

Date: January 31, 2022

To: Secretary, Department of Transportation and Development
Chair of House Committee on Transportation, Highways, and Public Works
Chair of Senate Committee on Transportation, Highways, and Public Works

From: Louisiana Drone Advisory Committee

Subject: L.R.S. 2:2.1.B.(1) The committee shall provide recommendations to the secretary of the Department of Transportation and Development as well as both the House Committee on Transportation Highways and Public Works and the Senate Committee on Transportation Highways and Public Works on policy and regulatory issues related to the adoption of drone technologies.

Background

The purpose of the Louisiana Drone Advisory Committee (DAC) is to provide an open venue in Louisiana and all unmanned stakeholders to work in partnership to identify and recommend a single, consensus-based set of resolutions for issues regarding the efficiency, safety, integration of unmanned systems into the state of Louisiana and to develop recommendations to address those issues and challenges. The DAC will provide the state's legislative, executive, and our federal delegation recommendations that may be used for planning purposes in the areas of legislation, operational safety, and economic development investments to ensure increased growth of this burgeoning technology.

The DAC leadership is composed of a Chairperson, appointed by the Secretary of Transportation, and assisted by a Vice Chairperson, Secretary, and FAA Liaison person selected from the appointed DAC members through a simple majority vote. The DAC conducted deliberations on recommendations to be provided to the state's legislative, executive, Louisiana's federal delegation, and the Federal Aviation Administration (FAA). All DAC meetings were open to the general public. The Committee's structure was predicated on a two-tiered system with subordinate Task Groups (DACTG) established to develop specific subject recommendations and other documents for the DAC. Adjunct to the DAC is a Subcommittee (DAC Subcommittee or DACSC) composed of members with broad knowledge and expertise related to the continued growth of drone technology through economic development in increasing operations, manufacturing, and maintenance.

The DAC established DACTG to accomplish specific tasks as described above. Depending upon the type of tasking, DACTG products will either be presented to the DACSC for review and deliberation, then forwarded to the DAC or they might be presented directly to the DAC. Members of DACTGs will be appointed by the DACSC Co-Chairs in consultation with the DAC Chairperson. Each DACTG will approve Terms of Reference defining the objective, scope, membership, specific tasks, and deliverables with a schedule. Unlike the DAC and DACSC, members of TG do not represent a particular affected entity and are selected for their expertise in the subject matter rather than their affiliation. TG will disband upon delivery of their recommendations as appropriate.

Actions

The DAC conducted two public meetings. The first meeting was conducted August 24, 2021. This meeting consisted of introducing the new members of the committee to the public meeting and ethical requirements for serving. Additionally, the meeting was organizational in nature by setting up a draft of the committee charter, terms of reference, initial sub-task group structure discussions, and overall direction and guidance for future progression of the committee. The second meeting was conducted November 16, 2021. During this meeting, the committee adopted the official charter and officially set up the sub-task groups to further research and study the legislative requirements as set forth. A presentation was provided by Mr. George Rey as a subject matter expert on counter-drone technologies. The official suspense dates were set by the committee for the legislative report requirements. Future DAC meetings were established to allow for maximum participation from committee members for the 2022 calendar year.

Drone Advisory Committee Task Group (DACTG) Reporting

Terms of Reference

The Terms of Reference (TOR) is provided in Attachment A which describes and provides guidance to the DAC on the formation and specific duties of each DACTG. The roles, responsibilities, objectives, and deliverables are strategically and logically presented to allow for enhanced participation from members and to ensure the positive and economic growth of the unmanned industry throughout the state of Louisiana.

Terms of Reference listed in attachment A.

DACTG – 1 – sUAS Drone Statistics in Louisiana

The small unmanned aircraft systems (sUAS) Drone Statistics in Louisiana task group establishes a set of economic baseline data for sUAS for the state. The task group is exploring drones procured in Louisiana, drones registered in Louisiana, industry breakout employing drone usage, academia usage of drones, and the economic impact of drones within our state. This work was assigned during the November 16 meeting and work continues to integrate and finalize these figures and data for the committee.

Task Group 1 objective listed in attachment B.

DACTG – 2 – Economic Development Impact of Unmanned Systems for Air, Ground, & Maritime

This task group will use existing studies and collected data to create a baseline of economic information specific to air, ground, and maritime industries for the state. The task group is exploring the direct, indirect, and induced impacts of drones. Further, the group is exploring commercial and community benefits and research the impacts of Urban Air Mobility (UAM) and Advanced Air Mobility (AAM) on social and economic benefits. This work was assigned during

the November 16 meeting and work continues to integrate and finalize these figures and data for the committee.

Task Group 2 objective listed in attachment C.

DACTG – 3 – Legislative & Executive Impacts That may be Hindering the Economic Growth of Unmanned Systems in Louisiana

This task group is researching and establishing a legal opinion request for unmanned aircraft systems for the state to be transmitted to the Department of Transportation and Development (DOTD) and the Federal Aviation Administration (FAA) to define a position and receive guidance on legislation that would identify hindrances of FAA or state regulations on aviation easements and the FAA airspace authority. Regulation of drones should encourage safe and responsible operations, while promoting innovation and economic growth, so that people and businesses across Louisiana can continue to benefit from the new opportunities, jobs and services that drone technology brings. This work was assigned during the November 16 meeting and work continues to integrate and finalize these figures and data for the committee.

Task Group 3 objective, draft letter to affected agencies, and task group white paper are reflected in attachments D, D.1, and D.2 respectively.

DACTG – 4 – Legislative & Executive Impacts That Maybe Hindering the Public Safety of Unmanned Systems in Louisiana

This task group is reviewing and researching first responders' use of small Unmanned Aircraft Systems(sUAS)/drones in applications pertaining to firefighting, law enforcement, and emergency medical missions. First responder organizations have used drones to search for lost children, identify high risk areas in burning structures, facilitate relief operations following hurricanes, reduce risk and exposure for law enforcement officers in active-shooter events, and many other emergency use cases. This work was assigned during the November 16 meeting and work continues to integrate and finalize these figures and data for the committee.

Task Group 4 objective and report listed in attachments E and E.1 respectively.

DACTG – 5 – Current Efforts to Implement Counter Unmanned Aircraft Systems (C-UAS) to Protect Critical Infrastructures in Louisiana

The exponential growth of small unmanned aircraft systems (sUAS)/drones creates new risks for the protection of Louisiana's Critical Infrastructure, mass gathering, and the protection of the general public. Technology trends are dramatically transforming legitimate applications of sUAS while simultaneously making them increasingly capable drone weapons in the hands of criminals, careless, clueless, and nefarious operators. The task group is exploring the state's drone laws and recommending needed reforms and/or revisions to ensure the state is protected from advancing drone technology. Additionally, this group will identify possible new legislation or executive action to implement a statewide strategy to ensure full counter UAS coverage at all critical infrastructure sites and further establish and promote public-private partnerships through a n

unmanned Center of Excellence in Louisiana that will work with government, academia, and private interests to develop common operating principles. This work was assigned during the November 16 meeting and work continues to integrate and finalize these figures and data for the committee.

Task Group 5 report and associated white paper are reflected in attachments F and F.1 respectively.

DACTG – 6 – Develop a Baseline of Unmanned Maritime Systems Development in Louisiana

The Maritime industry is in the early phase of autonomous ship design, construction, and at sea demonstration featuring Artificial Intelligence (AI) technology allowing onshore remote control, light crewed or uncrewed operations that represent a giant leap forward for the maritime industry. Moreover, the impact and the scale of this coming AI robotic fleet will spark the biggest transformation in the maritime industry since sail gave way to steam. This task group will review the United States Coast Guard regulations potentially impacting the deployment of partially or fully autonomous vessels on the nation's waterways. Further, it will identify possible new state legislation or executive action to improve the state's maritime leadership through industry and academic incentives. The group will also identify impediments to shipyard improvements and modernization towards autonomous vessels and work with port facilities to safely accept autonomous vessels at their piers and wharves. This work was assigned during the November 16 meeting and work continues to integrate and finalize these figures and data for the committee.

Task Group 6 objective listed in attachment G.

ATTACHMENT A



Louisiana's Drone Advisory Committee's (DAC)

TERMS OF REFERENCE

Vision

The purpose of the DAC is to provide an open venue in Louisiana and all unmanned stakeholders to work in partnership to identify and recommend a single, consensus-based set of resolutions for issues regarding the efficiency, safety, integration of Unmanned systems into the state of Louisiana and to develop recommendations to address those issues and challenges.

Moreover, The DAC will provide the State's Legislative, Executive, and our Federal Delegation recommendations that may be used for planning purposes in the areas of legislation, operational safety, and economic development investments to ensure increased growth of this burgeoning technology.

Roles & Responsibilities

The DAC leadership is composed of a Chairperson, appointed by the Secretary of Transportation, and assisted by a Vice Chairperson, Secretary, FAA Liaison person selected from the appointed DAC members through a simple majority vote.

The DAC will conduct its deliberations on recommendations to be provided to the State's Legislative, Executive, Louisiana's Federal Delegation, and the Federal Aviation Administration (FAA). All DAC meetings that are open to the general public. To meet the criteria described above, the Committee's structure will be predicated on a two-tiered system with subordinate Task Groups (DACTG) established to develop specific subject recommendations and other documents for the DAC.

Adjunct to the DAC is a Subcommittee (DAC Subcommittee or DACSC) comprised of members with broad knowledge and expertise related to the continued growth of drone technology through

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economic development in increasing operations, manufacturing, and maintenance. Some meetings of the DACSC will be open to the public to provide an early opportunity to identify potential concerns associated with draft recommendations.

