

### 纳通科技集团 Naton Technology Group

纳通医疗集团



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# 1. Introduction of Naton Technology Group

纳通科技集团介绍





**R&D** Innovation **Promoting** 推动研发创新



**Product Quality Improvement** 提升产品品质



**Quality Service** Inheritance 秉承优质服务



**Partnerships Expansion** 拓展伙伴关系



#### 1.1 Group Overview 集团機

Naton Group has more than 4,000 employees, including 288 overseas employees 现有员工4000余人,其中海外员工288人

Naton Group has 17 high-tech enterprises, 9 of which are state-level high-tech enterprises

旗下17家高新技术企业,其中9家为国家级高新技术企业

Always focus on the field of health care, to provide quality products and services for patients 始终专注于医疗健康领域,为患者提供优质产品与服务







#### 1.1.2 Group Businesses 集团产业

Naton products and services have covered the entire industrial chain of medical implants

纳通产品和服务已覆盖医用内植入物全产业链

Focusing on orthopedics, Naton is constantly expanding the field of medical implants and surrounding areas 聚焦骨科,不断拓展医用内植入物及周边领域

IRENE and KINGSTAR trademarks have been recognized as famous trademarks of Tianjin 正天、金兴达商标被认定为天津市著名商标



Overseas R&D center 海外研发中心 New material industry base 新材料产业基地

> Precision manufacturing center 精密制造中心





Headquarter 集团总部 R&D center 研发中心 Sales center 营销中心 Supply chain Beijing center 供应链北京中心



Industrial center 工业中心 R&D branch 研发分院 Supply chain center 供应链中心



Industrial design cooperation base 工业设计合作基地

#### 1.1.3 Industry Layout 产业布局

lane

Naton Beijing is mainly responsible for R&D, sales, supply chain, headquarters management and other functions

北京的产业主要承载研发、销售、供应链、总部管理等功能

Naton Tianjin is mainly responsible for production, industrial R&D, logistics and other functions

天津的产业主要承载生产、工业研发、物流等功能

Naton Overseas are mainly distributed in Finland, Germany and the United States, carrying overseas R&D, industrial design and production functions 海外产业主要布局在芬兰、德国和美国,承载海外研发、工业设计和生产功能





#### 1.1.4 Business revenue over the Years 历年经营情况

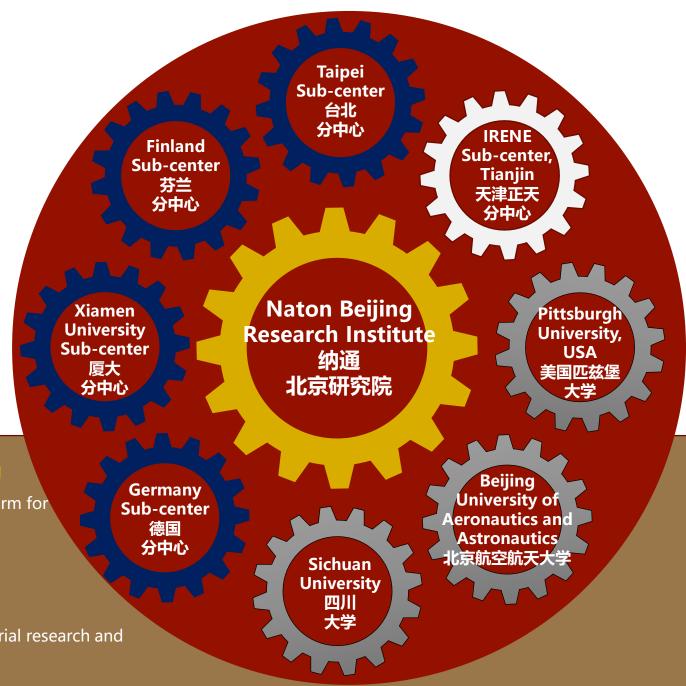
Domestic orthopedic implant consumables industry market share continues to grow at a high speed

国内骨科内植入物耗材行业市场占有率持续高速增长

The compound growth rate of sales revenue in the past decade is 29%, and the total sales revenue of all enterprises under the group is 11.1 billion CNY in 2019

近十年销售收入的复合增长率为29%, 2019年集团旗下各企业销售收入总计111亿元





#### 1.2 Global Layout of R&D 研发全球布局

Connect global resources and build an integrated innovation platform for production, learning, research and application

