KONICA MINOLTA 150 YEARS

Toward Growth in the Semiconductor Manufacturing Field

Optical Components Business for Semiconductor Manufacturing Equipment

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Our Strengths in the Optical Components unit

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Konica

Optical technologies we developed

- Precision processing (polishing)
- Optical design
- Materials

Minolta

Strong customer base by leveraging our strengths

Pickup lenses for optical disks

Optical units for projectors

Lenses for laser printers

Ultra-high-precision polished lenses

Interchangeable lenses for cameras

Optical components for semiconductor manufacturing equipment

Lenses for vehicle-mounted cameras

Optical Components for Semiconductor Manufacturing Processes

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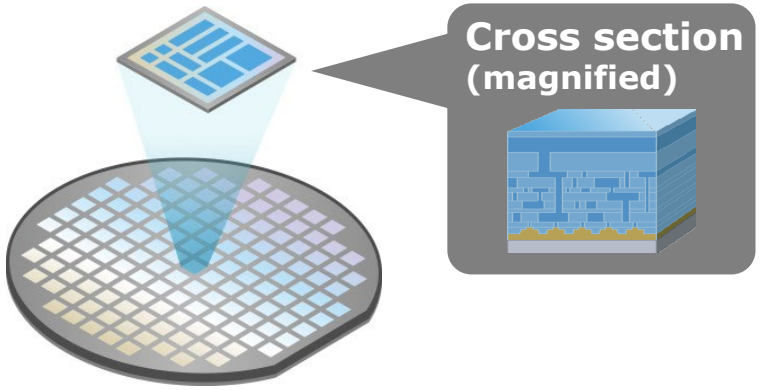
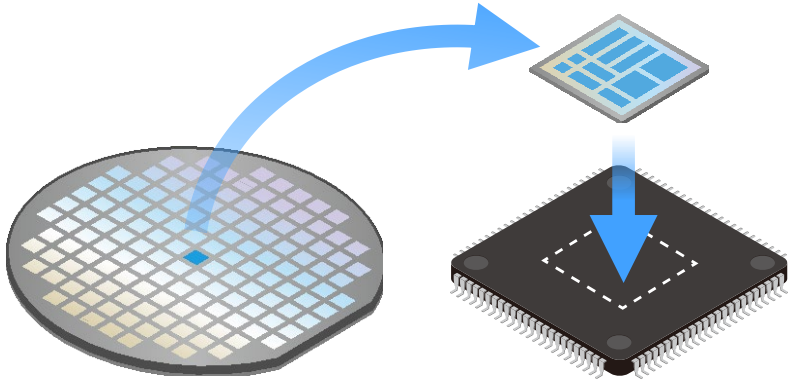
Front-end process
(forming circuits on wafers)

Back-end process
(cutting out wafers into chips)



