

Semiconductor Research Market Intelligence Membership Services-2022

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Membership Service		General		DRAM		NAND		DRAM+NAND	
Item	Frequency	Silver	Gold	DRAM Platinum	DRAM Diamond	NAND Platinum	NAND Diamond	Memory Platinum	Memory Diamond
Price Information									
Spot Price Early Notice	Daily	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
Historical Price Download	Daily	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
DRAM/NAND Contract Early Notice	Monthly		⊙	⊙	⊙	⊙	⊙	⊙	⊙
Server DIMM Contract Price	Monthly								
Mobile Contract Prices Info.	Quarterly								
NAND Flash Wafer Spot Prices Info.	Weekly								
NAND Flash Wafer Contract Prices Info.	Monthly								
WW SSD Street Price	Biweekly								
Enterprise SSD Contract Price	Quarterly								
PC-Client OEM SSD Contract Price	Quarterly								
Report									
Research Report	Quarterly			⊙	⊙	⊙	⊙	⊙	⊙
Special Report	Aperiodically			⊙	⊙	⊙	⊙	⊙	⊙
Datasheet									
DRAM Platinum Datasheet	Monthly			⊙	⊙			⊙	⊙
NAND Platinum Datasheet	Monthly					⊙	⊙	⊙	⊙
DRAM Diamond Datasheet	Quarterly				⊙				⊙
NAND Diamond Datasheet	Quarterly						⊙		⊙
Server DRAM Datasheet	Quarterly								
Server Diamond Datasheet	Quarterly								
Mobile Datasheet	Quarterly								
Enterprise SSD Datasheet	Quarterly								
SSD Datasheet	Quarterly								
Smartphone Market Decode Datasheet	Quarterly								
Foundry Datasheet	Quarterly								
SLC Datasheet	Quarterly								
Consumer DRAM Datasheet	Quarterly								
Other Service									
Analyst Con. Call	Quarterly			⊙	⊙	⊙	⊙	⊙	⊙
Business Visiting	Arrange			⊙	⊙	⊙	⊙	⊙	⊙

Membership Service		Single Purchase													
Item	Frequency	Nor Flash Report	Foundry Project	Mobile Package	China's Semiconductor Development Report	Server Diamond Datasheet	Server DRAM Package	Server Platinum	Enterprise SSD Package	SSD Pro Package	SSD Package	Smartphone Market Decode	NAND Flash Wafer	SLC Datasheet	Consumer DRAM Datasheet
Price Information															
Spot Price Early Notice	Daily														
Historical Price Download	Daily														
DRAM/NAND Contract Early Notice	Monthly														
Server DIMM Contract Price	Monthly						◎	◎							
Mobile Contract Prices Info.	Quarterly			◎											
NAND Flash Wafer Spot Prices Info.	Weekly												◎		
NAND Flash Wafer Contract Prices Info.	Monthly												◎		
WW SSD Street Price	Biweekly									◎	◎				
Enterprise SSD Contract Price	Quarterly							◎	◎	◎					
PC-Client OEM SSD Contract Price	Quarterly									◎	◎				
Report															
Research Report	Quarterly		◎ Biweekly	◎ Mobile DRAM	◎Semi-annual		◎	◎				◎			
Special Report	Aperiodically	◎Once Only	◎	◎			◎	◎	◎	◎	◎				
Datasheet															
DRAM Platinum Datasheet	Monthly														
NAND Platinum Datasheet	Monthly														
DRAM Diamond Datasheet	Quarterly														
NAND Diamond Datasheet	Quarterly														
Server DRAM Datasheet	Quarterly						◎	◎							
Server Diamond Datasheet	Quarterly					◎									
Mobile Datasheet	Quarterly			◎											
Enterprise SSD Datasheet	Quarterly							◎	◎	◎					
SSD Datasheet	Quarterly									◎	◎				
Smartphone Market Decode Datasheet	Quarterly											◎			
Foundry Datasheet	Quarterly		◎												
SLC Datasheet	Quarterly													◎	
Consumer DRAM Datasheet	Quarterly														◎
Other Service															
Analyst Con. Call	Quarterly		◎	◎			◎	◎	◎	◎	◎				
Business Visiting	Arrange		◎	◎			◎	◎	◎	◎	◎				

Membership Service		Single Purchase
Item	Frequency	MLCC Package
Price Information		
MLCC Price Information-USD 2,500	Monthly	◎
Report		
MLCC Market Bulletin-USD 3,500	Biweekly	◎
Research Report-USD 4,000	Quarterly	◎
Datasheet		
MLCC Datasheet-USD 3,500	Monthly	◎
Other Service		
Analyst Con. Call/Business Visiting	Scheduled (Quarterly)	◎
Price(USD) - Excluded Tax		10,000

MLCC Package Service covers as below :

- **MLCC Price Information**

TrendForce lists sizes, key commodity specs, and mainstream applications (smartphones, PCs/laptops, servers, gaming devices, and automotive electronics). Prices of MLCC products are constantly being tracked and updated on a monthly basis.

(Publish time: The end of month)

- **MLCC Market Bulletin**

TrendForce provides biweekly reports that update its members on the latest developments in the MLCC market and the price trend information.

- **MLCC Research Report**

The report provides an analysis and explanation on the differences among MLCC suppliers with respect to the main data indicators as well as a forecast on the situation of the MLCC industry for the next quarter.

- **MLCC Datasheet**

CapEx figures, production capacity figures, and inventory levels of MLCC suppliers are constantly being tracked and updated on a regular basis. TrendForce also provides analyses on the price trends and inventory statuses of production-related materials.

(Publish time: The beginning of month)

As Semiconductor Research Silver Membership, you are allowed to assess our services below:

- **DRAM/NAND Contract/Spot Price Information**

Authorize to **download** price on DRAmEXchange Website Price Database, and:

1. Download DRAM / NAND Flash daily spot prices or monthly contract prices from 2017 to current in excel format
2. View DRAM / NAND Flash spot / contract price trend in chart format on a weekly, monthly, quarterly and yearly basis, or on customized basis
3. Download DXI (Semiconductor Research Index) from 2020 to current in excel format
4. Historical Daily Express - a quick look at daily DRAM / NAND Flash spot markets from Nov. 28th, 2003 to current

Historical Price Download Center

☒ DRAM Spot ☐ DRAM Contract ☐ Flash Spot ☐ Flash Contract ☐ Memory Card

Item	Please Select Item										
Duration	2017	/	1	/	1	TO	2021	/	1	/	15
(Please select item first)											
<input type="button" value="Reset"/> <input type="button" value="Create Download Link"/>											

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Any questions regarding historical prices, please [contact us](#).

Please provide your login ID in the comment section for membership verification. Thank you.

Historical DXI Download Center

DXI	2020	/	1	/	1	TO	2021	/	1	/	15
(Please select a period)											
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- **DRAM/NAND Market View**

An overall and latest updated on DRAM, NAND Flash, PC and SSD industry

- **DRAM/NAND Learning Center**


Learning Center: an introduction of memory industry, separated into DRAM and NAND Flash.

- **Daily News Alert**

Provides Silver members daily update of DRAM, NAND FLASH, PC, Memory Card, etc. semiconductor industry news

- **SSD Performance Test**

View our result of performance test on different SSD products



Global Memory Research
14 JAN 2021

Intel and TSMC Predicted to Collaborate for GPU Production
Businesskorea
Intel is expected to produce its next-generation graphics processing unit via TSMC and utilize TSMC's seven-nanometer process technology to compete with Nvidia. The 7-nm GPU is forecast to be released late this year or early next year. Intel-Nvidia competition will further intensify if...

Apple's former CPU designers are headed to Qualcomm as their startup gets acquired
GSMarena
Qualcomm just announced that it will acquire Nuvia for approximately \$1.4 billion. You probably haven't heard of Nuvia, which was founded in early 2019. So why is it worth that much? Because of who founded the company: Gerard Williams III is CEO and President, John Bruno and...

Intel CEO Bob Swan to be replaced with VMware's Pat Gelsinger
Yahoo Finance
Intel CEO Bob Swan is poised to step down from his role at the tech company as of Feb. 15, CNBC first reported Wednesday morning. VMware CEO Pat Gelsinger (VMW) is set to take over the position. A source confirmed the move to Yahoo Finance. The departure comes after Swan...

Semiconductor shortage threatens global automotive production
PM-Review
A global semiconductor shortage is reported to be causing a number of automotive manufacturers to cut back on vehicle production, despite growing demand following the coronavirus (COVID-19) pandemic. As reported in Nikkei Asia, the lack of supply has forced...



Global Memory Research
14 Jan 2021

高通宣布以逾台幣 385 億元併購半導體新創企業 Nuvia
TechNews科技新報
根據《路透社》的報導，行動處理器大廠高通 (Qualcomm) 於台北時間 13 日晚間宣布，將以 14 億美元 (約新台幣 385.84 億元) 併購半導體新創企業 Nuvia Inc. 而 Nuvia 是一家由科技大廠蘋果...

CPU 製造版圖大轉移，英特爾釋單台積電代工 CPU 將在下半年量產
TechNews科技新報
TrendForce 旗下半導體研究處表示，英特爾 (Intel) 目前在非 CPU 類的 IC 製造約有 15%~20% 委外代工，主要在台積電 (TSMC) 與聯電 (UMC) 投片。2021 年正著手將 Core i3 CPU 的產品...

半導體行業2021年的關鍵詞：漲價
北京新網網
半導體行業2021年的關鍵詞就是一漲價。2020年四季度以來，已有超過20家半導體企業發佈「漲價函」，行業漲價幅度平均在10%-20%之間，個別企業如得一微電子，其嵌入式存儲控制單元上調...

