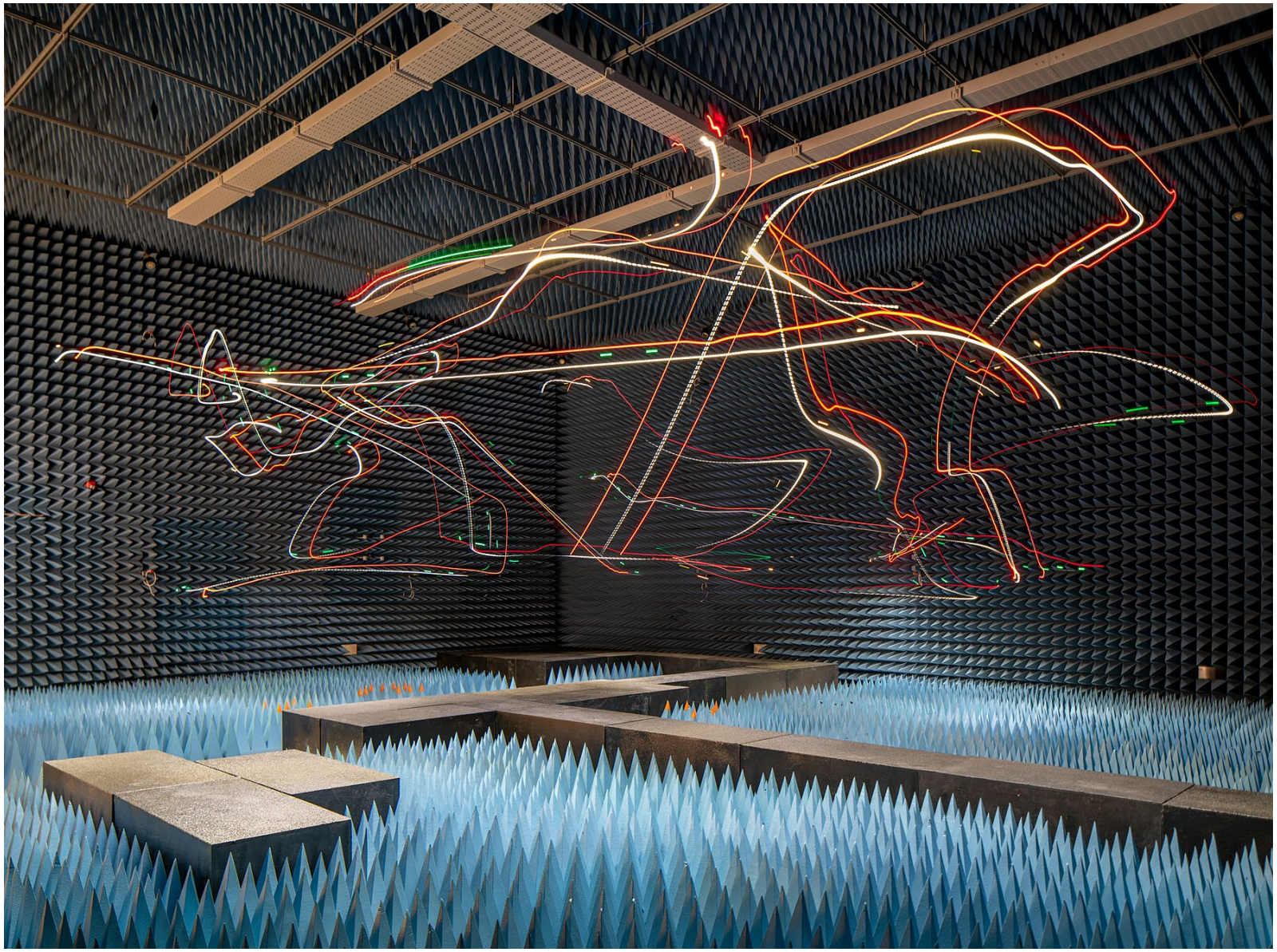
The Innovation Campus

Bridging the Gap Between Higher Education and Industry

FEFPA Winter Conference
January 29-31, 2025



JONES ARCH accenture

Introductions

Rick Jones
President

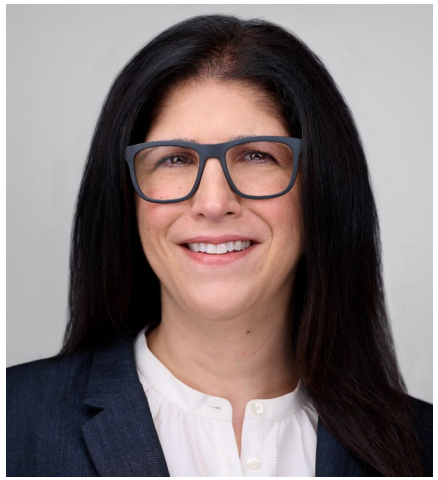
Jones Architecture

Design • At Your Service

Many architecture firms talk about "balancing" design and service, as if they are walking a tightrope where one wrong move puts the whole program at risk of freefall.

We see it differently. The best architecture is not binary; there is no need to choose between beauty and service, between what the client needs and the designer wants, or vice-versa.

At Jones, service and design are symbiotic, each feeding the other in an exercise of synthesis where it becomes impossible to know when design begins and service ends — and vice-versa.



Andraya Lombardi
SVP

Accenture

Strategic Growth and Partnerships Management Services

Infrastructure and Capital Projects

Together, We Are Reinventing

As industry leaders in managing the planning, design, and construction process for education clients, Accenture Infrastructure & Capital Projects delivers innovative and sustainable solutions that inspire learning and foster growth. We offer comprehensive, end-to-end services tailored to meet each educational institution's unique needs.

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AIA CES Provider Statement

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AIA CES Provider Statement

Approved for one (1) AIA LU
Provider #10103869
Course #2

rick@jonesarch.com

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Innovation campuses partner faculty and students with private sector industry, corporate partners, and governmental agencies to fuel entrepreneurial start-up endeavors and cutting-edge research. Shared resources foster ideas unbounded from financial constraints and traditional academic norms.

Learning Objectives

1. Explore potential partnering opportunities between higher education and industry through research initiatives, preparing students for the workplace, and shared revenue streams.

2. Rethink off-campus buildings and infrastructure otherwise thought to be obsolete or destined for demolition and consider opportunities or uses that can bring unique value to the University.

3. Consider satellite campuses as a shared space between the University and private industry. Discuss how procurement, design process, and construction differ between these worlds.

4. Discuss the pitfalls and opportunities of a core and shell approach to laying the groundwork for future lab and research fit-outs, primed for use by higher education and corporate partners.

Agenda

The Idea of Innovation

Why Partner?

Case Studies

- Innovation Campus at Burlington MA (ICBM)
- Venture Creation Center
- Drone Lab

Challenges and Lessons Learned

Applying Knowledge, What's Next?

Discussion

What is Innovation?

1. a new idea, method, or device: **novelty**
2. the introduction of something new

What is Innovation?

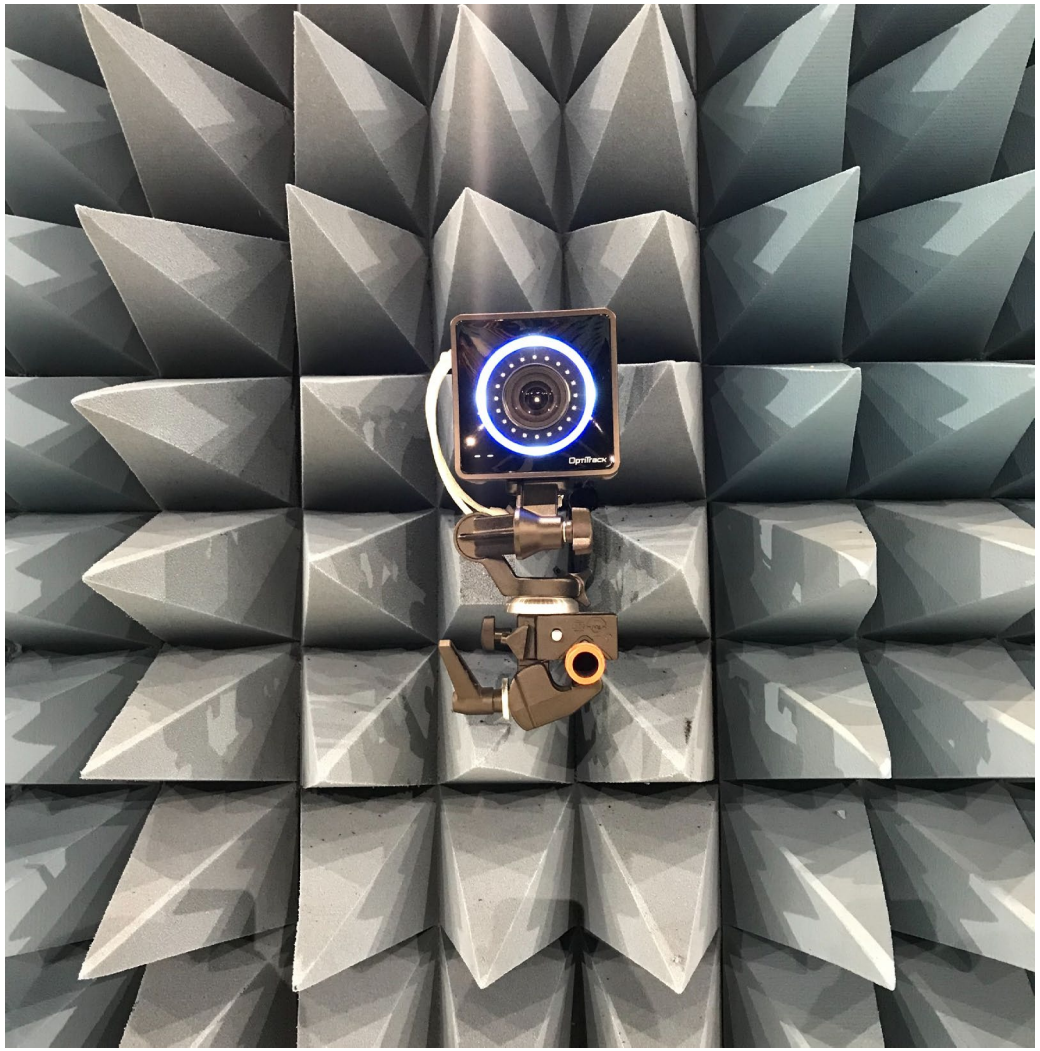
invention creation conception design brainchild contrivance gadget contraption device product concoction gizmo imagining fantasy

