

# Semiconductor WEEK:

March 18, 2022

*An overview of results and conclusions from recent reports at TechInsights*

## Chip Market Research Services

*It's still hot and the visibility has extended well into 2H22*

- Order activity for semiconductor equipment hovered at a hot 114 degrees
- Worldwide Chip Making Equipment Markets

## Semiconductor Analytics

*Last Week in the Semiconductor Market:*

Semiconductor sales were flat W/W in the second week of March. Though still high Y/Y, it was abnormally weak. The IC weather cooled another 1°F last week. Zooming in on Analog & Power this week, 13-wk MA growth has risen like 2021 and is now around 30% Y/Y, it should reach \$110B in 2022. TechInsights' IC Supply/Demand indices were mostly unchanged last week, with More than Moore Foundry the only segment to tighten. Slight improvements also shifted the 1Q22 NowCast for Foundry up a level to Loose. So far, there are no indications of a Macro recoupling in the data. Given the history, we do believe it will appear on the horizon. Electronics' Retail Price MAs continue to soar. But there are signs of weakness in PCs and Consumer.

## Chip History Center

**Advantest: What made it a Successful Company:** Toshio Maruyama, then President & CEO of Advantest Corporation, reflects on the history and future of Advantest.

**Advantest - 50th Anniversary** Advantest turned 50 on July 1, 2004. It was a milestone for one of Japan's greatest tech companies.

## The Chip Insider

**Strategy and Tactics:** AI in the fab: Who does it? Ukraine's Neon Supply. Apple 3rd in Semis

**Semiconductor Manufacturing:** 2021 Top Semiconductor Equipment Suppliers

## **Semiconductor Stocks**

- *TechInsights' Semiconductor Stock Indices and the S&P 500 soared this week*
- *Semiconductor Stock Index was led up by GLOBALFOUNDRIES*
- *Semiconductor Equipment Stock Index rocketed*
- *EDA Stock Index soared*
- *Electronics Materials Stock Index was led up by SOITEC*
- *Hottest Stocks: GLOBALFOUNDRIES, NVIDIA, ASM International, BESI, Kulicke & Soffa, ASML, and Onto Innovation*

**TechInsights**

# The Chip Insider<sup>®</sup>'s Graphics File



## February 2022

*It's still hot and the visibility has extended well into 2H22*

- Order activity for semiconductor equipment hovered at a hot 114 degrees
- All segments held their ground, except for Memory where order activity slipped for the third straight week
- TechInsights' Chip Price Performance Index declined in the second week of March



Forecast as of February 2022:	2021	2022
<b>Semi Equipment (\$B):</b>	<b>\$ 124.0</b>	<b>\$ 149.2</b>
Sequential Change	34.2%	20.3%
<b>Capacity Utilization:</b>	97.2%	96.9%
<b>ICs (\$B):</b>	<b>\$ 492.3</b>	<b>\$ 568.2</b>
Sequential Change	27.4%	15.4%
<b>IC Units (BU):</b>	394.2	439.0
Sequential Change	23.7%	11.4%
<b>Electronics (\$B) :</b>	<b>\$ 2,557</b>	<b>\$ 2,739</b>
Sequential Change	18.1%	7.1%

[Contact us to access more details](#)

## Workforce Development Solutions...

with Ajit Manocha of SEMI



## What the conversation is about:

- Labor shortages have become the echo pandemic from the ravages COVID has had on the economy.
- This is no truer than in the semiconductor industry, where Workforce Development has long been on the To-Do lists of many.
- Most industry efforts appear to be more about lobbying others to do something about workforce development.
- It's really hard to do something substantive about it but SEMI is.

[Click here to watch online](#) or on the weVISION button in VLSI's mobile app

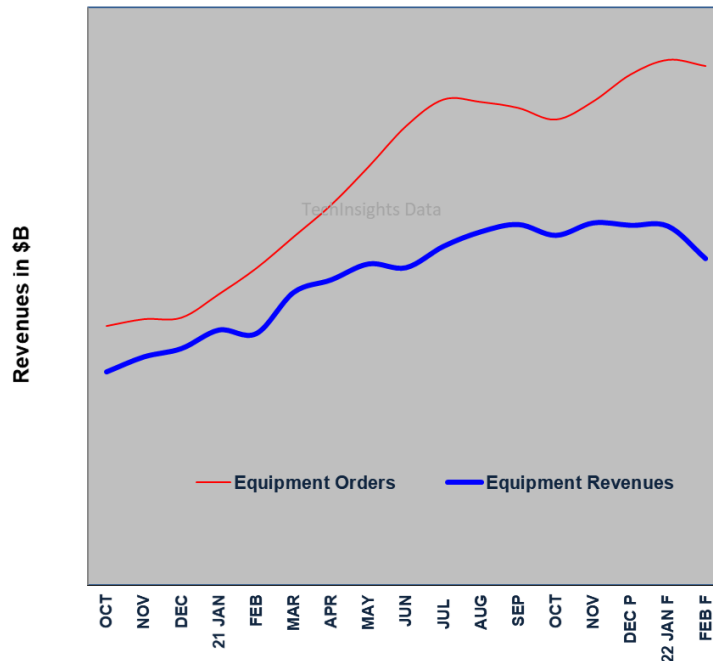
# The Chip Insider<sup>®</sup> Graphics

## Worldwide Chip Making Equipment Markets

- Equipment sales expected to decline in 1Q22 due to shortages

**Worldwide Chip Making Equipment Markets:** Chart shows rolling averages in \$B for semiconductor equipment orders and revenues, contrasted against a 36-month rolling average of revenues

W.W. Semiconductor Equipment Markets



Approved for public release with attribution.  
Copyright © TechnInsights Inc. All rights reserved.