The DAC will establish TGs to accomplish specific tasks as described above. Depending upon the type of tasking, DACTG products will either be presented to the DACSC for review and deliberation, then forwarded to the DAC or they might be presented directly to the DAC. Members of DACTGs will be appointed by the DACSC Co-Chairs in consultation with the DAC Chairperson. DACTG meetings will not be open to the public. For each DACTG group that is established, the DAC will approve Terms of Reference defining the objective, scope, membership, specific tasks, and deliverables with a schedule. Unlike the DAC and DACSC, members of TG do not represent a particular affected entity and are selected for their expertise in the subject matter rather than their affiliation. TG will disband upon delivery of their recommendations as appropriate.

- Drone Advisory Committee (DAC)
 1. Appoint DAC members no later than 31 July 2021
 2. Assigned one DAC member as the liaison to the FAA
 3. Overall direction of Committee will be guided by the Terms of reference
 4. Review and approve recommendations to the State's Legislative, Executive, & our Federal Delegation
 5. Review and approve creation of Work Groups, as appropriate
 6. Meet four times per year in Plenary (open to public)
 7. Direct work of DACSC

- DAC Subcommittee (DACSC)
 1. Staff to Advisory Committee
 2. Guide and review selected work of TGs, present findings to DAC
 3. Meet bi-monthly or as needed (not all open to public)
 4. Forward recommendations and other deliverables to DAC for consideration

ATTACHMENT A

The DACSC will be comprised of three Drone domains:

Air

Center of Excellence

UAS

UAM/AAV

C-UAS

Ground

Center of Excellence

Large UGV

Small UGV

Maritime

Center of Excellence

Large USV

Medium USV

Small USV

UAM/AAV

- DAC Task Groups (DACTG)
 1. Created to address specific tasking
 2. May be short-term or standing activities

OBJECTIVES

Long-term purpose:

Research, Evaluate & Analyse Federal/State/Local Governing Interests in Regulating and Enforcing the Operations of Unmanned Systems that operate in Louisiana.

Serve as an Information-Gathering & Fact-Finding Resource for the DACSC on This Topic.

Make Potential Regulatory and Policy Recommendations to the DAC in the areas of:

ATTACHMENT A

- Any legal barriers Unmanned operators face.
- Identify Approximately how many Unmanned operators are operating in the state.
 - Air
 - Ground
 - Maritime
- Any companies using unmanned aircraft systems and unmanned aerial, ground, and maritime systems for commercial purposes.
- The economic value of the Unmanned industry in the state.
- The ranking of Louisiana in comparison to other states in terms of the development of its own industry
- The actions taken by the Federal Aviation Administration over the previous year relative to unmanned aircraft systems and unmanned aerial systems.

Short-term purpose:

Provide Recommended Tasking Statement to ensure that the scope and content of the tasking(s) enables the work envisioned on the 24th of August 2021, DAC Meeting.

- Examine the potential impact of “drone highways” (avigation easements) and its viability and possible positive or negative economic impact to Louisiana.

Fact Based Data Collected From Subject Matter Expert (SME):

The assigned Task Groups should endeavour to meet with the state’s drone stakeholders:

- City Government interests
- Parish Government interests (e.g., DOTD/AG/etc.)
- Law enforcement and First Responders interests
- Public utility services (pipelines, powerlines, etc.)
- News Media (1st Amendment Issues)

ATTACHMENT A

- UAS Association in Louisiana (proposed ordinance)
- Large city council member
- Law Enforcement & others to be scheduled
- The Ag industry and its various associations

These are but a few of the interested groups that can provide the Task Group valuable insight and understanding of the needs of this plethora of drone entities.

SCOPE

Briefings and Discussions on these areas will be developed through Task Groups:

- Critical Infrastructure protection (C-UAS)
- Environmental protection & enforcement
- Public Safety/First Responders
- Autonomous Trucking and Control Center
- Autonomous Maritime Platforms & Control Center
- Airport Airspace Protection (C-UAS)
- AAV/UAM Operations in Louisiana
- Local noise regulation and aviation

DELIVERABLES

Develop Legislative and Executive Recommendations

Relative roles and responsibilities of the Federal, State and Local Governments

- Roles/responsibilities for interests other than multimodal safety
- Oversight mechanisms

ATTACHMENT A

Enforcement -

- Should the relative role and responsibility of state and local governments for enforcement of any aspects of rules and regulations governing low altitude UAS operations be changed after reviewing current State drone laws?
- If so, what are the changes and what are the mechanisms to achieve the recommended changes?
- Is additional data collection necessary?

Education/Training:

- What training or education will be needed if local authorities/officials are asked to assist with, implement, or otherwise address federal statutes and regulations for unmanned systems?
- Who should conduct the training to maintain consistency of implementation and enforcement?
- What funding needs for training of non-FAA enforcement agencies?
- DOTD funding needs to ensure there is no negative impact to this growing technology or regulatory bottleneck.

Local Government Operational Issues:

- Additional DOTD authority for issuance of approvals of unmanned systems needed?
- What are the roles of the FAA and state or local governments in authorizing operations in emergency situations?

To attain these objectives, the DAC members agree to collaborate on fulfilling the following core functions:

- 1. Provide a platform to ensure that assessment of all three drone domains (Air/Ground/Maritime) establish strategic priorities to maximize economic growth**

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within Louisiana.

- Ensure the inclusion and coordination of all the key humanitarian partners in the health sector.
- Ensure that the engagement of the different partners responds to the needs.
- Link with relevant authorities and other coordination fora.
- Encourage and support decentralisation of health coordination to the sub-national level.
- Support capacity building of health authorities at national and sub-national level, national and international NGOs, and other civil society organisations on coordination and response.

2. Funding

- Determine broad funding requirements to accomplish stated goals.
- Make recommendations on funding investments and allocations to ensure the growth of the Unmanned systems within Louisiana.
- Provide technical review of drone investment proposals to ensure its viability.
- Track the status of funding requests and share this information with relevant partners.

GUIDING PRINCIPALS

First, the work of all DAC members will abide by Louisiana's code of ethics when discharging their duties as a member of this committee.

Second, Act 328/HB 587 provides the broad outlines tasking members to provide drone advice based on the consensus of a DAC quorum to the State's legislative, Executive, FAA and the State's Federal delegation.

Third, work of the DAC will be subdivided into three Unmanned Domains of Air, Ground, and Maritime. Within these domains smaller Task Groups (TG) will be assigned by the DAC Chair Mr. Brad Brandt.

TG chairs will organizing their assigned groups to collect the required data for their final report recommendation to the DAC Chair by holding various meetings, interviewing SME, government officials and reprehensive Drone industry operators in Louisiana to provide a

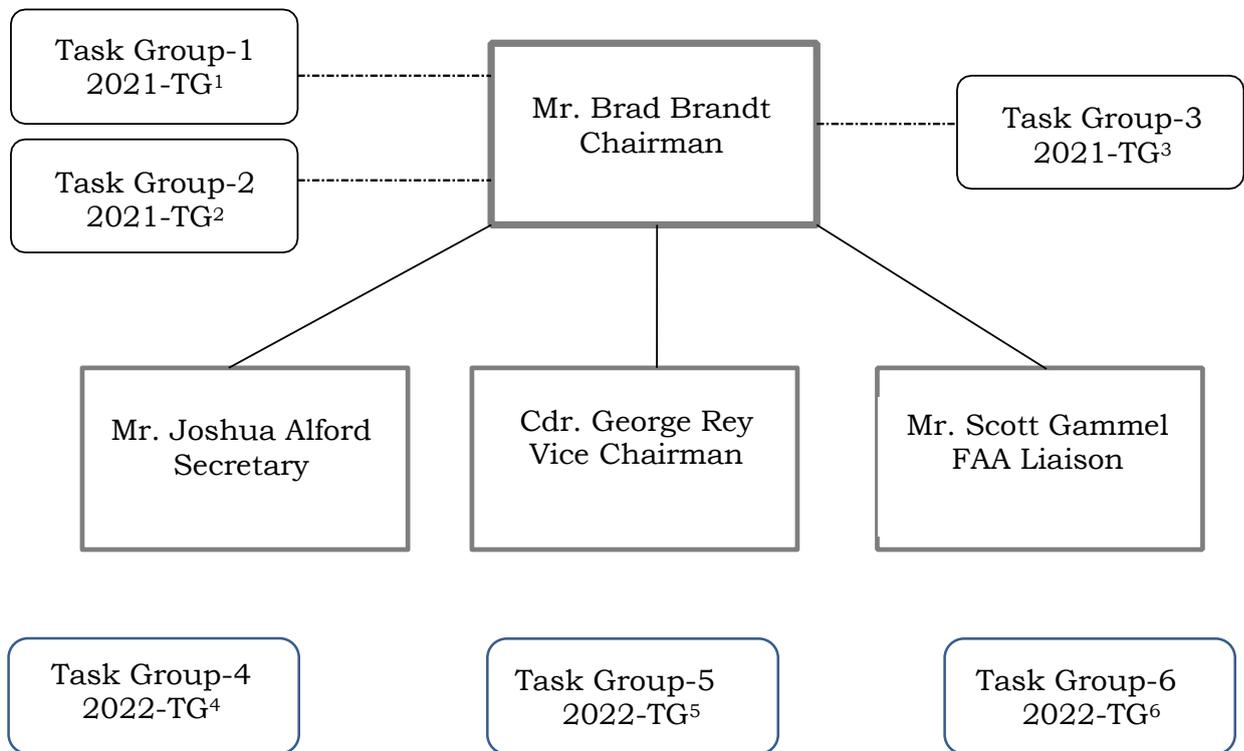
ATTACHMENT A

complete and accurate report.

AMENDMENTS TO THE TERMS OF REFERENCE

These terms of reference will periodically be amended when there are substantial changes in the Federal Law with regards to drones affecting any of the three Unmanned domain areas of concern to Louisiana.

Diagram 1: Louisiana's DAC Organization



ATTACHMENT B



Task Group-1 (TG¹): sUAS Drone Statistics in Louisiana

TG¹ Chair: Mr. Scott Gammel

TG¹ Vice Chair: Rep. Owens

TG¹ Members: Sen. McMath, Mr. Robert More, Mr. Stanley Ard

SCOPE: Establish a set of economic baseline statistics that for small Unmanned Aircraft Systems (sUAS) for the State of Louisiana.