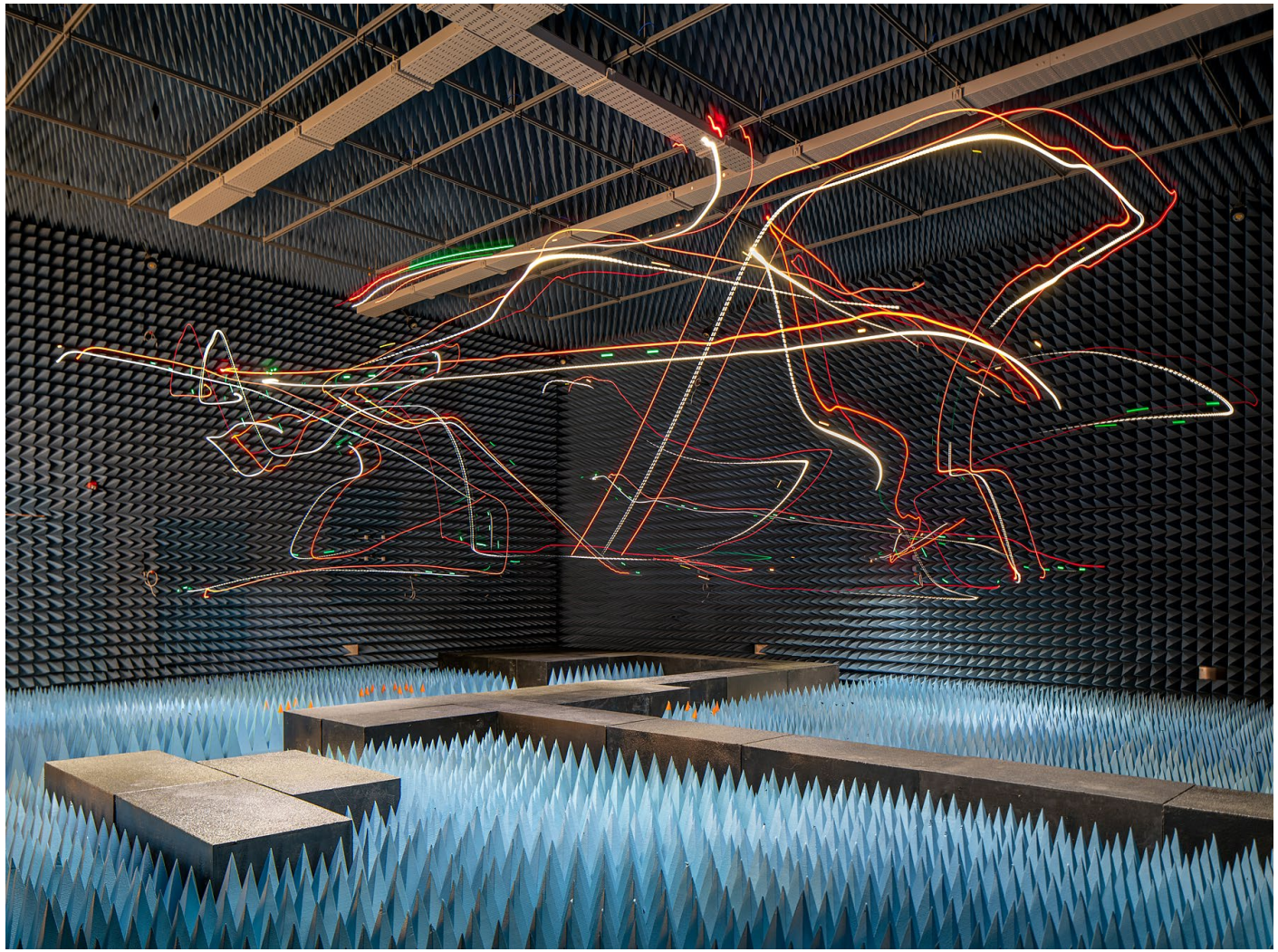
What is not Innovation?

reproduction imitation copy duplication clone facsimile replica

What does innovation mean to you?

What does Innovation look like on campus?





What does Innovation look like on campus?

What does Innovation look like on campus?

What does Innovation look like on campus?

What does innovation look like on YOUR campus?

Why Campuses partner with Industry?

1. Accelerate innovation through partnership.
2. Real world research and workplace experience for students.
3. Create an entrepreneurial environment where ideas evolve from classroom or lab to execution and products.
4. Move faster than academic policy and infrastructure and policy will allow.
5. Tap into alternative funding mechanisms.

Why Industry partners with Campuses?

1. Accelerate innovation through partnership.
2. Research at the bleeding edge can be conducted in a low-risk, low-cost environment.
3. Create a pipeline of potential employees.
4. Support rapid response R&D Projects.

Case Study

Northeastern University
Innovation Campus at Burlington MA (ICBM)

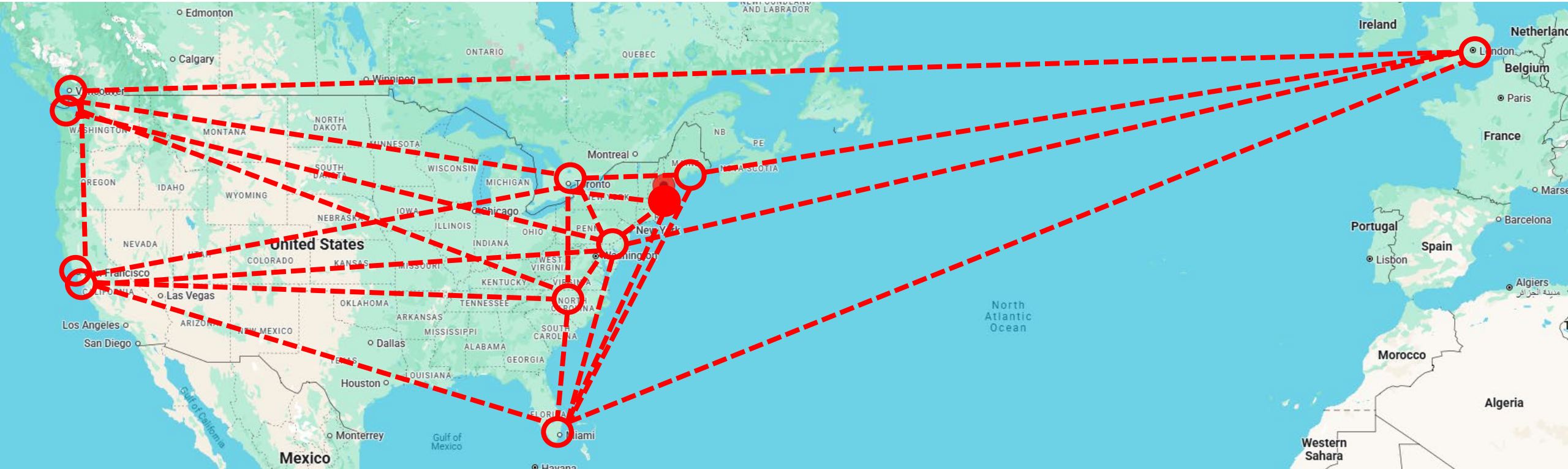
Case Study

Northeastern University, Innovation Campus at Burlington, MA (ICBM)

13 Global Campuses (and counting)

Each of Northeastern University's 13 campuses offers unique experiences, opportunities, and connections that enrich and inform your learning and research. And no matter which location you call home, you'll find opportunities to collaborate, earn experience, and solve problems throughout our campus system.

Arlington, VA
Boston, MA
Burlington, MA
Charlotte, NC
London, England
Miami, FL
Nahant, MA
Oakland, CA
Portland, ME
Seattle, WA
Silicon Valley, CA
Toronto, Canada
Vancouver, Canada



Case Study

Northeastern University, Innovation Campus at Burlington, MA (ICBM)

Boston, MA

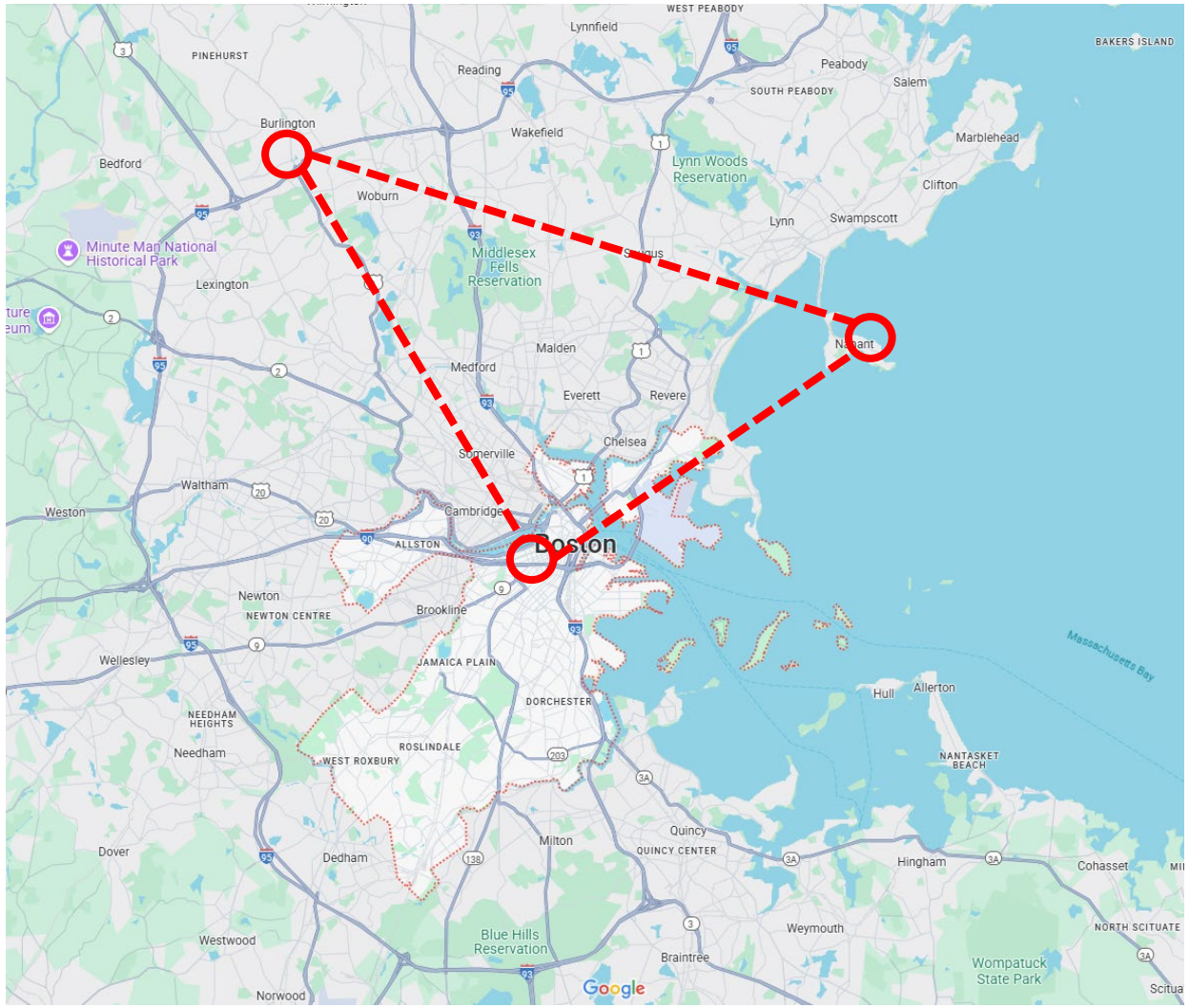
The founding campus and the heart of our global research enterprise. Boston is a comprehensive hub for learning and discovery in a dynamic, urban community.

