

# Semiconductor WEEK:

January 14, 2022

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

## Chip Market Research Services

### ***Business is in Full Bloom***

- Order activity for semiconductor equipment nudged higher, hitting a hot 114
- Worldwide Chip Making Equipment Markets

## Semiconductor Analytics

### ***Last Week in the Semiconductor Market:***

2021 was a hot year for semiconductor sales, which have been up and to the right since March of 2021, reaching \$0.6T and on track at a 6% CAGR to hit \$1T by 2030. Sales exploded out of the normal Christmas roll-over, with double-digit W/W and Y/Y growth. Still, the IC weather cooled 1°F last week and sales growth continued to head down to historic trend rates.

Zooming in on DRAMs this week, the 13-wk MA growth dipped below 40% for the first time since May, as the segment continued to cool. The 2022 DRAM forecast is for sales to pass \$100B and grow at 15%. Auto ICs are the only sector expected to have the oomph to beat it. Last week, Logic had the fastest W/W growth with Analog & Power a close second. Then it was DRAM, NAND, and Auto ICs.

VLSI's IC Supply/Demand indices loosened last week. DRAM and Auto remained in Shortage conditions. OSATs dipped to Tight, while both More Moore and More than Moore Foundry classes dipped to Saturated. NAND, IDM, and Analog & Power held at Tight levels.

Electronics' Retail Prices leveled out.

**VLSI**research ... powered by **TechInsights**

## Chip History Center

### **IBM's development of copper interconnect for ICs**

**September 1997:** IBM was first with copper interconnect for semiconductors.

**Intel: 50 Years of Leadership:** Six people have held the title of CEO over the first fifty years of Intel's existence.

## The Chip Insider

**Strategy and Tactics:** 2021 Review. SEMICON West 2021. Maskless Lithography. Strategy Statics versus Dynamics

**Semiconductor Manufacturing:** WFE Outlook

## **Semiconductor Stocks**

- *VLSI's Semiconductor Stock jumped this week*
  - *VLSI's Semiconductor Equipment Stock Indices hit a fresh new yearly high*
- *Semiconductor Stock Index was led up by TSMC*
- *Semiconductor Equipment Stock was led up by BESL*
  - *BESL was this week's biggest winner*
- *EDA Stock Index fell*
- *Electronics Materials Stock Index slipped this week*
- *Hottest Stocks: BESL, Veeco Instruments, TSMC, Onto Innovation, Applied Materials, and MagnaChip Semiconductor*

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



## December 2021

### *Business is in Full Bloom*



- Order activity for semiconductor equipment nudged higher, hitting a hot 114
- With the pipeline in new fab investments close to \$100B for the next two years, equipment manufacturers have plenty of visibility and feel positive about the outlook
- VLSI's Chip Price Performance jumped higher

Forecast as of December 2021:	2021	2022
<b>Semi Equipment (\$B):</b>	<b>\$ 124.7</b>	<b>\$ 149.9</b>
Sequential Change	35.0%	20.2%
<b>Capacity Utilization:</b>	97.3%	96.5%
<b>ICs (\$B):</b>	<b>\$ 487.6</b>	<b>\$ 540.6</b>
Sequential Change	26.2%	10.9%
<b>IC Units (BU):</b>	394.2	434.0
Sequential Change	23.7%	10.1%
<b>Electronics (\$B) :</b>	<b>\$ 2,536</b>	<b>\$ 2,710</b>
Sequential Change	17.1%	6.8%

[Contact us to access more details](#)

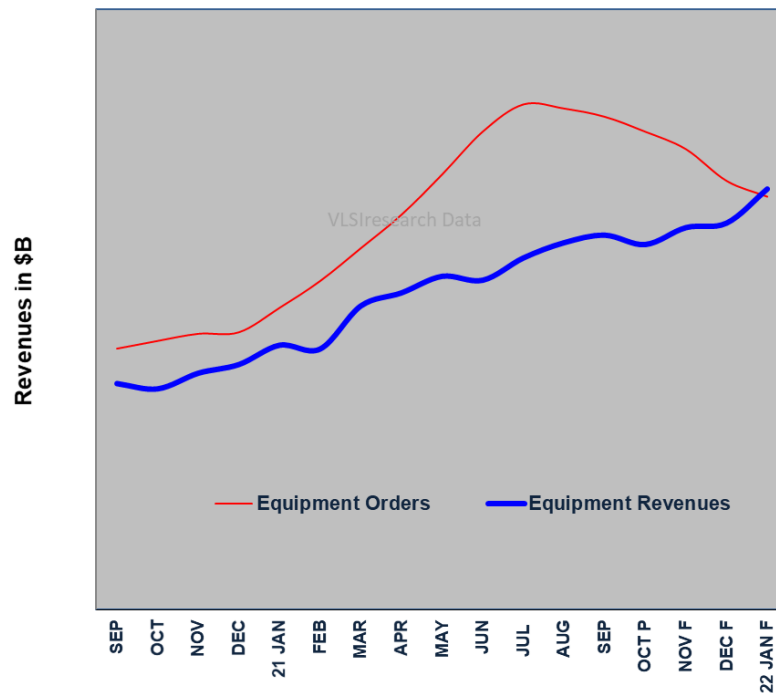
# The Chip Insider<sup>®</sup> Graphics

## Worldwide Chip Making Equipment Markets

- Equipment market remains red hot

**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



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weVISION Interview:

## 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 Analytics

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Electronics' Retail Prices leveled out.



