Why America Needs the Revitalize American Manufacturing and Innovation Act (RAMI)

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Lam RESEARCH

Lam Research at a Glance

- Headquartered in Fremont, California, with global operations
- 2nd largest U.S. supplier of semiconductor manufacturing equipment (3rd globally)
- Approximately $4 billion in CY 2013 revenues
- Approximately $700 million invested in R&D in CY 2013
- 4,000 full time U.S employees, average salary of $120,000
- 80% of U.S. employees with 4 year or higher degrees
- 90% of manufacturing in the US (CA, OR, OH)
- Purchase $1.5B in raw materials from U.S. suppliers
- 85% of revenues from exports

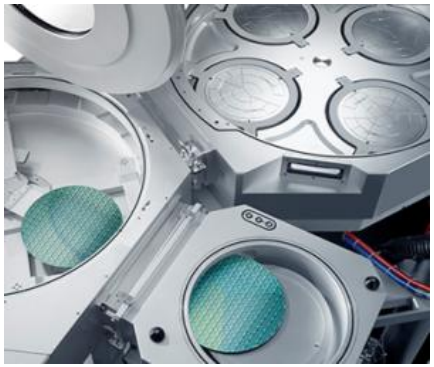
Lam Research manufacturers the equipment that makes the chips that fuel the global electronics industry

