





# **CEO Message** 致词

## It is my pleasure to introduce NR G&C.

Since its establishment in 1997, NR G&C has vigorously invested in research and development in the areas of PCB (printed circuit board), semi-conductors to develop high-quality, high-value chemicals. Our company has partnership with global leading corporations both at home and abroad such as Samsung Electronics and LG Innotek, and has great expertise in high-precision chemicals for PCB, LCD, TSP and semi-conductors.

In 2005, NR G&C established a local investment company in Jiangsu (Suzhou), China, and won great reputation and trust from Chinese customers for our outstanding technology, contributing to the national economy through the export.

In the coming years, NR G&C will make continual efforts to grow through new business opportunities and activities in overseas markets. We will endeavor to be a reliable, leading company in the industry that fulfills our social responsibilities and obligations.

We give you our words that NR G&C will be a customer-ori ented business that offers best quality products for customer value and satisfaction.

Thank you for all your support.

### 大家好!

NR G&C自1997年成立以来一直致力于PCB(印刷电路板)和半导体领域高质、高附加值化学药品的研发和生产。

目前NR G&C已成为CB, LCD, TSP, 半导体等超精密电子化学药品专业厂商,主要客户包括三星电机,LG Innotek等国内外知名企业。

2005年在中国江苏省苏州市成立中国分公司,以优异的技术性能获得了中国用户的高度评价,并且为扩大出口,促进国家的经济发展做出了积极贡献。 今后我们将内外兼顾,在韩国国内探索新的市场机会的同时积极开拓国际市场,实现可持续发展,并切实履行社会责任,为成为受人尊重和爱戴的企业而不懈努力。

NR G&C将始终站在客户的角度,以最优的产品提升客户满意度、实现客户价值最大化。

谢谢!





## Company Overview 公司概覽

As the innovation creator of basic chemistry, this is the pillar of high-precision fine patterns, NR G&C offers in parts of semi-conductor and PCB.

#### **Green Chem Leader**

Korea's surface treatment technology was hardly local and local chemistry was virtually non-existent in parts of semi-conductor and PCB. NR G&C armed with young organization, young leadership and flexible mindset broke away from overriding dependence on trade, and instead an established in-house system for technological advancement and production, which enabled it to enjoy over 80% market share in PCB surface treatment agents. Today, it holds more than 90 customers such as Daeduck Electronics, Simmtech and is a contractor to Samsung Electro-Mechanics and LG Innotek. Its export destinations include the Philippines and China, in which NR G&C runs local manufacturing plants and sales offices equal to Korea, and serves as a partner to many local businesses exploring overseas business.

#### **Best renovation**

R&D: Marketing = 1: 1

NR G&C's success in near complete localization of agents (99%) via its in-house technology was enabled by bold and innovative R&D investment into Korea's surface treatment technology and strong belief in localizing PCB surface treatment agents. At present, NR G&C's in-house lab, which has R&D manpower that is as many as its marketing personnel and invests over 10% of sales into research, performs various sample tests under the same environment as that of the domestic line. In-house operation and thorough quality control without OEM from technological advances to delivery to customers allows NR G&C to get a step ahead in delivery at the shortest period of time and uppermost customer satisfaction.

#### Happy together!!!

A company that shares happiness with customers, employees and the local community By recruiting young talent, NR G&C creates a unique and a young culture. The company also commits a considerable chunk of sales, which have been on the rise driven by higher customer satisfaction, to fringe benefits to employees and R&D such as employees' cafeteria, fitness center, training expenses, career development expenses and health promotion expenses for employees and their families. NR G&C envisions a healthy and sound business philosophy in the belief that employees' happiness, both physical and mental, is critical to a healthy community. NR G&C is a solid contributor to the local community as a supporter to needy neighbors.

