AIM photonics

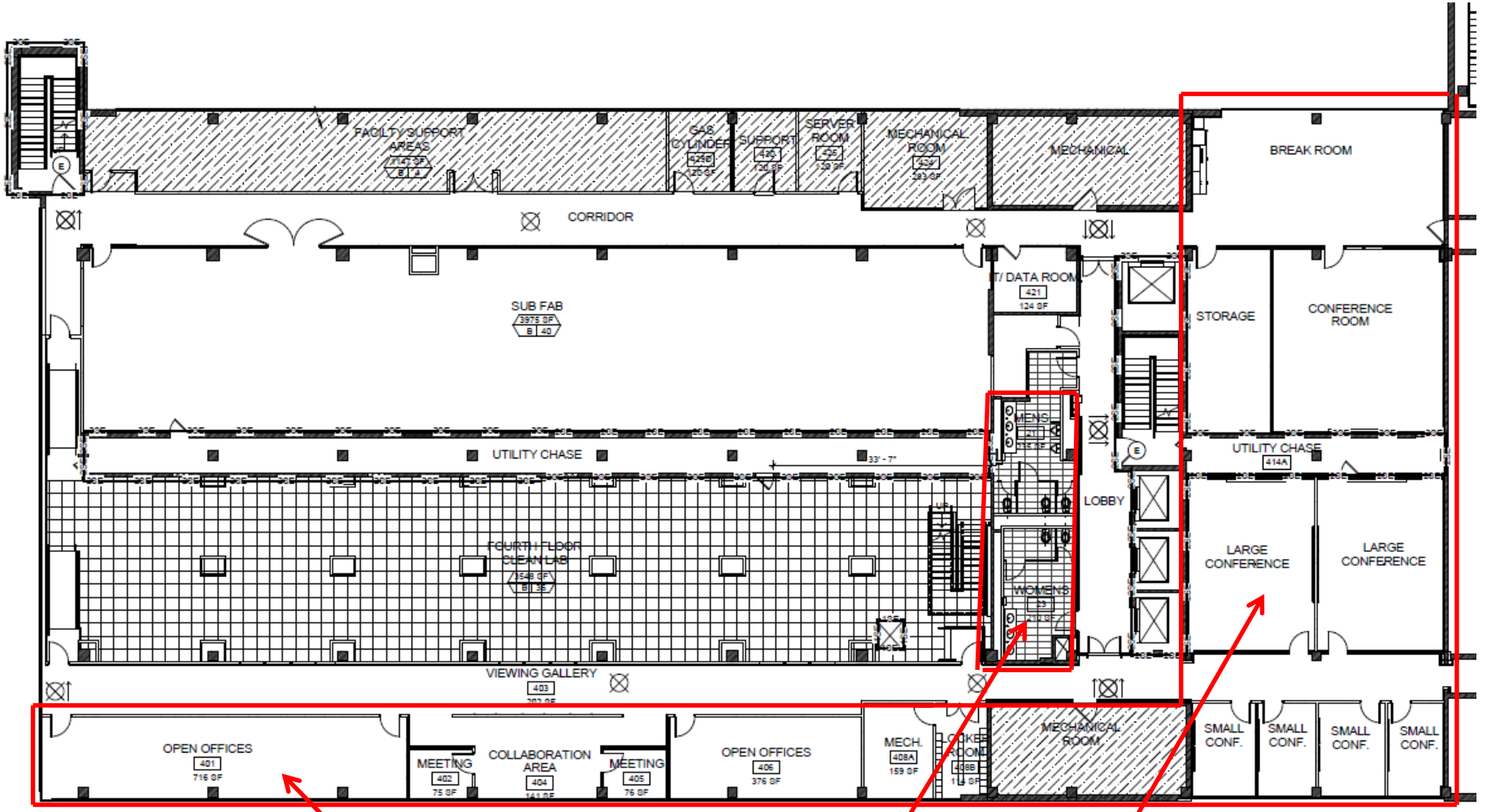
American Institute for Manufacturing Integrated Photonics