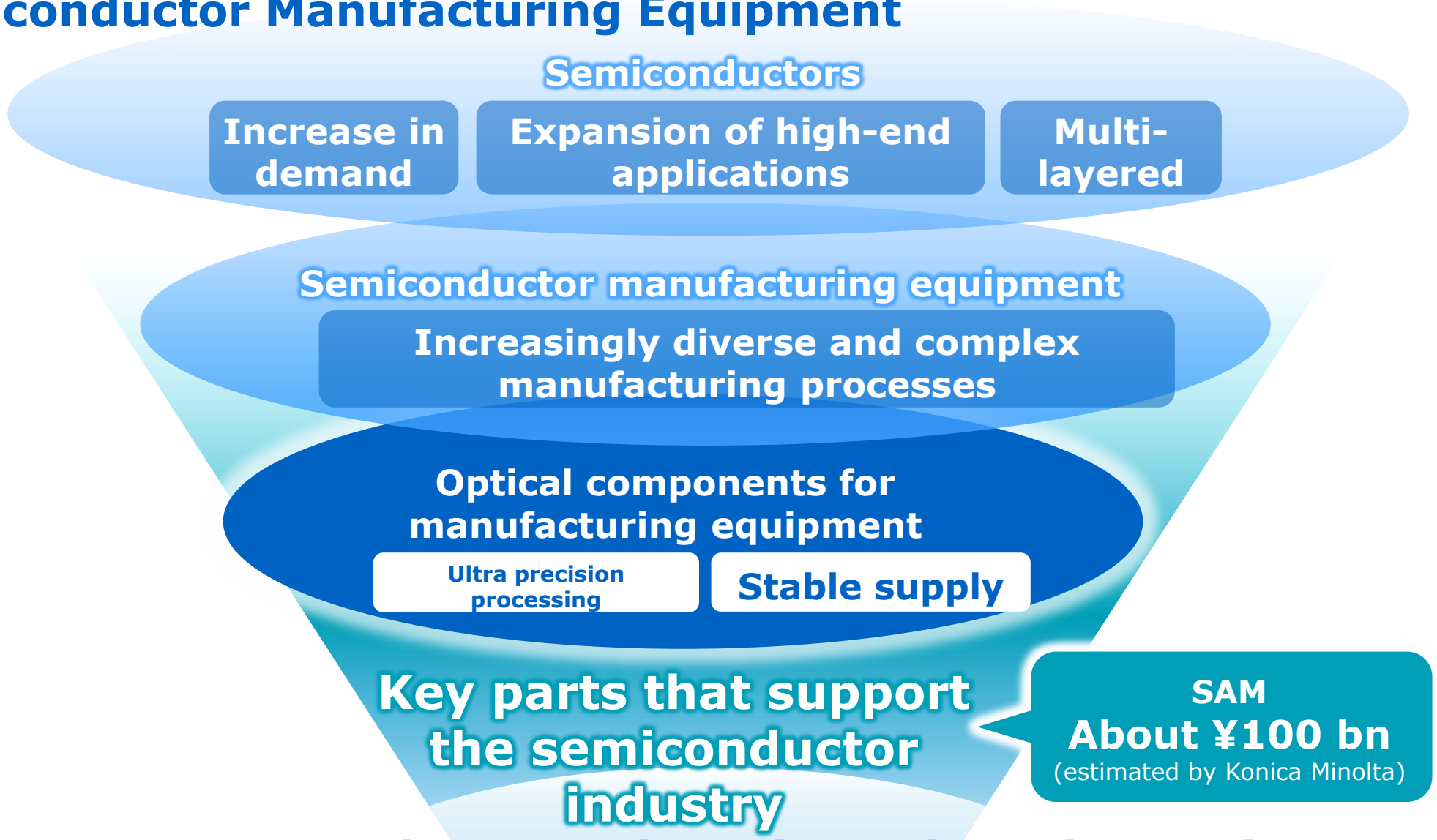


Equipment in which optical components are used includes:

- Mask inspection equipment
- Exposure equipment
- Etching equipment
- Wafer defect inspection equipment
- Exposure equipment for WLP*1/ printed-circuit boards

*1 Wafer Level Package, a cutting-edge package format characterized by small mounting area, etc.

Market Structure Related to Optical Components for Semiconductor Manufacturing Equipment



Focus on areas where Konica Minolta's technologies can be used to their full potential

Product Map by Wavelength and Future Growth Steps

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Our products

Aperture

φ100

φ1

Step 2

Expand into DUV/VUV field

Lenses for projectors

Interchangeable lenses for cameras

Step 1

Expand in middle-end field(UV/VIS)

