



NEW YORK STATE PHOTONICS BOARD OF OFFICERS MEETING AGENDA

March 3, 2017
2:30 – 3:30 PM
ON Semiconductor
1964 Lake Avenue
Rochester, NY 14615

PUBLIC SESSION

- 2:30 PM** **Chair Welcome & Report**
John Maggiore, New York State Director of Policy
Introduction of NYS Board Officers
- 2:35 PM** **Item #1 for Approval: Minutes**
Chair
- 2:40 PM** **AIM Photonics Update**
TAP Facility Update
2017-18 NYS Budget Request Review
Dr. Michael Liehr, AIM Photonics
- 3:10 PM** **Item #2 for Approval: AIM Photonics Funding Request 2017-18**
Chair
- 3:15 PM** **Discussion: Photonics Venture Challenge**
Chair & Board Officers
- 3:25 PM** **General Discussion & Next Steps**
Chair & Board Officers
- 3:30 PM** **Adjourn**

Next Meeting: TBD

Item No. 1

NYS Photonics Board of Officers Meeting
December 14, 2016, 11:30 AM to 12:30PM
Rochester Riverside Convention Center
123 East Main Street
Rochester, NY 14604

Board Members Present: John Maggiore, Anne Kress, ~~Alexander Cartwright~~ (AMENDMENT: Angela Wright via phone on behalf of Alexander Cartwright), Ryne Raffaele, Rob Clark, Jeff Cheek (via phone)

Other Guest Participants: Governor Andrew Cuomo, Howard Zemsky, Neil Supola, Robert Duffy, Rich Tobe, Dr. Michael Liehr and Vinnie Esposito.

Mr. Maggiore welcomed everyone and acknowledgements were made of those in attendance.

The Board Members introduced themselves.

Mr. Maggiore stated that while he was in Washington, he was introduced as the Governor's policy director to a high-level person at the Optics Society of America, which is the leading professional organization for photonics. This person commented that Governor Cuomo was doing this interesting project in Rochester, which is AIM Photonics and stated that the world is watching what is happening in Rochester.

Mr. Zemsky presented the results of the competitive TAP Facility Site Selection: ON Semiconductor located at Eastman Business Park. The process of determining the preferred site was led by Newmark Grubb Knight Frank, a nationally known site selection firm that was retained by Empire State Development to act as an independent site-selector for this facility. Newmark conducted a competitive process and considered over a dozen sites in the Rochester area. Based on criteria created by Newmark with input received from various project stakeholders, two sites emerged as the top candidates, Rochester Institute of Technology and On Semiconductor with ON being the recommended site. Factors considered in Newmark's review included costs of the capital build out and fit out, expected operational costs and the ability of each site to meet the needs of the facility including the aggressive timeline for opening the facility. Mr. Zemsky explained that ON Semi has an existing operating clean room that will allow AIM Photonics to meet the technical and timing requirements of the Department of Defense for the initiative to be successful. This site is also in Eastman Business Park which is also a strong strategic focus of the Finger Lakes area and of the Governor for many years.

Mr. Maggiore introduced Mr. Duffy who then gave an overview of AIM Photonics.

Mr. Duffy acknowledged and thanked all those that worked hard to make this happen and thanked the Governor for everything he has done for the region. He discussed the TAP Facility and stated that On Semi is a great site and packaging is one of the core strengths in the region.

There is at least \$96-\$100 million of very highly specialized tools that are on their way for when the facility opens up in 2017. Mr. Duffy noted that the facility will be a center not only for packaging, semi-conductor industry, and wafers; but also for research and so many other applications here and that it would draw great talent and brain power to supplement what the region has already. In the end this will be a huge part of the future economic development of the region.

Mr. Maggiore then invited Governor Cuomo to make any comments.

Governor Cuomo recognized Mr. Maggiore and thanked the Board for all of their work. He also recognized Mr. Duffy for all his work he has done for this region, Mr. Zemsky for his leadership at ESD and for the great job on the site selection committee. He also recognized and thanked Congresswoman Slaughter for her advocacy on the federal level. He stated this is an exciting day and this portends well for the future. Rochester, Finger Lakes, Upstate New York had a bad period at the end of the manufacturing era and didn't compete with cheap manufacturing so companies moved overseas where they could get cheap labor. Governor Cuomo stated that the regions paid the price, which was not helped with the practices of the State of New York that actually accelerated the exit (high taxes, anti-business environment). Governor Cuomo stated that we are now on the other side of that curve as New York realized the mistakes, brought spending down, and taxes down to an historic low across the state. The manufacturing tax in this state is now zero. This is now an advanced manufacturing economy. The Governor stated that the future is about brain power, innovation, marriages with institutes of higher learning and developing that technology out of R&D in educational facilities and quickly applying it to a commercial transaction. That's where New York excels and that's where the State is actually ahead of the curve. Rochester is going back to what made Rochester great in the first place. The engineering ability and technology that made RIT, Kodak, Bausch & Lomb, and Xerox, that is the photonics industry today and tomorrow. Governor Cuomo concluded his remarks by noting that the region has a bright future because it has the necessary skills, workforce, and institutions of higher learning and because the State has taken care of the negatives that have hindered the upstate region.

A short break was taken.

Mr. Maggiore reconvened the Board meeting and introduced Mr. Tobe.

Mr. Maggiore had the members on the phone introduce themselves: Jeff Cheeks (a new Board Member) and Alex Cartwright's representative Angela Wright, the Assistant Vice Chancellor for Government Relations for both SUNY and the Research Foundation. He also introduced Bahgat Sammakia (who was not present) who replaced Paul Tolley and Ronald Goldblatt with Jeff Cheek.

Dr. Liehr gave a brief update on the successes had in photonics, and stated that it's important that the institute is fully up and running.

