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Eight things you need to know about the Saratoga County Prosperity Partnership's participation at SEMI ISS 2017.

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This is a **SPECIAL EDITION** of 8 @ 8. The [Saratoga County Prosperity Partnership](#) team is in Silicon Valley this week attending a semiconductor industry event, the [Industry Strategy Symposium](#), sponsored by the preeminent industry organization, [SEMI](#). The event is an opportunity for the Partnership to connect with top level industry executives and offer them opportunities to grow their business and locate operations in Saratoga County. The theme of this year's conference is *Where Will the Growth Come From? New Forces. New Markets.* A summary of the most interesting speakers, highlights of their presentations, and the potential impact on Saratoga County is found below. [Call us](#) with your questions and comments! -The Partnership Team



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**SARATOGA COUNTY PROSPERITY PARTNERSHIP**

### **Attraction and Regional Collaboration**

The Partnership staff is developing leads with semiconductor industry executives from chip makers to suppliers, which in turn helps us to fulfill our mission to attract more jobs and capital investment to Saratoga County. One of the highlights of our visit was co-sponsoring a Monday Night reception in partnership with the [Center for Economic Growth](#) (CEG). The event highlighted the semiconductor assets in New York's Capital Region and Saratoga County, and helped to refocus our efforts to build out the supply chain here.

### **Local Growth**

ISS started with a keynote presentation by none other than Saratoga County's own Gary Patton, PH.D., Chief Technology Officer and Senior Vice President of Worldwide R&D for GLOBALFOUNDRIES. Patton's presentation, *Forging Intelligent Systems in the Digital Era*, spoke to the microelectronics trends that will drive semiconductor growth. "Globalization, climate, and Moore's Law is driving exponential change in the industry today," said Patton. He showed the audience what the post-mobile era growth drivers will be and

how GLOBALFOUNDRIES is addressing them through their own technological advances. These growth drivers include the [Internet of Things](#) (IoT), the automotive industry the ramp up of [5G](#) networks, [Augmented Reality and Virtual Reality](#) (AR/VR), and [Artificial Intelligence](#). Depending upon the driver, the type of processor, speed, and performance will vary.

## Forecasts

[James Hines](#) from [Gartner](#) provided forecast insight into the semiconductor industry. He indicated that growth prospects for 2017 look good. He started the presentation with, "Improvement in chip prices, increasing semiconductor content and inventory replenishment has pushed 2016 growth into the positive territory. In 2017 we will see an even stronger growth." [G. Dan Hutcheson](#) of [VSLI Research](#) also said 2017 is looking positive, noting cloud computing and the automotive sector will drive silicon demand, while smartphone demand in China, PC replacement, and general global economic recovery will result in greater growth.

## Driving Forces

[Diane M. Bryant](#), Executive Vice President and General Manager of [Intel's Data Center Group](#), gave the Tuesday morning keynote. She described three waves of growth that occurred starting in the 1990s and proceeding through today: Personal Computers, Mobile and "Things and Machines" (what they are calling the [Internet of Things](#) or IoT). Today, the cloud and data center growth is propelling the semiconductor industry. Data is the big buzz today. Bryant said to keep [Moore's Law](#) intact, the cloud, data analytics and connectivity must grow. Smart Manufacturing, Big Data, Autonomous Cars, Immersive Virtual Reality, MedTech, and, of course, China. There's growth here, but who will benefit? Will it be traditional modes or emerging technology nodes? An expanding IoT ecosystem will drive demand for investments in cloud storage, security, and new devices. This is all good for the industry and provides great opportunities for Saratoga County, where GLOBALFOUNDRIES is developing leading edge technology.

## Geopolitics

On Monday, [Matt Gertkin](#), Ph.D., Associate Editor of Geopolitical Strategy at [BCA Research](#) gave a presentation on how the geopolitical forces influencing our world will have an impact on the semiconductor industry. A fascinating view of the world from a non-partisan holistic viewpoint, Gertkin described the surprising role populism has played in the USA. Most analysts thought with Brexit populism was supposed to strike in Europe first, however Gertkin feels opposition to the EU and the EURO is well contained. Being part of the EU brings political benefits to Europeans. Threats like Russia, immigration, and terrorism are better dealt with by a united Europe. This presentation helps us better understand how populism will impact the semiconductor industry since a majority of global investment and demand is occurring in China. Consolidation of device maker, equipment companies and materials suppliers as well as China's efforts to establish a homegrown semiconductor supply chain are redrawing the map. How will the new presidential administration in the United States handle merger approvals, trade relations, and

STEM funding in the face of the new competitive landscape?

## **Automotive Industry**

[Mark Bunger](#), Vice President of Research at [Lux Research](#), gave a presentation on the *Sensors, Networks and Autonomy in Automotive*. It was an inside look at how the auto industry is being heavily impacted by a variety of technological advances as well demographic forces and its opportunities for new industry and growth. Automobiles are the most inefficient tools we use every day. For most of us we use our personal auto less than 40% of the time. The result is that they sit idle 60% of the time. [Autonomous vehicles](#), “smart” cars, and transportation vehicles have the potential to change the industry. Bunger concludes that “Imaging and Audio Sensors plus AI (artificial Intelligence) equals sensor substitution,” or in other words, there is no single processing solution to autonomous vehicles. He also concluded that at least 50% of an automobiles cost will be driven from semiconductors, sensors and programming. This whole area of industrial growth implies huge opportunities for companies like GLOBALFOUNDRIES which is producing the most advanced semiconductors in the world.

## **What is Happening in China?**

The answer is, a lot. [Handel Jones](#), Ph.D., Founder and CEO of [International Business Strategies](#), presented *Top-level Perspective on Semiconductor Industry and Key Activities in China*. Dr. Jones' key point was that technology enhancements in semiconductor and electronics will continue to be rapid. Like some of the other analysts, Dr. Jones predicted strong growth in 2017 for the industry. Dr. Jones believes from a market perspective the market has an upside particularly when it comes to mobile product sales. A large increase in design costs, which limits number of participants in advanced technologies. Furthermore, there is not a significant design cost advantage in China, according to Jones. Overall, the short-term prospects in the semiconductor industry in China are positive.

[Christopher Thomas](#), Partner at McKinsey and Company, said that consumer demand for microelectronics is extremely high and stated that one out of three smartphones in the world are sold in China. To meet long range demand, China aspires to build its own semiconductor industry through strategic investments in new fabs and acquisitions of supply chain businesses from original equipment manufacturers to chemical suppliers. Chinese players are not at the leading edge of technology and could be limited to building their own local ecosystem due to a shortage of innovative engineers and the intellectual property which would allow them to scale. Although the Chinese have over \$150 billion in venture capital to invest in industry development – engineering always wins. Thomas said that to build capacity, you need technology and to get technology – you need engineers. With talent development and wage inflation a looming issue for China, the semiconductor industry may not grow at a rate expected for the Chinese.

## **Jobs and Capital Investment**

We go to events like SEMI ISS 2017, not to listen to interesting presentations, but to have a pro-active

presence in the semiconductor marketplace and to impress upon suppliers, toolmakers, and industry decision makers our desire for them to become part of the [Saratoga County](#) business community. This is the essence and the practice of economic development in plain terms.

[See Photos from SEMI ISS 2017](#)

The [Saratoga County Prosperity Partnership](#) is leading the charge for streamlined economic development and innovation in Saratoga County, New York.



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