Project Justification Proposal

FFY 2018 Homeland Security Grant Program "State-Share" Funds

1. Organization Name	**Massachusetts State Police**
2. Project Name	**Tactical Robots**
3. Project Manager	**Lt. Robert G. Schumaker #2787**
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Prioritization- If submitting more than one Project Justification, prioritize each Project Justification (1, 2, 3, etc.).	**TWO of SIX**
Project Period (MM/YYYY format)- Project must be completed by 8/31/2018; extensions will not be provided beyond this date.	**Start: 09/01/2017**
	End: 01/31/2018

Section A: Project Description

Please provide a clear and comprehensive project description (**maximum 2 pages**) that includes responses to each of the following 8 areas:

1. Describe the proposed project:

   Robots have become an invaluable component of tactical operations. They provide the capability to gather intelligence, conduct surveillance and monitor areas of responsibility without introducing human operators into a potentially dangerous environment. Almost all tactical robots have some attributes in common: they are wheeled or tracked platforms, they are operated remotely (with various ranges), they are rechargeable and they are equipped with cameras that allow for remote viewing of video feed. Some robots have additional capabilities including articulated arms, audio detection, etc. For maximal benefit to SWAT units, tactical robots must be reliable, easily portable, rapidly deployable, rugged and easy to operate.

   The (Special Tactical Operations Team) STOP Team proposal is to procure two additional robot systems: two Recon Robotix Throwbot XT units and two Search Sticks. The Search Sticks are collapsible poles that can be attached to the Throwbot to convert it into a pole camera which would allow the Throwbot to gather intelligence of areas in heights the Throwbot may not be able to access on its own. This would allow for all three regional teams to have a Recon Robotix Throwbot at their immediate disposal. It would be assigned to the regional Team Leader who would have it with them at activations and would be responsible for the upkeep and maintenance of the unit. The acquisition of these systems would allow for the STOP Team to deploy at least two robot systems at any activation. It would also provide the capability to have robot deployment at long duration activations where a depleted robot can be taken offline and recharged without losing capability.

2. Describe the need for the proposed project and the gap(s) that it will fill:

   The STOP Team has a single tactical robot in its inventory, the Recon Robotix Throwbot. The STOP Team has found the Throwbot to have all these attributes: it is extremely portable, rugged and easy to operate. These qualities allow a team leader to carry it with them *in the event that it is needed*. Larger systems are not easily portable and usually require a team to retrieve the robot from the Command Post if the need to deploy it arises. This extra step and delay can create its own tactical difficulties.

   On May 22, 2016, the STOP team responded to a duplex in Oxford with intelligence of a barricaded subject. This individual was the suspect wanted in the murder of Auburn Police Officer Ronald Tarentino Jr. The STOP Team was able to deploy this single tactical robot into the duplex before introducing the human operators into this potentially dangerous environment. Once the robot had been deployed, the Operator had the ability to see in real-time what the robot can see. Following entry of the robot, the State Police K9 team deployed one of its members; the operator was at the entrance to issue commands. By increasing the total number of robots, it would provide the STOP team with a 360 degree perspective of each room being searched. Additionally, the second robot deployed could provide the K9 Handler with constant monitoring of the K9 and would allow the Handler to detect when the K9 exhibits behavior that normally alerts the Handler. The ability for the K9 to be monitored was not available on the date of the incident and therefore the Handler was unable to observe the K9's behavior as he cleared rooms with closed doors. The robot by itself can only view a closed door and is able to ascertain if there is a threat behind the door. Upon entry into the duplex, a STOP Team operator was shot by the suspect that was behind a closed door while the robot was clearing rooms. The ability to locate a barricaded subject would be greatly enhanced by having multiple robots available at a scene of an armed and barricaded subject.

   There are significant drawbacks to having a single robot system. Almost all tactical robots systems have an integrated, rechargeable battery. This means that when the robot battery runs out of charge, the robot must be taken off scene to recharge. The integrated battery system is the only option for this type of robot. The robot is designed to be thrown into a potentially dangerous environment. Robots are often thrown over a fence or through a window. The charging phase can take forty-five minutes to hours to fully recharge. Also, if the lone tactical robot becomes damaged or trapped in the terrain, there is no replacement capability.