All Advanced Chips are Made with Lam Equipment

Plasma Etch

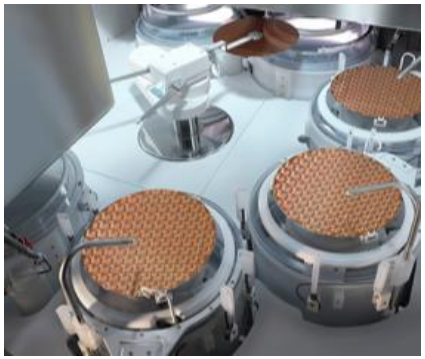
Photoresist Strip

Atomic Layer Deposition



Plasma Enhanced Chemical Vapor Deposition

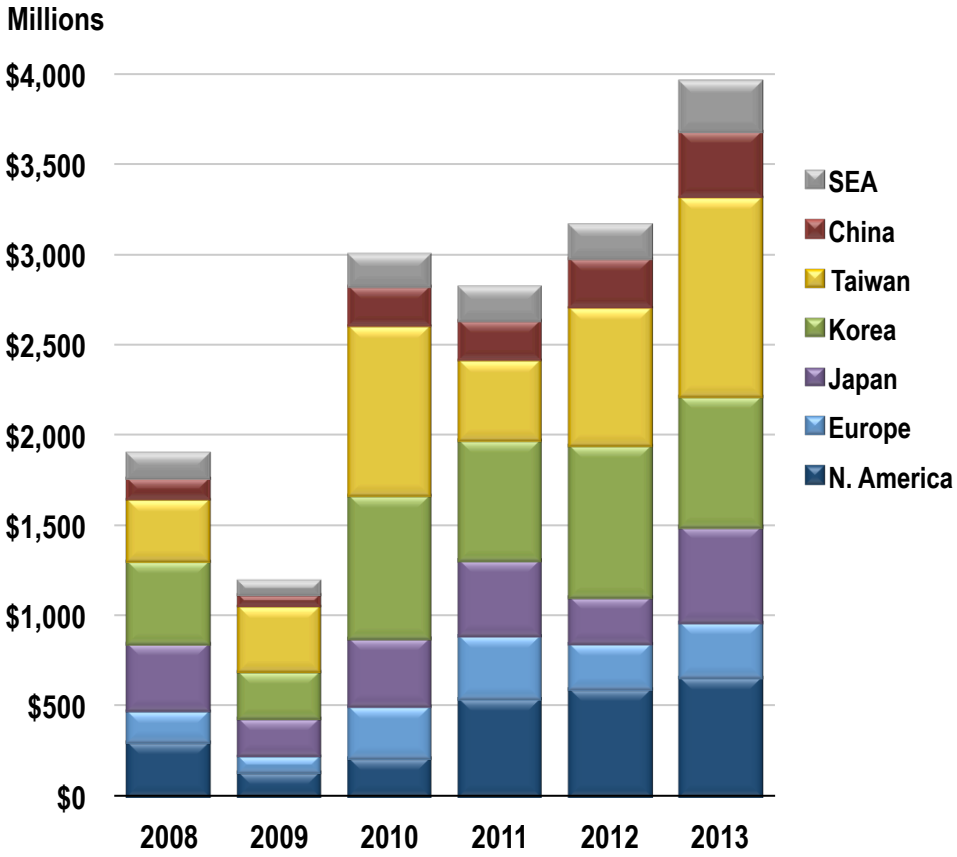
Electrochemical Deposition



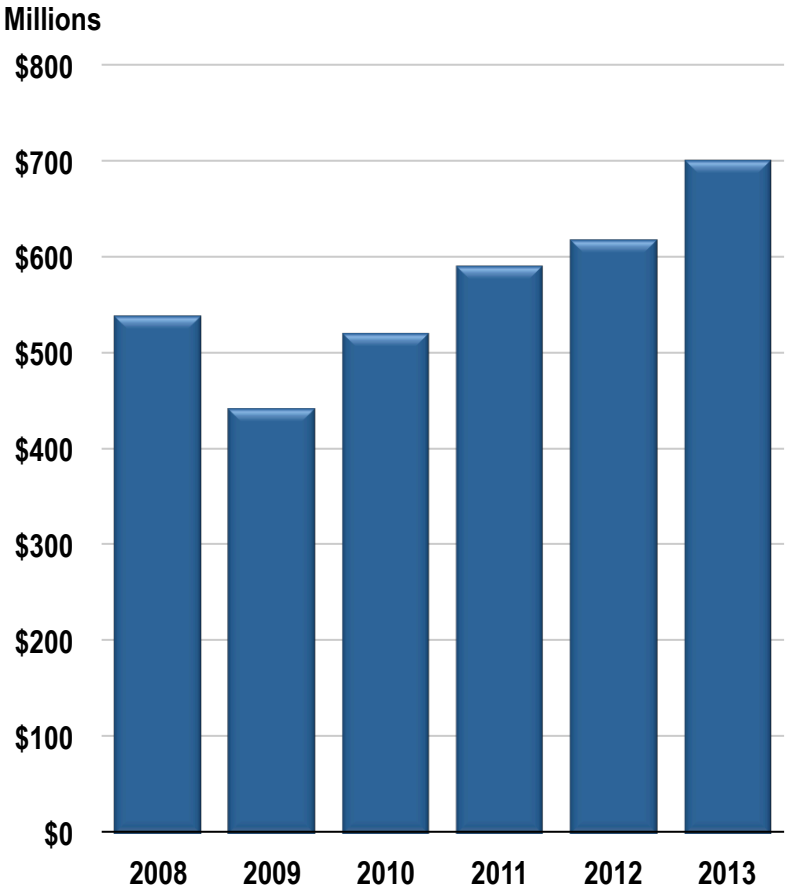
Spin Wet Clean

Lam Research Invests in R&D through Market Cycles

Annual Revenue