Burlington, MA

The base for national security and defense research, and the headquarters of the Kostas Research Institute for Homeland Security. Where innovation is accelerated through flexible R&D Partnerships across industry, government, and academia.

Nahant, MA

Home to the Coastal Sustainability Institute. Where cutting-edge research builds resiliency among coastal communities facing the effects of climate change.



Case Study

Northeastern University, Innovation Campus at Burlington, MA (ICBM)

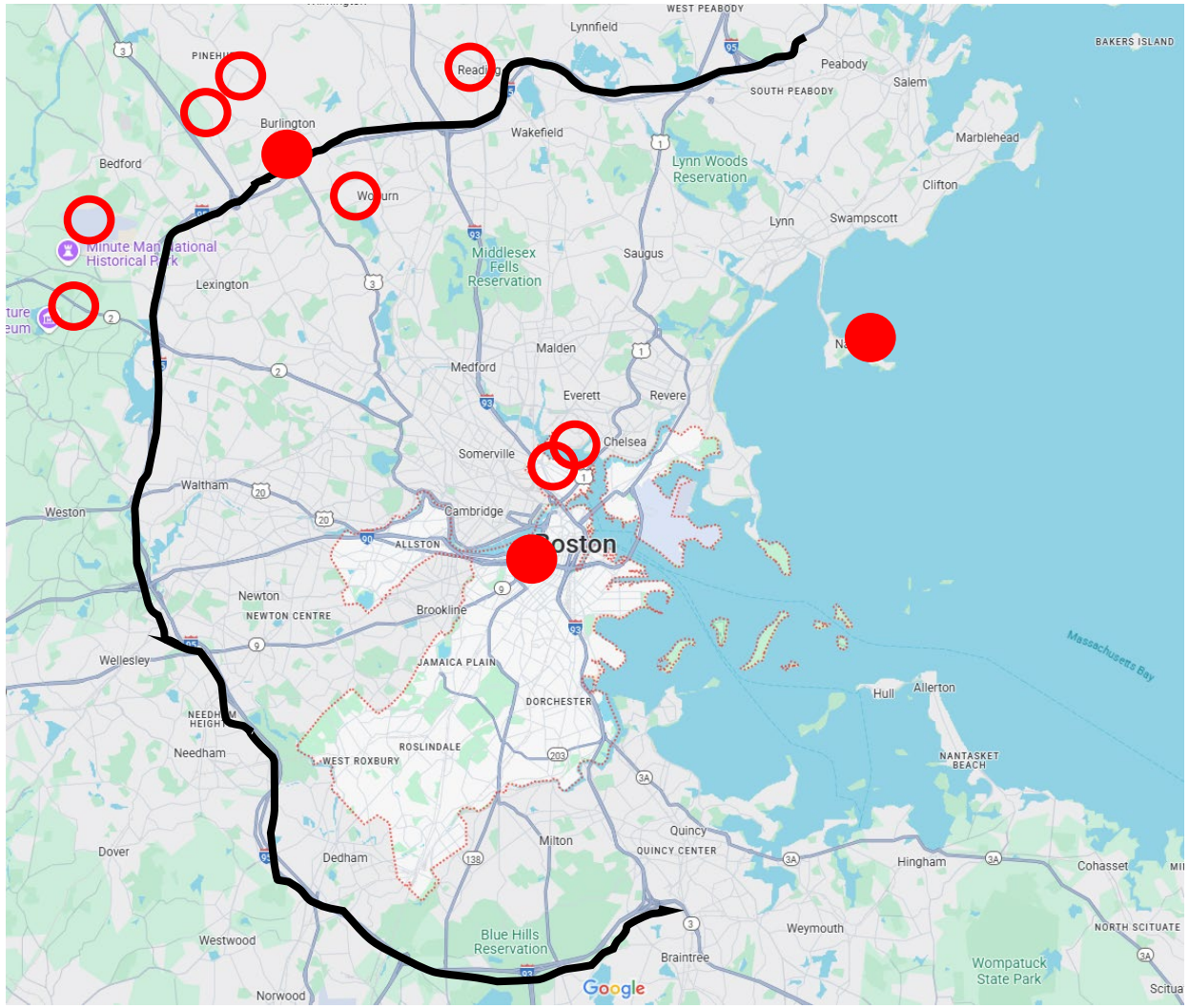
Strategic Location for “Tech Loop” Partners

On Site:

- Matrix Space
- BATL – Biopharmaceutical Training Lab
- Institute of Wireless Things (WIOT)
- AeroVironment (former)
- Raytheon (former)
- TSA
- VRC Industries
- Rogers Corporation (former)
- Army Research Labs

<30 Minutes:

- Google
- Hanscom Air Force Base
- Microsoft
- MIT Lincoln Labs
- MITRE
- US Army Natick Soldier R&D Center
- Etc!



Case Study

Northeastern University, Innovation Campus at Burlington, MA (ICBM)

Adaptive Reuse - Origins

Rural / Farm

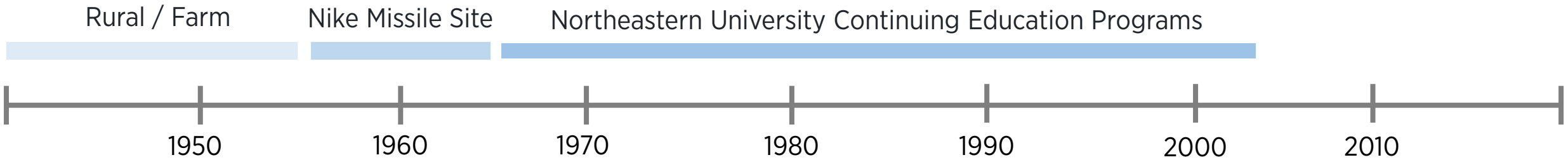
Nike Missile Site

1950 1960 1970 1980 1990 2000 2010

Case Study

Northeastern University, Innovation Campus at Burlington, MA (ICBM)

Adaptive Reuse – Night School



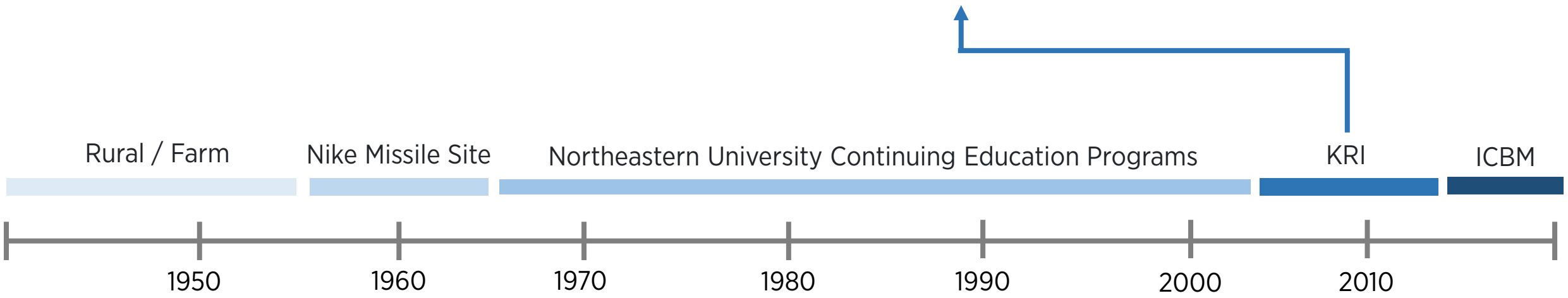
Case Study

Northeastern University, Innovation Campus at Burlington, MA (ICBM)

Adaptive Reuse – A Pilot

Kostas Research Institute

- Materials Testing
- Structural Testing
- Additive Manufacturing
- Nano Manufacturing
- Data Analytics and Modeling
- Network Science
- Cybersecurity

