

Government Funding Landscape: CVD Graphene

Government Funding Report | Technology assessed: CVD graphene

A briefing on which U.S. government organizations, program offices, and contract vehicles may fund or mature CVD graphene.



Title: Government Funding Landscape: CVD Graphene

Company: First Place Business Solutions

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Prepared for internal evaluation. Every organization, program, contract and figure named in this report is cited to its source.

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Summary of inv_body cvd graphene.md

This document is a funding-strategy memo for a smaller company developing CVD graphene, written from the practical standpoint of where the U.S. government is most likely to support technology maturation. Its central conclusion is that government buyers and sponsors are generally **not** looking to fund graphene as a material category by itself. They fund mission outcomes: detector performance, microelectronics integration, conductivity improvement, thermal management, shielding, sensing, diagnostics, power systems, infrastructure monitoring, and manufacturable subsystem gains. That distinction is the memo’s strongest and most decision-relevant finding.

From a government program manager or contracting officer perspective, the document's most persuasive point is that the best opportunities are concentrated in offices with both a clear mission pull and a familiar vehicle a small firm can actually pursue. The memo is strongest where it identifies published, recurring channels such as **DoD SBIR/STTR, DOE applied FOAs, NASA SBIR/STTR, NIST SBIR, USDA NIFA SBIR**, and selected **NIH SBIR/STTR** pathways. It is materially more credible when it cites specific evidence of similar work, such as OSD's publicly visible graphene-CMOS focal-plane topic, DOE AMMTO's graphene-conductivity project selections, Army and Navy graphene-adjacent awards, and NIST's sustained relevance to graphene metrology and semiconductor process control. Those examples support the view that federal interest exists, but mostly in applied, mission-anchored form.

The document argues that the highest-priority targets are OSD via DoD SBIR/STTR, DOE AMMTO, NASA STMD via NASA SBIR/STTR, NIST and NIST SBIR, and Army SBIR/STTR or ARL collaboration routes. That ranking is defensible. These offices combine several features that a funding official would want to see: a public path to award, some evidence of comparable prior work, and a plausible transition path from feasibility to prototype to end-user validation. The Army stands out for breadth of use cases; OSD stands out for immediacy and specificity; AMMTO stands out for applied manufacturing and conductivity precedent; NASA and NIST stand out for recurring access points and strong fit where graphene is embedded in a subsystem or a measurement/manufacturing problem.

The memo is also useful because it distinguishes between sponsor types. Some offices are framed as strong **first funders** for early or mid-stage development, while others are better understood as **validators, collaborators, or later adopters**. That is an important acquisition insight. For example, ARL, NIST laboratories, ARS, NASA centers, and transportation modal labs may be technically valuable even when they are not the cleanest first contracting route. Likewise, DIU, BARDA, FAA, or mission-operations organizations may matter more after the company has prototype data, environmental test results, and a clearer procurement story. This helps avoid a common business-development error: approaching downstream operational users before the technology has been de-risked enough for them to engage.

The document's strongest caution, and the one most likely to control an actual funding decision, is that **decision blockers are mostly about evidence and insertion, not scientific intrigue**. Across agencies, the same blockers recur: no specific mission use case, no comparative data versus incumbents, no manufacturing or process-control evidence, no qualification path, and no identified transition customer. For a smaller company, those are exactly the issues that can sink an otherwise interesting submission. A proposal that leads with "high-quality CVD graphene" but does not show why a government office should care about detector sensitivity, conductivity, EMI shielding effectiveness, thermal performance, ruggedization, yield, contamination control, or cost will likely be judged as immature or misaligned.

The document is appropriately skeptical about offices where evidence is weaker. DARPA is presented as strategically attractive but opportunistic rather than a base-case pipeline. HHS is treated as plausible only when graphene is part of a device or diagnostic product,

not as a material program. Transportation and Intelligence Community opportunities are real, but narrower and more application-dependent. USDA is viable only when the use case is clearly agricultural, food, water, or forest-products related. Several agencies, including DHS, EPA, and NSF, are explicitly incomplete in the source material. That restraint is a strength. A responsible funding recommendation should not overstate the readiness of agencies where the primary-source evidence is unfinished.