3. Describe the expected outcomes of the project and how they will be measured:

   The expected outcomes of the project include marked increase in officer safety during tactical operations throughout the 8,257 square miles of the Commonwealth. Additionally, this project will provide an increased availability for tactical missions as well as an increased ability to observe and detect adversaries and victims in potentially dangerous environments. Outcomes will be measured by utilization rates of the additional systems as well as the increased utilization rate of the sole tactical robot in the current STOP Team cadre. The current tactical robot will have an increased availability due to the lack of time that it is currently spent en route to various missions. At present, the single robot in the STOP Team's inventory could be with any one of the Regional Team Leaders. Logistically, the average response time for the robot to be at an incident is 75-90 minutes. By having a robot with each Regional Team Leader, the average response time would be 20 minutes.

4. Describe this project's coordination with related initiatives within your organization (if applicable):

   This project is coordinated with related initiatives within the organization. The STOP Team members are mandated to participate in 40 hours of monthly training in specialized tactical maneuvers, terrorist activity response, dignitary protection and weapons use. The members of the STOP Team maintain training in current trends and tactics of domestic and international terrorists and criminal organizations. The use of these robots will be incorporated into this mandatory 40 hours of training.

   This project is coordinated with related initiatives within Special Operations. As previously described in this proposal, the K9 Unit was able to deploy a K9 into a house and not lose sight of the member. Additionally, not all missions rise to the level of full STOP Team activation. The Regional Team Leaders are also Sergeants that are assigned to a barracks. During normal patrol tours, Team Leaders will respond to incidents within the Troop requiring the additional skills and expertise of a STOP Team Member. By having this increased capability, the response time to an incident will be greatly decreased.

5. How will this project be sustained by the organization in the future:

   It would be assigned to the regional Team Leader who would have it with them at activations and would be responsible for the upkeep and maintenance of the unit.

6. Describe how this project will be managed (i.e., key roles and responsibilities, and subject matter expertise required by this project, including at least the project manager and the contracts management structure):

   Lieutenant Robert Schumaker, Special Tactical Operations Team will be responsible for selecting the final platforms to be ordered and selecting the vendor. Lt. Schumaker is also the subject matter expert for this equipment as well as the requirements of the STOP Team. Once the robot systems have been purchased, delivered and tested, they will be distributed to the Regional Team Leaders.

   The Contracts Manager for this project will be Deb Broderick and her key roles and responsibilities will be to ensure a timely completion and submission of all fiscal documents.

7. If applicable, describe the usage plan for equipment:

   The equipment will be distributed and maintained by each Regional Team Leader. Missions that place STOP Team Operators in a potentially dangerous environment will rely on the capability provided by the robots to gather intelligence, conduct surveillance and monitor areas of responsibility without introducing human operators in the potentially dangerous environment.

8. If applicable, identify the owners of the proposed assets to be procured:

   The Massachusetts State Police will be the owners of the proposed equipment.

Section B: Project Continuation/Extension

If this is the continuation of a project previously funded by HSGP funds, please provide (1/2 page maximum) the following information:

a. The total amount of the award, as well as the federal fiscal year and funding stream dedicated to this previously funded project:

   This project is not a continuation of a project previously funded by HSGP funds.

b. A brief summary of past progress:

   Not applicable, this project is not a continuation of a project previously funded by HSGP funds.

Section C: Summary of Support for the FFY 2018 HSGP State Priorities

Describe how the proposed project supports the FFY 2018 HSGP State Priorities (1/2 page maximum).