对接全球资源,搭建产、学、研、用一体化创新平台

A total of 541 patents, including 67 foreign invention patents

拥有专利共541件,其中国外发明专利67件

In the biological absorbable polylactic acid and its composite material research and development area, Naton obtains the world's leading position

在生物可吸收聚乳酸及其复合材料研发方向取得全球领先地位

#### 专利墙 Patent Wall



#### 1.2.1 Innovation Driven 创新驱动

Naton R&D Center is the earliest practical orthopedic R&D center with international level in China, and has carried out more than 700 orthopedic projects 纳通研发中心是国内最早设立的具有国际水平的实用型骨科研究开发中心,累计开展骨科研发项目700余项

In recent years, Naton has undertaken or participated in 8 national "863" and "Science and Technology Support" programs, and 7 "the 13th Five-Year" national key R&D plans

近年来承担或参与国家"863"、"科技支撑"计划共8项,"十三五"国家重点研发计划7项

Naton has undertaken 13 Beijing and Tianjin science and technology plan projects

承担北京市、天津市科技计划项目13项



#### 1.2.2 Build World-Class R&D Center 建设世界水平的研发中心

#### R&D Trial Workshop 研发中试车间

R&D trial workshop is mainly engaged in building new product samples, small batch trial run and research as well as production of unconventional customized products. The main equipment includes 2 sets of Switzerland TORNOS, 4 sets of Germany imported five axis DMG, 1 set of AgieCharmilles wire cutting machine, 1 set of Japan imported Tsugami slitting machines, 2 sets of Germany imported DMG turning milling processing centers, and 7 sets of other imported equipment. The total investment of equipment is near 20 million CNY. 研发中试车间主要从事新品样品、小批试制,非常规定制的研发生产,主要设备包括瑞士特纳斯2台,德国进口DMG五轴4台,阿奇夏米尔慢走丝1台,日本进口津上1台,德国进口DMG车铣复合2台,其他各类进口设备7台,总设备投入近2000万。





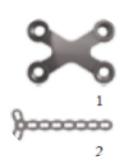




Knee joint product line 膝关节产品线



Spine product line 脊柱产品线



Trauma product line 创伤产品线



Sports medicine product line 运动医学产品线



Dental product line 齿科产品线

#### 1.2.2 Build World-Class R&D Center 建设世界水平的研发中心

Industrial systems support product development

工业系统支持产品研发成果

Complete the supplement and improvement of the whole orthopedic field and dental product line

完成全骨科领域及齿科产品线的补充及改进工作

Representative products are crystal handle, TOPII, spinal internal fixation system, Apollo implant system and other high-sales products and supporting equipment

代表产品有水晶柄、TOPII、脊柱内固定系统、阿波罗种植体系统等高销量的产品及配套器械





Absorbable hemostatic products 可吸收止血产品



Bone repair ceramic material 骨修复陶瓷材料



Self-reinforcing polylactic acid products 自增强聚乳酸产品



equalizer

Knee

膝关节平衡器



Spinal electronic circuit breaker 脊柱电子开路器

#### 1.2.2 Build World-Class R&D Center 建设世界水平的研发中心

The self-innovated products of the institute are gradually moving towards the front of the market

研究院自主创新的产品渐渐走向市场前端

Based on the research and development of traditional orthopedic implants, a number of research and development achievements have been made by combining biological materials, photoelectric technology, 3D printing technology, material surface treatment and other technologies

在传统骨科内植入物研发的基础上结合生物材料、光电技术、3D打印技术、材料表面处理等技术,取得了多项研发成果





Preoperative model printing 术前模型打印



Intraoperative guidance mould 术中导向模板



Individualized implants 个性化植入物



#### 1.2.2 Build World-Class R&D Center 建设世界水平的研发中心

Preoperative model rehearsal surgery, increase doctor-patient communication, predict the risk of surgery

术前模型预演手术,增加医患沟通,预知手术风险

Medicine and industry cooperation, the surgery plan is customized according to the patient status

医工结合,根据患者个性化定制手术方案

The most advanced 3D printing research and development capacity and high-end equipment, short production cycle, high printing accuracy 最先进的3D打印研发能力及高端设备,制作周期短,打印精度高