Overall, the document supports a favorable but conditional funding posture toward a CVD graphene company. The technology appears potentially fundable when framed as a government-relevant capability with measurable technical and manufacturing outcomes. The strongest next steps would be to pursue offices with verified, published mechanisms and adjacent award history, while narrowing the pitch to one or two lead applications rather than marketing graphene as a broad platform. The company's highest-probability path is through topic-driven small-business programs and applied FOAs, supported by lab or user validation where needed. The main reason not to fund would be the absence of a specific insertion point, repeatable production evidence, or a credible transition plan.

Engagement summary table

Parent organization	Office to engage	Similar-contract status	Published program manager or contact
Department of Defense	OSD / OUSD(R&E) via DoD SBIR/STTR (DSIP)	Active; memo cites current graphene-CMOS topic and prior related awards	DoDSBIRSupport@reisystems.com
Department of Defense	Army SBIR/STTR	Active; memo cites recent graphene-adjacent awards	not published
Department of Defense	DEVCOM ARL	Active collaboration infrastructure; BAAs and CRADAs available	Tamara Christenson; tamara.r.christenson.civ@army.mil
Department of Defense	Navy SBIR/STTR	Active; memo cites recent related awards	not published
Department of Defense	Department of the Air Force SBIR/STTR	Active; memo cites recent and historical related awards	not published
Department of Defense	DARPA	Prior related awards found; no	not published

Parent organization	Office to engage	Similar-contract status	Published program manager or contact
		current graphene-specific open opportunity verified	
Department of Defense	DIU	Active prototype pathway; no graphene-specific solicitation found	not published
Department of Defense	MDA	Active niche related awards	not published
Department of Defense	DTRA	Active niche related awards	not published
Department of Energy	AMMTO	Active; memo cites graphene-specific conductivity project selections	ammto@ee.doe.gov
Department of Energy	Office of Science -> BES -> MSE	Active program of record; strong science fit	Dr. Andy Schwartz; sc.grantsandcontracts@doe.gov
Department of Energy	DOE SBIR/STTR	Active recurring program	sbir-sttr@doe.gov; (301) 903-5707
Department of Energy	ARPA-E	Active agency pathway; no graphene-specific live program identified	ARPA-E@hq.doe.gov
Department of Energy	Office of Electricity	Active office, but no graphene-specific solicitation identified	OEwebmaster@hq.doe.gov; 202-586-1411
Department of Commerce	NIST laboratories / CNST	Active capability and collaboration relevance	not published
Department	NIST SBIR Program	Active recurring	sbir@nist.gov; 301-975-8449

Parent organization	Office to engage	Similar-contract status	Published program manager or contact
Department of Commerce		program	
Department of Commerce	NIST CHIPS / semiconductor R&D	Active ecosystem and funding activity; no graphene-specific call identified	not published
Department of Commerce	EDA	Active programs, but not a direct first-stop technical sponsor	not published
Department of Commerce	NOAA	Active general funding pathways; no graphene-specific topic identified	not published
NASA	STMD -> NASA SBIR/STTR Program Office	Active recurring annual solicitation	agency-sbir@mail.nasa.gov
NASA	STMD solicitations and prizes	Active portal; no graphene-specific call identified	not published
NASA	SMD -> ROSES	Active annual omnibus; no standing graphene line identified	not published
NASA	ARMD	No graphene-specific solicitation identified	not published
NASA	ESDMD	No graphene-specific solicitation identified	not published
NASA	SOMD	No graphene-specific solicitation	not published

Parent organization	Office to engage	Similar-contract status	Published program manager or contact
		identified	
USDA	NIFA SBIR	Active recurring program	sbir@usda.gov
USDA	AFRI	Active recurring program; no graphene-specific topic identified	not published
USDA	ARS / National Programs / units	No graphene-specific solicitation found; collaboration relevance present	not published
USDA	Forest Service / FPL / Wood Innovations	Active related programs; no graphene-specific topic identified	not published
USDA	APHIS	No dedicated graphene vehicle found	not published
USDA	Rural Development / Water programs	Active deployment finance programs, not a primary R&D route	not published
HHS	NIH SBIR/STTR / SEED	Active recurring program; no dedicated graphene topic consistently identified	not published
HHS	NIBIB	Active recurrent funding mechanisms	not published
HHS	NINDS / BRAIN-related programs	Active recurrent mechanisms	not published
HHS	NCI	Active recurrent	not published