# Semiconductor Analytics

## Last Week in the Semiconductor Market:

Semiconductor sales were flat W/W in the second week of March. Though still high Y/Y, it was abnormally weak. The IC weather cooled another 1°F last week. Zooming in on Analog & Power this week, 13-wk MA growth has risen like 2021 and is now around 30% Y/Y, it should reach \$110B in 2022.

TechInsights' IC Supply/Demand indices were mostly unchanged last week, with More than Moore Foundry the only segment to tighten. Slight improvements also shifted the 1Q22 NowCast for Foundry up a level to Loose. So far, there are no indications of a Macro recoupling in the data. Given the history, we do believe it will appear on the horizon.

Electronics' Retail Price MAs continue to soar. But there are signs of weakness in PCs and Consumer.

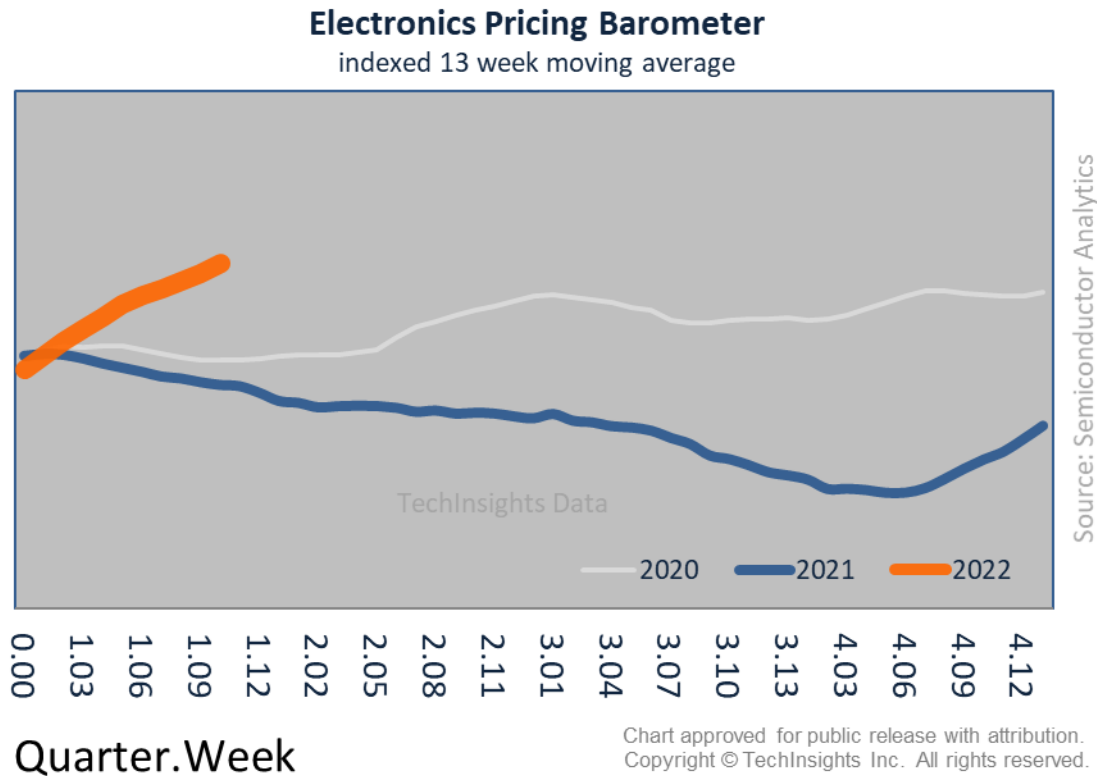


1: Measures Order Activity 2: Measures Pricing Power

# Electronics Retail Pricing Trends:

for PC notebooks Tablets Smartphones Cell phones Digital Cameras Appliances TVs

Electronics' Retail Price  
MAs continue to soar.  
But there are signs of  
weakness in PCs and  
Consumer.



## Innovation in Memory ...

with Scott DeBoer of Micron  
Technology



## What the conversation is about:

- Scott DeBoer of Micron Technology has a conversation with Dan Hutcheson about what it takes to innovate in Memory today. Scott leads Micron's global technology development and engineering efforts – from silicon design to high-value system solutions.

[Click here to watch online](#) or on the weVISION button in VLSI's mobile app

## Strategy & Tactics



**Strategy and Tactics:** *AI in the fab: Who does it?*

*Ukraine's Neon Supply. Apple 3rd in Semis*

### **Summaries:**

***AI in the fab: Who does it?*** *Pretty much everybody today.*

*Chipmakers started to seriously develop AI for the fab around 10 years ago. At least that was when I first became aware of it. It was around 2022 when I started to have secret discussions with them about using the technology for manufacturing control. So I am sure it was being played with long before that and by now you can't be competitive without it... the difficulties in bringing AI to the fab have had little to do with the technology – albeit more compute power always helps – or lack of applications. I have seen three fundamental stumbling blocks for chipmakers trying to implement AI in the fab... it raises profit by improving PPACt. Variability ... So, the hidden 'P' in Power, Performance, Area, Cost, and time takes a hit. What's the hidden P? It's profitability.*

***What's Happening and What's the Meaning:*** *Ukraine's Neon Supplier's Shut Down: Techcet says the Ukraine supplies ... our industry has proven time-and-again that 50% supply*