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 Prices leveled out.

## Electronics Pricing Barometer

indexed 13 week moving average

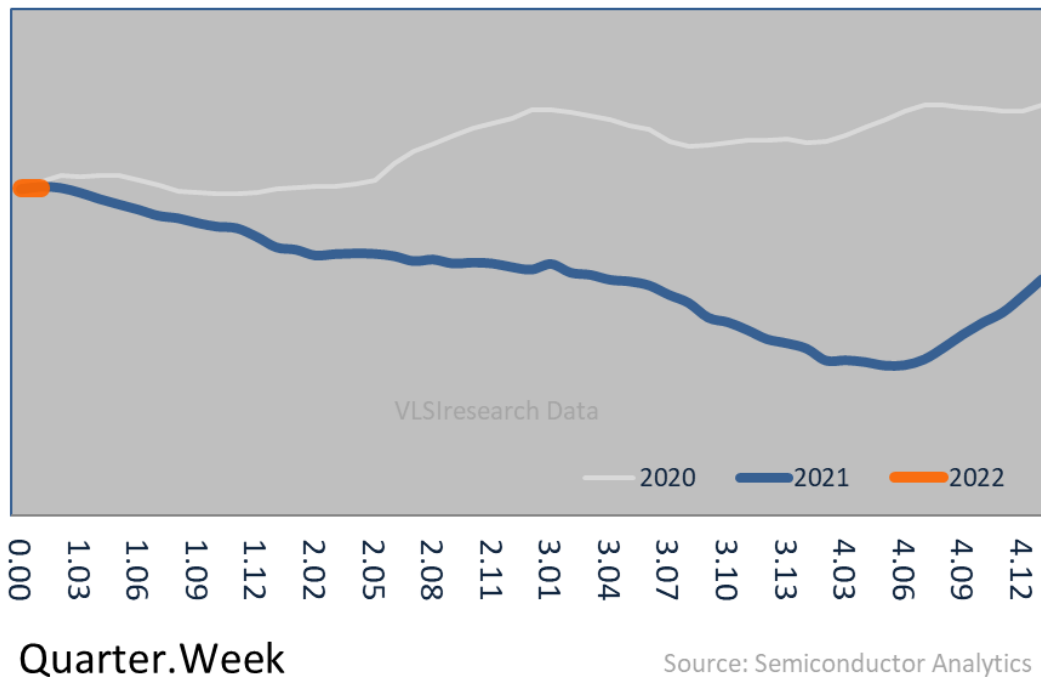


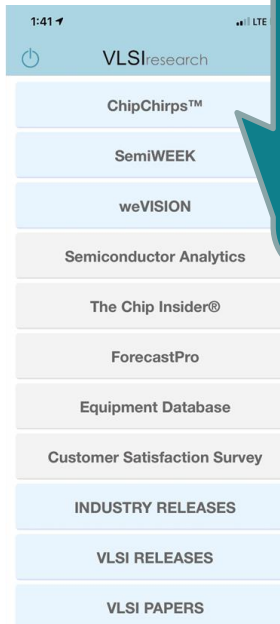
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# Latest ChipChirps™

