



**SYNOPSYS**<sup>®</sup>

ACADEMIC & RESEARCH  
ALLIANCES

# Expanding Synopsys' ecosystem to include academia

Angela Hwang, PhD | Senior Program Manager  
UIDP – April 2023

# It takes a village... to fab a chip

Electronic Design Automation (EDA) Tools

Intellectual Property (IP) Cores



# It takes a village... to fab a chip

Electronic Design Automation (EDA) Tools

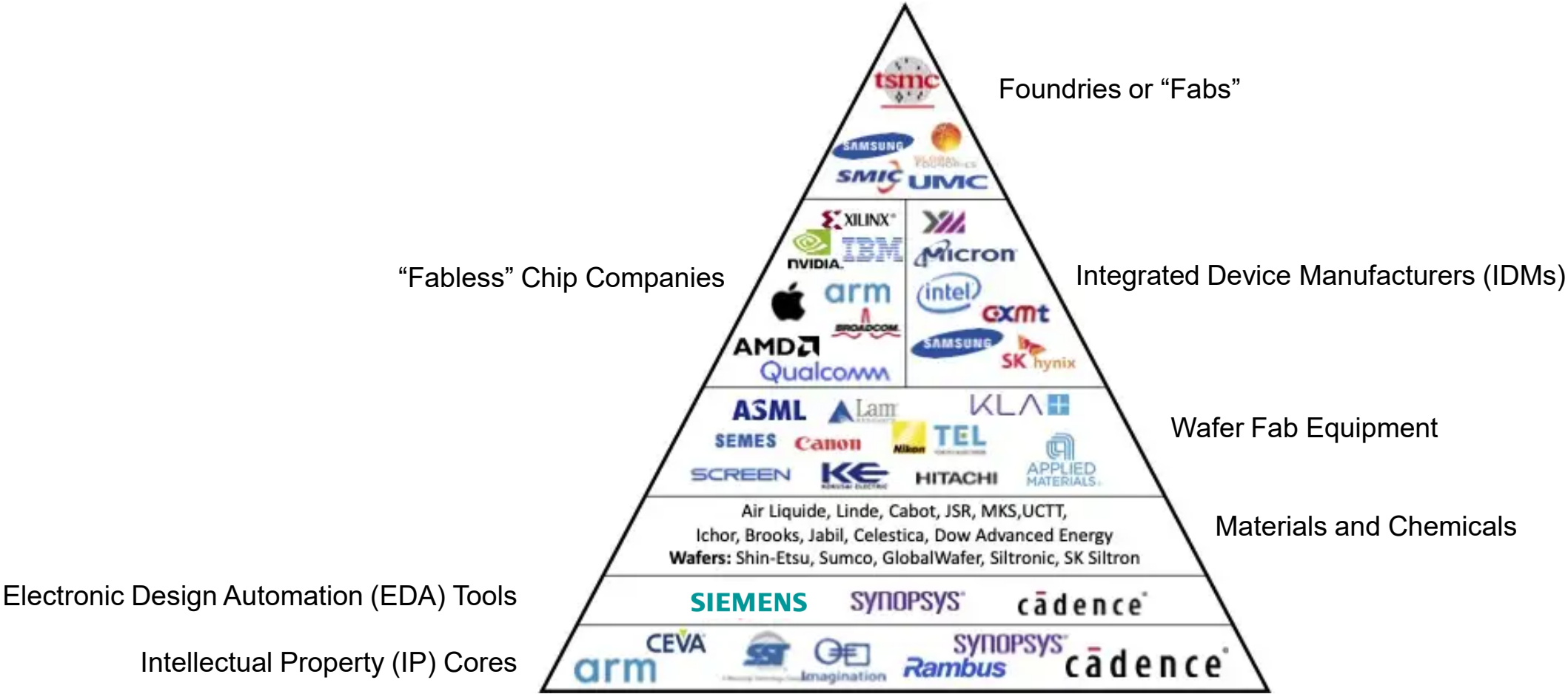
Intellectual Property (IP) Cores



Wafer Fab Equipment

Materials and Chemicals

# It takes a village... to fab a chip





# Synopsys – Transforming Our Ecosystem



~\$5.17B Revenue (TTM)