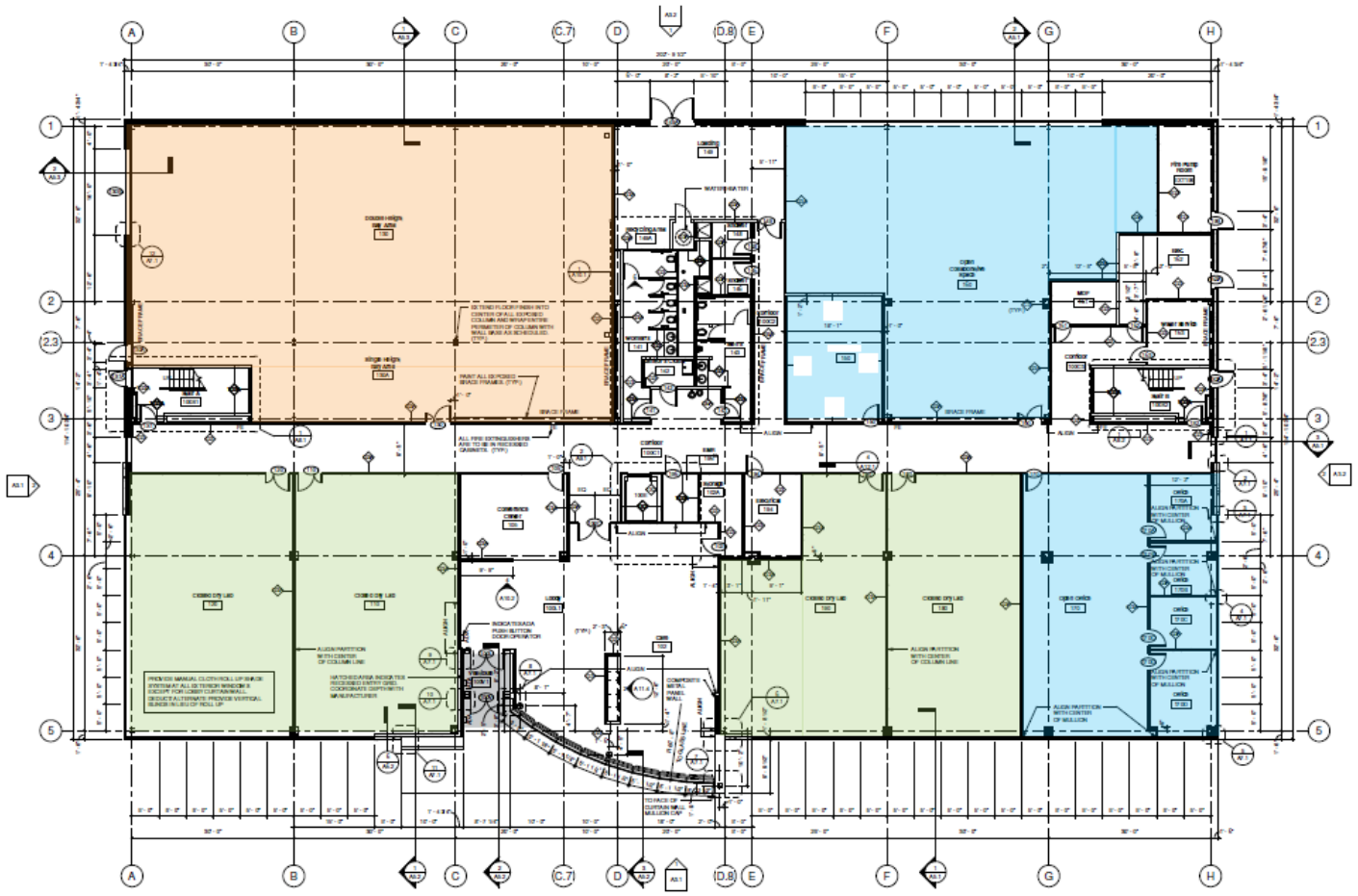


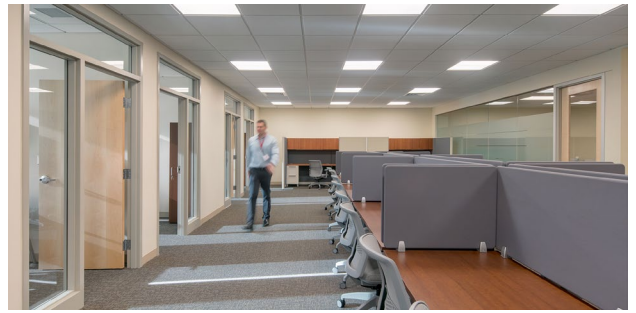
Case Study

Northeastern University, Innovation Campus at Burlington, MA (ICBM)

Purpose-Built Core and Shell Concept (2011)

High Bay ***Dry Lab*** ***Office***





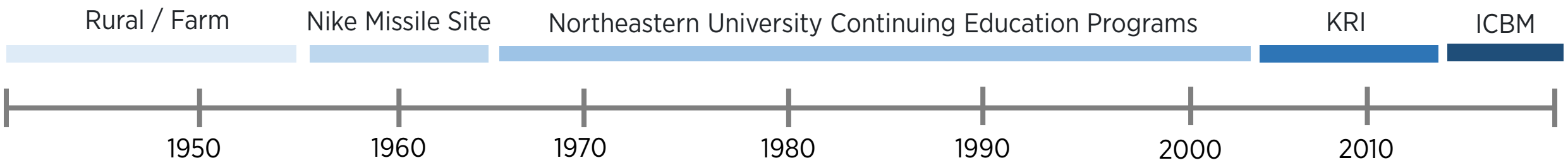
Case Study

Northeastern University, Innovation Campus at Burlington, MA (ICBM)

Adaptive Reuse – A Pilot (part 2)

Venture Creation Center
Barracks Building

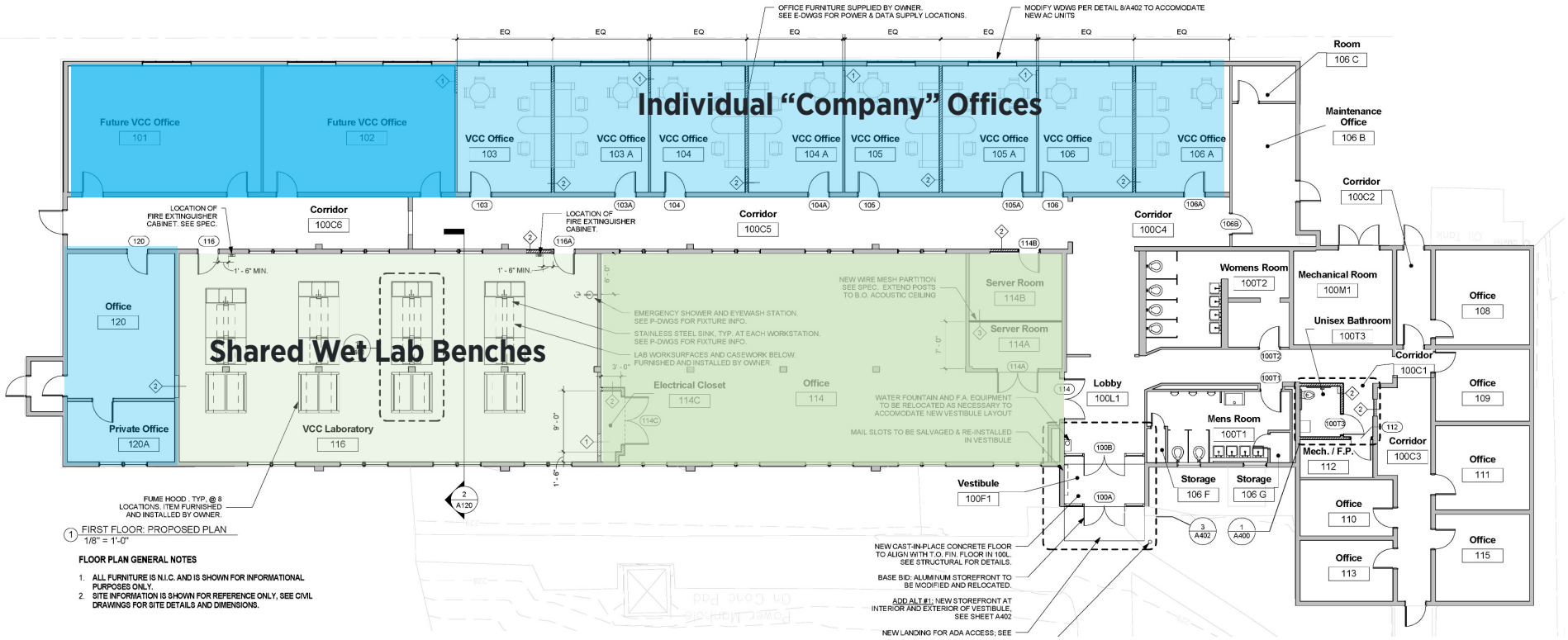
- Build a Private Sector Network
- “Start-Up” Labs
- “Bill Gates’ Garage”
- Shared Resources



Case Study

Northeastern University, Innovation Campus at Burlington, MA (ICBM)

“Retro” Core and Shell
Venture Capital Creation Center

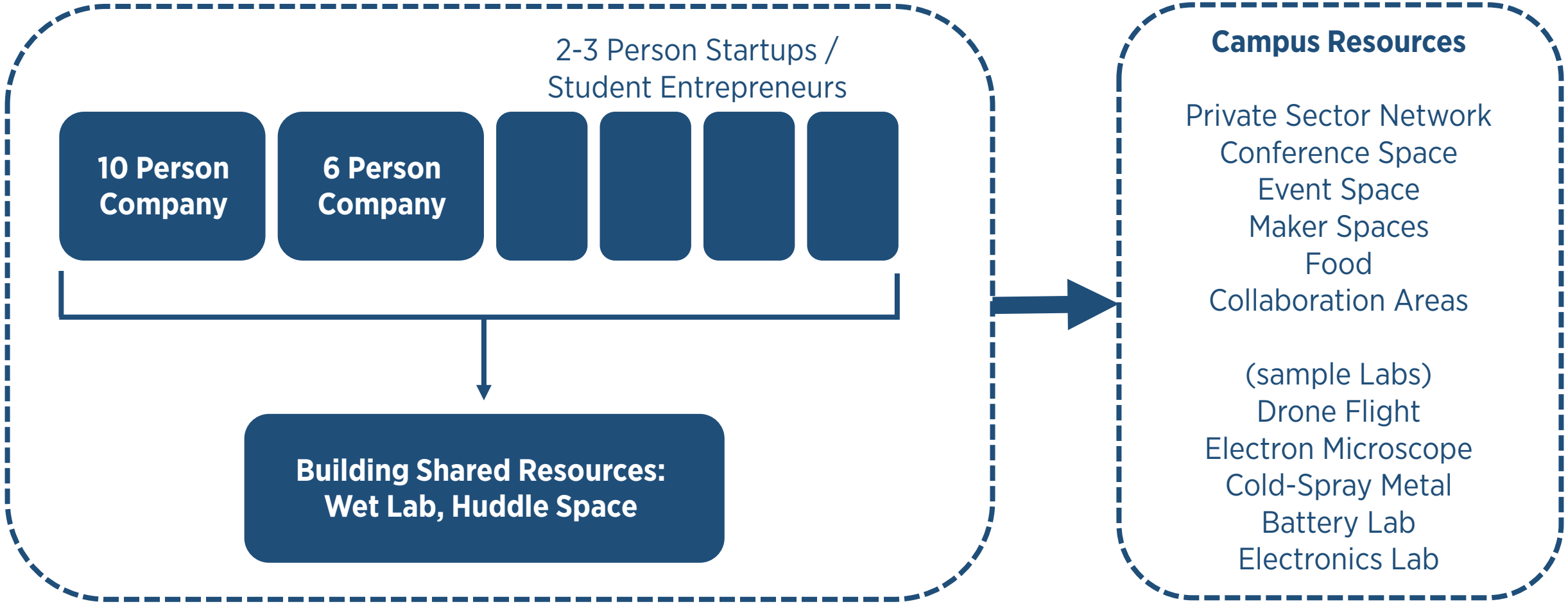


Office
Future Office
Lab
Future Lab

Case Study

Northeastern University, Innovation Campus at Burlington, MA (ICBM)

