

FAMRC

FLORIDA ADVANCED MANUFACTURING RESEARCH CENTER



ICAMR

International Consortium for Advanced Manufacturing Research

PURPOSE

ESTABLISH A STATE-OF-THE-ART MANUFACTURING RESEARCH
AND INCUBATION FACILITY IN FLORIDA

FOCUS

ADVANCED MANUFACTURING OF EMERGING TECHNOLOGIES,
BEGINNING WITH NEXT-GENERATION SMART SENSORS

GOAL

CREATE THE WORLD'S FIRST INDUSTRY-LED CONSORTIUM IN
ADVANCED MANUFACTURING OF SMART SENSORS IN FLORIDA



FLORIDA BECOMING A GLOBAL LEADER

Modeled after a successful public-private semiconductor consortium in New York and Texas (SEMATECH), ICAMR will be able to attract a wide set of advanced manufacturing and technological supply chain corporations to the State of Florida. By creating this open innovation infrastructure and working with the first industry-led smart sensor technology consortium to attract advanced global manufacturing leaders, this enterprise will position Florida as the dominant manufacturing hub for smart sensor technology.



Industry-led semiconductor consortium called SEMATECH was formed in Austin, Texas, to restore the U.S. industry's competitiveness in the global semiconductor manufacturing market.



New York, seeing the value of the SEMATECH model, established a major partnership with the SEMATECH consortium to research and develop advanced nanotechnology production and manufacturing at state built facilities in Albany, New York. The result of this partnership has been an explosion of IT business development and manufacturing in and around the Albany facilities.

By 2007, SEMATECH had generated:

\$25 BILLION in economic activity
36,000+ JOBS

The result of this bold public-private initiative was a complete resurgence of the U.S. semiconductor manufacturing industry worldwide and the establishment of Austin, Texas as America's hub for IT innovation and manufacturing.

SINCE 2007, FLORIDA HAS LOST

75,000
MANUFACTURING

JOBS

If able to replicate the cluster in Albany, within 10 years Florida would experience:

4,605
new high-tech jobs

\$402M
high-tech earnings

19,800
total new jobs

\$1.1B
total earnings

\$106M
in state and local taxes

JOB CREATION + ECONOMIC IMPACT

HIGH-TECH SECTOR IS FORECASTED TO ADD

1.3 MILLION

JOBS

BETWEEN 2012 AND 2020

[BROOKINGS INSTITUTE]

If able to replicate similar benefits to that of Austin, within 10 years Florida would experience:

19,344
new high-tech jobs

\$2.1B
high-tech earnings

83,180
total new jobs

\$5.2B
total earnings

\$482M
in state and local taxes

[Independent study conducted by Arduin Associates]

STATEWIDE OPPORTUNITY

The statewide nature of this funding coalition reflects the experience in Austin, Texas, where the attraction of companies and creation of jobs was spread over multiple counties around the original SEMATECH facility. Investments by UCF, USF, UF, and FIU indicate confidence that facilities and job creation will be widespread.

According to a 2014 study by Angelou Economics, of the 260 semiconductor companies that have surrounded the original SEMATECH location after 20 years, nearly 50 were outside Travis County where Austin is located, generating nearly 7,000 jobs...not to mention nearly 20,000 jobs created in Dallas, approximately 200 miles away from where the SEMATECH project inspired six new facilities, including a \$3 billion Texas Instruments expansion.

DIVERSIFY FLORIDA'S ECONOMY

This project will be one of many solutions that can start to address the state's over-reliance on retail and tourism by providing an opportunity to invest in an advanced manufacturing asset that will bring research facilities, lab space, high-tech capital equipment and top-researchers to Florida.

Employment opportunities generated by the ICAMR project will include high-wage, high-skill jobs ranging from positions for certificate-level workers to those with advanced degrees, providing substantial career path potential for Florida graduates.

