

# Market Report

[2019 version of Photoconductor Market Forecast]

**“China Overtakes Japan as Number One: What’s Really Happening in the Photoconductor Industry”**

= Will the day come when Chinese photoconductors rule the market? =



<Canon will employ more separate type cartridges and will reduce production of photoconductors in the medium and long term. Machines shown above are HP’s M118dw and Canon’s MF269dw with separate type cartridges.>



<China’s leading manufacturer Goldengreen expanded production sharply with dominant cost competitiveness.>



<China’s No.2 A&G aims to expand the business through its technology-centric approach.>



## I. Theme

2019 version of Photoconductor Market Forecast

### China Overtakes Japan as Number One: What's Really Happening in the Photoconductor Industry

= Will the day come when Chinese photoconductors rule the market? =

## II. Abstract

Another new printer manufacturer has been born in China. On December 18, 2018, a leading stationery maker **Deli announced that it has entered the printer industry.**

China's printer brands include Pantum, Lenovo, and Lexmark, and the number and their presence are growing every year.

**While Japanese printer and copier manufacturers are forced to scale down simply because there're too many, Chinese manufacturers are moving exactly in the opposite direction.**

For a long time, Japanese manufacturers have been leading the production of photoconductors used in office machines, but **productions may be overturned soon** because many Japanese manufacturers opt for photoconductor substrates made in China, and it'd be no surprise if Chinese manufacturers even filled positions of suppliers of genuine products.

In Japan, there's less active R&D of new photoconductors, and facility investment is becoming smaller. But China is growing. **It's not surprising if the trend accelerates especially with photoconductors for low-speed but most produced monochrome printers.** The question is: how long will the trend continue? And will Japanese manufacturers only have photoconductors to produce for high-speed and high-quality machines? Amid this backdrop, there's a new move among Japanese manufacturers. Mitsubishi Chemical's manufacturing plant will be operating in Vietnam in autumn of 2020, and Kyocera is eager to market negative-charge a-Si photoconductors.

From a technical perspective, Japanese manufacturers are producing new photoconductors, and Chinese manufacturers are trying to catch up to produce consumable supplies. Productions of Canon's photoconductors (20 φ) are growing, and high-yield photoconductors with OCL for high-speed machines and copiers can hardly be copied. In addition, Canon is filing patent infringement complaints of its dongle gear worldwide, mainly against Chinese manufacturers. These legal battles led courts to issue a series of preliminary injunction for Canon, and imports of such Chinese photoconductors were suspended in the United States, Europe, and Japan to protect Canon's patented technology. However, politics hinders Canon from solving the patent infringement issues in China.

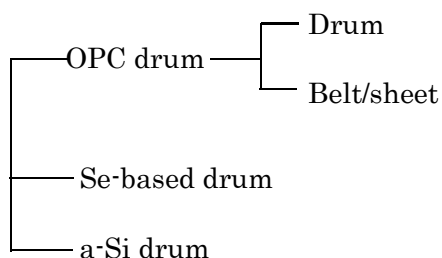
Under these circumstances, Data Supply Inc. plans a survey and interview of many Japanese as well as world photoconductor manufacturers in terms of R&D, production, and supply, with material and substrate manufacturers covered. Data Supply Inc. has published 28 volumes of the photoconductor report thus far, and with the current economic landscape described above in mind, the latest version will provide even more detailed market analysis than last year.

We truly hope the report helps you expand your business in any possible way.

## III. Target items and makers

### 1. Target items

#### 1) Photoconductor



#### 2) Aluminum substrate for photoconductors

#### 3) Photoconductive layer coating materials

## 2. Target Manufacturers

- |   |   |
|---|---|
| 1) Photoconductor manufacturers   | (10 in Japan, 25 overseas)  |
| 2) Photoconductor's substrate manufacturers                                       | (5 in Japan, 5 overseas)  |
| 3) Substrate processing manufacturers   | (8 in Japan, 4 overseas)  |
| 4) Manufacturers of photoconductor's coating materials<br>(CTL / CGL / UCL / OCL) | (11 in Japan, 2 overseas)   |
| 5) Hardware manufacturers   | (8 copier manufacturers,<br>14 printer manufacturers,<br>4 FAX manufacturers) |

## IV. Research Period and Methodology

### 1. Research period: 2016 to 2022

Regions: Japan, North America, Europe, South Korea, Taiwan, China, and other regions.