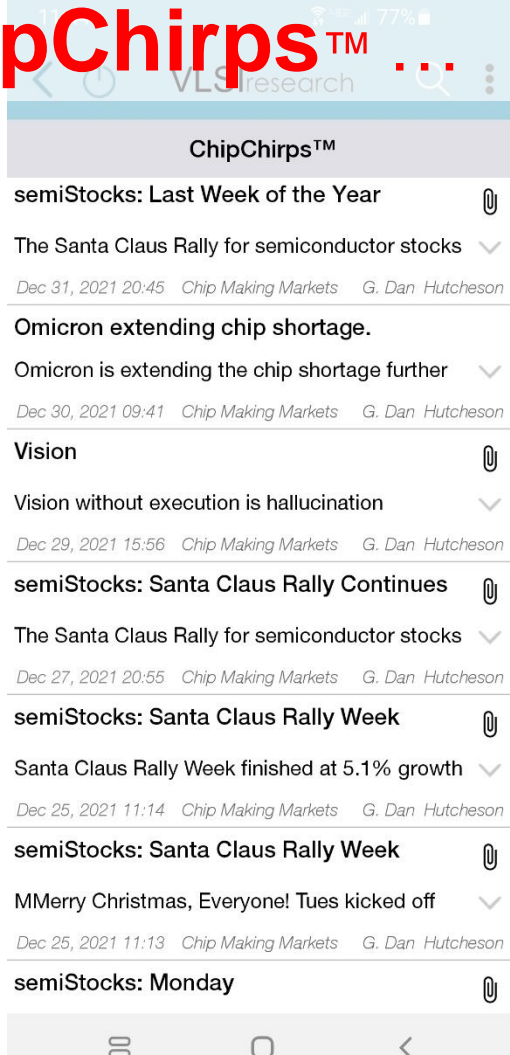
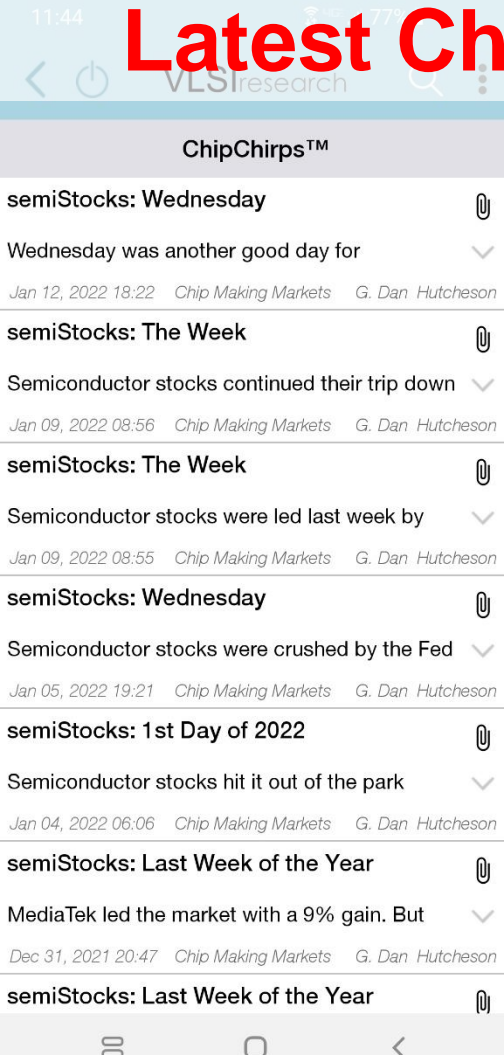
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ChipChirps™

are short notifications from VLSI's analysts to alert clients about breaking news and events



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Search for 'VLSIresearch' at  
the Apple App or Google Play store





**Strategy and Tactics:** 2021 Review. SEMICON West 2021. Maskless Lithography. Strategy Statics versus Dynamics.

### **Summaries:**

2021 Semiconductor Stock Review: What a year! The average Semiconductor Stock rose 31% last year, down from 44% in 2020. The best of VLSI's indices grew 63%. The worst was still up 9%. One Stock soared more than 120% and four rose more than 90%. Now these might seem astronomical, but the IC market grew 26% and equipment went up 35% – both more than 2X expectations from late 2020. If you ever wondered when was the best time to buy into these companies, a lesson could be that neither average was as good as the gain of 66% in 2019 — a down year for the industry. It made for a whopping 3-year gain of 213%.

SEMICON West 2021 was a real-verse (as opposed to the metaverse) meme for a year that rarely met expectations. As COVID came under control with vaccines on the horizon, many thought things would go back to normal. It wasn't normal, it was a new normal. This couldn't have been more significantly signaled when in February, SEMICON West was pushed from its normal summer spot to December. While everyone was excited to go, they were somewhat fearful. That said, SEMI did what SEMI does best: they worked with the city to minimize

the problem. As the show got underway, there were police nearby in most places you needed to go and the show floor was clearly safe. The big picture takeaways were that the show had become far more about hiring and meeting, the show floor continued its migration from Critical Subsystem Central to a place where companies who don't find open doors at the major semiconductor producers go to gain visibility. I heard a lot of praise from senior industry executives for SEMI's efforts over the last 2 years and in particular its workforce development efforts. You know, a lot of organizations talk about workforce development, but SEMI is the only one that has a credible walk the talk effort. It's not easy, which is why so few do it. But 'not easy' is something people from the semiconductor industry love to take on...

*“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](#)



# The Chip Insider®

## *Semiconductor Manufacturing*



### **WFE Outlook**

- Semi Manufacturing Outlook
- Changes since last forecast
- Strong business environment for WFE
- Customer spending outlook
- Sustained WFE Growth
- VLSI's view

WildPhotons: Be careful when using sports analogies...



