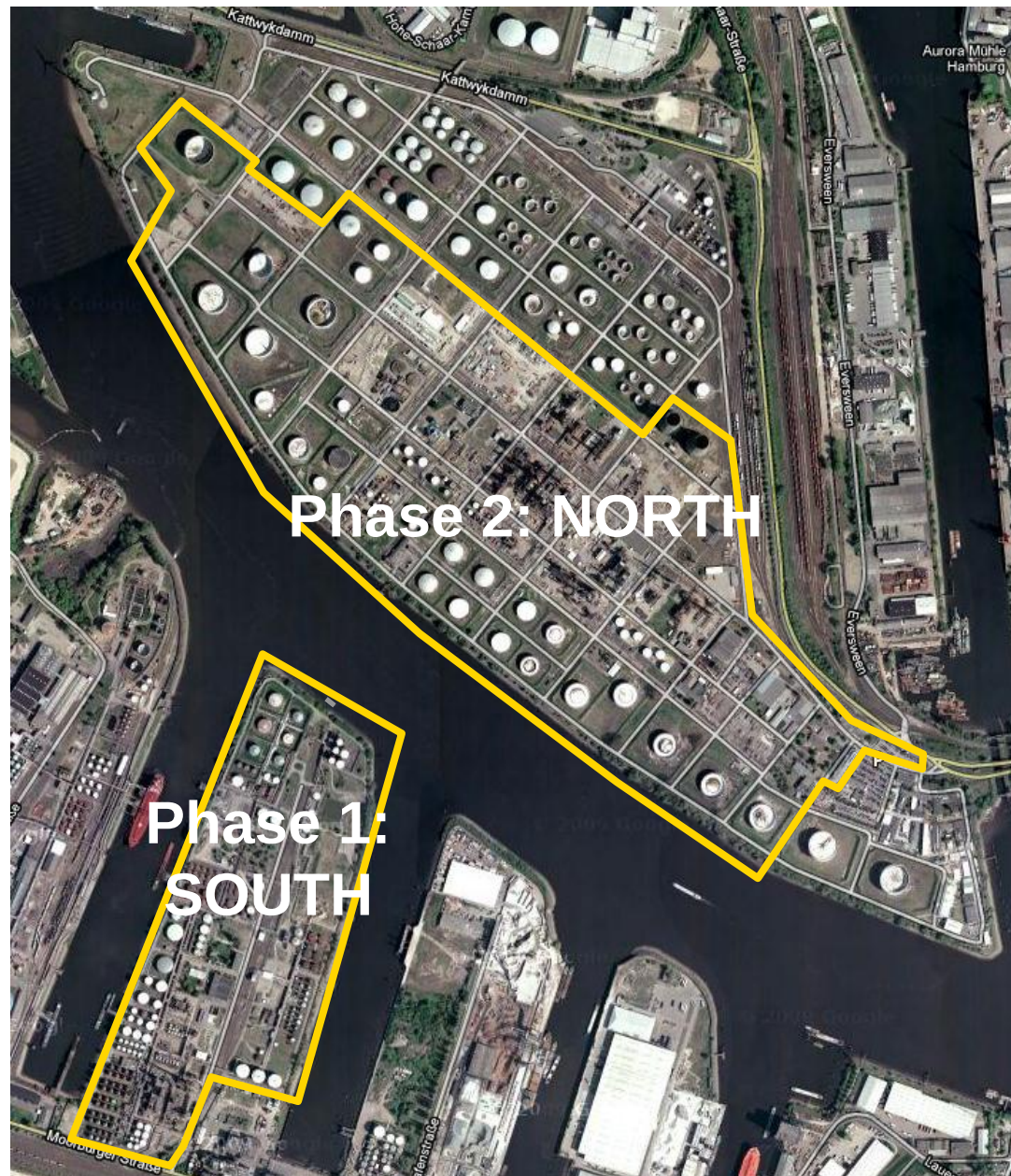
尼纳斯：轮胎油销售



Time Plan Nynas conversion of Harburg refinery 尼纳斯汉堡炼厂转产计划

尼纳斯收购了壳牌在德国汉堡的工厂，并在分步改造，加强环烷油的生产能力





It's our customers' network 客户网络

› Quality sourcing and manufacturing
高质量的原料与制造

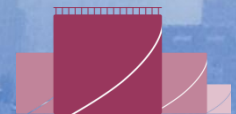
› Reliable distribution
值得信赖的物流

› Meeting specialist demands
满足特殊需求



4

Nynas refineries



3

Naphthenics hubs



3

Partner refineries



20

Naphthenics depots



Investment in R&D研发中心



- › Develop specific customer applications
满足特殊客户的要求
- › Research into naphthenic oils
深入研究环烷基油
- › Research into bitumen performance
深入研究沥青性能

