



创新科技·丰富人类生活！  
Innovation enrich life

**FOUNDATION**

**STRENGTH**

**ENTERPRISING**

Innovative+ Trustable+ Aggressive+ Love+

# Foundation

About Us

Culture

Milestone

Wholly-owned subsidiaries

Share-holding Enterprise

Global Business/Partners (Parts)

Innovative+ Trustable+ Aggressive+ Love+

# About Us

Shenzhen Refond Optoelectronics Electronics Co. Ltd is a world's well-known LED packaging solutions and product suppliers, which has research and development, production of LED light sources and provide application solutions.

Refond was founded in 2000 with scientific and technological innovation, technology leadership, product differentiation is the core competitiveness of our company. Refond has established deep business and strategic partnerships with the world's first-tier brands. At present, the company will focus on Mini LED, Micro LED and AI sensor devices and other areas of research and development and business layout, to enhance the company's core competitiveness and continued profitability.

After years of development and accumulation, Refond has helped customers in various industries to meet the needs of present and future social development with scientific and technological innovation. In the future, Refond Optoelectronics will continue to practice with the concept of "innovation and technology to enrich human life", integrating global resources and technology, innovation and development. The company's corporate vision is committed to "become the world's leading technology.





**Mission**      Innovation enrich life

**Vision**      Becoming a global technology company



## Core values

**Innovation**  
We believe innovation is one of the core drivers in social development, and we are eager to become a leading company through continuous efforts in material, product, application and business model.

**Trust**  
We believe we can go further, because we are a trustworthy partner.

**Enterprising**  
We believe we can make our life more wonderful and beautiful with a humble and enterprising mind.

**Love**  
We believe love is the most powerful thing of society. We are sharing love with our family, our company, our customers, our country and ourselves.

# Milestone

2000

· Establishment

2004

· National "Hi-Tech"  
Enterprise

2005

· Broadcom  
OEM/ODM partner



2006

· Founded wholly  
owned Ningbo  
subsidiary

2011

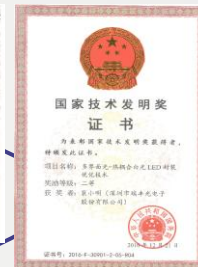
· IPO Succeed

2015

· CNAS certification.  
· Obtained the white light patent  
license of TOYODA GOSHI.

2016

· Founded wholly owned Zhejiang  
subsidiary, and mass production at Yiwu  
industrial park.  
· Obtained GE KSF phosphor application  
patent authorization.  
· Won the first prize in the ministry of  
education technology invention and  
second prize in national technical  
inventions.



2017

· ANXIN Capital invested  
REFOND

2018

· mass production of MINI LED  
· Guangdong TV Backlight Engineering Technology  
Research Center



2019

· Strategic cooperation with Walden.  
· Ranked 26th in Shenzhen Top 70  
Innovative Enterprises

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## Wholly-owned subsidiaries

Ningbo Ruikang Optoelectronics CO., Ltd  
ShenZhen LT Optoelectronics CO., Ltd  
Zhejiang Refond Optoelectronics Co., Ltd  
Zhejiang Can Lihting Technology Co., Ltd  
Zhejiang Xu Jing Asset Management Co., Ltd

## Share-holding Enterprise

Huizhou VERY Light Source Technology Co., Ltd  
Beijing Zhongxun F&E Technology Co., Ltd  
Shenzhen Zhongkechuang Laser Technology Co., Ltd.  
Changzhou LIRUI Optoelectronics Co., Ltd  
Shenzhen Intela Laser Technology Co., Ltd  
Xunchi Vehicle Industry Jiangsu Co., Ltd.  
Zhuhai Winner Lamp Industry Co., Ltd.



