

White Paper: **Speeding Commercialization in a University Setting** Launching the Michigan Translational Research & Commercialization Program

Paula Sorrell, Melda Uzbil June, 2016

The Need for Commercialization

Fueled by a 10-year economic downturn, a crippled economy, and a shrinking population, the Michigan Economic Development Corporation's Entrepreneurship, Innovation & Venture Capital department looked to the universities for support. At this time, Michigan's universities were creating less than 15 start-ups per year on more than \$1 billion of federal research. Needing jobs and tax revenues quickly, the MEDC turned its focus on universities to provide a more significant pipeline of technologies.

We sought a better way to speed up translational research from universities. A retired scientist approached us with a request for state funding to set up an L3C shell company to secure SBIRs for university research, which he would harvest. It sounded good in theory but, LC3s weren't recognized as an acceptable form of entity by federal government agencies, and the access to universities' intellectual property was not a clear or easy path. But it did get us thinking about the possibilities and drive to look for a model that would work.

The Coulter Foundation found that by distributing and carefully monitoring commercialization funds in universities –and leveraging industry and investment partners to make funding decisions- a 21X leverage return could be achieved through translational research in biomedical engineering. The foundation principals had worked tirelessly for eight years, none having university commercialization experience, to create what was in the end a brilliant outcome.

Initial Intellectual Support Came from Other States and Schools

The University of Michigan had run the "Coulter Process" and demonstrated that commercialization in biomedical engineering could be successfully sped up in a Michigan university. In early 2012 we were fortunate to hire Melda Uzbil, who had run the Coulter biomedical engineering program at Duke for the past 8 years. As one of the original CPDs for the Coulter Program, she introduced us to the Coulter Foundation in Miami. Mara Neal, a University of Michigan and Michigan State University graduate and one of the original Coulter Foundation members, was interested in supporting her home state. This led to a four-year relationship with the other principals of the foundation, including CEO Sue Van and COO Elias Caro. They welcomed us to participate in their bi-annual meetings with the 16 schools they funded since 2006. Those schools' CPDs in turn shared their best practices and pitfalls they had experienced over the prior years. This gave us an incredible boost to

the process. Over the course of the first year, we carefully picked apart the detail to determine if we could use the Coulter process to:

1. work outside of biomedical engineering, in other disciplines that would benefit the state
2. deploy the program on a regional basis, to impact a regional economy
3. replicate the process without the endowment Coulter had used as a carrot, since we did not have the funding capability to do so

We knew there would be a few differences.

- - Coulter's mission was to get biomedical products in the hands of doctors and bodies of patients, so licensing was an acceptable outcome. Because we were using state funds, the outcomes we needed were start-up focused on economic development goals: starting tech companies and increasing licenses to Michigan companies to grow their competitiveness. The challenge here is that a commercialization path is not always clear in the beginning, so we needed to remain flexible in case another outcome occurred, such as a license to a company outside the state. Frankly, this was the area we felt we most needed to "police" the process.
- - Because the program was intended to be technology agnostic, we asked schools to pick a research expertise and submit proposals that focused on their most prolific research that represented the largest commercial potential in that vertical. Jim O'Connell, then director of the venture center at University of Michigan, helped us figure out how to tailor the program to our needs – based on his background of industry, start-up, and academic experience.

The Michigan Strategic Fund Board agreed to release \$6.5 Million in funding for the program, and we released an RFP nearly identical to Coulter's first RFP from 2006. We named the program the Michigan Translational Research and Commercialization program (M-TRAC). Several responses were received, though some schools explored the possibility with us and determined they were not ready for a full-on commercialization effort, removing themselves from the process. A joint evaluation committee made up of expert was assembled, visiting each university to meet with the departments representing the IP, the offices of tech transfer, and in some cases high level administrators, including the provost and university president. Through the evaluation process, some schools were deemed not quite ready to employ the Coulter process, mainly due to missing functions in the tech transfer departments. For these schools we employed the help of consultant and process engineer Tom Daly to identify necessary process changes and resource needs. Years earlier, the Coulter Foundation had hired Tom to map the processes of the tech transfer offices at Coulter-funded schools. Tom came up with a unified "best practices" flow, which we used in our RFP.

