STANDING COMMITTEES

Academic and Student Affairs Committee

Innovation Imperative: Democratic and Inclusive Innovation Across all Disciplines

INFORMATION

This item is being presented for information only.

BACKGROUND

University of Washington's CoMotion is the collaborative hub for expanding the societal impact of the UW community by developing and connecting to local and global innovation ecosystems. CoMotion delivers tools and connections that the UW community needs to accelerate the impact of their innovations.

This presentation will highlight three dimensions of innovation across different academic disciplines.

- Innovation Transfer
- Innovation Learning
- Innovation within the model of higher education

Detailed information about highlighted programs and projects is included in the attachments.

Attachments

1. China: Scaling The World’s Highest Innovation Peaks
2. C21: The Center for 21st Century Liberal Learning
3. EE 294: Ready, Set, Innovate! Spring 2016
4. Ready, Set, Innovate!
5. Urban@UW
6. Innovation Imperative Presenter Bios
China: Scaling The World’s Highest Innovation Peaks

Posted Dec 26, 2015 by Vikram Jandhyala (@vikramjandhyala)

Vikram Jandhyala is the vice provost of innovation at the University of Washington.

In a world of statistics, here’s a number that stands out: 71. That’s how many times the word “innovation” was mentioned in a communiqué issued after the Chinese Communist Party’s recent plenary meeting, which focused on China’s next five-year plan.

It’s clear why China is concentrating so many words — and so much energy and effort — on innovation. Indeed, as a recent McKinsey report points out, to keep its economic expansion on track, this nation of 1.3 billion people must generate two to three percentage points of annual GDP growth through innovation.

The return on this investment could be substantial. By 2025, these innovation opportunities could contribute as much as $1-$2.2 trillion a year to the overall Chinese economy.

After spending several weeks visiting legions of Chinese innovators — entrepreneurs, companies, educational institutions and government officials — I believe that these ambitious numbers will be reached.

And the reason is that China uses monumental scale and massive scaling to innovate, something that no region or country in the world — including the United States — can currently match or replicate.

With more than four times the population of the U.S., and more than one out of seven people on the planet, China has a tremendous advantage based on the sheer size of its rapidly urbanizing consumer market. This helps Chinese companies develop and deliver new products and services quickly and on a huge scale.

The world’s largest manufacturer, with 150 million factory workers, China also has a supplier network that is five times larger than Japan’s. This encourages and enables Chinese companies to trigger continuous cycles of widespread innovation.

China is leveraging the profound power of scale and scaling.

A good example is high-speed trains. Over the past seven years, a determined China — the private sector with help from the government — has built ever-improving next-generation technology in this vital global transportation sector. The result? A cutting-edge manufacturing product set that has accounted for nearly 90 percent of the worldwide growth in high-speed trains since 2008.
Aggressive and real breakthroughs like this contradict the long-held conventional wisdom that China is simply an innovation sponge that absorbs and re-purposes inventions and ideas from the U.S. and Europe.

The danger is that this traditional thinking is becoming increasingly outdated, obscuring the all-important fact that China is leveraging the profound power of scale and scaling to accelerate its bid for global innovation leadership.

To be sure, wherever you look in China today, there are gargantuan innovation processes and programs in progress and in place that require radically new approaches to technology product development, financing, manufacturing, marketing and logistics.

Without these groundbreaking systems, it’s impossible to grow 10x year after year, a goal that scores of Chinese companies set as the norm. And, unlike many technology enterprises in Silicon Valley, which are expanding their businesses virtually, a number of China’s fast movers are growing physically in the real world.

I’m not disparaging Silicon Valley’s innovation excellence in any way, but I am trying to put China’s significant advances in perspective. When we innovate, we create an idea and go (using venture capitalist Peter Thiel’s definition) from zero to 1.

When scaling happens in China, the assumption is that this is not real innovation, but, instead, a scale-out of technologies, 1 to n, using that same definition. My contrary observation is that true innovation is, in fact, growing in China, and, to achieve scale on many new technologies, there’s absolutely an element of zero to 1.

That’s a big difference, and an entirely different way of viewing innovation — one that we need to acknowledge and learn from. Put another way, if we want to compete with China in the rest of the world, especially in potentially giant markets like India, Africa and China itself, which represent three of the most fertile commercial opportunities of the 21st century, we need to start innovating at scale.

Innovating on this vast and sweeping level won’t be easy — because we haven’t done it yet, and because China has a new cadre of hungry and experienced entrepreneurs who want to innovate and scale quickly on just about every continent. These world-tested entrepreneurs don’t need permission to experiment, and they aren’t afraid to adapt or fail.

