17TH ANNUAL EDITION

Global Wafer Capacity 2024

Detailed chip fab analysis and capacity forecast through 2028

Use to learn about:

- Capacity, wafer start, utilization forecasts
- IC market and capital spending trends
- Supply vs. demand projections
- Utilization rate influences on pricing
- Rankings of capacity leaders
- Capacity forecasts for DRAM, NAND, ASIC/SOC, MPU/MCU, image sensors, analog, foundry
- Regional capacity by product type, process generation, and wafer size
- Forecast for leading-edge capacity

and more

Coverage and Methodology

Report and database covering more than **400 chip fabs**.

Categorization and analysis of wafer capacity as it existed near end of 2023 along with annual **forecasts through 2028**.

Data compiled, summarized, and extended into the future using both **bottom-up (supply-side)** and **top-down (demand-side)** research and analysis methodologies.

knometa RESEARCH

Data Classifications

Wafer Size
300mm, 200mm, ≤150mm

Geographic Region/Country
Americas, Europe, Japan, Korea, Taiwan, China, ROW

Product Type
Analog, NAND, DRAM, ASIC/SOC, MPU/MCU, Image Sensor, Foundry

Process Generation
Leading edge, lagging edge, mature, large feature

Process Type
CMOS, BiCMOS/BCD, Bipolar, III-V

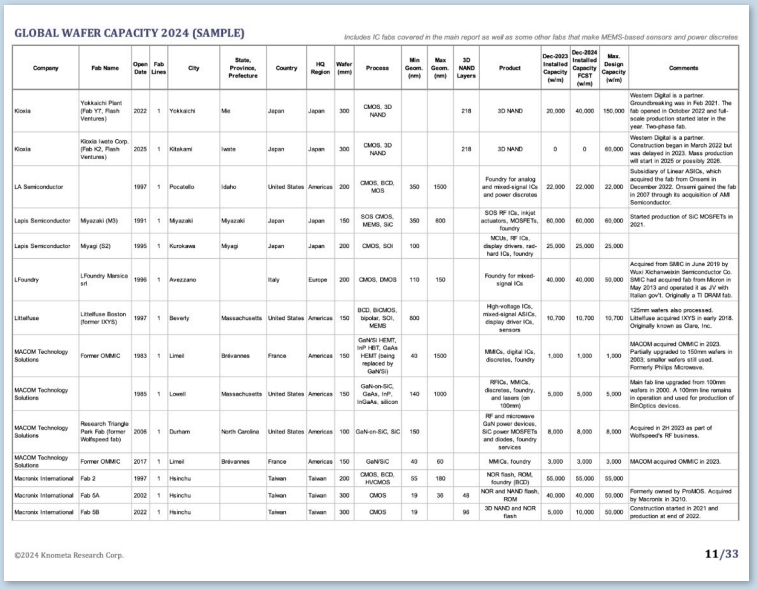
Who is Knometa Research?

Semiconductor technology and market analysis firm led by former IC Insights executive Trevor Yancey.

- **1997**: Mr. Yancey co-founded IC Insights with Bill McClean and Brian Matas.
- **2014**: Knometa established as independent contractor working for IC Insights and TechSearch International.
- **2021**: Knometa took ownership of Global Wafer Capacity, a report Mr. Yancey launched in 2007 while an executive of IC Insights.

Contents

Includes Detailed Fab Database



GLOBAL WAFER CAPACITY 2024 (SAMPLE)

Includes IC fabs covered in the main report as well as some other fabs that make MEMS-based sensors and power discretes