Clarification on Green Oils for Tires (§§§)

轮胎行业所要求的环保油

Testing and assessment of polycyclic aromatic hydrocarbons (PAHs) in the course of awarding the GS mark
- Specification pursuant to article 21(1) no. 3 of the Product Safety Act (ProdSG) –

AfPS GS 2014:01 PAK
State of revision: August 4th, 2014



18 PAH's

NOT APPLICABLE FOR TIRES

不适用于轮胎工业

COMMISSION REGULATION (EU) 2015/326
of 2 March 2015

amending Annex XVII to Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) as regards polycyclic aromatic hydrocarbons and phthalates



8 PAH's

RELEVANT FOR TIRES

轮胎工业所要求的

18 PAH's in detail (full document available)

1. Purpose / Intention

Products (pursuant to the Product Safety Act) must comply with legal requirements to avoid health risks, e.g. art. 30 & 31 of the LFBG (Foodstuffs, Consumer Goods and Feedstuffs Code – LFGB), the Prohibition of Chemicals Ordinance, and the art. 3 of the ProdSG (Product Safety Act). This document and, in particular, the testing instructions (see Annex) specify the requirements with respect to the level of PAHs in products. In addition, the document harmonises the testing methodology for assessment by GS bodies.

Table 1: Maximum PAH levels to be complied with for the materials in relevant contact/grip and operating surfaces that are to be categorised based on the results of the risk assessment.

Parameter	Category 1	Category 2	Category 3
	Materials intended to be put in the mouth or materials in toys with intended long-term skin contact (longer than 30 s)	Materials not covered by category 1, with foreseeable skin contact for longer than 30 seconds (long-term skin contact) or repeated short-term skin contact ¹⁾	Materials not covered by category 1 or 2 with foreseeable skin contact up to 30 seconds (short term skin contact)

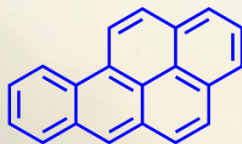
8 PAH's in detail (full document available)

- (2) Directive 2005/69/EC of the European Parliament and of the Council ⁽³⁾ prohibited the placing on the market and use of extender oils for the production of tyres or parts of tyres if they contain more than 1 mg/kg of benzo(a)pyrene (BaP), or more than 10 mg/kg of the sum of the eight listed polycyclic aromatic hydrocarbons (PAHs). That restriction is currently laid down in paragraph 1 of column 2 of entry 50 of Annex XVII to Regulation (EC) No 1907/2006.

Until 23 September 2016, the limits referred to in the first subparagraph may be regarded as kept, if the polycyclic aromatics (PCA) extract is less than 3 % by weight as measured by the Institute of Petroleum standard IP 346:1998 (Determination of PCA in unused lubricating base oils and asphaltene free petroleum fractions — Dimethyl sulphoxide extraction refractive index method), provided that compliance with the limits of BaP and of the listed PAHs, as well as the correlation of the measured values with the PCA extract, is measured by the manufacturer or importer every six months — after each major operational change, whichever is earlier.'

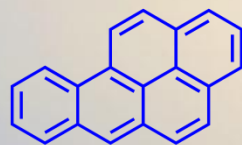
8 PAH's in detail (no change) 8项PAH的要求（没变化）

- ▶ more than **1 ppm** of



Benzo[a]pyrene
CAS No. [50-32-8]

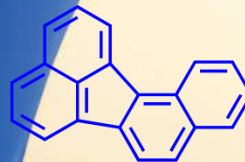
- ▶ or, more than **10 ppm** of the sum of all listed PAHs



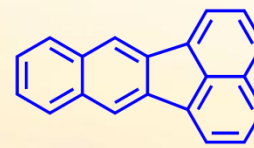
Benzo[a]pyrene
CAS No. [50-32-8]