Alibaba’s transactions last year totaled nearly $250 billion, more than those of Amazon and eBay combined.

Last year, for example, Baidu, the Beijing-based technology giant that was once seen as China’s Google but has since expanded into hardware and software research in areas like natural language processing and image recognition, hired a new Chief Scientist named Andrew Ng. Born in the U.K., Ng was a Stanford University professor who launched Google’s artificial intelligence program and co-founded Coursera, a high-profile online education company.
Frank Wang, the 34-year-old founder of Dajiang Innovation Technology (DJI), which accounts for 70 percent of the consumer drone market, is another strong-willed new-breed Chinese entrepreneur who is intent on taking the world by storm.

Launched out of a Hong Kong dorm room nine years ago, DJI and its global workforce is expected to generate $1 billion in sales this year. But, more importantly, the company has dominated the worldwide consumer market in aerial photography, and recently released an innovative flying platform for third-party software developers to add new functionality, like thermal scanning.

When you’re talking about Chinese entrepreneurs like Wang, who use innovation at scale to command a market, the conversation also must include Pony Ma, the co-founder and CEO of Tencent Holdings, which now presides over a mobile texting service that is actively used by 600 million people (or approximately half the population) in China.

WeChat, as it’s known, isn’t just about texting, however. Functioning more like an extended operating system, it deftly blends elements of Twitter, Facebook, LinkedIn, Skype and PayPal, a combination that may ultimately make it onerous for those vaunted off-shore companies to truly penetrate the large and lucrative Chinese market.

Amazon also could possibly fall victim to muscular Chinese innovation at scale. The Seattle-based company appears to have achieved victory in the e-commerce markets of North America and Europe. And its sales are growing in India. But China is a different, and more difficult, challenge, because that’s the home base of Alibaba, the world’s largest e-commerce company in the world’s fastest growing e-commerce market.

Founded by high-profile Chinese entrepreneur Jack Ma, Alibaba’s transactions last year totaled nearly $250 billion, more than those of Amazon and eBay combined. And on Singles’ Day — November 11 — which celebrates the unmarried, Alibaba generated more than $14 billion in sales, more than all Americans spent online and offline over the post-Thanksgiving weekend.

Uber may run into the same type of roadblock in China, as a result of innovation at scale. This time, though, a mega-merger between China’s two biggest taxi apps — Kuaidi Dache (backed by Alibaba) and Didi Dache (backed by Tencent) — has created a formidable obstacle in China’s trillion-dollar car-sharing and taxi-hailing service market. The resulting entity, Didi Kuaidi, is currently doing 3 million rides a day in China, versus 1 million for Uber.

Looking beyond the numbers, Didi Kuaidi, led by president Jean Liu, a 12-year veteran of Goldman Sachs, is now rolling out a series of innovative new products and services designed to further distance China’s emerging transportation giant from vigorous foreign competition.

For its part, Chinese automaker BYD is innovating at global scale to thwart its rival, Tesla Motors, in the race to build the best — and most — batteries for electric vehicles around the world. Backed by Warren Buffet’s Berkshire Hathaway, BYD is more than tripling its capacity over the next four years.
China is creating sweeping new commerce models.

Most of the state-of-the-art production will be in China, but the company is also adding a major new factory in Brazil and will scale up manufacturing in the U.S., where Tesla is based. BYD, which has plants in Southern California that produce electric buses for public transportation, is also growing this cutting-edge investment.

In addition to developing new products and services and rolling them out at scale anywhere and everywhere in the world, China is creating sweeping new commerce models that have the potential to change the way global business is conducted. A good example is the Online-2-Offline model currently being championed by Alibaba’s Ma because it finds consumers online and brings them into real-world stores.

This is all part of an unspoken, and even free-form, emergent strategy being embraced by so many Chinese companies today. Dexterously pursuing a host of different solutions and adding many seemingly disparate pieces, these intensely innovative enterprises are pulling ahead of their foreign competition as they integrate all the complex parts and forcefully scale in an effort to reach some of the highest business peaks in the world.

The challenge for many large-growth companies in the U.S. over the next few years will be climbing the same commercial mountains as the Chinese. Regardless of whether a trans-Pacific strategy of collaboration or competition is adopted, one of the best ways to do this is by learning how to innovate rapidly and at global scale.