市況熱 環球晶矽晶圓 全年看漲一成
中時電子報
晶圓代工廠及記憶體廠2021年第一季產能利用率維持滿載，訂單能見度已由第二季末延續到第三季下旬，矽晶圓需求同步回升。然而在下半年矽晶圓可能供不應求的預期下，矽晶圓大廠環球晶已順利...



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Global Memory Research
14 Jan 2021

下单台积电、换帅，Intel打响2021年的第一枪！
全球半导体观察
一个优秀的领导人对一家企业相当重要，比如AMD的苏姿丰，NVIDIA的黄仁勋，如今巨头Intel也要换帅了。13日晚间，英特尔宣布其现任CEO司睿博将在2月15日卸任，而公司新任CEO为帕特·基辛...

14亿美元，高通为什么看上这家半导体初创公司？
全球半导体观察
1月13日，手机芯片大厂高通在其官网发布新闻稿宣布，将以约14亿美元的价格收购半导体初创公司NUVIA。高通公司首席技术官吉姆·汤普森说：“创建高性能，低功耗处理器和高度集成的复杂...”

坚持源头创新 解决集成电路“卡脖子”问题
中国电子报
按照党的十九届五中全会的精神和要求，在集成电路产业领域，我们需要充分发挥新型举国体制的优势，坚持源头核心技术创新，不断解决核心芯片“卡脖子”问题，实现核心技术产业化，推动产业...

英特尔CPU制造版图转移，预计台积电明年量产中高阶3nm产品
全球半导体观察
英特尔 (Intel) 目前在非CPU类的IC制造约有15~20%委外代工，主要在台积电 (TSMC) 与联电 (UMC) 投片。2021年正著手将Core i3 CPU的产品释单台积电的5nm，预计下半年开始量产；此...



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DRAM Platinum Membership

DRAM Platinum member will receive all data including Silver and Gold membership coverage.
DRAM Platinum Service covers as below :

- **DRAM Monthly Datasheet**

Semiconductor Research offers you a complete analysis on DRAM industry supply/demand sufficiency, cost analysis and price forecast.

(Publish time: The mid of the month)

- **DRAM Quarterly Research Report**

Semiconductor Research Research report covers DRAM production overview, shipment update and forecast, new product and technology roadmap, industry and pricing trend.

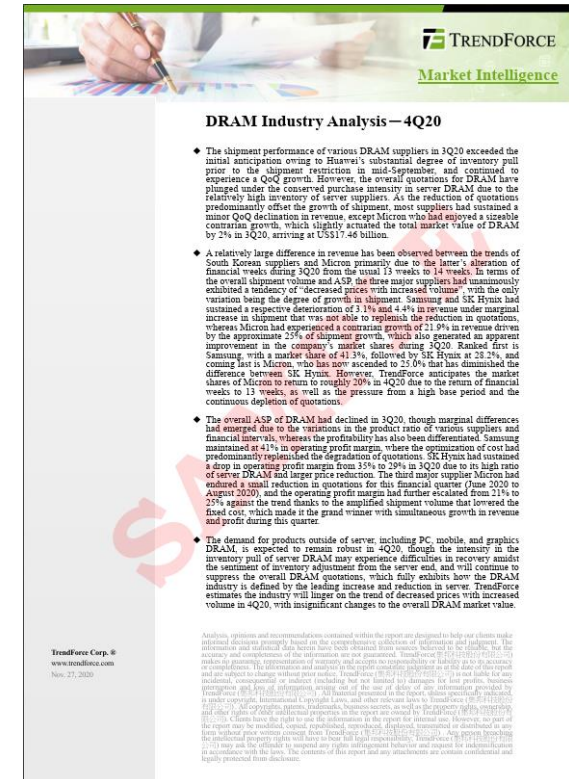
(Publish time: The end of Feb., May, Aug., Nov.)

- **Analyst Consulting Service**

Members could schedule quarterly conference call with Semiconductor Research Analysts.

- **Business Visiting**

Meet Semiconductor Research Analysts by person! Schedule business visiting with Semiconductor Research Analysts.



DRAM Platinum Monthly Datasheet

DRAM Worldwide Supply Update

- DRAM Market Forecast
- DRAM Makers' Revenue
- DRAM Makers Quarterly Revenue Ranking
- DRAM Operating Margin By Each Vendors
- DRAM Makers' Capex
- DRAM Worldwide 12" Quarterly Wafer Starts
- DRAM Makers' Fab Capacity Breakdown by Brand
- DRAM Makers' Fab Capacity Breakdown by Fab
- DRAM Worldwide Monthly Production Summary
- DRAM Worldwide Monthly Production Breakdown by Type
- DRAM Worldwide Monthly Production Breakdown by Region
- DRAM Worldwide Process Ratio by Quarter
- Technology Breakdown by Company
- DRAM Makers' Quarterly Production Output Breakdown by Density

DRAM Supply v.s. Demand Sufficiency Analysis

- DRAM Supply v.s. Demand Sufficiency
- DRAM Supply and Demand Model

DRAM Worldwide Demand Update

- Worldwide Monthly Desktop Shipment
- Worldwide Monthly Notebook Shipment
- Worldwide Monthly PC Shipment
- Worldwide Quarterly Server & Workstation Shipment
- Worldwide Quarterly Graphics Shipment
- Worldwide Quarterly Handset Production Volume
- DRAM Content Per Box in DT, NB

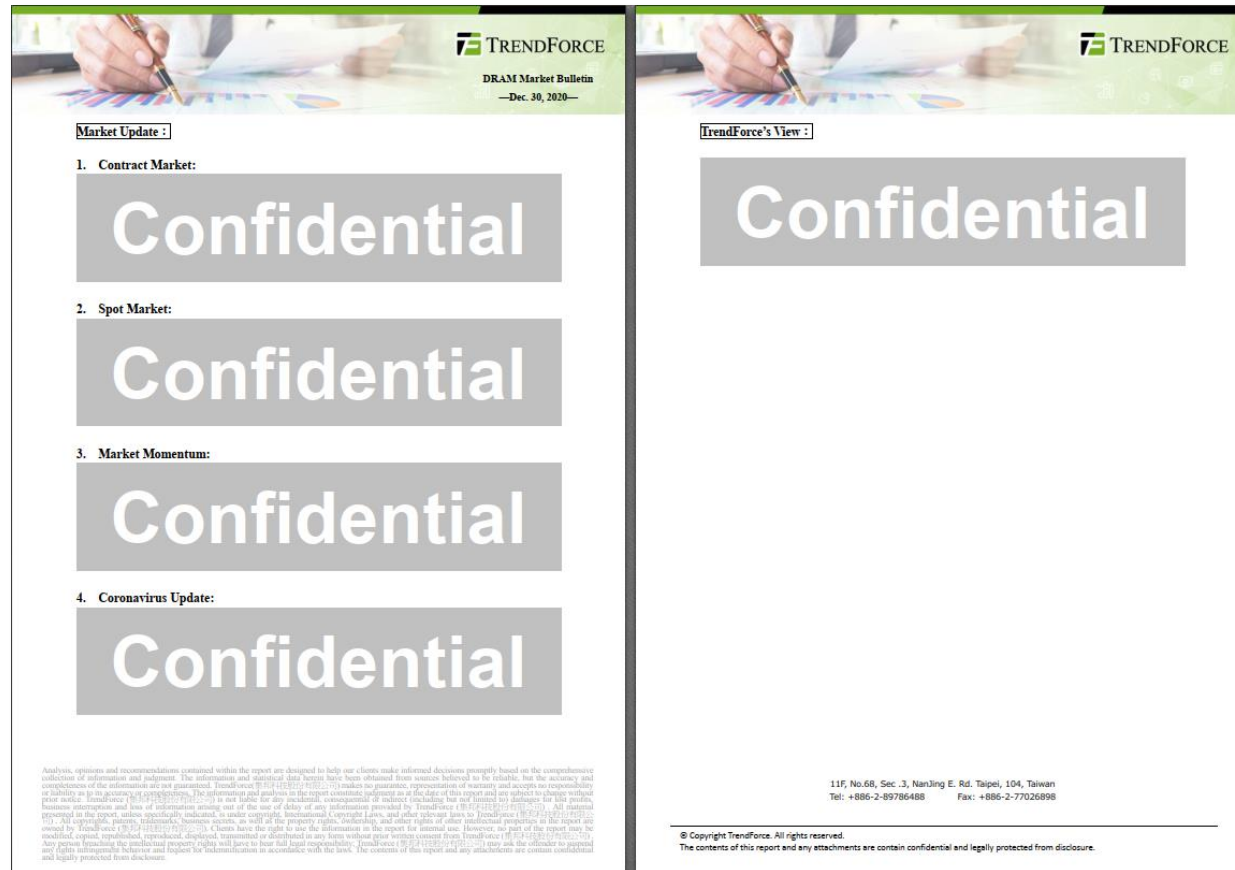
DRAM Market Forecast

- DRAM Spot and Contract Prices Forecast by Month
- Worldwide DRAM Production Forecast
- DRAM Cost Structure Update

Semiconductor Research offers an additional purchase which only applies to the above DRAM Platinum members, a comprehensive market update on the Contract, Spot and the DRAM market momentum.

We also provide our point of view on the instant hot topic analysis on the weekly basis.

***At least 40 publication reports in a year.**



Additional fee:

USD 3,500/year

Language:

English / Chinese / Simple Chinese

Format:

PDF

Frequency:

Wednesday of the published week

NAND Flash Platinum Membership

NAND Flash Platinum member will receive all data including Silver and Gold membership coverage. NAND Flash Platinum Service covers as below :

- **NAND Flash Monthly Datasheet**

Semiconductor Research offers you a complete analysis on NAND Flash industry supply/demand sufficiency, cost analysis and price forecast.