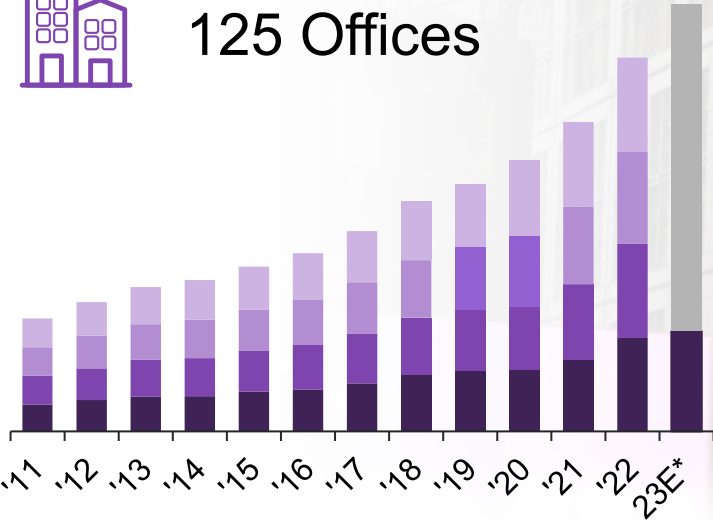
19,410 Employees



3,380 Patents



125 Offices

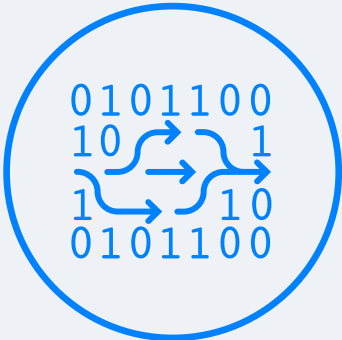


**#1** Electronic Design Automation Tools and Services

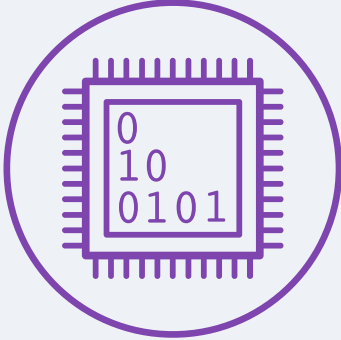
**Broadest IP Portfolio** and **#1** Interface, Foundation & Physical IP

**'Leader'** In Gartner's Magic Quadrant for Application Security Testing

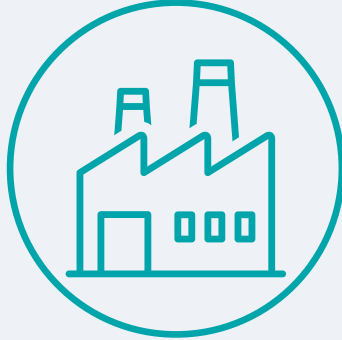
# Macrotrends



Software Drives  
Differentiation

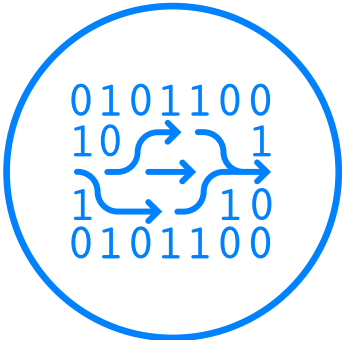


Chips Make This  
Possible



Optimized Software  
& Chips Key to  
System Success

# Macrotrends – New Companies Developing Software



Software Drives  
Differentiation

How Starbucks Changed Their  
Supply Chain Management



GE Healthcare And Roche  
Team Up To Build Data-  
Pooling Service For  
Hospitals