DELIVERABLES FOR: sUAS Drones in Louisiana

- Draft Report (best Estimate) due 30 Nov 2021
- Final report due to DAC Chairperson 30 January 2022

LA Drone Statistics (< 55 lbs.); At a minimum develop sUAS numbers that identify:

- Drones purchased in the State estimate
- Drones Registered in Louisiana with FAA
- Commercial Drones Registers in Louisiana with the FAA
- An Industry breakout in Louisiana employing drones
- An academic breakout of secondary, undergraduate, and graduate
- Economic Impact of drones in Louisiana
- The ranking of Louisiana in comparison to other states in terms of the development of its own industry
- Draft Report (best Estimate) due 30 Nov 2021
- Final report due to DAC Chairperson 30 January 2022

ATTACHMENT C



Task Group-2 (TG²): Economic Development Impact of Unmanned Systems for Air¹, Ground², & Maritime³

TG² Chair: Dr. Strickland

TG² Vice Chair: Mr. Andy Brown,

TG² Members: Rep. Owens, CDR George Rey, & Mr.
Nathan McBride.

SCOPE: Economic Development Impact (EDI) of Unmanned Systems for Air¹. Due to the limited time available the initial focus will be on sUAS, L-UAS, AAV & UAM systems. Ground and Maritime unmanned systems will commence in the second quarter of 2022.

TG² will use existing EDI studies conducted by the Association of Unmanned Vehicles International (AUVSI), Aerospace Industries Association (AIA), a recent EDI study completed by the Houma-Terrebonne Airport, and other studies published on AAV/UAM. TG² will review other relevant EDI studies to develop an initial baseline.

The economic activity category should include the dollar value of sUAS, L-UAS & AAV/UAM general aviation and related services plus the sum of intermediate goods and services needed to produce L-UAS & AAV/UAM general aviation services. The earnings category will include the total wages and salaries paid to all persons who directly or indirectly will owe their future jobs to L-UAS & AAV/UAM general aviation. The jobs category includes the number of people employed in the L-UAS & AAV/UAM general aviation industry and in sectors that support L-UAS & AAV/UAM aviation in Terrebonne Parish, the region as well as the state of Louisiana.

- Draft Report (best Estimate) due 30 Nov 2021
- Final report due to DAC Chairperson 30 January 2022

ATTACHMENT C

DELIVERABLES FOR: sUAS Drones in Louisiana

LA Drone Economic Impact (< 55 lbs.); At a minimum identify:

- Direct Impacts
- Indirect Impacts
- Induced Impacts
- Commercial Benefits, Community Benefits, other Benefits An academic breakout of secondary, undergraduate, and graduate
- Induced or Multiplier Economic Impacts
- sUAS, L-UAS & AAV/UAM Infrastructure and increase social and economic benefits
- The ranking of Louisiana in comparison to other states in terms of the development of its own industry
- Identify costs for conducting a fully EDI study to commence in 2022

ATTACHMENT D



Task Group-3 (TG³): Legislative & Executive Impacts That Maybe Hindering the Economic Growth of Unmanned Systems in Louisiana

TG³ Chair: Mr. Joshua Alford

TG³ Vice Chair: Sen. Patrick McMath

TG³ Members: Dr. Strickland, Trooper Leland Dwight, & Mr. Stanley Ard.

SCOPE: Drone technology is evolving rapidly thus making it very easy to fly these small UAS and more people own these multipurpose flyers, thus the questions are the state government, legislators, and executive policies keeping up?

Regulation of drones should encourage safe and responsible operations, while promoting innovation and economic growth, so that people and businesses across Louisiana can continue to benefit from the new opportunities, jobs and services that drone technology brings.

In Louisiana we now have nine state-level bills/acts that place restrictions on some drone operations. The concern is we do not create a patchwork of conflicting and unsafe state laws in the long view thus creating a harmful bottleneck to economic growth of this technology.

One area that we must address is aviation easements recommended by some that would restrict drone operations by dividing airspace that will impose leasing cost and, result in a fee collection system that could limit the economic viability of a burgeoning sUAS package delivery new industry.

At first blush, this type of legislation would not only increase costs for consumers and drone operators, but it would also harm local drone businesses and all those who benefit from this versatile technology. TG³ is tasked with seeking DOTD and FAA's legal opinion with regards to legislation concerning "aviation easements" infringing on FAA's "airspace authority".

FEDERAL DRONE LAWS:

These are drone laws that apply to every state in the U.S., including Louisiana, and were created by the federal government.

ATTACHMENT D

To fly a drone as a commercial pilot in the state of Louisiana (i.e. for work / business purposes) you are required to follow the requirements of the FAA's Part 107 Small UAS Rule (Part 107), which includes passing the FAA's Aeronautical Knowledge Test to obtain a Remote Pilot Certificate.

To fly a drone as a hobbyist in the state of Louisiana (i.e., for fun / pleasure) you are required by the FAA to take The Recreational UAS Safety Test (TRUST). You are also required to follow the FAA's recreational model aircraft rules. One of those rules is that if your drone weighs more than 0.55 lbs. (250g), you'll need to pay \$5 to get it registered. There are additional rules when it comes to airspace and altitude, keeping your drone within line-of-sight while you're flying, and more.

To fly a drone as a government employee in the state of Louisiana (i.e., for a police or fire department) you may either operate under the FAA's Part 107 rule or obtain a federal Certificate of Authorization (COA).

These are drone laws that apply to the entire state of Louisiana and were created by the Louisiana State Legislature.

LOUISIANA HAS NINE STATE-WIDE LAWS CONCERNING THE USE OF DRONES IN THE STATE:

HB 265 // 2021

This law increases the maximum fine for the second offense of flying a drone above critical infrastructure and Grain operations from \$2,000 to \$4,000 and increases the possible prison sentence from one year to two years.

SB 69 // 2017

This law specifies that only the state may regulate UAS, pre-empting local regulation.

SB 73 // 2016

This law adds intentionally crossing a police cordon using a drone to the crime of obstructing an officer. This law also allows law enforcement or fire department personnel to disable UAS in the area if they endanger the public or an officer's safety.

HB 19 // 2016

This law prohibits using a drone to conduct surveillance of a school, school premises, or correctional facilities, and establishes a fine of up to \$2,000 and up to six months in jail for violations.

HB 335 // 2016

This law authorizes the establishment of registration and licensing fees for UAS in the state, with a limit of \$100.

HB 635 // 2016

This law adds the use of UAS to the crimes of voyeurism and video voyeurism in the state.

SB 141 // 2016

This law specifies that surveillance by an unmanned aircraft constitutes criminal trespass, under certain circumstances.

SB 183 // 2015

This law regulates the use of UAS in agricultural commercial operations.

ATTACHMENT D

HB 1029 // 2014

This law creates the crime of unlawful use of an unmanned aircraft system, defined as the intentional use of a drone to conduct surveillance of a targeted facility without the owner's prior written consent. This crime is punishable by a fine of up to \$500 and imprisonment for six months. A second offense can be punished by a fine up to \$1,000.00-and one-year imprisonment.

DELIVERABLES FOR: Legislative Drones Laws in Louisiana

Due to the limited time available for a first report TG³ Will provide the DAC is tasked with legal opinion from DOTD and FAA's as to their position with legislation that would Implement is avigation easements impinging of FAA's airspace authority.

- Draft Report (best Estimate) due 30 Nov 2021
- Final report due to DAC Chairperson 30 January 2022

2022 Tasking:

- Examine/review Louisiana's Drone law and recommend needed reforms/revisions.
- Identify possible new State Legislation or Executive Action to improve Louisiana's standing to create new businesses & attract new drone business to our great state.

ATTACHMENT D.1



December 6th, 2021

Mr. Brad Brandt
Aviation Director/Louisiana's Drone Advisory Chairman (LADAC)

Office of Multimodal Commerce - Aviation Division
1201 Capitol Access Rd.
Baton Rouge, LA 70802

Ref: (a) LADAC Terms of Reference; Task Group3
(b) LADAC's Task Group3 Scope tasking for 2021

Dear Mr. Brandt,

In accordance with reference (a) and as directed by reference (b) above, this letter requests and seeks legal support to assist the Louisiana Drone Advisory Committee (DAC) - Task Group 3 in recommending possible legislation to meet the intent of Louisiana' Act 328-HB 587.

The Federal Aviation Administration's (FAA) ongoing development of a regulatory framework to safely integrate unmanned aircraft systems (UAS)—commonly known as drones—into the National Airspace System (NAS) to ensure primarily safety and secondarily commerce issues that the drone industry have been raised.

The current state of the law, including the uncertainties, differing legal positions, and concerns raised about the current state of the law, legal views of legal commentators, and state regulators, requires Louisiana to review its legal standing to implement new laws as it relates to UAS/drones.

The federal government (DOT/FAA & DOJ) is still developing key aspects of its UAS requirements and there have been few court decisions to date addressing whether these requirements are consistent with statutory authorities.

Consensus on the scope of federal and state authorities has been elusive among public and private stakeholders, thus in 2017 the Department of Transportation is now coordinating with the Department of Justice, conducting an in-depth review of DOT's legal position regarding how federal preemption and other jurisdiction-related principles apply to the regulation of UAS.

As the DAC is a key stakeholder, we require additional clarity through legal opinions from DOTD's Legal section, Louisiana's Attorney General (Civil Division), and FAA's Office of Chief Counsel.

Our specific inquiry is, "does the State of Louisiana have the authority to implement drone aviation easements to implement a drone Right-of-way above its highways, roads, and streets to all that seek to fly in the NAS?"