Wavelength range

EUV	VUV	DUV	UV	VIS	NIR/IR
13.5nm	193nm		350nm	450nm	1000nm
1nm	2nm		4nm	5nm	10nm

Surface precision

For semiconductors

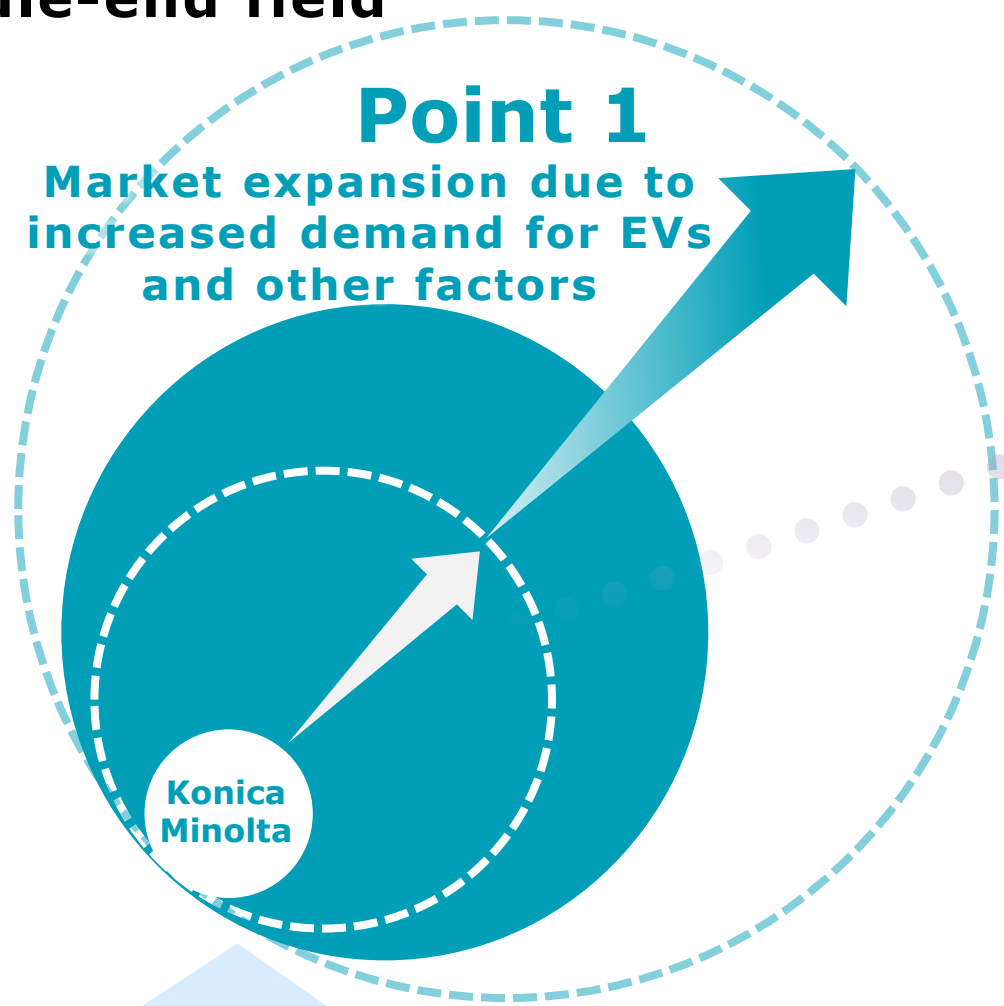
Pickup lenses for optical disks

Lenses for vehicle-mounted cameras

- Meet market needs
- Focus on improving processing precision

Market fluctuations in the middle-end field

Middle-end field



Opportunity to expand market share

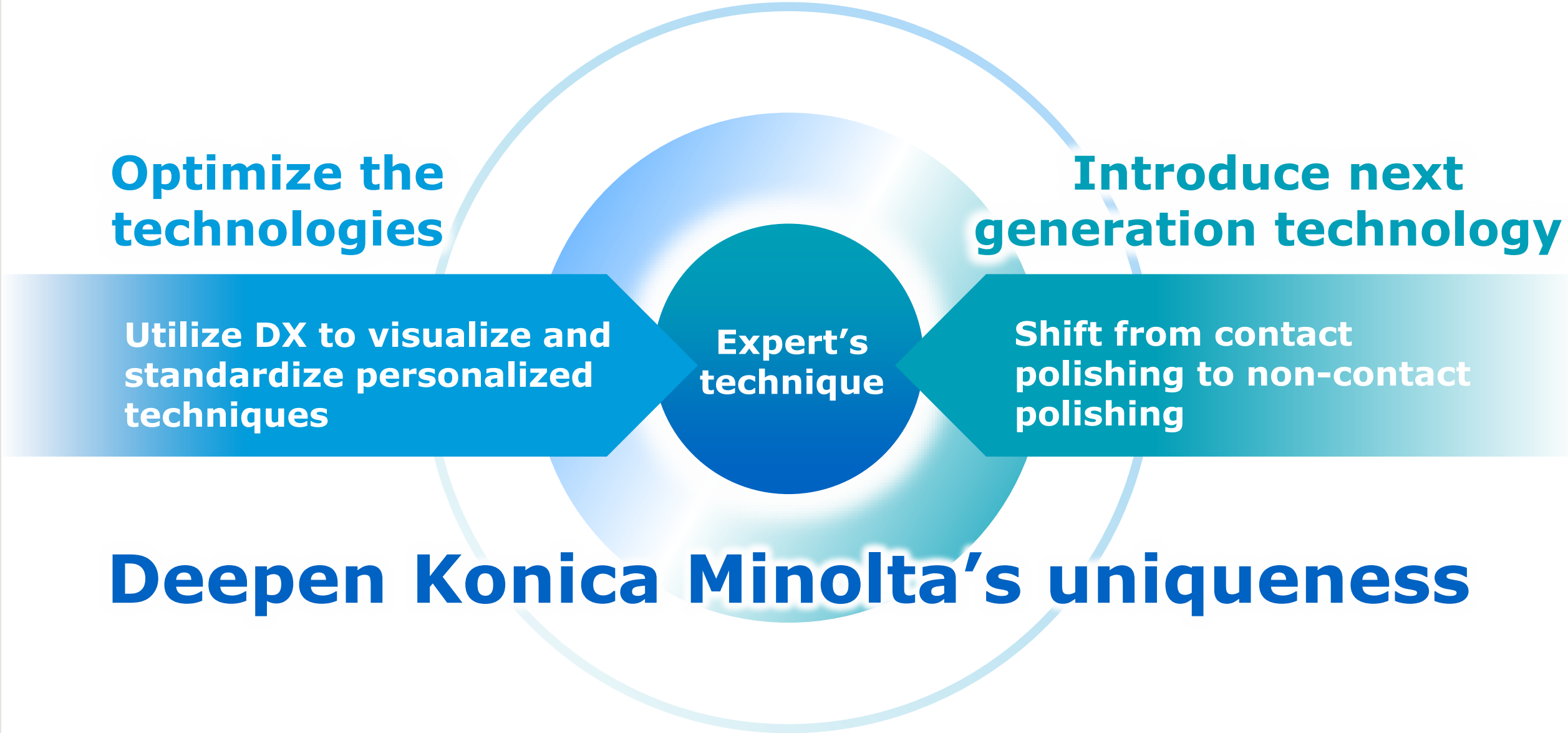
High-end field with high added value

Major suppliers shift due to miniaturization of semiconductors

Point 2

Quality stability, customization ability, and supply stability of major suppliers in the middle-end field have declined.

Initiatives to Improve Precision



Deepen Konica Minolta's uniqueness

Open & Challenge

Product development with a lively exchange of ideas among partner companies

Continue investing in technology development with mid-to long-term perspective

By collaborations with major semiconductor manufacturing equipment companies and medium- to long-term investment

Aim to create new value

Open | Creating Value-Added Products through Cooperation with Leading Manufacturers

- High-precision lens design
- Innovative measurement design

- Ultra-precision processing (polishing, thin films)
- Superior alignment technology

- Optimize glass properties
- Realize superior refractive index

Over 10 years of collaborative relationships in the area of semiconductor manufacturing

Challenge | Initiatives for Growth

Investment for growth

- Capital investment of several billion yen
- R&D investment to optimize existing technologies while also looking to adopt next-generation technologies

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Strengthen development and production systems

- Undergo reorganization and secure human capitals, thereby reinforcing organization
- Strengthen alliances
- Adopt next-generation processing technology

Establish a unique position for semiconductor manufacturing equipment and become a pillar of the optical components unit

Revenue of optical components for semiconductor manufacturing equipment

CAGR 20% or more


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