# Global Business/Partners (Parts)



Innovative+ Trustable+ Aggressive+ Love+



# Strength

Manufacturing base

Technical Path

Research ability

Quality

Capacity

Sales Amount

2019 Main Products Series

# Manufacturing base



**Shenzhen Production  
Base**



**Shenzhen Headquarters Base**

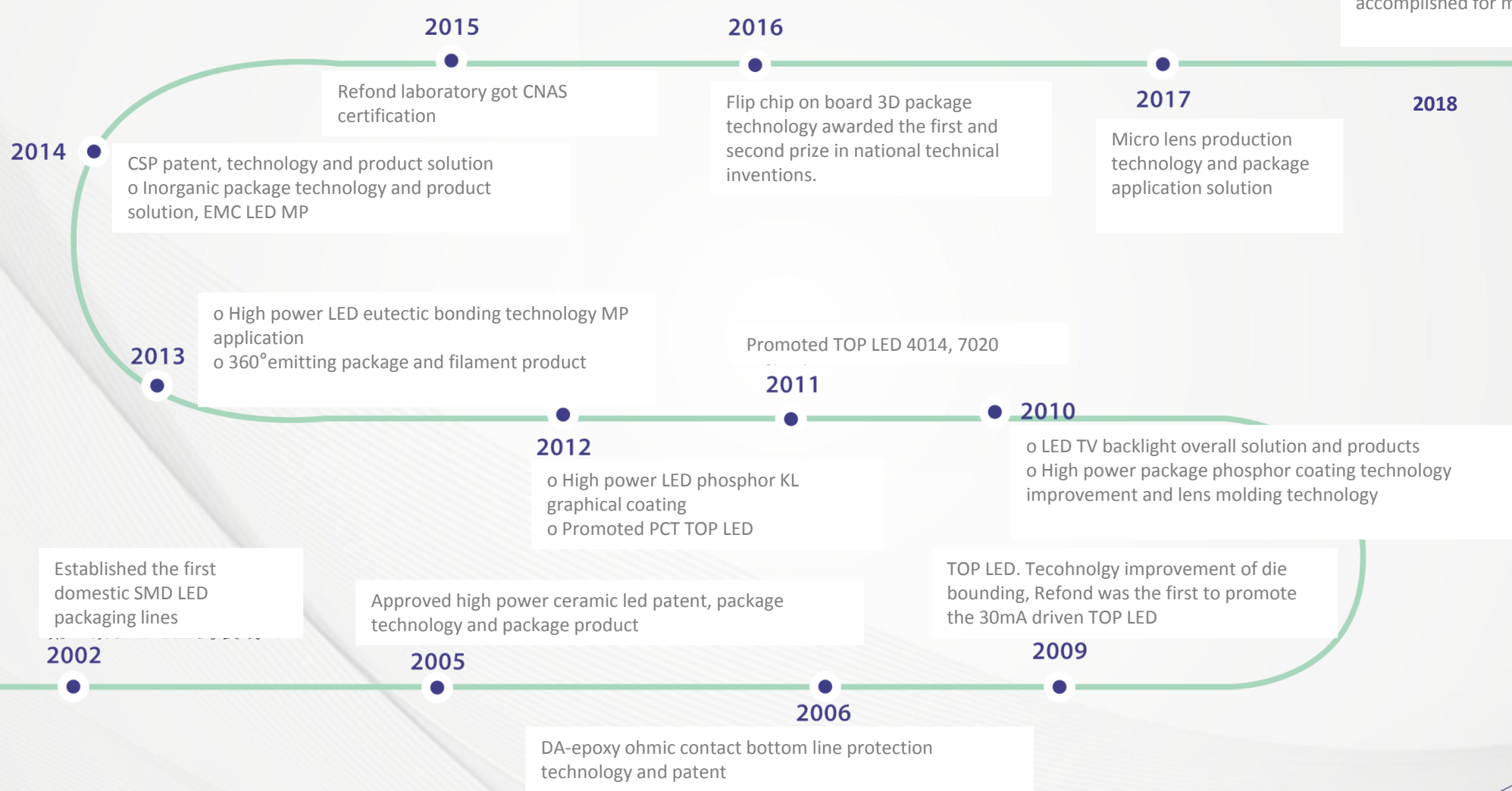


**Zhejiang Yiwu  
Production Base**



**Zhejiang Ningbo  
Production Base**

# Technical Path



Innovative+ Trustable+ Aggressive+ Love+

# Research ability



## Refond R & D team has around 200 employees

Accounts for more than 10% of the whole REFOND employees, among more than 90% get a bachelor degree, 10% get a master and doctoral degrees (including National Commissioner).



## Shenzhen led TV Backlight Engineering Technology Research and Development Center

In 2015, our company was approved the establishment of the innovative carrier "Shenzhen LED TV backlight engineering technology research and development center". The engineering technology research and development center is an advanced software and hardware technology platform under the guidance of the national "innovation and industrialization" policy, supported by Shenzhen science and technology innovation Committee and Shenzhen Refond optoelectronics co., Ltd. It has promoted the scientific and technological progress of Refond Optoelectronics, becoming the main body of technological development. In 2018, our company was approved as "Guangdong LED TV Backlight Engineering Technology Research and Development Center".



## Laboratory

The experimental center was established in 2013 and covers an area of more than 600 square meters.