“Retro” Core and Shell
Venture Capital Creation Center



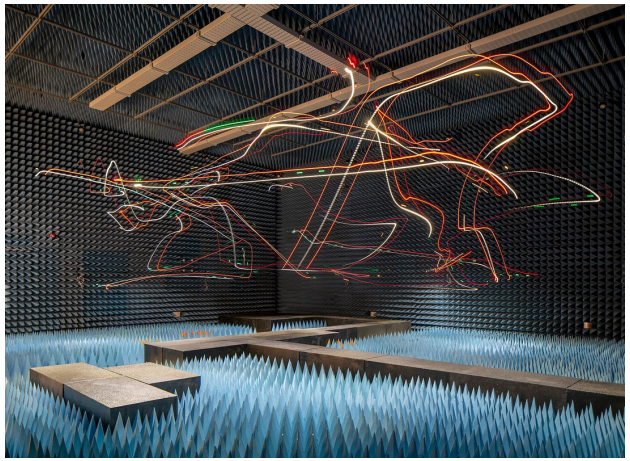
Case Study

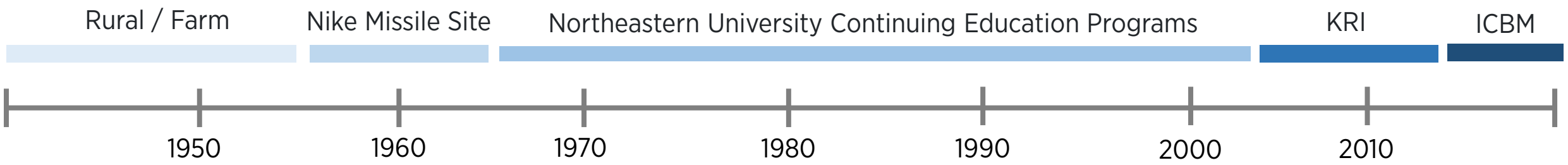
Northeastern University, Innovation Campus at Burlington, MA (ICBM)

Adaptive Reuse – A Pilot (part 3)

Elliot Hall

- Core-and-Shell Lab White Box
- Shared Resources (maker, 3d printing, collaboration space, offices, etc).
- Prepare Spaces to be Flexible on the Fly to support changing research needs.





Case Study

Northeastern University, Innovation Campus at Burlington, MA (ICBM)

“Retro” Core and Shell
Elliot Hall

Scaling UP

ELLIOT HALL VCC PHASE II: CONSENSUS STRATEGY

JONES

Attachment 02A: 100 Level Keyplan - Lab & Office "Spinout" Space - from 5/17/18 presentation.

THIS SHEET NOT FOR ESTIMATE - DESCRIPTION ONLY

(Page 1 of 5)

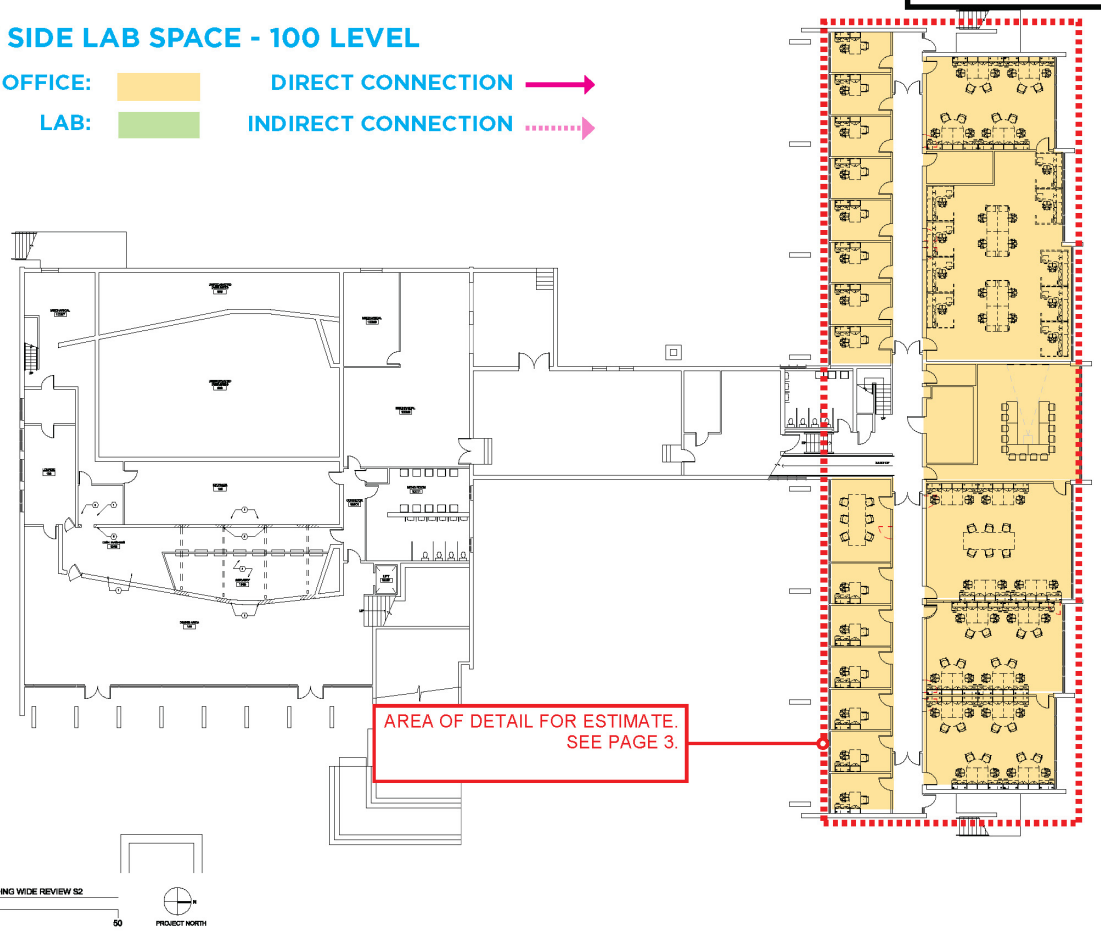
SOUTH SIDE LAB SPACE - 100 LEVEL

OFFICE:

LAB:

DIRECT CONNECTION

INDIRECT CONNECTION



SPACE TYPE BREAKDOWN

100 LEVEL:		**7,800 SF.**
OFFICE:	7,800 SF.	
LAB:	0 SF.	
200 LEVEL:		**8,600 SF.**
OFFICE:	4,440 SF.	
LAB:	4,160 SF.	
TOTAL NORTH WING:		**16,400 SF.**
OFFICE:	12,240 SF.	**75%**
LAB:	4,160 SF.	**25%**

ADVANTAGES:

- LAB LAYOUTS ARE RIGHT SIZED, CLEARANCES ARE GENEROUS AND LAYOUT IS EFFICENT

DISADVANTAGES:

- LAB SPACE BELOW 30% MIX
- REQUIRES DEMOLITION OF WALLS IN LAB SPACES.

Case Study

Northeastern University, Innovation Campus at Burlington, MA (ICBM)

“Retro” Core and Shell
Elliot Hall

Scaling UP

ELLIOT HALL VCC PHASE II: CONSENSUS STRATEGY

JONES

Attachment 02A: 200 Level Keyplan - Lab & Office "Spinout" Space - from 5/17/18 presentation.

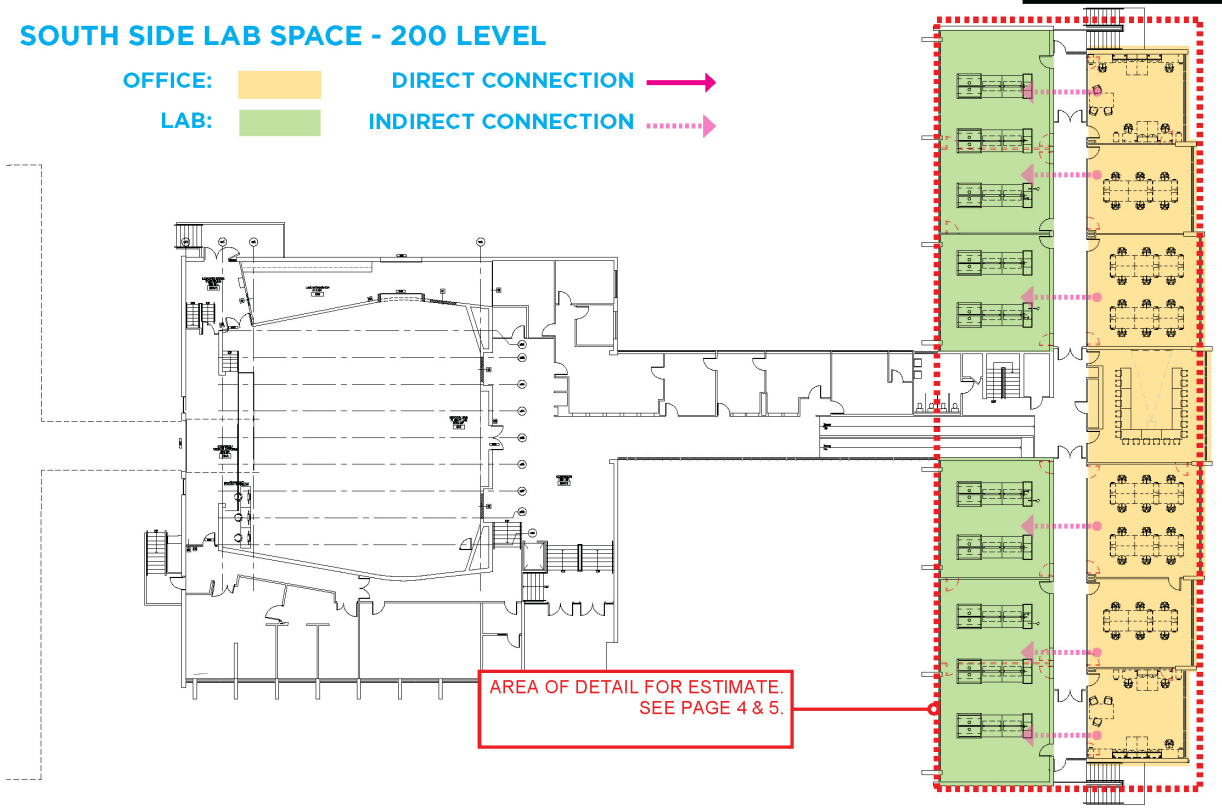
THIS SHEET NOT FOR ESTIMATE - DESCRIPTION ONLY

(Page 2 of 5)