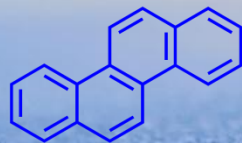
Benzo[e]pyrene
CAS No. [192-97-2]



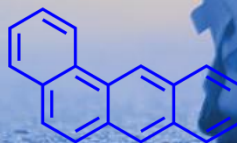
Benzo[j]fluoranthene
CAS No. [205-82-3]



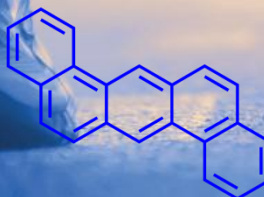
Benzo[k]fluoranthene
CAS No. [207-08-9]



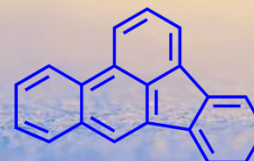
Chrysene
CAS No. [218-01-9]



Benz[a]anthracene
CAS No. [56-55-3]



Dibenz[a,h]anthracene
CAS No. [53-70-3]



Benzo[b]fluoranthene
CAS No. [205-99-2]

Change in measurement 测试方法的变化

2016, September 23rd	
Before之前	After今后
IP 346 proof of compliance IP346测试方法之一	IP 346 „voluntary“ IP346自愿检测
Alternative methods on 8 individual PAH's 8项PAH是可选测试方法	EN 16143 mandatory EN16143是指定方法

Summary总结

The background of the slide is a photograph of a person's legs in motion, running on a light-colored surface. The image is heavily filtered with a blue color, giving it a monochromatic appearance. The person is wearing dark athletic pants and white sneakers with dark laces. The background of the photo is a bright, hazy sky, suggesting a sunrise or sunset.

ALL NYNAS 所有的尼纳斯轮胎油
TIRE OILS,

such as

Nytex 4700

Nytex 840

Nytex 832

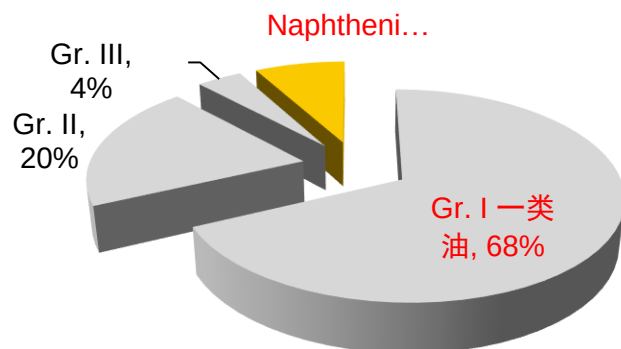
Nytex 820

Nytex 810 do comply with current legislations.

以上各种油品都满足现有法规

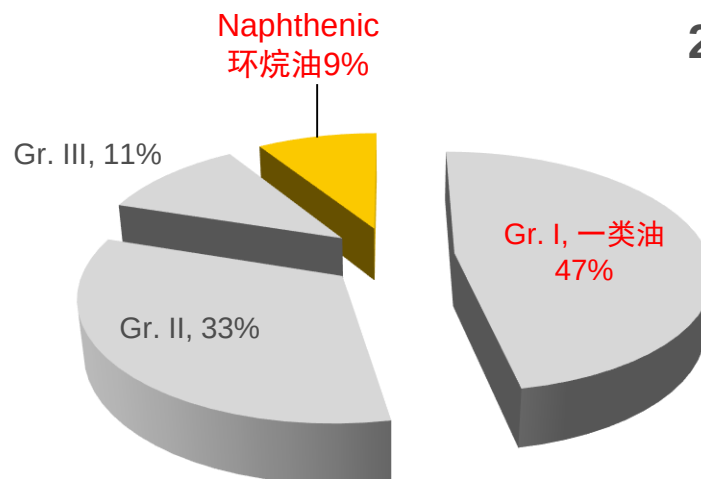
Changes in the Base Oil Industry 基础油工业的变化