*concentrations can be dealt with. Short-term supply probably is not an issue either... cost is not a real issue either ... the real issue here is to reporters and the only thing I've been able to come up with is from the classic 'For Want of a Nail' proverb. The interesting thing about it all can be found at the intersection of strategy and the law of unintended consequences. Interesting in that it makes for a wonderful conspiracy theory. Apple's share of TSMC's sales reaches 26% ... in terms of equivalent end market value ... it comes to roughly \$55B. This makes Apple ... the third-largest chip company in the world, just behind Samsung and Intel and ahead of SK hynix and Micron in the top five semiconductor suppliers.*

*"Strategy requires a sense of the whole that reveals the significance of respective parts."*

*– John Lewis Gaddis*

[Contact us to get the full report and more](#)



**Advantest: What made it a Successful Company** Toshio Maruyama, then President & CEO of Advantest Corporation, reflects on the history and future of Advantest and its role in semiconductor ATE, in this historic 2006 Video. Made in the year of Advantest's 50th anniversary, topics covered include: Early history of the company as an instrument maker, named Takeda Riken, focused on serving Japanese customers. Evolution into an Automatic Test Equipment company. Launching its effort to become a global company. How to do it by changing the leadership concept of the day. Why they renamed the company to Advantest. The importance of branding globally ... the slogan, "Why test when you can Advantest." The issues of rising ATE development costs and its effects on profitability and customer concerns.

**Advantest - 50th Anniversary** Advantest turned 50 on July 1, 2004. It was a milestone for one of Japan's greatest tech companies. This documents that history from the company's first product, the Micro Ammeter, through it's release of its ground breaking T3340 VLSI Logic tester based on 100 MHz technology to it's T2000, T6577 SoC Tester and T5377S Memory Test System.



June 3, 2004

STC certifies the T2000

Our T2000 semiconductor test system was certified as the first product in compliance with OPENSTAR® standards established by STC.

# The Chip Insider®

## *Semiconductor Manufacturing*



### **2021 Top Semiconductor Equipment Suppliers**

- Key business drivers
- Leading semiconductor equipment suppliers
- 2021 notes

WildPhotons: The goal of yesterday...

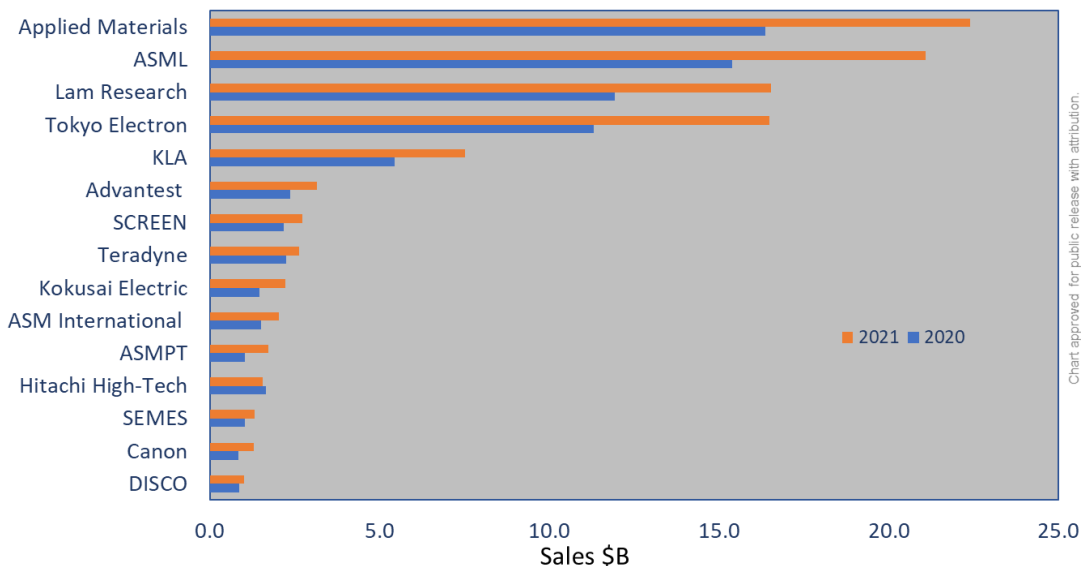


# Top Equipment Suppliers

*Innovation and partnership resulted in outstanding performance for the top companies*

2021 Top Semiconductor Equipment Suppliers

(System & Service Sales, CY \$B)



## Exchange Rates

Currency	2020	2021
Europe/\$US	0.877	0.845
Japan Yen/\$US	106.8	109.8

Company sales are converted to U.S. dollars from quarterly sales, using each quarter's exchange rate. The annual exchange rate presented here is an average exchange rate for the year and does not reflect quarterly weights for company sales.