# Sustained and cyclical WFE Growth

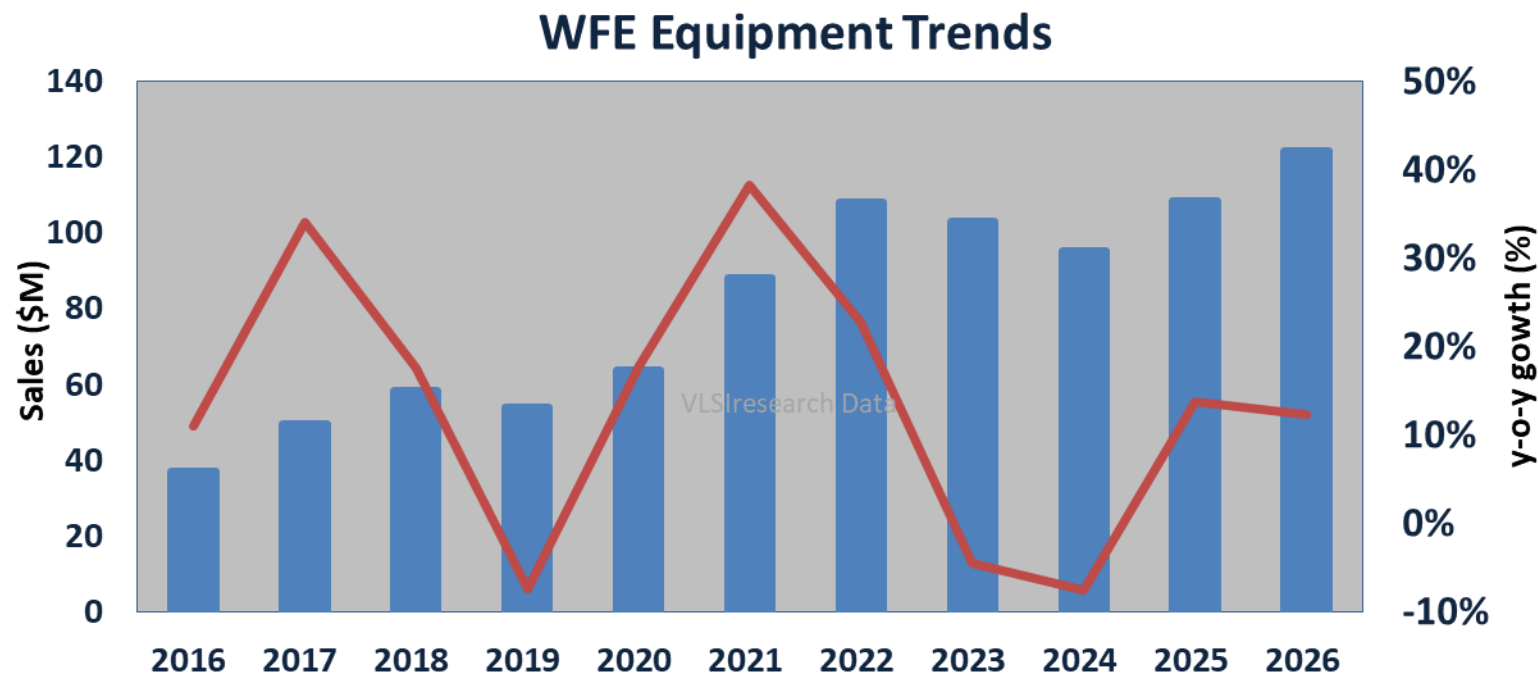
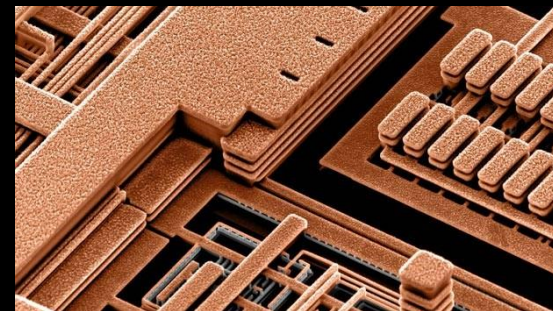


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**IBM's development of copper interconnect for ICs** September 1997: IBM was first with copper interconnect for semiconductors. IBM's announcement was a press release heard around the world. The images were stunning at the time. More important was that it marked the successful culmination of a decade-long search for a material to replace aluminum. IBM would ramp copper production in three quarters on its 220nm microprocessors. Everyone was working on a solution ... most on the wrong solution. The interesting untold stories center around the decision-making process at IBM and the untruths propagated by the PR machines of the day. One of the hardest things to do in R&D management is to choose which mountain to climb. Otherwise, your resources will be wasted away while researchers try to climb every mountain.