## CNAS Certification

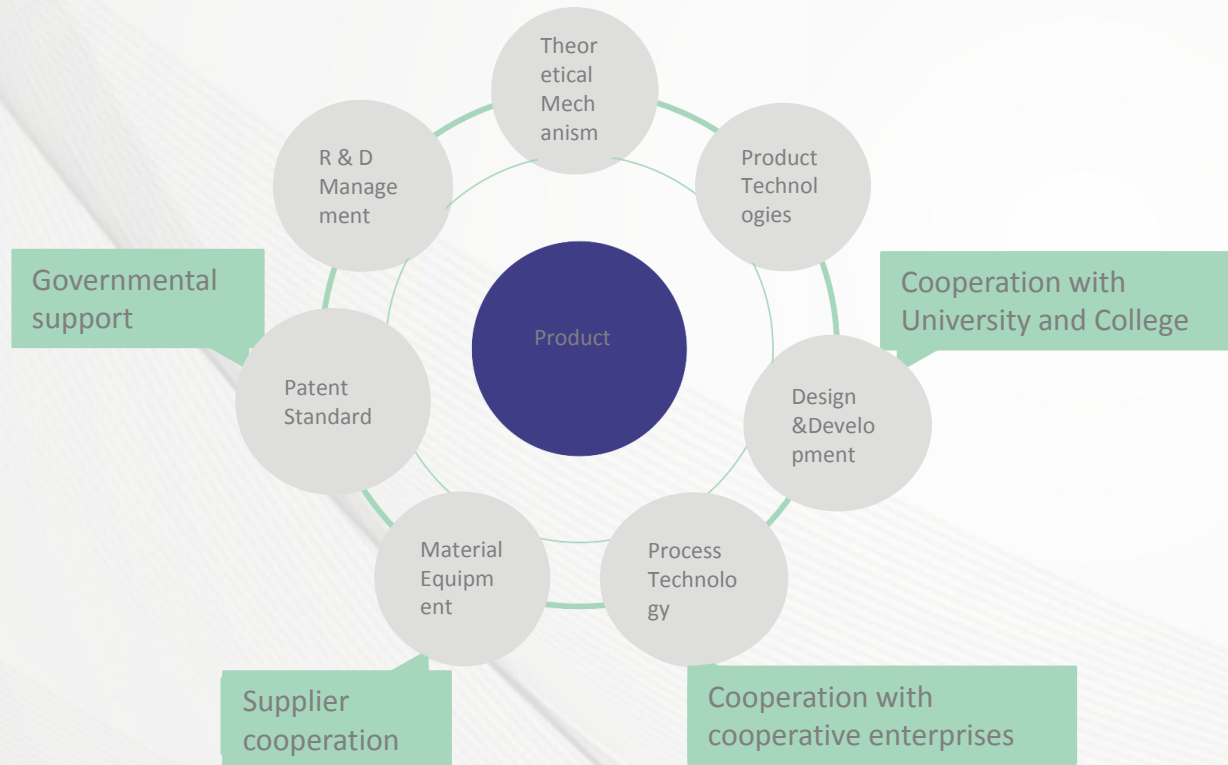
Got CNAS certificate in December 2015 and is listed as a national laboratory. It provides complete-testing methods for company technology innovation and product development, and flexible testing data for product quality management.



# Research ability



## Research Mechanism



## Refond Patent application total 324 items

Total 221 granted patents, including 90 of them belong to Invention patents.