2007

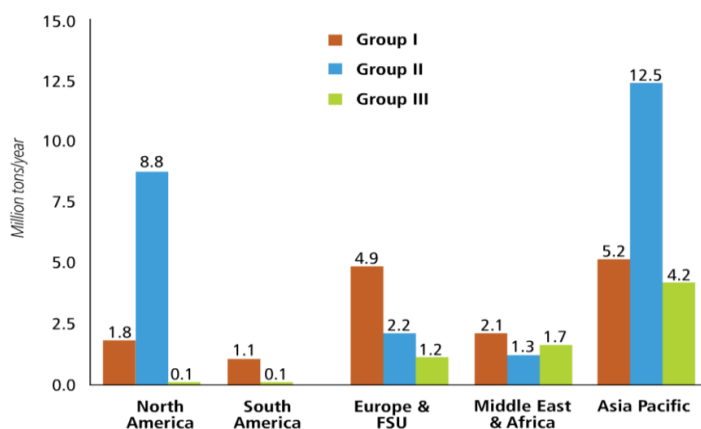


Driver: Higher quality engine oils and fuels 驱动力来自高性能的发动机和燃料

2014

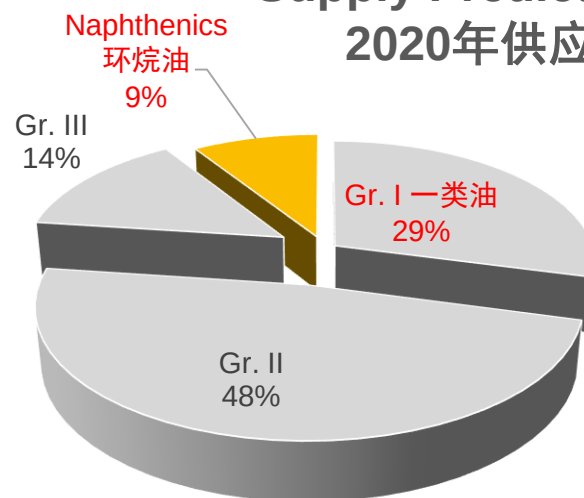


Regional Base Oil Supply, 2020

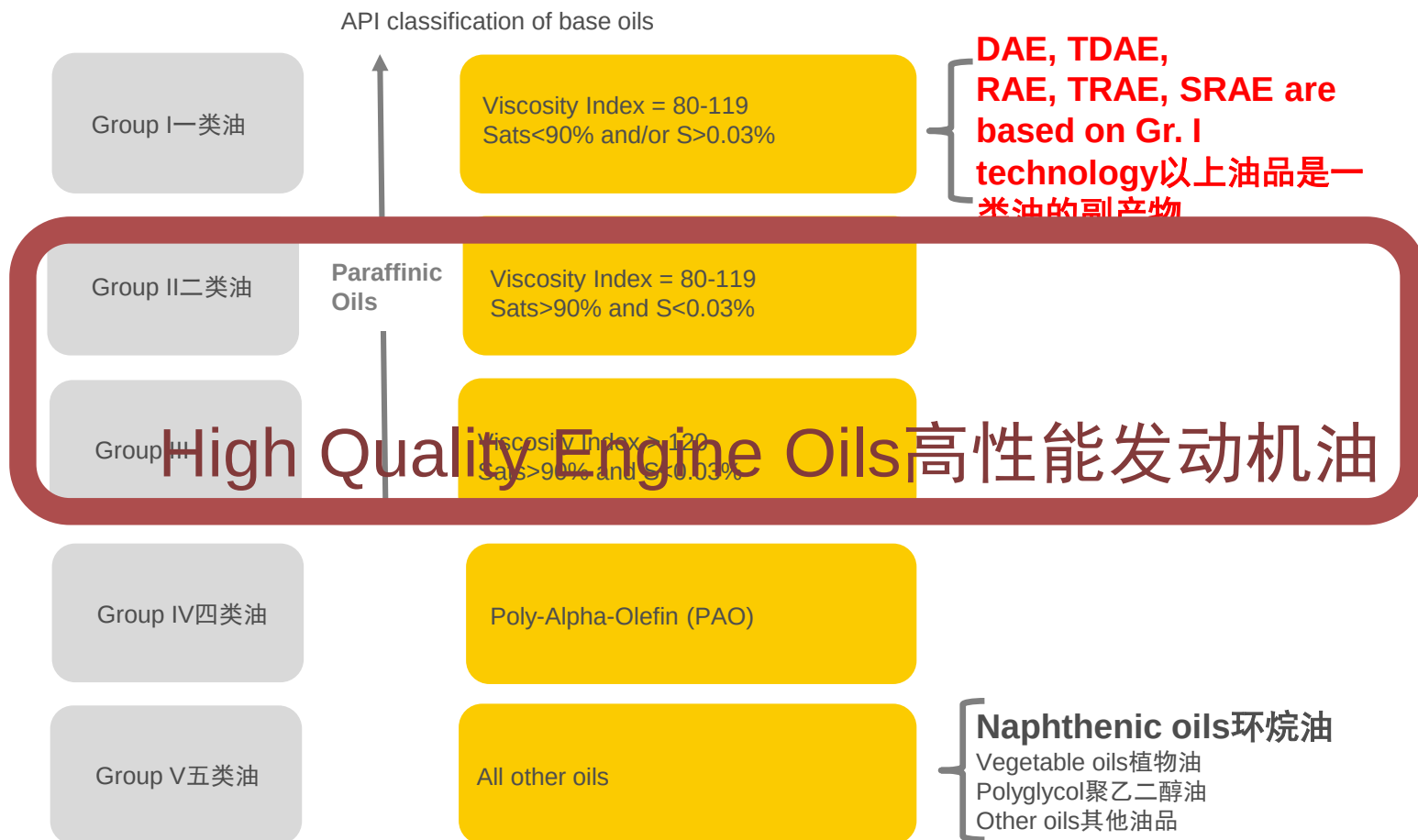


Source: SBA Consulting LLC

Supply Prediction 2020
2020年供应预测



Global Base Oil Market (1%)



WESTERN EUROPE

Company	Location	Paraffinic			Naph- thenic	Total
		Group I	Group II	Group III		
1 Agip Plas	Livorno, Italy	11,500				11,500
2 Cepsa	San Roque, Spain	5,400				5,400
3 Colas Group	Dunkerque, France	5,100		1,500		6,600
4 Essar	Stanlow, UK	5,060				5,060
5 ExxonMobil	Port-J/Gravenchon, Fr.	12,000				12,000
6 ExxonMobil	Augusta, Italy	14,000				14,000
7 ExxonMobil	Fawley, UK	7,800		810		8,610
8 H&R Chemische	Hamburg, Germany	4,850				4,850
9 H&R Chemische	Salzbergen, Germany	4,000				4,000
10 Kuwait Petroleum	Rotterdam, Neth.	4,050				4,050
11 Motor Oil Hellas	Agii Theodori, Gr.	4,300				4,300