IRENE plant, Tianjin 天津正天工厂

Link plant, Beijing 北京LINK中国工厂

BRICON plant, Germany 德国BRICON工厂

INION plant, Finland 芬兰INION工厂

#### 1.3 Global Layout of Industry 工业全球布局

Naton has 18 plants globally, including 2 in Germany and 2 in Finland

海内外拥有18家生产企业,其中德国2家,芬兰2家

Actively responding to the national strategy of "Integration of Beijing, Tianjin and Hebei", Naton established an industrial manufacturing base in Tianjin with brands IRENE, KINGSTAR and INION

积极响应"京津冀一体化"国家战略,打造正天、金兴达、伊宁(INION)等品牌的天津工业制造基地

Link Beijing factory and Link Germany factory keep same, are the global artificial joint high-end product production base

北京LINK中国工厂与德国LINK工厂同步,是全球人工关节高端产品的生产基地

Overseas distribution of Germany and Finland, is to set the European precision manufacturing center and Finland's new materials industry base

海外布局德国和芬兰,分别建设欧洲精密制造中心和芬兰新材料产业基地









#### 1.3.1 Tianjin Production Base 天津工业基地

- Set up an industrial manufacturing base in Tianjin with brands such as IRENE, KINGSTAR and INION
- 在天津布局正天、金兴达、伊宁 (INION) 等品牌的工业制造基地
- The planned gross floor area is 145,000 square meters, and 115,000 square meters have been built
- 规划总建筑面积达14.5万㎡,已建成11.5万㎡



#### 1.3.1 Tianjin Production Base 天津工业基地

- IRENE has 608 sets of processing equipment, including 144 imported high-precision equipment such as TORNOS slitting machine from Switzerland and DMG five-axis processing center from Germany
- 正天拥有加工设备608台,其中瑞士TORNOS纵切机床、德国DMG五轴加工中心等进口高精尖设备144台
- IRENE has 800 square meters 10 thousand grade aseptic laboratory and 100 thousand grade aseptic packaging workshop
- 拥有800㎡的万级无菌实验室和10万级无菌包装车间
- IRENE has a sound quality management system
- 拥有完善的质量管理体系





#### 1.3.2 LINK China Plant LINK中国工厂

LINK Factory China is a global production base for high-end artificial joint products, which keeps same with the original factory in Germany

林克中国工厂,与德国原厂生产同步,全球人工关节高端产品的生产基地





#### 1.3.3 German Production Base 德国工业基地

In 2016, Naton acquired Zrinski company, Germany to build a high-end overseas manufacturing base 纳通于2016年并购德国筑瑞斯公司,打造海外高端制造基地

Zrinski company is a famous precision machining enterprise in Germany

筑瑞斯公司原为德国著名的精密机械加工企业

Advanced production technology, finishing technology and surface treatment technology in the world's advanced level 生产技术先进,精加工技术和表面处理技术位于世界先进水平



#### 1.3.4 Finland Production Base 芬兰工业基地

INION Finland, formerly listed on the Main board of the London Stock Exchange, is the world's most advanced company in terms of technology for absorbable orthopedic implants

芬兰INION公司,原伦敦证交所主板上市企业,是目前世界上在可吸收骨科内植入物技术方面最先进的公司

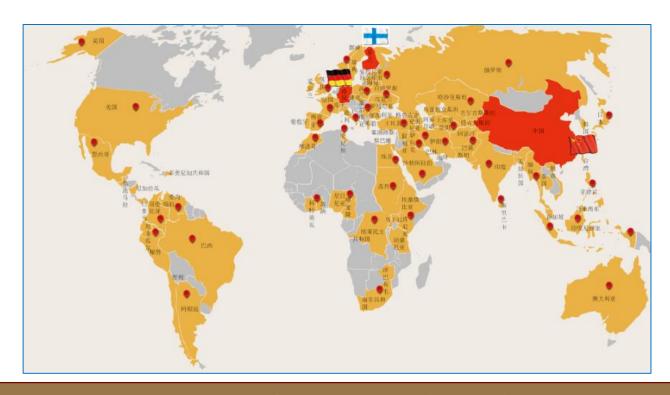
Naton Medical Group took full control of INION in 2010

2010年,纳通医疗集团全资收购INION公司









#### 1.4 Domestic and Overseas Sales Network 海内外销售网络

Naton's products have been sold to more than 130 countries or regions in the world, and the products realized market access in 52 "One Belt and One Road" countries