## Introduction of PatSnap Database

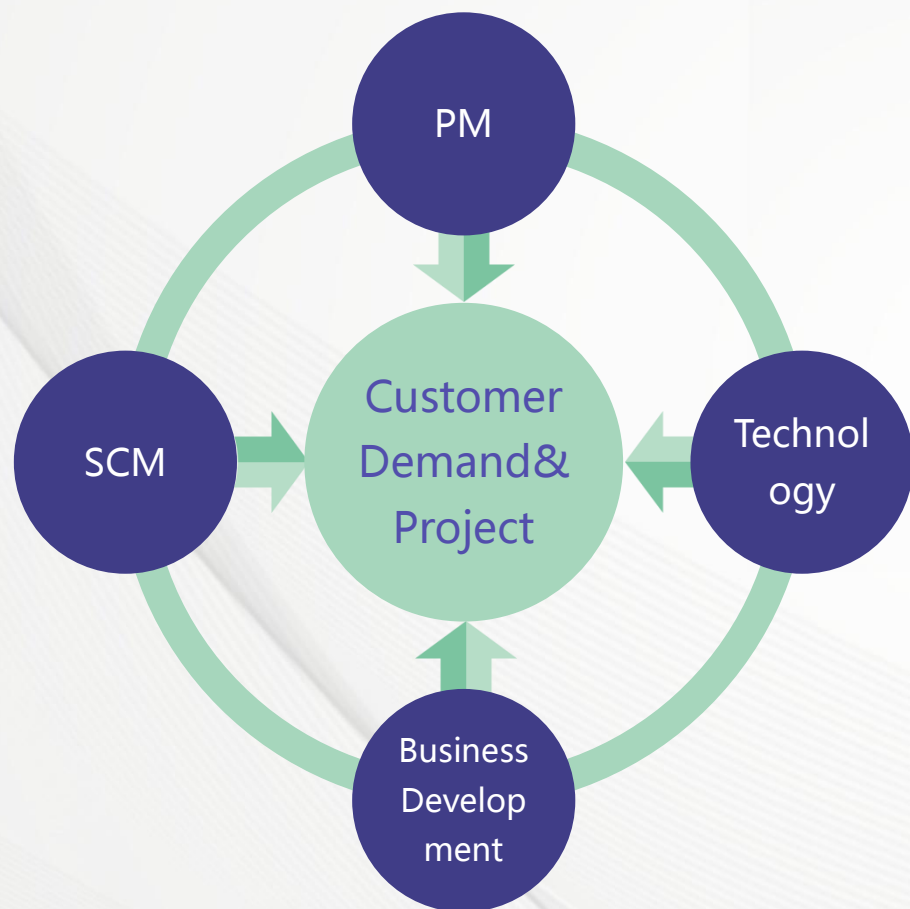
Introduced patent search system in 2017, responded quickly to company patent search needs  
Realize independent analysis of intellectual property infringement and ensure the smooth development of R & D activities



## Completion of intellectual property certification

Regulate the management of corporate intellectual property rights. The company introduced an intellectual property compliance system in 2018 and passed certification in May 2019.

# Customer Service



# Quality



Passed the audit of international TOP customers and SGS social responsibility of third party, in compliance with the requirements of the EICC electronic industry code of conduct.

Quality System  
质量体系



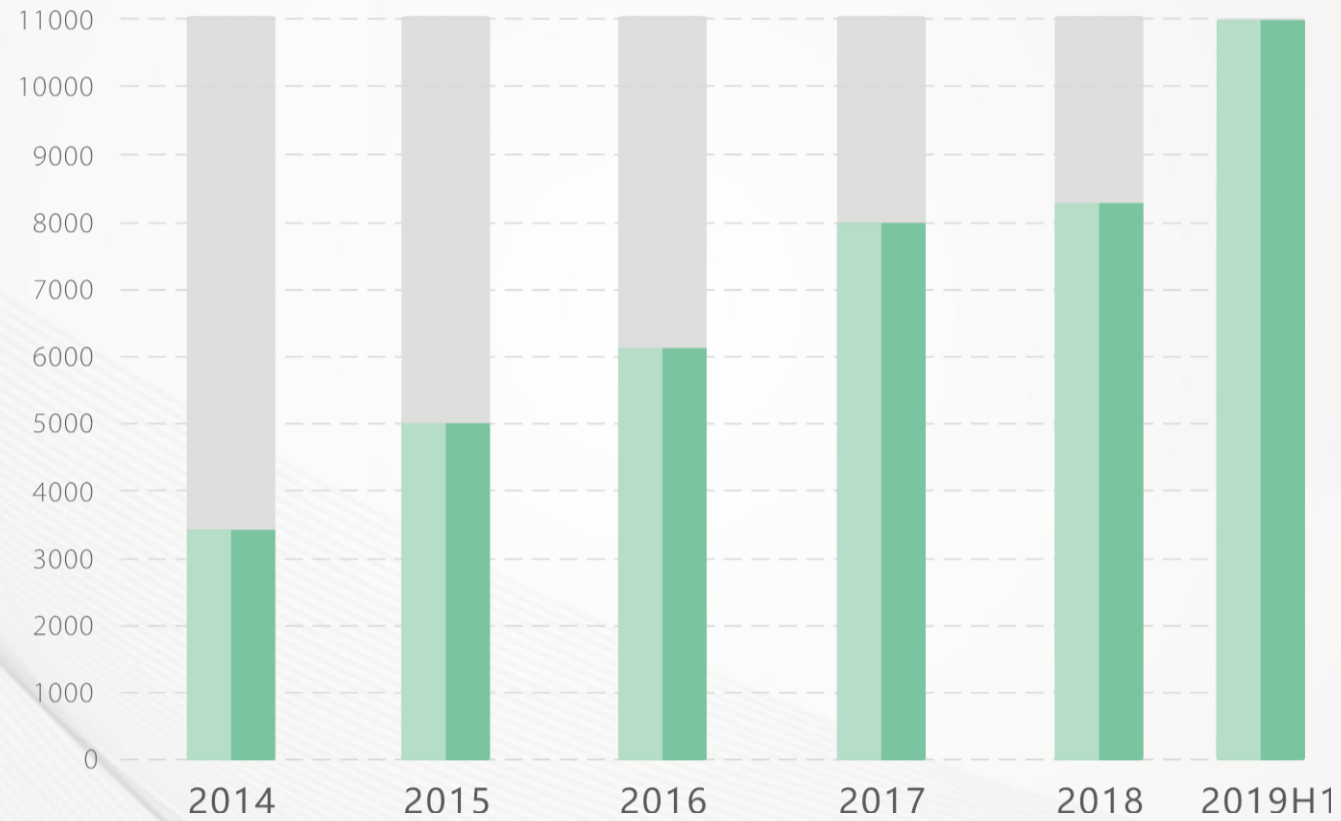
Confirms to the international standard of ROHS, REACH, HF, IEC/EN62471 and LM-80.