### 2. Methodology

- 1) On-site and in-person interviews with target manufacturers
- 2) Analysis and review of open literatures, materials, statistics, and other sources
- 3) Analysis of Data Supply's own proprietary database

## V. Format and Report Preparation Period

### 1. Study format: Multi-client study

### 2. Report preparation period: January and February 2019

### 3. Publication date: An English version will be published **on April 12, 2019 (Japanese version has been available since February 22, 2019)**

### 4. Report format: A4 size/PDF format

### 5. Price: \$5,200

### 6. Researchers

Mr. Yukio YAMAMOTO, Mr. Kosuke YOSHIDA, and Mr. Masafumi HARIU

Phone: +81-3-3831-9201

FAX: +81-3-3831-9204

E-mail: <yamamoto@datasupply.jp> <yoshida@datasupply.jp> <hariu@datasupply.jp>

Homepage: <http://www.datasupply.jp/>

### 7. How to Apply

Please send us an email with your name, company, department, and phone number included to Data Supply Inc. at [infods@datasupply.jp](mailto:infods@datasupply.jp) or any researcher shown above.

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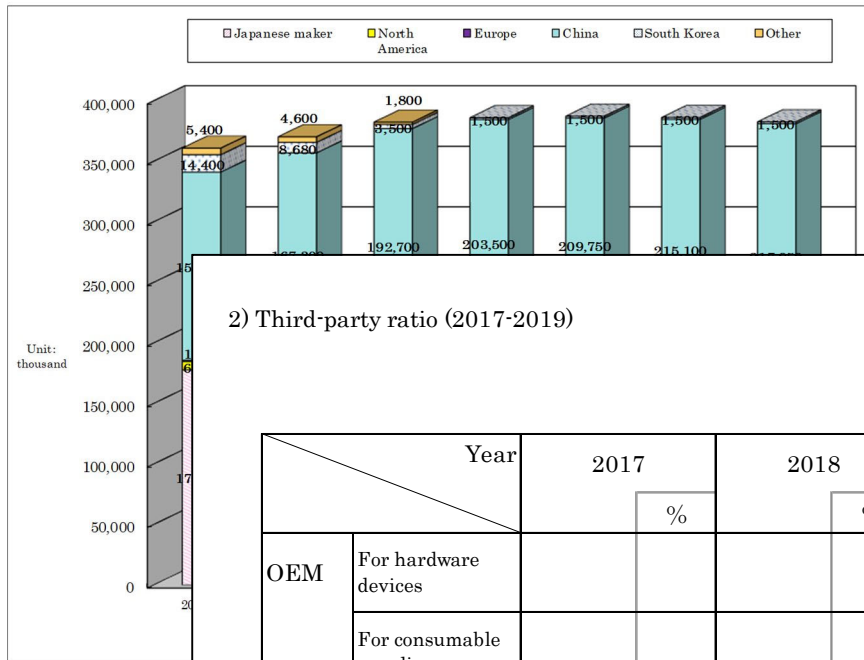
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Extract from < Comprehensive Analysis > and < Photoconductor Market >

\*Tables are provided with figures and comments in the complete version.

◇ Executive Summary ◇

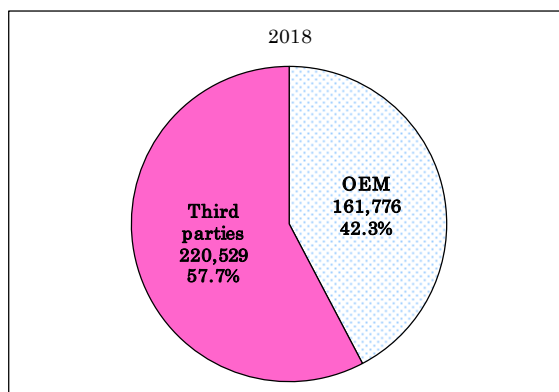
1. Changes in worldwide production volume of photoconductors



Worldwide production volume of photoconductors increased by 14.3% in 2019 compared with 2018, showing a growth as opposed to the decline in 2019 but production volume in 2018. Among Japanese makers, production volume grew into positive growth, while production volume of other regions decreased. In contrast, production volume of China and South Korea grew into positive growth. In contrast, production volume of North America and Europe decreased. In contrast, production volume of South Korea and other regions grew into positive growth. In contrast, production volume of North America and Europe decreased. In contrast, production volume of South Korea and other regions grew into positive growth. In addition, production volume of North America and Europe decreased severely users of photoconductors. If the situation stays the same, photoconductor manufacturers, request their photoconductor.