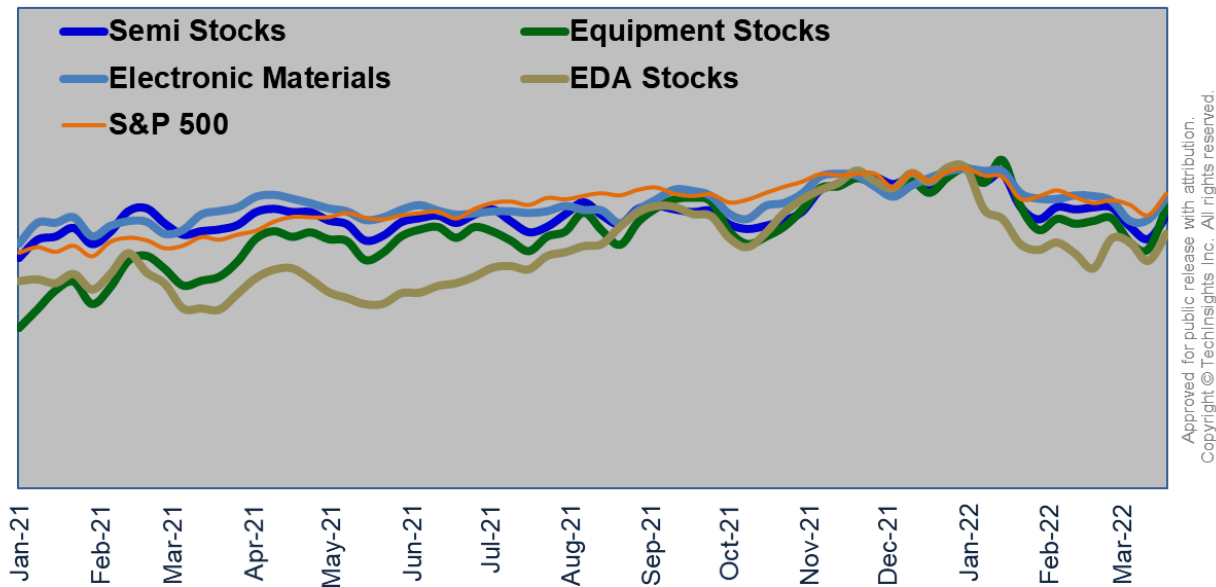
# **semiStockWEEK:** *TechInsights' Semiconductor Stock Indices and the S&P 500*

*soared this week as the federal reserve increases interest rates though uncertain geopolitical concerns continue.*



## **Semiconductor Industry Stock Performance Indices**

(Stock Prices Indexed to 100 in last week of 2021)



### **TechInsights' Stock Indices:**

Semiconductors +7.1%  
Equipment +13.3%  
Electronic Materials +6.5%  
EDA +8.8%

## Memory Market Forecast 2022...

with Jim Handy of Objective Analysis



### What the conversation is about:

- In this video conversation, Dan talks with Jim about how 2021 unfolded, how it was different, and what he expects will happen in the markets for DRAM and NAND in 2022. Jim has been one of our most popular guests and is one of the most respected memory analysts in the world.

[Click here to watch online](#) or on the weVISION button in VLSI's mobile app

# Semiconductor Stocks:

## Weekly Growth and Forward P/E Ratios by Company

Weekly Gains			3/18/2022		
Semiconductor Stocks	Price Change	Forward P/E	Semiconductor Stocks	Price Change	Forward P/E
<b>IDM</b>			<b>Fab-lite to Fabless</b>		
Intel	3.5%	12	AMD	8.8%	23
Micron	9.0%	6	Analog Devices	10.7%	16
ON Semiconductor	10.8%	13	Broadcom	5.6%	15
Samsung Electronics	1.0%	–	IBM	3.9%	12
SK hynix	6.0%		Infineon	12.0%	13
STMicroelectronics	14.1%	11	MagnaChip Semiconductor	7.4%	11
Western Digital	8.8%	5	MaxLinear	10.6%	14
<b>Foundry &amp; OSAT</b>			MediaTek	0.6%	–
Amkor	13.1%	7	NVIDIA	19.7%	33
ASE	8.3%	9	Panasonic	7.7%	9
GLOBALFOUNDRIES	31.3%	21	Qualcomm	1.1%	12
JCET	-1.3%	15	Silicon Laboratories	12.8%	41
SkyWater Technology	12.3%	–	Skyworks	6.0%	10
SMIC	-5.9%	12	Texas Instruments	5.7%	18
TSMC	5.2%	16			
UMC	5.6%	9			

**TechInsights' Semiconductor Stock Index** was led up by strong gains from GLOBALFOUNDRIES who surged 31.3% as demand continues to soar during the chip shortage. NVIDIA also was a top performer this week rocketing 19.7%.

IDM +7.6%  
Foundry & OSAT +8.6%  
Fabless & Fabless +8.0%

AMD<sup>AMD</sup> Analog Devices<sup>ADI</sup> Amkor<sup>AMKR</sup> ASE<sup>ASE</sup>  
ASX<sup>ASX</sup> Broadcom<sup>AVGO</sup> GLOBALFOUNDRIES<sup>GFS</sup>  
IBM<sup>IBM</sup>  
Infineon<sup>IFNNY.PK</sup> Intel<sup>INTC</sup> JCET<sup>600584.SS</sup>  
Micron Technology<sup>MU</sup> On Semiconductor<sup>ON</sup>  
Panasonic<sup>PC</sup> MagnaChip Semiconductor<sup>MX</sup>  
MaxLinear<sup>MXL</sup> MediaTek<sup>2454.TW</sup>  
NVIDIA<sup>NVDA</sup> Qualcomm<sup>QCOM</sup>  
Samsung Electronics<sup>005930.KS</sup> Silicon Laboratories<sup>SLAB</sup> SkyWater Technology<sup>SKYT</sup>  
Skyworks<sup>SWKS</sup> SMIC<sup>SMI</sup>  
STMicroelectronics<sup>STM</sup> Texas Instruments<sup>TXN</sup>  
TSMC<sup>TSM</sup> UMC<sup>UMC</sup> STMicroelectronics<sup>STMicroelectronics</sup> Western Digital<sup>WDC</sup>

Above Avg

Top 4-6

Top 1-3

# Chip Equipment & Related Stocks:

## Weekly Growth and Forward P/E Ratios by Company

### TechInsights' Semiconductor

**Equipment Stock Index** rocketed 13.3% this week with top performances from ASM International, BESI, Kulicke & Soffa, ASML, and Onto Innovation who all claimed five of the top stock spots.