NR G&C 是半导体及PCB领域的超精密 FINE PATTERN 和高密度 产品础石的基础化学领域的革新创业者。

#### **Green Chem Leader**

创立当时, 国内半导体及PCB产业的表面处理技术大部分都是依靠海外的, 只不过是开始阶段。从年轻的组织和年轻的领导开始, 拥有创 新思考的 NR G&C 是不仅仅是依靠贸易,而是自身技术开发及建设生产system,占领PCB 表面处理药品领域的80%以上,目前是三星电 机, LG Innotek 的协力单位, 大德电子, 信泰电子 外 拥有90多个客户和出口菲律宾, 中国等地。现在中国设立跟韩国总部同等的制造工 厂和营业所,担任国内企业开阔中国市场的协助作用。

### Best renovation

NR G&C是在韩国的表面处理技术化学技术上,实施果断的发展创新科技的R&D 投资 国内PCB的表面处理药品要国产化的旗帜下,现在有99%的药水已经成功的用我们的技术国产化了。目前,运营自身的技术研究所同时现 有的LINE上实施各种药水性能测试。每年销售的10%投资在研究所,还有研发人数和营销的人数几乎是相同的程度有很多研究人员。不留

代加工,通过严格管理品质实现最短时间内交货和让客户最满意。

## Happy together!!!

客户, 职工, 公司最幸福的公司

NR G&C 是 通过完美的雇佣青年人才, 形成NR G&C 独有的文化, 通过满足顾客,

销售上升和销售的大部分都投资在研究所和职员福利上。

运营职工CAFE, 运营体育设施, 教育费, 支援自身发展费, 此外, 还支援不仅仅是自己而亲人的健康增加费。追求自己的身心幸福, 最终构成健康的社会,健全的管理理念。

而且帮助社会上不利的人实现健康的社会做出贡献。



## Company History 公司歷史記錄

1997 | Established Naret Technos (trading business)

**2001** | Acquired manufacturing license Relocated its plant from Ilsan to Suwon

2002 | Designated as IBK family company Developed D/F exclusive stripping solution series Developed D/F exclusive equipment cleanser Developed Soft Etchant SE Series

2003 | Acquired ISO 9002 certificate Won the model taxpayer award from NTS Developed stripping additives

**2004** | Commenced exports to the Philippines (DDPI) by Daeduk Electronics Awarded as honor contractor by LG Electronics

**2005** | Established China office (Soju, Jiangsu Province, China) Developed Half Etching Series Acquired ISO 14001 environmental certificate

**2006** Developed Soft Etching MET Series

2007 | Developed SAP Etcchant Series Developed Btix-100, an anti-foaming agent

2008 | Registered at INNO BIZ by SMBA

2009 Won model taxpayer award from NTS for the second time

2010 | Opened R&D center Started operation of NR G&C Logistics Center Developed amine type D/F stripping solution series PSR exclusive equipment cleanser

2011 | Received 3 million USD Export Tower Award Patents for etching solutions Patents for etching and stripping solutions

**2012** | Expansion and relocation of the Second Factory

2013 | Extension of the Third Lab and Analysis Center

**2014** | Branch Establishment in Hanoi, Vietnam Received 5 million USD Export Tower award

**2015** Acquired certification of enterprise specializing in parts materials. & roots technique

2016 | Schedule for moving in MTV Technology Innovation Award from SAMSUNG ELECTRO-MECHANICS Acquisition Cheonan Pungse Industrial Complex of 11,880 m<sup>2</sup>

**2017** | Schedule for moving in Cheonan Pungse Industrial Complex

1997 | 成立纳勒科技 (贸易业)

2001 生产许可

日山事业部转到水源事业部

2002 | 选定企业银行 (IBK) Family 研发 D/F专用 前处理药水 研发 D/F设备专用清洗剂 研发 Soft Etchant SE Series