**Intel: 50 Years of Leadership**: Six people have held the title of CEO over the first fifty years of Intel's existence. All six have faced and have had to overcome great challenges. At the same time, no leader can be great without great followers. The real question is, what did these leaders set out to accomplish, did they achieve their goals, and what problems did they leave for each that followed them.



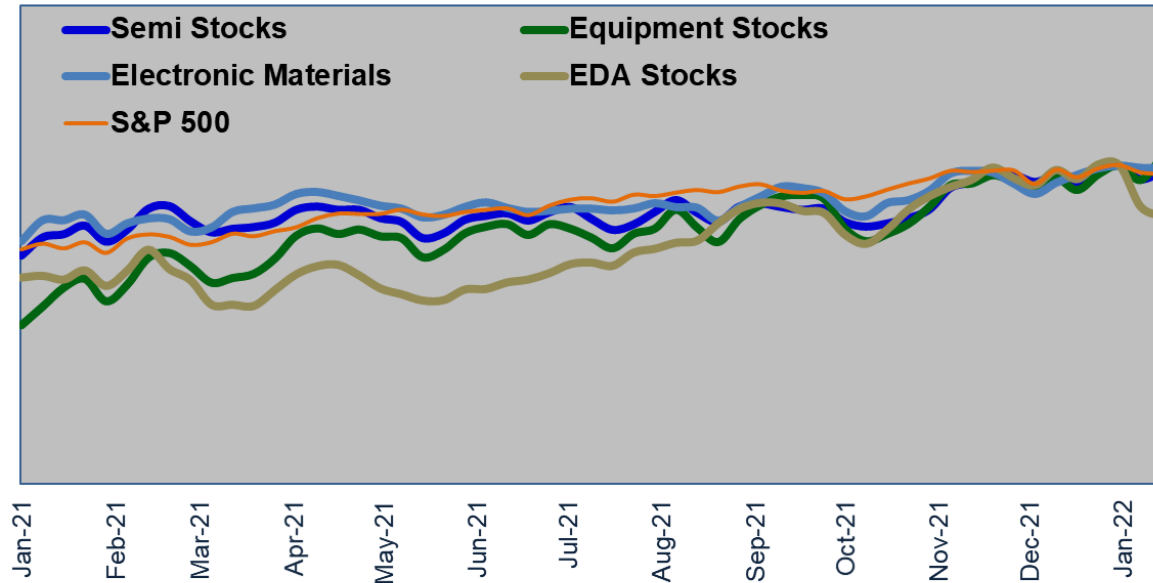
# semiStockWEEK:

VLSI's Semiconductor Stock Indices jumped this week while the market slipped. VLSI's Semiconductor Equipment Stock Index hit a fresh new yearly high.



## Semiconductor Industry Stock Performance Indices

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



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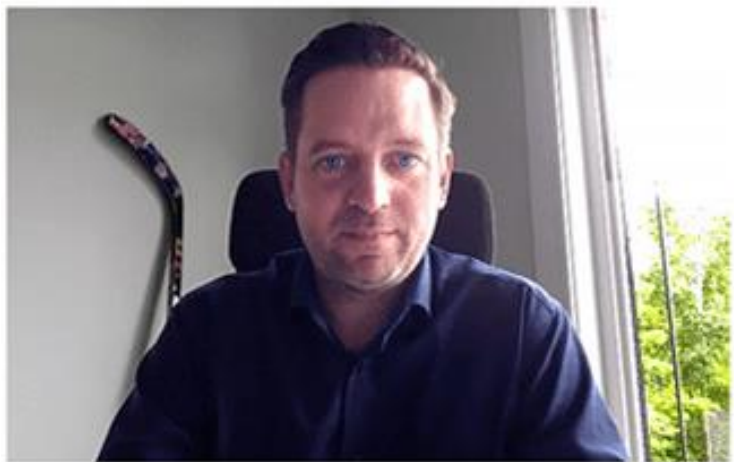
### VLSI's Stock Indices:

Semiconductors +2.0%  
Equipment +5.9%  
Electronic Materials -0.1%  
EDA -2.5%

weVISION Interview:

# Announcing a new and exciting combination: VLSIresearch joins forces with TechInsights!

Effective August 16, 2021



## What the conversation is about:

The business of technology is inseparable from the technology of the business. Unlike classic business, the business of technology is about constant change. It's time to bring core-technology and market analysis together, which explains why TechInsights has acquired VLSIresearch.