In the first year there were 14 active projects and a lot are nearing the end. There are 12 projects approved for next year and they are in the process of writing project award agreements for them. It is expected that in 2017 AIM will hit its stride and be at full speed.

Dr. Liehr noted that they have met their spending requirements and that DOD is actively looking at it. There are now 60 members that have signed on. It is not about the numbers of members but the kind of members who want to significantly engage in this effort. We are in the final stages of negotiating contracts with 5 Tier 1 industry partners.

The elements we want to put in place here are the Wafer Scale (attaching metallization, dicing it up, packaging) and Chip scale test, assembly and packaging (attaching a fiber if it needs it and packaging). These elements cost about 70 to 80% of the photonics assembly. It is important for us to focus on these two elements to see how we can reduce costs.

Dr. Liehr then discussed the status of the existing budget for 2016-2017.

Capital :

Tools/equipment and Installation - \$58M

High Speed Optical Packaging Technology License -- \$10M

Operations & Maintenance:

Education and Workforce Development -- \$1M

R&D Project State Match -- \$2M

AIM Operating Wafer, Test Package, Assembly -- \$7M

Remaining Spent Items -- \$28M [Cleanroom Configuration, Building Utilities Upgrade, Workspace Upgrades, 5 Year Site Payment (\$3.5M), Wafer-level Packaging Equipment, Building-driven Contingencies (\$1.5M) for Ceiling Height, Vibration Reduction, Tool Delivery/Installation, and General Project Contingency.]

Acquiring the packaging technology license from IBM by April 1; Facility preparation complete by May 31; Equipment purchases and personnel hiring and training to start in June; Equipment installation and qualification complete by September 30; and Initial process development by December 31.

The proposed NYS Budget, in support of AIM Photonics programs is \$81 million and covers the period of April 1, 2017 to March 31, 2018. This is the second tranche of NYS expenditures. The summary of the 2017-2018 expenditures is as follows:

\$71 million for Capital Tools and Equipment

\$10 million for Operating and Maintenance

\$81 million Total

There were no questions or comments made after the presentation. A vote was not taken on the budget as Mr. Clark suggested that the budget be presented well in advance of the vote. It will be voted on at our next meeting. The budget is being presented at this meeting.

Mr. Maggiore stated a vote will be taken on the resolution for the presentation that was given pertaining to the Site Selection for the TAP Facility.

Mr. Esposito read Item #2: Resolution to Approve the TAP Facility Preferred Site of ON Semiconductor site located at 1964 Lake Avenue, Rochester as the preferred site to locate the AIM Photonics Test, Assembly and Packaging Facility ("TAP").

RIT, Ryne Rafaelle recused from voting as they were a finalist.

Dr. Kress made a motion to vote on this resolution and Mr. Clark seconded the motion.

All members approved the motion with no nays or abstentions.

Mr. Maggiore then stated Item No. 1 will need to be approved: Approval of Minutes from June 22, 2016.

A motion to approve the minutes was made by Mr. Clark and seconded by Dr. Kress. All members approved the minutes with no nays or abstentions. Minutes were approved.

Mr. Maggiore introduced the two new members, Jeff Cheek and Bahgat Sammakia that have replaced Paul Tolley and Ronald Goldblatt. He then opened the floor for comments and questions. There were no questions or comments were made.

A motion was made by Dr. Kress to conclude the meeting which was seconded by Mr. Clark. All members approved the motion with no nays or abstentions.

The meeting was adjourned.

Next Meeting: To be determined.

Item No. 2

Proposed AIM Photonics Budget for 2017-18

- The proposed NYS budget, in support of AIM Photonics programs located in NYS, is **\$81 million**
- The proposed budget covers the period April 1, 2017 through March 31, 2018
- The 2017-2018 proposed budget is the second tranche of NYS expenditures. Including this proposed budget, the NYS expenditures, through March 31, 2018 will be:
 - \$106 Million (April 1, 2016 – March 31, 2017)
 - \$ 81 Million** (April 1, 2017 – March 31, 2018)
 - \$187 Million
- The summary of the 2017 – 2018 expenditures is (see table for details):
 - \$71 Million for Capital Tools and Equipment
 - \$10 Million** for Operating and Maintenance
 - \$81 Million Total**

Funding Request Item	Purpose	[\$M]
Capital		
Test, Assembly & Packaging Tools/Equipment and Installation 2016 Carry-Over	Continued Installation of Base Capability	\$ 10
Test, Assembly & Packaging Tools/Equipment and Installation	Additions Capability	\$ 25
Wafer Fab & MPWA Tools/Equipment	Improvement to Capability, Additions to Capacity, Reduction of Process Cycletime	\$ 30
Bio Safety Lab Tools & Equip	Additions to Capability	\$ 1
Test, Assembly & Packaging Manufacturing Execution System (MES)	Addition to Capability	\$ 5
TOTAL CAPITAL		\$ 71
Operations and Maintenance		
Education and Workforce Development (UR \$0.5M, RIT \$0.5M)		\$ 1
R&D Project State Match (UR 1.0M, RIT \$1.0M)		\$ 2
AIM Operating Wafer, Test Package, Assembly Budget		\$ 7
TOTAL O&M		\$ 10

March 3, 2017

NEW YORK STATE PHOTONICS BOARD OF OFFICERS – Approval of AIM Photonics 2017-18 Budget

BE IT RESOLVED, that upon the basis of the materials presented at this meeting, the New York State Photonics Board of Officers (the “Board”) hereby approves the AIM Photonics 2017-18 budget; and be it further

RESOLVED, that the Board recommends and approves that copies of the approved AIM Photonics budget be provided to the AIM Photonics Leadership Council and all other interested parties.

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