(Publish time: The mid of the month)

- **NAND Flash Quarterly Research Report**

Semiconductor Research Research report covers NAND Flash production overview, shipment update and forecast, new product and technology roadmap, industry and pricing trend.

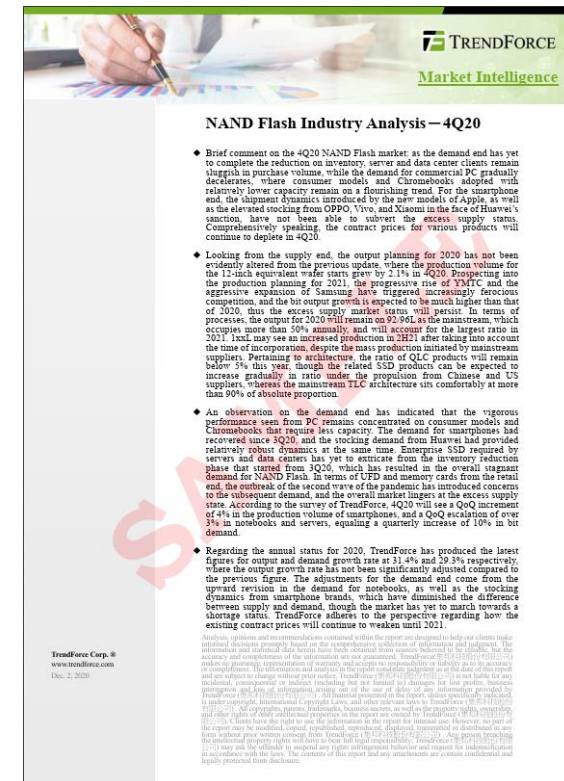
(Publish time: The end of Feb., May, Aug., Nov.)

- **Analyst Consulting Service**

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- **Business Visiting**

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NAND Flash Platinum Monthly Datasheet

NAND Flash Market Financial update

- Global NAND Flash Market Forecast
- NAND Flash Makers' Revenue
- Major NAND Flash Makers' Annual Capex Forecast
- Major NAND Flash Makers' Quarterly OP Margin
- Branded NAND Flash Makers' Quarterly Revenue Ranking

NAND Flash Worldwide Supply Update

- NAND Flash Worldwide Wafer Start
- Major NAND Flash Makers' Quarterly Capacity Breakdown by Fab
- NAND Flash Monthly Worldwide Production Output
- Major NAND Flash Makers' Annual Production Forecast
- NAND Flash Production Output Breakdown by Region
- Global NAND Flash Production Breakdown by Density Forecast
- NAND Flash Production Breakdown by Type
- NAND Flash Production Breakdown by Process Technology

NAND Flash Cost Analysis by Density

- Mainstream NAND Flash Chip Cost Analysis & Forecast
- NAND Flash Spot and Contract Prices Forecast

NAND Flash Worldwide Demand Update

- NAND Flash Worldwide Demand Summary
- NAND Flash Demand breakdown by Application
- NAND Flash Worldwide Quarterly Consumption Summary
- Worldwide Handset Quarterly Production Volume
- Worldwide PC SSD Quarterly Shipments
- Worldwide Enterprise SSD Quarterly Shipments
- Worldwide Game Console Quarterly Shipments
- Worldwide Tablet Quarterly Shipments
- Worldwide USB Flash Drive Quarterly Shipments
- Worldwide Memory Card Quarterly Shipments

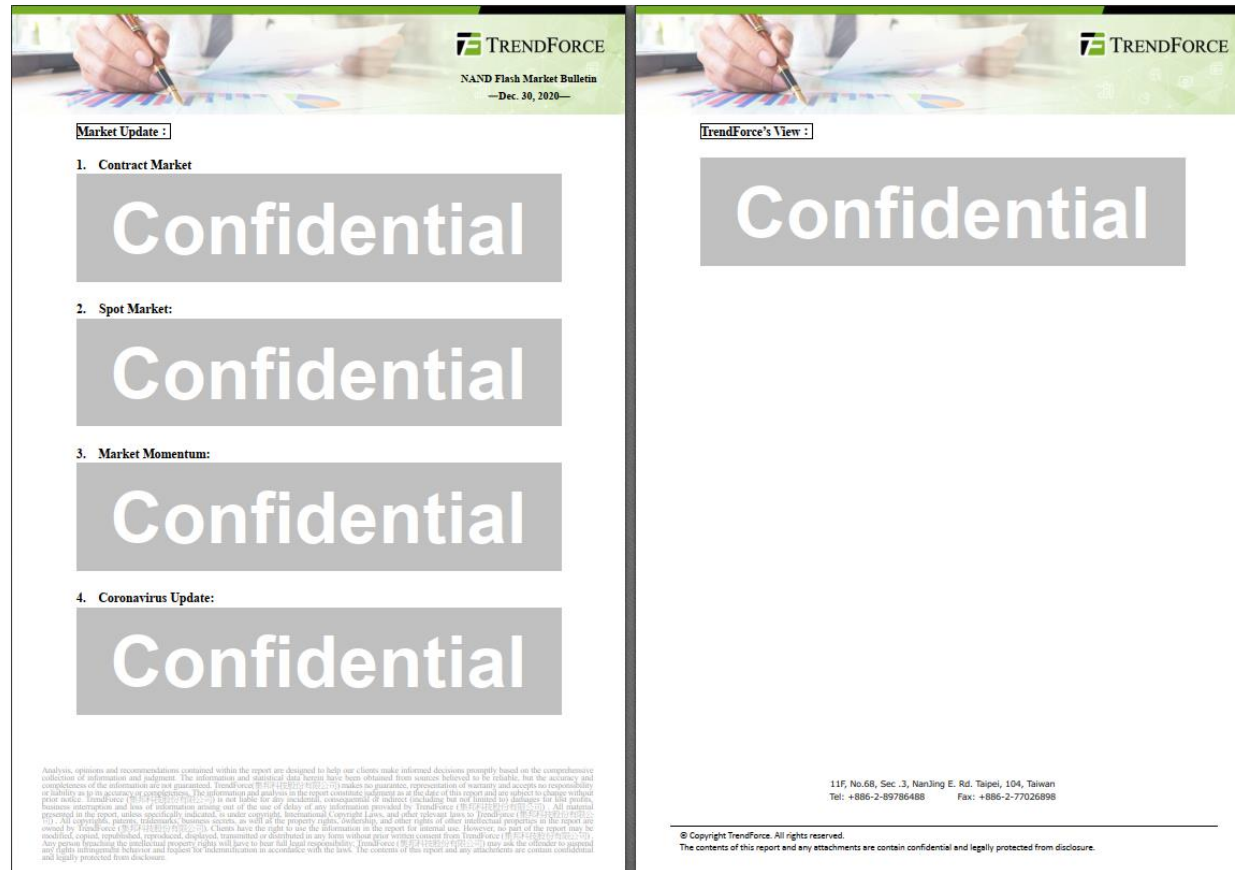
Sufficiency Analysis

- NAND Flash Supply vs Demand Sufficiency Ratio
- Worldwide NAND Flash Market Supply/Demand Analysis & Forecast

Semiconductor Research offers an additional purchase which only applies to the above NAND Flash Platinum members, a comprehensive market update on the Contract, Spot and the NAND Flash market momentum.

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***At least 40 publication reports in a year.**



Additional fee:

USD 3,500/year

Language:

English / Chinese / Simple Chinese

Format:

PDF

Frequency:

Wednesday of the published week

Memory Platinum Membership (DRAM & NAND Flash Package)

Memory Platinum member will receive all data including Silver and Gold membership coverage. Memory Platinum Service covers as below :

- **DRAM/NAND Flash Monthly Datasheet**

Semiconductor Research offers you a complete analysis on DRAM and NAND Flash industry supply/demand sufficiency, cost analysis and price forecast.

(Publish time: The mid of the month)

- **DRAM/NAND Flash Quarterly Research Report**

Semiconductor Research Research report covers DRAM/NAND Flash production overview, shipment update and forecast, new product and technology roadmap, industry and pricing trend.

(Publish time: The end of Feb., May, Aug., Nov.)

- **Analyst Consulting Service**

Members could schedule quarterly conference call with Semiconductor Research Analysts.

- **Business Visiting**

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Memory Platinum Membership (DRAM & NAND Flash Package)

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DRAM Market Forecast

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Memory Platinum Membership (DRAM & NAND Flash Package)

NAND Flash Platinum Monthly Datasheet

NAND Flash Market Financial update

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- Worldwide Tablet Quarterly Shipments
- Worldwide USB Flash Drive Quarterly Shipments
- Worldwide Memory Card Quarterly Shipments

Sufficiency Analysis

- NAND Flash Supply vs Demand Sufficiency Ratio
- Worldwide NAND Flash Market Supply/Demand Analysis & Forecast

DRAM Diamond Package (DRAM Monthly & Quarterly Datasheet)

DRAM Diamond member will receive all data including DRAM Platinum membership coverage. DRAM Diamond Service covers as below :

- **DRAM Monthly Datasheet**

Semiconductor Research offers you a complete analysis on DRAM industry supply/ demand sufficiency, cost analysis and price forecast.

(Publish time: The mid of the month)

- **DRAM Quarterly Datasheet**

Semiconductor Research Offers you a complete analysis on DRAM industry wafer input, production output, technology node...etc. by each company.

(Publish time: The end of Feb., May, Aug., Nov.)

- **DRAM Quarterly Research Report**

Semiconductor Research Research report covers DRAM production overview, shipment update and forecast, new product and technology roadmap, industry and pricing trend.