The proposed project supports the *Closure of identified gaps in homeland security emergency response equipment and training* by obtaining additional *equipment for closing identified gaps in homeland security response capabilities.* On June 12, 2016, a gunman entered a nightclub in Orlando, Florida and started shooting, killing 49 people and wounding 53. Upon initial response of this incident, police engaged in a three hour standoff before making entry into the building and being able to identify and terminate the threat. By deploying the proposed equipment in a similar event, this would allow the STOP Team Operator to fully assess the situation. The STOP Team operator would have been able to confirm if the gunman was alive, if he was waiting for police, and gather additional intelligence. This would provide for a crucial element of officer safety while contemporaneously restricting the gunman's ability to do further harm.

Section D: Summary of Support for State Investment Justification (IJ) Area

Describe how this project correlates with one or more of the FFY 2018 Massachusetts HSGP Investment Justifications (IJs) (1/2 page maximum). The FFY 2018 IJ Areas are located in Appendix A and listed below:

1. Prevention of Terrorism
2. Protection
3. Response
4. Interoperable and Operational Communications
5. Mitigation and Whole Community Engagement
6. Mass Care, Sheltering and Evacuation
7. Recovery

This project builds and sustains core anti-terrorism capabilities in direct correlation with the following FFY 2018 Massachusetts HSGP Investment Justifications (IJs): *Prevention of Terrorism* and *Protection*. Prevention of Terrorism includes projects such as Information Sharing, Screening, Search and Detection, and Interdiction and Disruption. The Protection Investment Justification includes projects that build and sustain core anti-terrorism capabilities. By equipping each Regional Team Leader with a tactical robot, and thereby decreasing average response time, it will allow provide each team with an added capability. The information sharing capability exhibited on May 22nd that led to the successful detection, interdiction, and ultimate disruption of the suspect barricaded in the closet demonstrated what an invaluable tool this proved to be. Had this tool been readily available in the incident in Orlando, the STOP Team Operator would have been potentially able to eliminate the 3 hour standoff and provide additional intelligence of the situation to partners at the Fusion Center.

Section E: Summary of Support for State Homeland Security Strategy

Describe how the proposed project supports the goals and objectives of the 2014 Massachusetts State Homeland Security Strategy (SHSS) (available from www.mass.gov/eopss/home-sec-emerg-resp/shss). Specifically, please identify which SHSS (a) goals, (b) objectives, and (c) implementation steps are addressed through the proposed project (1/2 page maximum).

The proposed equipment purchase supports the 2014 Massachusetts SHSS's *Goal 5: Increase Capacity across the Commonwealth to Effectively Respond to Acts of Terrorism, and Natural, Technological, and Intentional Hazards.* Specifically, Objective 5.14 is to *Enhance regional and statewide capabilities for law enforcement tactical response*. This project directly enhances regional and statewide capabilities for law enforcement's tactical response to acts of terrorism and intentional hazards. The implementation steps that are addressed through this proposed project are: 5.14.2 *Identify gaps in law enforcement tactical response capabilities.* This implementation step was performed during the immediate after action briefing in Oxford on May 22nd. The gap of only having one tactical robot available renders the STOP Team potentially less effective as they may be required to wait for the sole tactical robot to be transported, the sole robot may have to be recovered from a mission so the integrated battery system can be charged, or the Operator will only have a partial view of each room while a complement of additional robots would ensure a 360 degree view of a room is provided. Implementation step 5.14.3 *Build and enhance capabilities identified in the gap analysis* is being addressed by seeking this funding opportunity. Implementation steps 5.14.4 and 5.14.5 include *Continue to provide training that enhances law enforcement tactical response capabilities related to a terrorist threat* and *incorporate law enforcement tactical response related to a terrorist threat into exercises.* The STOP Team will achieve both of these implementation steps by incorporating the use of the tactical robots within the mandatory monthly training. Lastly, implementation step 5.14.7 is to *Acquire related equipment to sustain and enhance law enforcement tactical response capabilities related to a terrorist threat*. This implementation step will be addressed through the purchase of the proposed equipment.

Section F: Summary of Support for the State Threat and Hazard Identification and Risk Assessment (THIRA)

Describe how the proposed project addresses gaps identified in the 2015 State THIRA (1/2 page maximum).

