



UWM Innovation Resources

June 5, 2014

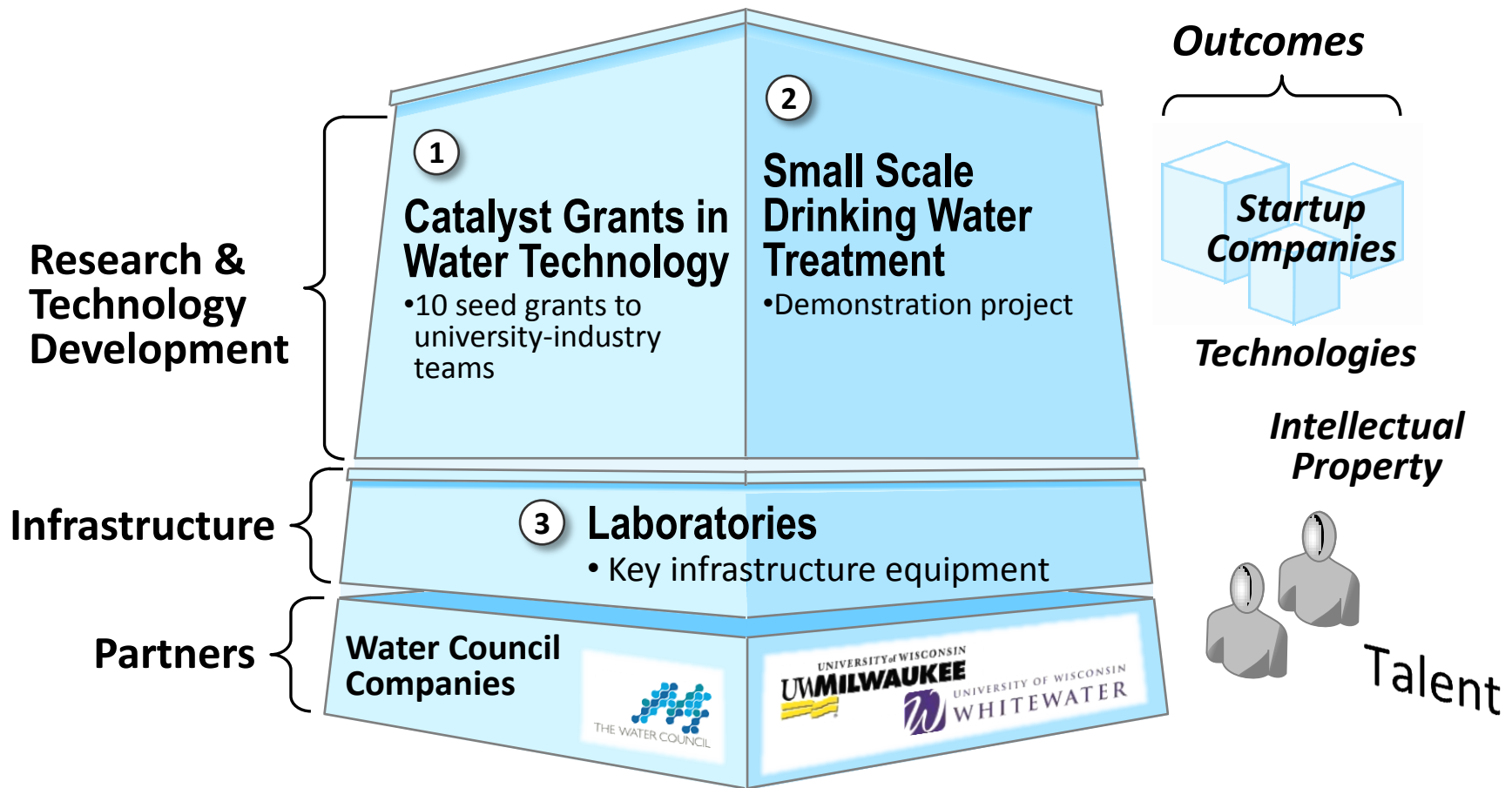
**UW-System Board of Regents
Research, Economic Development and
Innovation Committee**



UW System Incentive Grants



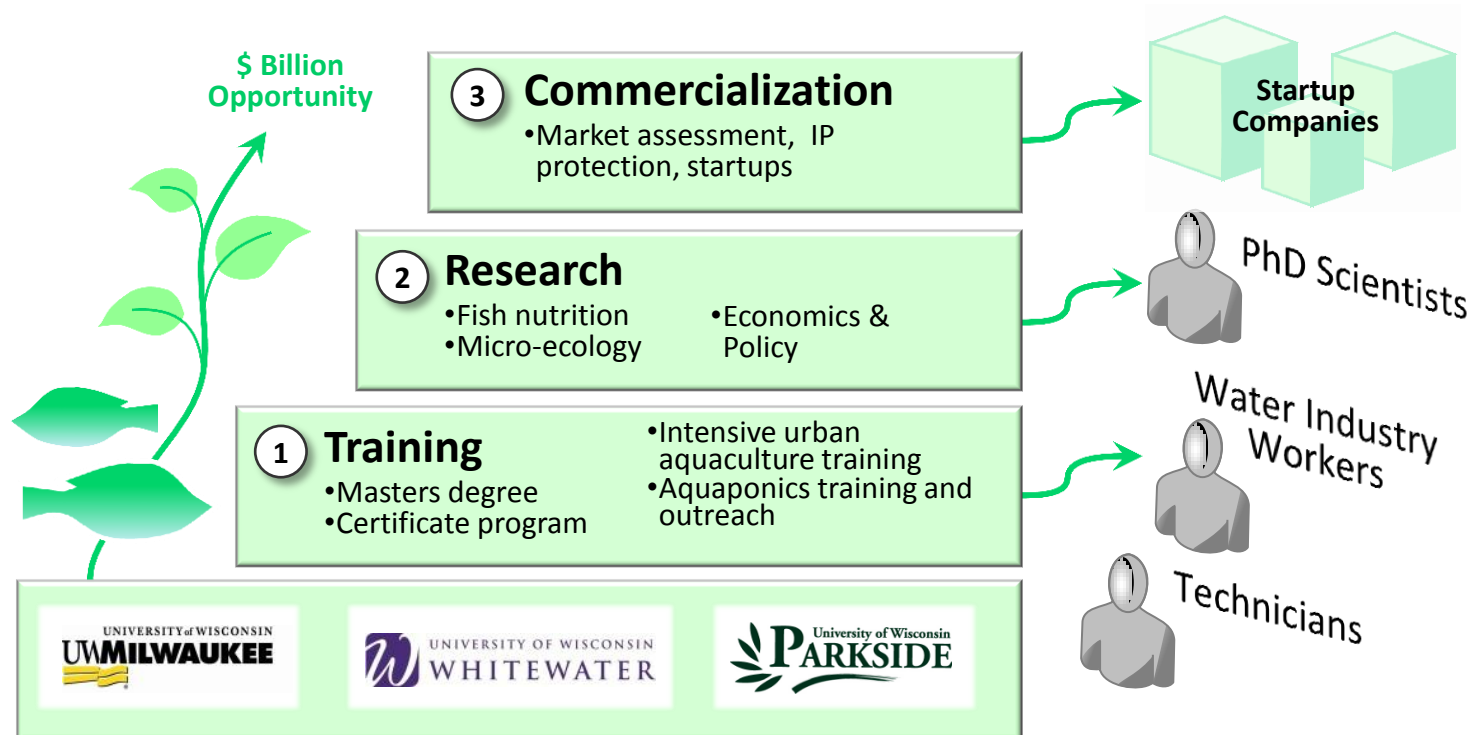
- **UWM is participating in four projects funded by the Incentive Grant Program administered by the UW System**
- **Water Technology Accelerator**
 - **\$3 million**
 - **UWM led with partner UW-Parkside**
- **Aquaculture and Aquaponics Research and Training**
 - **\$2.5 million**
 - **UWM led with UW-Parkside and UW-Whitewater**
- **SE Wisconsin Applied Chemistry Center**
 - **\$3 million**
 - **UWM led with partner UW-Parkside**
- **Nursing Training**
 - **\$3.2 million**
 - **Statewide initiative led by UW-Eau Claire with partners UWM, UW-Madison and UW-Oshkosh**



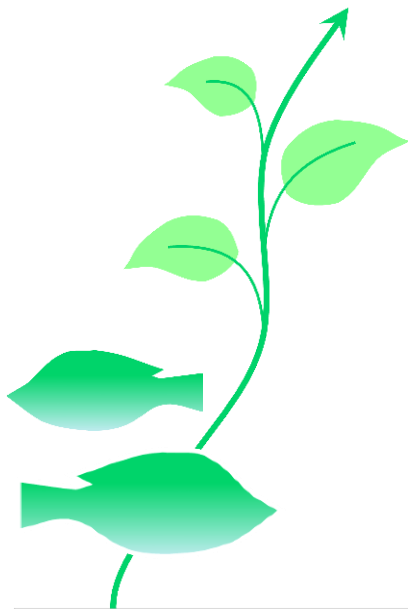


- **Water Catalyst Grants seeded 9 projects totaling \$1 million to support research in**
 - Sensing technologies
 - Materials
 - Biology and aquaculture
- **Supports equipment and facilities at Global Water Accelerator and School of Freshwater Science**

