Administrative Activities Review
University of Akron Research Foundation (UARF)
August 2018

I. Basic Facts and Description of the Unit

a. Mission & Goals

Mission: To create value for the University of Akron and the communities we serve by transforming and expanding the region's innovation economy through entrepreneurship education, technology commercialization, application of UA research, and creation of new entrepreneurial ventures.

Long-term goals: "2020 by 2020"
- Engage 10% of the UA student body (about 2,020 students per year) in entrepreneurship and innovation programming; UARF currently engages about 200 students per year (or 1% of the student body)
- Increase royalties received in a stepwise fashion, creating a sustainable revenue stream of at least $2.02 million per year; licensing revenues currently stand at about $250,000 per year
- Achieve multiple big wins with UA-affiliated startup companies ($50 million in total funding raised, $10 million in annual revenue, and acquisition of a startup); UARF startup companies have raised $33 million in funding and generate $1 million per year in revenue with no startup acquisitions to date
- Leverage the above successes as distinctive features to recruit talented students to UA

Short-term goals are to increase:
- Students engaged in entrepreneurship and innovation programming to 250 in 2018, 750 in 2019, and 2,020 by 2020
- Faculty engaged in entrepreneurship and innovation programming to 80 per year (or about 10% of UA faculty)
- Licenses executed from roughly 4 per year over the past decade to 10 per year
- Royalties received by $50,000 or more each year
- "A" Metrics (i.e. funding raised by startup companies and UARF) to at least $5.5 million per year

Table 1. UARF progress toward short-term goals

	2015	2016	2017	2018 YTD*	Goal	Stretch Goal
"A" Metrics	$3.9M	$5.1M	$4.3M	**$1.7M**	$4.5M	$5.5M
Licenses Executed	5	4	12	**5**	7	10
UA Students Engaged	77	102	194	**134**	200	250
UA Faculty Engaged	39	37	44	**48**	N/A	N/A
Royalties Received	$0	$0	$93,000	**$200,000**	$150,000	$250,000

* All numbers are for calendar year, not fiscal year

UARF is part of UA's research enterprise (shown in blue in Figure 1) and interacts closely with Office of Research Administration (ORA) and Office of Technology Transfer (OTT) under direction of the Vice

President of Research. UARF serves the campus community (orange) through interactions through the Provost (including Finance Office), Office of General Council, as well as the Colleges and Faculty. UARF provides UA the major service of licensing technologies to external entities (green) including companies and government agencies, and manages contractual agreements with external agencies for testing services and in situations that UA is prohibited by state law. UARF provides services to faculty, students, and to local communities to train and aid entrepreneurs to establish and grow start-up companies. UARF interacts with external local and regional entrepreneurial organizations such as Bounce and JumpStart.
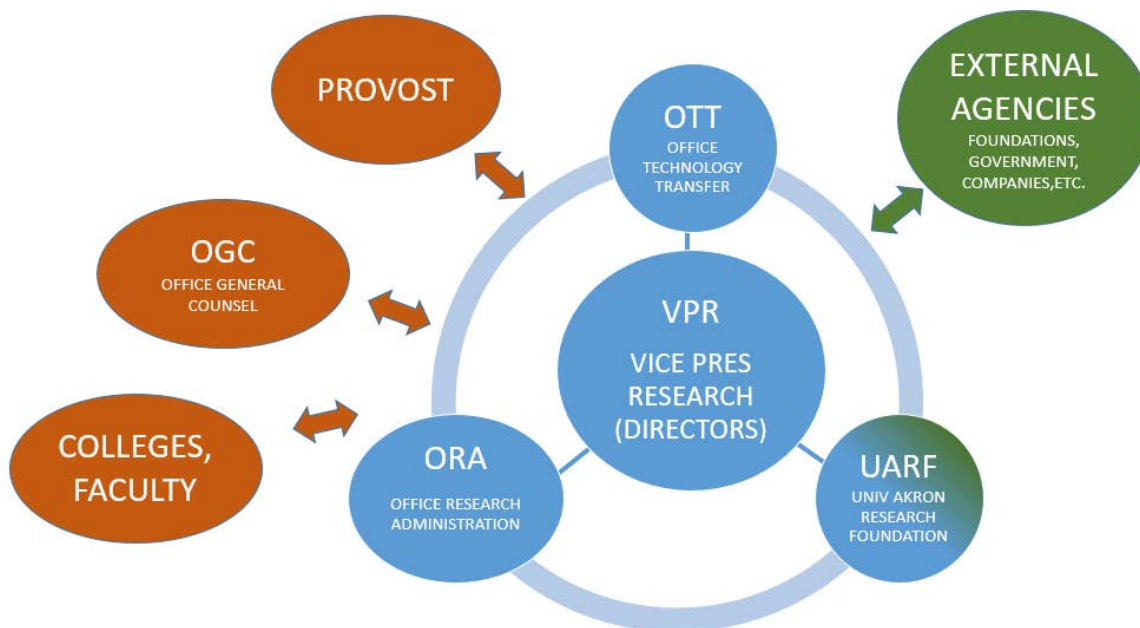