WFE +12.4%

Test +11.2%

Assembly +16.8%

Applied Materials <sup>AMAT</sup> Advantest <sup>ATEYY</sup>  
 ASM International <sup>ASMIY</sup>  
 ASM Lithography <sup>ASML</sup> ASM Pacific <sup>0522.HK</sup>  
 BE Semiconductor <sup>BESIY.PK</sup>  
 FormFactor <sup>FORM</sup> KLA <sup>KLAC</sup>  
 Kulicke & Soffa <sup>KLIC</sup> Lam Research <sup>LRCX</sup>  
 Onto Innovation <sup>ONTO</sup> Nikon <sup>7731</sup>  
 Teradyne <sup>TER</sup> Tokyo Electron Limited <sup>8035</sup>  
 Veeco <sup>VECO</sup>

Weekly Gains			3/18/2022		
Equipment Stocks	Price Change	Forward P/E	Equipment Stocks	Price Change	Forward P/E
<b>Wafer Fab:</b>			<b>Test:</b>		
Applied Materials	9.3%	13	Advantest	9.3%	–
ASM International	23.3%	21	Teradyne	15.0%	16
ASML	16.0%	26	FormFactor	9.3%	19
KLA	12.9%	14			
Lam Research	12.7%	13	<b>Assembly:</b>		
Onto Innovation	16.0%	–	BESI	21.2%	–
Nikon	5.7%	–	Kulicke & Soffa	20.1%	9
TEL	10.6%	–	ASM Pacific Technology	9.0%	
Veeco Instruments	4.9%	14			

Above Avg

Top 4-6

Top 1-3

# Electronic Materials Stocks:

## Weekly Growth and Forward P/E Ratios by Company

Weekly Gains			3/18/2022		
EDA & Electronic Materials Stocks	Price Change	Forward P/E	EDA & Electronic Materials Stocks	Price Change	Forward P/E
<b>EDA</b>			DNP	1.9%	—
Cadence	9.6%	34	DuPont de Nemours	5.8%	5
Synopsys	8.3%	32	JSR	8.4%	—
Ansys	8.5%	33	Shin-Etsu	6.3%	—
<b>Electronic Materials</b>			SOITEC	12.2%	—
BASF	3.1%	2	Tokyo Ohka	10.6%	—
CMC Materials	3.5%	21			

Above Avg

Top 4-6

Top 1-3

**TechInsights' EDA Stock Index** soared this week.

**TechInsights' Electronic Materials Stock Index** was led up by SOITEC and Tokyo Ohka.

Ansys, Inc. <sup>ANSS</sup>    BASF <sup>BASFY</sup>  
 CMC Materials <sup>CCMP</sup>    Cadence <sup>CDNS</sup>  
 DNP <sup>7912</sup>    DuPont <sup>DD</sup>    JSR <sup>4185</sup>  
 Shin-Etsu <sup>4063</sup>    SOITEC <sup>SOI.PA</sup>  
 Synopsys <sup>SNPS</sup>    Tokyo Ohka <sup>4186</sup>