SYSTEM  
CERTIFICATION

**TS16949**  
**ISO9001**  
**QC 080000**  
**ISO14001**  
**OHSAS18001**  
**ISO17025**

# Capacity

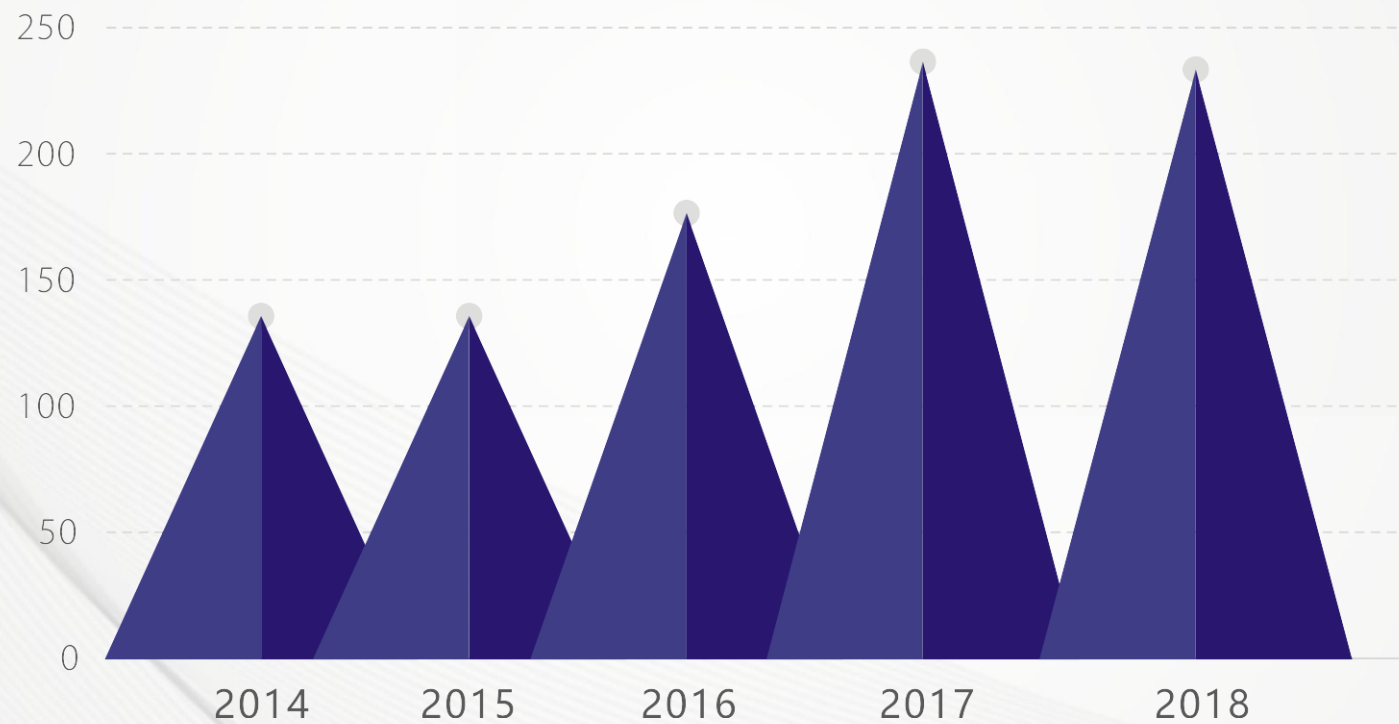
Capacity (KK/M)