Parent organization	Office to engage	Similar-contract status	Published program manager or contact
		mechanisms	
HHS	BARDA / DRIVe	Active recurrent pathway; no graphene-specific call identified	not published
HHS	ARPA-H	Active pathway; no graphene-specific lane identified	not published
HHS	FDA	No graphene-specific opportunity identified	not published
HHS	CDC	No graphene-specific pathway identified	not published
Department of Transportation	DoT SBIR	Active recurring program	dotsbir@dot.gov
Department of Transportation	FHWA / TFHRC / EAR	Active research structure; no graphene-specific open opportunity confirmed	not published
Department of Transportation	PHMSA R&D	Active mission fit; no graphene-specific public topic found	not published
Department of Transportation	FAA / William J. Hughes Technical Center	Active R&D venue; no graphene-specific open BAA confirmed	not published
Department of Transportation	FRA Office of Research, Development and Technology	Active; no graphene-specific topic identified	not published
Department	FTA	Active, more	not published

Parent organization	Office to engage	Similar-contract status	Published program manager or contact
of Transportation	research/innovation	demonstration-oriented	
Department of Transportation	MARAD	Active broadly; no graphene-specific opportunity identified	not published
Department of Transportation	Volpe Center	Active support role, not primary sponsor	not published
Intelligence Community	IARPA	Active BAAs and solicitations; no graphene-specific named program found	not published
Intelligence Community	NSA	Active small-business and research channels	not published
Intelligence Community	NGA	Active business channel	not published
Intelligence Community	NRO	Active business/research channels	not published
Intelligence Community	CIA	Active contracting channel; no graphene-specific route identified	not published
Intelligence Community	ODNI S&T / coordination	Active coordinating role; no direct funding channel identified	not published
Small Business Administration	SBA / OII / SBIR.gov coordination	Active coordination role only; not a direct sponsor	not published

Parent organization	Office to engage	Similar-contract status	Published program manager or contact
Department of Homeland Security	Department-wide / relevant components	Research incomplete in source document	not published
Environmental Protection Agency	Department-wide / relevant offices	Research incomplete in source document	not published
National Science Foundation	Department-wide / relevant offices	Research incomplete in source document	not published

Top 10 government funding pairings for CVD graphene

Executive summary

Across the reviewed memo, **the best federal paths are not generic materials pitches**. The strongest pairings are offices that already use familiar de-risking mechanisms — especially **SBIR/STTR, BAAs, CRADAs, and applied FOAs** — and where the document shows either **explicit graphene-adjacent demand** or a clear pattern of buying the end application CVD graphene would enable.

Overall funding judgment

Top tier now: 1. DoD OSD / OUSD(R&E) -> DoD SBIR/STTR (DSIP) 2. DOE -> AMMTO 3. NASA STMD -> NASA SBIR/STTR Program Office 4. Department of Commerce -> NIST -> NIST SBIR Program 5. DoD -> Army -> Army SBIR/STTR / ARL

Strong but more conditional: 6. DOE -> Office of Science -> BES -> MSE 7. USDA -> NIFA -> SBIR 8. DoD -> Navy -> Navy SBIR/STTR 9. DoD -> DARPA 10. DoD -> Air Force -> DAF SBIR/STTR

Why these ten rose to the top

They combine most of the following: - direct or adjacent **mission pull** for sensors, microelectronics, shielding, thermal management, conductors, batteries, or coatings; - a **clear award vehicle** a small company can actually pursue; - evidence of **similar prior awards or active capability**; - a practical **TRL progression** the government already understands; and - a plausible path from pilot R&D to validation, transition, or procurement.

Biggest decision blockers across the set

A program manager or contracting officer would likely hesitate if: - the company is pitching **graphene as a material**, not a mission outcome; - manufacturability is weak: no data on **uniformity, transfer yield, contamination, repeatability, scale, or cost**; - the product lacks a **specific insertion point** into a sensor, detector, conductor, coating, battery, thermal stack, or subsystem; - the office is an **end user** but not an early sponsor; - there is **no live or recurring mechanism** matched to company maturity; - regulatory, qualification, or integration burdens are understated.

Top 10 best parent-organization and technology-office pairings

1) Department of Defense -> OSD / OUSD(R&E) -> DoD SBIR/STTR (DSIP)

Why this office, why now

This is the strongest pairing in the document because the memo cites an unusually direct demand signal: a **2026 OSD SBIR pre-release topic for monolithic graphene-CMOS**

broadband focal plane arrays. That is not just adjacency; it is explicit public evidence that a DoD sponsor is considering graphene-enabled capability now.

