11-TTAG-034

Company Name	Poly Adaptive, LLC
NAICS	541711
Address	11908 Kanis Rd., Ste G-1
City	Little Rock
State	AR
ZIP	72211
County	Pulaski
Number of Employees	1
Year Established	2009
Company Web Site	
Contact Person	Michael B. Miller
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Resource Provider	Enable Ventures, Inc.
RP Address	2400 Brookhaven Drive
RP City	Alma
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RP County	Crawford
RP Project Contact	Sharon C. Ballard

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Project Area	Advanced Materials and Manufacturing Systems - 2 - Nanotechnology
Project Area Brief Description	Graphene-based Electrodes
Federal Agency	National Science Foundation
Project Title	11-TTAG-034 - Graphene-based Electrodes for the Electrodynamic Removal of Particulates
Competitive Challenges	Poly Adaptive's area of technology focuses on the development and use of electrodynamic shields (EDS) for particulate removal. The initial focus has been the technology's use in space applications, though the technology offers a potential solution to an array of other needs. Poly Adaptive's PI researcher and research collaborators have demonstrated successes in the development of this technology in the lab. The firm and its partners will work together to explore performance/design challenges, with a goal to reach efficiencies and performance benchmarks that can be replicated at a production-scale level.
Specific Problem	We will use the services of EnableVentures, Inc. to help us write a competitive application to the NSF SBIR/STTR program, research sub topic #N2, Nanomanufacturing. EnableVentures' experience in the SBIR/STTR arena will help us craft our research project proposal to respond to the evaluation criteria used by the SBIR/STTR program. Their experience in addressing strong research plans, and especially commercialization plans, will be helpful as we assess how to optimize the commercial value of the Poly Adaptive technology to our company.
Solution	One major area of commercialization assistance that EVI will help Poly Adaptive with involves the tradeoff of methods for commercializing the results of the proposed SBIR/STTR. These tradeoffs involve the know-how, resources required and related costs associated with taking the solution to market directly, or as a license in one or more fields of use, or some mix of both. There are many successes to be examined by other SBIR/STTR-funded technology companies, some with no outside capital being raised for commercialization of such technologically-based companies as Poly Adaptive. Phase I proposals do not have many pages allocated for the commercialization plan, typically one or two pages at most. EVI

	clients have been very successful using their strategic business planning approach; EVI's researching and planning methods have been used nationally and globally in technology-based businesses, such as Kinetic Muscles, Inc. (Tempe), Magnasense (Finland) and Medipacs (Tucson). EVI's commercialization successes with clients have resulted in an average return on investment of over $27 for every dollar of assistance provided by EVI (source: Arizona Department of Commerce's Sandra Watson).
Implementation Plan	EVI will work with Poly Adaptive to generate several value networks and analyze where the most value is created across several targeted markets and paths to market. These network analyses efforts will catalog the flow of product and service, investment required and value created at all levels of the network, for all candidate paths to market. The value network analyses will also consider the flow of product and service, investment and value internally and externally to help Poly Adaptive executives and researchers understand what is required to successfully take the resulting research and development to target markets (for example, what creates the maximum value in actually manufacturing the products and does that value get generated by external manufacturers or internal processes or through license agreements for specific targeted markets). Interviews with industry experts will be held to validate the assumptions made in the creation and analyses of Poly Adaptive's value networks. EVI will help identify and prepare for these interviews. Science and technology entrepreneurs can readily see the business rationale for making such decisions once these value network analyses are created, analyzed, and validated externally.
Maintenance Plan	Success for Poly Adaptive in Phase 3 starts during the Phase I process. Initial commercialization paths will be investigated in preparation for the Phase I proposal, and several industry experts and successful SBIR entrepreneurs will be interviewed. Letter(s) of Interest will be obtained from several candidate customers and/or licensees, which validates early market interest. Another commercialization action that executives will take involves participation in programs being offered at UALR. A Poly Adaptive executive and two UALR MBA students attended the NCIIA's Advanced Invention to Venture (AI2V) workshop September 27-October 1. Successful with hundreds of early-stage science and technology ventures, AI2V will be followed by 8 to 10 weeks of coaching that results in a 15-minute business plan presentation by the Poly Adaptive team before a 'dream' panel of business and technical experts who provide an hour of feedback and advice. This program has been used by many SBIR funded ventures across the USA to help them think through how their business will actually operate, validate the market opportunity, and assert and

	defend why their venture is the best choice to capture that market opportunity. UALR's SBTDC hosted this event and EVI's Sharon Ballard was the NCIIA AI2V instructor; EVI and UALR's SBTDC will provide follow-on weekly coaching with Poly Adaptive. Poly Adaptive's final business plan presentation could be given as early as mid-April, 2010.
Step 1	EVI will prepare for and lead proposal kickoff meeting (see attached plan) and all related research, plans and actions; Kickoff Mtg. scheduled for November 19, 2010.
Step 1 Time	3.00
Step 1 Budget	$750
Step 2	EVI will lead twice weekly meetings with Poly Adaptive to review proposal preparation and commercialization efforts most via teleconference, each meeting lasting approximately 1 hour, with approximately 30 minutes of advance review.
Step 2 Time	13.00
Step 2 Budget	$3,250
Step 3	EVI will perform detailed final reviews, typically 2, including some technical/scientific editing and re-writing, as might be required.
Step 3 Time	4.00
Step 3 Budget	$1,000
Increased Sales	$0
Retained Sales	$0
CS Inventory	$0
CS Labor	$0
CS Materials	$0
CS Other	$0
II Plant	$0
II IS	$0
II Workforce	$0
II Research	$150,000

I I Other	$0
AUI	$0
SOI	$0
Job Retention	0
Job Creation	1
YN 90Days	Yes
YN Affiliation	No
YN Agreement	Yes
YN Total Project Price	Yes
Explain Total Project Price	
YN Cash Match Agreement	Yes
Copied	No
TTAG ID	11-TTAG-034
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Signature Panel - Enterprise AR Name	Michael B. Miller
Enterprise - Email	.-.-.-.-.-.
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Include in Batch	Yes
Batch Number	NA
Application Status	Pending
Organization	ASTA
BatchTest	Processed
Batch Date	
Set Batch Number	
Lvl4	No

Application Description	6-Advanced Materials & Production
SBIR-STTR	Yes