LEVERAGE EXISTING ASSET AND INVESTMENTS

- // UCF's advanced expertise in cutting edge sensor and solar energy
- // Medical City's growing cluster of life sciences professionals
- // Re-employ assets from Space Coast to re-energize the aerospace cluster
- // Maximize regional and state investment in SunRail by increasing ridership and connectivity
- // Repatriating advanced manufacturing firms back to the U.S. and Florida
- // Partnering with a thriving Defense Industry



A BOLD REGIONAL PARTNERSHIP IS ADVANCING AN OPPORTUNITY FOR FLORIDA TO:

- ▶ DIVERSIFY ITS ECONOMY
- ▶ ATTRACT AND GROW THESE COMPANIES + JOBS
- ▶ CREATE REGIONAL OPPORTUNITY
- ▶ LEVERAGE EXISTING ASSETS AND INVESTMENTS
- ▶ POSITION ITSELF FOR MANUFACTURING DOMINANCE
- ▶ IMPROVE OUR GLOBAL COMPETITIVENESS

ICAMR is a not-for-profit consortium based on a proven industry-led, public-private partnership model that has been established in Florida to bring together industry, government, universities/colleges and suppliers to drive advanced manufacturing of emerging technologies – initially focused on smart sensor technologies.

ICAMR will be an open innovation platform that will provide manufacturing solutions to industry partners that accelerate the commercialization of new technologies, coordinating business and economic development with the goal of generating unprecedented growth in partner company revenues and high-tech job creation in Florida.

ICAMR will be located in and will be responsible for managing FAMRC and the advanced technology commercialization that will occur in the following four program areas:

- // ADVANCED MATERIALS AND MANUFACTURING (SENSORS)
- // ADVANCED ENERGY
- // MANUFACTURING COMPETITIVENESS
- // INTERNATIONAL EMERGING TECHNOLOGIES

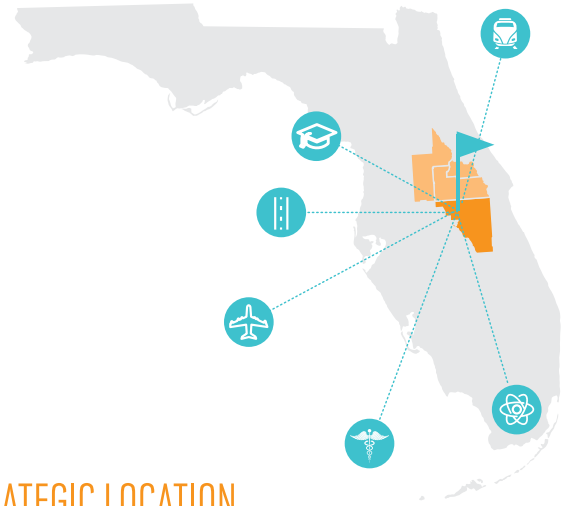
FAMRC: THE HIGH-TECH INFRASTRUCTURE POWERING OUR HIGH-TECH FUTURE

FAMRC is a major infrastructure investment that will improve the competitive positioning of the State of Florida for advanced manufacturing. It will provide an open-innovation infrastructure platform for a global center of excellence in advanced materials that will enable the commercialization of future smart sensors and the manufacturing development of other next-generation emerging technology.

FAMRC and ICAMR, the industry-led public-private consortium, will provide Florida a platform for advanced manufacturing development that will bridge the gap between advanced research at Florida's research universities and cost competitive manufacturing that will get these discoveries in the marketplace.

The facility, a 100,000 square feet, two story state-of-art R&D lab facility in Osceola County, will leverage and complement advanced semiconductor research accomplishments to date, initially focusing on the manufacturing development of novel materials critical to the commercialization of next-generation universal smart sensors. Industries that will benefit from FAMRC include:

- | | | |
|---------------------------------|----------------------|-------------------------|
| // AEROSPACE & NATIONAL DEFENSE | // ENERGY | // BANKING & SECURITIES |
| // BIOMEDICAL | // COMMUNICATIONS | // HEALTHCARE |
| // AGRICULTURE | // CONSUMER PRODUCTS | |
| // ENVIRONMENTAL | // TRANSPORTATION | |



STRATEGIC LOCATION

FAMRC is located in Osceola County, close to key transportation hubs and regional innovation partners including:

- // Orlando International Airport – 13 miles (18 minutes)
- // SunRail – 2 miles (3 minutes) to new station in downtown Kissimmee opening in 2017
- // UCF Incubator – 3 miles (7 minutes)
- // Florida Hospital Global Robotics Institute – 12 miles (23 minutes)
- // Medical City at Lake Nona – 9.7 miles (15 minutes)
- // Florida Hospital Health Village – 26.6 miles (28 minutes)
- // Valencia College Kissimmee Campus – 1 mile (2 minutes)
- // Port Canaveral – 54 miles (55 mins)
- // Turnpike – 1 mile (2 mins)