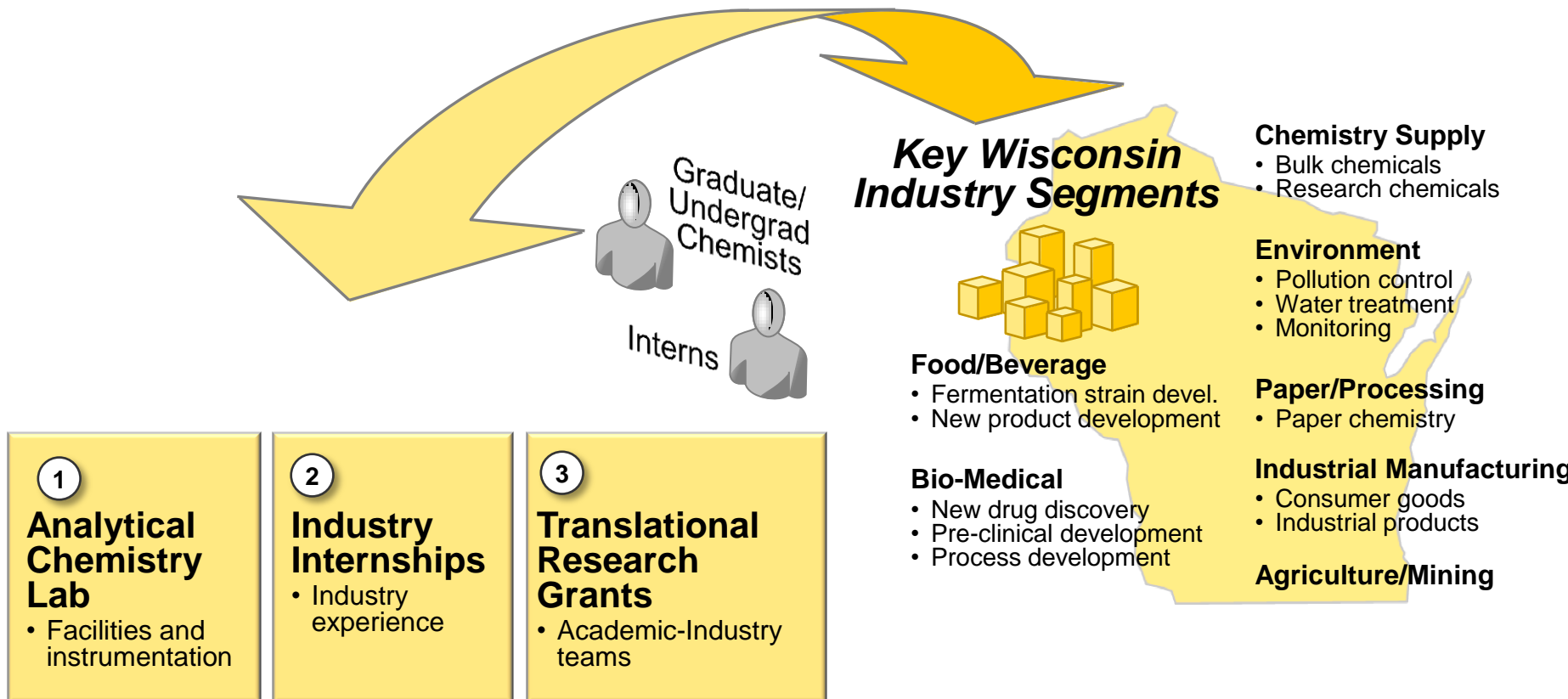
Center for Commercialization of Intensive Aquaculture and Aquaponics



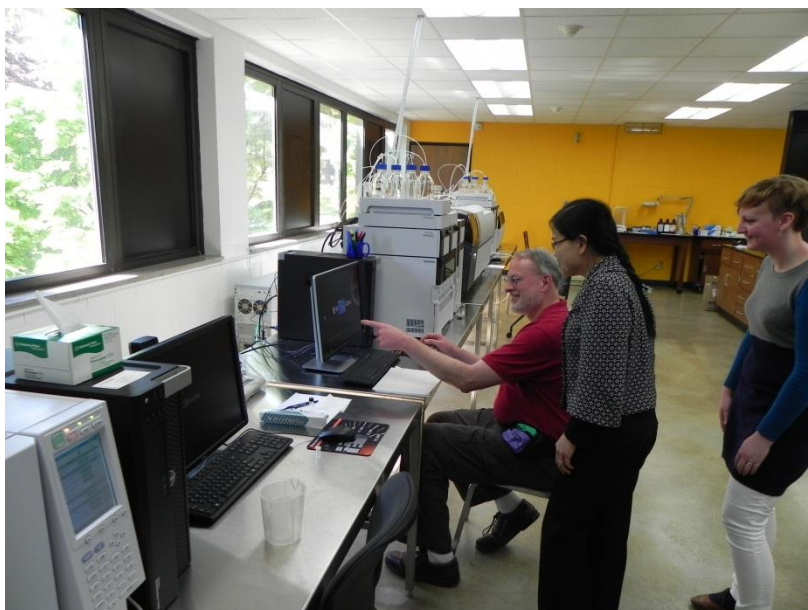
- **Developing new indoor aquaculture industry with regional partners**
- **Undergraduate certificate in Applied Urban Aquaculture approved in May**
- **New aquaculture teaching labs will be constructed next year**
- **Research in key enabling technologies such as nutrition and survivability**
- **Partners include Bell Aquaculture and non-profits Growing Power and Hunger Task Force**



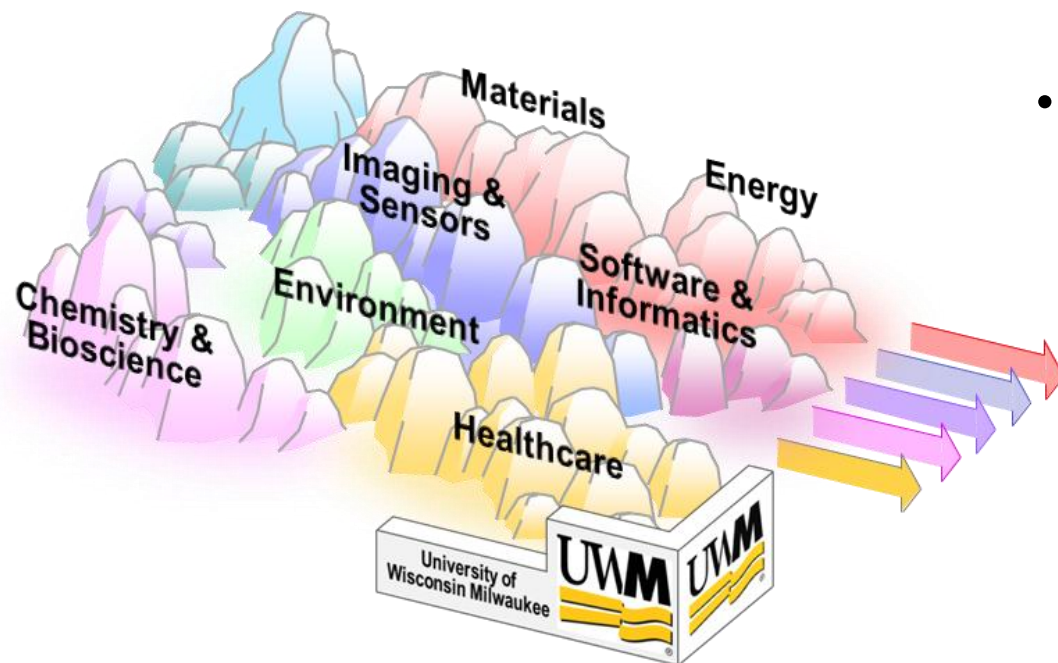
Southeast Wisconsin Applied Chemistry Center of Excellence



- **Faculties initially housed in Chemistry building will move to Interdisciplinary Research Building**
- **Matching grant from Shimadzu Corporation of \$1.3 million helping support instrumentation**