The scope of FAA's authority over low-altitude UAS operations; the impact on federal, state, local, and tribal authority of possible constitutionally-protected property rights in low-altitude airspace (the U.S. vs. Causby issue); the scope of federal preemption of state, local, and tribal regulations affecting UAS operations in low-altitude airspace; the potential liability of UAS operators and governments to landowners under aerial trespass and takings principles; and the adequacy of the protections offered by existing federal and state privacy laws against UAS invasions of personal privacy and what authority the federal, state, local, and tribal governments may have to enact additional measures that may be needed.

Respectfully,

Mr. Joshua Alford
LADAC TG3 Chairman
LADAC Secretary

Drone
Advisory
Committee

501 (C) (3) NON-PROFIT



Task Group-3 (TG³): Legislative & Executive Impacts That Maybe Hindering the Economic Growth of Unmanned Systems in Louisiana



WHITE PAPER

Crafting a Letter from the Drone Advisory Committee to DOTD's Legal Section and to FAA's Office of the Chief Counsel Requesting an Opinion:

“Crafting Louisiana law to provide s-UAS/Drone Right-of-way above the State’s highways, roads, and streets under avigation easements”

ATTACHMENT D.2

Purpose: ACT 328—HB 587 requires that the Drone Advisory Committee (DAC) That the committee shall examine the potential impact of drone highways for inclusion to Louisiana’s Legislative Branch in its first report.

Discussion: The second DAC meeting was held November 16th, 2021, in the Capital House Committee Room 6. During the review of LADAC Task Group³ a discussion was held on the requirement of Act 328 that the DAC will address the potential impact of drone highways legislation. Mr. Ard (P.L.S., P.S.) stated that before this Task Group consider such legislation that an opinion be requested from DOTD’s Legal section, Louisiana’s Attorney General (Civil Division), and FAA’s Office of Chief Counsel.

Mr. Ard proposed the following questions for reconciliation:

For LA DOTD:

- Does LA DOTD Own or have Right of Way to the Airspace below what FAA regulates within their Ownership/Right of ways statewide? If so, can that Airspace be used for public use of Drone Highways?
- This question needs to also pertain to Parish and Municipal Roads Statewide as well. (This part may need to go to A.G. or ask both groups)

For FAA:

- What Airspace does FAA govern over Private Property in Louisiana? (Include feet above ground surface)
- Who owns Airspace between what FAA governs and Ground Level over private property in Louisiana?
- Would FAA allow “Drone Highways” to exist within Airspace not regulated by them, but within LA DOTD Right of Ways. (over traffic)
- Does FAA have any Laws/Rules pertaining to flying drones of Moving vehicles? If so, please list.

ATTACHMENT D.2

For Louisiana's AG:

- In Louisiana, does the public and or industry, have any rights to fly in Airspace between what the FAA regulates and the ground surface over Private property in Louisiana.
- What is the limits of Private ownership of Airspace in Louisiana? (Feet above ground surface)
- Does Parish and Municipal Roads Own or have Right of Way to the Airspace below what FAA regulates within their Ownership/Right of ways statewide? If so, can that Airspace be used for public use of Drone Highways?

Drone Industry's Position: The Consumer Technology Association (CTA)[®] and the Association for Unmanned Vehicle Systems International (AUVSI) express concern regarding legislation that are considering 'avigation easements' – new restrictions on drone operations that would divide airspace, impose leasing and, in some cases, fee collection.

The Federal Aviation Administration (FAA) has sole jurisdiction over the National Airspace System (NAS) and any attempts by a State to restrict the NAS are outside its authority. Furthermore, infringing on FAA jurisdiction will create a complicated patchwork of laws that will erode, rather than enhance, safety.

Industry further states that drone highways could result in *more* lawsuits could spell calamity from a safety perspective if drone companies were forced to operate under different sets of rules and restrictions in every state.

"If you chop up the sky into traffic lanes or toll roads in some cases, as has been proposed, you'll end up with a very messy low-altitude airspace and a variety of local restrictions, which, in the eyes of the FAA and certainly in the eyes of the industry, is a problem for safety."

Moreover, any State law, if enacted, will directly conflict with federal jurisdiction and will be preempted.

ATTACHMENT D.2

Title 49, Part A, Section 1 of the U.S. Code, states: “The United States Government has exclusive sovereignty of airspace of the United States.” This federal control of the airspace, delegated in practice by Congress to the Federal Aviation Administration, is a bedrock principle of aviation law that dates back well over 50 years. The “airspace” of the United States is not limited to high altitude operations; the FAA has jurisdiction (as it must) over *all* navigable airspace, including low-level aircraft operations.

This principle, as it applies to low-level UAS flights, was reaffirmed by the federal court in *Singer v. City of Newton*. That 2017 decision by the First District Court of Massachusetts held that “aviation safety is an area of exclusive federal control,” and “Congress has given the FAA responsibility of regulating the use of airspace for aircraft navigation and to protect individuals and property on the ground,” along with the mandate to safely integrate UAS into the national airspace. Indeed, the *Singer* court was faced with operational restrictions very similar to the ones in the proposed ordinance, and it did not hesitate to find that those restrictions ran afoul of federal law and were preempted.

The FAA has provided guidance for state and local authorities on the federal government's role in airspace regulation. It clearly stated that “[a] consistent regulatory system for aircraft and use of airspace has the broader effect of ensuring the highest level of safety for all aviation operations” and that “FAA has regulatory authority over matters pertaining to aviation safety.” The fact sheet also provided helpful examples for state and local officials as to what legislation and ordinances they could enact with regards to UAS compared to those which fall under the FAA's jurisdiction.

Arguments in Favor of aviation easements: Brent Skorup (Senior Fellow at the Mercatus Center, George Mason University) sees drone highways as an attractive model for several reasons. One, they can save drone companies from a legal headache — as far as drones have come, lack of regulation makes them vulnerable to lawsuits.

“Every legal scholar who’s approached the issue has pointed out that there are a lot of legal issues that arise when drones are flying above private property. You’ve got nuisance issues, trespass issues, privacy and takings,” Skorup explained. “And so, with the idea of a drone highway, particularly if it’s above the public rights of way, you can avoid a lot of these legal issues.”

ATTACHMENT D.2

He cites a recent case in Michigan as an example of the legal throes drone companies can face in an unregulated system. In *Long Lake Township v. Maxon*, a state appellate court sided with landowners who sued a drone company for flying over and surveilling their property, ruling that the company had violated the Fourth Amendment.

Drone highways could eliminate that legal risk by restricting drones to airspace above easements and public rights of way. (See; *Which States Are Prepared for the Drone Industry? A 50- State Report Card, Release 2.0* by Brenk Skorup and Connor Haaland)

Another key benefit of drone highways is that they can alleviate the regulatory gridlock that's plagued federal lawmakers in the five years since Part 107 was introduced. Because the delineation of U.S. airspace is so variable from state to state and city to city, drawing up a one-size-fits-all rule hasn't been easy. In the model Skorup envisions, the FAA would delegate regulatory authority to individual states to run their drone highway networks as they see fit — that way, drones can get up and running without running (or flying) amok.

"There's a fear from state, federal and local lawmakers about a kind of Wild West situation," he said.

"Drone highways are a way of preventing those fears."

Other Documents to consider:

- State and Local Regulation of Unmanned Aircraft Systems (UAS) Fact Sheet from the Federal Aviation Administration Office of the Chief Counsel dated December 17, 2015.
- A "unified legal position" concerning unmanned aerial systems (UAS) Joint Lawyers Working Group on Federal Preemption and the Regulation of Unmanned Aircraft Systems (Department of Transportation (DOT) Preemption Working Group).
- Airspace Rights in Louisiana; Wm. Blake Bennett, Spencer Sinclair Liskow & Lewis
- Congress and the courts have made clear that most, but not all, state and local laws and regulation relating to aviation safety and airspace management are preempted. Congress has expressly preempted states from regulating the prices, routes, and services of air carriers with economic authority from the DOT Office of the Secretary. In addition, the courts have ruled that the federal government occupies the field of aviation safety and the efficient use of the national airspace, and thus have

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generally struck down state and local aviation laws as “field- preempted. (GAO B-330570 of 16Sep20)

Summary: LADAC Task Group³ provides the attached draft letter to the Chairman for consideration in posting specific questions to DOTD’s Legal section, Louisiana’s Attorney General (Civil Division), and FAA’s Office of Chief Counsel.

In order to move forward on addressing the deliverable defined in the scope of work requires as a first step to garner the various legal opinions from both the State of Louisiana and the Federal government.

TG³ Chair: Mr. Joshua Alford

Date

TG³ Vice Chair: Sen. Patrick McMath

TG³ Members: Dr. Strickland, Sgt. Jonathan Kemp, & Mr. Stanley Ard.

ATTACHMENT E



Task Group-4 (TG⁴): Legislative & Executive Impacts That Maybe Hindering the Public Safety of Unmanned Systems in Louisiana

TG⁴ Chair: Dr. Balaji Ramachandran.

TG⁴ Vice Chair: Mr. Robert Moore

TG⁴ Members: Trooper Leland Dwight, Mr. Brad Brandt, & Mr. Dacoda Bartels

SCOPE: First Responders Use of small Unmanned Aircraft Systems (sUAS)/Drones is the application of Drones to firefighting, law enforcement, and emergency medical missions. First responder organizations have used Drones to search for lost children, identify high risk areas in burning structures, facilitate relief operations following hurricanes, reduce risk and exposure for law enforcement officers in active-shooter events, and many other use cases.

DELIVERABLES FOR: First Responder sUAS/Drones currently operating in Louisiana

Due to the limited time available for a first report TG⁴ Will provide the DAC with the current inroads in establishing public first responder drone operations within the 64 Parishes.

- Draft Report (best Estimate) due 30 Nov 2021
- Final report due to DAC Chairperson 30 January 2022

2022 Tasking:

- 1st Responder Drones purchased in Louisiana, best estimate.
- Drones Registered to Law, Fire, and Medical public entities.
- 1st Responder Drones operating as an FAA Part 107, COA, or both.