(Publish time: The end of Feb., May, Aug., Nov.)

- **Analyst Consulting Service**

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- **Business Visiting**

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DRAM Platinum Monthly Datasheet

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DRAM Market Forecast

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DRAM Diamond Package (DRAM Monthly & Quarterly Datasheet)

DRAM Diamond Quarterly Datasheet

DRAM Fab Capacity Update

DRAM Makers' Capex
DRAM Makers' Quarterly DRAM Revenue
DRAM Makers' Quarterly Revenue Ranking
DRAM Makers' Capacity Breakdown by Brand
DRAM Makers' Capacity Breakdown by Fab
DRAM Makers' Output by Brand
DRAM Makers' Output by Fab
Samsung DRAM Fabs' Capacity/Output by Design Rule
SK hynix DRAM Fabs' Capacity/Output by Design Rule
Micron DRAM Fabs' Capacity/Output by Design Rule
Powerchip DRAM Fabs' Capacity/Output by Design Rule
Nanya DRAM Fabs' Capacity/Output by Design Rule
Winbond DRAM Fabs' Capacity/Output by Design Rule
JHICC DRAM Fabs' Capacity/Output by Design Rule
CXMT DRAM Fabs' Capacity/Output by Design Rule

DRAM Production Output Update

Technology Breakdown by Company
DRAM Makers' Production Output Breakdown by Density
Density Production Output Breakdown by DRAM Maker
DRAM Makers' Production Output by Type
Samsung DRAM Production Output by Type
SK hynix DRAM Production Output by Type
Micron DRAM Production Output by Type
Nanya DRAM Production Output by Type
Powerchip DRAM Production Output by Type
Winbond DRAM Production Output by Type
JHICC DRAM Production Output by Type
CXMT DRAM Production Output by Type

Prices Forecast

Spot and Contract Prices Forecast by Quarter

NAND Flash Diamond Package (NAND Flash Monthly & Quarterly Datasheet)

NAND Flash Diamond member will receive all data including NAND Flash Platinum membership coverage. NAND Flash Diamond Service covers as below :

- **NAND Flash Monthly Datasheet**

Semiconductor Research offers you a complete analysis on NAND Flash industry supply/demand sufficiency, cost analysis and price forecast.

(Publish time: The mid of the month)

- **NAND Flash Quarterly Datasheet**

Semiconductor Research Offers you a complete analysis on NAND Flash industry wafer input, production output, technology node...etc. by each company.

(Publish time: The end of Feb., May, Aug., Nov.)

- **NAND Flash Quarterly Research Report**

Semiconductor Research Research report covers NAND Flash production overview, shipment update and forecast, new product and technology roadmap, industry and pricing trend.

(Publish time: The end of Feb., May, Aug., Nov.)

- **Analyst Consulting Service**

Members could schedule quarterly conference call with Semiconductor Research Analysts.

- **Business Visiting**

Meet Semiconductor Research Analysts by person! Schedule business visiting with Semiconductor Research Analysts.

NAND Flash Diamond Package (NAND Flash Monthly & Quarterly Datasheet)

NAND Flash Platinum Monthly Datasheet

NAND Flash Market Financial update

- Global NAND Flash Market Forecast
- NAND Flash Makers' Revenue
- Major NAND Flash Makers' Annual Capex Forecast
- Major NAND Flash Makers' Quarterly OP Margin
- Branded NAND Flash Makers' Quarterly Revenue Ranking

NAND Flash Worldwide Supply Update

- NAND Flash Worldwide Wafer Start
- Major NAND Flash Makers' Quarterly Capacity Breakdown by Fab
- NAND Flash Monthly Worldwide Production Output
- Major NAND Flash Makers' Annual Production Forecast
- NAND Flash Production Output Breakdown by Region
- Global NAND Flash Production Breakdown by Density Forecast
- NAND Flash Production Breakdown by Type
- NAND Flash Production Breakdown by Process Technology

NAND Flash Cost Analysis by Density

- Mainstream NAND Flash Chip Cost Analysis & Forecast
- NAND Flash Spot and Contract Prices Forecast

NAND Flash Worldwide Demand Update

- NAND Flash Worldwide Demand Summary
- NAND Flash Demand breakdown by Application
- NAND Flash Worldwide Quarterly Consumption Summary
- Worldwide Handset Quarterly Production Volume
- Worldwide PC SSD Quarterly Shipments
- Worldwide Enterprise SSD Quarterly Shipments
- Worldwide Game Console Quarterly Shipments
- Worldwide Tablet Quarterly Shipments
- Worldwide USB Flash Drive Quarterly Shipments
- Worldwide Memory Card Quarterly Shipments

Sufficiency Analysis

- NAND Flash Supply vs Demand Sufficiency Ratio
- Worldwide NAND Flash Market Supply/Demand Analysis & Forecast

NAND Flash Diamond Package (NAND Flash Monthly & Quarterly Datasheet)

NAND Flash Diamond Quarterly Datasheet

Wafer Output Breakdown Analysis

Major NAND Flash Makers' Capacity Breakdown by Fab
Worldwide Annual NAND Flash Capacity Forecasts

NAND Flash Fab Capacity Update

Forecast of NAND Flash Makers' Output Breakdown by Type & Density
Forecast of Samsung's Capacity/ Output Breakdown by Fab
Forecast of KIOXIA/WD's Capacity/ Output Breakdown by Fab
Forecast of SK hynix's Capacity/ Output Breakdown by Fab
Forecast of Micron's Capacity/ Output Breakdown by Fab
Forecast of Intel's Capacity/ Output Breakdown by Fab
Forecast of YMTC's Capacity/ Output Breakdown by Fab

NAND Flash Fab Production Output Update

Forecast of NAND Flash Makers' Output Breakdown by Type & Density
Forecast of Samsung's NAND Flash Output Breakdown by Type & Density
Forecast of KIOXIA/WD's Output Breakdown by Type & Density
Forecast of SK hynix's Output Breakdown by Type & Density
Forecast of Micron's Output Breakdown by Type & Density
Forecast of Intel's Output Breakdown by Type & Density
Forecast of YMTC's Output Breakdown by Type & Density

Production Breakdown Analysis

Global NAND Flash Production Breakdown by Makers
NAND Flash Makers' Production Breakdown by Node Technology
Samsung's Production Breakdown by Node Technology
KIOXIA/WD's Production Breakdown by Node Technology
SK hynix's Production Breakdown by Node Technology
Micron's Production Breakdown by Node Technology
Intel's Production Breakdown by Node Technology
PSC's Production Breakdown by Node Technology
Winbond's Production Breakdown by Node Technology
MXIC's Production Breakdown by Node Technology
YMTC's Production Breakdown by Node Technology
SMIC's Production Breakdown by Node Technology

NAND Flash Makers' Production Breakdown by Architecture Type
Samsung's Production Breakdown by Architecture Type
KIOXIA/WD's Production Breakdown by Architecture Type
SK hynix's Production Breakdown by Architecture Type
Micron's Production Breakdown by Architecture Type
Intel's Production Breakdown by Architecture Type
PSC's Production Breakdown by Architecture Type
Winbond's Production Breakdown by Architecture Type
MXIC's Production Breakdown by Architecture Type
YMTC's Production Breakdown by Architecture Type
SMIC's Production Breakdown by Architecture Type

Memory Diamond Package (DRAM & NAND Flash Monthly & Quarterly Datasheet)

Memory Diamond member will receive all data including Memory Platinum membership coverage. Memory Diamond Service covers as below :

- **DRAM/NAND Flash Monthly Datasheet**

Semiconductor Research offers you a complete analysis on DRAM and NAND Flash industry supply/demand sufficiency, cost analysis and price forecast.

(Publish time: The mid of the month)

- **DRAM/NAND Flash Quarterly Datasheet**

Semiconductor Research Offers you a complete analysis on DRAM/NAND Flash industry wafer input, production output, technology node...etc. by each company.

(Publish time: The end of Feb., May, Aug., Nov.)

- **DRAM/NAND Flash Quarterly Research Report**

Semiconductor Research Research report covers DRAM/NAND Flash production overview, shipment update and forecast, new product and technology roadmap, industry and pricing trend.

(Publish time: The end of Feb., May, Aug., Nov.)

- **Analyst Consulting Service**

Members could schedule quarterly conference call with Semiconductor Research Analysts.

- **Business Visiting**

Meet Semiconductor Research Analysts by person! Schedule business visiting with Semiconductor Research Analysts.