# Sales Amount

Turnover ( Unit: Million Dollars )



# 2019 Main Products



General Lighting Products Series



Decorative Lighting Products Series



IR LED Products Series



RGB LED Products Series



UV LED Products Series



VCSEL Optical Sensing Series



Mini Micio LED Products Series



Automotive LED Products Series



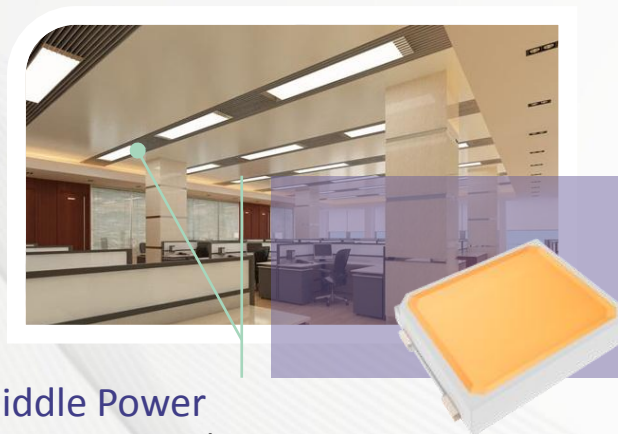
Backlight Products Series



CHIP LED Products Series



# General Lighting Products Series



**Middle Power**  
(Main push product )

PCT/PPA2835

PLCC4014

EMC3030

SMC3030

EMC5050



**COB**  
(Main push product )

Mirror aluminum series

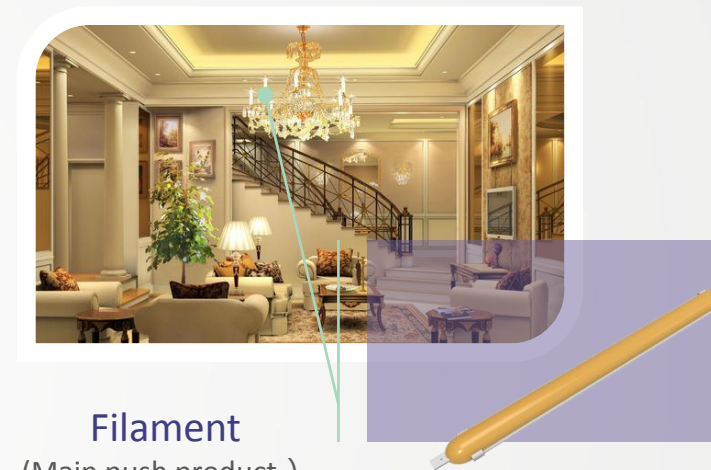
Ceramic series

Spectrum series

Dimming series

Ceramic eutectic series

Superconduction series



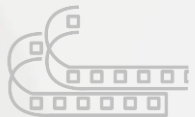
**Filament**  
(Main push product )

Conventional straight type

Flexibility filament

COB light belt





# Decorative Lighting Products Series



**Decorative lighting**  
(Main push product )

2110/ 2014/ 2216/ 3014/ 2835/ 3528white/ 3528color/  
5050white/ 5050RGBWW/ 5730/ 3020





# Backlight Products Series



## TV Backlight

(Main push product )

EMC4014/ PCT4014/ PCT7020/ PCT4010/ EMC3030/  
SMC3030/ Mini LED Module/ PPA2216



## Smart backlight

(Main push product )

3806/ 3804/ 3006/ 3004/ 3805/ 2604



## CHIP LED Products Series

**CHIP LED**  
(Main push product )

0603/ 1206/ 1204/ 0805/ 0402/ 0606/  
1210/ 0201/ 1205/ PLCC 1608/ 0807+IC



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## IR LED Products Series



### IR LED

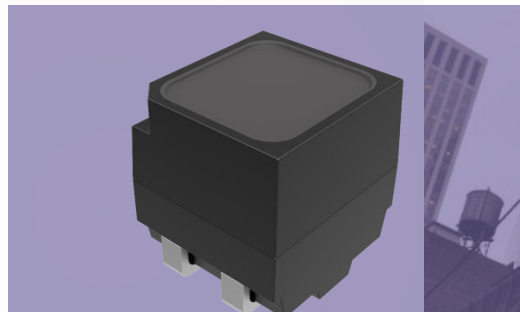
(Main push product )

3535/ 2830/ 3030/ 4335/ 4228/ 3020/  
0402/ 0603/ 1206





# RGB LED Products Series



RGB LED  
(Main push product )