The Secret Sauce, or “Coulter Genius”

We are most often asked why the Coulter Process works. There are four key reasons:

1. A dedicated, hard-working full-time person with relevant startup or industry experience in the vertical is employed in the university with the title “Commercialization Program Director.” That person has double reporting responsibilities designed to bridge the gap between the academic principal investigator and the office of technology transfer. The CPD wakes up every day with the mission of encouraging researchers to look at commercialization as an option, moving projects out the door, and to finding funding for projects. Programs that struggled were usually due to the wrong hire – sometimes because a university employee had been “repurposed” to serve as a CPD.
2. An experienced oversight committee with deep industry experience and funding capability reviews projects, identifies commercial potential, advises the CPDs and researchers, makes introductions, and helps set milestones and schedule the tranches of funds.
3. Someone tied to the source of funds outside of the university holds grant recipients (universities) accountable and provides structure to each school’s program.
4. The research department and the offices of tech transfer – with the CPD’s help – work together to find the best commercialization path and work as partners.

Success Metrics and Thanks

In the end, five MTRAC programs were funded in 2013. The programs include: advanced materials at Michigan Technological University, agro-bio at Michigan State University, advanced transportation at the University of Michigan, the University of Michigan Medical School, and life science at Wayne State University.

As the program nears year three, more than 40 projects have been funded, more than 10 start-ups have been launched, and projects have secured in excess of \$15 Million in follow-on funding. One serial entrepreneur involved with a start-up recently said, “the M-TRAC program easily sped up commercialization of our company by two years.” The head of MSU’s Technology center stated, “It seems to be the most consistent method for commercializing technologies.”

We’ve found success in identifying a few champions within the university that shared our mission in creating companies. Post docs and grad students with an entrepreneurial bent, supported by a strong research faculty member, are the key to getting start-ups to advance quickly. Over the past three years university spin-outs in Michigan have slowly ratcheted up. This past year was 25 through tech transfer offices (67% increase), not including student start-ups which has been the fastest growing segment.

Acknowledgements to all the visionaries and tireless champions who helped launch MTRAC. It really did take a village. In addition to CPDs at the Coulter funded schools across the country who educated us over the course of four years, special recognition and appreciation goes to: Sue Van, Mara Neal, Elias Caro, Susan Racher, Wayne Barlin, Banu Onareal, Roselyn Zator, Fred Molnar, Hugo Braun, Tom Daly, Jim O'Connell, Lisa Kurek, Ken Nisbet, Volker Sick, Steve Kunkel, Rich Chylla, Steve Hsu, Jim Baker, Dave Reed, Jay Ellis, Joan Dunbar, Terri Grieb, Connie Chang, Kevin Ward, Brad Martin, Matt Bell, John Diebel, Andy McColm, Karen Studer-Rabeler, and many others in the universities and state government who supported (and continue to support) the MTRAC program.

About Paula Sorrell

From 1997 – 2011 Paula served as V.P of Marketing for successful tech start-ups, mostly in Michigan. From 2002 – 2006 she contracted with the MI-SBDC Tech Team to provide business advisory and strategic planning sessions for early stage tech companies. From 2011 – 2015 she was Vice President of Entrepreneurship, Innovation & Venture Capital the Michigan Economic Development Corporation. Today she is an independent consultant working with universities, economic development organizations, and investors to build out technology economies and create an environment where companies can succeed. She serves on a number of non-profit boards focused on entrepreneurship and technology commercialization and is a part-time lecturer at the University of Michigan's Center for Entrepreneurship in the College of Engineering. She is based in Ann Arbor, Michigan.

About Melda Uzbil

Melda served as University Relations Director for the Michigan Economic Development Corporation, during which time she created the basis for MTRAC. Before the State of Michigan, Ms. Uzbil was the Duke Commercialization Program Director, working with the Blackstone Charitable Foundation and the Founding Director of the Duke-Coulter Translational Partnership. Ms. Uzbil's industry experience includes Pfizer, managing CNS marketing research and evaluating new business opportunities, as well as her family's chemical company. Currently she is the acting V.P. of Corporate Development at a pharmaceutical start-up in Miami, FL. Ms. Uzbil holds a Master of Engineering Management degree from Duke University with a concentration in Technology Management and Entrepreneurship and a BS in Chemical Engineering from Istanbul Technical University.