Clarity of the ask

Very clear. The ask is a **DoD SBIR/STTR proposal through DSIP** tied to a published topic or closely aligned future release.

Technical readiness and de-risking path

Strong. DoD SBIR/STTR is already the government's standard route for TRL 3-6 prototype maturation. The office can fund proof, integration, and follow-on Phase II work without inventing a new mechanism.

Similar-contract status and timing implication

Best in class. The document cites both the current pre-release topic and prior OSD awards in twisted graphene detectors. That implies **near-term timing is real**, not speculative.

Deal / award structure and next-step feasibility

Feasible for a small company if it can answer a defined topic with measurable detector, integration, or microelectronics performance. Follow-on potential is credible if the performer can bridge to a program office or lab customer.

Likely objections

- company is selling film, not a focal plane or integrated device; - no CMOS integration evidence; - insufficient low-light, spectral, environmental, or manufacturability data; - unclear transition target after Phase II.

Published contact

DoDSBIRSupport@reisystems.com. Topic-specific PM not publicly named in the reviewed source.

PM/CO verdict

Highest-priority target. If the company has an EO/IR, detector, or integration story, this is the most actionable federal opening in the document.

2) Department of Energy -> AMMTO

Why this office, why now

AMMTO has the clearest applied-energy/manufacturing evidence in the memo. The document cites **two publicly visible graphene-specific conductivity projects** funded through the 2022 Multi-Topic FOA. That is concrete precedent that AMMTO will fund graphene when tied to conductors and manufacturable advanced materials.

Clarity of the ask

Clear enough. The likely ask is an **AMMTO FOA application** framed around conductivity-enhanced materials, energy-efficient microelectronics, or scalable manufacturing processes.

Technical readiness and de-risking path

Strong for applied materials and manufacturing. AMMTO is a good fit for TRL roughly 3-6 where the risk is process scale-up, performance reproducibility, and manufacturable insertion into energy-relevant hardware.

Similar-contract status and timing implication

Strong. The cited copper-graphene projects imply DOE is already comfortable funding graphene-enhanced performance claims in this office. Timing depends on live FOAs, but the pattern is established.

Deal / award structure and next-step feasibility

Good. A small company can pursue grants/FOAs if it presents measurable electrical or thermal performance gains and a domestic manufacturing logic.

Likely objections

- proposal sounds like basic materials science better suited to BES; - insufficient technoeconomic case versus incumbent conductor approaches; - no scale-up or process-control plan; - no link to DOE mission outcomes such as efficiency, conductivity, or microelectronics.

Published contact

ammto@ee.doe.gov

PM/CO verdict

Top-tier applied funding target for conductive films, thermal/electrical materials, and microelectronics manufacturing propositions.

3) NASA -> STMD -> NASA SBIR/STTR Program Office

Why this office, why now

NASA is a strong fit when graphene is embedded in a mission subsystem: thermal spreaders, transparent heaters, EMI shielding, flexible sensors, or multifunctional conductive materials. The memo shows NASA repeatedly uses SBIR/STTR to mature these adjacent hardware classes.

Clarity of the ask

High. The route is a **NASA SBIR/STTR submission** under annual subtopics, ideally tied to a specific space or aeronautics environment.

Technical readiness and de-risking path

Very good. NASA SBIR/STTR is an established path for TRL 2-5 to prototype maturation, followed by mission infusion or Phase III-style adoption.

Similar-contract status and timing implication

Good, though less explicit than OSD or AMMTO. The document does not cite a standing graphene topic, but it does show recurring adjacent demand in thermal, materials, sensing, and electronics areas. That supports recurring opportunity rather than one-off timing.

Deal / award structure and next-step feasibility

Feasible if the company can package the offering as a space-usable component with environment-relevant test data.

Likely objections

- no vacuum, radiation, contamination, outgassing, or thermal-cycle data; - unclear mission insertion point; - raw-material pitch with no subsystem benefit; - no center or mission-customer pull.

Published contact

agency-sbir@mail.nasa.gov

PM/CO verdict

Excellent recurring small-business path if the company can show a credible subsystem use case.

4) Department of Commerce -> NIST -> NIST SBIR Program

Why this office, why now

NIST is the best Commerce pairing because graphene's commercialization pain points — metrology, repeatability, defect measurement, contamination control, and standards — are core NIST territory. The document presents NIST as the strongest Commerce sponsor/adopter path.