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# Semiconductor Stocks:

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

Weekly Gains			1/14/2022		
Semiconductor Stocks	Price Change	Forward P/E	Semiconductor Stocks	Price Change	Forward P/E
<b>IDM</b>			<b>Fab-lite to Fabless</b>		
Intel	4.2%	15	AMD	3.7%	41
Micron	3.1%	8	Analog Devices	1.9%	20
ON Semiconductor	2.5%	20	Broadcom	-3.7%	17
Samsung Electronics	-1.3%	–	IBM	-0.5%	13
SK hynix	1.2%		Infineon	-1.0%	21
STMicroelectronics	-0.6%	19	MagnaChip Semiconductor	9.1%	18
Western Digital	1.2%	7	MaxLinear	1.0%	21
<b>Foundry &amp; OSAT</b>			MediaTek	-3.2%	–
Amkor	5.4%	10	NVIDIA	-1.1%	52
ASE	3.8%	10	Panasonic	1.4%	10
GLOBALFOUNDRIES	-0.7%	34	Qualcomm	4.6%	16
JCET	-4.9%	18	Silicon Laboratories	-0.6%	80
SkyWater Technology	1.0%	–	Skyworks	0.9%	12
SMIC	2.2%	15	Texas Instruments	4.2%	23
TSMC	13.9%	28	Xilinx	2.8%	49
UMC	6.1%	11			

Above Avg

Top 4-6

Top 1-3

### VLSI's Semiconductor Stock Index

was led up this week by TSMC following their strong quarterly earnings report. MagnaChip Semiconductor was also a top performer this week.

IDM +1.5%

Foundry & OSAT +3.4%

Fabless & Fablite +1.3%

AMD<sup>AMD</sup> Analog Devices<sup>ADI</sup> Amkor<sup>AMKR</sup>  
 ASE<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  
 TXN TSMC<sup>TSM</sup> UMC<sup>UMC</sup> STMicroelectronics<sup>STMicroelectronics</sup> Western  
 Digital<sup>WDC</sup> Xilinx<sup>XLNX</sup>

# Chip Equipment & Related Stocks:

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

**VLSI's Semiconductor Equipment Stock Index** soared this week to a fresh new yearly high. **BESI** was this week's biggest winner followed by **Veeco Instruments**, **Onto Innovation**, and **Applied Materials**.

WFE +5.9%  
 Test +3.3%  
 Assembly +8.5%

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>BESII.PK</sup>  
 FormFactor <sup>FORM</sup>    KLA <sup>KLAC</sup>  
 Kulicke & Soffa <sup>KLIC</sup>    Lam Research <sup>LRXC</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			1/14/2022		
Equipment Stocks	Price Change	Forward P/E	Equipment Stocks	Price Change	Forward P/E
<b>Wafer Fab:</b>			<b>Test:</b>		
Applied Materials	10.7%	19	Advantest	0.1%	-
ASM International	1.8%	32	Teradyne	4.0%	26
ASML	-1.5%	38	FormFactor	5.8%	25
KLA	6.7%	21			
Lam Research	9.0%	20	<b>Assembly:</b>		
Onto Innovation	11.3%	-	BESI	23.7%	-
Nikon	-0.2%	-	Kulicke & Soffa	4.1%	11
TEL	0.5%	-	ASM Pacific Technology	-2.2%	
Veeco Instruments	15.2%	20			

Above Avg    Top 4-6    Top 1-3

# Electronic Materials Stocks:

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

Weekly Gains			1/14/2022		
EDA & Electronic Materials Stocks	Price Change	Forward P/E	EDA & Electronic Materials Stocks	Price Change	Forward P/E
<b>EDA</b>			DNP	-0.6%	-
Cadence	-2.6%	45	DuPont de Nemours	2.1%	5
Synopsys	-1.3%	36	JSR	-3.4%	-
Ansys	-3.7%	44	Shin-Etsu	-2.2%	-
<b>Electronic Materials</b>			SOITEC	0.6%	-
BASF	<b>3.2%</b>	3	Tokyo Ohka	0.6%	-
CMC Materials	-1.0%	23			

Above Avg
Top 4-6
Top 1-3

VLSI's EDA Stock Index fell this week.

VLSI's Electronic Materials Stock Index slipped this week, BASF was the only company to finish above the weekly average this week.

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	VLSI's 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							
11-Jun-21	88.0	85.3	89.4	70.7	0.7%	0.8%	-1.5%	2.4%	29	11.2%	-26	-5.3%	16.5%	89.1	0.4%
18-Jun-21	86.2	82.6	88.4	71.4	-2.1%	-3.2%	-1.1%	1.0%	15	9.1%	-39	-8.4%	17.5%	87.4	-1.9%
25-Jun-21	88.3	85.3	88.7	73.0	2.4%	3.2%	0.4%	2.2%	44	13.9%	-10	-7.6%	21.5%	89.8	2.7%
02-Jul-21	89.6	84.1	89.2	75.2	1.5%	-1.3%	0.6%	3.1%	29	10.6%	-26	-7.6%	18.2%	91.3	1.7%
09-Jul-21	86.6	81.9	89.2	75.6	-3.3%	-2.7%	0.0%	0.5%	19	7.3%	-36	-10.5%	17.8%	91.7	0.4%
16-Jul-21	83.9	79.2	88.8	74.8	-3.2%	-3.2%	-0.5%	-1.0%	12	6.9%	-42	-10.8%	17.7%	90.8	-1.0%
23-Jul-21	85.3	82.9	89.2	78.1	1.7%	4.6%	0.5%	4.5%	36	9.4%	-18	-73.1%	82.5%	92.6	2.0%
30-Jul-21	88.4	84.2	90.6	79.1	3.7%	1.6%	1.5%	1.2%	39	24.0%	-15	-37.0%	61.0%	92.2	-0.4%
06-Aug-21	91.4	88.9	89.6	80.6	3.4%	5.6%	-1.1%	1.9%	46	29.1%	-8	-14.3%	43.4%	93.1	0.9%
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%