Forbes

Building a Better Tomorrow with  
Digital Solutions

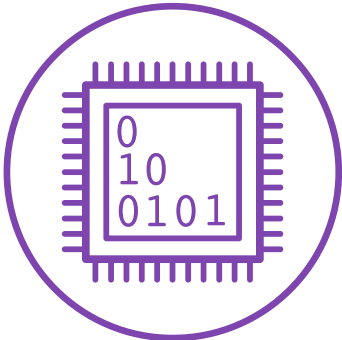


Software-driven transformation  
will be a key differentiator for  
automotive manufacturers in  
the next decade

4 Ways Johnson & Johnson is Leading  
the Fight Against Cyberattacks



# Macrotrends – New Companies Designing Chips



**Chips Make This Possible**

- Leader in cloud solutions
- Customized SoC is vital to maintain competitiveness
- Beyond AWS, Echo needs in-house silicon



**DESIGNING CUSTOM CHIPS IN-HOUSE IS THE NEW NORMAL**



**Tech giants are rushing to develop their own chips – here’s why**



**Google Cloud TPU: Strategic Implications For Google, NVIDIA And The Machine Learning Industry**



**Volkswagen to design chips for autonomous vehicles, says CEO**





# Macrotrends – Optimized Processes is the Key



## Optimized Software & Chips Key to System Success

- Partnering with Microsoft
- Focus is future AR glasses
- Integrate both companies' software platforms to optimize chips



- Full Self-Driving (FSD) chip
- Designed in-house from the start
- Aimed at autonomous levels 4 and 5



“We now live in a time where software is running the world ... (We will shift to a) **software first approach** to hardware architecture and design.”



“The kinds of things we love to work on are those where there’s a requirement for **hardware, software, and services** to come together. ***Magic occurs at that intersection.***”



**Bridging academia and industry to create new opportunities for innovation and collaboration.**

## OUR PROGRAMS:



### University Software Program (USP)

Deliver Synopsys products and enable usage through training & classroom education to create a Synopsys bias with the next generation of engineers.



### Education Partnerships (EP)

Connecting and advising young talent on experiential projects (e.g., capstones, design projects, contests, hackathons).