1212/ 1515/ 1921/ 2727/ 3535

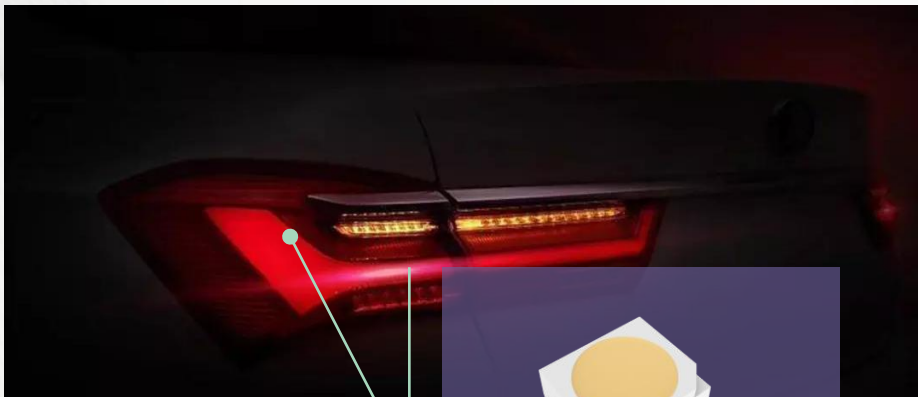
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# Automotive LED Products Series



**Automotive**  
(Main push product )

3528 PLCC2/ 2014/ 4014/ 2835/ 3232 RGB/ 3528 PLCC4/ 3528 LENS/ 3535 PLCC6/ EMC3030

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# UV LED Products Series

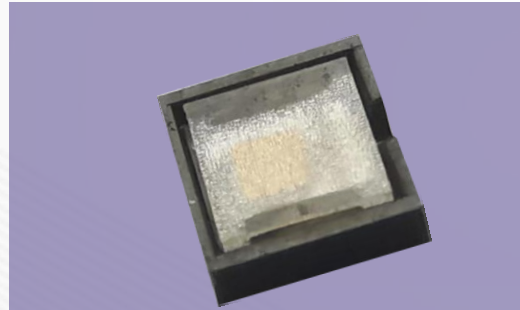


**UV LED**  
(Main push product)

UVA(365-415nm), UVC(280nm)



# VCSEL Optical Sensing Series



VCSEL  
(Main push product)

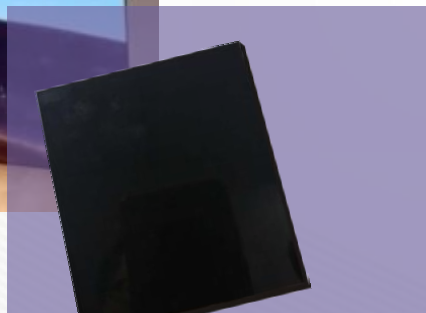
3535、3030、P-Sensor、HCSEL 4-6W up  
Products







# Mini Micro LED Products



Mini Micro LED  
RGB display

Pitch0.9、0.68、0.49



Mini Micro LED  
Backlight

MNT、65inch、75inch、  
85inch、110inch.....



# Enterprising

Optical devices+  
Optical sensing+  
Optical module.....

AI semiconductor **device package**

## Smart Vehicle

Refond has begun to deploy automotive electronics and lighting applications in 2004. Since 2011, it has supplied a large number of all Hyundai & Kia models, Great Wall Hover H2, H6 models, SAIC-GM Wuling Baojun 510, 730 models, Geely Boyue models, etc., promising customers with "0" quality defects and "0" service time difference to meet customers' needs immediately. In the future, Refond will vigorously develop the application of automobile intelligent related products.



# Future

## Mobile intelligence and peripherals

Since the acquisition of Lingtao Optoelectronics in 2015, Refond has actively deployed the display of smart phones and launched the research and development of other optical devices of mobile phones. Now, it has completed the products such as proximity light sensor, depth lens fill light, front lens fill light, and has started to send samples to customers for testing