The Prior Week's Close	TechInsights' Indices of Chip Industry Stocks				Weekly Growth				Companies Up	Max Growth	Companies Down	Min Growth	Range of Growth	S&P 500	S&P 500 Growth
	Semi Stocks	Equipment Stocks	Materials Stocks	EDA Stocks	Semi Stocks	Equipment Stocks	Materials Stocks	EDA Stocks							
13-Aug-21	88.2	84.4	89.4	81.1	-3.5%	-5.0%	-0.1%	0.6%	15	3.7%	-40	-14.0%	17.7%	93.7	0.7%
20-Aug-21	85.9	80.8	86.2	85.5	-2.6%	-4.3%	-3.6%	5.4%	7	8.1%	-48	-13.5%	21.6%	93.2	-0.6%
27-Aug-21	89.7	86.6	89.6	89.0	4.5%	7.1%	4.0%	4.2%	52	36.9%	-2	-4.3%	41.2%	94.6	1.5%
03-Sep-21	90.5	90.0	92.2	90.6	0.8%	4.0%	2.9%	1.7%	33	23.7%	-21	-6.0%	29.7%	95.2	0.6%
10-Sep-21	89.6	92.2	94.7	90.4	-1.0%	2.4%	2.7%	-0.2%	24	11.4%	-29	-8.1%	19.5%	93.5	-1.7%
17-Sep-21	88.9	92.6	94.3	88.6	-0.8%	0.4%	-0.4%	-2.0%	23	5.5%	-30	-6.8%	12.3%	93.0	-0.6%
24-Sep-21	89.2	91.7	93.1	88.1	0.3%	-1.0%	-1.3%	-0.5%	22	5.8%	-30	-5.2%	11.0%	93.5	0.5%
01-Oct-21	85.8	84.2	88.6	82.6	-3.8%	-8.2%	-4.8%	-6.2%	6	4.3%	-48	-14.7%	19.0%	91.4	-2.2%
08-Oct-21	84.7	81.0	87.3	80.3	-1.4%	-3.8%	-1.5%	-2.8%	15	2.9%	-39	-14.3%	17.2%	92.1	0.8%
15-Oct-21	85.5	82.8	90.6	83.9	1.0%	2.2%	3.8%	4.4%	39	8.1%	-14	-11.8%	19.9%	93.8	1.8%
22-Oct-21	86.8	85.3	91.3	88.9	1.5%	3.0%	0.8%	5.9%	40	15.7%	-14	-11.6%	27.3%	95.4	1.6%
29-Oct-21	89.0	89.6	93.7	92.2	2.6%	5.0%	2.6%	3.8%	38	24.6%	-16	-8.3%	32.9%	96.6	1.3%
05-Nov-21	94.4	95.0	98.0	94.6	6.1%	6.1%	4.6%	2.5%	45	30.5%	-8	-29.8%	60.3%	98.6	2.0%
12-Nov-21	95.9	95.5	98.7	96.4	1.5%	0.4%	0.7%	1.9%	31	8.5%	-16	-12.1%	20.6%	98.3	-0.3%
19-Nov-21	98.3	97.5	98.2	99.4	2.6%	2.1%	-0.4%	3.2%	39	12.2%	-16	-16.8%	29.0%	98.6	0.3%
26-Nov-21	97.7	96.0	95.5	96.8	-0.6%	-1.6%	-2.8%	-2.7%	16	11.8%	-39	-9.6%	21.4%	98.6	0.1%
03-Dec-21	95.9	94.5	92.9	95.0	-1.9%	-1.6%	-2.7%	-1.9%	12	6.0%	-44	-11.1%	17.1%	95.2	-3.5%
10-Dec-21	97.5	96.9	95.7	98.8	1.6%	2.6%	3.0%	4.0%	40	13.2%	-15	-7.5%	20.7%	98.9	3.8%
17-Dec-21	94.7	93.8	97.7	96.5	-2.9%	-3.2%	2.1%	-2.3%	12	25.6%	-43	-15.6%	41.2%	96.9	-1.9%
24-Dec-21	98.6	97.7	99.3	100.2	4.1%	4.2%	1.7%	3.8%	50	13.8%	-6	-2.8%	16.6%	99.2	2.3%
31-Dec-21	100.0	100.0	100.0	100.0	1.5%	2.3%	0.7%	-0.2%	44	8.1%	-11	-2.7%	10.8%	100.0	0.9%
07-Jan-22	96.6	96.3	99.4	89.7	-3.4%	-3.7%	-0.6%	-10.3%	10	7.4%	-45	-17.5%	24.9%	98.1	-1.9%
14-Jan-22	98.5	102.0	99.3	87.4	2.0%	5.9%	-0.1%	-2.5%	36	23.7%	-20	-4.9%	28.6%	97.8	-0.3%
21-Jan-22	90.1	90.4	93.8	81.0	-8.5%	-11.4%	-5.6%	-7.3%	3	5.1%	-53	-20.3%	25.4%	92.3	-5.7%
28-Jan-22	87.1	84.5	92.4	79.7	-3.4%	-6.6%	-1.5%	-1.7%	11	5.0%	-45	-21.8%	26.8%	93.0	0.8%
04-Feb-22	90.2	87.3	92.3	81.5	3.5%	3.3%	-0.1%	2.3%	41	17.5%	-13	-4.3%	21.8%	94.4	1.6%
11-Feb-22	89.6	86.1	93.2	78.7	-0.7%	-1.4%	1.0%	-3.4%	20	10.6%	-33	-8.9%	19.5%	92.7	-1.8%
18-Feb-22	90.1	86.8	93.0	75.0	0.6%	0.8%	-0.2%	-4.7%	28	12.2%	-26	-7.0%	19.2%	91.2	-1.6%
25-Feb-22	90.1	87.5	91.9	82.5	0.0%	0.8%	-1.3%	9.9%	30	14.7%	-25	-9.5%	24.2%	92.0	0.8%
04-Mar-22	85.3	81.4	86.8	81.5	-5.3%	-6.9%	-5.5%	-1.2%	7	6.4%	-48	-18.6%	25.0%	90.8	-1.3%
11-Mar-22	82.1	79.7	87.1	76.9	-3.7%	-2.2%	0.3%	-5.7%	9	9.7%	-45	-11.1%	20.8%	88.2	-2.9%
18-Mar-22	87.9	90.3	92.7	83.7	7.1%	13.3%	6.5%	8.8%	53	31.3%	-2	-5.9%	37.2%	93.6	6.2%

# Links to Conference Call Transcripts

March 18<sup>th</sup>

None this week.

March 11<sup>th</sup> and before

[Western Digital Corporation \(WDC\) Presents at Morgan Stanley 2022 Technology, Media & Telecom Conference \(Transcript\)](#)

[Cisco Systems, Inc. \(CSCO\) Management Presents at Morgan Stanley Technology, Media and Telecom Conference 2022 Transcript](#)

[International Business Machines Corporation \(IBM\) Management Presents at Morgan Stanley Technology, Media and Telecom Brokers Conference 2022 \[Transcript\]](#)

[Texas Instruments Incorporated \(TXN\) CEO Rich Templeton Presents at Morgan Stanley 2022 Technology, Media & Telecom Conference \(Transcript\)](#)

[IDT Corporation \(IDT\) CEO Shmuel Jonas on Q2 2022 Results - Earnings Call Transcript](#)

[Lam Research Corporation's \(LRCX\) Management Presents at Morgan Stanley Technology, Media and Telecom Conference 2022 \(Transcript\)](#)

[NXP Semiconductors N.V. \(NXPI\) Presents at Morgan Stanley Tech Conference, San Francisco Conference \(Transcript\)](#)

[Intel Corporation \(INTC\) CEO Patrick Gelsinger Presents at Morgan Stanley Technology, Media and Telecom Conference 2022 \(Transcript\)](#)

