



Using Analytics and Technology Accelerators to Help First Responders

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Acknowledgement: This research effort was supported by DHS S&T First Responders' Group under contract # HSHQDC-17-C-B0023







- Some Background
- The Program
- Project Selection Methodology
- Next Steps



Background



- There is an omnipresent desire to improve First Responder capabilities whenever and where ever possible.
- The S&T First Responders' Group(FRG) leads this effort for the Federal Government
- Continually emerging IoT information technologies were identified by the FRG as having high potential to contribute to First Responder Safety
- IoT technologies a rapidly growing set of technologies and multibillion dollar market
- The IoT marketplace is different from the traditional sources of improvement to first responder safety. E.g.:
 - Insurance Industry
 - Building / Construction Industry

Solution: Look for Technology Innovators



The Sciti (pronounced "City") Program



- Smart City IoT Innovation (Sciti) Program
 - Sponsored by DHS S&T- First Responders' Group
 - Executed by the Virginia Center for Innovative Technology
 - Supported by:
 - TechNexus

Technology Accelerators

- Smart City Works
 KaDSci, LLC
 Analytics Col
- KaDSci, LLC Analytics Company
 The goal of the program is to seek out, develop, and bring innovative lot technologies that improve first responder.
- innovative IoT technologies that improve first responder capability to market.
- By:
 - Working with First Responders
 - Aligning with larger market opportunities
 - Seeking out Innovators
 - Planting & fertilizing seeds

Technology innovators are usually found in small startups



Project Selection



- The challenge How to select the winners Knowing:
 - Most Startups fail
 - Success depends on much more than the "idea"
 - Improving First Responder Capability will require technologies to interoperate once deployed.
- The solution:
 - Cast a very broad net
 - Used a proven, disciplined selection method
 - Require interoperability from the very beginning



Casting a Broad Net



- Widely Publicized (https://www.cit.org/SCITI/)
 - Technology Accelerator Circles
 - Universities
 - Relevant Professional Societies
- Easy Application Process
 - One Page
 - One Phone Call Screening
- Received over 130 applications

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i If you need help, contact info	@exogenius.com					
SCITI Labs is looking for capa www.cit.org/SCITI www.cit.org/SCITI/RFI	abilities to support Fire	st Responders. Please	see the following links	for more informa	ation.	
Company Information						
Company Name	1.00	Date Formed		Website		1.00
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Founding Team						
Primary Contact First Name	Primary Conta	ict Last Name	Primary Contact E-	nail	Primary Contact Phone	
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Additional Founders			Employee Summar	1		



Disciplined Process



- Down selected applications to approximately 40 for detailed review (March 2018)
- Created three pools of complimentary technology types
 - Navigation and sensors (mobile emphasizing indoor navigation)
 - Indoor sensors (static innovative applications of emerging IoT for Smart Cities)
 - Smart Hub (Infrastructure to facilitate interoperability)
- Required a standard submission packet, tailored to technology
- Applied a decision analytic model (Influence Diagram) designed for technology startup investment analysis.
 - Looked across three dimensions (Value Proposition, Business Execution, Exit Potential)
 - Twenty self evaluation questions for proposers
 - Twenty three evaluation questions for evaluators ("investors")
- Ranked Proposals in each Pool based on the evaluations
- Selected 13 Phase One Projects (April 2018)

Projects Compare Evaluations				
Navigation and Sensors Compare Evaluations				
Proposil Name	Average Overall Score	Average Value Proposition Measure	Average Business Execution Measure	Average Exit Potential Measure
Third Insight (previously Visual Semantics)	π	92 🔺	ध	67
Vaporsens: Nanoliber Chemical Sensors as a Flexible Platform for Smart Cities and First Responder Applications	60	57	66	52
EccDomus, Inc.	60	<u>دا</u>	66	48
Arglity, Inc.	58	58	65	42
Known Quantity Sensors	ទា	64	59	40
3AM Innovations	55	53	64	42 <u>_</u>
sich al ic	52	47	70	25
FUR Systems, Inc.	50	50	69	.12
Casper Drones	45	54	38	40
Smart Urmanned Aerial Vehicle for Exploration (SUA/E)	43	53	43	24
Amulet Corp of America	40	48	33	36
Enabling Autonomous Navigation of Small UAVs in Degraded Environments for Search and Rescue Missions	32	43	33	8

EXAMPSA Seessment Data Collection Tool



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*	Home	^	Proposals > Casper Drones			E-SCORE QUES 58 ♥ 1	TIONS ANSWERED INVESTOR VIEWS			
۹	Search Proposals	⊞								
Ø	Screening Proposals	Ð	1 About		Proposal Details	Entrepreneur Score				
≔	Proposal Pools	⊟	Additive Utility Function – Three Objectives							
	View All		Evaluator Name	Overall Score	Value Proposition Measure	Business Execution Measure	Exit Potential Measure			
	Create			58	66	56	48			
			(Entrepreneur)	63	88	34	71			
		Proposal Evaluation Five categories of questions -								
			Offering Market Team Capital Company Infrastructure Overall Impress + Prev Next +							
			Overall Impressions							
			What is your overall impression of the most likely exit the applicant(s) will achieve for the proposed business?							
			Exit size is estimated as a multiple of the overall investment made in the venture. Returns vary both in size and time required between investment and							
			monetization of the investment. The initial estimate is informed by Kauffman Foundation Research							
			Very Large Exit							

Example Anderlying Selection Model







Model Effectiveness (V&V)



0.05 FailedReal Exits
 High Real Exits
 Medium Real Exit 0.04 0.03 Density Density 0.02 0.01 0.00 -20 20 40 60 80 0 N = 36 Bandwidth = 6.888

Density of Overall Scores in Experiment

Density of Exit Scores in Experiment



Clinical Trial Results 82% accuracy in identifying <u>failed</u> <u>start-ups</u> 77% accuracy in identifying a "medium" exit **41%** accuracy in identifying "large" exits

Example Repuiring Interoperability Throughout





Multi-Vendor Demo.... Often Measure Results Coordinate with Standards Organizations



Next Steps



• First Demo July 2018





Questions? Comments!



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