INVESTING STAKEHOLDERS

Osceola County:	\$137.9 million
UCF:	\$17 million (non-state and non-tuition sources)
The Corridor:	\$6 million
	// Start up Support \$1 million
	// Matching Grants for Research \$5 million
USF:	\$250,000
UF:	\$250,000
FIU:	\$250,000

OTHER PARTNERS

- // Enterprise Florida
- // Orlando Economic Development Commission
- // MIST Center
- // State University System of Florida

FLORIDA IS POISED TO FUEL THE NEXT DISRUPTIVE MARKET EXPLOSION

Global tech leaders such as Intel, Samsung, and TEL and business experts like Gartner, and VLSI Research agree that the next disruptive market explosion will be a "semiconductor-based" connected device enabled by the production of advanced smart sensors.

THE NEXT MEGA TREND IS THE INTERNET OF THINGS (IoT)

By connecting the internet to billions of everyday devices- ranging from fitness bracelets to industrial equipment- IoT merges the physical and online worlds, opening up a host of new opportunities for companies, governments and consumers.

AND SMART SENSORS MAKE IT ALL POSSIBLE.

Internet of Things promises trillions of dollars in economic impact and dramatic improvements in such diverse areas as healthcare, energy, transportation, logistics and manufacturing.

Bloomberg
GOVERNMENT

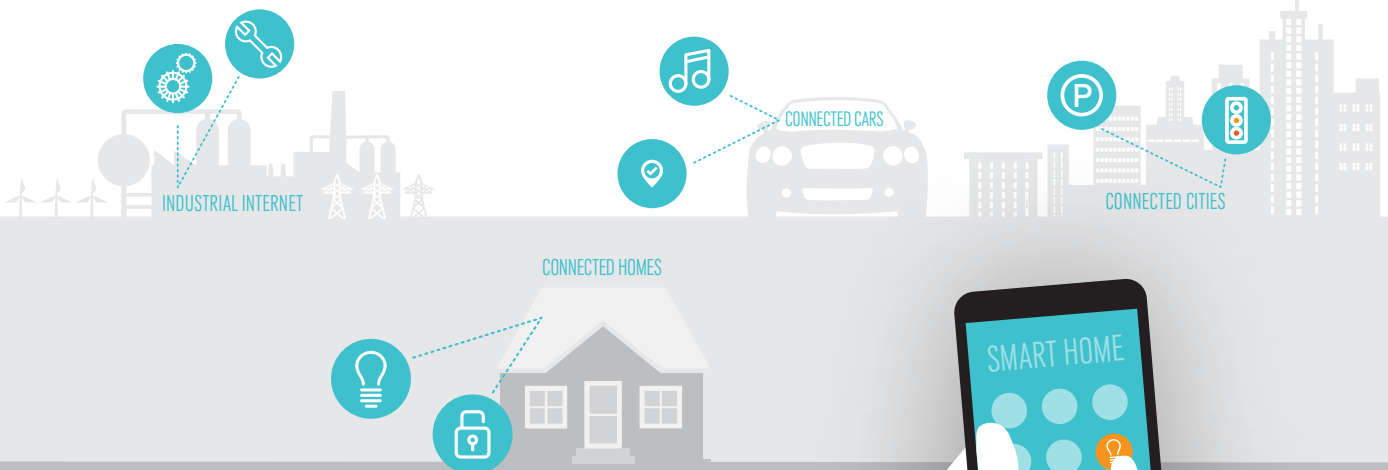
BBC R&D

Global market value for smart sensors:
2013: \$79.5 BILLION
2020: \$154 BILLION

Projected global IoT technology and services spending:
2020: \$8.9 TRILLION

WHAT ARE SMART SENSORS?

Smart sensors combine with interfacing electronic circuits enabling us to see, hear, touch, taste and smell beyond our capabilities, for instance like being able to detect things we cannot, such as deadly carbon dioxide. Combining sensors with electronics enables devices to communicate with each other and make decisions.



BY YEAR
2020

Smart sensors are expected to be the dominant product for semiconductor manufacturing.

50 BILLION DEVICES
[objects, buildings and infrastructure]
WILL BE CONNECTED BY SENSORS