Vikram Jandhyala Crunch Network Contributor
C21: The Center for 21st Century Liberal Learning

What is C21?
The Center for 21st Century Liberal Learning (C21) represents an investment by the College of Arts & Sciences to discover a new kind of learning for the 21st century. Through regular ongoing dialogue, experimental pilot projects, and collaborative partnerships, we seek to push the boundaries of traditional learning models to better meet the contexts of a rapidly changing world.

Our mission is to build an intentional learning community that spans all 4 years, bringing together the research strengths of a first-class university with students’ interests in creating valuable real-world contributions. We imagine a place where students experience what it means to be a citizen and colleague not by listening to us tell them, but by solving difficult problems together; where they learn that the power of ideas lies not in their memorization, but in their enactment; where they see that innovation comes not simply from individual genius, nor leadership from individual skill, but that both emerge through participation in a collective enterprise.

C21 Initiatives:

C21 & CoMotion Ideathon
C21 and CoMotion are partnering together in spring 2016 to offer an “ideathon” during which students will address the value of the Humanities in today’s university. Participants will work in teams and use design thinking and innovative learning practices to ideate and collaborate, focusing more on the process of discovery and innovation rather than on a specific solution or end result.

León Study Abroad
The goal of this program is to initiate incoming freshmen into the practice of learning alongside a community of close travel companions, a practice we continued after we returned to the University of Washington campus.

Tokyo Study Abroad
The goal of this program is to create unique opportunities for our C21 Fellows and other UW students to deepen their intellectual engagement while continuously seeking connection to the local and global world outside the university.

Education to Employment
Partnering with local startup, Koru, we are helping students become career-conversant at an earlier point. We are also piloting a mentorship program with the UW Alumni Association for C21 and Koru fellows in 2015-16.

College Majors
C21 brings faculty and staff together through conversations to build learning opportunities that cross departmental and divisional boundaries. One result of this work has been the development of a number of new, interdisciplinary college majors. We have piloted an applied cinema program called CineMedia, involving Drama, DXARTS, Comparative Literature, and English. Several natural science and social
science units have been discussing a degree spanning those divisions as well. In Autumn 2013, the Dance and Music departments launched a new degree program in Musical Theater.

**College Advising Initiatives**
C21 is committed to developing a new College advising model that is both distinctive from and complementary to healthy departmental advising practices. We have a number of College advising initiatives in progress to help us define and develop this emergent role:

- College Advising Self-Study
- Departmental Transfer Orientation
- CASA (Council of Arts & Sciences Advisors)
- Arts & Sciences Advisor Working Group
“Ready, Set, Innovate!” presents innovation as something that happens in companies, communities, teams and schools. Innovation happens within technology sectors, of course, but also in education, arts, retail, science and, yes, technology. This course introduces undergraduate students to the notion of innovation as a process, not an accident, and seeks to develop a set of skills that students can practice as they strive for innovation. We will rely on an innovative approach to education that mixes active learning, case studies, lectures with innovation leaders, and team exercises to push students to reflect on innovation in their everyday lives and in their university communities.

Goals

We hope this class will have a life-long impact on the students who take it. We hope to create a culture of innovation on the UW campus, in Seattle, and in the world beyond. We hope to challenge some of the myths of innovation and encourage a diversity of approaches to everyday problems.

For students, we want to encourage new ways of thinking about and defining problems, finding inspiration, and creating solutions. We want to encourage students to take risks in their work and in their approach to creativity. We want to show ways to tolerate ambiguity and bring a better sense of personal willingness to take and tolerate risk. We want to show how multidisciplinary work can lead to innovation, and create ways that people can learn to innovate from within. We want to help students with the practical skills for innovation and the inspiration from other innovators.

Learning Objectives

At the end of this course students will know how to:

1. Define problems for innovation through the basics techniques of design thinking including observing, associating, and questioning.
2. Create processes for problem solution through experimenting and networking.
3. Identify their own personal approaches to risk, ambiguity, and innovation and use these to create a personal innovation plan.
4. Connect their Personal Innovation Plan to the trajectories of other innovators.
5. Identify innovation in everyday settings and opportunities for innovation in their communities.
6. Design a plan for innovation based on an assessment of needs, constraints, resources, etc (from axiomatic design)
7. Work in multidisciplinary teams with people of diverse backgrounds and skillsets including engineering and humanities.
8. Develop a basic way of presenting oneself and improving authentic social networking skills both face to face and in person.
Ready, Set, Innovate!