Figure 1. UARF (lower right) interacts with UA's research enterprise and external groups

b. **Services**

UARF was established in 2001 to promote and support university/industry collaboration and to provide effective mechanisms by which UA discoveries and inventions are developed and commercialized (summarized by the continuum depicted in Figure 2 and detailed in Table 1). UARF's unique initiatives include:

- Starting Line: This 10-step program is a gateway into customer discovery and the Business Model Canvas intended to help beginner entrepreneurs elevate their business concept. Plus, participants have a chance to win prizes to assist in the journey to market.
- I-Corps: A program through which entrepreneurs can discover the potential of their business idea through direct customer interactions in a 7-week program that provides training, mentorship and accountability
- Spark Fund: An organization that invests in UA-based technology teams only, providing funding for prototyping and testing to generate the "proof needed" to launch a startup
- Startup Support: Senior Fellows who mentor and advise entrepreneurs and startups, plus tactical support like legal and business services
- ARCHAngels: Akron's first investment network, bringing together entrepreneurs, investors and the community for quarterly events
- NEOSVF: A student-run fund that conducts due diligence and invests up to $25,000 per company in Northeast Ohio tech-based startups (startups need not be run by students)
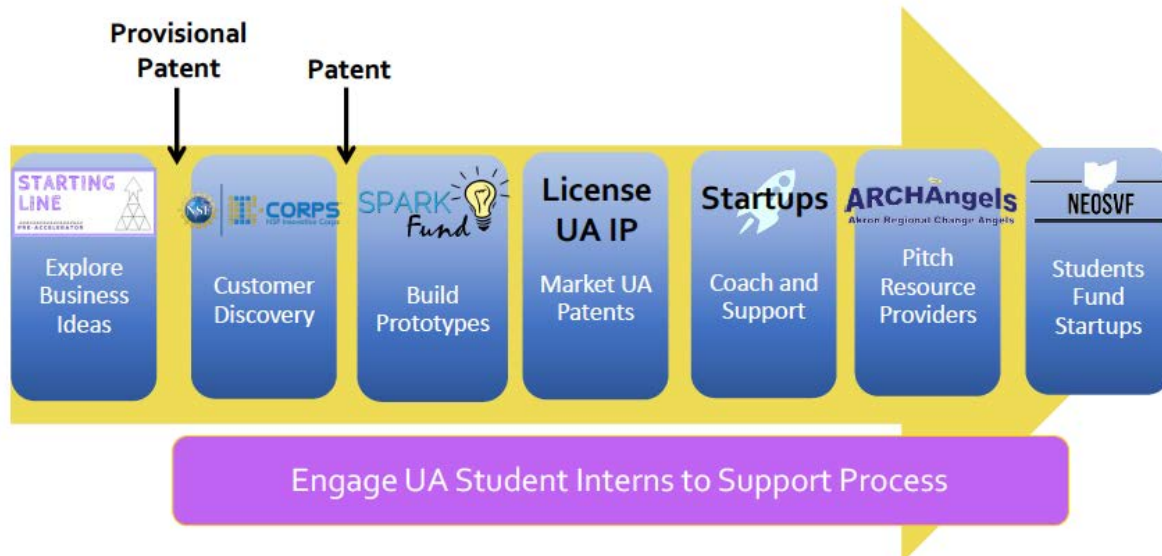
Figure 2. UARF continuum of key programs supporting faculty, student and community innovators