NY Photonics Board Meeting
TAP Update and
2018 Budget Request

March 2, 2018

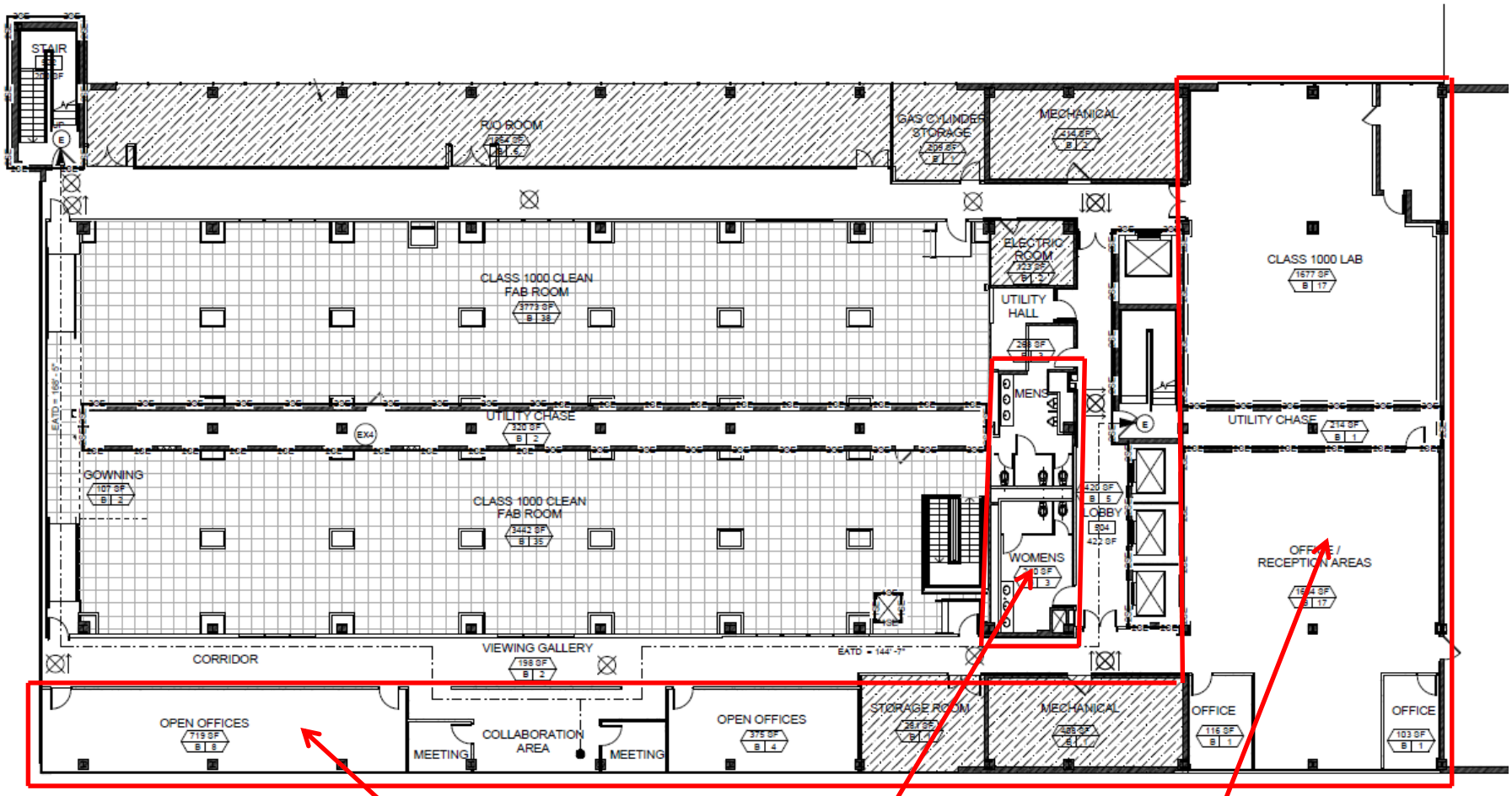
Thursday, March 01, 2018

TAP 4th Floor



Phase I – Offices/Conf. Rooms/Bathrooms

TAP 5th Floor



Phase I – Offices/Conf. Rooms/Bathrooms

The Team

Design/Build

LeCHASE CONSTRUCTION

SWBR

BERGMANN ASSOCIATES

ON Semiconductor®

Tool Install

THE PIKE COMPANY
Building Relationships Since 18

DPS

TAP Update

- Construction of facility continues
  - *Offices/Conf. Rooms/Break area and bathrooms are substantially complete*
  - *Labs/Cleanrooms will be substantially complete March 31st (Work will continue on some utilities)*
- Process Tools on order or in the process of being ordered (> 100 tools slated for TAP)
  - SUNY Poly – UR – RIT all participating in tool procurement process
  - Tools began arriving 1Q2018
- Tool Installation
  - Pike/DPS contract in negotiation
  - Tool Install to begin early April *(Installation of services for specific tools)*
  - Installation of tools follows tool services