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- 1st Responder Drones that have received certification training.
- 1st Responder Drones that have received NIST operational training.
- Best approach by the Legislative and Executive branches of Louisiana's government to integrate 1st Responder Drones throughout our great state; standards, training, and resources.



ATTACHMENT E.1

Report to the Louisiana Drone Advisory Committee Work Product of Task Group (TG) # 04

—TG Title: Legislative & Executive Impacts That Maybe Hindering the Public Safety of Unmanned Systems in Louisiana

—TG Leader: Dr. Balaji Ramachandran

—TG Members: Mr. Robert Moore, Sergeant Jonathan Kemp, Mr. Brad Brandt, & Mr. Dacoda Bartels.

Tasking Summary: The main objective of this task group is to identify current adoption rate of Unmanned Systems in the state and local parishes, future outlook, and any major obstacles due to state legislative actions and economic constraints from adoption rate in public agencies. Due to various constraints such as changes in the composition of the team, the timing of the report towards end of the calendar year and other logistical issues imposed due to COVID-19 and hurricane Ida the task force was able to perform only preliminary assessments.

Scope of Task Group Work:

The task group met at least four biweekly meetings over a span of three months (Nov21 – Jan 22). The meetings were held on the following dates, time and format:

One in person meeting to kick start the task group on

Tuesday, Nov 16th, 2021 – In person meeting at the Capitol from 12:25 p.m. to 1:15 p.m.

Friday, Dec 3rd, 2021 – ZOOM call 10:00 a.m. to 11:10 a.m.

Thursday, Jan 13th, 2022 – ZOOM call 9:30 a.m. to 10:30 a.m.

Thursday, Jan 20th, 2022 – ZOOM call 8:30 a.m. to 9:30 a.m.

Since there was no single agency or organization at the state level was dedicated to public safety unmanned systems, the committee decided to send out a quick background survey questionnaire consisting of 8 questions related to drone operations in each parish (see attached instrument to this document). Most questions in the questionnaire were a simple yes or no response to maximize a quick response rate from the parishes. Each committee member was assigned approximately 13 parishes to contact. In addition, we also looked at Internet sites such as AUVSI.org, Droneresponders.org etc. to get some preliminary data related to drone operations and economic forecasts.

Overview of work Product:

Our survey had a response rate of approximately 25 percent (16 out of 64 parishes). The low response rates may be attributed to timing of the survey going out during the end of

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the calendar year and holidays. Extending the survey by couple of weeks would have improved the response rates. The parishes who took the survey is attached at the end of this report. The recurring theme across parishes is that Drones are an effective tool of value in their agency. The biggest hurdle in adopting and sustaining unmanned systems and trained personnel in their respective public agencies (law enforcement, first responders, disaster management) is the lack of sustained funds. In most cases they would like to have in-house capabilities with access to trained personnel updated in this emerging technology. To mitigate this issue some neighboring parishes are pooling resources to minimize the overheads related to training and drone ownership costs. They are in the process of entering into mutual cooperative agreements.

According to AUVSI report titled New Part 107 Waiver Report – Analysis of Advanced Operations granted by the FAA, first responders comprise 19.02% waivers granted to enable operations in nighttime for search and rescue or firefighting. A subset of these waivers also includes to fly drones over people for special events security and other uses. This shows more and more public safety agencies are finding the need to adopt this technology outside of the part 107 legal framework. According to committee member Mr. Robert Moore, Ouachita Parish Fire Department and representative of the Drone Responders Association in Louisiana that FAA Remote Pilot License is currently not required for Public Safety Agencies. Their agency has been taking proactive approach to get self-certified. The preliminary assessment clearly shows the importance of drone technology in public safety. To improve the adoption rate across the state the biggest hurdle is the lack of sustained funds.

Future Resource Support:

The committee recommends the following to facilitate the adoption of unmanned systems:

- 1) Administer a thorough online survey to all the public safety agencies (law, fire, medic, homeland security, and emergency management) to assess their existing capabilities, needs and potential pitfalls in adoption of this technology.
- 2) The entire state should be split into four or five regions. We should have a focus group face to face meetings (at least two) to identify in detail equipment requirements, training needs and personnel.
- 3) We need to develop up a basic common operating framework for individual parishes to have at a minimum in their respective public agencies/departments by the end of 2022.
- 4) Help identify granting agency and state funding to support their efforts.

Legislative Gap(s):

From 2013 -2020 Louisiana has passed a total of 7 bills to-date.

2013 (0), 2014 (1 – HB1029), 2015 (1- SB183), 2016 (1-HB635), 2017 (1- SB69), 2018 (1-HB612 – ACT No. 630), 2019 (0), 2020(0), and 2021 (1- HB587 – ACT No. 328). The committee did not find any gaps or existing laws that is prohibiting the use of drones for public safety related operations. We must commend the Louisiana legislature for taking pro-active role in identifying the importance of drones' technology in public safety.

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Recommendations: The committee feels that with appropriate time frame (1 C.Y) and funding support a thorough assessment of adoption of drone technology and its feasibility for future growth in public safety could be performed.

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Parish Drone Background Questionnaire

Parish: _____

POC: _____

POC Phone: _____

POC Email: _____

1. Do you have an established Drone Program at the Parish? If yes, please answer the following questions. If no, do you foresee Drone technology being incorporated in your emergency services in the immediate future.

2. Have you procured a drone(s) for use for emergency services? If so, what was the source of funding State/ Federal/ Agency /Other

3. Have you registered your drones with the FAA?

4. Are you operating in accordance 14 CFR Part 107?

5. How did your drone operators receive their training?

6. How many of your employees have received certification?

7. If you don't have an established drone program in your agency, do you currently contract out those services to private vendor to support your emergency services.

8. Comments/Notes:

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Parish Drone Background Questionnaire Responses

Parish: Terrebonne Parish
POC: Earl Eues, Director
POC Phone: 985-873-6357
POC Email: eeues@tpcg.org

Talked to Brian in the IT dept.

1. Do you have an established Drone Program at the Parish? If yes, please answer the following questions. If no, do you foresee Drone technology being incorporated in your emergency services in the immediate future?

Not for the emergency preparedness department; No they will not establish a program specifically for the emergency preparedness department because they use the IT department drone services. This department has multiple pilots and drones for use.

2. Have you procured a drone(s) for use for emergency services? If so, what was the source of funding State/ Federal/ Agency /Other

3. Have you registered your drones with the FAA?

4. Are you operating in accordance 14 CFR Part 107?

5. How did your drone operators receive their training?

6. How many of your employees have received certification?

7. If you don't have an established drone program in your agency, do you currently contract out those services to private vendor to support your emergency services?

The use the IT department for Terrebonne Parish for these services.

8. Comments/Notes:

Parish: St. John the Baptist Parish
POC: Travis Perrilloux
POC Phone: 985-652-2222
POC Email: travis.perrilloux@stjohn-la.gov

**12/15 Emailed as requested by secretary
1/13 talked with Tasha in Travis's office**

1. Do you have an established Drone Program at the Parish? If yes, please answer the following questions. If no, do you foresee Drone technology being incorporated in your emergency services in the immediate future.

No; possibly in the future but not right now

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2. Have you procured a drone(s) for use for emergency services? If so, what was the source of funding State/ Federal/ Agency /Other

3. Have you registered your drones with the FAA?

4. Are you operating in accordance 14 CFR Part 107?

5. How did your drone operators receive their training?

6. How many of your employees have received certification?

7. If you don't have an established drone program in your agency, do you currently contract out those services to private vendor to support your emergency services.

Yes they would contract this out if they needed this service.

8. Comments/Notes:

Parish: Assumption Parish

POC: John Boudreaux

POC Phone: 985-369-7386

POC Email:

**New director starts on Jan 13th.
Will be able to get more answers
at that time.**

1. Do you have an established Drone Program at the Parish? If yes, please answer the following questions. If no, do you foresee Drone technology being incorporated in your emergency services in the immediate future?

No.

2. Have you procured a drone(s) for use for emergency services? If so, what was the source of funding State/ Federal/ Agency /Other

3. Have you registered your drones with the FAA?

4. Are you operating in accordance 14 CFR Part 107?

5. How did your drone operators receive their training?

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6. How many of your employees have received certification?

7. If you don't have an established drone program in your agency, do you currently contract out those services to private vendor to support your emergency services?

Did contract out 2-3 years ago and they also use the GIS drone

8. Comments/Notes:

Parish: Orleans Parish

POC: Collin Arnold

POC Phone: 504-658-8700

POC Email: _____

1. Do you have an established Drone Program at the Parish? If yes, please answer the following questions. If no, do you foresee Drone technology being incorporated in your emergency services in the immediate future?

No; Yes, potentially looking into grants for funding this

2. Have you procured a drone(s) for use for emergency services? If so, what was the source of funding State/ Federal/ Agency /Other

3. Have you registered your drones with the FAA?

4. Are you operating in accordance 14 CFR Part 107?

5. How did your drone operators receive their training?

6. How many of your employees have received certification?

7. If you don't have an established drone program in your agency, do you currently contract out those services to private vendor to support your emergency services.

In the past from Louisiana State Police and fire marshal services/ "Mutual Aid"

8. Comments/Notes:

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Parish: St. Bernard Parish
POC: John Rahaim, director
POC Phone: 504-278-4267
POC Email: _____

**Could also contact Cara Rodrigue
at 504-658-8711
No answer when I tried calling**

1. Do you have an established Drone Program at the Parish? If yes, please answer the following questions. If no, do you foresee Drone technology being incorporated in your emergency services in the immediate future?

No, Working on one for Jefferson, St. Bernard, Orleans, and Plaquemines Parishes

2. Have you procured a drone(s) for use for emergency services? If so, what was the source of funding State/ Federal/ Agency /Other

3. Have you registered your drones with the FAA?

4. Are you operating in accordance 14 CFR Part 107?

5. How did your drone operators receive their training?

6. How many of your employees have received certification?

7. If you don't have an established drone program in your agency, do you currently contract out those services to private vendor to support your emergency services?