Table 2. UARF services grouped as key programs

	Critical Partners	Customers & End-Users	Key Performance Metrics	Percentage Effort	Brief Assessment
Starting Line	EX[L] Center and Fitzgerald Institute refer students	Students, who participate in the self-paced program to assess their business ideas	26 students participating on 15 teams	5%	Launched in February, good response thus far with opportunity to scale and expand
I-Corps	Office of Tech Transfer, Bounce Innovation Hub, JumpStart, funders (NSF and Burton D. Morgan Foundation)	UA faculty and students across disciplines, community entrepreneurs, community mentors	Since 2013, 180 teams and 550 individuals participated, 120 mentors engaged, 19 startups formed, 10 new licenses executed	20%	UARF's signature program, high levels of engagement and on-campus and community support, plan to continue to run program with minimal adjustments
Spark Fund	Office of Tech Transfer, highly qualified external selection committee	UA faculty inventors, UA students performing due diligence, potential startup licensees	Since 2017, five projects funded with a combination of UARF and state funds, $250k raised to fund projects	10%	Program too expensive, student effort now being put toward helping teams raise external funds through SBIR which we think presents a better opportunity
Licensing UA Intellectual Property	Office of Technology Transfer, faculty inventors	Companies interested in licensing UA technology, UA faculty inventors	Since 2015, 26 licenses executed, $250k in annual recurring licensing revenue	15%	Licensing revenue is a bit low, dependent on big hits, recent upticks in licenses executed look promising for future years

	Critical Partners	Customers & End-Users	Key Performance Metrics	Percentage Effort	Brief Assessment
Startup Support	Bounce Innovation Hub, JumpStart, Ohio Third Frontier	Entrepreneurs (particularly UA licensees and UA alums), some UA faculty	Portfolio of 23 active UA affiliated startups with 45 employees (mostly UA grads)	25%	Significant Ohio Third Frontier dollars support this effort, increases in startup quantity and quality, startups may lead to licensing revenue, research dollars and alumni donations to UA
ARCHAngels	JumpStart Entrepreneurial Network, due diligence committee members	Entrepreneurs, students, Akron area mentors and service providers	Have presented more than 170 startups to a network of more than 600 investors, service providers and entrepreneurs	10%	Strong student and community engagement and interaction, opportunity to expand UA and high school student attendance
NEOSVF	UA, KSU, Case, Notre Dame, College of Wooster and Walsh, Burton D. Morgan Foundation	Students from the six college chapters, tech entrepreneurs that apply for funding	Several hundred student participants, 13 investments in Northeast Ohio companies, $7 million in follow-on funding, 80 jobs created	15%	Pivoting to find new ways to work with partner organizations, opportunity for higher levels of UA student participation

Despite significant cuts in staffing, UARF has actually increased productivity in almost every program it manages, and has added three new programs to better support innovative UA students and faculty (Starting Line, Spark Fund, and FAST SBIR support). This has been accomplished through the launch of larger scale programs that achieve economies of scale and engage community members, students, faculty and alumni as partners.

Table 3. UARF trends in productivity and program metrics

	2013	2014	2015	2016	2017	Overall Increase
Students Engaged	-	-	77	102	194	252%
I-Corps Site Teams	14	32	29	44	37	264%
Spark Fund Projects Vetted/Managed	0	0	0	0	7	N/A
Licenses Executed	3	6	5	4	12	Variable
UARF Portfolio Companies	12	11	15	17	21	175%
Portfolio Companies with $150k+ Raised	3	4	4	7	12	400%
Hours Committed to Startup Co. Support	2,550	3,611	3,611	6,320	6,320	248%
ARCHAngels Co's Presented	~16	~16	~16	~16	~16	0%
NEOSVF Companies Vetted	4	8	12	12	12	300%
UARF Employees	5.5	6.5	4	4	4	-42%

Unique UARF strengths:

- An established leader in entrepreneurship and innovation programming
    - One of the first three NSF I-Corps Sites nationwide
    - One of the first four Ohio-awarded Tech Validation Funds (Spark Fund)
    - One of the first three university affiliated collaborators in JumpStart Entrepreneurial Network
    - First Ohio university affiliate to partner with FlashStarts Global Entrepreneur-in-Residence program
    - First university to sweep the regional LaunchTown Business Idea Competition
    - Founding chapter of NEOSVF, the first multi-university student-run venture fund in Ohio
    - First angel network in Akron (ARCHAngels)
    - Winner of the 2017 Deshpande Symposium Award for Outstanding Contribution to Entrepreneurship & Innovation
    - Finalist for the 2018 Deshpande Symposium Award for Exemplary Practice in Technology Commercialization
    - Winner of 2018 Northeast Ohio Council on Higher Education (NOCHE) "Coolest Internship" (NEOSVF)
- Engagement with students and faculty across campus and with the community
    - More than 80 UA faculty and 180 UA students from 24 different departments, plus 40 faculty and 80 students from 7 other Northeast Ohio universities and more than 40 community entrepreneurs participating in UARF's I-Corps program
    - Assists startup companies coming from labs in 3 UA colleges and 12 UA departments
    - Close partnership and jointly created programs with UA's EX[L] Center, Bounce Innovation Hub and JumpStart Entrepreneurial Network
    - Works with UA's Office of Technology Transfer and UA innovators (faculty and students) to facilitate license agreements and industry collaborations
    - Assists more than 50 Akron area entrepreneurs, including UA alumni that are aspiring and successful entrepreneurs
    - Engages more than 100 UA alumni and community members as mentors for UA technology projects
    - Wide variety of industry collaborations, such as hosting Smithers Oasis' annual "innovation day" and follow-on training sessions, connecting First Energy's new ventures group to carefully selected UA technologies, facilitating a collaboration between UA Electrical Engineering and Exacter that has led to a $3 million electric utilities hub, and creating a $33 million polymer training program with Exxon and SABIC
- Track record of entrepreneurial success beyond the borders of UA's campus
    - I-Corps Sites program has graduated 180 UA teams and community startups, and more than 550 students, faculty, entrepreneurs and mentors in four years
    - UARF has launched more than 60 UA technology-based startups that have raised $33 million in capital
    - ARCHAngels Network has more than 600 entrepreneurs, investors, service providers, and faculty and students from 10 Northeast Ohio universities participating
    - NEOSVF has invested $330,000 in 14 startups that have gone on to raise an additional $8.5 million and create more than 80 jobs

c. Resources

Personnel: UARF has reduced from a peak staffing level of 6.5 full-time equivalents (FTEs) in 2014 to 4 FTEs today. Of further note, the decrease in staffing is even more pronounced because current staff includes part-time paid interns and administrative assistants, who are endeavoring to cover roles that had previously been filled by full-time professionals. Most of UARF's current staff is heavily covered by grant funding.

Table 4. UARF personnel, key functions and funding sources

Name	Title	Key Functions	FTE	Funding Source (% not paid by UARF)
Elyse Ball	Assistant Counsel & Project Manager	leading I-Corps program, Spark Fund, licensing and startup support services	1.0	100% of salary covered by Ohio Third Frontier
Dan Hampu	New Ventures Manager	leading I-Corps, ARCHAngels and NEOSVF, and assisting with Spark Fund and startup support services	1.0	60% of salary covered by Burton D. Morgan Foundation
Barry Rosenbaum	Senior Fellow	leading ARCHAngels and assisting with licensing and corporate engagement	0.5	None
EbaNee Bond	Entrepreneurial Fellow	assisting with I-Corps and ARCHAngels, and leading outreach to students	0.5	50% of salary covered by Ohio Third Frontier (works for BOUNCE for other 50% of time)
Tricia Pihlblad	Administrative Assistant	coordinating I-Corps, ARCHAngels and NEOSVF events, and assisting with Akron Innovation Campus and startup support services	0.5	100% of salary covered by Ohio Third Frontier and Economic Development Administration
Nick Glavan	Business Intern	leading Starting Line, and assisting with I-Corps, Spark Fund and startup support services	0.5	100% of salary covered by OMNOVA Solutions Foundation and Economic Development Administration
Kendall Martis	Accounting Intern	assisting with accounting services for UARF and UARF startups	0.5	40% of salary covered by Ohio Third Frontier

UARF also works closely with UA Office of Technology Transfer personnel, many of whom have corresponding titles at UARF and some of whom are paid using UARF funds.