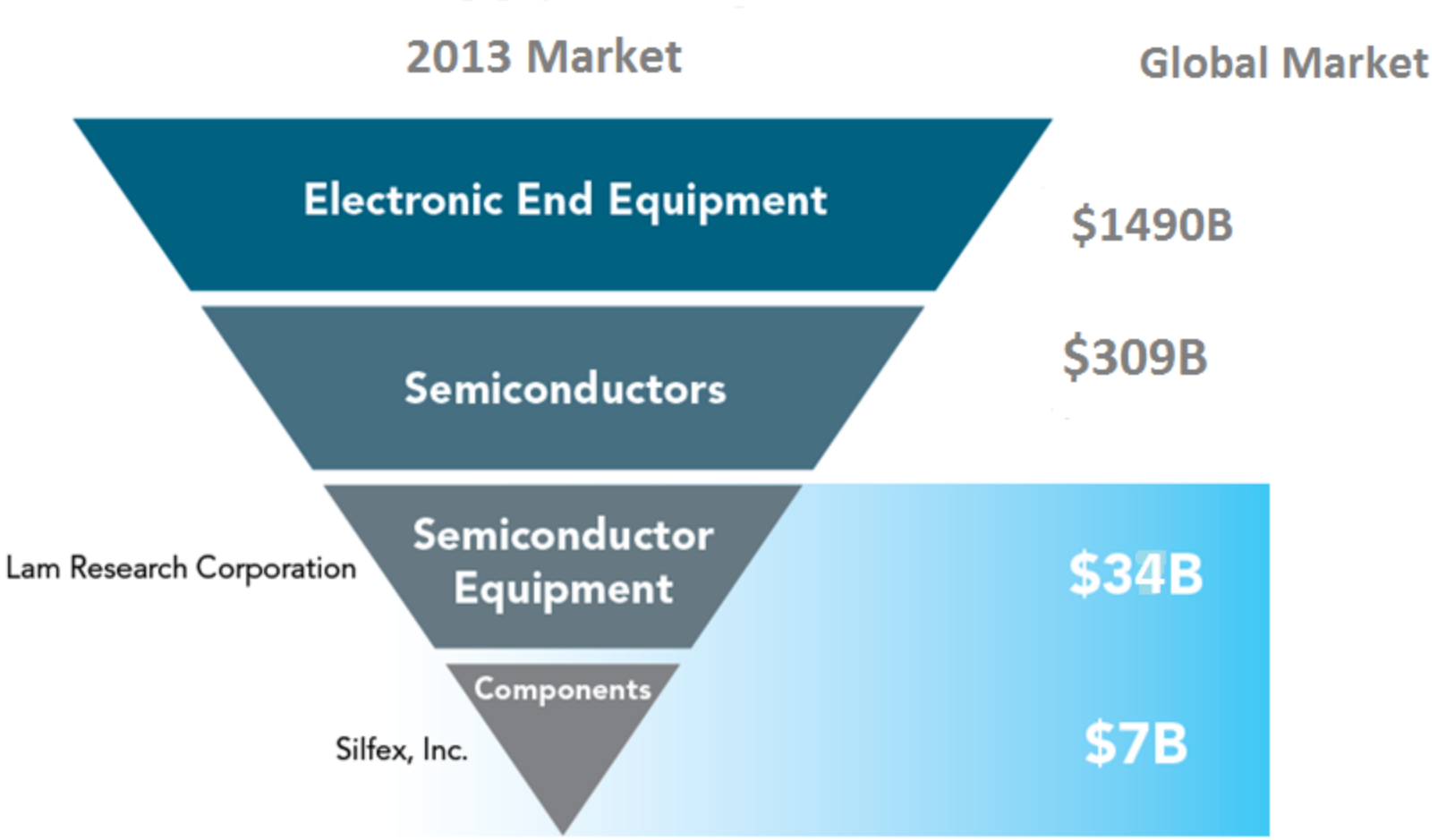


R&D Spending



Historical data reflects combined R&D spending for Lam and Novellus

Lam's Role in the Electronics Ecosystem



Source: SIA, IC Insights and VLSI, April 2014

A Vital Industry – Semiconductor Manufacturing Equipment

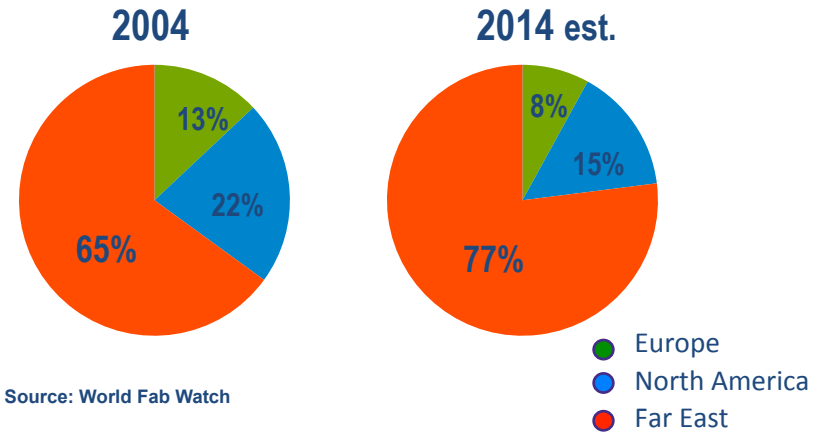
2011-2013 3 yr Average	Description
$37.4 B	Global semiconductor manufacturing equipment market
$15.2 B	Semiconductor manufacturing equipment sales by U.S. companies
41%	U.S.-made share of global semiconductor manufacturing equipment sales
$12.2 B	U.S.-made semiconductor manufacturing equipment sales to foreign markets
80%	Portion of U.S.-made semiconductor manufacturing equipment exported
70,000	Direct U.S. semiconductor equipment industry jobs
350,000	Indirect U.S. semiconductor manufacturing jobs