SOUTH SIDE LAB SPACE - 200 LEVEL

OFFICE: DIRECT CONNECTION

LAB: INDIRECT CONNECTION



PLAN: 200 LEVEL - BUILDING WIDE REVIEW S2

0 5 20 50

PROJECT NORTH

SPACE TYPE BREAKDOWN

100 LEVEL:		**7,800 SF.**
OFFICE:	7,800 SF.	
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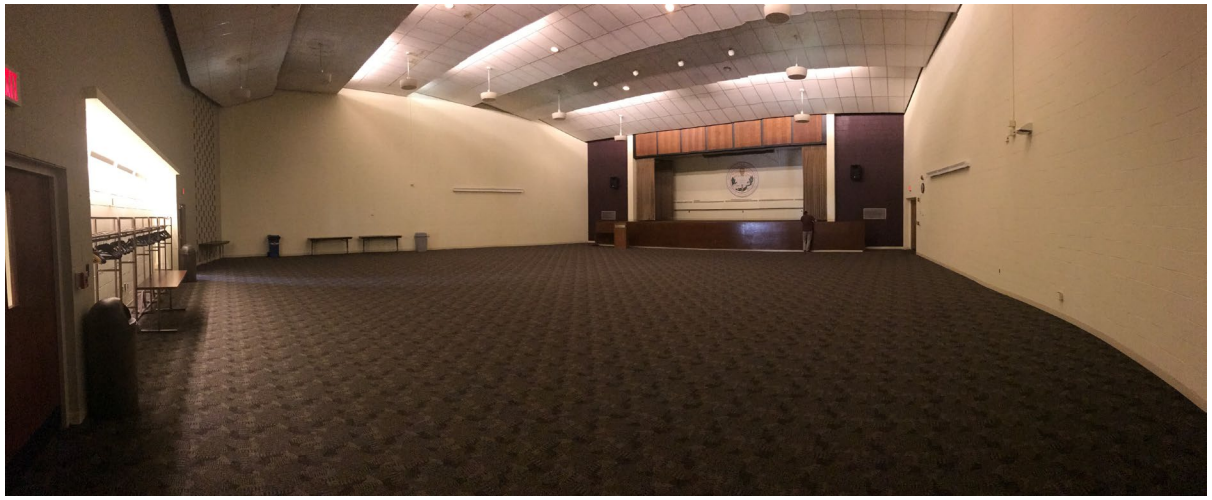
Case Study

Northeastern University, Innovation Campus at Burlington, MA (ICBM)

“Retro” Core and Shell
Elliot Hall Drone Flight Lab



Underutilized Flat-Floor Auditorium Space

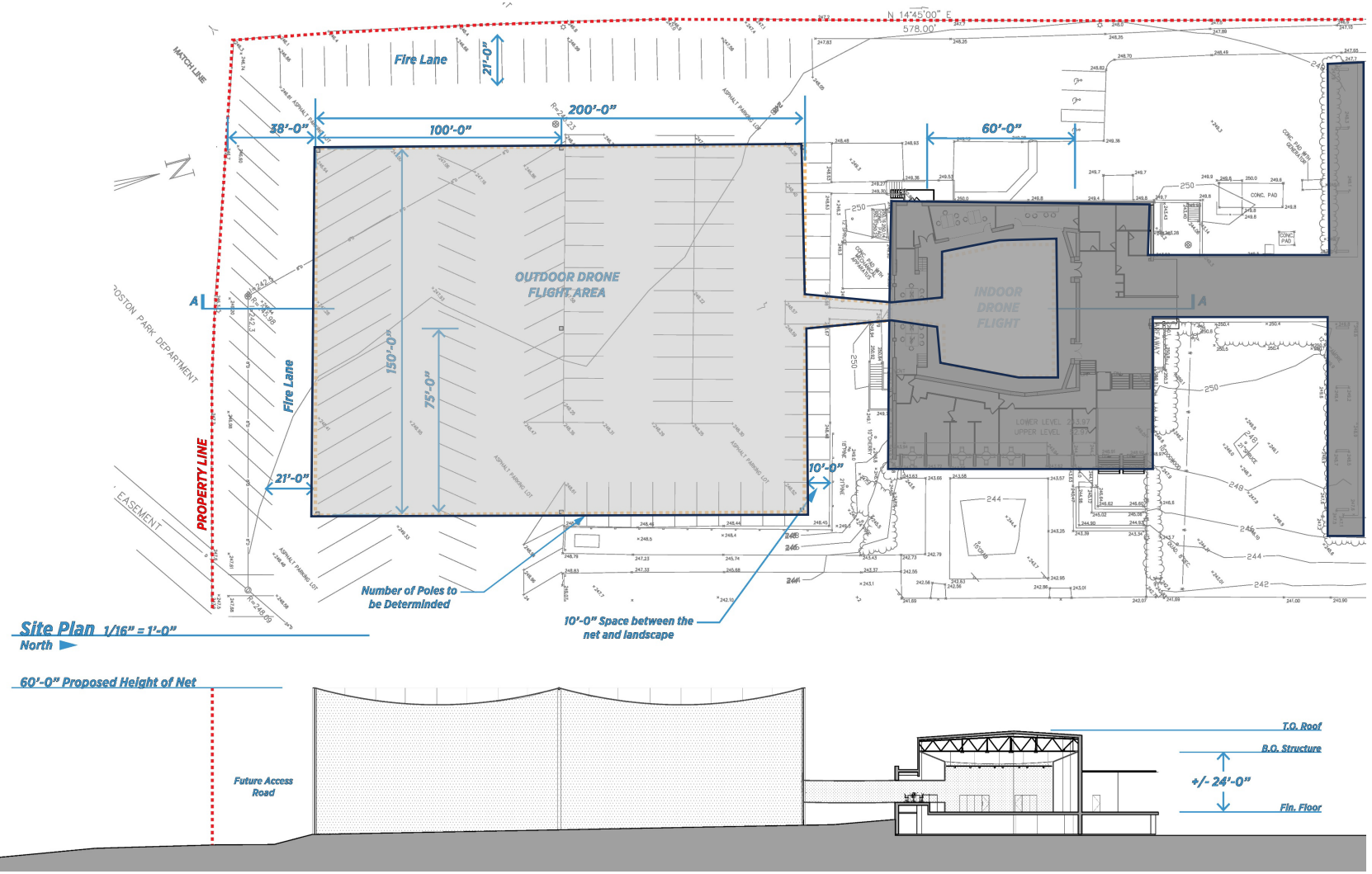
Parking Area Shuttle Lease Expiring

Finding the Highest and Best Use!

Case Study

Northeastern University, Innovation Campus at Burlington, MA (ICBM)

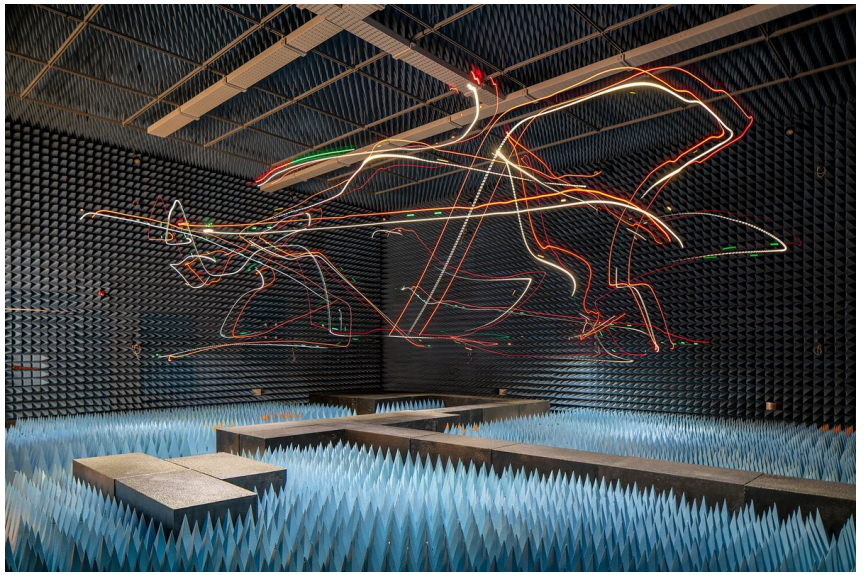
“Retro” Core and Shell
Elliot Hall Drone Flight Lab



Case Study

Northeastern University, Innovation Campus at Burlington, MA (ICBM)