- Spring 2016 class to help create culture of innovation on campus
- Introduces undergrads to the notion of innovation as a *process*, not an *accident*.
- Develops a set of skills that students can practice as they strive for innovation.
- Mixes active learning, case studies, lectures with innovation leaders, and team exercises to push students to reflect on innovation in their everyday lives.
- Encourages students to
  - Take risks in their work and in their approach to creativity.
  - Tolerate ambiguity.
  - Embrace and learn from failure.
Urban challenges are on everyone's mind, and it's no surprise why: more than half of the people around the world live in urban areas, and that number is accelerating. Cities provide economic scaffolding and serve as engines of technological and civic innovation. They also consume outsized volumes of natural resources, and face concentrated social and environmental problems. Cities are both our biggest challenge and our biggest opportunity for societal resilience in the decades to come.

University of Washington is launching a major initiative in urban research, teaching and practice—Urban@UW—that connects people across fields and sectors to foster healthy, equitable, and resilient cities.

Urban@UW extends understanding of cities—from people, buildings, infrastructure, and energy to economics, policy, culture, art, and nature—beyond individual topics to dynamically interdependent systems, so that we can holistically design and steward vibrant and welcoming cities in which future generations will thrive.

Urban@UW positions University of Washington as a leading university in urban issues. Together, we will catalyze the growth of Seattle as a model city—a boundary-pushing laboratory and knowledge economy hub that leverages innovation to create a place of opportunity and health for all—and build knowledge that can be used in metropolitan regions around the globe. Urban@UW leverages deep understanding, leading-edge analysis, and an ethos of partnership to create the pathway for Seattle as the city of the future.
Why UW? University of Washington is home to a remarkably large group of faculty, students, and staff engaged in diverse urban research, teaching, and practice spanning all of city life. We have established strong partnerships with local and global stakeholders, integrating the extraordinary scholarship that occurs at UW with the issues faced by the city of Seattle and beyond. By addressing our community’s needs, Urban@UW emboldens the academic mission of our public university. We tackle the challenges of urban areas today, for the cities of tomorrow.

Why Seattle? Seattle is recognized internationally as a bellwether city and leader in inclusive innovation. It is home to globally recognized civic organizations and leaders. It is a hub for technology innovation, known for advanced computing technologies, cloud computing and open data. It is a leader in environmental, social, and health innovation and investments, including food policy, equitable housing and contributions to biotechnology. And Seattle is a pioneer for social justice, having become the first major city to introduce a $15 minimum wage.

In the coming years the Pacific Northwest will see dramatic increases in population, due both to economic opportunities and to climate pressures. In these and other ways, Seattle will be looked to as a model for cities around the globe. We have a tremendous opportunity to study and apply leading-edge research and technology to guide the vision of an evolved Seattle, as a model for metropolitan regions around the world.

This is the place, and the time is now.

Urban@UW partnerships are spanning boundaries across UW and Seattle

- UW and City of Seattle are one of 20 partnerships in the White-House-initiated MetroLab Network, a program pursuing ‘smart city’ initiatives. Led by Urban@UW, Seattle’s MetroLab focuses on inclusive innovations for infrastructure, delivering services to underserved populations, democratic governance through increased civic participation, and data-driven policymaking.
- Urban@UW partnered with CoMotion and UW Undergraduate Academic Affairs to host NextSeattle, a four-day workshop for cross-disciplinary teams of students to apply entrepreneurial, design, and technology skills to address urban issues in the University District.
- The Data Science for Social Good program, organized by the eScience Institute and Urban@UW, partnered graduate students with data scientists and community leaders to tackle data-intensive projects to make Seattle more inclusive, resilient, and equitable.

Urban@UW draws on proven impacts, diverse leadership, and passion for change. We:

Convene urban scholars, policymakers, practitioners and citizens to:
- Bridge disciplines and perspectives across academic and civic communities
- Foster long-term partnerships with key leaders and stakeholders to prioritize the most urgent urban challenges
- Co-create integrated and robust solutions to wicked urban problems
- Build upon policies and practices that foster healthy, resilient and equitable cities
- Effect measurable, durable change for the city of Seattle, the Puget Sound region, the Pacific Northwest, and nationwide

Accelerate inclusive, data-driven innovations that:
- Create safer, healthier, and more livable cities for all residents
- Tackle upstream factors affecting urban poverty, equity and justice
- Engender resilience to global change and natural disasters
- Make urban data, research and knowledge available to all who need it