Company	Fab Name	Open Date	Fab Lines	City	State, Province, Prefecture	Country	HQ Region	Wafer (mm)	Process	Min Geom. (nm)	Max Geom. (nm)	3D NAND Layers	Product	Dec-2023 Installed Capacity (w/m)	Dec-2024 Installed Capacity FCST (w/m)	Max Design Capacity (w/m)	Comments
Kioxia	Yokkaichi Plant (Fab Y7, Flash Ventures)	2022	1	Yokkaichi	Mie	Japan	Japan	300	CMOS, 3D NAND			218	3D NAND	20,000	40,000	150,000	Western Digital is a partner. Groundbreaking was in Feb 2021. The fab opened in October 2022 and full-scale production started later in the year. Two-phase fab.
Kioxia	Kioxia Iwate Corp. (Fab K2, Flash Ventures)	2025	1	Kitakami	Iwate	Japan	Japan	300	CMOS, 3D NAND			218	3D NAND	0	0	60,000	Western Digital is a partner. Construction began in March 2022 but was delayed in 2023. Mass production will start in 2025 or possibly 2026.
LA Semiconductor		1997	1	Pocatello	Idaho	United States	Americas	200	CMOS, BCD, MOS	350	1500		Foundry for analog and mixed-signal ICs and power discretes	22,000	22,000	22,000	Subsidiary of Linear ASICs, which acquired the fab from Onsemi in December 2022. Onsemi gained the fab in 2007 through its acquisition of AMI Semiconductor.
Lapis Semiconductor	Miyazaki (M3)	1991	1	Miyazaki	Miyazaki	Japan	Japan	150	SOS CMOS, MEMS, SiC	350	600		SOS RF ICs, inkjet actuators, MOSFETs, foundry	60,000	60,000	60,000	Started production of SiC MOSFETs in 2021.
Lapis Semiconductor	Miyagi (S2)	1995	1	Kurokawa	Miyagi	Japan	Japan	200	CMOS, SOI	100			MCUs, RF ICs, display drivers, rad-hard ICs, foundry	25,000	25,000	25,000	
LFoundry	LFoundry Marsica srl	1996	1	Avezzano		Italy	Europe	200	CMOS, DMOS	110	150		Foundry for mixed-signal ICs	40,000	40,000	50,000	Acquired from SMIC in June 2019 by Wuxi Xichanwaixin Semiconductor Co. SMIC had acquired fab from Micron in May 2013 and operated it as JV with Italian gov't. Originally a TI DRAM fab.
Littelfuse	Littelfuse Boston (former IXYS)	1997	1	Beverly	Massachusetts	United States	Americas	150	BCD, BiCMOS, bipolar, SOI, MEMS	800			High-voltage ICs, mixed-signal ASICs, display driver ICs, sensors	10,700	10,700	10,700	125mm wafers also processed. Littelfuse acquired IXYS in early 2018. Originally known as Clare, Inc.
MACOM Technology Solutions	Former OMMIC	1983	1	Limeil	Brévannes	France	Americas	150	GaN/Si HEMT, InP HBT, GaAs HEMT (being replaced by GaN/Si)	40	1500		MMICs, digital ICs, discretes, foundry	1,000	1,000	1,000	MACOM acquired OMMIC in 2023. Partially upgraded to 150mm wafers in 2003; smaller wafers still used. Formerly Philips Microwave.
MACOM Technology Solutions		1985	1	Lowell	Massachusetts	United States	Americas	150	GaN-on-SiC, GaAs, InP, InGaAs, silicon	140	1000		RFICs, MMICs, discretes, foundry, and lasers (on 100mm)	5,000	5,000	5,000	Main fab line upgraded from 100mm wafers in 2000. A 100mm line remains in operation and used for production of BinOptics devices.
MACOM Technology Solutions	Research Triangle Park Fab (former Wolfspeed fab)	2006	1	Durham	North Carolina	United States	Americas	100	GaN-on-SiC, SiC	150			RF and microwave GaN power devices, SiC power MOSFETs and diodes, foundry services	8,000	8,000	8,000	Acquired in 2H 2023 as part of Wolfspeed's RF business.
MACOM Technology Solutions	Former OMMIC	2017	1	Limeil	Brévannes	France	Americas	150	GaN/SiC	40	60		MMICs, foundry	3,000	3,000	3,000	MACOM acquired OMMIC in 2023.
Macronix International	Fab 2	1997	1	Hsinchu		Taiwan	Taiwan	200	CMOS, BCD, HVCMOS	55	180		NOR flash, ROM, foundry (BCD)	55,000	55,000	55,000	
Macronix International	Fab 5A	2002	1	Hsinchu		Taiwan	Taiwan	300	CMOS	19	36	48	NOR and NAND flash, ROM	40,000	40,000	50,000	Formerly owned by ProMOS. Acquired by Macronix in 3Q10.
Macronix International	Fab 5B	2022	1	Hsinchu		Taiwan	Taiwan	300	CMOS	19		96	3D NAND and NOR flash	5,000	10,000	50,000	Construction started in 2021 and production at end of 2022.

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