Memory Diamond Package (DRAM & NAND Flash Monthly & Quarterly Datasheet)

DRAM Platinum Monthly Datasheet

DRAM Worldwide Supply Update

DRAM Market Forecast
DRAM Makers' Revenue
DRAM Makers Quarterly Revenue Ranking
DRAM Operating Margin By Each Vendors
DRAM Makers' Capex
DRAM Worldwide 12" Quarterly Wafer Starts
DRAM Makers' Fab Capacity Breakdown by Brand
DRAM Makers' Fab Capacity Breakdown by Fab
DRAM Worldwide Monthly Production Summary
DRAM Worldwide Monthly Production Breakdown by Type
DRAM Worldwide Monthly Production Breakdown by Region
DRAM Worldwide Process Ratio by Quarter
Technology Breakdown by Company
DRAM Makers' Quarterly Production Output Breakdown by Density

DRAM Supply v.s. Demand Sufficiency Analysis

DRAM Supply v.s. Demand Sufficiency
DRAM Supply and Demand Model

DRAM Worldwide Demand Update

Worldwide Monthly Desktop Shipment
Worldwide Monthly Notebook Shipment
Worldwide Monthly PC Shipment
Worldwide Quarterly Server & Workstation Shipment
Worldwide Quarterly Graphics Shipment
Worldwide Quarterly Handset Production Volume
DRAM Content Per Box in DT, NB

DRAM Market Forecast

DRAM Spot and Contract Prices Forecast by Month
Worldwide DRAM Production Forecast
DRAM Cost Structure Update

Memory Diamond Package (DRAM & NAND Flash Monthly & Quarterly Datasheet)

NAND Flash Platinum Monthly Datasheet

NAND Flash Market Financial update

- Global NAND Flash Market Forecast
- NAND Flash Makers' Revenue
- Major NAND Flash Makers' Annual Capex Forecast
- Major NAND Flash Makers' Quarterly OP Margin
- Branded NAND Flash Makers' Quarterly Revenue Ranking

NAND Flash Worldwide Supply Update

- NAND Flash Worldwide Wafer Start
- Major NAND Flash Makers' Quarterly Capacity Breakdown by Fab
- NAND Flash Monthly Worldwide Production Output
- Major NAND Flash Makers' Annual Production Forecast
- NAND Flash Production Output Breakdown by Region
- Global NAND Flash Production Breakdown by Density Forecast
- NAND Flash Production Breakdown by Type
- NAND Flash Production Breakdown by Process Technology

NAND Flash Cost Analysis by Density

- Mainstream NAND Flash Chip Cost Analysis & Forecast
- NAND Flash Spot and Contract Prices Forecast

NAND Flash Worldwide Demand Update

- NAND Flash Worldwide Demand Summary
- NAND Flash Demand breakdown by Application
- NAND Flash Worldwide Quarterly Consumption Summary
- Worldwide Handset Quarterly Production Volume
- Worldwide PC SSD Quarterly Shipments
- Worldwide Enterprise SSD Quarterly Shipments
- Worldwide Game Console Quarterly Shipments
- Worldwide Tablet Quarterly Shipments
- Worldwide USB Flash Drive Quarterly Shipments
- Worldwide Memory Card Quarterly Shipments

Sufficiency Analysis

- NAND Flash Supply vs Demand Sufficiency Ratio
- Worldwide NAND Flash Market Supply/Demand Analysis & Forecast

Memory Diamond Package (DRAM & NAND Flash Monthly & Quarterly Datasheet)

DRAM Diamond Quarterly Datasheet

DRAM Fab Capacity Update

DRAM Makers' Capex
DRAM Makers' Quarterly DRAM Revenue
DRAM Makers' Quarterly Revenue Ranking
DRAM Makers' Capacity Breakdown by Brand
DRAM Makers' Capacity Breakdown by Fab
DRAM Makers' Output by Brand
DRAM Makers' Output by Fab
Samsung DRAM Fabs' Capacity/Output by Design Rule
SK hynix DRAM Fabs' Capacity/Output by Design Rule
Micron DRAM Fabs' Capacity/Output by Design Rule
Powerchip DRAM Fabs' Capacity/Output by Design Rule
Nanya DRAM Fabs' Capacity/Output by Design Rule
Winbond DRAM Fabs' Capacity/Output by Design Rule
JHICC DRAM Fabs' Capacity/Output by Design Rule
CXMT DRAM Fabs' Capacity/Output by Design Rule

DRAM Production Output Update

Technology Breakdown by Company
DRAM Makers' Production Output Breakdown by Density
Density Production Output Breakdown by DRAM Maker
DRAM Makers' Production Output by Type
Samsung DRAM Production Output by Type
SK hynix DRAM Production Output by Type
Micron DRAM Production Output by Type
Nanya DRAM Production Output by Type
Powerchip DRAM Production Output by Type
Winbond DRAM Production Output by Type
JHICC DRAM Production Output by Type
CXMT DRAM Production Output by Type

Prices Forecast

Spot and Contract Prices Forecast by Quarter

Memory Diamond Package (DRAM & NAND Flash Monthly & Quarterly Datasheet)

NAND Flash Diamond Quarterly Datasheet

Wafer Output Breakdown Analysis

Major NAND Flash Makers' Capacity Breakdown by Fab
Worldwide Annual NAND Flash Capacity Forecasts

NAND Flash Fab Capacity Update

Forecast of NAND Flash Makers' Output Breakdown by Type & Density
Forecast of Samsung's Capacity/ Output Breakdown by Fab
Forecast of KIOXIA/WD's Capacity/ Output Breakdown by Fab
Forecast of SK hynix's Capacity/ Output Breakdown by Fab
Forecast of Micron's Capacity/ Output Breakdown by Fab
Forecast of Intel's Capacity/ Output Breakdown by Fab
Forecast of YMTC's Capacity/ Output Breakdown by Fab

NAND Flash Fab Production Output Update

Forecast of NAND Flash Makers' Output Breakdown by Type & Density
Forecast of Samsung's NAND Flash Output Breakdown by Type & Density
Forecast of KIOXIA/WD's Output Breakdown by Type & Density
Forecast of SK hynix's Output Breakdown by Type & Density
Forecast of Micron's Output Breakdown by Type & Density
Forecast of Intel's Output Breakdown by Type & Density
Forecast of YMTC's Output Breakdown by Type & Density

Production Breakdown Analysis

Global NAND Flash Production Breakdown by Makers
NAND Flash Makers' Production Breakdown by Node Technology
Samsung's Production Breakdown by Node Technology
KIOXIA/WD's Production Breakdown by Node Technology
SK hynix's Production Breakdown by Node Technology
Micron's Production Breakdown by Node Technology
Intel's Production Breakdown by Node Technology
PSC's Production Breakdown by Node Technology
Winbond's Production Breakdown by Node Technology
MXIC's Production Breakdown by Node Technology
YMTC's Production Breakdown by Node Technology
SMIC's Production Breakdown by Node Technology

NAND Flash Makers' Production Breakdown by Architecture Type
Samsung's Production Breakdown by Architecture Type
KIOXIA/WD's Production Breakdown by Architecture Type
SK hynix's Production Breakdown by Architecture Type
Micron's Production Breakdown by Architecture Type
Intel's Production Breakdown by Architecture Type
PSC's Production Breakdown by Architecture Type
Winbond's Production Breakdown by Architecture Type
MXIC's Production Breakdown by Architecture Type
YMTC's Production Breakdown by Architecture Type
SMIC's Production Breakdown by Architecture Type

Starting from Q4 of 2015, Semiconductor Research will begin to cover the contract prices for TLC-Wafers and starting from Q2 of 2016, we will also begin to cover the contract prices for MLC-Wafers, which will be negotiated on a monthly basis between the NAND Flash industry's suppliers and module makers. We will be providing updates each month to ensure members receive the most accurate and timely information.

***TLC wafer spot price had been published since 2019/01/14.**

We do ensure members receive the most accurate and timely information.

NAND Flash Wafer Price Service covers as below :

- **TLC Wafer Spot Price (Weekly updated)**
 - **Normal member has a week lag relatively**
- **Wafer Contract Price (Monthly updated)**

Wafer Spot Price <small>MORE</small>		Last Update: Jan.11 2021 14:20 (GMT+8) <Price Notice>					
Item	Weekly High	Weekly Low	Session High	Session Low	Session Average	Average Change	History
T 512Gb TLC							
T 256Gb TLC							
T 128Gb TLC							

Wafer Contract Price Update		Dec.			Change		
(Unit: USD)	Density	Hi	Low	Avg	Hi(%)	Low(%)	Avg(%)
MLC	128Gb						
	64Gb						
	32Gb						
TLC	512Gb						
	256Gb						
	128Gb						
QLC	1Tb						

Last update: 2020/12/31

Mobile Package

Mobile Package Service covers as below :

• Mobile Contract Price Update

Mobile DRAM Contract Price Quarterly Update; eMMC/UFS Contract Price Quarterly Update.

(Publish time: The end of Jan., Apr., July, Oct.)

• Mobile Quarterly Datasheet

Quarterly Mobile DRAM and Mobile NAND Flash latest market supply/demand update.

(Publish time: The end of Feb., May, Aug., Nov.)

• Mobile DRAM Quarterly Research Report

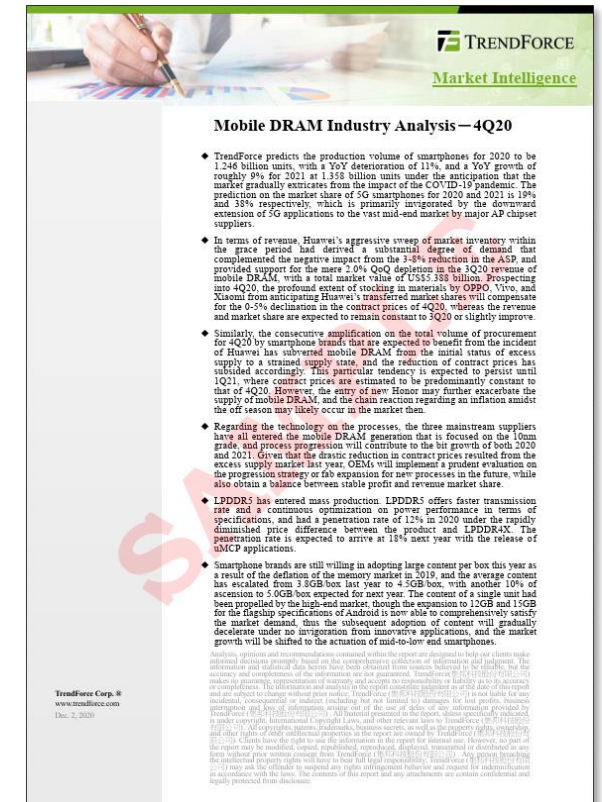
(Publish time: The end of Feb., May, Aug., Nov.)