8. Comments/Notes:

Parish: St. James Parish
POC: Eric Deroche
POC Phone: 225-562-2265
POC Email: _____

1. Do you have an established Drone Program at the Parish? If yes, please answer the following questions. If no, do you foresee Drone technology being incorporated in your emergency services in the immediate future?

Yes, Parish wide for all departments

2. Have you procured a drone(s) for use for emergency services? If so, what was the source of funding State/ Federal/ Agency /Other

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Agency-Parish

3. Have you registered your drones with the FAA?

Yes

4. Are you operating in accordance 14 CFR Part 107?

Yes

5. How did your drone operators receive their training?

He was a pilot and took the test for drone pilot.

6. How many of your employees have received certification?

1

7. If you don't have an established drone program in your agency, do you currently contract out those services to private vendor to support your emergency services?

8. Comments/Notes:

Parish: Plaquemines Parish

POC: Patrick Harvey

POC Phone: 504-934-6460

POC Email: _____

1. Do you have an established Drone Program at the Parish? If yes, please answer the following questions. If no, do you foresee Drone technology being incorporated in your emergency services in the immediate future?

No but they have access via sheriff's office. Not getting one unless a grant comes through.

2. Have you procured a drone(s) for use for emergency services? If so, what was the source of funding State/ Federal/ Agency /Other

3. Have you registered your drones with the FAA?

4. Are you operating in accordance 14 CFR Part 107?

5. How did your drone operators receive their training?

6. How many of your employees have received certification?

Sheriffs office have trained pilots.

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7. If you don't have an established drone program in your agency, do you currently contract out those services to private vendor to support your emergency services.

No, Use sheriffs office drone.

8. Comments/Notes:

Parish: St. Charles Parish

POC: Joe Ganote

POC Phone: 985-783-5050

POC Email: _____

1. Do you have an established Drone Program at the Parish? If yes, please answer the following questions. If no, do you foresee Drone technology being incorporated in your emergency services in the immediate future?

It has been discussed, but they use the GIS department drone when needed.

2. Have you procured a drone(s) for use for emergency services? If so, what was the source of funding State/ Federal/ Agency /Other

GIS drone has been utilized.

They do have drone detection software which they use more often than needing their own drone.

3. Have you registered your drones with the FAA?

4. Are you operating in accordance 14 CFR Part 107?

5. How did your drone operators receive their training?

6. How many of your employees have received certification?

7. If you don't have an established drone program in your agency, do you currently contract out those services to private vendor to support your emergency services?

They use their GIS department drone and drone pilot.

8. Comments/Notes:

Parish: Iberia Parish

POC: Prescott L. Marshall

POC Phone: 337-369-4427

POC Email: pmarshall@iberiagov.net

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1. Do you have an established Drone Program at the Parish? If yes, please answer the following questions. If no, do you foresee Drone technology being incorporated in your emergency services in the immediate future?

No; No

2. Have you procured a drone(s) for use for emergency services? If so, what was the source of funding State/ Federal/ Agency /Other

3. Have you registered your drones with the FAA?

4. Are you operating in accordance 14 CFR Part 107?

5. How did your drone operators receive their training?

6. How many of your employees have received certification?

7. If you don't have an established drone program in your agency, do you currently contract out those services to private vendor to support your emergency services?

Yes they would contract out the services if needed.

8. Comments/Notes:

Parish: LaFourche Parish

POC: Chris Boudreaux

POC Phone: 985-446-8427

POC Email: _____

1. Do you have an established Drone Program at the Parish? If yes, please answer the following questions. If no, do you foresee Drone technology being incorporated in your emergency services in the immediate future?

Had 3 but they broke. These Followed FAA/ They plan to replace them within the gov. after licensing

but they do not know when.

2. Have you procured a drone(s) for use for emergency services? If so, what was the source of funding State/ Federal/ Agency /Other

3. Have you registered your drones with the FAA?

Yes they were.

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4. Are you operating in accordance 14 CFR Part 107?

5. How did your drone operators receive their training?

Took online classes but not the required FAA class to become licensed.

6. How many of your employees have received certification?

3 people

7. If you don't have an established drone program in your agency, do you currently contract out those services to private vendor to support your emergency services?

8. Comments/Notes:

It is backwards for the government to have to pay so much to get licensed when a citizen can pay \$5.

Parish: St. Mary Parish

POC: Jimmy Broussard

POC Phone: 337-828-4100 ext. 135

POC Email: jbroussard@stmaryparishla.gov

1. Do you have an established Drone Program at the Parish? If yes, please answer the following questions. If no, do you foresee Drone technology being incorporated in your emergency services in the immediate future?

No. / If allowed on grants they would.

2. Have you procured a drone(s) for use for emergency services? If so, what was the source of funding State/ Federal/ Agency /Other

3. Have you registered your drones with the FAA?

4. Are you operating in accordance 14 CFR Part 107?

5. How did your drone operators receive their training?

6. How many of your employees have received certification?

7. If you don't have an established drone program in your agency, do you currently contract out those services to private vendor to support your emergency services?

They use the sheriff's office drone if needed.

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8. Comments/Notes:

Parish: Beauregard
POC: Scott Greenmun
POC Phone: 337-460-5447
POC Email: bps0434@yahoo.com

1. Do you have an established Drone Program at the Parish? If yes, please answer the following questions. If no, do you foresee Drone technology being incorporated in your emergency services in the immediate future.
2. Have you procured a drone(s) for use for emergency services? If so, what was the source of funding State/ Federal/ Agency /Other
3. Have you registered your drones with the FAA?
4. Are you operating in accordance 14 CFR Part 107?
5. How did your drone operators receive their training?
6. How many of your employees have received certification?
7. If you don't have an established drone program in your agency, do you currently contract out those services to private vendor to support your emergency services.

8. Comments/Notes:

Spoke briefly on the phone, the parish is using drone technology and plans to use more. I've emailed him the questions to answer as he was tied up in a meeting.

Parish: Lafayette
POC: Craig Stansbury
POC Phone: 337-291-5075
Email: eoc@lafayettela.gov

1. Do you have an established Drone Program at the Parish? If yes, please answer the following questions.

Yes the LCG Police force has 8 FAA Licensed PART 107 pilots and operate 2x DJI M200 aircraft with thermal cameras.

2. Have you procured a drone(s) for use for emergency services? If so, what was the source of funding State/ Federal/ Agency /Other

Yes, state grant.

3. Have you registered your drones with the FAA?

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Yes

4. Are you operating in accordance 14 CFR Part 107?

Yes

5. How did your drone operators receive their training?

They were trained together in a group for both the knowledge test to pass Part 107 testing and also for physical flight testing on their specific aircraft type.

6. How many of your employees have received certification?

8 Lafayette City Police Officers

7. If you don't have an established drone program in your agency, do you currently contract out those services to private vendor to support your emergency services.

8. Comments/Notes:

No luck with the phone call. I emailed a briefing and the questions list. The above is my own personal input because I trained and consulted the police officers myself. I di also email the question list to the POC in hopes for further info.

Parish: Sabine

POC: Sheriff's Office Assistant "Becky Teller"

POC Phone: 318-256-9241

POC Email: _____

1. Do you have an established Drone Program at the Parish? If yes, please answer the following questions. If no, do you foresee Drone technology being incorporated in your emergency services in the immediate future.

No program in place. Researching options currently.

2. Have you procured a drone(s) for use for emergency services? If so, what was the source of funding State/ Federal/ Agency /Other

Not yet.

3. Have you registered your drones with the FAA?

n/a

4. Are you operating in accordance 14 CFR Part 107?

n/a

5. How did your drone operators receive their training?

n/a

6. How many of your employees have received certification?

none

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7. If you don't have an established drone program in your agency, do you currently contract out those services to private vendor to support your emergency services.

no

8. Comments/Notes:

Parish: Vernon
POC: Kenneth Moore
POC Phone: 337-238-0815
POC Email: kmoore@vernonso.org

1. Do you have an established Drone Program at the Parish? If yes, please answer the following questions. If no, do you foresee Drone technology being incorporated in your emergency services in the immediate future.

No, but a definite hope to use the tech in the near future

2. Have you procured a drone(s) for use for emergency services? If so, what was the source of funding State/ Federal/ Agency /Other

No

3. Have you registered your drones with the FAA?

4. Are you operating in accordance 14 CFR Part 107?

5. How did your drone operators receive their training?

6. How many of your employees have received certification?

7. If you don't have an established drone program in your agency, do you currently contract out those services to private vendor to support your emergency services.

8. Comments/Notes:

Spoke on the phone, the parish has an individual deputy that has a personal drone. This drone is used sometimes for work related SAR work, etc. There is no official program, but that is not due to any lack of interest – rather it is a funding issue. The parish would love to use the tech more as they find it “very useful for several scenarios”.