**2003** 取得 ISO 9002 认证与 国税局频发模范纳税者表扬章 研发去膜添加剂

2004 | 出口大德电子(菲利宾工厂DDPI) 选定LG电子优秀协力公司奖

2005 | 设立中国工厂(中国 江苏省 苏州市) 研发 Half Etching Series 取得ISO 14001 环境认证

2006 | 研发 Soft Etching MET Series

研发 SAP Etchant Series 研发消泡剂 Btix-100

2008 | 登记中小企业厅 技术革新 INNO BIZ

2009 第二次国税局频发模范纳税者表扬章

**2010** | 成立NR G&C 二工厂和技术研发室 成立NR G&C 物流部 研发Amine 系列 D/F 去膜液 研发PSR设备专用清洗液

2011 | 荣获300万美元出口奖 有关蚀刻液申请专利

2012 | 设立第2工厂

2013 / 扩大设立第3实验室和分析室

2014 | 在越南设立联络办事处 荣获500万美元出口奖

2015 | 研发并认证新型材料企业, 获得独创技术研发认证

**2016** | 诗画MTV(Multi-Techno Valley) 准备入住 三星电机品质革新奖 买入天安丰世产业园3,600坪

**2017** | Cheonan Pungse Industrial Complex 准备入住





NR G&C No. 2 Plant





Vietnam Plant





Logistics Center



## R&D Center 中央研究所

NR G&C R&D Center has been spearheading technological breakthroughs in the domestic and global pcb market that has been going through rapid changes with the aim to deliver the best quality befitting NR G& C ultimate goal towards Green Chem Leader Specifically, NR G&C R&D Center takes its level of global competitiveness to a higher level by dedicating itself to boosting technological values, creating new industries, providing tailored customer service, developing high value added products and exploring into future hi-tech industrial technologies. The unwavering spirits and commitment by the researchers, tailored customer service, which is provided via direct communication with customers, enabled by field experience, know-how and technological power built over the years and development of new products whose quality is second to none make NR G&C R&D Center the pcb chemical leading brand.

NR G&C R&D Center will continue to stand by you as your strong partner dreaming for further growth of pcb industry like a beacon that lights up the

我们在 Green Chem Leader 的经营理念下,以力求最高品质为目标,在这十余年间一直根据国内外PCB市场的变化进行技术开发,稳固发展。 NR G&C研究所在研发提高技术价值及研发新产业项目;对顾客要求的针对性服务;研发更高附加值的产品和未来尖端产业技术等各方面尽心尽责, 确保和提高在这一产业中的世界竞争力。NR G&C研究所的全体研究员不仅为自身所负责的每一项研究课题竭尽所能,而且注重积累和提高产线实务 经验, 能以更好的为和顾客直接性communication 中提供针对性的服务, 逐渐成为研发最高品质新产品的pcb chemical leading brand。 今后,我们研究员依然会像茫茫夜海中闪耀的航标灯一样,包着成为PCB产业发展的伴随者的理念,以最高的技术和品质与各位共同发展。











R&D status 研发现状

### Achievements

1998 developed high-performance soft etching solution

2001 developed non-silicon foaming agent

2002 developed high-performance equipment washing agent

2003 developed degreasing agent, stripping solution for fine pattern

2004 developed half etching solution for PCB

2005 developed surface finishing agent for high-density circuit board

2006 developed SAP(Semi-Additive) Process etching solution, acquired ISO 9001

2007 developed etchant additive for high-density wiring, acquired ISO 14001

2008 established NR G&C R&D Center

2010 developed stripping solution for LDI (Laser Direct Image), developed  $10/10\mu m$ SAP etching solution