Mobile DRAM Contract Price Update		4Q20			QoQ		
Item		High	Avg.	Low	High Change	Avg. Change	Low Change
LPDDR4X 8GB							
LPDDR4X 6GB							
LPDDR3 3GB							
LPDDR3 2GB							
eMCP LPDDR4X 128GB+64Gb							
eMCP LPDDR4X 128GB+48Gb							
eMCP LPDDR4X 128GB+32Gb							
eMCP LPDDR4X 64GB+48Gb							
eMCP LPDDR4X 64GB+32Gb							
eMCP LPDDR3 32GB+24Gb							
eMCP LPDDR3 32GB+16Gb							
eMCP LPDDR3 16GB+8Gb							
eMCP LPDDR3 8GB+8Gb							

Last update: 2020/10/27

eMMC/UFS Contract Price Update (Unit: USD)		3Q20			4Q20			Change		
Item		Hi	Low	Avg	Hi	Low	Avg	Hi(%)	Low(%)	Avg(%)
eMMC MLC	4GB									
	8GB									
	16GB									
	32GB									
	64GB									
eMMC TLC	128GB									
	16GB									
	32GB									
	64GB									
UFS	128GB									
	32GB									
	64GB									
	128GB									
	256GB									
	512GB									

Last update: 2020/10/23



Mobile Quarterly Datasheet

Mobile DRAM

DRAM Worldwide Supply Update

DRAM Makers' DRAM Revenue & Mobile DRAM Revenue
DRAM Makers Quarterly Mobile DRAM Revenue Ranking
Mobile DRAM Quarterly Product Mix on Output
Mobile DRAM Quarterly Output
Mobile DRAM Output by Product (Package)
Mobile DRAM Output by Product (Generation)
Mobile DRAM Output by Product (Density)
Mobile DRAM Technology Breakdown by Company

DRAM Worldwide Demand Update

Mobile DRAM Demand - Application Production Volume
Mobile DRAM Demand - Application Content
Mobile DRAM Demand - WW Smartphone Production Volume
Mobile DRAM Demand - China Smartphone Production Volume
Worldwide Top 10 Branded Smartphone Production Volume

DRAM Market Forecast

Mobile DRAM Price Forecast

DRAM Supply v.s. Demand Sufficiency Analysis

Worldwide Mobile DRAM Market Supply/Demand Analysis & Forecast

Mobile NAND Flash

eMMC Market Status

Architecture Breakdown
Interface Breakdown
eMMC/UFS Market Revenue Review and Forecast
MLC-eMMC & UFS Average Selling Price
eMMC Shipment

eMMC Application

eMMC & UFS Consumption by Application
eMMC & UFS Consumption by Density
Smartphone in eMMC/UFS
Media Tablet in eMMC/UFS
Smart TV in eMMC
E-Reader in eMMC

Smartphone Market Decode covers as below :

- **Smartphone Market Quarterly Datasheet**
- **Smartphone Market Quarterly Research Report**

TrendForce, a global market intelligence firm for the technology sectors, proudly presents “Smartphone Market Decode” – a quarterly research report that synergizes the resources of several in-house analyst teams such as the Department of Semiconductor Research, the Department of Display Research, the Department of ICT Application Research, etc.

In addition to the first-hand data on the device production figures of the major electronics brands and the latest overview of the supply chains for the key components, Smartphone Market Decode also covers the relevant topics pertaining to technological innovations and development trends. The report assists enterprises in adapting to the rapidly changing market environment by providing the most real-time and professional industry knowledge that can be used to make the best operational decisions.

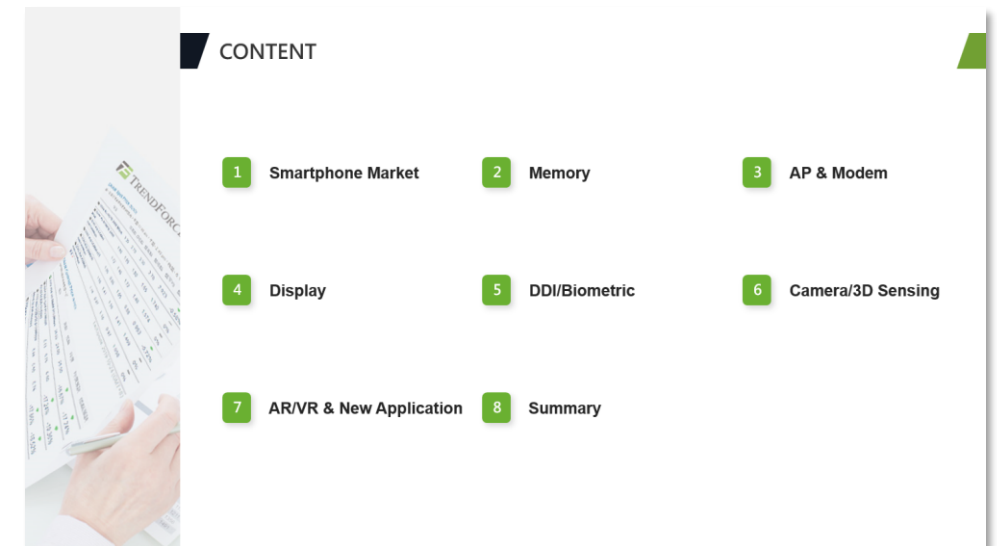
Mobile Device Worldwide Demand Update

WW Handset Production Volume

WW Branded Smartphone Production Volume

Chinese Branded Smartphone Production Volume

WW Top 10 Branded Smartphone Production Volume



Server DRAM Package

Server DRAM Package Service covers as below :

- **Server DIMM Monthly Contract Price**

(Publish time: The end of the month)

- **Server DRAM Quarterly Datasheet**

Quarterly Server DRAM latest market revenue/output update.

(Publish time: The end of Feb., May, Aug., Nov.)

- **Server DRAM Quarterly Research Report**

Current Server DRAM industry analysis on quarterly updated basis.

NEW

Last quarter Server DRAM market status overview and summary on quarterly updated basis.

(Publish time: The end of Feb., May, Aug., Nov.)

Server DIMM Price Update				Dec.			Change		
Item				Hi	Low	Avg	Hi(%)	Low(%)	Avg(%)
DDR4 2666/2933Mbps 16GB RDIMM									
DDR4 2666Mbps 32GB RDIMM									
DDR4 2933Mbps 32GB RDIMM									
DDR4 2666/2933Mbps 64GB LRDIMM									
DDR4 2666/2933Mbps 64GB RDIMM									

Last update: 2020/12/31

Server DRAM

DRAM Worldwide Supply Update

DRAM Makers' DRAM Revenue & Server DRAM Revenue

DRAM Makers Quarterly Server DRAM Revenue Ranking

Server DRAM Quarterly Product Mix on Output

Server DRAM Quarterly Output Shipment

Server DRAM Output by Product (Package)

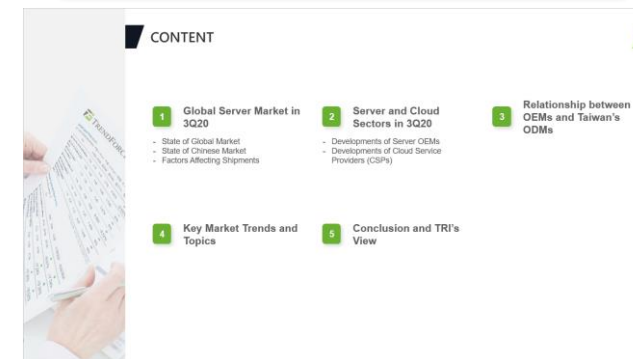
Server DRAM Output by Product (Generation)

Server DRAM Output by Product (Density)

Server DRAM Technology Breakdown by Company

Server Demand- Server Unit Shipment by Brand,

Server DRAM Price Forecast



Server Diamond Datasheet covers as below :

- **Server Diamond Quarterly Datasheet**

TrendForce combines its expertise in the memory market and leverages it to provide a multifaceted study of the server market in this report. The content of it is as follows:

- (1) Server CPU Market: State of Competition and Market Shares
- (2) Server Procurement by Cloud Service Providers in North America and China
- (3) Projection on Shipments of Server Storage Products
- (4) Projection on Server Shipments for Current Year
- (5) Major ODM Partners of Critical Server Brands
- (6) Changes on Volumes in Server DRAM Procurement
- (7) Trends in SSD Procurement and Projections on Storage Form-Factors and Interfaces
- (8) Shares of Enterprise and Hyperscale Servers in Memory Consumption.

(Publish time: The end of Mar., June, Sep., Dec.)

Membership fee:

Single Purchase at USD 35,000/year
Additional fee at USD 21,000/year
(Upgrade from the Server DRAM Package)

CPU

[Intel Server/Workstation CPU Units Shipment](#)
[AMD Server/Workstation CPU Units Shipment](#)

Hyperscale Data Center Portfolio

[Storage Server Shipment](#)
[Hyperscale Server Units](#)
[Hyperscale Server CPU Usage Mix](#)
[Hyperscale Server Barebone \(L6\) Portion \(%\)](#)
[China Hyperscale Server Set \(L10\) Portion \(%\)](#)
[Hyperscale RDIMM Consumption](#)
[Hyperscale SSD Consumption](#)
[ESSD Form Factor Breakdown](#)
[ESSD Interface Breakdown](#)
[Server DRAM & SSD Consumption Mix](#)

Enterprise SSD Package Service covers as below :

- Enterprise SSD Contract Price

The Enterprise SSD contract prices are covering North America, Japan, Europe, and other markets and generally derived from the quarterly negotiations between enterprise SSD markets.

(Publish time: The end of Jan., Apr., July, Oct.)