[NVIDIA Corporation \(NVDA\) Presents at Morgan Stanley 2022 Technology, Media and Telecom Conference \(Transcript\)](#)

# Links to Conference Call Transcripts

[Thermo Fisher Scientific Inc. \(TMO\) CEO Marc Casper on 42nd Annual Cowen Health Care Conference \(Transcript\)](#)  
[Qorvo \(QRVO\) CEO, Bob Bruggeworth Presents at Raymond James 43rd Annual Institutional Investors Conference - Company Call Transcript](#)  
[Broadcom's \(AVGO\) CEO Hock Tan on Q1 2022 Results - Earnings Call Transcript](#)  
[VAT Group AG \(VACNY\) CEO Mike Allison on Q4 2021 Results - Earnings Call Transcript](#)  
[Dell Technologies Inc. \(DELL\) Management on Q4 2022 Results - Earnings Call Transcript](#)  
[AIXTRON SE \(AIXXF\) CEO Felix Grawert on Q4 2021 Results - Earnings Call Transcript](#)  
[ChipMOS TECHNOLOGIES INC. \(IMOS\) Q4 2021 Results - Earnings Call Transcript](#)  
[ASM International NV \(ASMIY\) CEO Benjamin Loh on Q4 2021 Results - Earnings Call Transcript](#)  
[SkyWater Technology, Inc. \(SKYT\) CEO Thomas Sonderman on Q4 2021 Results - Earnings Call Transcript](#)  
[Lenovo Group Limited \(LNVGY\) CEO Yang Yuanqing On Q3 2022 Results - Earnings Call Transcript](#)  
[ASM Pacific Technology Limited \(ASMVF\) CEO Robin Gerard Ng on Q4 2021 Results - Earnings Call Transcript](#)  
[Agilent Technologies, Inc.'s \(A\) CEO Mike McMullen on Q1 2022 Results - Earnings Call Transcript](#)  
[BE Semiconductor Industries N.V. \(BESLY\) CEO Richard Blickman on Q4 2021 Results - Earnings Call Transcript](#)  
[Keysight Technologies, Inc. \(KEYS\) CEO Ronald Nersesian on Q1 2022 Results - Earnings Call Transcript](#)  
[NVIDIA Corporation's \(NVDA\) CEO Jensen Huang on Q4 2022 Results - Earnings Call Transcript](#)  
[Magnachip Semiconductor Corporation \(MX\) CEO YJ Kim on Q4 2021 Results - Earnings Call Transcript](#)  
[Synopsys, Inc. \(SNPS\) CEO Aart de Geus on Q1 2022 Results - Earnings Call Transcript](#)  
[Veeco Instruments Inc. \(VECO\) CEO Bill Miller on Q4 2021 Results - Earnings Call Transcript](#)

# Links to Conference Call Transcripts

[Applied Materials, Inc.'s \(AMAT\) CEO Gary Dickerson on Q1 2022 Results - Earnings Call Transcript](#)  
[Analog Devices, Inc. \(ADI\) CEO Vincent Roche on Q1 2022 Results - Earnings Call Transcript](#)  
[Cohu, Inc. \(COHU\) CEO Luis Müller on Q4 2021 Results - Earnings Call Transcript](#)  
[ASE Technology's \(ASX\) Management on Q4 2021 Results - Earnings Call Transcript](#)  
[Advanced Energy Industries, Inc. \(AEIS\) CEO Steve Kelley on Q4 2021 Results - Earnings Call Transcript](#)  
[GlobalFoundries Inc. \(GFS\) CEO Tom Caulfield on Q4 2021 Results - Earnings Call Transcript](#)  
[Onto Innovation Inc. \(ONTO\) CEO Michael Plisinski on Q4 2021 Results - Earnings Call Transcript](#)  
[DuPont de Nemours, Inc. \(DD\) CEO Ed Breen on Q4 2021 Results - Earnings Call Transcript](#)  
[ams-OSRAM AG \(AMSSY\) CEO Alex Everke on Q4 2021 Results - Earnings Call Transcript](#)  
[Axcelis Technologies, Inc.'s \(ACLS\) CEO Mary Puma on Q4 2021 Results - Earnings Call Transcript](#)  
[ON Semiconductor Corporation \(ON\) CEO Hassane El-Khoury on Q4 2021 Results - Earnings Call Transcript](#)  
[Kulicke and Soffa Industries' \(KLIC\) CEO Fusen Chen on Q1 2022 Results - Earnings Call Transcript](#)  
[Infineon Technologies AG. \(IFNNY\) CEO Reinhard Ploss on Q1 2022 Results - Earnings Call Transcript](#)  
[Qorvo, Inc. \(QRVO\) CEO Bob Bruggeworth on Q3 2022 Results - Earnings Call Transcript](#)  
[FormFactor, Inc. \(FORM\) CEO Mike Slessor on Q4 2021 Results - Earnings Call Transcript](#)  
[MaxLinear's \(MXL\) CEO Kishore Seendripu on Q4 2021 Results - Earnings Call Transcript](#)  
[QUALCOMM Incorporated's \(QCOM\) CEO Cristiano Amon on Q1 2022 Results - Earnings Call Transcript](#)  
[Advanced Micro Devices, Inc. \(AMD\) CEO Lisa Su on Q4 2021 Results - Earnings Call Transcript](#)