- *George Chase, UARF President and UA Director of STEM Research,* strategic leadership and connection between UA research enterprise and UARF
- *Kenneth Preston, UARF Vice President & Executive Director and UA Director of Technology Transfer,* leading patent strategy and licensing efforts
- *Mary Ellen Hinkle, UARF Treasurer and UA Director of Accounting*, leading all accounting services for UARF and its special projects, leading Akron Innovation Campus, and providing accounting for some UA research and testing contracts – **salary paid for by UARF**
- *Mehraj Parveen, UA Office of Technology Transfer Administrative Assistant,* assisting and supporting technology transfer administration – **salary paid for by UARF**
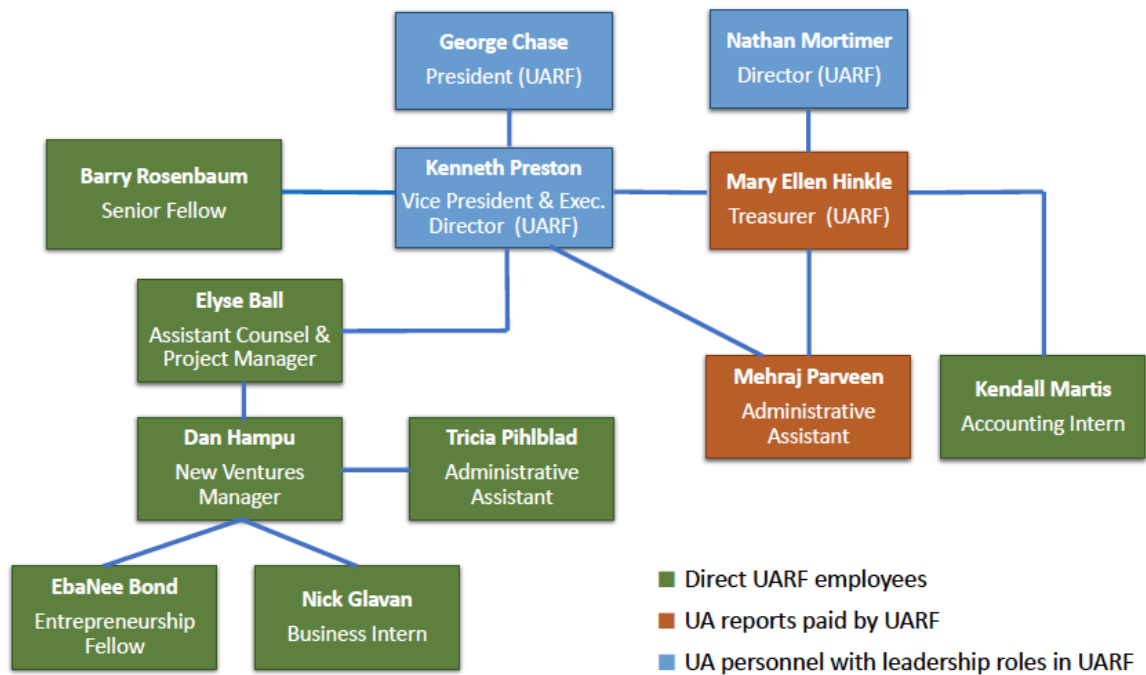
Figure 3. UARF organizational chart, including interactions with UA leadership (in blue with corresponding UARF titles) and UA personnel supported by UARF (in orange)

Equipment and technology: UARF does not use special equipment, just laptops and office supplies.

Space: UARF's offices are housed at 411 Wolf Ledges Parkway, Suite 100, adjacent to UA's campus for easy access for both UA personnel and members of the community.

II. Future Plans

a. Potential Changes

As noted above, UARF sets ambitious goals for its future. Under its proposed "2020 by 2020" plan, UARF would:

- Engage 10% of the UA student body (about 2,020 students per year) in entrepreneurship and innovation programming
- Increase royalties received in a stepwise fashion, creating a sustainable revenue stream of at least $2.02 million per year
- Achieve multiple big wins with UA-affiliated startup companies ($50 million in total funding raised, $10 million in annual revenue, and acquisition of a startup)
- Leverage the above successes as distinctive features to recruit talented students to UA

Cuts to UARF staffing have been particularly challenging to contend with, because 2 full-time UARF professional staff were eliminated and their previous roles are being fulfilled by part-time personnel. At this time, UARF has only 2 full-time employees. Without the continuity that comes with these key personnel and the support of paid interns and fellows, UARF would be unable to sustain operations and would be forced to drastically scale back the services and programs it offers to UA faculty and students

and the community. Given the high levels of productivity achieved by the reduced staff, UARF personnel believe that an increase in staffing by even 1 FTE would allow us to rapidly scale our programs and outcomes.

In order to achieve UARF's lofty long-term goals, UARF plans to take the following key actions. Crucial to the ability to execute on these plans is the addition of 1 new full-time hire. It is anticipated that this person's salary could eventually be offset by grant funding, although UARF would be required to fund the salary at the outset.