Source: SEMI, April 2014

U.S. Leadership in Semiconductor Equipment Now at Risk

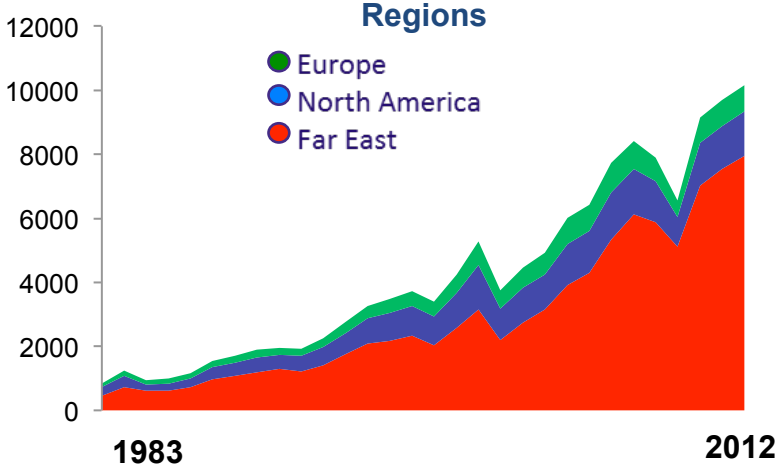
Semiconductor *Chip* Fabrication

Regional distribution of manufacturing capacity



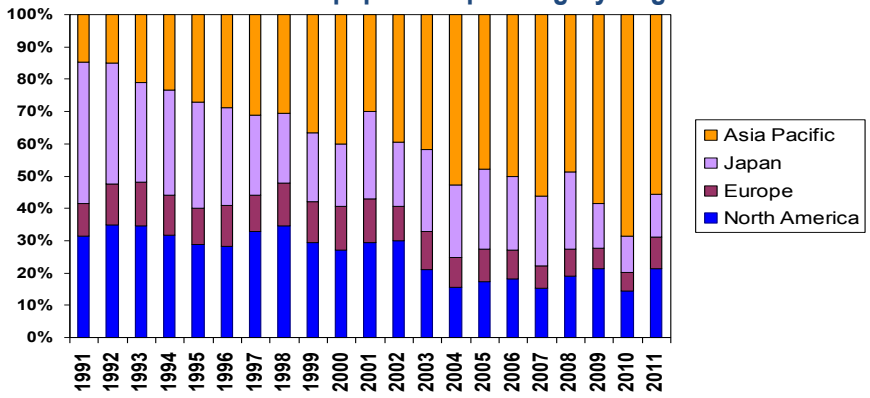
Source: World Fab Watch

Silicon Wafers Shipped to End Market Regions

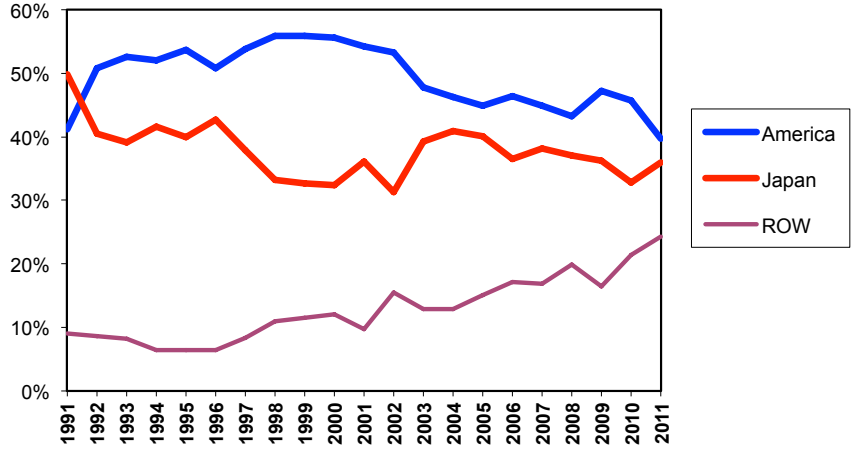


Semiconductor *Equipment* Manufacturing

Semiconductor Equipment Spending By Region



Equipment Sales by Producer Region



Source: SEMI

Lam Research Supports RAMI Legislation

- Increased R&D is critical for Lam to remain competitive as products become more complex in response to increasing technical demands
- Significant technology inflections are approaching that require investments above high levels already invested
- Lam believes retaining U.S. leadership in the semiconductor equipment manufacturing industry is vital
- Foreign governments are offering substantial incentives aligned with these technology inflections to Lam to move manufacturing overseas

Dave Hemker, CTO, Lam Research and Speaker John Boehner at Lam Research Subsidiary Silfex (November 2013)

Lam Research supports and urges Congress to pass the Revitalize American Manufacturing and Innovation (RAMI) Act of 2013 (H.R. 2996 and S. 1468)

Sample Foreign Semiconductor Equipment Incentives

Country or Region	Government Agency or Policy	Published Information Related to Equipment Funding	Publicly Stated Goals
China	12th Five Year Plan (2011-2015) - high end manufacturing equipment	• $600B for seven priority areas, two of which include equipment; • $200M-400M in equipment subsidies from local governments 2007-2011	High-end manufacturing equipment is one of seven new strategic priorities;. Eliminate dependence on the West for advanced semiconductor equipment
Taiwan	Industrial Development Bureau under Ministry of Economic Affairs (MOEA)	Specific funding not disclosed; operating subsidies and tax incentives offered	Goal of 20% front-end and 60% back-end domestic semiconductor equipment market share
S. Korea	Ministry of Knowledge Economy (MKE) – Semiconductor National Project 2015	$130M over five years (2007-2012) • $55M government • $55M matching • $20M customers	Goal of 50% domestic semiconductor equipment and materials market share by 2015 from home grown companies including SEMES, Jusung, Wonik IPS, Eugene, DMS, Mujin and others;
European Union	ENIAC Joint Undertaking Horizon 20 / 20	• $250M from ENIAC for nanoelectronics R&D, including equipment • $80B in funding from 2014 to 2020 for R&D to increase European competitiveness, with 20/10/100 program specific to equipment	Goal of 20% European semiconductor market share Goal of 450 mm pilot line
Japan	Ministry of International Trade & Industry - Super Silicon Initiative	• $115M (1996-2001) to fund wafer development • $100M per year NEDO Mask Program	Protect silicon manufacturing; Develop key technologies for silicon wafers and backward integrate learning to 300mm