12 Neste	Porvoo, Finland			5,000		5,000
13 Nynas	Nynasham, Sweden				7,800	7,800
14 Petrogal	Porto, Portugal	3,640				3,640
15 Repsol	Cartagena, Spain	2,700		200		2,900
16 Repsol	Puertollano, Spain	2,100				2,100
17 Shell	Hamburg, Germany	3,300			3,000	6,300
18 Shell	Pemis, Netherlands	7,100				7,100
19 Total	Gonfreville, France	9,000		800		10,400
20 Cator *	Tarragona, Spain	800				800
21 Cyclon Hellas *	Attika, Greece	800				800
22 Danske Olie	Kahlundborg, Denmark	800				800
23 Eco Huile *	Lillebone, France	2,400				2,400
24 L & T Recoil Oy *	Hamina, Finland		1,200			1,200
25 Mineralolraff.	Dollbergen, Germany	2,300				2,300
26 Puralube *	Troeglit, Germany		3,560			3,560
27 Viscolube *	Ceccano, Italy	1,670				1,670
28 Viscolube *	Pieve Fissiraga, Italy	390	1,600			1,990
29 Whelan *	Stoke-on-Trent, UK	1,000				1,000
Region's Totals		117,260	6,360	9,310	10,800	143,730

Base Oil
Refineries
Europe:

2012-

2012-2016
西欧一类油
炼厂（划线
者为关停
厂）

now:
Nynas, doubling
capacity

re-refiners

CENTRAL & EASTERN EUROPE						
Company	Location	----- Paraffinic -----			Naph- thenic	Total
		Group I	Group II	Group III		
1 Azerneftiyag Baku	Baku, Azerbaijan	8,000				8,000
2 Bashneft	Novo-Ufa, Russia	7,200				7,200
3 Gazprom-neft	Omsk, Russia	4,600				4,600
4 Lotos	Gdansk, Poland	4,800				4,800
5 Lukoil	Nizhni Novgorod, Russia	4,600				4,600
6 Lukoil	Perm, Russia	7,700				7,700
7 Lukoil	Volgograd, Russia	10,200		600		10,800
8 MOL	Szazhalombatta, Hung	3,800				3,800
9 Naftan	Novopolotsk, Belarus	3,800				3,800
10 PKN Orlen Oil	Kolin, Czech Rep.	2,200		300		2,500
11 PKN Orlen Oil	Plock, Poland	3,100				3,100
12 Raf. ulja Modrica	Modrica, Bosnia & Herz.			1,050		1,050
13 Rosneft	Angarsk, Russia	5,750				5,750
14 Rosneft	Novo-Kuibyshev, Russia	3,800				3,800
15 RussNeft	Orekh, Russia	3,700				3,700
16 Slavneft	Yaroslavl, Russia	4,800				4,800
17 Tupras	Izmir, Turkey	5,750				5,750
18 Turkmenbashi Oil	Turkmenbashi, Turkmen.	120	1,450			1,570
19 Ukratnafta	Kremenchuk, Ukraine	6,700				6,700
20 Uzbekneftegaz	Fergana, Uzbek.	3,800				3,800
21 PKN Orlen Oil*	Jedlicze, Poland	1,600				1,600
Two others	Ea. under 1,000 bpd	1,200				1,200
Region's Totals		97,220	1,450	1,950		100,620

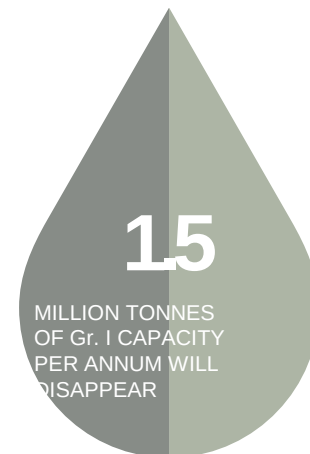
Base Oil
Refineries
Central &
Eastern
Europe
中欧和东欧
一类油炼厂

2012-
2016

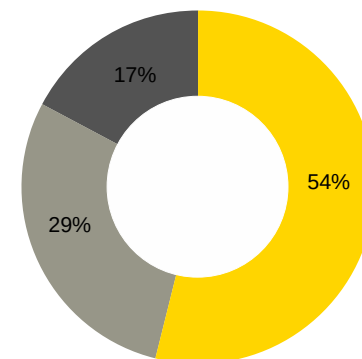
Nytex 4700 and European Gr. I closures

Nytex4700和欧洲一类油炼厂的关停

- Closures of Group I refineries in Europe (such as Shell, Total, ...) will lead to a shortage of RAE-type of product
- 欧洲一类油炼厂的关停（如壳牌，道达尔。。。）将导致RAE之类的产品出现短缺
- Fate of DAE based material remains to be seen, supply indications unclear
- DAE的消亡是可以预见的
- Several Tire & Rubber companies are to review their tire & process oil strategy (some of them reported to have an exposure to Gr. I refining based material of > 90%)
- 多家轮胎橡胶产品制造商正在重新审视其轮胎橡胶操作油的策略（据称部分产家对一类油相关产品的依赖度达到90%以上）
- Nytex 4700 testing has gone up significantly (# test samples sent out of Antwerp „sky-rocketed“)
申请测试Nytex4700的产家越来越多
- consequences:结果
 - Approval process speed up 认证速度大为增加
 - number of Approvals has gone up 通过认证的产家越来越多



Equals a loss of over 25%
Group I capacity for the
region.