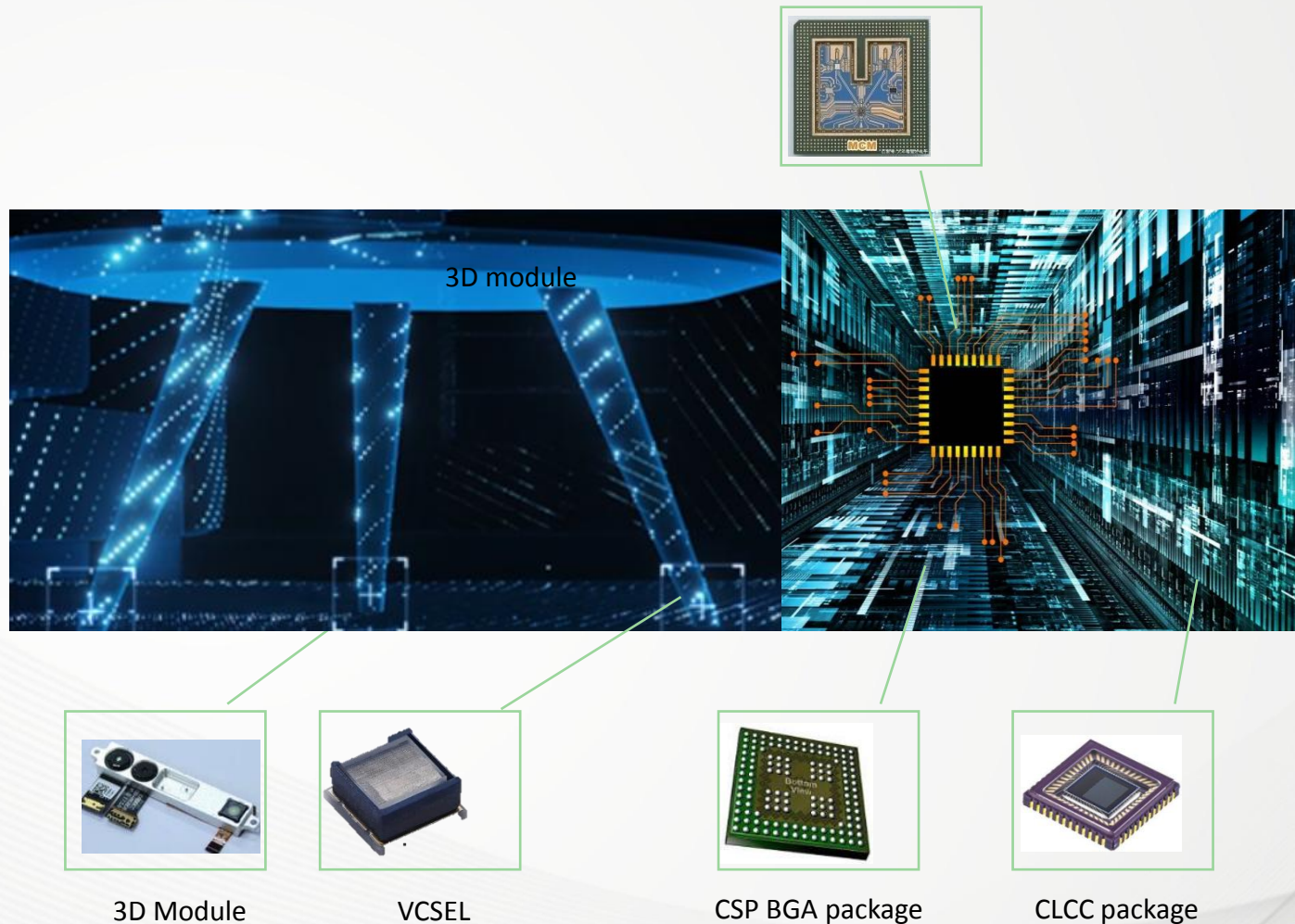




# Future

## AI & IOT

With the development of 5G and AI, human beings have entered the era of consuming photons. A large number of applications of various optical + optical sensors will appear. Refond will combine the advantages of its own devices and optical design to develop and lay out products in optical sensor applications.



3D Module

VCSEL

CSP BGA package

CLCC package



# Future

## Future Ultra HD Display

Refond optoelectronics invested in new display research and development in 2016, and built the first domestic Mini/Micro LED mass production line by the end of 2018. Its products have been verified by a large number of important customers such as automobile, mobile phone, direct display, backlight, TV, etc., and achieved batch supply for individual customers.



Mini/Micro LED Ultra HD Display

谢谢！  
Thank you!

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深圳市瑞豐光電子股份有限公司  
SHENZHEN REFOND OPTOELECTRONICS CO.,LTD.

深圳市光明新区公明办事处田寮社区第十工业区1栋  
Address: Building #1, 10th Industrial Zone, Tian Liao Community,  
Gong Ming Area, Guang Ming New District, Shenzhen, CHINA

TEL: +86-755-6683 9339 FAX: +86-755-6683 9322

[sales@refond.com](mailto:sales@refond.com)



[www.refond.com](http://www.refond.com)