纳通旗下各品牌产品已销往全球130多个国家或地区,在52个"一带一路"沿线国家实现产品准入

Massachusetts General Hospital of Harvard University, Stanford University Medical Center, Diakonie-Krankenhaus Bad Kreuznach in Germany and other developed countries have been applied

美国哈佛大学麻省总医院、斯坦福大学医院、德国教会连锁医院等发达国家医院均有应用

Domestic sales includes more than 140 offices, more than 5,000 distributors and nearly 15,000 hospitals

国内销售共有140余个办事处,5000多家分销商,近15000家医院



#### 1.5 Public Welfare Undertakings 公益事业

In 2016, Naton cooperated with the Rehabilitation Research Center of The China Disabled Persons' Federation to carry out the activity of "Promoting Poverty Alleviation and Health", donated 1,000 sets of artificial joints, and replaced them free of charge for 1,000 poor disabled patients, so as to help them recover social life and get rid of poverty

2016年,与中国残联康复研究中心合作,开展"集善扶贫健康行"活动,捐赠1000套人工关节,为1000名贫困残疾患者免费置换人工关节,助其恢复社会生活,摆脱贫 困

The campaign has been carried out in Tibet, Xinjiang, Ningxia, Guangxi and Guizhou

"集善扶贫健康行"活动目前已在西藏、新疆、宁夏、广西、贵州等地开展





# 2. Introduction of Naton Personal Protective Equipment

纳通防疫物资介绍

### **●**纳通



On February 21, 2020, Premier Li Keqiang, member of the Standing Committee of the Political Bureau of the CPC Central Committee, and leader of the Leading Group from the central government for Response to Covid19, visited Haidian district of Beijing to inspect the production and supply of medical protective devices. The picture shows Premier Li Keqiang inspecting the mask production line at Naton Medical Group

2月21日,中共中央政治局常委、国务院总理、中央应对新冠肺炎疫情工作领导小组组长李克强到北京海淀考察医疗防控物资生产供应保障情况。图为李克强总理考察纳通口罩生产线

After the outbreak of the Covid-19 in 2020, Naton actively responded to the government's call to convert the newly built 100,000-level clean room planned for the research and development of orthopedic implants into mask production urgently. Naton takes immediate action to support and contribute to the anti-epidemic works.

In order to meet the needs of people around the world to fight the epidemic and help build a common human health community, Naton continues to increase investment in Beijing, Tianjin and Hebei, introduces high-speed automatic mask machines, installs melt blown non-woven cloth production lines, develops environmental-friendly degradable melt blown materials, and establishes the full-performance testing laboratory for masks, builds up the entire industrial chain of masks from primary key raw materials to products, continuously expands production capacity and enriches product lines. It has obtained registration certifications and sales authorizations in China, Europe, the US and other countries. Naton has passed ISO9001, ISO13485 and other quality management system certifications

新冠肺炎疫情暴发后,纳通积极响应政府号召,紧急将用于研发的十万级洁净实验室腾空,搬入口罩机,组织口罩生产,以实际行动支持国家抗疫工作。

为满足全球人民抗疫所需、助力构建人类卫生健康共同体,纳通在京津冀三地持续加大投入,引入高速自动化口罩机,建设熔喷布生产线,研发环保可降解熔喷料,设立口罩全性能检测实验室,打通口罩从初级核心原料到产品的全产业链条,不断扩大产能和丰富产品线。已取得了中国和欧美等多国的注册认证和上市许可,通过了ISO9001、ISO13485等质量管理体系认证。



#### 2.1 Production Base Overview 产业基地

A production base of Naton Technology Group, which is a professional manufacturing factory of medical protective equipment. 纳通科技集团产业园区,是专业的医用防护器材生产加工基地

It is located in Tianjin Airport Economic Zone, covering an area of 76,500 square meters.

产业基地位于天津空港经济区,占地面积约76,500㎡

The Production Base is equipped with 700 various types of mask equipment, total number of employees are more than 850, with a daily production capacity of more than 12 million

产业基地配备各类型口罩设备700余台,总人数达到850余人,日产能达1200万只



#### 2.2 Mask Production – High-Speed Machines 口罩生产——高速设备

Advanced and high-end equipment for the production of mask products to provide quality and capacity assurance 先进、高端的设备为生产口罩产品提供品质和产能保证

High speed automatic mask processing equipment. It uses automatic refueling device, material rectifying device, and the world's top ultrasonic welding process.