Sources: Digitimes Research, Special Report 2011; KPMG China's 12th Five Year Plan Overview, March 2011, APCO worldwide 2010; Department of Industrial Technology (DoIT), Ministry of Economic Affairs (MOEA) Annual Report to the 7th Session of the First Parliament, Digitimes, November 2011, JRC Technical Notes, Trends in Public and Private Investments in ICT R&D in Taiwan; South Korean Ministry of Economy, CK Cho, Consultant translated from published documents, Asian Technology Information Program (ATIP); ENIAC Joint Undertaking, Project Profile EEMI450; Super Silicon Crystal Research Institute Corporation, World Technology Evaluation Center (WTEC), Inc., SEMICONportal.com June 27, 2011, Japan's EUVL R&D project launched with Intel, Samsung, TSMC and Hynix participating; Toru Nakayama, NEDO, June 17, 2011

Lam Research Supports RAMI Legislation

- RAMI would establish a public-private partnership called the Network for Manufacturing Innovation (NMI) to accelerate manufacturing innovation in the U.S. for proven industries
- Requires substantial cost match from industry in the NMI centers
- RAMI supports the gap in development between research and commercialization to scale up new ideas required to expand manufacturing and retain and grow jobs in the U.S.
- Supports industries and entire supply chains, not a single company
- Centers must be self-sustaining after seven years
- Bill requires an offset
- Lam believes RAMI helps to create a level playing field compared to foreign governments
- Lam believes it is important to set up a formal program so we can fairly compete for a semiconductor manufacturing equipment NMI center

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Innovative **Technology**
Trusted **Productivity**
Fast **Solutions**
Lam
RESEARCH

Mission, Vision, and Core Values

Mission

Lam Research is dedicated to the success of our customers by being the world-class provider of innovative technology and productivity solutions to the semiconductor industry

Vision

- Number one in customer trust
- Number one in market share
- A company where successful people want to work
- Best-in-class products and services
- Financial performance to:
  - Fund the solutions our customers require
  - Provide the return our shareholders expect

Core Values

- Achievement
- Honesty and integrity
- Innovation and continuous improvement
- Mutual trust and respect
- Open communication
- Ownership and accountability
- Teamwork
- Think: customer, company, individual

Lam Research Company Milestones

Silfex
A Division of Lam Research Corporation

LAM RESEARCH 30 YEARS

NOVELLUS

1980

1980
Company founded by David K. Lam

1984
IPO and LRCX listing on NASDAQ

Novellus founded by Brad Mattson

1985
Established global presence with offices in Asia and Europe

1988
Novellus goes public

1990

1994
Ground breaking for Fremont, California campus

1995
Achieved $1B annual revenue

1997
James W. Bagley appointed CEO

Stephen G. Newberry appointed Executive VP & COO

2000

2001
Acquired Gasonics International

Bangalore, India, software development office opens

2002
Tualatin, Oregon campus opens

2005

2005
Stephen G. Newberry appointed President & CEO

2006
Achieved $2B annual revenue

2008
Acquired SEZ AG, now Lam Research AG

Martin B. Anstice appointed COO

2009
Launched Silfex, Inc., a division of Lam Research

$20M partnership established with the College of Nanoscale Science & Engineering, University at Albany SUNY