- Enterprise SSD Quarterly Datasheet

Enterprise SSD Datasheet provides you with the latest SSD density and shipment forecast for server equipment and data centers. Also, enterprise SSD interface, form factor breakdown, and read / mixed read / write load / write intensify Enterprise SSD breakdown.

(Publish time: The end of Feb., May, Aug., Nov.)

Enterprise SSD

- Enterprise SSD Revenue
- Enterprise SSD ASP
- Worldwide Enterprise SSD Shipment
- Worldwide Enterprise SSD Shipment by brand
- Enterprise SSD Contract Price Forecast
- Enterprise SSD Architecture Breakdown
- Enterprise SSD Interface Breakdown
- Worldwide Enterprise SSD Capacity Breakdown by Capacity
- Price Crossover Point for Enterprise HDD and Enterprise SSD-SATA
- Price Crossover Point for Enterprise HDD and Enterprise SSD-SAS
- SSD Shipment Breakdown by Type
- SSD Revenue Breakdown by Type
- NAND Flash Demand Portion

EnterPrise SSD Contract Price Update (Unit: USD)		3Q20			4Q20			Change		
Item		Hi	Low	Avg	Hi	Low	Avg	Hi(%)	Low(%)	Avg(%)
PCIe NVMe Gen3X4 2.5"	960GB									
	1920GB									
	3840GB									
	7680GB									
SATA3 read intensive 2.5"	480GB									
	960GB									
	1920GB									
	3840GB									
	7680GB									

Last update: 2020/10/23

SSD Package

SSD Package Service covers as below :

- **WW SSD Street Price**

WW SSD Street Price collected by diverse brands and densities in major markets, including NA, Japan and EU.

(Publish time: The end of biweekly of the month)

- **PC-Client OEM SSD Contract Price**

The worldwide PC-Client OEM SSD contract prices are generally derived from the quarterly negotiations between SSD suppliers and top tier OEM/ODMs.

(Publish time: The end of Jan., Apr., July, Oct.)

- **SSD Quarterly Datasheet**

SSD Datasheet provides you with latest SSD density and shipment forecast in PC, server, disk on module and MID market.

(Publish time: The end of Feb., May, Aug., Nov.)

PC-Client OEM SSD Contract Price Update (Unit: USD)		3Q20			4Q20			Change		
	Item	Hi	Low	Avg	Hi	Low	Avg	Hi(%)	Low(%)	Avg(%)
TLC SATA	128GB-mSATA/M.2									
	256GB-mSATA/M.2									
	512GB-mSATA/M.2									
	128GB-2.5"inch									
	256GB-2.5"inch									
TLC PCIe- Premium Grade	512GB-2.5"inch									
	256GB-mSATA/M.2									
	512GB-mSATA/M.2									
TLC PCIe- Value Grade	1TB-mSATA/M.2									
	128GB-mSATA/M.2									
	256GB-mSATA/M.2									
	512GB-mSATA/M.2									

Last update: 2020/10/23



SSD Street Price

TrendForce will start providing WW SSD street price from 2009. We will survey SSD street price from main markets in the world.

Brand	Class	Series	Capacity (GB)	Form Factor	Architecture	Model	Interface	Price High	Price Low	Price Avg.	Last Avg.
Intel	Mainstream	660P	512	M.2	3D-QLC	SSDPEKNW512G8X	PCIe				
Intel	Mainstream	660P	1024	M.2	3D-QLC	SSDPEKNW010T8X1	PCIe				
Intel	Mainstream	660P	2048	M.2	3D-QLC	SSDPEKNW020T8X1	PCIe				
Kingston	Mainstream	A400	120	2.5"	TLC	SA400S37/120G	SATA 3				
Kingston	Mainstream	A400	240	2.5"	TLC	SA400S37/240G	SATA 3				
Kingston	Mainstream	A400	480	2.5"	TLC	SA400S37/480G	SATA 3				
Kingston	Mainstream	A400	960	2.5"	TLC	SA400S37/960G	SATA 3				
Kingston	Mainstream	A2000	250	M.2	3D-TLC	SA2000M8/250G	PCIe				
Kingston	Mainstream	A2000	500	M.2	3D-TLC	SA2000M8/500G	PCIe				
Kingston	Mainstream	A2000	1000	M.2	3D-TLC	SA2000M8/1000G	PCIe				
Kingston	Mainstream	KC600	256	2.5"	3D-TLC	SKC600/256G	SATA 3				
Kingston	Mainstream	KC600	512	2.5"	3D-TLC	SKC600/512G	SATA 3				
Kingston	Mainstream	KC2500	250	M.2	3D-TLC	SKC2500M8/250G	PCIe				
Kingston	Mainstream	KC2500	500	M.2	3D-TLC	SKC2500M8/500G	PCIe				
Kingston	Mainstream	KC2500	1000	M.2	3D-TLC	SKC2500M8/1000G	PCIe				

SSD Market by Channel

SSD Revenue Breakdown by Type

SSD Shipment & Revenue

SSD Architecture Breakdown

SSD Interface Breakdown

Worldwide Personal Computer SSD Market Revenue

Worldwide Personal Computer SSD Shipment

SSD Shipment Forecast 2019-2024F

Worldwide Personal Computer SSD Capacity Breakdown by Capacity

SSD Capacity Forecast 2019-2024F

Worldwide Personal Computer SSD and HDD Adoption Rate

Price Crossover Point for HDD and SSD

NAND Flash Demand Portion

Cost Analysis - NAND Flash Price Trend

Client SSD Price Forecast

Portable SSD Shipment Forecast

SLC NAND Flash Datasheet Service covers as below :

- **SLC NAND Flash Quarterly Datasheet**

Besides the mainstream market segments, Semiconductor Research also provides price and supply/demand analyses for SLC solutions that belong to the more niche area of the NAND Flash market.

NAND Flash Market Financial update

NAND Flash SLC Revenue Forecast

NAND Flash Worldwide Supply Update

Global NAND Flash SLC Production Breakdown by Density Forecast

Major SLC NAND Flash Makers' Quarterly Capacity Breakdown by Company

Major SLC NAND Flash Makers' Annual Production Forecast

Samsung's Production Breakdown by Density

SK hynix's Production Breakdown by Density

Kioxia's Production Breakdown by Density

Micron's Production Breakdown by Density

Winbond's Production Breakdown by Density

Macronix's Production Breakdown by Density

Powerchip's Production Breakdown by Density

SMIC's Production Breakdown by Density

NAND Flash Cost Analysis by Density

NAND Flash SLC Contract Prices Forecast

Frequency:

Quarterly (Mar., Jun., Sep. and Dec.)

Consumer DRAM Datasheet Service covers as below :

- **Consumer DRAM Quarterly Datasheet**

Besides the mainstream product segments of the DRAM market, Semiconductor Research's research now encompasses specialty (consumer) DRAM products as well. Analyses in this area pertain to product development plans and production outputs of suppliers, price trends, etc.

Consumer DRAM Worldwide Supply Update

Key Trends of Consumer DRAM Market

Consumer DRAM Production Breakdown by Type Forecast

Consumer DRAM Production Breakdown by Density Forecast

Consumer DRAM Makers' Quarterly Capacity Breakdown by Company

Consumer DRAM Makers' Annual Production Forecast

Samsung Consumer DRAM Production Output by Type

SK hynix Consumer DRAM Production Output by Type

Micron Consumer DRAM Production Output by Type

Nanya Consumer DRAM Production Output by Type

Powerchip Consumer DRAM Production Output by Type

Winbond Consumer DRAM Production Output by Type

JHICC Consumer DRAM Production Output by Type

CXMT Consumer DRAM Production Output by Type

Consumer DRAM Cost Analysis by Density

Specialty DRAM Contract Prices Forecast

Frequency:

Quarterly (Jan., Apr., Jul. and Oct.)

Foundry Project Service covers as below :

- **Foundry Project Quarterly Datasheet**

The industry's latest market revenue updates, capacity utilization rates, and technological developments. Including the world's major regions (China, US, Taiwan, Korea, Japan, etc.) and leading wafer manufacturers (including, but not limited to: TSMC, UMC, Samsung and SMIC etc.). Also provides you major foundry client's wafer input in advanced technology process.

(Publish time: The end of Feb., May, Aug., Nov.)

- **Market Bulletin Report**

We will provide an update on each wafer manufacturers status on the biweekly basis.

(Publish time: Monday of the published week)

- **Special Report**

First-hand information for un-expecting issue and our point of view on the market news update.

- **Analyst Consulting Service**

Members could schedule quarterly conference call with Semiconductor Research Analysts.

- **Business Visiting**

Meet Semiconductor Research Analysts by person! Schedule business visiting with Semiconductor Research Analysts.

- Foundry Project Quarterly Datasheet - (Publish time: The end of Feb, May, Aug, Nov)

Foundry

Worldwide Market Update

Foundry Revenue
Quarterly Foundry Revenue Ranking
Foundry Makers' CAPEX 2018-2021
Foundry Makers' OP Margin
Foundry Makers' Wafer ASP
Foundry Main Customers' Wafer Input by Tech. Node
Foundry Makers' Revenue by Application
Foundry Makers' Revenue by Product


Fab Capacity Update

TSMC's Fab Capacity breakdown
UMC's Fab Capacity breakdown
VIS's Fab Capacity breakdown
PSMC's Fab Capacity breakdown
SMIC's Fab Capacity breakdown
HuaHong Group's Fab Capacity breakdown
Samsung's Fab Capacity breakdown
Foundry Makers' Installed Capacity
Foundry Makers' Utilization Rate

- Foundry Project Quarterly Datasheet - Installed Capacity

TRENDFORCE		Foundry Makers' Installed Capacity															
Unit : KWPM		<Index> Update: Dec. 1st, 2020															
Company	W.Size	1Q18	2Q18	3Q18	4Q18	1Q19	2Q19	3Q19	4Q19	1Q20	2Q20	3Q20	4Q20E	1Q21F	2Q21F	3Q21F	4Q21F
TSMC	6" total																
	8" total																
	12" total																
	12" equiv.																
UMC	8" total																
	12" total																
	12" equiv.																
VIS	8" total																
	12" total																
	12" equiv.																
PSMC	8" total																
	12" total																
	12" equiv.																
SMIC	8" total																
	12" total																
	12" equiv.																
HuaHong Group	8" total																
	12" total																
	12" equiv.																
Samsung	8" total																
	12" total																
	12" equiv.																