### Research Partnerships (RP)

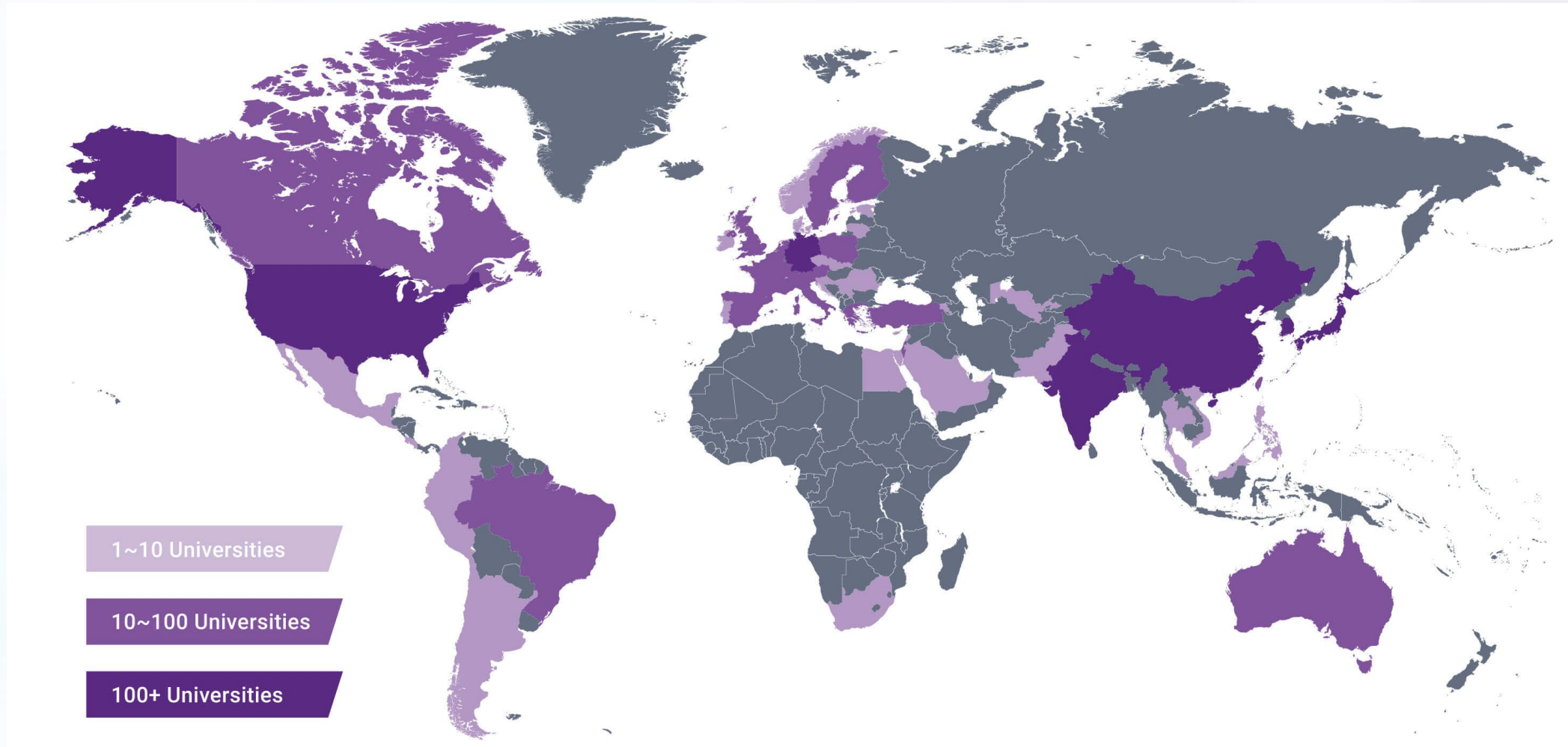
Establish Synopsys as a thought leader by participating in conferences, publications, and collaborations to reach PhD talent.



### Academic Ambassador Program

Empower Synopsys employees to work with universities through a framework to leverage knowledge and local interactions.

# University Software Program Members



# TECHNOLOGY ACCESS AND ENABLEMENT



## University Software Program (USP)

Deliver Synopsys products and enable usage through training & classroom education to create a Synopsys bias with the next generation of engineers.



### PRODUCTS

Our bundle contains **200+ products** for all areas of microelectronic design and beyond



### CURRICULUM

**130+ courses** to support Bachelor and Master degree programs



### RESOURCES

**Generic libraries, iPDKs** and **memory compiler** for teaching support



### SUPPORT

World class **training, technical support,** and **knowledge center**

## WORKFORCE DEVELOPMENT AND OPEN INNOVATION



### Education Partnerships (EP)

Connecting and advising young talent on experiential projects (e.g., capstones, design projects, contests, hackathons).



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### Deirdre Hanford, Chief Security Officer

Appointed as one of the 24 members to the [U.S. Department of Commerce's Industrial Advisory Committee](#) to provide guidance on domestic semiconductor research and development in support of CHIPS for America.



### Strategic Partner

- Semiconductor Degrees Program (SDP)
- Center for Secure Microelectronics Ecosystem (CSME)
- Consortium on Electromagnetics Technologies (CEMT)



## ENGAGEMENT FOR SCALE



### Academic Ambassador Program

Empower Synopsys employees to work with universities through a framework to leverage knowledge and local interactions.

#### Classroom

- Educator influence
- Mentoring
- Student brand builder
- Talent scout

#### Product or Technology

- Focus on usage and training
- Support research

#### University Specific

- Alumni or an advocate for the university within Synopsys

#### Special Projects

- Broad influence across a region to drive specific initiatives (e.g. government / sponsored)

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