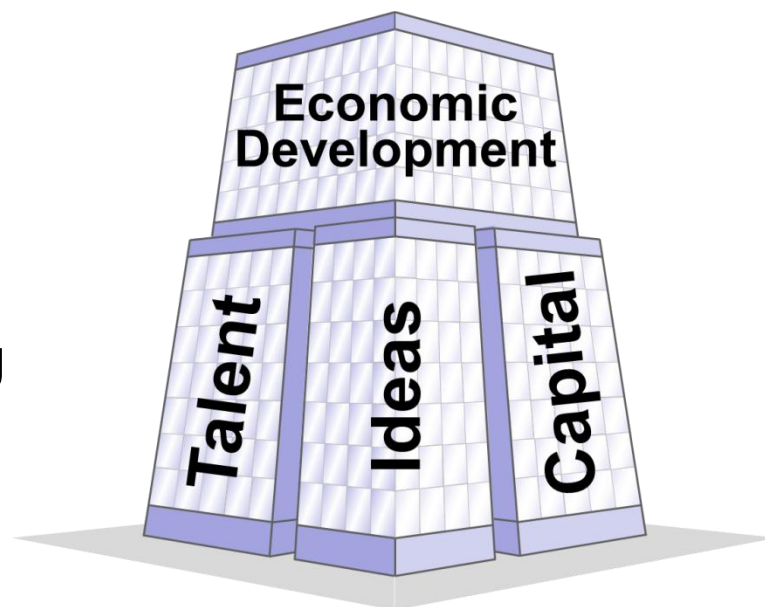


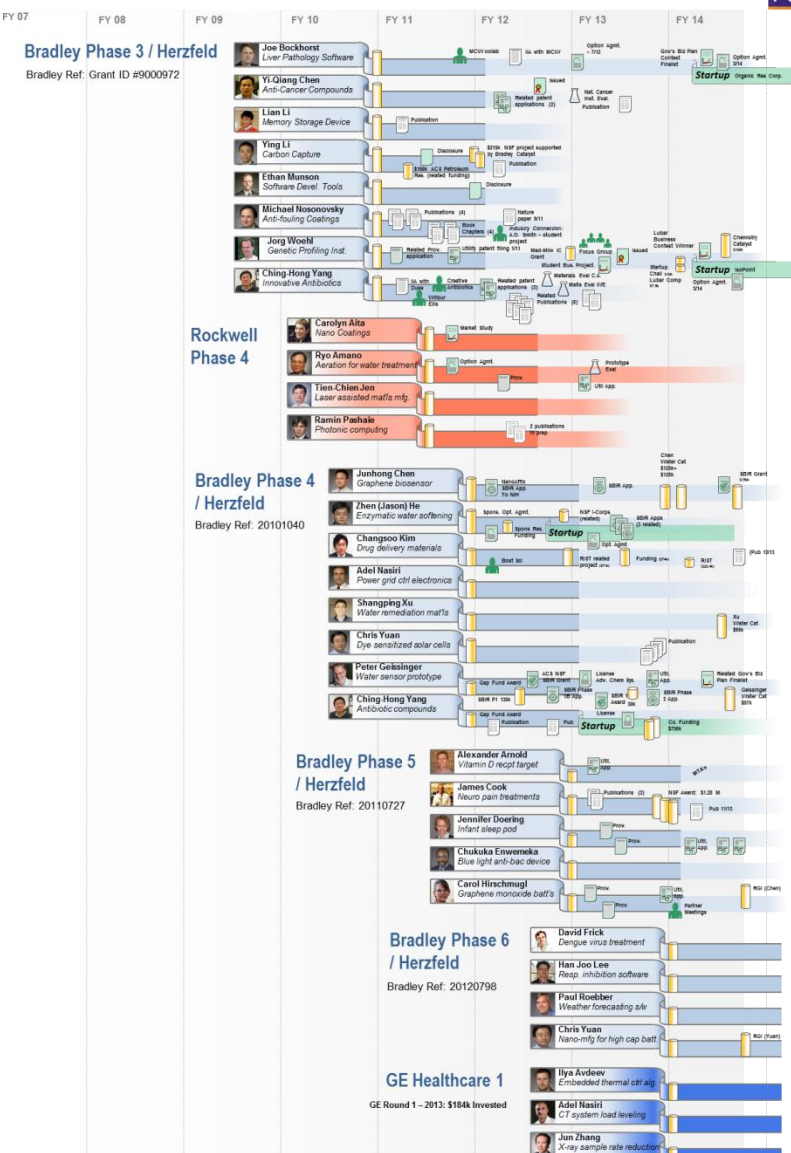
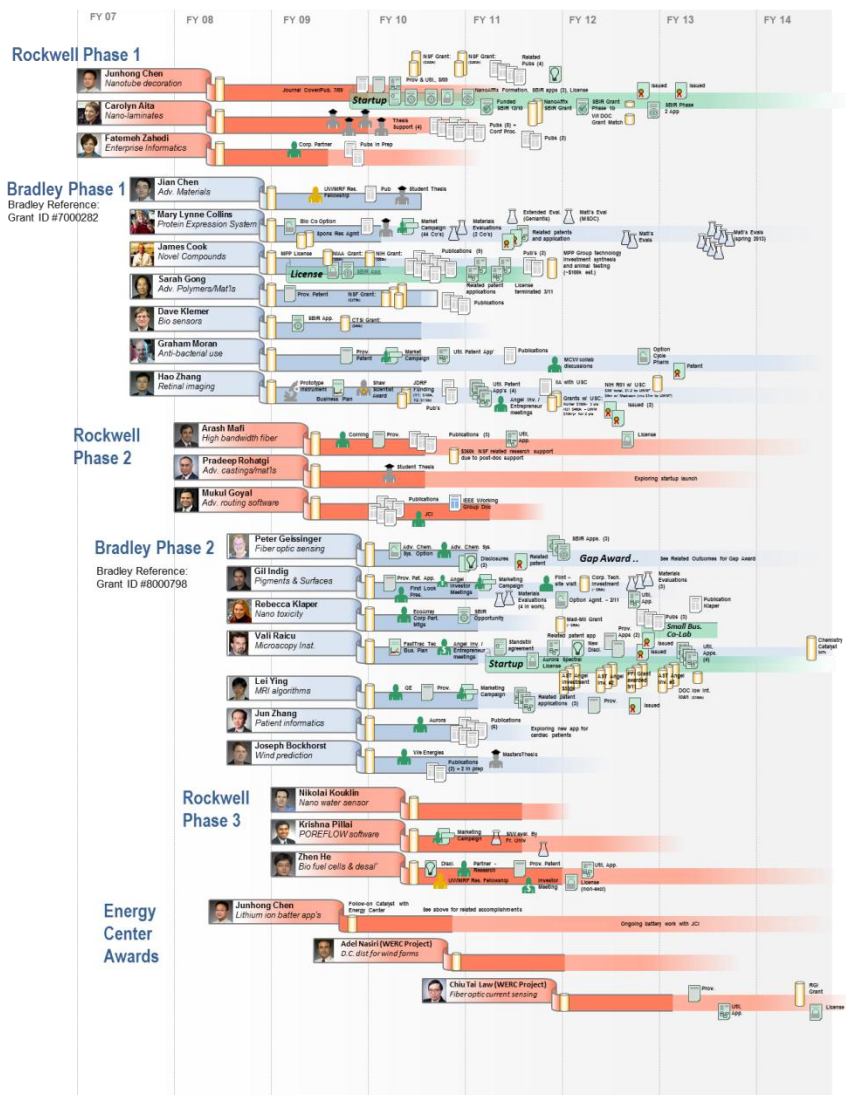
- **11 funded Translational Research Grants awarded this spring totaling \$750k will link UW faculty and new equipment with 11 industry partners – ranging from large companies to startups**



- Providing Ideas and Talent to Drive Innovation and Economic Development

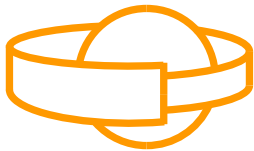
- Catalyst Grants
- Intellectual Property and Licensing
- Corporate Partnering
- Student Innovation
- Startup Companies





54

Catalyst Projects



>150

Publications & Disclosures



15

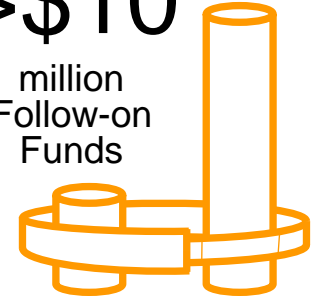
License and Option Agreements

4

Catalyst Startup Companies

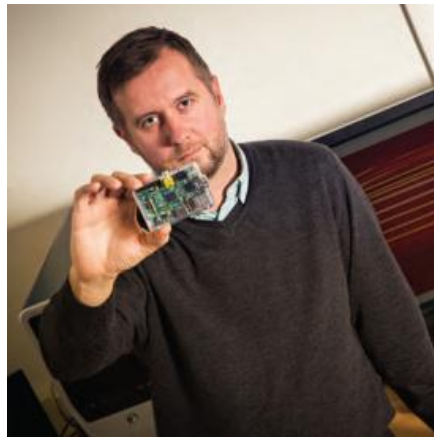
>\$10

million Follow-on Funds



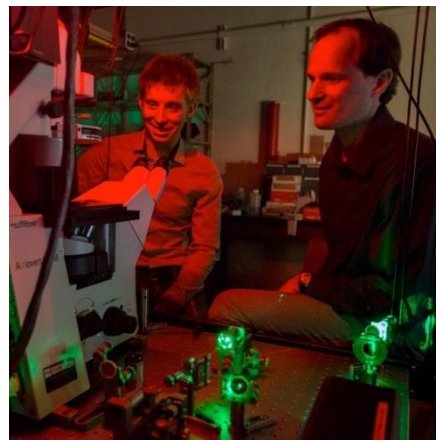
\$3.4

million Awarded



Ilya Avdeev

Jorg Woehl



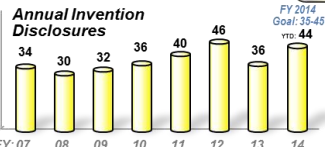
Carol Hirschmugl, Marija Gajdardziska-Josifovska



UWM Portfolio of Ideas



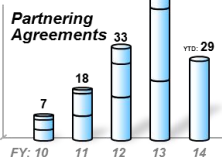
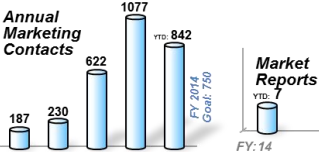
Disclosures



Copyright Matters

Joseph Bockhorst, 1236 - Copy Image analysis s/w	Krishna Pillai, 1179 - Copy CFD modeling software
Naira Campbell, 1281 - Copy Safety instruction video	Krishna Pillai, 1289 - Copy Metal impregnation process s/w
JaeyinJang, 1186 - Copy Routing optimization software	Paul Roebber, 1239 - Copy Consensus forecasting
Rhonda Montgomery, 1211 - Copy TCARE elderly care assess	Jorg Woehl, 1136 - Copy Point spread optimization software
Paru Shah, 1366 - Copy Local elections database	

Marketing



Provisional App's.