Clarity of the ask

High. The practical ask is a **NIST SBIR proposal** around measurement science, sensors, semiconductor metrology, or manufacturing process control.

Technical readiness and de-risking path

Strong for TRL 2-5 tools and methods. NIST is attractive when the company's value is not just the material itself but the measurement capability or process control enabled by it.

Similar-contract status and timing implication

Moderate-strong. The memo shows active NIST SBIR and active 2D-material/graphene research presence, though not a graphene-only solicitation. That means the office is institutionally relevant, but topic fit must be precise.

Deal / award structure and next-step feasibility

Good for a small business that can turn graphene into a metrology, sensing, or semiconductor-manufacturing proposition.

Likely objections

- no standards or measurement problem being solved; - technology is an end product, not a NIST-type infrastructure or metrology need; - weak semiconductor or industrial competitiveness tie.

Published contact

sbir@nist.gov, 301-975-8449

PM/CO verdict

One of the cleanest non-DoD small-business entries if the company can speak in NIST language rather than advanced-materials hype.

5) Department of Defense -> Army -> Army SBIR/STTR / ARL

Why this office, why now

Army showed the broadest spread of practical graphene use cases in the memo: batteries, bolometers, electromagnetic protection coatings, and water purification. That breadth matters because it signals multiple mission wedges rather than a single fragile topic.

Clarity of the ask

Good. The document points to **Army SBIR/STTR** for topic-driven work and **ARL BAA / CRADA** for earlier collaboration.

Technical readiness and de-risking path

Strong. Army has familiar de-risking paths from exploratory research through prototype work. That makes it suitable across TRL 2-6 depending on vehicle.

Similar-contract status and timing implication

Strong. The memo cites recent 2025 awards in several graphene-relevant areas. That implies the Army is actively buying adjacent solutions now.

Deal / award structure and next-step feasibility

Strong for a smaller company because more than one vehicle exists, allowing a match between maturity and mechanism.

Likely objections

- proposal lacks direct soldier-system or platform value; - no ruggedization or field-use data; - weak plan to transition from topic award to acquisition user; - too broad across batteries, sensors, and coatings with no lead use case.

Published contact

Tamara Christenson, Technical Point of Contact, DEVCOM ARL CRA,
tamara.r.christenson.civ@army.mil

PM/CO verdict

Best service-level pairing for breadth and flexibility. Particularly good for tactical power, sensing, protection, and field systems.

6) Department of Energy -> Office of Science -> BES -> MSE

Why this office, why now

BES/MSE is the best fundamental-science home in the document. If the core risk is still growth, interfaces, transport, defects, characterization, or reproducibility, this is the right office.

Clarity of the ask

Moderate. The ask is an **Office of Science financial-assistance proposal** through the open FOA framework, often stronger with academic or national-lab collaboration than as a pure startup commercialization pitch.

Technical readiness and de-risking path

Excellent for TRL 1-3 or use-inspired basic research, weaker for near-market productization.

Similar-contract status and timing implication

Strong institutionally but less company-friendly than AMMTO or SBIR. BES is a program of record with active FOAs and supporting user facilities.

Deal / award structure and next-step feasibility

Feasible, but only if the company is honest that the problem is still scientific. For a small company alone, this can be cumbersome without partners.

Likely objections

- company is too product-oriented for BES; - no scientific novelty beyond application engineering; - startup lacks academic or lab team depth; - commercialization timetable is mismatched to basic-research funding.

Published contact

Dr. Andy Schwartz, Division Director, MSE; general support
sc.grantsandcontracts@doe.gov

PM/CO verdict

Best science-first pairing but not the fastest procurement path. Good when the material itself still needs fundamental de-risking.

7) USDA -> NIFA -> SBIR

Why this office, why now

Within USDA, NIFA SBIR is the clearest formal path. The memo is explicit that USDA is not a natural home for graphene as a material, but can be a viable sponsor if graphene is positioned as an ag-mission solution: biosensors, smart packaging, membranes, or water treatment.

Clarity of the ask

High. The ask is a **NIFA SBIR proposal** framed around a USDA mission problem.

Technical readiness and de-risking path

Good for TRL 3-6 applied prototypes, but only if the agricultural use case is concrete.

Similar-contract status and timing implication

Moderate. The recurring program is active, but the memo found no graphene-specific topic. This means access is real, but fit must be problem-led.

Deal / award structure and next-step feasibility

Straightforward for a small company, though the cited Phase I size is modest. Good as a wedge, not as sole scale-up capital.