This proposed project directly addresses gaps identified in the 2015 State THIRA. Within the *Screening, Search, and Detection* Core Capability, an identified capability target is to *screen 100% of targeted cargo, conveyances, mail, and baggage, and up to 70,000 people, associated with an imminent terrorist threat or act, using technical, non-technical, intrusive, or non-intrusive means.* Using non-intrusive tactics, law enforcement officials will be better equipped to achieving the desired outcomes and impacts listed within this core capability. The impacts associated with the threat/hazard of explosive devices and threat of follow up attacks can be lessened by the added capabilities achieved by the STOP Team with this proposal. The STOP Team would have the ability to deploy the robots in a serendipitous manner that would allow intelligence to be shared of any potential hazards or threats in an immediate area.

Section G: Summary of Mission Areas and Core Capabilities

Identify which Mission Areas and Core Capabilities are addressed through the project (1/2 page maximum). Complete information about Mission Areas and Core Capabilities can be found in the National Preparedness Goal, Second Edition – September 2015 (https://www.fema.gov/media-library/assets/documents/25959). Please list no more than three core capabilities.

This project mainly addresses core capabilities listed within the *Prevention* and *Response* Mission Areas. This proposed project addresses the following Core Capabilities: *Screening, Search and Detection, On-Scene Security, Protection, and Law Enforcement,* and *Situational Assessment.* Our preliminary after-action review of the incident on May 22 has proved the crucial role of a tactical robot during the incident of a barricaded subject and how this response can be useful in similar situations, such as a crisis involving hostages. The STOP Team Operator dictating the movements of the robot was afforded the ability to provide the STOP Team with critical information by using technical means to identify, discover, or

locate threats and/or hazards located in the duplex. Prompt identification of a barricaded subject would ensure a safe and secure environment through law enforcement and provide the necessary protection for response personnel engaged in lifesaving and life sustaining operations. This prompt identification would provide STOP Team Operators with decision-relevant information regarding the nature and extent of the hazard, any cascading effects, and the status of the response.

Section H: Milestones

List no fewer than 5, but no more than 10 milestones for this project. Milestones must directly relate to project objectives listed above and include (if applicable) procurements and exercises. Milestones must have an estimated start/end date (in MM/YYYY format) and be listed sequentially.

All projects must be completed by 8/31/2018.

Milestone	Tasks/Activities	Start Date	Completion Date
1. Administrative Requirements	Complete the Interdepartmental Service Agreement and any additional administrative requirements	02/2018	02/2018
2. Equipment	Conduct final equipment analysis and selection	03/2018	03/2018
3. Equipment	Conduct vendor selection in accordance with Massachusetts Procurement Requirements	04/2018	04/2018
4. Equipment	Take delivery of equipment and conduct initial equipment testing	07/2018	07/2018
5. Administrative Requirements	Submit Quarterly Reports	08/2018	08/2018
6. Equipment	Distribute equipment to STOP Team Leaders and incorporate use in missions	08/2018	08/2018
7.			
8.			
9.			
10.			

Section I - Part A: Budget Narrative (1 page maximum)
For each cost category (including personnel) that has an associated funding request for this project, please provide a brief narrative describing what the budget element entails and how the budgeted amount was determined. Also, please describe other sources of funds that will be sought, or that have been secured.

Equipment:

This proposal is requesting to purchase two Recon Robotix Throwbot XT units and two Search Sticks. The Search Sticks are collapsible poles that can be attached to the Throwbot to convert it into a pole camera. The amount requested was determined by contacting state-approved vendors and requesting quotes.

Other (please describe):

This proposal is requesting to cover the shipping costs for equipment purchased with grant funding.

Section I – Part B: Budget Plan by Cost Category
Please complete the Budget Table below and refer to the FFY 2016 Homeland Security Grant Program (HSGP) Notice of Funding Opportunity for allowable costs.