Alexander Arnold, 1368-US00, 11/26/13 Screening inhibitors	Naira Campbell, 1322-US00, 3/19/13 Ergonomic wrench	Junhong Chen, 1330-US00, 7/29/13 Crumpled graphene one-pot fab method	James Cook, 1111-US03, 11/11/13 Pro-drugs for anxiety disorders	Junhong Chen, 1390-US00, 4/1/14 Hollow silicon anode material	James Cook, 1402-US00, 4/4/14 Compounds for Mera	Mahsa Ranji, 1350-US00, 4/14/14 Muscle oximeter and force monitor	Valeria Raicu, 1379-US00, 4/14/14 Active decan for protein imaging eyes	Brent Aussprung, 1388-US00, 4/16/14 Speed skate
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Licensed (exclusive)

Licensed (non-exclusive)

Optioned

Licenses and Options (current)

James Cook, 1111 - Promeris Pro drugs for anxiety disorders	Brian Armstrong, 1124 - KinetiCor Motion tracking system	Ching-Hong Yang, 1112, 1200 - T3 Bioscience Methods for T3SS virulence red.	Na Jin Seo, 1336-US00, L'ville Startup Thera-Bracelet	Naira Campbell, 1322-US00, Snap On Ergonomic wrench	Chiu-Tai Law, 1324-US01, M-WERC Fiber optic current sensor	Alexander Arnold, 1368 - Carafast Screening inhibitors	Adel Nasiri, 1195 - Dynamic Blade Tech Wind turbine pwr elec.	Jorge Woehl, 1162 - IsoPoint Electrostatic particle trap	Joseph Bockhorst, 1236 - Organic Res. Corp. Image analysis s/w
Rhonda Montgomery, 1211 - TCARE Nav. TCARE elderly care assess.	Ching-Hong Yang, 1112, 1200 - T3 Bioscience Methods for T3SS virulence red.	Na Jin Seo, 1336-US00, L'ville Startup Thera-Bracelet	Naira Campbell, 1322-US00, Snap On Ergonomic wrench	Chiu-Tai Law, 1324-US01, M-WERC Fiber optic current sensor	Alexander Arnold, 1368 - Carafast Screening inhibitors	Adel Nasiri, 1195 - Dynamic Blade Tech Wind turbine pwr elec.	Jorge Woehl, 1162 - IsoPoint Electrostatic particle trap	Joseph Bockhorst, 1236 - Organic Res. Corp. Image analysis s/w	Brian Armstrong, 1165, 1192 - Metria Motion tracking target, MRI compat camera
Junhong Chen, 1085, 1164, 1225 - NanoAffix Nanotube decoration	Na Jin Seo, 1336-US00, L'ville Startup Thera-Bracelet	Naira Campbell, 1322-US00, Snap On Ergonomic wrench	Chiu-Tai Law, 1324-US01, M-WERC Fiber optic current sensor	Alexander Arnold, 1368 - Carafast Screening inhibitors	Adel Nasiri, 1195 - Dynamic Blade Tech Wind turbine pwr elec.	Jorge Woehl, 1162 - IsoPoint Electrostatic particle trap	Joseph Bockhorst, 1236 - Organic Res. Corp. Image analysis s/w	Brian Armstrong, 1165, 1192 - Metria Motion tracking target, MRI compat camera	Naira Campbell, 1281 - Vista Training Safety instruction video
Zhen He, 1210 - Gannett-Fleming Microbial desalination cell	Chiu-Tai Law, 1324-US01, M-WERC Fiber optic current sensor	Alexander Arnold, 1368 - Carafast Screening inhibitors	Adel Nasiri, 1195 - Dynamic Blade Tech Wind turbine pwr elec.	Jorge Woehl, 1162 - IsoPoint Electrostatic particle trap	Joseph Bockhorst, 1236 - Organic Res. Corp. Image analysis s/w	Brian Armstrong, 1165, 1192 - Metria Motion tracking target, MRI compat camera	Naira Campbell, 1281 - Vista Training Safety instruction video	Zhen He, 1266 - Gannett-Fleming Osmotic membrane fuel cell	
Peter Gelsinger, 1244 - Adv Chem Sys Fiber optic sensors	Alan Schwabacher, 1003 - Adv Chem Sys Fiber optic array sensor	Zhen He, 1265 - HydroTech LLC Algae bioreactor	Arash Mafi, 1272 - Comm Company Improved bandwidth fiber	Brian Armstrong, 1165, 1192 - Metria Motion tracking target, MRI compat camera	Naira Campbell, 1281 - Vista Training Safety instruction video	Zhen He, 1266 - Gannett-Fleming Osmotic membrane fuel cell			

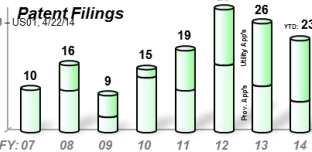
Utility Filings

Joseph Aldstadt, 1207-US01, filed 2/21/12 Improved photon trapping inst.	Ryo Amano, 1227-US02, 10/18/12 Aeration system	Brian Armstrong, 1124-US04, 9/23/13 Motion tracking system (CN)	Alexander Arnold, 1250-US02, 8/26/12 Vitamin D inhibitors	Junhong Chen, 1225-US01, 2/18/12 Vitamin D inhibitors	Junhong Chen, 1328-US01, 2/5/14 Crumpled graphene one-pot fab method	James Cook, 1268-US01, 4/27/12 GABA compounds	James Cook, 1319-US00, 9/20/13 Asthma compounds	James Cook, 1111-US02-P3, 1/7/14 Pro drugs for anxiety disorders	Jennifer Doering, 1306-US02, 10/22/13 Infant sleep pod - design	Jennifer Doering, 1306-US03, 10/22/13 Infant sleep pod - design	Jennifer Doering, 1306-US04, 2/27/14 Infant sleep pod - design	Na Jin Seo, 1336-US01, 4/18/14 Thera-Bracelet
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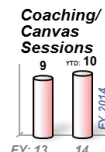
David Frick, 1287-US01, 3/7/14 Inhibitor compounds	Marija Gajdardzika-Josifovska, 1294-1337-US02, 6/12/13, Graphene monoxide	Peter Gelsinger, 1244-US01, 10/18/12 Fiber optic sensors	Rick Goetz, 1222-US01, 11/22/13 Fish immune boost diet	Zhen He, 1210-US01, 6/15/11 Microbial desalination cell	Zhen He, 1265-US01, 7/11/12 Algae bioreactor	Zhen He, 1266-US02, 7/11/12 Osmotic membrane fuel cell	Chiu-Tai Law, 1324-US01, 11/14/13 Fiber optic current sensor	Arash Mafi, 1272-US00, by Lic Fiber bandwidth improvement	Xiaohua Peng, 1277-US02, 12/20/13 Cancer therapeutics	Valeria Raicu, 1242-US02, 4/5/12 Microscopy improvements	Valeria Raicu, 1242-US04, 4/5/12 Microscopy improvements	Valeria Raicu, 1242-US00, 11/7/13 Microscopy improvements	David Petering, 1313-US01, 1/22/14 Native Page
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In Prosecution

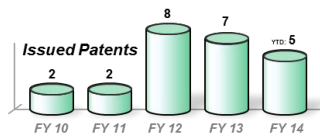
Brian Armstrong, 1124-EPC00, 5/18/07 Motion tracking system	Brian Armstrong, 1292-W000, 11/18/12 MRI compatible camera	Yiqiang (Eric) Cheng, 1108-US01b FK228-like anti cancer compounds	James Cook, 1111-EP00(P2) Pro drugs for anxiety disorders	James Cook, 1111-JP00(P2) Pro drugs for anxiety disorders	James Cook, 1111-US01(P3), allowed Pro drugs for anxiety disorders	James Cook, 1111-EP00(P3) Pro drugs for anxiety disorders	Adel Nasiri, 1195-US01, 3/13/09 Wind turbine pwr elec.	Ching-Hong Yang, 1112-US02 Methods for T3SS virulence red.	Ching-Hong Yang, 1200-US03, 8/16/12 T3SS inhibitor based antibiotics	Ching-Hong Yang, 1200-EP00 T3SS inhibitor based antibiotics	Ching-Hong Yang, 1200-CN00 T3SS inhibitor based antibiotics
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Prospects



Annual License/Options



Issued (Allowed)

Brian Armstrong, 1124-US01, 8,121,361 Motion tracking system	Mukul Goyal, 1094-US01, 7,756,017 Routing protocols	Yao Yu Li, 1127-US02, 8,190,318 Hybrid power mgmt sys & methods	Graham Moran, 1133-US01, 8,354,451 NTBC for fungal infections	Xiaohua Peng, 1277-US01, 8,637,490 Cancer therapeutics	Valeria Raicu, 1105-US01, 7,973,927 Two photon spectral microscope	Valeria Raicu, 1105-US02, 8,094,304 Two photon spectral microscope	Alan Schwabacher, 1003-US01, 7,244,572 Room temp gas sensors	Junhong Chen, 1164-US02, 8,240,190 Room temp gas sensors	Yiqiang (Eric) Cheng, 1108-US01, 8,148,102 Anti cancer comp exp method	Mary Lynne Collins, 1006-US01, 6,680,179 Host/vector system for membrane proteins	Mary Lynne Collins, 1006-US02, 6,951,741 Host/vector system for membrane proteins	Mary Lynne Collins, 1107-US01, 8,481,287 Protein expression method	James Cook, 1111-US01(P1), 7,829,709 Pro drugs for anxiety disorders	James Cook, 1111-US01(P2), 8,173,809 B2 Pro drugs for anxiety disorders	James Cook, 1111-US02(P1), 8,435,997 Pro drugs for anxiety disorders	James Cook, 1147-US01, 8,268,854 Novel comp's for alcohol add.
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Startup Challenge

Kyle Ilanda Level Camera - prosumer video prod	Scott Johannes Augment-H - back pain feedback	Alex Francis IsoPoint - microscopy tool	Tom Hansen E. Coil sensing device	Andrew McConville Mesmer/Major Web - degree planning s/w	Hunter Ruth Abakus - math educ. adventure s/w	Ogechi Chidibello Agogo - platform/portal/engine	Andrea Pasqualeto Sale Cou Pair - coupon app.
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>250

Inventions
Disclosed

125

Patent Filings



25

Issued Patents



6

Faculty Startups



**Naira Campbell-
Kyureghyan**
– Snap On, Inc.



>1000

Marketing Contacts



>100

Partner Agreements

34

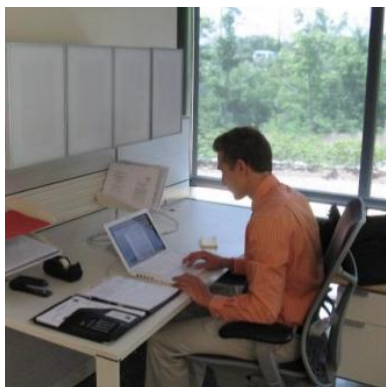
License/Option
Agreements to Date





Entrepreneur in Residence

Business Model Canvas & Booster Sessions



Tech Transfer Interns



UWM Student Startup Challenge

Student Startup Challenge

- Learning through the startup process
- Launching year 3
- Support from UW System, National Collegiate Inventors and Innovators Alliance (NCIIA) and other donors