Parish: _____ East Baton Rouge Parish _____
POC: _____ Cpl. David Poierre _____
POC Phone: _____
POC Email: _____ DJPoirrier@BRLA.gov _____

1. Do you have an established Drone Program at the Parish? If yes, please answer the following questions. If no, do you foresee Drone technology being incorporated in your emergency services in the immediate future. **Baton Rouge Police Department**

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2. Have you procured a drone(s) for use for emergency services? If so, what was the source of funding State/ Federal/ Agency /Other **City of Baton Rouge; No Grants**

3. Have you registered your drones with the FAA? **Yes**

4. Are you operating in accordance 14 CFR Part 107? **Yes**

5. How did your drone operators receive their training? **Part 107**

6. How many of your employees have received certification? **7**

7. If you don't have an established drone program in your agency, do you currently contract out those services to private vendor to support your emergency services. **N/A**

8. Comments/Notes: None

Parish: _____ St. Helena _____

POC: _____ Brad Graves _____

POC Phone: _____ 225-610-9163 _____

POC Email: _____ StHelena4@yahoo.com _____

1. Do you have an established Drone Program at the Parish? If yes, please answer the following questions. If no, do you foresee Drone technology being incorporated in your emergency services in the immediate future. **I wouldn't say it was established. We use it as we need it. With plans with more pilots.**

2. Have you procured a drone(s) for use for emergency services? If so, what was the source of funding State/ Federal/ Agency /Other **Budget Funding from within department**

3. Have you registered your drones with the FAA? **Yes**

4. Are you operating in accordance 14 CFR Part 107? **Yes**

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5. How did your drone operators receive their training? [We do in house training from time to time.](#)

6. How many of your employees have received certification? [2](#)

7. If you don't have an established drone program in your agency, do you currently contract out those services to private vendor to support your emergency services. [No.](#)

8. Comments/Notes:

Parish: _____ Tangipahoa _____

POC: _____ CJ Pardue _____

POC Phone: _____ 985-247-5788 _____

POC Email: _____ CJ.Pardue@tpfd1.org _____

1. Do you have an established Drone Program at the Parish? If yes, please answer the following questions. If no, do you foresee Drone technology being incorporated in your emergency services in the immediate future. [No.](#)

2. Have you procured a drone(s) for use for emergency services? If so, what was the source of funding State/ Federal/ Agency /Other [Yes. Local Rotary Club Funding.](#)

3. Have you registered your drones with the FAA? [Don't know](#)

4. Are you operating in accordance 14 CFR Part 107? [Yes](#)

5. How did your drone operators receive their training? [No](#)

6. How many of your employees have received certification? [Not outside the agency](#)

7. If you don't have an established drone program in your agency, do you currently contract out those services to private vendor to support your emergency services. [No](#)

8. Comments/Notes: [It would be great if we did. Inspire 2 drone is currently out of service.](#)

ATTACHMENT F



Task Group-5 (TG⁵): Current Efforts to Implement Counter Unmanned Aircraft Systems (C-UAS) to Protect Critical Infrastructures in Louisiana

TG⁵ Chair: CDR R. George Rey

TG⁵ Vice Chair: Rep. Ken Brass

TG⁵ Members: Mr. Scott Gammel, Mr. Joshua Alford, & Mr. Andy Brown

SCOPE: The exponential growth of small unmanned aircraft systems (sUAS)/Drones creates new risks for the protection of Louisiana’s Critical Infrastructure, mass gathering, and the protection of the general public.

Technology trends are dramatically transforming legitimate applications of sUAS while simultaneously making them increasingly capable drone weapons in the hands of criminals, careless, clueless, and nefarious operators.

Recent legislation (Act 265) was signed into law by Governor John Bel Edwards focused on protecting the States Critical Infrastructure from drone operators. Two Parishes have implemented C-UAS programs and others are considering to follow suite.

To ensure that the State has the capability to have a common operating picture of drone activity throughout the state a review of efforts to date to develop and implement will be reviewed and a statewide strategic will be developed.

ATTACHMENT F

DELIVERABLES FOR: Counter-UAS (C-UAS) implementation in Louisiana

Due to the limited time available for a first report TG⁵ Will provide the with a summary of Parishes that have established a C-UAS program, and the lessons learned today through the data they have collected, and any legal action taken against individuals.

- Draft Report (best Estimate) due 30 Nov 2021
- Final report due to DAC Chairperson 30 January 2022

2022 Tasking:

- Examine/review Louisiana's Drone law and recommending needed reforms/revisions to ensure that state is protected from advancing drone technology.
- Identify possible new State Legislation or Executive Action to implement a state-wide strategy to ensure full C-UAS converge at all Critical Infrastructure sites in Louisiana.
- Review and recommend the establishment of a C-UAS Public, Private Partnership Center of Excellence in Louisiana that will work with Government, Private, and Academic stakeholders in developing a common operating picture statewide.



ATTCHMENT F

LADAC Task group Reporting Format

Report to the Louisiana Drone Advisory Committee Work Product of Task Group (TG) #5

—TG Title: **Counter Unmanned Aircraft Systems (C-UAS) to Protect Critical Infrastructures in Louisiana**

—TG Leader: Chair; CDR R. George Rey

—TG Members: Vice Chair; Rep. Ken brass, Mr. Scott Gammel, Mr. Joshua Alford, & Mr. Andy Brown

Tasking Summary: To ensure that Louisiana has the capability to have a common operating picture of drone activity throughout the state. Provide guidance in the development and implementation of a statewide strategic that provides C-UAS that provide coverage to all Critical Infrastructure (CI) identified in Act265-HB265.

Scope of Task Group Work:

The LADAC meet in public session in the House committee room 6 and voted to accept the terms of reference and the establishment of six Task Groups.

Task Group five held a meeting on 10 December 2021 at the St Charles Parish Emergence Operation Center in Hahnville, LA that contains the State's first C-UAS capability. The SME/manager of this capability provided TG5 members the history of the need for this capability to protect the CI in their Area of Responsibility (AOR), the numerous drone overflights to various CI facilities, and the systems performance since its implementation in October 2020.

Overview of work Product:

See attached White paper

ATTCHMENT F

Future Resource Support:

See attached White Paper

Legislative Gap(s):

See attached White Paper

Recommendations:

See attached white Paper

Drone
Advisory
Committee



Task Group-5 (TG⁵): Counter Unmanned Aircraft Systems (C-UAS) to Protect Critical Infrastructures in Louisiana



WHITE PAPER

Counter Unmanned Aircraft Systems (C-UAS) to Protect Critical Infrastructures in Louisiana

“Report to the Louisiana Drone Advisory Committee Work Product of Task Group-5 (TG⁵)”

ATTACHMENT F.1

Purpose: The C-UAS Working Group-5's (TG⁵) is focused on bringing together subject matter experts (SME) in industry, government, and academia to address the growing sUAS threats to the State's Critical infrastructure. TG⁵ Moreover, will ensure that the State has the capability to deploy a common operating picture of drone activity throughout the state and review efforts, to date, to develop a statewide strategic plan for development and codification by our Legislative branch and Implemented by the Executive branch of State government.

Part of TG⁵ is to develop the projected cost by identifying the Total Operating Cost (TOC) through system demonstrations; collect performance/cost data from industry, government, and academic partners testing and operating C-UAS systems; and develop architectural design plan to integrate the various disparate C-UAS real-time data integrated into a Center that provides a Common Operating Picture to key State "Decision Makers" Actionable intelligence.

The TG⁵ will provide the State's Executive and Legislative branch the analytical tools to provide the required resource support to improve the safety of our Critical Infrastructure throughout the state and to implement laws to assuage, deter, and punish those with nefarious intent.

Background: The small Unmanned Aircraft System (sUAS) clearly is the most dynamic growth sector of the aerospace industry today due, in large part, to their rapid embracement of this new tool that provides a significantly increase in safety, productivity, and lower cost in the workplace. The versatility of an inexpensive sUAS versus a manned aircraft for different purposes is a formidable and compelling market driver that is opening new industry sectors every day. The sUAS commercial market is the most transformative and growth sector of the aerospace industry and yet we are just at the beginning of full acceptance of this technology in the workplace. However, this dual technology has a range of a new kind of growing asymmetric threats facing our State's Critical Infrastructure owners and operators.

These rising sUAS threat concerns our Critical Infrastructure communities due in large part to the ease of purchase, relatively cheap cost of entry and low barrier for engagement. Clearly, terrorists, criminals, and Homegrown Violent Extremist (HVE) are now exploiting the growing capabilities of consumer-grade drones for their own villainous purposes. Law enforcement, Facility Security Officers (FSO), and first and second responders must be prepared, trained, and equipped to counter hostile drones from these and other bad actors.

ATTACHMENT F.1

DHS & DOJ now warn of the dangers these small and inexpensive systems, can pose to installations serving as cheap surveillance tools for non-traditional threats. Another serious concern: flying improvised explosive devices.

"Hobbyist drones – particularly those assembled by the operator, and thus not subject to manufacturer-installed geofencing – could be weaponized and autonomously deployed in a terrorist attack against our Critical Infrastructure or in an IED-like capacity against patrolling FSO personnel.

Discussion: To develop an over-arching C-UAS architecture, at the state level, that will interconnect local and regional deployed systems that provides real-time flight data feed into a Common Operating Picture (COP) into a collection center is a most have to meet this ever growing threat. This center will provide quick threat analysis and if required provide direction to law enforcement to apprehend the individual(s) or take interdiction action at the ground level.

To better educate, inform, and protect the State's Critical Infrastructure through a COP Center the State must:

- . Develop a baseline sUAS threat matrix to industry and government
- . Review and advise on the best of C-UAS class of systems based on field testing
- . Develop C-UAS TTPs
- . Develop Interoperability requirements for Counter-UAS systems
- . Integrate local and regional C-UAS into a State level COP center
- . Develop real-time analytics/forensic TTPs

The TG⁵ will Focus on the detection and surveillance capabilities around the Critical Infrastructure, but C-UAS capability could be extended to operations in other environments, such as high-density urban festival or sporting events areas. The topic of cooperative sUAS mitigation is not to be addressed, but interaction with information from cooperative sensors should be included in the overall system assessment.

ATTACHMENT F.1

C-UAS Technology Assessment: Today's C-UAS employ several methods to detect the presence of hostile or unauthorized sUAS that employ multiple sensors into a fused tracking capability.

The first is using electro-optical, infrared, or acoustic sensors to detect a target by its visual, heat, or sound signatures, respectively. A second method is to use radar systems. However, these methods are not always capable of detecting sUAS due to the limited signatures and size of such drones. A third method is identifying the wireless signals used to control the sUAS, commonly using radio frequency sensors. These methods can be—and often are—combined to provide a more effective, layered detection capability.