# Links to Conference Call Transcripts

January 14<sup>th</sup>

[Taiwan Semiconductor Manufacturing Company Limited \(TSM\) CEO C. C. Wei on Q4 2021 Results - Earnings Call Transcript](#)

[NVIDIA Corporation's \(NVDA\) Management Presents at 24th Annual Needham Growth Conference \(Transcript\)](#)

January 7<sup>th</sup> and before

[Aehr Test Systems' \(AEHR\) CEO Gayn Erickson on Q2 2022 Results - Earnings Call Transcript](#)

[Micron Technology, Inc. \(MU\) CEO Sanjay Mehrotra on Q1 2022 Results - Earnings Call Transcript](#)

[Carl Zeiss Meditec AG \(CZMWF\) CEO Dr. Ludwin Monz on Q4 2021 Results - Earnings Call Transcript](#)

[Broadcom Inc. \(AVGO\) CEO Hock Tan on Q4 2021 Results - Earnings Call Transcript](#)

[NVIDIA Corporation \(NVDA\) Presents at Deutsche Bank Autotech Conference \(Transcript\)](#)

[QUALCOMM Incorporated \(QCOM\) CEO Cristiano Amon Presents at Barclays Global Technology, Media and Telecommunications Conference \(Transcript\)](#)

[Lam Research Corporation \(LRCX\) Management Presents at Barclays Global Technology, Media and Telecommunications Conference \(Transcript\)](#)

[Cisco Systems, Inc. \(CSCO\) CEO Chuck Robbins Presents at Barclays Global Technology, Media and Telecommunications Conference Call \(Transcript\)](#)

[Qorvo, Inc. \(QRVO\) CEO Bob Bruggeworth Presents at Barclays 2021 Global TMT Conference \(Transcript\)](#)

# Links to Conference Call Transcripts

[ASML Holding N.V. \(ASML\) Management Presents at UBS Global TMT Virtual Brokers Conference \(Transcript\)](#)

[Advanced Micro Devices, Inc. \(AMD\) Management Presents at Barclays Global Technology, Media and Telecommunications Conference Call \(Transcript\)](#)

[Intel Corporation \(INTC\) Presents at UBS 2021 Global TMT Conference \(Transcript\)](#)

[NXP Semiconductors N.V.'s \(NXPI\) Kurt Sievers Presents at Barclays Global Technology, Media and Telecommunications Conference - \(Transcript\)](#)

[Lam Research Corporation \(LRCX\) Management Presents at UBS Global TMT Conference Call \(Transcript\)](#)

[Marvell Technology, Inc. \(MRVL\) CEO Matt Murphy Presents at UBS Global TMT Virtual Conference \(Transcript\)](#)

[NVIDIA Corporation \(NVDA\) Management Presents at UBS Global TMT Virtual Conference \(Transcript\)](#)

[Cisco Systems, Inc. \(CSCO\) Presents at Raymond James 2021 Technology Investors Conference \(Transcript\)](#)

[Cisco Systems, Inc. \(CSCO\) Management Presents at UBS Global TMT Virtual Brokers Conference \(Transcript\)](#)

[Synopsys, Inc. \(SNPS\) CEO Aart de Geus on Q4 2021 Results - Earnings Call Transcript](#)

[NVIDIA Corporation \(NVDA\) Annual Virtual Wells Fargo TMT Summit Conference \(Transcript\)](#)

[NXP Semiconductors N.V. \(NXPI\) Presents at Credit Suisse 25th Annual Technology Conference \(Transcript\)](#)

[Micron Technology's \(MU\) CEO Sanjay Mehrotra Presents at Credit Suisse 25th Annual Technology Conference \(Transcript\)](#)

[Western Digital Corporation \(WDC\) Presents at NASDAQ 45th Investor Conference \(Transcript\)](#)

[HP Inc. \(HPQ\) CEO Enrique Lores on Q4 2021 Results - Earnings Call Transcript](#)

[Dell Technologies Inc. \(DELL\) Management on Q3 2022 Results - Earnings Call Transcript](#)