>100
Ideas
Proposed



>100
Students
Engaged



11
Student Startup
Teams



\$110k
In Support for
Student Startups

Agogo Networks



Level Camera

Abakus



Sale Cou Pair



***Junhong
Chen –
NanoAffix
Sciences***



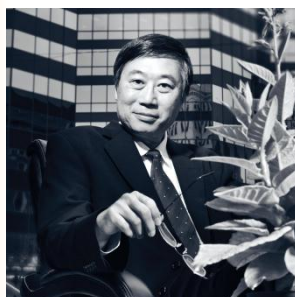
***Valerica
Raicu–
Aurora
Spectral
Technologies***



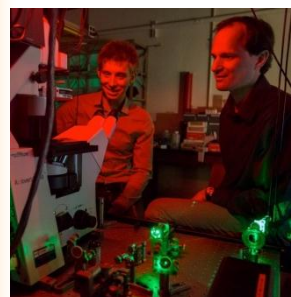
***Brian
Armstrong –
Metria
Innovation***



***Rhonda
Montgomery–
Tailored Care***



***Ching-Hong
Yang –
T3
Biosciences***



***Alex Francis –
Isopoint***



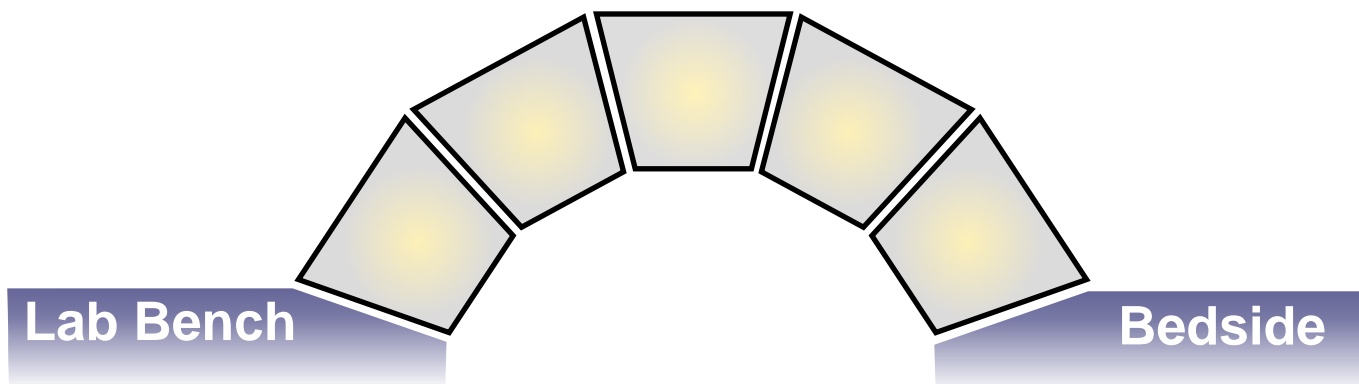
The Opportunity

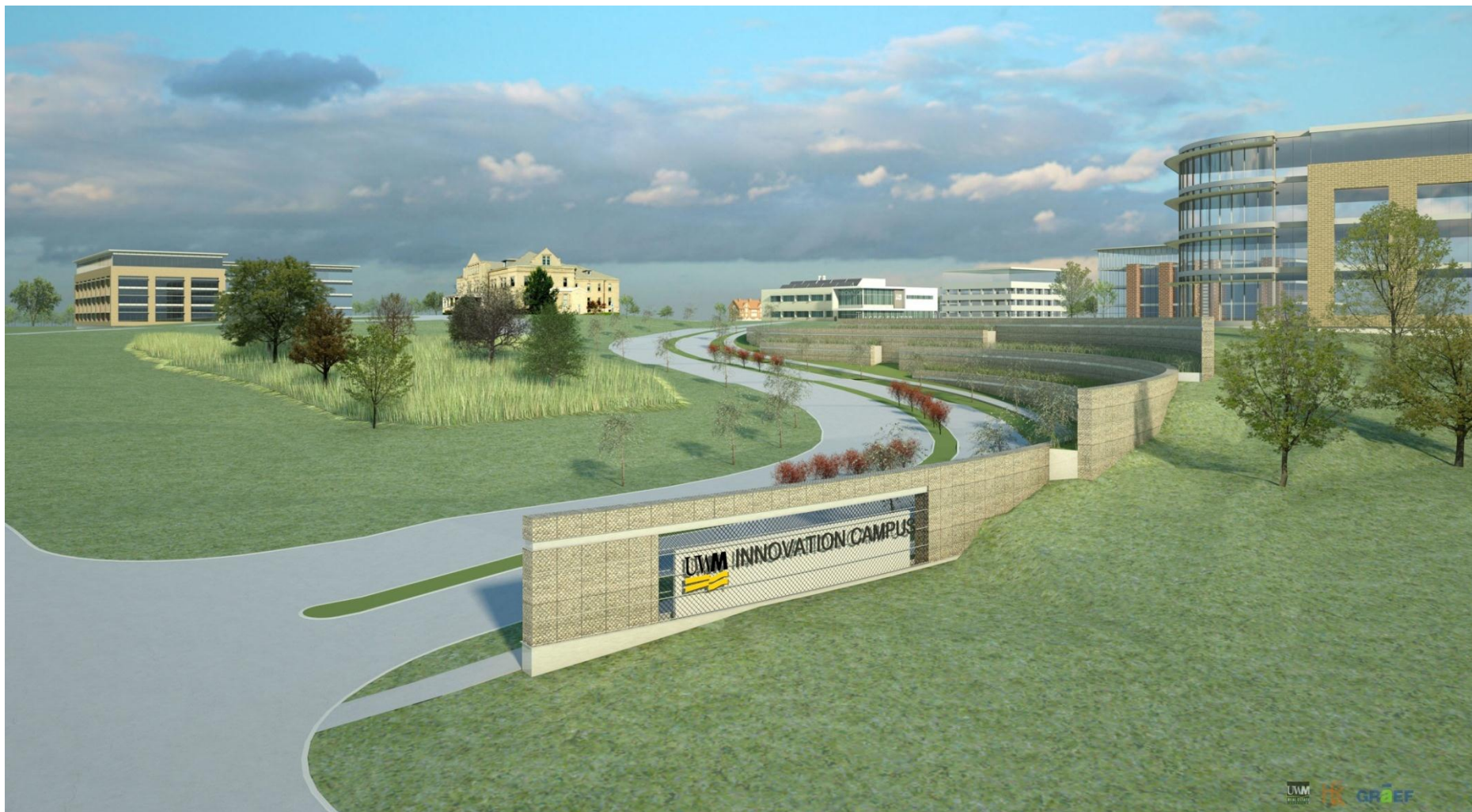


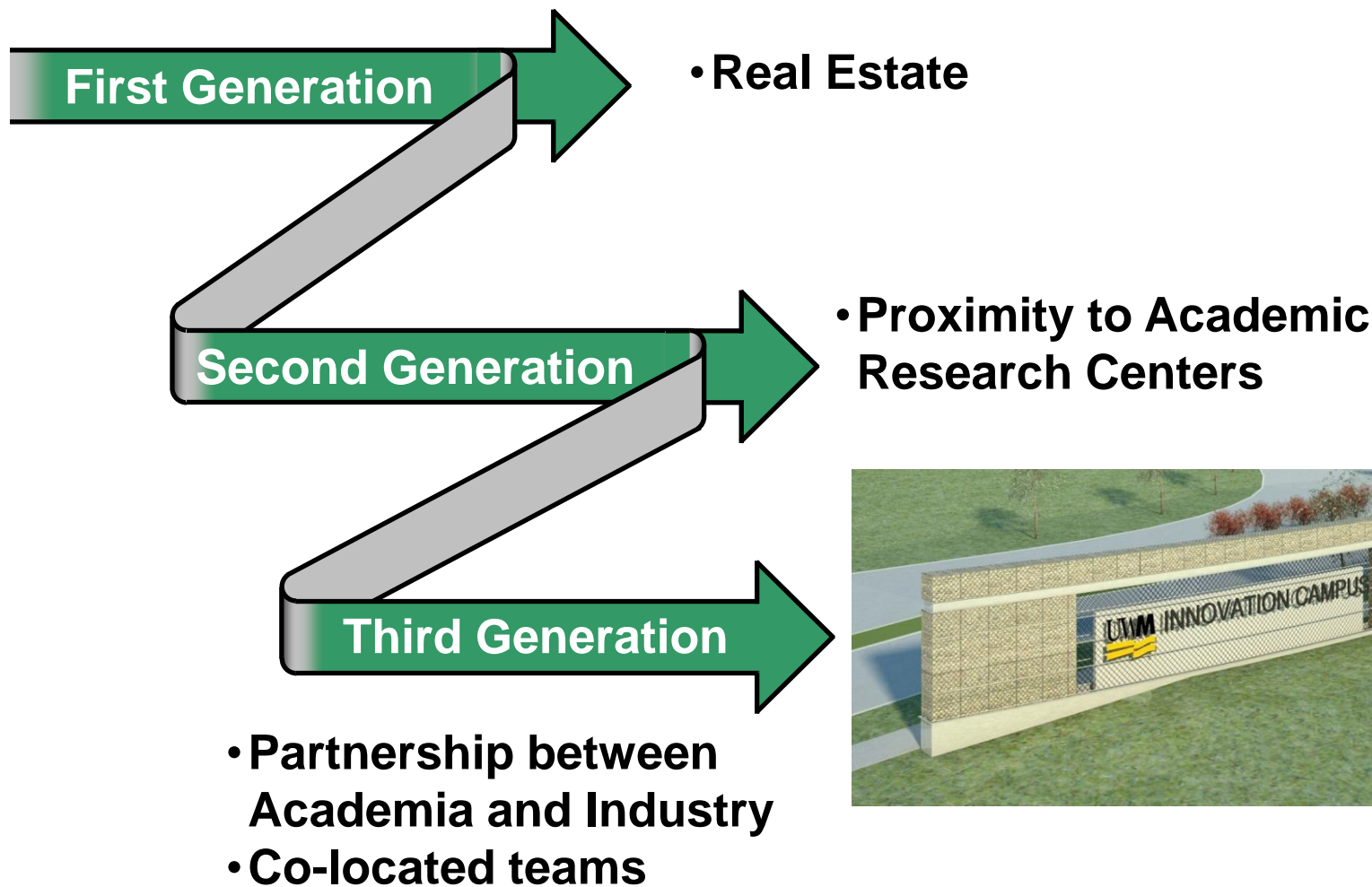
\$30 Billion



Translational

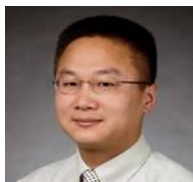












Junhong Chen

- Biosensors based on nano-tech
- NanoAffix Sciences LLC startup
- SBIR grant awards
- Multiple patents through UWMRF