Cultivate our students, the next generation of urban scholars, practitioners, and citizens through immersive, leading-edge learning experiences, to:
- Engage across disciplines and sectors to develop inclusive and rigorous solutions
- Imagine and implement powerful responses in collaborative and dynamic teams
- Lead effectively through design thinking, inclusive innovation, and civic empowerment
- Strive for equity and resilience, celebrating and bridging differences across communities

University of Washington is an urban research powerhouse

- Center for Collaborative Systems for Security, Safety, & Regional Resilience
- Urban Ecology Research Lab
- West Coast Poverty Center
- Center for Communication & Civic Engagement
- Tech Policy Lab
- Center for Human Rights
- Pacific Northwest Transportation Consortium
- Center for Urban Waters

For many more initiatives, visit http://urban.uw.edu/
In September 2015, Urban@UW helped to organize NextSeattle: A four-day event bringing together teams of students to apply entrepreneurial, design, and collaboration skills to address some of the toughest urban issues / Photo by Conrado Tapado

Urban@UW is uniquely poised to generate urban solutions.

Across the nation and around the globe there is a rising need for knowledge that supports the building and stewarding of healthy, diverse, thriving urban areas.

We know that cities are complex systems resulting from the dynamic interaction of people, the natural and built environments, the flow of goods and services, political dynamics, culture and economic development. Urban@UW brings knowledge from all of these fields to the table, and works with diverse stakeholders and organizations to apply urban research for healthy, resilient cities.

Through Urban@UW, together University of Washington and the Seattle metropolitan region have immense capacity for groundbreaking research and leading-edge solutions to 21st century urban challenges. The complex challenges that today’s cities face can be tackled with this type of inclusive, data-driven innovation and Urban@UW is poised to lead the way, connecting learning and doing for meaningful change in Seattle and beyond.

Become a part of the urban solution by learning more at:

http://urban.uw.edu/
UrbanUW@uw.edu
206.685.2523
Vikram Jandhyala is Vice Provost for Innovation at the University of Washington. He is Executive Director of CoMotion, UW’s collaborative innovation hub, and the UW co-CEO of the Global Innovation Exchange (GIX). He is a Professor and former Chair in the Department of Electrical Engineering, and an Adjunct Professor in the Information School.

Vikram Jandhyala received the BTech in electrical engineering from the Indian Institute of Technology, Delhi in 1989, and the MS and PhD degrees in electrical engineering from the University of Illinois at Urbana-Champaign in 1995 and 1998, respectively.

After spending two years in the design automation industry at Ansoft Corporation (acquired by Ansys), he joined UW EE in 2000. His research, which has led to more than 200 papers and several PhD students at top R&D positions has been funded by DARPA, semiconductor industries, national labs, Department of Defense, Department of Energy, and National Science Foundation, including an NSF CAREER award, and has received awards from UIUC, IEEE, UW, and NASA.

He founded, along with his students in 2006, Nimbic, a venture-backed simulation company which was acquired by Mentor Graphics in 2014. He was founding UW director of the UW-PNNL northwest institute for advanced computing (NIAC) from 2012 to 2014. He was chair of the UW EE department from 2011 to 2014, led the UW EE professional master’s program as faculty director through early growth in 2009 and 2010, and was an inaugural UW presidential entrepreneurial faculty fellow in 2011.

His current interests are in the science and art of innovation, entrepreneurial and design thinking, educational innovation, social and organizational networks, and computational and data science.
Ben Waters is CEO of WiBotic Inc., a startup company based on his research at the University of Washington, where he is working to commercialize wireless charging systems for robotics. WiBotic has licensed the technology from CoMotion at UW.

As a graduate student, Ben developed the FREE-D System – a wireless power system for left ventricular assist devices (LVADs). LVADs are implanted artificial heart pumps for end-stage heart failure patients who are waiting or ineligible for a heart transplant. However, LVADs require a driveline that penetrates out of the patient’s stomach and connects to an external battery. The FREE-D System offers a solution by delivering efficient, long-range and safe wireless power to the implanted LVAD. It eliminates infection caused by the driveline, significantly improves quality of life and increases LVAD market value as patients instead seek a wireless solution.

As an undergraduate, Ben worked in the Columbia Integrated Systems Laboratory at Columbia University, where he completed research on wireless power transfer. His research interests lie mostly in the field of wireless power, including near-field antenna design, adaptive maximum power point tracking systems as well as applications for these systems, such as biomedical, military, industrial and consumer electronics. He has interned with Network Appliance, Arup, Intel Labs Seattle and, most recently, with Bosch in 2013, where he continued his research in wireless power transfer.