“Retro” Core and Shell
Elliot Hall Drone Flight Lab

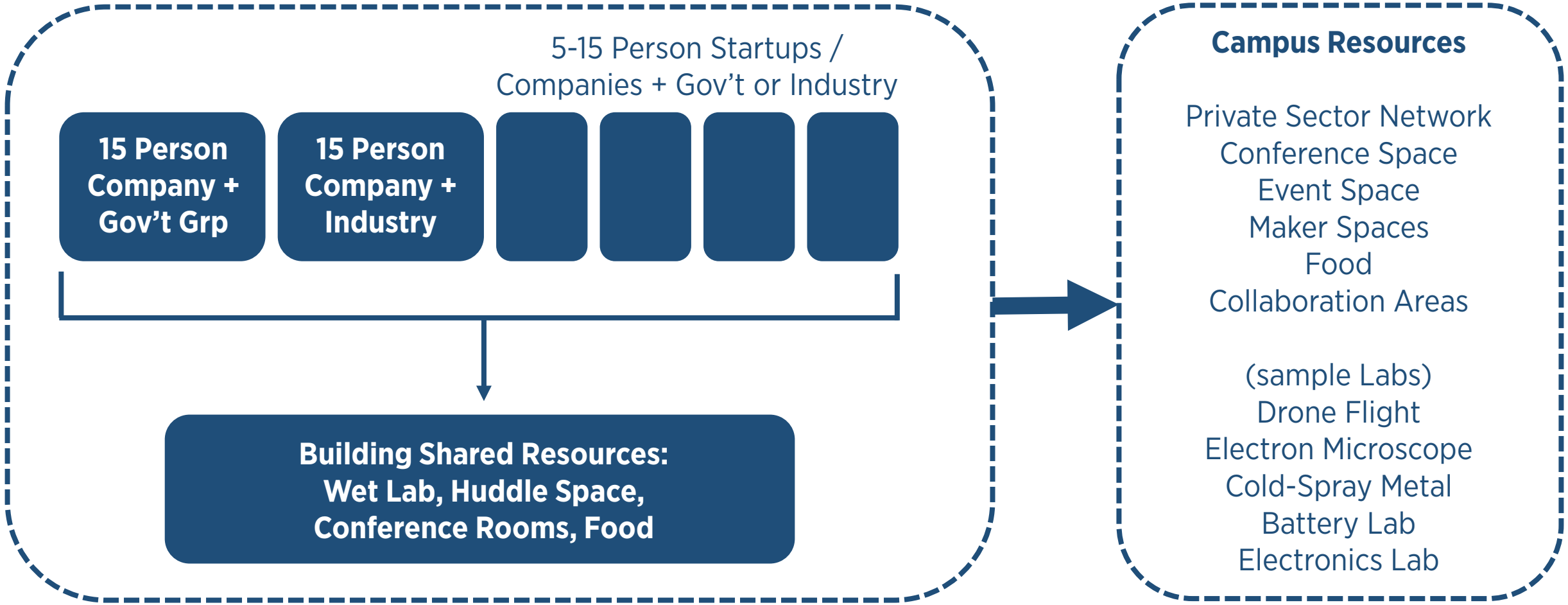


Case Study

Northeastern University, Innovation Campus at Burlington, MA (ICBM)

“Retro” Core and Shell
Venture Capital Creation Center

Scaling UP



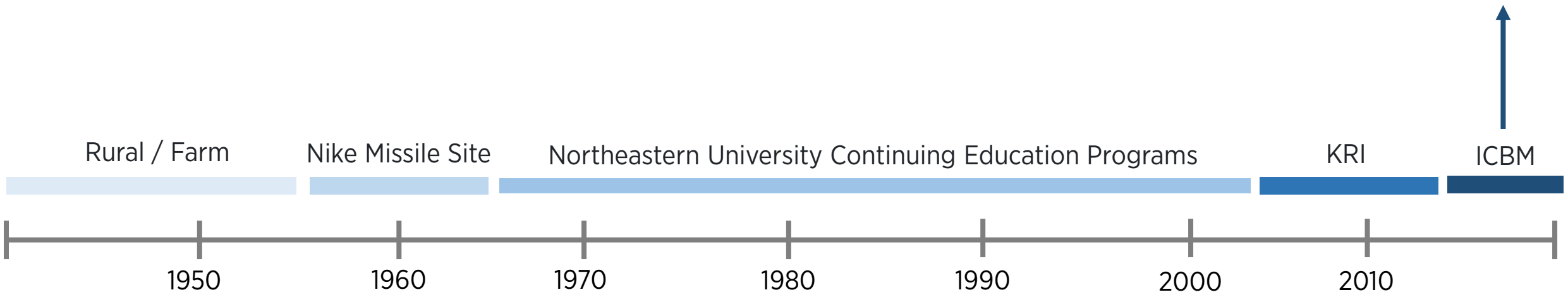
Case Study

Northeastern University, Innovation Campus at Burlington, MA (ICBM)

Adaptive Reuse

Building 5

- Purpose-built Core-and-Shell Lab Spaces.
- Higher end industry and governmental partner expectations.

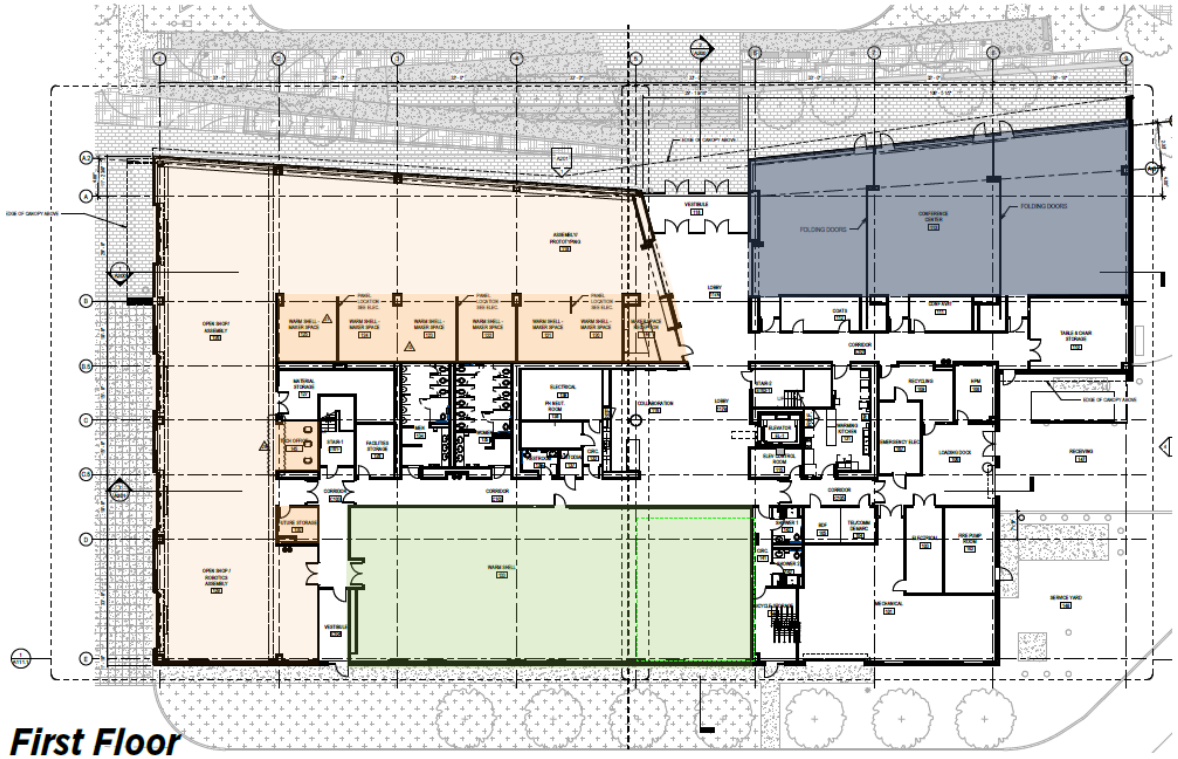


Case Study

Northeastern University, Innovation Campus at Burlington, MA (ICBM)

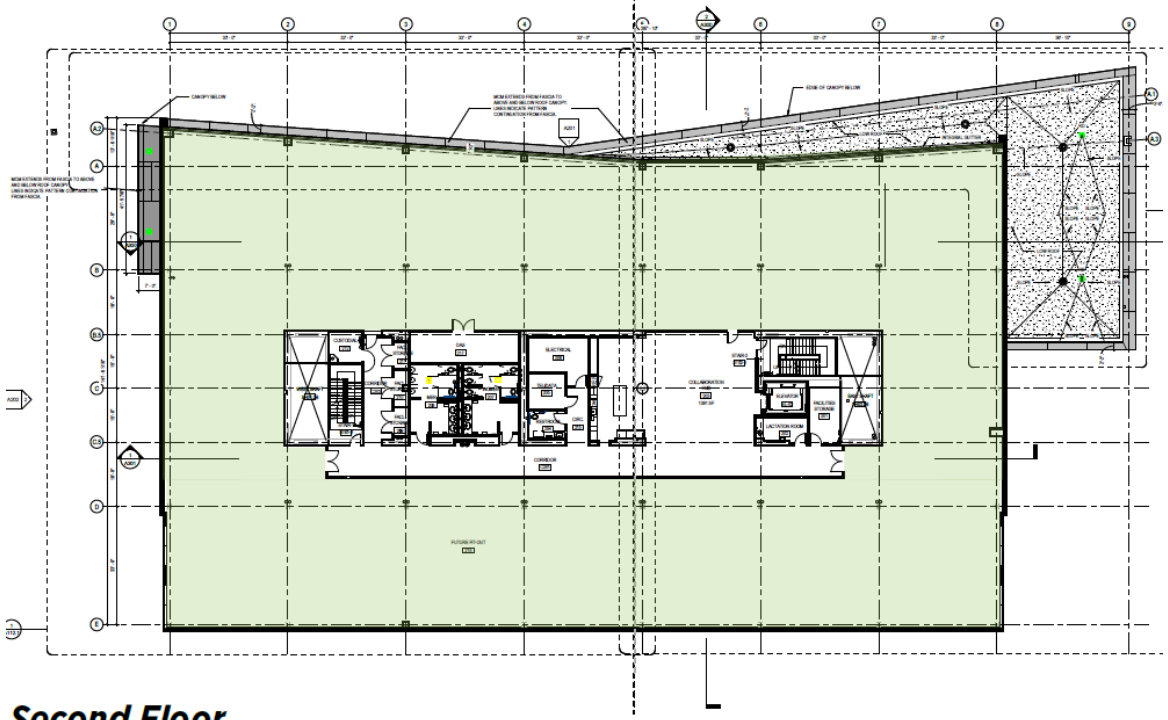
Purpose-Built Core and Shell Concept (2020)