Naira Campbell - Kyureghyan

- Biomechanics of spine and hand
- Ergonomic tools
- Snap On licensed technology
- Consortium for Advanced Research in Gas Industries (CARGI)



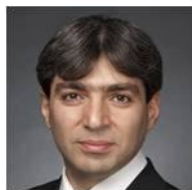
Na Jin Seo

- Stroke rehabilitation research
- Thera-Bracelet device winner of Mercury Fund prize for startups is pursuing FDA approval
- Virtual reality rehab games



Mahsa Ranji

- Bio-instrumentation and non-invasive optical diagnostics
- Biomedical instruments that use fluorescence to study blood flow



Ramin Pashaie

- Optics and photoics applied to neuroscience
- Devices that optically stimulate nerves in the brain
- Applications in treatment of Parkinson's disease



Mobile App Development

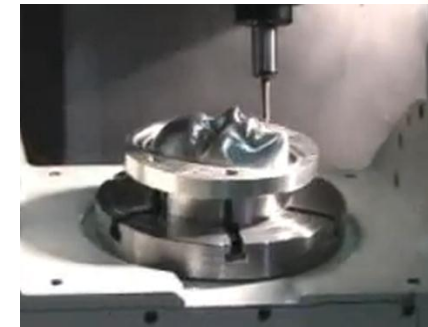
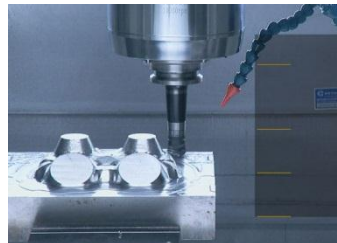
- School of Information Studies
- Real-world experience for student in developing mobile apps
- App development partnership with MCW

Prototyping Center

Design



Manufacturing





Concordia Drug Discovery

- GMP facilities for analytical, formulation and process chemistry
- Support for startups and educational programs
- Partnership with Cambridge Major Laboratories



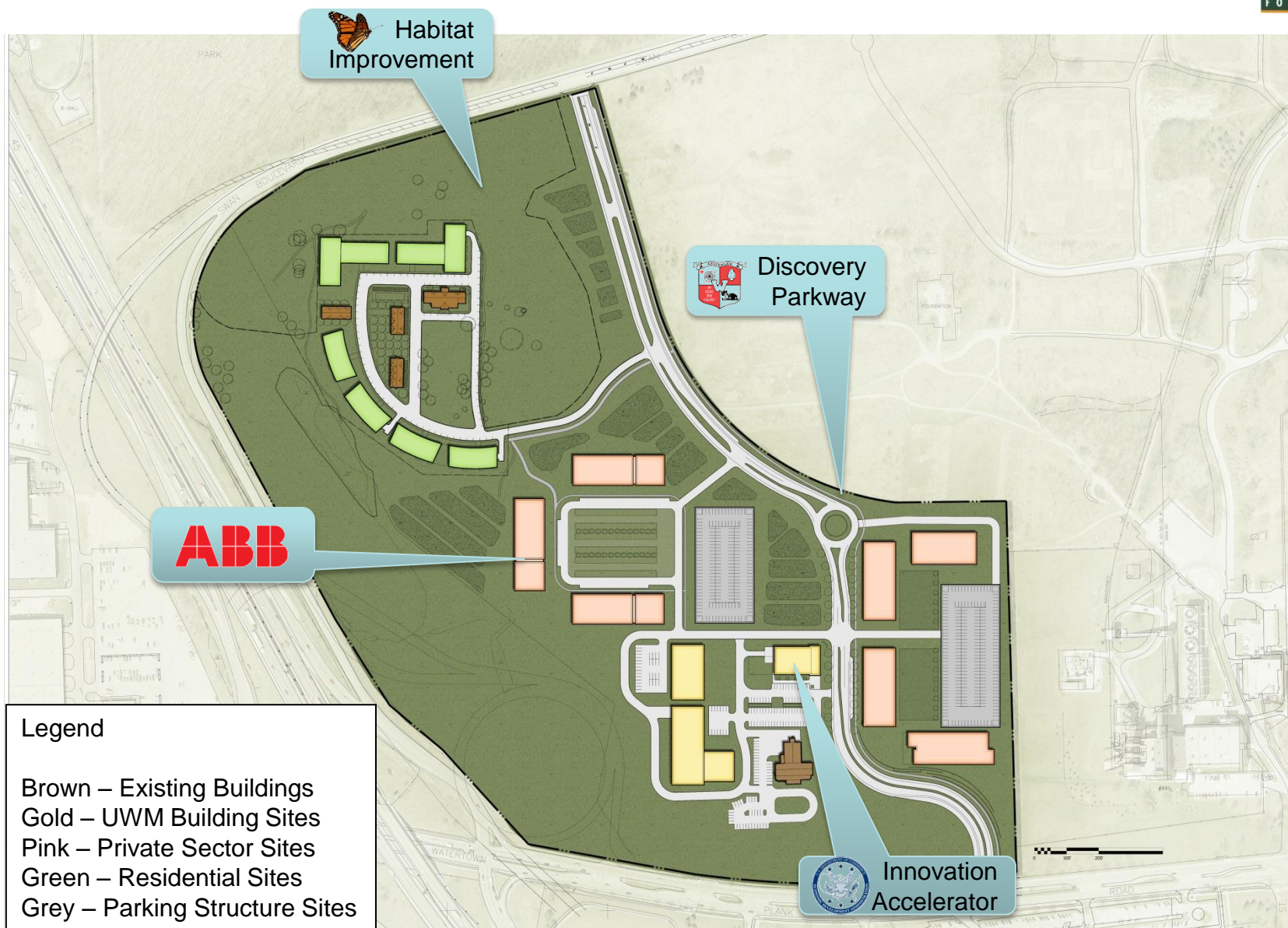
Brooks Stevens

- Full service product development company
- 78-year history of developing innovative products