	Nov 2017	1Q2018	2Q2018
Offices Complete and Available	Available		
Labs Ready to Receive Tools			
Cleanrooms Ready to Receive Tools			
Tool Installation			

Potential Customers *(Large and SME's)*

Customer	Work	Estimated Timing
A	General Test, Assembly & Pkg (Uses Considerable Capacity)	End of 3Q2018
B	Die Attach	4Q2018
C	Die Attach/Electronic Pkg	1Q2019
D	Laser Attach/Fiber Attach/Electronic Pkg	2Q2018
E	Die Attach/Fiber Attach/Electronic Pkg	TBD
F	Laser Attach/Fiber Attach/Electronic Pkg	4Q2018
G	Fiber Attach/Laser Attach	TBD
H	Wafer Scale Pkg (Utilizes moderate capacity)	4Q2018
I	Laser Attach	2019/2020
J	Die Attach	TBD

2018 NYS Budget Proposal - AIM Photonics

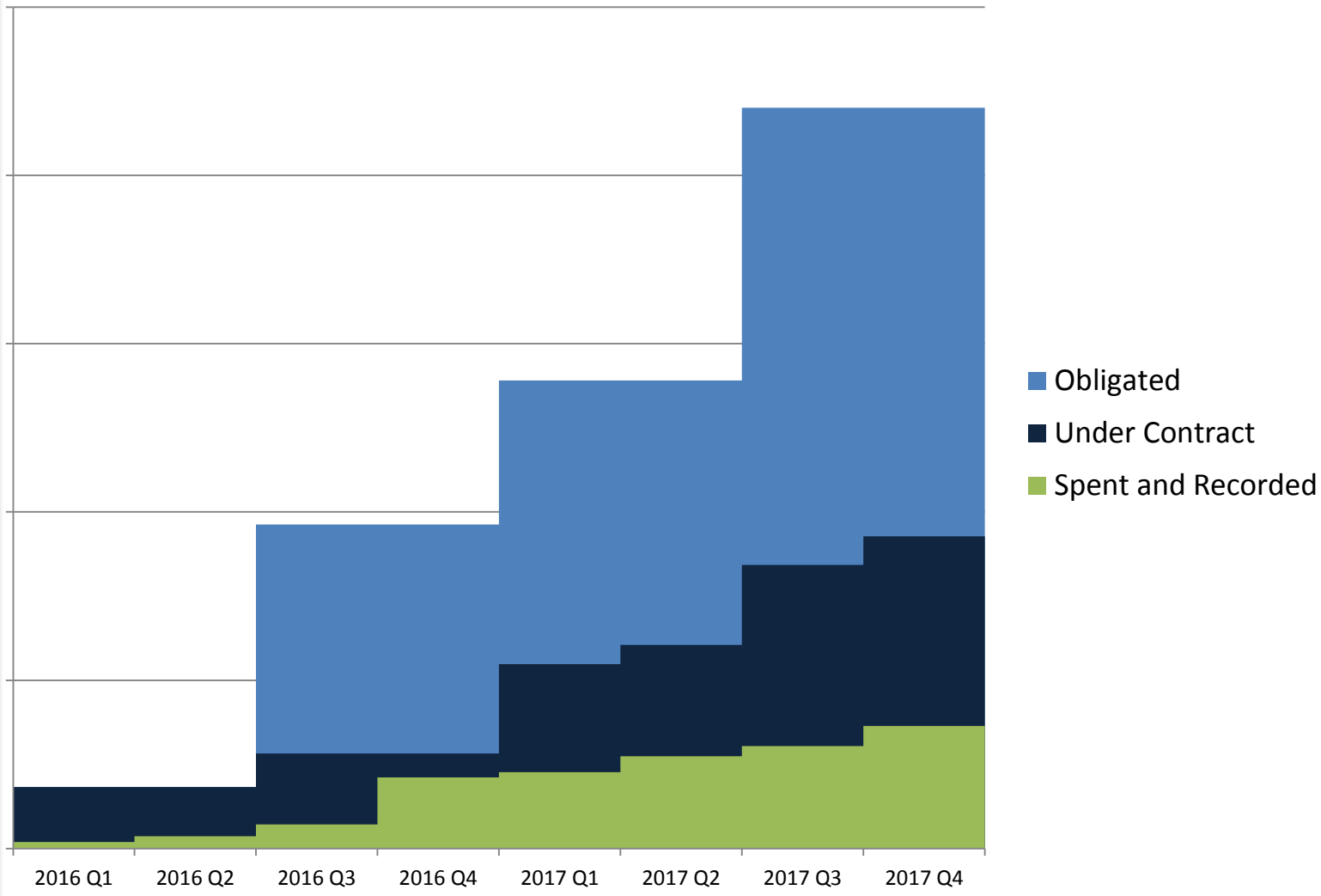
- The previous budgets allowed to establish the facility and buy the equipment set for the TAP facility