- Engage 10% of the UA student body (about 2,020 students per year) in entrepreneurship and innovation programming
  - Entrepreneurship Fellow EbaNee Bond will speak directly to classes taught by the large network of I-Corps graduate faculty and promote programming through UA's EX[L] Center to recruit students to Starting Line, I-Corps, NEOSVF and other programs
  - New Ventures Manager Dan Hampu will increase the scale of ARCHAngels and NEOSVF to accommodate more student attendees and interested corporate leaders
  - Hampu and Bond will expand on current entrepreneurial mindset and pitch practice events to accommodate more student participation
  - Hampu and Bond will push forward with a collaboration with Bounce to engage more UA students in Bounce programs and place more paid student interns at Akron area startup companies
- Creating a sustainable revenue stream of at least $2 million per year from licensing
  - UARF's I-Corps program will continue to vet about 30 UA technologies per year to generate preliminary market insights
  - Assistant Counsel Elyse Ball and the new hire will execute on a proposed collaboration with UA's Law School to use student effort and low-cost patent mapping software to identify more targeted corporate licensees
  - Ball and Senior Fellow Barry Rosenbaum will continue to push forward efforts in collaborating with known corporate partners and industry organizations to facilitate greater numbers of executed licenses
  - Ball and Hampu will assist UARF licensee startups that are nearing market entry to achieve and scale product sales, through individual efforts, UA intern support, and ties to Bounce and the JumpStart Entrepreneurial Network
  - For long-term sustainability this is contingent upon continued intellectual property development and patent applications by UA faculty through OTT.
- Achieve big wins with UA-affiliated startup companies
  - The new hire will take over lead administrative efforts for UARF's I-Corps program, which will free up Ball and Hampu to fully develop proposed follow-on programming that supports more advanced startup companies
  - UARF staff will continue their targeted support of high-achieving UARF startups to help them achieve their milestones
  - Ball and Hampu will build upon existing strong collaborations with Bounce to enhance external support for UARF startups
- Leverage the above successes as distinctive features to recruit talented students to UA
  - The new hire will be responsible for dedicated interaction with UA Communications & Marketing, including bi-weekly attendance at staff meetings to understand marketing strategy, tactics and goals

o The new hire and existing UARF staff will produce at least one story per week that highlights faculty, student and/or alumni achievements in entrepreneurship and innovation and share through UA Communications & Marketing channels
o Hampu and the new hire will reach out to UA departments focused on student recruiting, development and alumni relations to share stories and serve as a point-of-contact on any requests for statistics or stories

    b. Trends

Entrepreneurship and innovation programming and support services have become key student and faculty recruiting features for universities. Accompanying majors and minors in entrepreneurship, co-curricular programs like those UARF runs in collaboration with EX[L] and the Fitzgerald Institute have grown substantially. For example, the I-Corps Site program, which originally started in 3 locations including UA, has now spread to more than 90 university campuses nationwide. A 2015 Bloomburg survey of more than 1,300 recruiters found that many entrepreneurial skills were among those skills most sought by employers, including adaptability, analytic thinking, creative problem-solving, entrepreneurship, initiative/risk-taking, leadership skills, and strategic thinking. Similarly, UARF has heard that programs like I-Corps, Spark Fund, NEOSVF and internships with startups are the most common experiences students raise in job interviews. This confluence of factors has led UARF to set aggressive goals for student engagement.

Further, strong entrepreneurship programs can be a source of connection for entrepreneurial alumni, who may make major donations to their alma mater (making UARF a potentially significant contributor to the goals of the Department of Development). Entrepreneurship-motivated donors have given hundreds of millions of dollars to their universities to support future generations of entrepreneurs. In the past three years, three alumni siblings donated $18 million to University of North Carolina at Chapel Hill's undergraduate entrepreneurship program; a single alumnus donated $20 million to the University of Chicago Booth School of Business to support a new center for social sector entrepreneurship; and the Sears family donated $10 million to Case Western Reserve University to purchase naming rights to its think[box] makerspace/entrepreneurship hub. UARF's goals for significant startup company support and success stem from these factors, as does UARF's commitment to engage alumni as mentors and advisors in programs like I-Corps, Starting Line and generalized startup company support.

Finally, changes to Northeast Ohio's landscape, including the creation of Bounce Innovation Hub and renewed focus by the JumpStart Entrepreneurial Network in engaging universities, gives UA an opportunity to emerge as a key collaborator, leveraging significant benefit for UA students and faculty seeking to commercialize new technologies. Having actively engaged with Bounce and JumpStart for the past five years, UARF is well-positioned to step into this role, which could lead to new learning opportunities for student, more support for UA faculty, student and alumni led startup companies, and more successful entrepreneur alumni.