2011 applied patent on SAP, Stripping solution

2012 Development of equipment cleaner CL -210 Development of MSAP FE Series

2013 Development of high-performance degreasing solution CS-507

2014 Developed non- etching & non - amine stripper

2015 Developed soft etching solution of high resistance to chlorine Heavy Resist Stripping Developing Solution

2016 Development of Stripping additive NR-B for NaOH Solution Development of Eco-friendly Lubricant Cleaning Solution

#### 研发成果

1998年: 研发高性能 soft etching solution

2001年: 研发non-silicon消泡剂 2002年:研发高性能设备清槽液

2003年: 研发脱脂液, fine pattem专用去膜液

2004年: 研发PCB专用 half etching液

2005年:研发针对高密细线路表面处理液

2006年: 研发SAP(Semin addivtive Process)etching液,

取得 ISO 9001

2007年: 研发针对高密细线路etchant additve, 取得ISO 14001

2008年:成立 NR G&C 研究所

2010年: 研发LDI(Laser Direct Image)专用去膜液,

研发10/10μm SAP etching液

2011年:申请SAP相关技术专利

2012年: 新开发设备清洗液 CL-210 开发MSAP FE Series

2013年: 开发高性能脱脂液 CS-507

2014年:研发非蚀刻 & 非胺系类去膜液

2015年:研发抗氯离子微蚀液和超中粗化液

研发薄膜PI显影液

2016年: 开发NaOH去膜添加剂 开发环保型润滑油清洗剂

#### Equipment 仪器名称

感光分析仪器:分析各种添加剂









Autoclove: 本环源为罗城町









Stepper: D/F hardening (evaluates adhesion)







# Technical service team 技术支援部

Infancy **Development** Stability Growth 1997 - 2002 2003 - 2008 2009 - 2014 2015 - 2020 D/F, S/R, soft etching solution for plating pre-treatment Opened R&D Center - Built research building Diversified products fitting each group - Secured edge over competitors and stable quality by - SE, MET, NRE series developing semiconductor, LCD, LED, COF chemicals Established R&D Department Built no. 2 production plant - Developed etching additives, flash etching Invested in manufacturing facilities Acquired approval for etching additive - Samsung Electro-Mechanics (Busan, Daejeon), - Achieved complete localization Opened branch office in China (Suzhou) LG Innotek, Siflex... Launched exports to China Became domestic PCB chemical market leader (Wihai, Guangzhou, Tianjin) and the Philippines 开展期 发展期 成长期 稳定期

D/F, S/R, 镀金前处理用 soft etching solution

>>> 2003 - 2008

按产品前处理要求有各种各样的产品

- SE, MET, NRE series

成立 R&D

1997 - 2002

-自己研发蚀刻添加剂, flash etching

- 国产化设备达到 100%

设立中国工厂(苏州)