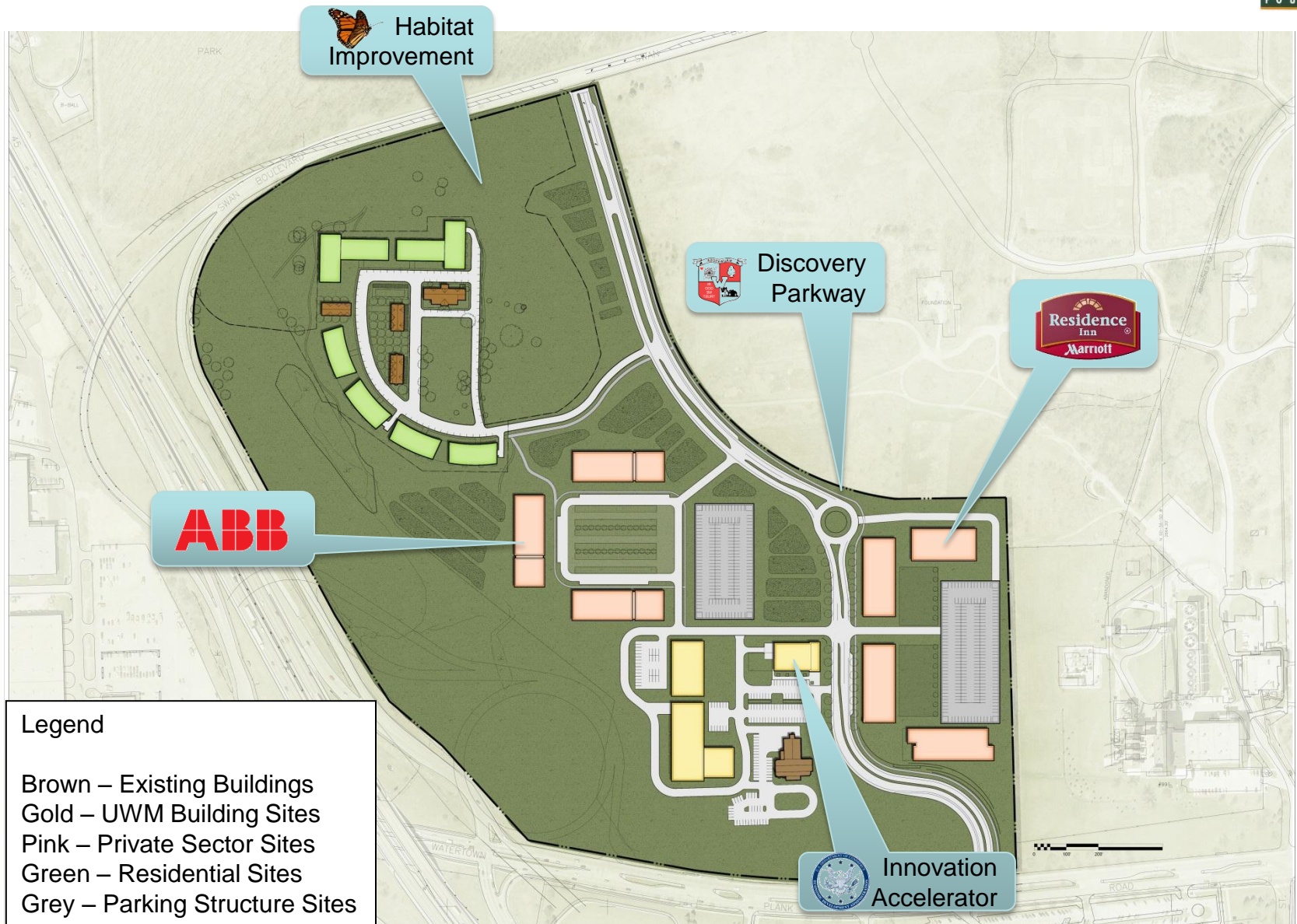


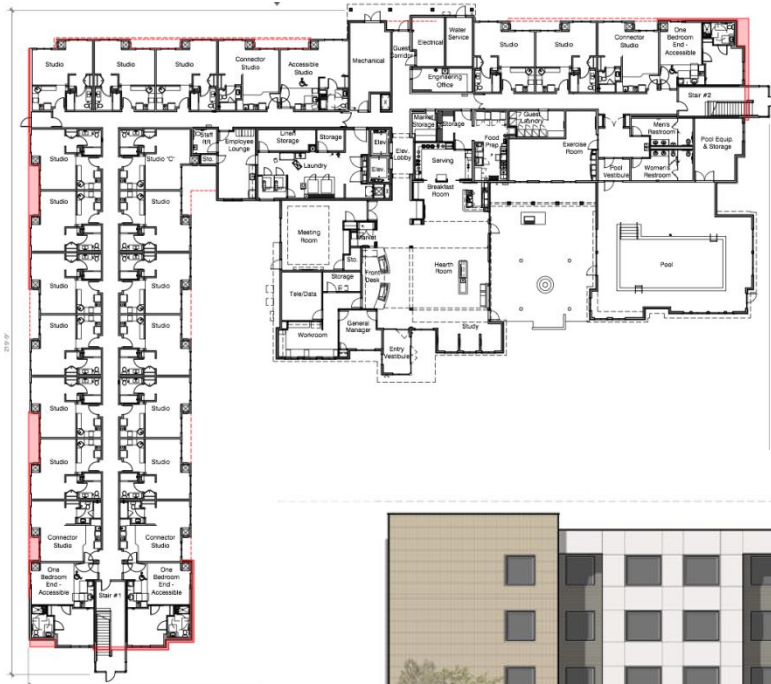
Bridge to Cures

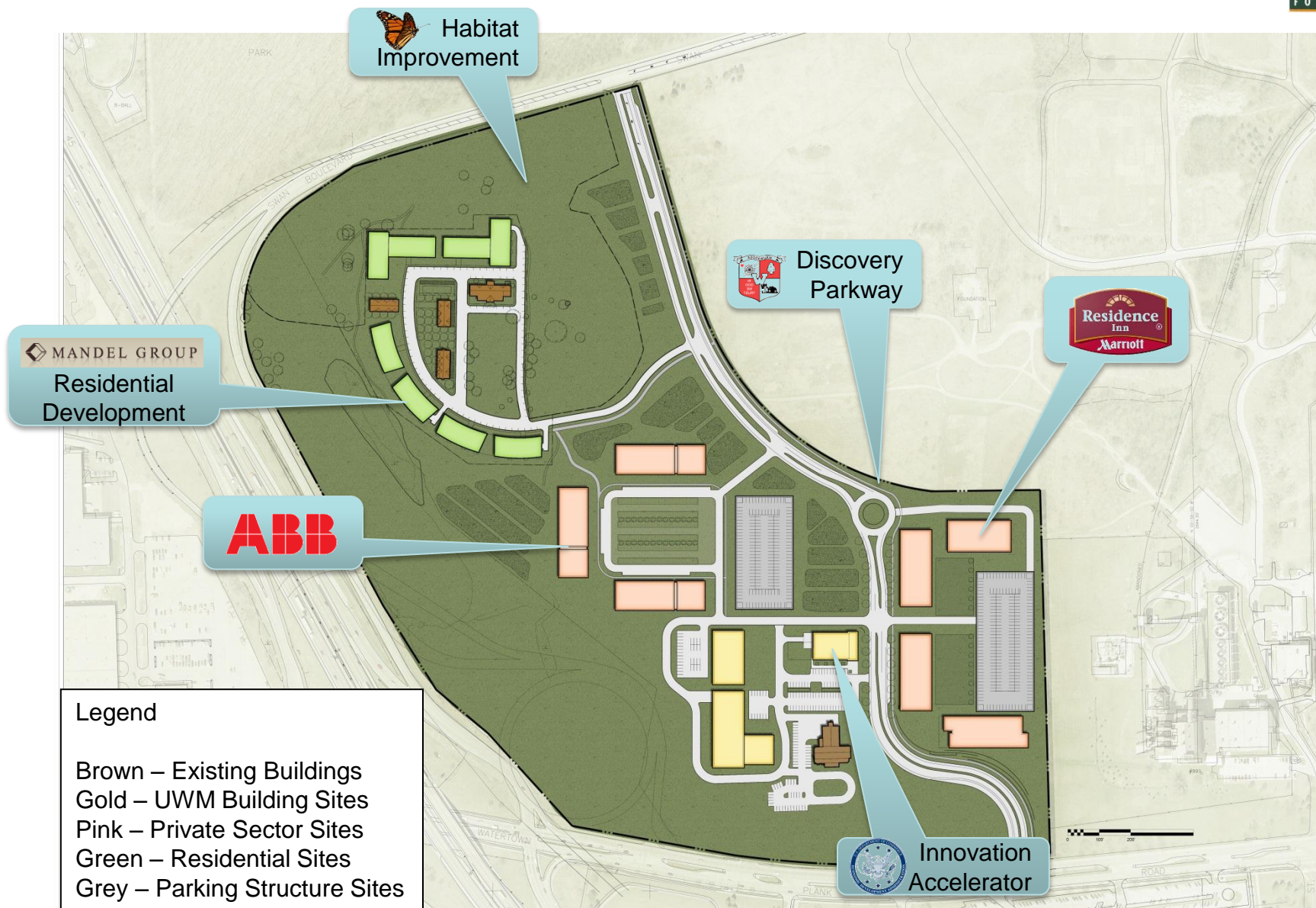
- Helping inventors bring ideas to market
- Medical advances
- Investments to support new companies and products



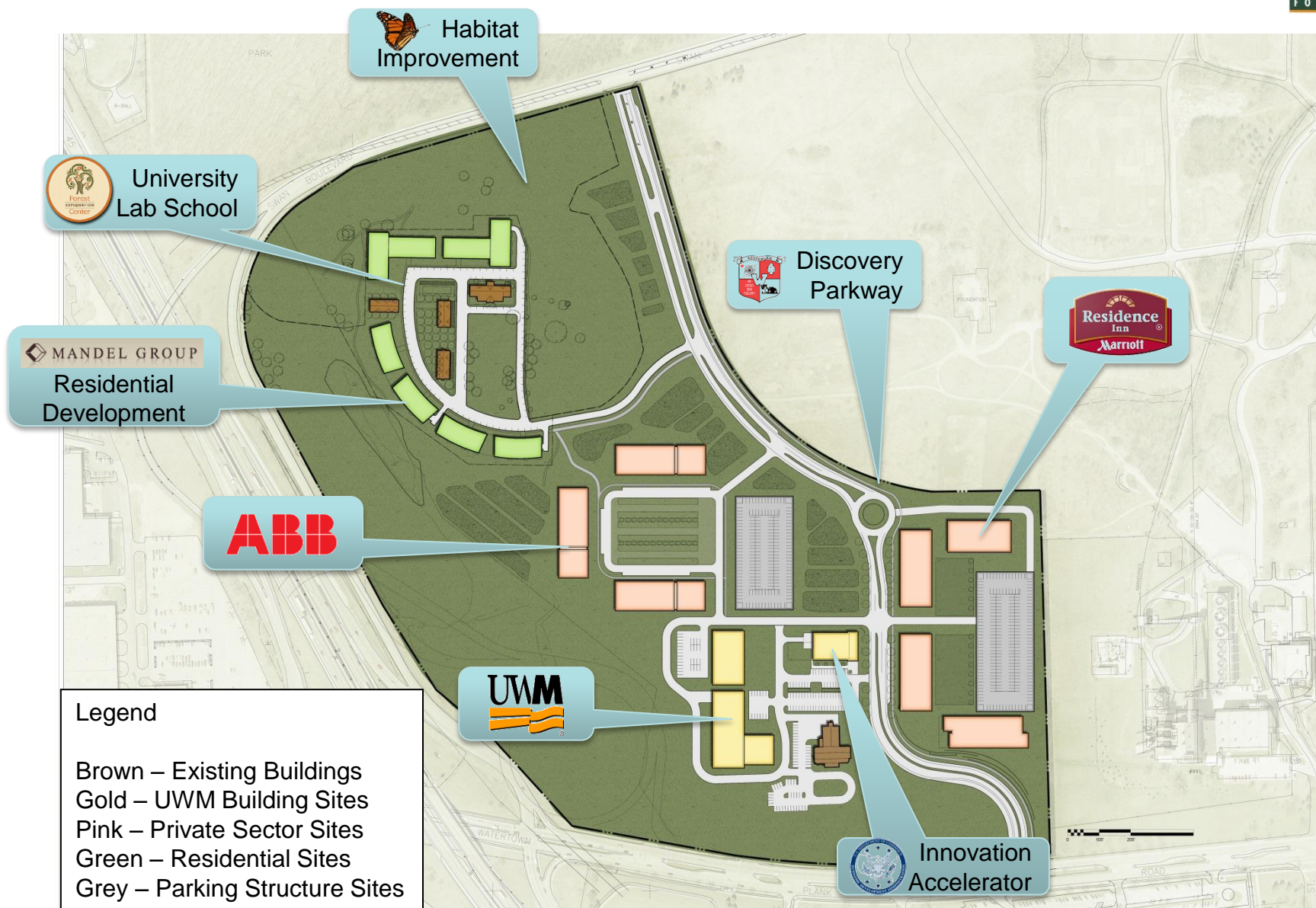














IRC Project Drivers

Program to house primarily interdisciplinary research space

Leverage relationships with external partners that are located in geographic proximity –i.e. MCW, CHW, GE, BloodCenter, etc.