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- Semiconductor Forecast – V21.12
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- Advanced Packaging – V21.11
- Design Completions – V21.11

### **Equipment Database Module:**

- IC Equipment Forecast:
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  - Quarterly – V22.01
- Scanner & Stepper Shipments – V22.01
- WFE by Applications – V22.01
- IC Equipment Market Shares:
  - Yearly – V20.05
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## Customer Satisfaction Survey Uploads:

- 2021 CSS Databases
- 2022 Survey Documents

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- Graphics File: December 2021
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- Manufacturing Equipment Revenues – V21.09
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## Test Connectivity Reports:

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

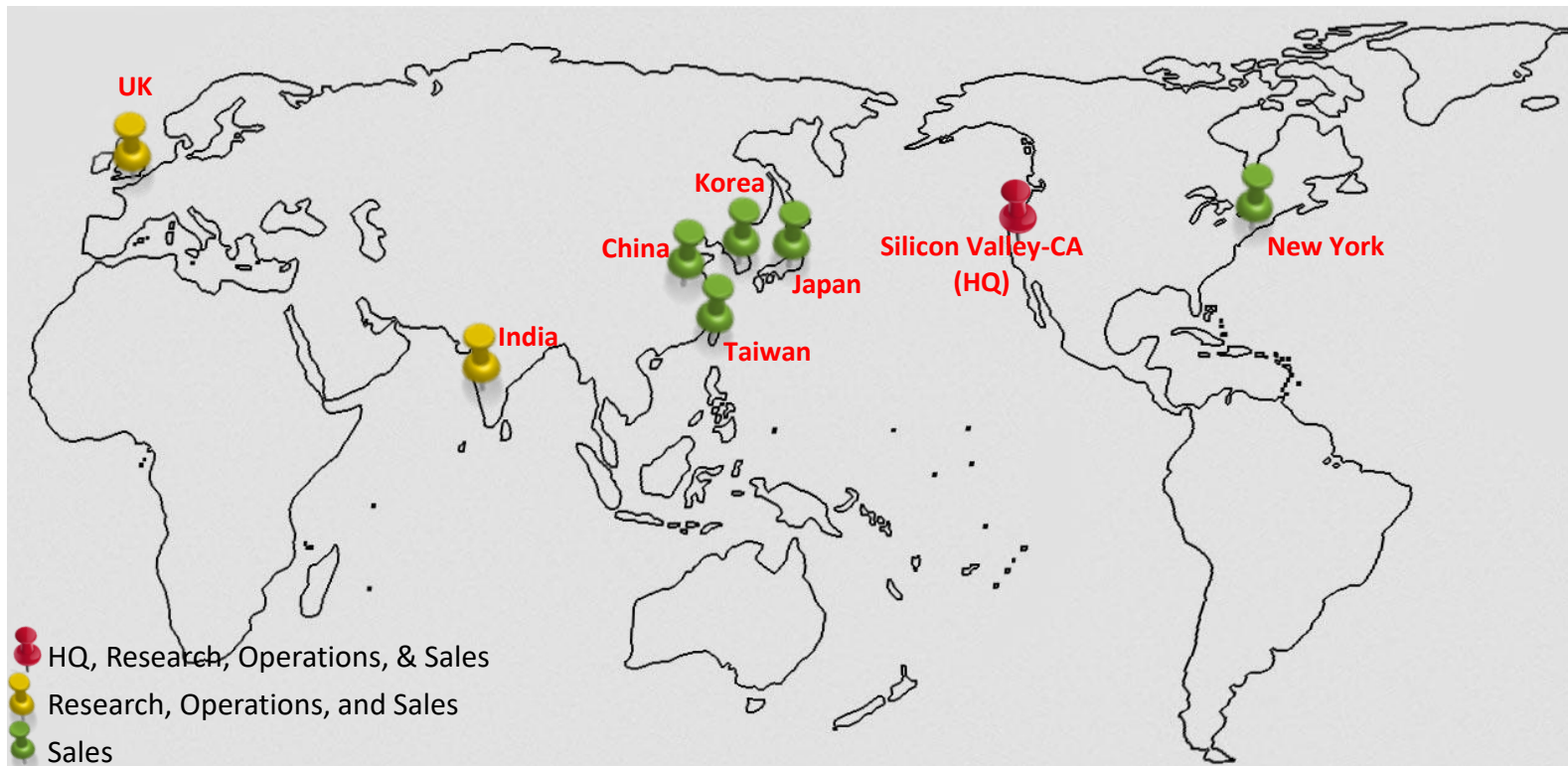
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# Meet the Team



**G. Dan Hutcheson**



**Risto Puhakka**



**Andrea Lati**



**Ha Pham**



**Shereen Vaux**



**Lyndsey Lindt**



**Zach Rodriguez**



**Manjesh Singh**

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