高速自动化口罩加工设备,采用自动换料装置、物料纠偏器,使用全球顶尖的超声波焊接工艺

The quality is stable and the production capacity is 8 times that of normal mask equipment.

质量稳定,产能相当于普通口罩机的8倍



# Automatic detection CCD introduction



#### 2.3 Industrialization Improvement 工业化提升

Automatic detection Charge-coupled Device launched to serial production, which can effectively automatically detect the appearance, size of the mask, absence of nose clip, dirt and foreign materials, ear strap welding status, etc 自动视觉检测CCD导入,可有效的自动检测口罩的外型尺寸,鼻夹缺失,脏污异物,耳带焊接状况等







#### 2.4 Mask Production 口罩生产

It has a ISO14644 Class 8 purification plant about 21,000 square meters, and a ISO14644 Class 7 microbiology, aseptic, positive control clean laboratory

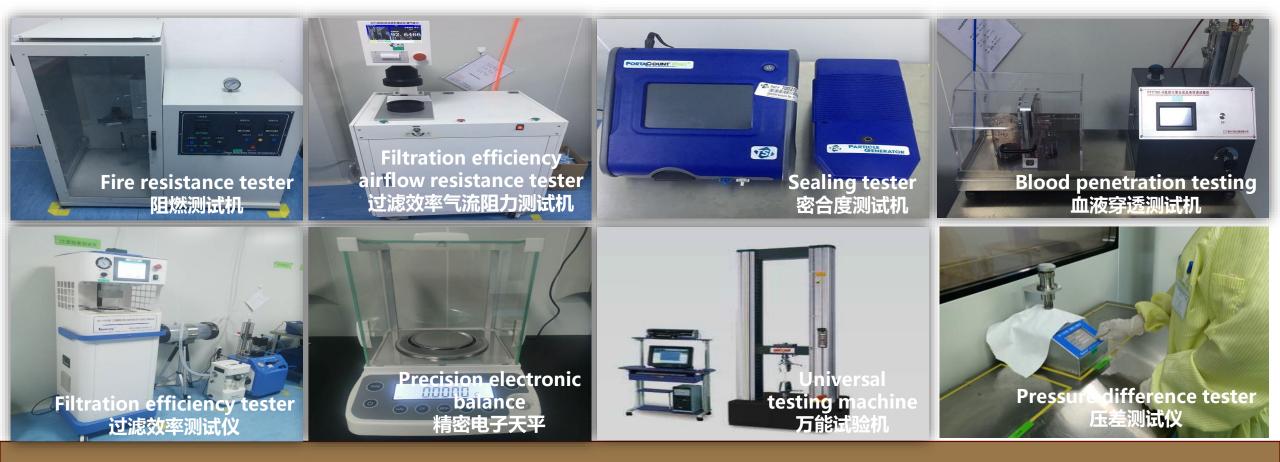
拥有10万级净化厂房约21,000平米和万级微生物、无菌、阳性对照洁净实验室



#### 2.5 Laboratory Construction实验室建设

40 high-end mask experiment equipment

40余台高端口罩试验设备,包含过滤效率气流阻力测试机7台、密合度测试仪4台、血液穿透测试机2台、压差测试仪7台及多套检测设备。



#### 2.6 Laboratory Device 实验室设备

In accordance with the global mask major standard requirements, full range of testing equipment are equipped for mask research and design

按照国际主流口罩标准要求, 配置了全项目的测试仪器设备用于口罩新品研发



#### 2.7 Public Welfare Undertakings 公益事业

Naton exports masks to many countries to contribute in anti-covid 19 in the world.

纳通集团供应口罩,积极为全球抗疫做贡献。

By July, more than 9.2 million masks had been donated to more than 60 countries and regions overseas through various channels such as the International Federation of Confucianism, the Bethune Foundation and the China Committee for Religious Peace.

截至7月,通过国际儒学联合会、白求恩基金会、中国宗教界和平委员会等多种渠道捐赠海外60多个国家和地区,累计捐赠口罩920余万只。



### 纳通科技集团 Naton Technology Group



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## 和义广业

**Expand Business on the Basis** of Harmony and Integrity

## 成人成己

Others Achieve Success before Achieve Own Success