中国(天津, 威海, 广州), 菲利宾等国家出口

## 成立技术研发室

- 建造研发楼
- 对半导体, LCD, LED, COF chemical 自己研发

>> 2015 - 2020

- 同时比同行业产品品质和稳定性较高

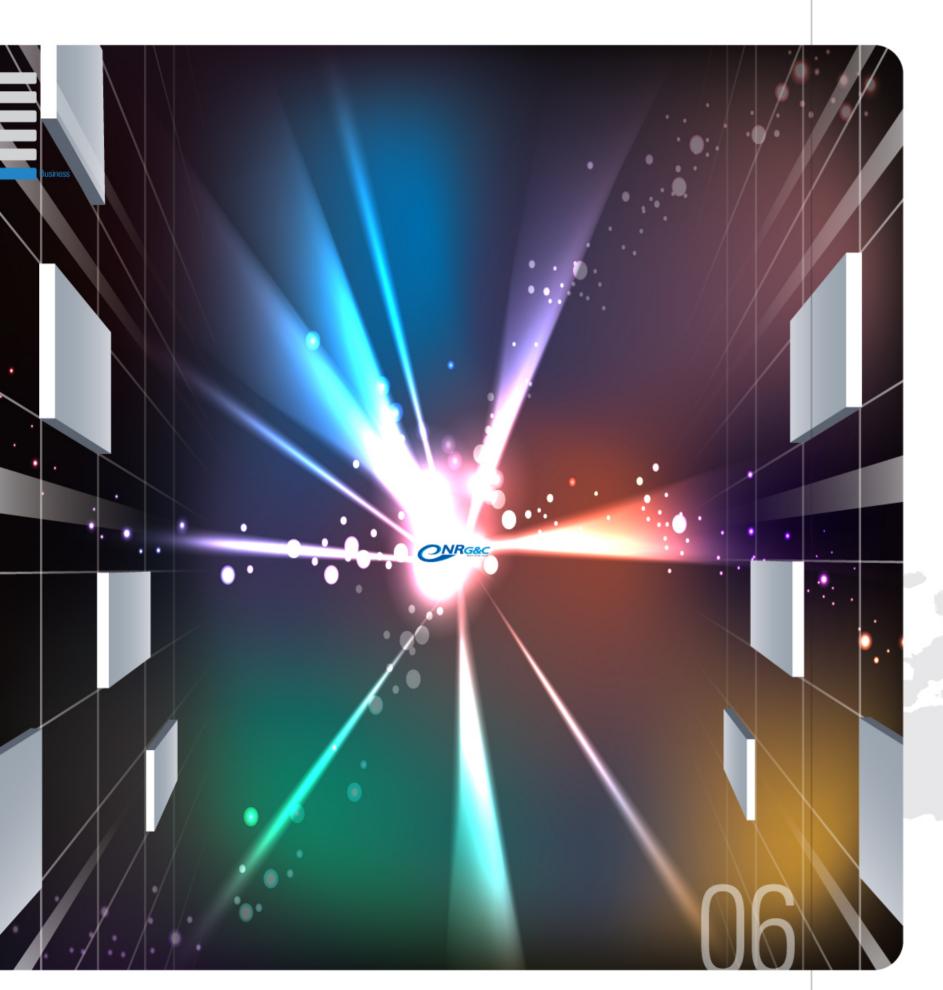
## 建立二工厂

2009 - 2014

承认蚀刻添加剂

- 三星电机(釜山, 大田), LG Innotek, Siflex ...

达到国内 PCB chemical 市场竞争力第一位



## Business (Overseas) | 商务

## Confidence in Quality and Investment for Future

NR G&C exports products and operates overseas offices based on ultra-precision and advanced technology related to PCB and TSP. Our company started to export in 2004 to DDPI(DAEDUCK Philippines, Inc.) and established our Chinese subsidiary and built a plant at Suzhou, Jiangsu province in 2005. NR G&C set up overseas branches and, with technical and logistical support, actively help other PCB and TSP firms go global. NR G&C has learned about high-quality facilities and advanced technologies in Japan through NEMAX, a Japanese agent and advisory body. On the basis of our confidence in quality, our company built a plant in SI-HWA Multi Techno Valley to expand automation facilities. NR G&C won 3 Million Dollar Export Award in 2012, and is expected to win 10 Million Dollar Export Award this year. In early 2014, our company established a branch and built a plant in Hanoi, Vietnam.

### 为了品质的自信与未来的投资

NRG&C 是生产线路板与触摸屏关联超精密, 超高度技术产品的公司。向海外出口并在海外设立着分公司. 因DDPI (大德电子菲律宾工厂) 2004出口贸易为契机. 2005年在中国苏州设立工厂。

因线路板与触摸屏公司向海外地区开设工厂,所以为了更好服务客户,在多地区开设办事处,积极的给予技术支援与协助物流公司。 现在在日本东京 NEMAX 公司的AGENT为技术顾问,在那里习得了比日本更先进的设备与技术、基于品质的自信,为了打造诗画MTV(地名)工厂, 正准备进行了自动化设备设施的扩充。

2012年受300万美金出口最高的嘉奖,2017年也期待1000万美金出口最高的嘉奖,2014年在越南河内开设分公司。





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ISO 9001 Certification

ISO 14001 Certification





SAMSUNG ELECTRO-MECHANICS, LG Innotek Cooperation Company