  - *TAP facility choice and build-out*
  - *Full equipment set for wafer scale packaging*
  - *Photonic packaging and high speed test*
  - *Floor control system (line logistics and analysis)*

$106 Million	April 1, 2016 – March 31, 2017
$ 81 Million	April 1, 2017 – March 31, 2018
$187 Million	

$ 63 Million	Remaining
$250 Million	

Spending Status of Cost Share (incl. NY)



2018 NYS Budget Proposal - AIM Photonics

- The 2018 budget request completes the State commitment
  - *Remaining operational funds (UR, RIT, TAP start-up operations)*
    - *3 years @ $10M/year*
  - *Minimum reserve (1%)*
  - *A proposed $30M incentive to attract companies to the TAP facility and the business park, with the following conditions:*
    - *AIM membership*
    - *Integrated photonics*
    - *Users of TAP (and wafer capability)*
    - *Company match criteria*
    - *Minimum company maturity*

$ 30 Million	Operational cost 2018 – 2020
$ 30 Million	Photonics Attraction Fund
$ 60 Million	

$ 3 Million	Remaining reserve for capital equipment in Rochester

Photonics Attraction Fund

- Proposed by Governor Cuomo in the 2018 State of the State Excelsior Agenda
- $30 Million dedicated fund to attract companies with integrated photonics technologies/products to locate manufacturing operations in greater Rochester
- Projects will be individually funded by Empire State Development
- Projects will be evaluated based on private investment and job creation, among other potential economic benefits to AIM and the region's OPI industry cluster
- Funding is part of the State's $250M commitment to AIM Photonics
- Companies receiving funding will be required to have a formal membership/agreement with AIM Photonics, ideally with a direct benefit to the TAP facility

AIM photonics

American Institute for Manufacturing Integrated Photonics

NY Photonics Board Meeting
TAP Update and
2018 Budget Request

March 2, 2018

Thursday, March 01, 2018

Appendix: Education & Workforce Development

- **AIM Summer & Winter Academies**
  120+ attendees
  - –"World class, cutting edge and the state-of-the-art content on the subject matter."
  - –"For me, the Summer Academy at MIT was one of the best courses in Integrated Photonics I have seen. The content was excellent, original and absolutely not banal."
- **AIM Photonics Technical Meetings**
  Spring & Fall Meetings at MIT & SUNY Poly:
  - –160 experts attended the spring meeting and 200 attended the fall meeting
  - –Ratings: Meeting was "extremely positive" and Roadmap "extremely effective"
- **Roadmap**
  800+ downloads of the Roadmap
- **Future Leaders Program**
  11 rising seniors from across the country participated in research internships at MIT, SUNY Polytechnic Institute, the University of California Santa Barbara and the University of Arizona.
  - –"The hands on and practical experience made me more confident to pursue this field."
  - –"The research itself and the people I met through the internship were the most valuable experiences to me."
- **Internship Matching Program**
  Roughly ten rising college seniors will be matched to companies with summer internship openings in photonics or integrated photonics
- **LEAP (Lab for Education and Application Prototypes)**
  Constructing LEAP network, with sites now at WPI/QCC and MIT, which will tie into the SUNY Poly and Rochester facilities
  - –Four industry outreach workshops
- **Teaching Packages, Self-Paced Online Courses**
  - –13 downloadable teaching modules that will be adapted into online courses
- **MITx Online Courses**
  - – Instructor-led online courses in integrated photonic design, and in the future, testing & packaging
  - – Opportunity to learn how to make an AIM Photonics chip and then test/package it at the TAP facility