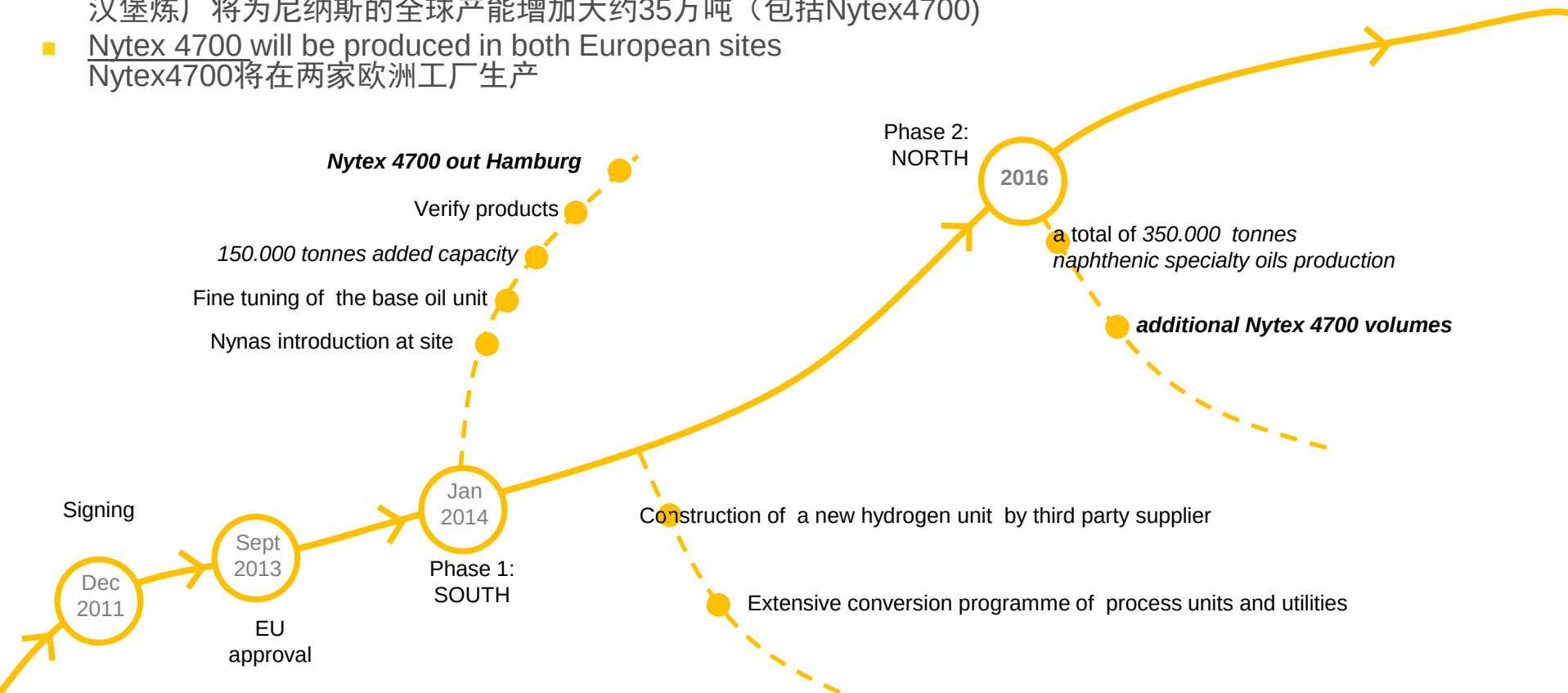


■ Process oils
■ Automotive lubricants
■ Industrial lubricants

Nytex 4700 supply security

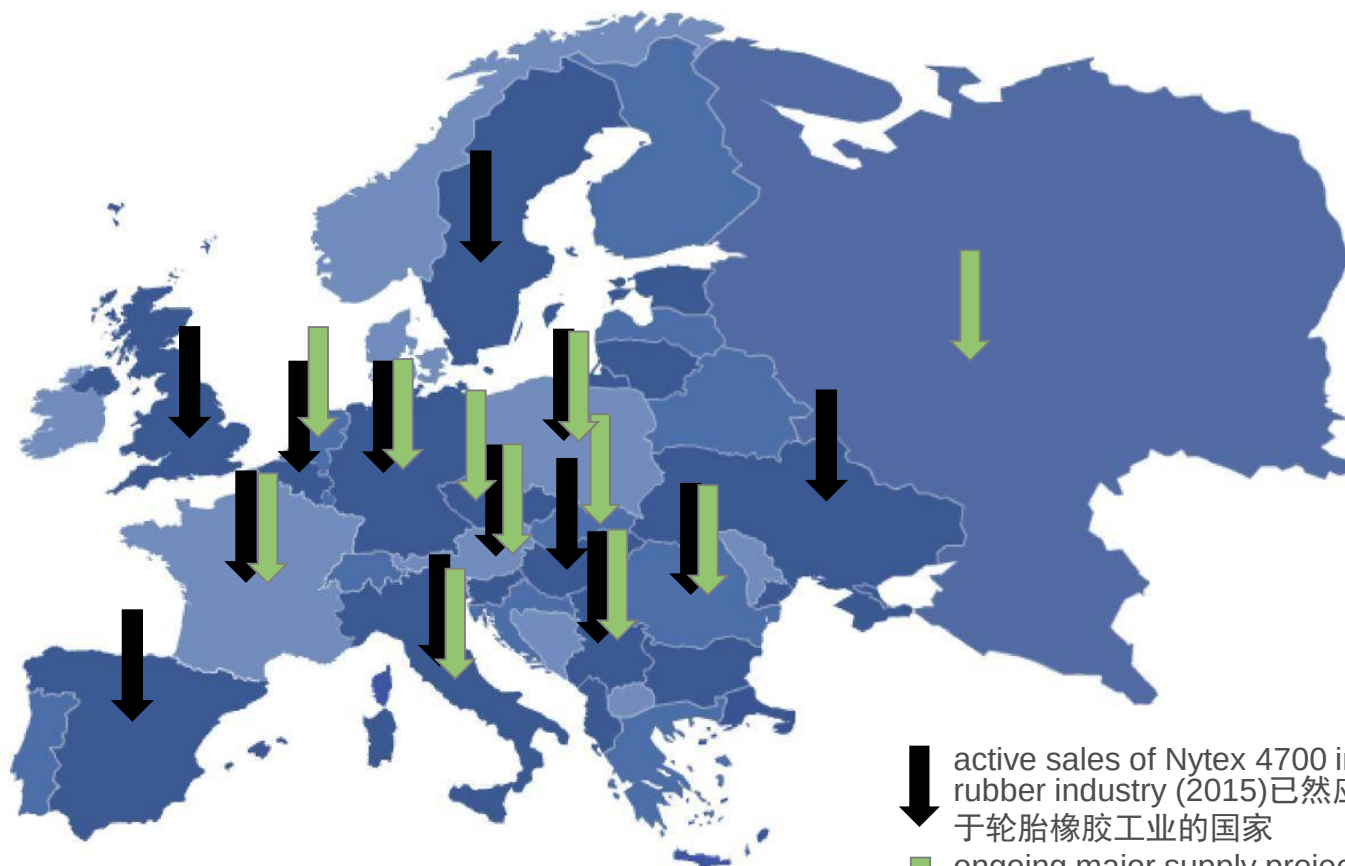
Nytex4700的供应安全性

- doubled supply security: 供应可持续性
production in Nynashamn/SE & Hamburg/DE 尼纳斯海姆炼厂与汉堡炼厂
- Hamburg/DE will add approx. 350 000MT of production capacity (incl. Nytex 4700) to Nynas global production platform
汉堡炼厂将为尼纳斯的全球产能增加大约35万吨（包括Nytex4700）
- Nytex 4700 will be produced in both European sites
Nytex4700将在两家欧洲工厂生产



Nytex 4700 in Europe (sales on country level)

Nytex4700在欧洲（国家层面）



- active sales of Nytex 4700 into the tire & rubber industry (2015)已然应用Nytex4700于轮胎橡胶工业的国家
- ongoing major supply projects (2016) (> 1000MT/a)正在进行的项目

Summary

- Nynas is a company, dedicated and focused to the tire industry
- 尼纳斯是一家专注于轮胎工业的公司
 - Investing in reliable supply globally
 - 建立了有保障的全球性供应体系
 - Close co-operation with tire customers
- 与轮胎客户紧密合作
- European tire oil legislation is on 8 PAH's only,
- 欧盟的轮胎油法规仅特指8PAH,
 - Brazilian legislation going down the same route
 - 巴西的法规也将遵循相同的思路
 - 18PAH's ("German legislation") are for other rubber goods
- 18PAH (德国法规) 仅适用于橡胶制品
- Base oil landscape is rapidly changing, not necessarily to the favour of Gr. I based tire oils基础油工业正快速发生变化,
 - Naphthenics is a safe bet
 - Technically & in terms of supply
 - 环烷油的应用及供应具有安全保障

TAKING OIL FURTHER **让石油走的更远**

We take oil further to bring lasting value to
customers and the world we live in.
以油品为我们生活的世界和客户带来
持续性的价值