- Foundry Project Quarterly Datasheet - Demand-Foundry Main Customer


TrendForce

Foundry Main Customers' Wafer Input by Tech. Node

[<Index>](#)

Main Customers' monthly wafer Input by technology node (k units)

Update: Dec. 1st, 2020

5nm	1Q18	2Q18	3Q18	4Q18	1Q19	2Q19	3Q19	4Q19	1Q20	2Q20	3Q20	4Q20E	1Q21F	2Q21F	3Q21F	4Q21F
Apple																
Hisilicon																
Xilinx																
AMD																
Qualcomm																
nVIDIA																
MediaTek																
Intel																
Total																
UTR%																

6/7nm	1Q18	2Q18	3Q18	4Q18	1Q19	2Q19	3Q19	4Q19	1Q20	2Q20	3Q20	4Q20E	1Q21F	2Q21F	3Q21F	4Q21F
Apple																
HiSilicon																
Qualcomm																
Bitmain																
AMD																
Xilinx																
MediaTek																
nVIDIA																
Intel																
Others																
Total																
UTR %																

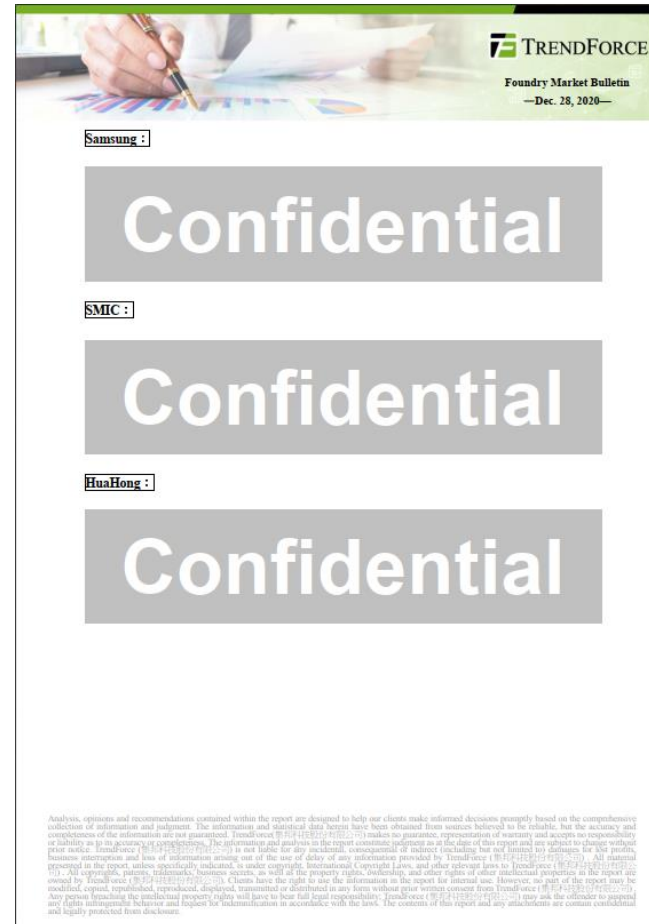
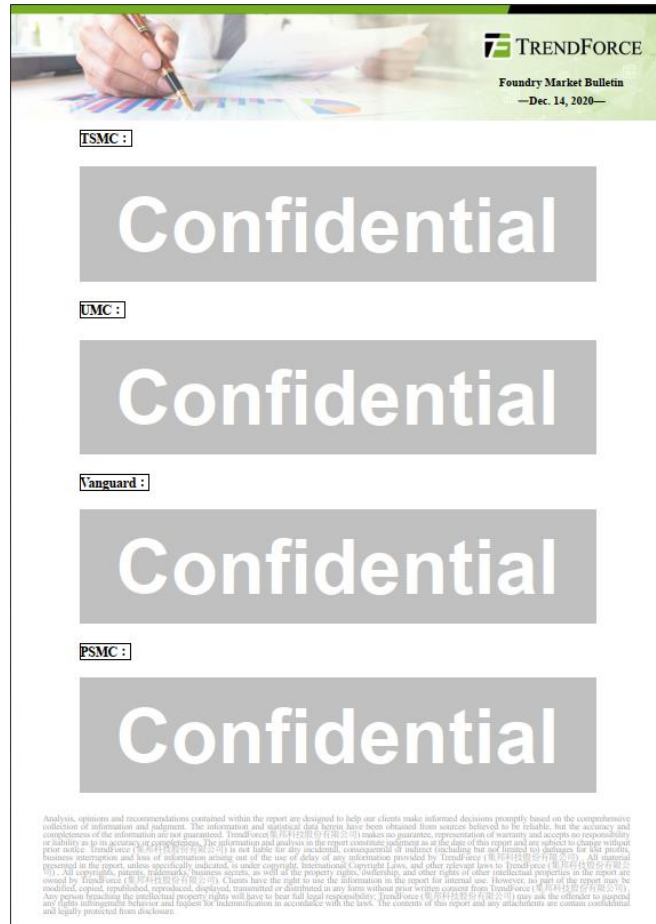
10nm	1Q18	2Q18	3Q18	4Q18	1Q19	2Q19	3Q19	4Q19	1Q20	2Q20	3Q20	4Q20E	1Q21F	2Q21F	3Q21F	4Q21F
Apple																
Hisilicon																
Bitmain																
MediaTek																
Total																
UTR %																

12/16nm	1Q18	2Q18	3Q18	4Q18	1Q19	2Q19	3Q19	4Q19	1Q20	2Q20	3Q20	4Q20E	1Q21F	2Q21F	3Q21F	4Q21F
Broadcom																
Apple																
nVIDIA																
HiSilicon																
MediaTek																
Qualcomm																
Bitmain																
Others																
Total																
UTR %																

- Market Bulletin Report

We will provide an update on each wafer manufacturers status on the biweekly basis.

***At least 20 publication reports in a year.**



Language:

English / Chinese / Simple Chinese

Format:

PDF

Frequency:

Monday of the published week

- Special Report

First-hand information for un-expecting issue and our point of view on the market news update.



China's Semiconductor Development Report covers as below :

- **Research Report**

The analysis for Chinese makers capacity on the DRAM and NAND Flash markets, and their technology development status on the DRAM and NAND Flash industry.

(Publish time: Semi-annual ; The end of Mar., Sep.)

Analysis of Global NOR Flash Market :

Supply

- Analysis of Existing Capacity
- Analysis of Existing Players - Cypress, Macronix, Micron, Winbond...etc
- Forecast for Output Expansion

Demand

- AMOLED
- TDDI
- IOT

Conclusion

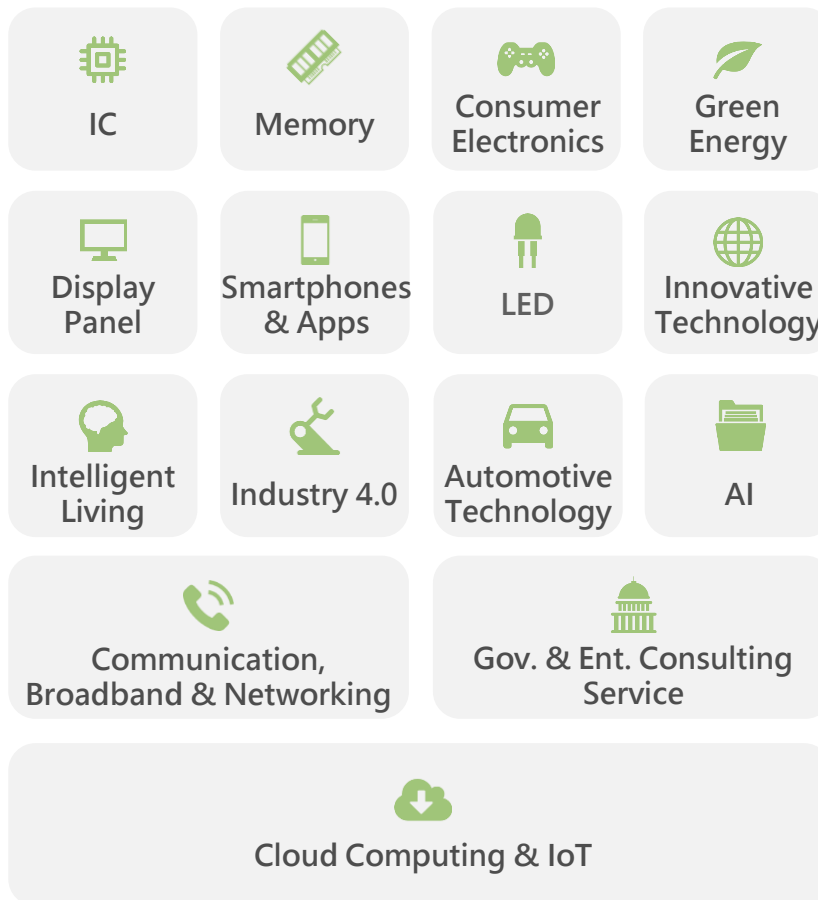


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