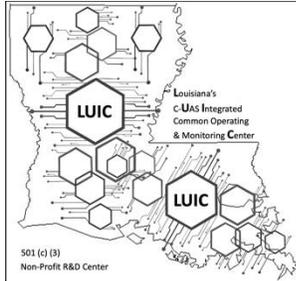
Part of the COP Center is to conduct operational testing and gather empirical data to assess current and future technologies to advise the State entities of the validity of the vendors claims. This will ensure the best procurement strategy in future acquisitions to meet the changing sUAS threats.

C-UAS; Public Private Partnership (P³): This Public-Private Partnership (P³) Strategy sets forth a bold plan to invite Government, Academic, and Private companies to become stakeholders in building the on the rapid development and implementation of counter-unmanned aircraft systems (C-UAS) technology from readily available commercial and government vendors. Through this partnership we plan to evaluate C-UAS systems employing technologies to detect, classify, identify, and track sUAS in real-world-environment to protect the State's Critical Infrastructure through the auspices of a COP Center.

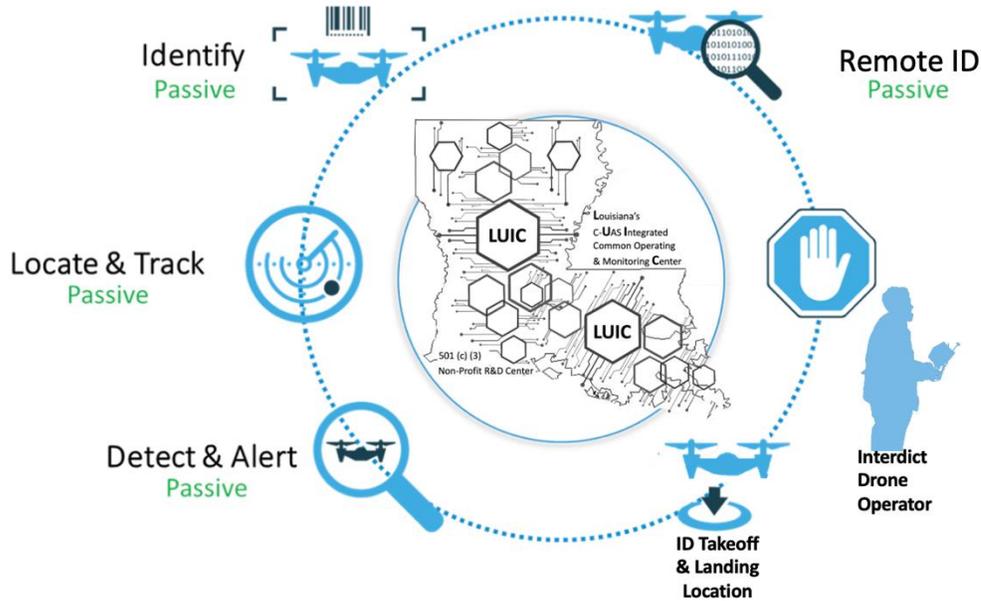
The P³ will advocate for both Government and industry investments into implementing the COP Center that will provide the flexibility to test the latest c-UAS technology through onsite demonstrations and empirical data collection into the States environment. The P³ coalition represents an opportunity to collaborate with SMEs and C-UAS companies and organizations to improve the State's COP and implementing better tracking tools.

Implementing A Public Private Partnership (P³): Louisiana's C-UAS Integrated Common Operating & Monitoring Center of Excellence (LUIC) will be established as a 501 (c) (3) R&D entity.

ATTACHMENT F.1



LUIC's will coalesce those C-UAS disparate systems into one standard operating picture to help Law Enforcement track and if required apprehend the offending drone operator(s). Moreover, to qualify C-UAS systems developed by industry, and then to identify those with both the sensor modalities to detect attacking drones and if authorized to neutralize the drone threat.



(Anatomy of a drone operator; compliant, clueless, careless, crazy, criminal, committed terrorist)

LUIC will conduct validation testing of C-UAS systems that use multiple means of detection, (e.g.) combining electro-optical, infrared sensors, acoustic systems, with radar systems. Doing so increases the probability that a C-UAS system accurately identifies a drone threat and can deter it if authorized. Along with the C-UAS systems themselves must also come the training and logistics tail to support them and LUIC will provide this support.

LUIC will be the executive agent directed through a Governor's Executive Order to coordinate a Statewide integration of the multiple C-UAS efforts by government, industry, and academia. Also, LUIC will be responsible for turning current and emerging C-UAS technologies into solutions that meet urgent CI challenges.

Moreover, LUIC will be the COP Center that provides the State-Wide coverage of drones in the NAS.

ATTACHMENT F.1

Legislative/Executive Initial Investment: Based on the C-UAS capital cost St Charles Parish EOC funded (dollars provided by Industry) to purchase (~\$25K) the FlyMotion system (this included the operating software and four DJI Aeroscope antennas) coupled with the 911 Security's leased offering covering much the same equipment but on a monthly lease (~\$4.5k/MTh) basis a projected initial budget was developed (see below).

In developing CI requirements, for IDing the number of systems the state will need, we worked with Louisiana's INFRAGARD using the Maritime Transportation Security Act (MTSA) waterfront facilities database; regulated by the USCG and other parts of these facilities comes under the Governor Office of Homeland Security & Emergency Preparedness (GOHSEP). The MTSA database identified over approximately 200 facilities throughout the state of Louisiana.

TG5 will develop a priority (working with GOHSEP/INFRAGARD/industry) list that includes those that have acted (St Charles & St James Parish) to procure and implement their C-UAS programs, and those agencies in the process of procuring C-UAS systems, and ID the gap left that have not or will not seek out public or private funding for a C-UAS system.

The goal is to determine where the State should establish future C-UAS systems to provide the maximum coverage of our CI facilities. Also, to identify other proven & tested C-UAS systems (based on integrated sensor coverage) to determine the minimum system configuration needed and the most optimum site location based on CI priority list established by GOHSEP. . . times cost per system.

Also, how many of these sensor operators will share their dynamic data collection with the LUIC COP.

Based on the above consideration the initial 3-year budget would be:

(6) flymotion systems =	~\$30k x 6 =	~\$189K
(6) 911 Security Leased systems =	~\$4.5k/Mth x 6 x 12mths = ~\$324k x 3yrs =	~\$972k
(3) LUIC employees	~\$150k/yr x 3 (yr1), (Yr2), (Yr3)	~\$450k
(1) Professional Service support contractors -		~\$2000k

ATTACHMENT F.1

Common Operating Picture (COP) location cost	~\$40k
Misc. -	<u>~\$150k</u>
Three-year Total:	~\$3801k

Legislative Recommendation: Currently, two Parishes have implemented C-UAS program for tracking sUAS manufactured by DJI and integrated into and operating system. Several other parishes are in the process of securing grants to build out their C-UAS capability. We are aware that several private entities have are ae considering procuring similar C-UAS systems.

There are multiple manufacturers offering C-UAS systems and no two are alike or provide a common interface to their dynamic operating system data.

The principal C-UAS thrust of the LADAC is to develop a State-wide Common Operating Picture (COP) of all drone flight in the National Air Space (NAS) throughout the State's CI.

The TG⁵ recommends that the State Legislature should consider a bill directing all government entities employing C-UAS systems to provide there real-time tracking data to the LUIC and encourage private entities to do the same. The LUIC will ingest all the disparate tracking data and integrate this dynamic information through a normalization process that will provide a common operating picture of all drone flights in the FAA's NAS over the Louisiana territory.

The LUIC's analytical (deep learning) software will identify all the authorized flights and quickly identify all unauthorized flights in the NAS. Moreover, this COP data will be provided to the States Fusion Center and other Law Enforcement entities.

TG⁵ Summary: The C-UAS Task Group 5 will continue to refine our recommendations and future report to the DAC over the 2022 calendar year.

ATTACHMENT G



Task Group-6 (TG⁶): Develop a Baseline of Unmanned Maritime Systems Development in Louisiana

TG⁶ Chair: Mr. Nathan McBride

TG⁶ Vice Chair: Mr. Dacoda Bartels,

TG⁶ Members: Rep. Ken Brass, Dr. Balaji Ramachandran, & Mr. Brad Brandt.

SCOPE: The Maritime industry is in the early phase of autonomous ship design, construction, and at sea demonstration featuring AI technology allowing onshore remote control, light crewed or uncrewed operations that represent a giant leap forward for the maritime industry. Moreover, the impact and the scale of this coming AI robotic fleet will spark the biggest transformation in the maritime industry since sail gave way to steam.

Conversely, the USCG currently is facing the challenges of COLREGS application to autonomous ships and coming to grips with the introduction and development of automated and autonomous commercial vessels and vessel technologies subject to U.S. jurisdiction, on U.S. flagged commercial vessels, and in U.S. port facilities. The USCG believes that highly automated Autonomous Vessels have the potential to improve safety in the maritime system, where it is estimated that 75% of accidents are caused, at least in part, by human error.

DELIVERABLES FOR: Louisiana is a leader in maritime industry thus to maintain this leadership position we need to insure future legislative and executive actions provides the right incentives, clear current roadblocks, and support the technological innovation ready for implementation.

Due to the limited time available for a first report TG⁶ Will provide the DAC with a summary of Louisiana's:

- Shipyards that are designing and building partially or fully autonomous vessels
- Ship leasing companies operating partially or fully autonomous vessels
- River Tugboat companies operating partially or fully autonomous vessels
- Academic Institution researching maritime partially or fully autonomous vessel
- Draft Report (best Estimate) due 30 Nov 2021

ATTACHMENT G

- Final report due to DAC Chairperson 30 January 2022

2022 Tasking:

- USCG COLREGS currently impacting the deployment of partially or fully autonomous vessels on America's waterways.
- Identify possible new State Legislation or Executive Action to improve Louisiana's maritime leadership through industry and academic incentives.
- Identify impediments to shipyard improvements and modernization towards designing fully autonomous vessels in Louisiana.
- Identify impediments to our port facilities to safely accept fully autonomous vessels at their piers and wharves along all of our waterways.