Maker Space (High Bay)
Maker Space
Future Lab
Office
Conference



First Floor

Maker Space (High Bay)
Maker Space
Future Lab
Office
Conference



Second Floor

Case Study

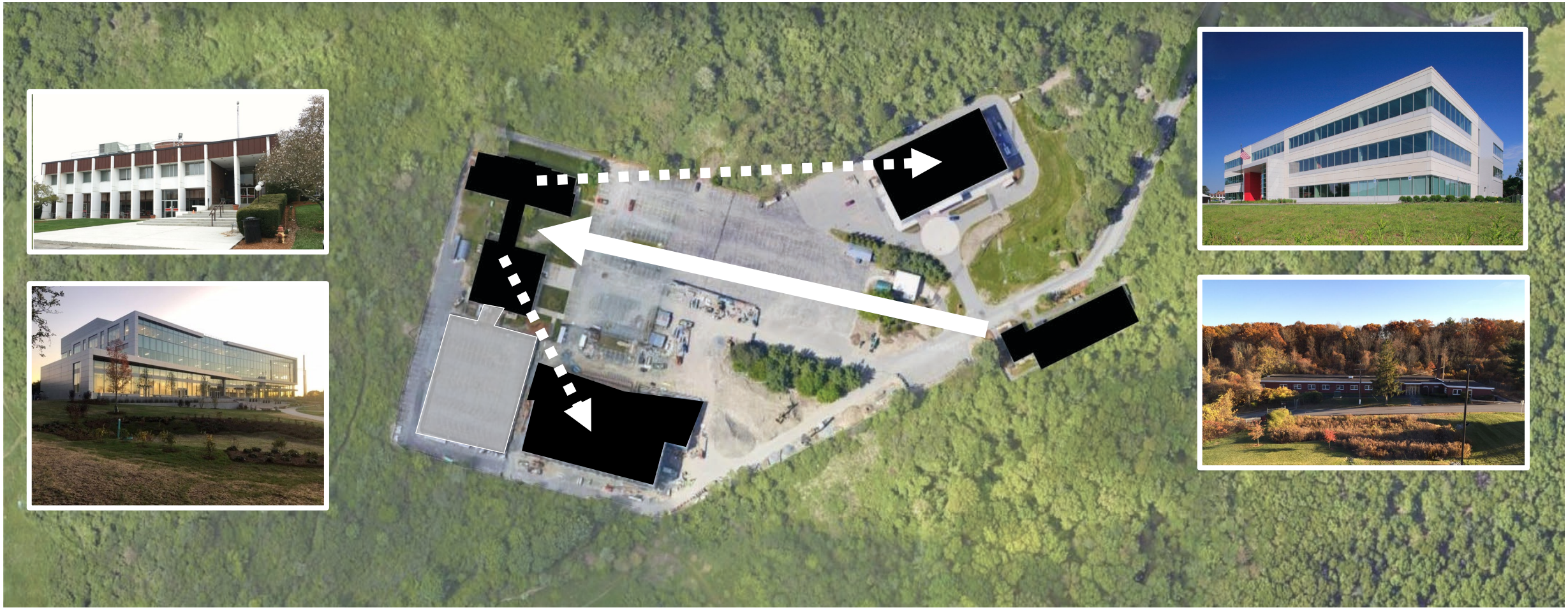
Northeastern University, Innovation Campus at Burlington, MA (ICBM)

Collaboration Across Campus

Case Study

Northeastern University, Innovation Campus at Burlington, MA (ICBM)

Evolution of Research



Case Study

Northeastern University, Innovation Campus at Burlington, MA (ICBM)

Provide a Range of Accommodations

High Churn
Small Startups
Student-Led Entrepreneurship
Shared Labs and Resources
Less Robust Infrastructure
Highly Flexible

Some High Churn
Some Long-Term
Dedicated Labs
Shared Resources
Intermediate Infrastructure
Moderately Flexible

Less High Churn
More Long-Term
Dedicated Labs
Shared Resources
More Robust Infrastructure
Flexible over Time, less Flexible-on-the-Fly

“Bill Gates Gaaage”

Adaptive Reuse
“Retro” Core and Shell

“Purpose-Built”
Lab Core and Shell

High-End Research

Case Study

Northeastern University, Innovation Campus at Burlington, MA (ICBM)

University Design & Construction Process
Traditional Delivery Model

- Planning
- Concept-Programming
  - MOU with users - Faculty, Provost
  - Initial Funding Approval
- Schematic Design
  - Estimate
- Design Development
  - Estimate
- Construction Documents
- Bid and Permit
- Construction
- Occupancy

ICBM Design & Construction Process
Meeting the Speed of Business

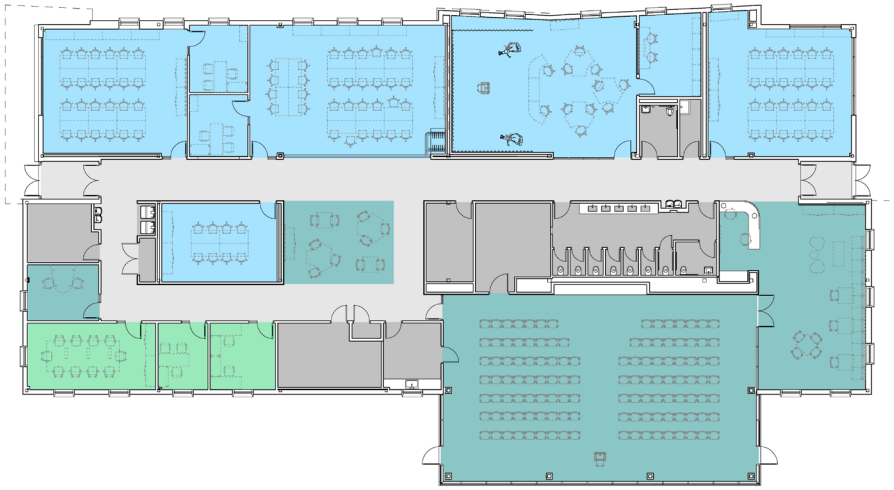
- Grant or Research Partnership Established
- Assessment Phase I:
  - Concept Programming pre- SD using in-house planning departments
  - Meet stakeholders and end-users – Faculty, Students, Private Industry or Governmental Agency
  - Establishing Schedule, budgets, risks etc
  - Start up Funding (mini MOU) Initial Funding Approval
  - RF/RFQ A/E Firms
- Assessment Phase II:
  - Schematic Drawings
  - Internal Cost Estimate
  - Full funding approval - MOU
- RFP / RFQ process for CM – maintain cost control and risk management

*Phase II sets the Total Project cost threshold

Partnering for Innovation / What's Next

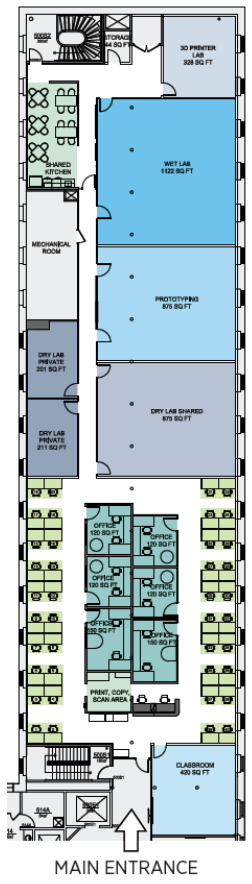
Norwich University
Mack Hall

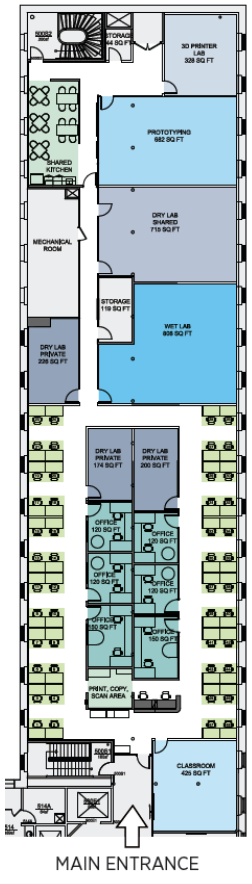
Partnering for Innovation / What's Next

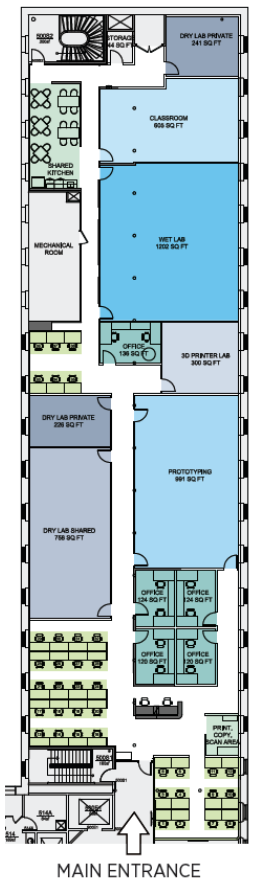


Norwich University
Cyber Forensics Center

Partnering for Innovation / What's Next







University of Massachusetts-Lowell
Wannalancit Mills

Lessons Learned

Speed of Business Project Delivery

Accelerating University projects to the pace of private business requires creative project delivery more than creative design.

- Continuity of Design team, Project Management, Construction Team
- Weekly OAC Tackles All Projects in Various Phases
- Design-Build Approach
- Flexibility on All Sides of the Table

Building Partnerships

Establishing relationships is critical with research partners and design and construction teams on campus.

- All partners need to understand the sensitivity to a “Speed of Business” approach.
- Gaining the trust of industry partners through proven delivery will yield more opportunities, partnerships and “word of mouth”.

Lessons Learned

Unique Research Needs

There is rarely a one-size fits all solution o space planning for public private partnership lab research spaces. Industry partners will always have …

- Nuance that only comes to light through iteration and communication in the design process.
- Time and budget constraints critical to success or failure of the research project.

Core and Shell Opportunities and Challenges

Whether purpose-built as core and shell or a “retro” model as we shared here, there are unique challenges and opportunities of this approach.

- Find the highest and best use of a given space.
- Work with the fundamental bones of the building and use that to your advantage.
- Address core functions (haz mat, accessibility, primary services) first.
- Establish planning principles that clearly zone space types – office, lab, training/conference, etc – and make these as flexible as possible to adapt to changing needs over time.

Discussion

Lessons Learned

Speed of Business Project Delivery

Building Relationships

Unique Research Needs

Core and Shell Opportunities and Challenges

Rick Jones
President

Jones Architecture

Andraya Lombardi
SVP

Accenture

Learning Objectives

1. Explore potential partnering opportunities between higher education and industry through research initiatives, preparing students for the workplace, and shared revenue streams.

2. Rethink off-campus buildings and infrastructure otherwise thought to be obsolete or destined for demolition and consider opportunities or uses that can bring unique value to the University.

3. Consider satellite campuses as a shared space between the University and private industry. Discuss how procurement, design process, and construction differ between these worlds.

4. Discuss the pitfalls and opportunities of a core and shell approach to laying the groundwork for future lab and research fit-outs, primed for use by higher education and corporate partners.

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Send me your name, email address, and AIA number and I will get your credits organized.