2010

2010
Achieved $3B annual revenue

2011
Opened manufacturing facility in Livermore, California

Corus Manufacturing, Ltd., JV established in Korea

2012
Martin B. Anstice appointed President & CEO

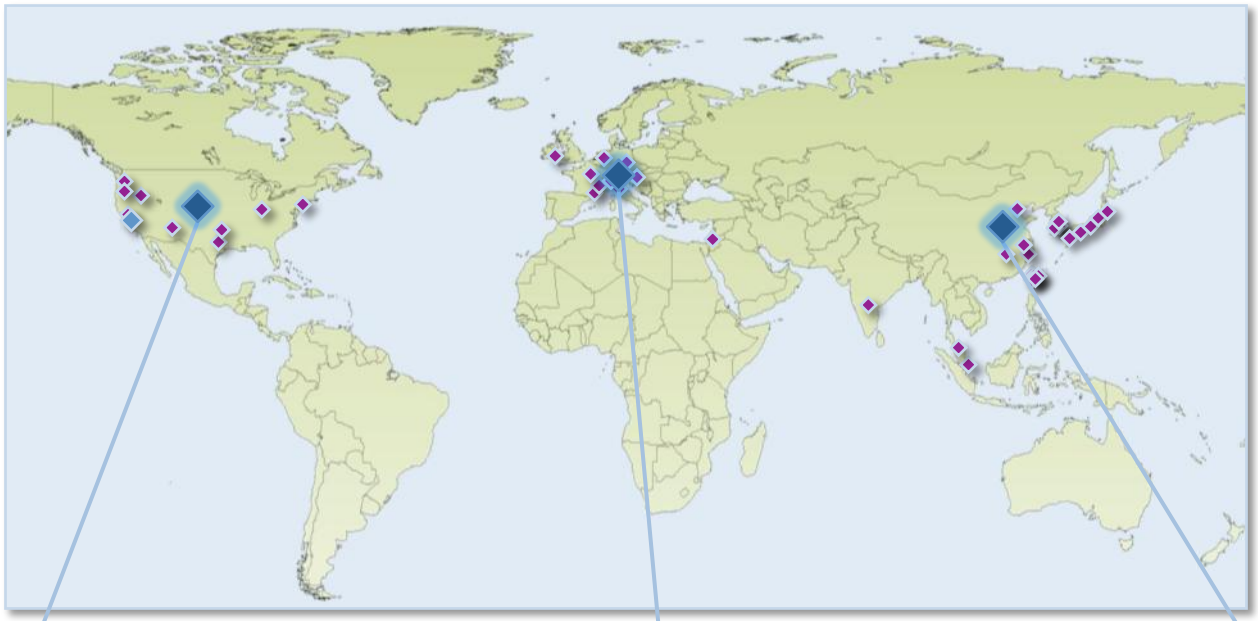
Acquired Novellus Systems

Timothy M. Archer appointed COO

2013
Achieved first $1B revenue quarter

Lam RESEARCH

Global Capability, U.S. Manufacturing & Exports



North America Region

Headquarters: Fremont, CA

Arizona	Ohio
California	Oregon
Idaho	Texas
New York	Washington

Europe Region

Austria	Israel
France	Italy
Germany	The Netherlands
Ireland	Switzerland

Asia Region

China	Malaysia
India	Singapore
Japan	Taiwan
Korea	

Lam Research Ranking – Wafer Fab Equipment Revenues

Rank	2009	2010	2011	2012	2013
1	Applied Materials	Applied Materials	ASML	Applied Materials	Applied Materials
2	ASML	ASML	Applied Materials	ASML	ASML
3	Tokyo Electron	Tokyo Electron	Tokyo Electron	Tokyo Electron	Lam Research
4	KLA-Tencor	Lam Research	KLA-Tencor	Lam Research*	Tokyo Electron
5	Lam Research	KLA-Tencor	Lam Research	KLA-Tencor	KLA-Tencor
6	Nikon	Dainippon Screen	Dainippon Screen	Dainippon Screen	Dainippon Screen
7	Dainippon Screen	Nikon	Nikon	Hitachi High-Tech	Hitachi High-Tech
8	Novellus Systems	Novellus Systems	Novellus Systems	Nikon	Nikon
9	Hitachi High-Tech	Varian	Hitachi High-Tech	Daifuku	Hitachi Kokusai
10	Varian	Hitachi High-Tech	Varian	Hitachi Kokusai	Murata Machinery

*Includes Novellus. Source: Gartner Dataquest, Lam Research Corp.