2) Third-party ratio (2017-2019)

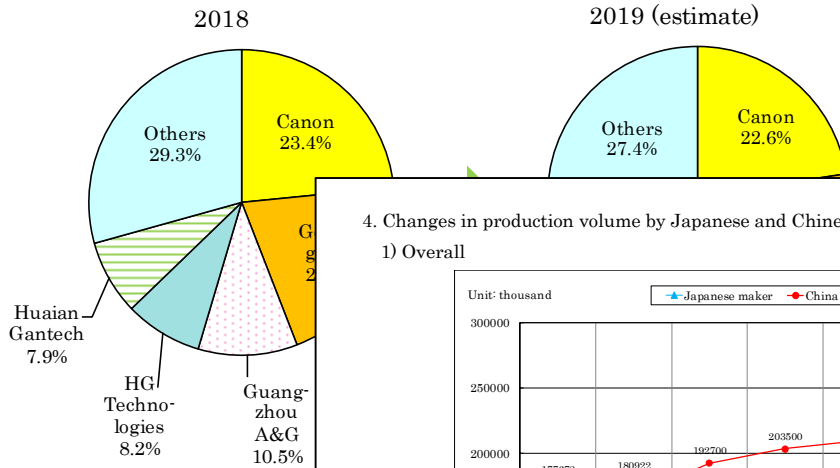
		Year		2018		2019 (estimate)	
		2017	%	2018	%	2019 (estimate)	%
OEM	For hardware devices						
	For consumable supplies						
	total						
Third parties							
total							



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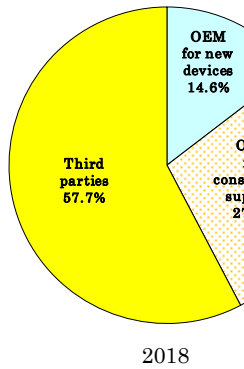
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## 2. World's top 10 photoconductor manufacturers (production share)



In 2018, Canon reduced production volume and other party manufacturers came in second.

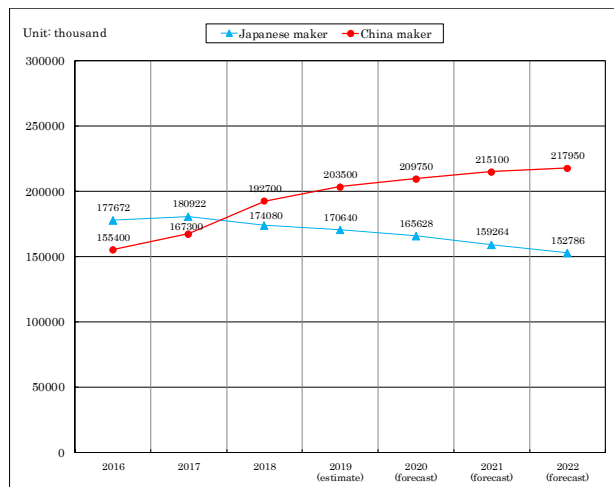
## 3. Worldwide production volume of photoconductor



Production volume for OEM parties are growing constantly.

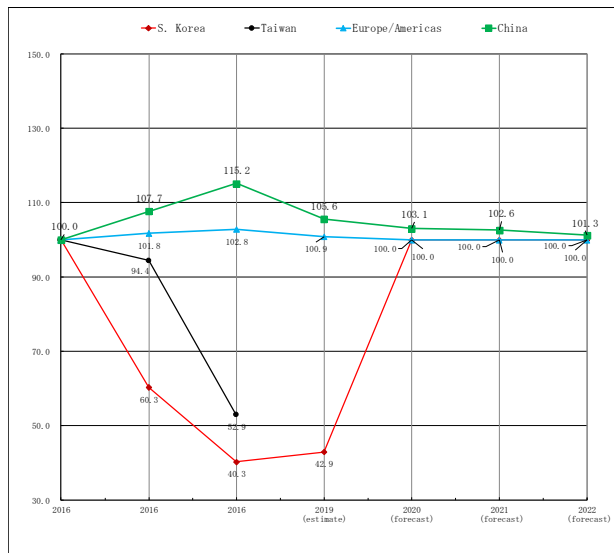
## 4. Changes in production volume by Japanese and Chinese manufacturers (unit: thousand)

### 1) Overall



Chinese manufacturers overtook Japanese manufacturers in 2018.