# TechInsights recent uploads

## Chip Market Research Services Uploads:

### **ForecastPro Module:**

- [Silicon Demand – V22.03](#)
- [CapEx Distribution – V22.03](#)
- [Semiconductor Forecast – V22.03](#)
- [Semi, Silicon, and Equip L-T Forecast – V22.02](#)
- [TCI Graphics – V22.02](#)
- Electronics & Macroeconomy – V21.12
- Utilization Rates – V21.12
- Diffusion Rates – V21.12
- Advanced Packaging – V21.11
- Design Completions – V21.11

### **Equipment Database Module:**

- [Scanner & Stepper Shipments – V22.03](#)
- IC Equipment Forecast:
  - Yearly – V22.01
  - Quarterly – V22.01
- WFE by Applications – V22.01
- IC Equipment Market Shares:
  - Yearly – V21.05
  - Quarterly – V21.12

## Customer Satisfaction Survey Uploads:

- 2021 CSS Databases
- 2022 Survey Documents

## Critical Subsystems Uploads:

- Critical Subsystems – V21.12
- Forecast Overview – V21.12
- Graphics File: December 2021
- Semiconductor Forecast– V21.12
- Devices – V21.09
- Substrate Processing Equipment – V21.09
- Manufacturing Equipment Revenues – V21.09
- Vendor Shares – V21.04

## Test Connectivity Reports:

- Test and Burn-In Socket Report : V21.04
- Probe Card Report: V21.04
- Device Interface Board Report: V20.05

# Terms and Conditions, Notices, and Disclaimers, etc.

By accepting this report, opening it, or using it you are agreeing to these terms. This report contains valuable data, intellectual property, and trade secrets developed or acquired by TechInsights. You have a limited license to hold these materials but do not become the owner of any material. The materials provided are protected by copyright, trade secret, and trademark law. This presentation has been approved by TechInsights for public release with attribution. The information in the materials may be used by you on a limited basis in your own documents provided that those documents are not-for-sale; TechInsights' name, brand, or trademarks are not used to endorse a product or company for sales purposes; TechInsights is clearly referred to as the source of such information; and you obtain written approval prior to use.

This report is provided on an "AS IS," "WHERE IS," "WHERE AVAILABLE", "WITH ALL FAULTS" basis. TechInsights does not warrant these materials or the information provided therein, either expressly or impliedly, for any particular purpose and TechInsights specifically disclaims any express or implied warranties, including but not limited to, any express or implied warranties of TITLE, ACCURACY, NON-INFRINGEMENT, MERCHANTABILITY or FITNESS FOR ANY PARTICULAR PURPOSE OR USE.

The sources of the information in this report include numerous individual reports, memos and bulletins from various segments of the industry, annual reports, financial reports, interviews, questionnaires, surveys, technical symposia, trade journals, technical journals and individual assessments by knowledgeable company or industry representatives as well as our own analysis and judgment. Some companies are more cooperative about providing information than others and some companies decline to provide or validate the accuracy of any information. Although the information provided is obtained or compiled from sources TechInsights believes to be reliable given the oftentimes difficult circumstances under which it is collected, TechInsights cannot and does not warrant or guarantee the accuracy, validity, truthfulness, timeliness, or completeness of any information or data made available to you for any particular purpose. In no event will TechInsights be liable to you or any third party, whether in contract, tort or under any other legal theory, for any direct, indirect, special, consequential or incidental damages, or any other damages of any kind even if TechInsights has been advised of the possibility thereof.

We receive letters and e-mails on current topics covered in our services and/or reports that are of interest to our subscribers, as well as comments on our reports. We value that subscriber input and like to use it. By submitting such material to us, unless you tell us specifically not to publish it, or except to the extent that you give us an embargo date before which you instruct us not to publish it, you authorize us to publish and republish it in any form or medium, to edit it for style and length, and to comment upon or criticize it and to publish others' comments or criticisms concerning it, as the case may be.

This report may contain information concerning stocks that is obtained from the opinions of industry analysts. Quoted past results are not necessarily indicative of future performance. None of the information should be seen as a recommendation to buy or sell any securities. We are not stock analysts or investment advisors. You should contact a registered investment advisor as to the nature, potential, value or suitability of any particular investment action. No information provided is investment advice and any such information is just an opinion and is not tailored to the investment needs of any specific person. Certain statements in this report, other than statements of historical fact, and other written or oral statements made by TechInsights may be forward-looking. In some cases, you can identify forward-looking statements by terminology such as "may", "will", "should", "expects", "intends", "plans", "anticipates", "believes", "thinks", "estimates", "seeks", "predicts", "potential", and similar expressions. Although TechInsights believes that these statements are based on reasonable assumptions, they are subject to numerous factors, risks and uncertainties that could cause actual results and outcomes to be materially different from those stated or projected. Those factors, among others, could cause actual results and outcomes to differ materially from the results and outcomes stated or projected in, or implied by, the forward-looking statements. You should understand that forward-looking statements are not guarantees of results or outcomes. New risks and uncertainties arise from time to time, and TechInsights can not predict those events or how they may affect you, the reader. TechInsights Inc does not have any intention or obligation to update forward-looking statements after the date of this report.

No part of this report may be used in any legal proceedings nor may any of these materials or the information contained therein be disclosed to any third party, including investors or affiliated firms belonging to investors, outside directors or to your affiliated companies, or reproduced or transmitted to any third party, in any form or by any means – mechanical, electronic, photocopying, duplication, microfilming, videotape, verbally or otherwise – without the prior written permission of TechInsights.

The Chip Insider® and the CSS 10 BEST logo are registered trademarks of TechInsights Inc. All other trademarks, service marks, and logos are the property of their respective owners.