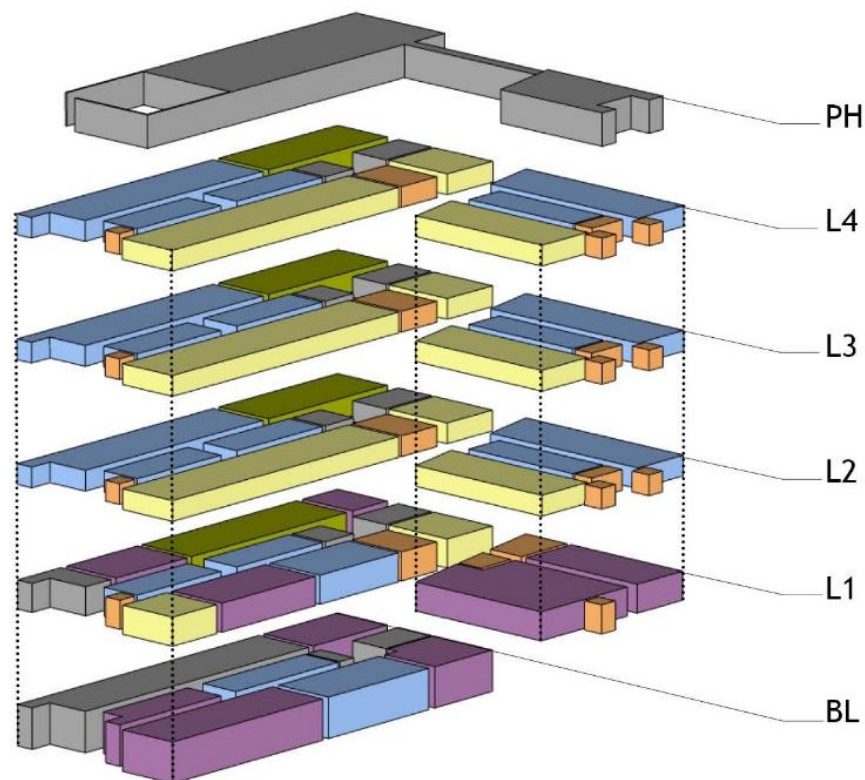
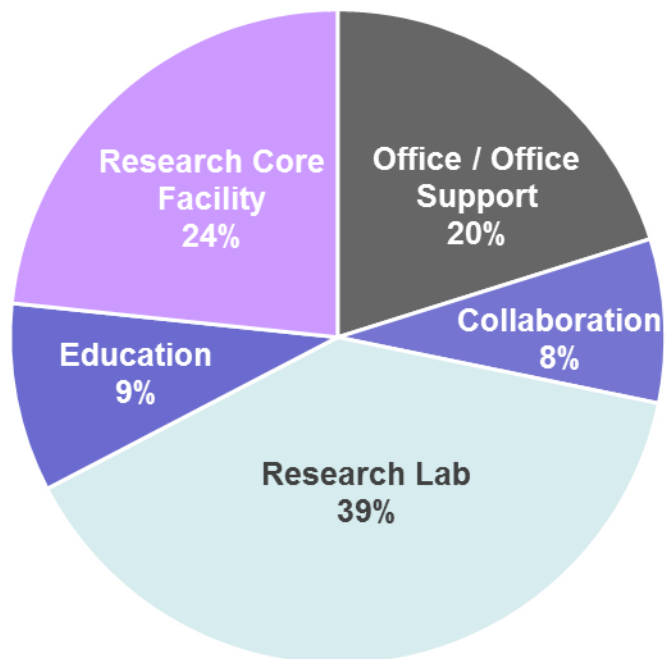
Organize building program around research themes

Plan for flexible, re-assignable space to accommodate changing research activities

Manage building at a campus level

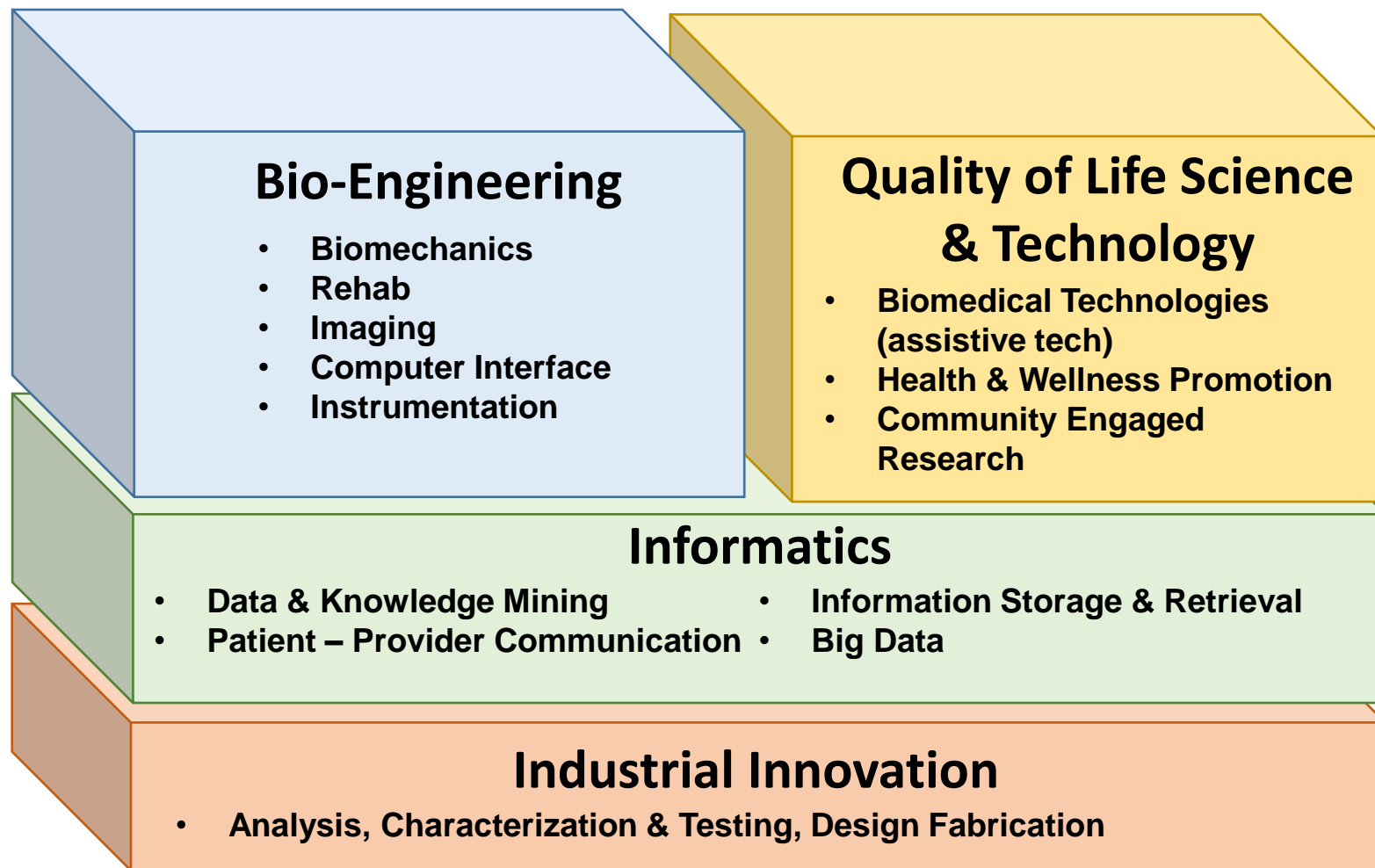
IRC Project Drivers

Program Distribution by Space Type
(*as documented in 2010 pre-design)



Total Assignable Square Feet = 84,000
Total Gross Square Feet = 150,000

IRC Project Drivers



Schools/Colleges: L&S, CEAS, CHS, CON, MCW



“The Medical College of Wisconsin (MCW) strongly supports the University of Wisconsin-Milwaukee's plans to develop Innovation Campus on the Milwaukee County Grounds in Wauwatosa.”

– Dr. John Raymond Sr., M.D., President and CEO, Medical College of Wisconsin



“Children's Hospital and Health System has partnered with University of Wisconsin-Milwaukee for many years to advance nursing practice and research. The university's Innovation Campus research center near the Milwaukee Regional Medical Center could be a wonderful catalyst ...”

– Peggy Troy, MSN, RN, President and CEO, Children's Hospital and Health System



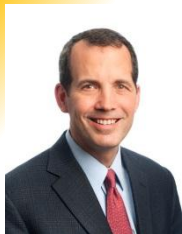
“UWM's presence will provide an opportunity for institutions at the Regional Medical Center to gain direct access to basic science and applied engineering that will foster unprecedented growth in their research portfolios.”

– Jacquelyn Fredrick, President and CEO, BloodCenter of Wisconsin



“What does Innovation Campus mean to the rest of Wisconsin? Milwaukee is the state's largest city and UW-Milwaukee is Wisconsin's second-largest campus. A healthy economy in Milwaukee is vital to all of Wisconsin... ”

– Tom Still, President, Wisconsin Technology Council



“By working alongside an academic and research leader like UWM, we'll be at the vanguard of next generation medical imaging technology, working on things that matter and building on great local talent.”

– Tom Gentile, President & CEO GE Healthcare's Healthcare Systems