### 2) Production growth rate by country and region excluding Japan



China is growing dominantly when compared to others.

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Extract from < Photoconductor Market >

\*Tables are provided with figures and comments in the complete version.

**Shipment volume by destination of Company B (2017-2019)** Unit: thousand

Supply destination	2017		2018		2019 (estimate)	
		%		%		%
HP Printing Korea						
Konica Minolta						
Brother Industries						
Panasonic						
Pantum						

OEM Total	%
Third-party	
Third-party Total	%
Total	%

**Production volume by diameter and by application of Company A (2018)** Unit: thousand

Diameter (mm)	PPC				Printer				Fax OPC		Total		
	OPC	a-Si	PPC Total	%	OPC	a-Si	Printer Total	%	FAX Total	%	OPC	a-Si	%
20 φ													
24 φ													
30 φ													
40 φ													
47 φ													
50 φ													
60 φ													
65 φ													
80 φ													
84 φ													
90 φ													
100 φ													
108 φ													
120 φ													
168 φ													
180 φ													
210 φ													
240 φ													
260 φ													
Total													

**Application**

Application	Percentage
Printer	92.9%
PPC	6.8%
FAX	0.3%

**Diameter**

Diameter	Percentage
24φ	48.0%
30φ	21.5%
20φ	30.1%
Other	0.4%

① .....

② .....

③ .....

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# SAMPLE PAGE

Extract from < Drum Substrate Market >

\*Tables are provided with figures and comments in the complete version.

**5. Supply volume to photoconductor manufacturers (2018)**

1) Overall

Unit: thousand/year

	Shiwa Denko	UACJ Extrusion Corporation	Kobe Steel	Nikkeikin ACT	Fuji Aluminum Tube Manufacturing	sub total	Aluuna	Overseas/other makers	Total
Canon									
Canon Virginia (U.S.A.)									
Canon (Dalian, China)									
sub total									
Yamanashi Electronics (head office)									
Yamanashi Electronics Numazu									
Yamanashi Electronics (Thailand)									
Ricoh Industry Tohoku									
Ricoh Asia Industry (China)									
sub total									
Fuji Xerox									
Xerox (Nederland)									
sub total									
Konica Minolta									
Kyocera									
Kyocera Document Solutions									
Kyocera Document Technology (Dongguan, China)									
sub total									
Mitsubishi Chemical									
Mitsubishi Chemical Infonics (Singapore)									
sub total									
Fuji Electric (Shenzhen, China)									
Sharp									
Others									
Total									

Note: There's no more production at Canon Bretagne (France) and Xerox (Brazil).

Hoshion (China · Zhongshan) (extrusion)

Chinese manufacturers (extrusion)

\* Supply of 30 φ 40 φ drums were 280K for Fuji X

Aluuna (Germany)

Nikkeikin ACT (extrusion)

UACJ Extrusion Corporation (extrusion)

\* 30 φ (one m 15K units) dr numbers of 6 decrease in 3 substrates th

Hoshion (China · Zhongshan) (extrusion)

UACJ Extrusion Corporation (extrusion, drawi

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Extract from < Photoconductive Layer Coating Material Market >

\*Tables are provided with figures and comments in the complete version.

3) CTM types

(1) Overall

.....  
 .....  
 .....  
 .....

(2) CTM manufacturers

.....  
 .....  
 .....  
 .....

4) Major supply relations of CTM

○: large volume    △: small volume

Photoconductor makers \ CTM makers	Canon	Ricoh	Yamanashi Electronics	Fuji Xerox	Konica Minolta	Kyocera DS	Mitsubishi Chemical	Fuji Electric	Sharp	Others
Canon Finetech										
Fujifilm Finechemicals										
Konica Minolta Chemical										
Mitsubishi Chemical										
Takasago International										
Hodogaya Chemical										*1
Nisshoku Techno Fine Chemical										
IT-Chem (South Korea)										*2
Others *3										

\*1: For Sindoh (South Korea)

\*2: Mainly for Chinese manufacturers

\*3: Others include outsourced production from chemical manufacturers.