Planning	$
Equipment	$ 30,510.12
Training	$
Exercises	$
Construction and Renovation[1]	$
Maintenance[2]	$
Management & Administration[3]	$
Consultant/Contractor	$
Other (please describe) Shipping	$ 200.00
Total	**$ 30,710.12**

Section I – Part C: Budget Detail
Please complete the Budget Detail below, inserting additional rows if needed. Complete each column and group items by Cost Category (see above section 10); for equipment, list the Authorized Equipment List (AEL) Reference number. The AEL can be downloaded from www.fema.gov/media-library/assets/documents/101566.

Cost Category	Description	AEL ref. #	Quantity	Unit Cost	Total
Equipment	Recon Robotix Throwbot	03OE-07-ROBT	2	$ 14,655.06	$ 29,310.12
Equipment	Recon Scout Search Sticks	03SR-05-RBTL	2	$ 600.00	$ 1,200.00
Other - Shipping	Shipping Costs	21GN-00-SHIP	1	$ 200.00	$ 200.00
				GRAND TOTAL	**$ 30,710.12**

[1] Use of HSGP funds for construction and renovation is generally prohibited; however, it can be allowable only when it is a necessary component of a security system at critical infrastructure facilities.
[2] Please refer to DHS Information Bulletin #336 for further detail.
[3] Please review HSGP Guidance for specifics on M+A costs.

Executive Office of Public Safety and Security
Office of Grants and Research

Risk Assessment

SECTION A: PURPOSE

The programmatic and fiscal responsibility of grantees must be such that the grantee can properly discharge the public trust that accompanies the authority to expend public funds. Adequate accounting and program management systems should meet the following criteria.

(1) Accounting records should provide information needed to adequately identify the receipt of funds under each grant awarded and the expenditure of funds for each grant.

(2) Entries in accounting records should refer to subsidiary records and/or documentation that support the entry and can be readily located.

(3) The accounting system should provide accurate and current financial reporting information.

(4) The accounting system should be integrated with an adequate system of internal programmatic controls to safeguard the funds and assets covered, check the accuracy and reliability of accounting data, promote operational efficiency, and encourage adherence to prescribed management policies.

SECTION B: ACCOUNTING SYSTEM

1. Which of the following best describes the accounting system: ☐Manual **X** Automated ☐Combination

2. Does the accounting system identify the receipt and expenditure of program funds separately for each grant/contract?
X Yes ☐No

3. Does the accounting system provide for the recording of expenditures for each grant/contract by the budget cost categories shown in the approved budget? **X** Yes ☐ No

4. Are time distribution records maintained for an employee when his/her effort can be identified to a particular cost objective? **X** Yes ☐No

5. Does the accounting/financial system include budgetary controls to preclude incurring obligations in excess of:
   a. Total funds available for a grant? **X** Yes ☐No
   b. Total funds available for a budget cost category (e.g. Personnel, Travel, etc.)? ☐Yes **X** No

6. If Federal grant funds are commingled with organization funds, can the Federal funds and related Costs are readily identified? **X** Yes ☐No

SECTION C: PROGRAM MANAGEMENT

1. Is the organization new to managing federal grant funds or has the organization had recent staff turnover that significantly reduces its institutional capacity to effectively manage federal funds?

☐Yes **X** No

If yes, please explain: (attach a separate sheet if necessary)

2. If the organization has recently (past 5 years) or currently receives federal grant funding, has the organization been out-of-compliance with reporting or other requirements? ☐Yes **X** No

If yes, please explain:

SECTION D: For Internal Use Only

Does the organization/entity receiving this award have an acceptable track record of managing funds provided by EOPSS? Briefly explain. ☐Yes ☐No

1. Is the proposed program very complex, is the award above $1million, and/or is the proposed grant-funded activity such that additional risk can be presumed? ☐Yes ☐No

If yes, please explain.

SECTION E: APPLICANT CERTIFICATION

I certify that the above information is complete and correct to the best of my knowledge.

1. Signature Date	b. Organization Name, Address, and Telephone Number Massachusetts State Police 470 Worcester Road, Framingham 508-820-2300
a. Title	