Ben holds a B.A. in physics from Occidental College, a B.S. in electrical engineering from Columbia University, and an M.S. and Ph.D. degree in electrical engineering from UW.
**Gina Neff** is associate professor of communication and sociology at the University of Washington, where she is also senior data science fellow at the e-Science Institute. She is author of *Venture Labor: Work and the Burden of Risk in Innovative Industries* (MIT, 2012) and with Dawn Nafus the forthcoming *Self-Tracking* (MIT, 2016). Her research focuses on the social and cultural implications of new technologies. She holds a Ph.D. in sociology and an undergraduate degree in economics from Columbia University. Her research has been funded by Intel, Microsoft Research, Princeton University, the Institute for Advanced Study, and the National Science Foundation. She co-directs the Collaboration, Technology and Organizational Practices research group on how new kinds of data and analyses are transforming building design and construction.
Kevin Mihata is Associate Dean for Educational Programs in the College of Arts and Sciences, where he coordinates undergraduate education, advising, and curriculum across A&S departments. He has been at UW for more than twenty years. Before moving to the Dean’s office in 2008, he completed his PhD in Sociology in 2000, and taught social psychology, sociology of culture, and research methods, and started the Sociology Practicum program, engaging undergraduate students in applied projects with nonprofit organizations, government agencies, or other partners.

He is also the founding director of the Center for 21st Century Liberal Learning (C21). The mission of C21 is to better integrate 21st century skills such as intention, creativity, and collaboration into a UW Arts and Sciences education. C21 projects include the C21 Fellows, an ongoing student community built around learning innovation; short-term study abroad and other intensive learning experiences; and a number of College to Career initiatives with other campus units and partners outside UW.
Dr. Thaisa Way is an urban landscape historian teaching history, theory, and design at the University of Washington, Seattle. While her home is in the department of Landscape Architecture in the College of Built Environments, she holds adjunct positions in both architecture (CBE) and history (CAS). Her book Unbounded Practices: Women, Landscape Architecture, and Early Twentieth Century Design (UVA Press, 2009) was awarded the J.B. Jackson Book Award. Recent books include the co-edited work with Ken Yocom, Ben Spencer, and Jeff Hou (colleagues at UW). Now Urbanism: The Future City is Here (Routledge 2014) and The Landscape Architecture of Richard Haag: From Modern Space to Urban Ecological Design (UW Press, 2015). Dr. Way co-directed with Dr. Margaret O'Mara (History) the UW's John E. Sawyer Seminar, Now Urbanism, funded by the Mellon Foundation in 2010-2012. She is currently serving as the founding Executive Director of Urban@UW, bringing urban researchers, teachers, and practitioners together to address 21st century grand challenges.
COMPANY OVERVIEW
WiBotic is an innovative technology company leading the charge in manufacturing adaptive wireless power systems specifically for robots. Existing and emerging robotics companies, regardless of industry or application, all require power. A primary pain point in the robotics race is the access to power.

Traditional methods of ensuring adequate power consist of standard plug-in, mechanical docking or carrying excess battery packs. WiBotic is changing the way robots are charging.

PROBLEM
With the skyrocketing number of robotics companies developing solutions for agricultural surveillance, monitoring, healthcare, materials delivery, warehouse logistics, etc., one of the underlying problems for autonomous robot deployment is battery charging. Mechanical docks are unreliable and lead to extensive wear and tear over the lifetime of the robot. Wireless charging presents an attractive alternative, but has been technologically unattainable in the robotics market. WiBotic offers the only wireless charging system suitable for robots.

ADAPTIVE RANGE TECHNOLOGY

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SOLUTION

Safe
- Integrated safety sensors
- FCC compliant design

Adaptive
- 10-250W adaptive wireless power
- Receiver communication with the robot

Reliable
- Robotic navigation assistance
- Fail-safe plugin charging option

- Designed to enable drones to do more
- Light-weight, autonomous, reliable, fast-charging
- Evaluation unit is fully customizable
- Delivered as plug-and-play system
- Proven designs integrated in on-market drones

MANAGEMENT TEAM

Ben Waters, PhD
- Co-Founder, CEO
- 10 years experience in wireless power
- FREE-D System for wirelessly powered implants
- Analog, RF, embedded power systems engineer

Joshua Smith, PhD
- Co-Founder, Advisor
- UW Associate Professor of EE and CSE
- 20 years experience in wireless power, robotics
- Principal Engineer at Intel Labs Seattle
- Highly cited and patented in wireless power

ROBOTICS APPLICATIONS

Aerial | Mobile | Aquatic