Likely objections

- no agricultural outcome; - proposal reads as advanced materials tourism; - no validation metrics tied to food safety, packaging, water, or field operations; - market pull sits outside USDA mission.

Published contact

sbir@usda.gov

PM/CO verdict

Best USDA entry point, but only for narrowly framed ag/food/water use cases.

8) Department of Defense -> Navy -> Navy SBIR/STTR**Why this office, why now**

The Navy pairing is strong because the memo identifies concrete award patterns in **batteries, IR beam control, tunable modulators, and hyperspectral systems**. Those are credible device-level insertion points for CVD graphene.

Clarity of the ask

Moderate-high. The route is **Navy SBIR/STTR**, but the document does not provide as much office-specific contact structure as Army or NIST.

Technical readiness and de-risking path

Strong for TRL 3-6 hardware demonstrations.

Similar-contract status and timing implication

Strong. Recent awards suggest active interest and realistic timing, especially for power and EO/IR uses.

Deal / award structure and next-step feasibility

Good if the company has a naval or platform-relevant subsystem story and can compete through topic cycles.

Likely objections

- no SWaP or environmental argument for maritime systems; - no subsystem-level value beyond material performance; - no route from Phase II to ONR/naval transition customer.

Published contact

No graphene-specific published contact identified in the reviewed source.

PM/CO verdict

High-value defense pairing, especially for power and optical modulation applications, but more topic-cycle dependent than Army.

9) Department of Defense -> DARPA

Why this office, why now

DARPA remains one of the best places for discontinuous bets: wafer-scale synthesis, large-area foil, tunable LWIR imaging, and non-obvious photonic/electronic behavior. The memo shows strong historical graphene-relevant awards.

Clarity of the ask

Moderate. DARPA is compelling strategically, but procedurally less predictable than recurring SBIR programs because the company must fit a live BAA or office interest.

Technical readiness and de-risking path

Excellent for high-risk/high-payoff work at TRL 2-5, especially where the key challenge is not incremental improvement but breakthrough capability.

Similar-contract status and timing implication

Good historically, weaker near-term than OSD because no current graphene-specific solicitation was found.

Deal / award structure and next-step feasibility

Possible through BAAs, programs, or DARPA SBIR, but next-step feasibility depends heavily on live topic alignment.

Likely objections

- proposal is incremental, not DARPA-worthy; - no disruptive defense effect; - weak performer credibility for difficult integration/manufacturing claims; - unclear transition partner.

Published contact

No graphene-specific PM publicly named in the reviewed source.

PM/CO verdict

Strategically attractive but opportunistic. Best for leap-ahead concepts, not a baseline pipeline strategy.

10) Department of the Air Force -> DAF SBIR/STTR

Why this office, why now

The Air Force record in the memo is credible across EMI/EMP shielding, additive manufacturing improvement, graphene memory, rad-hard electronics, ultracapacitors, and production-tool efforts. That gives this pairing multiple mission-relevant wedges.

Clarity of the ask

Moderate-high. DAF SBIR/STTR is a standard and familiar vehicle, even though the memo did not identify a named contact.

Technical readiness and de-risking path

Strong for TRL 3-6 prototypes and subsystem improvements.

Similar-contract status and timing implication

Strong historical and recent evidence, especially in shielding and electronics. Timing is good if a matching topic appears.

Deal / award structure and next-step feasibility

Good for companies with shielding, space-electronics, or manufacturing-tool angles.

Likely objections

- no Air Force mission pull; - insufficient environmental or flight/space relevance; - unclear differentiation against incumbent EMI or lightweight materials.

Published contact

No graphene-specific published contact identified in the reviewed source.

PM/CO verdict

Strong service-level option with particular merit for shielding, space electronics, and process equipment.

Why other offices did not make the top 10

Several offices in the memo are still worth tracking but fall below the top ten because of weaker mechanism clarity, weaker early-stage fit, or thinner evidence in the document.

- **DOE SBIR/STTR:** strong company path, but the memo gave less office-specific technical pull than AMMTO or BES.
 - **NIST laboratories / CNST:** highly relevant, but less clean as a direct small-company award path than NIST SBIR.
 - **NIST CHIPS:** attractive, but fit is narrow and depends on true semiconductor relevance.
 - **USDA ARS / Forest Service:** useful validators or niche sponsors, but less straightforward than NIFA SBIR.
 - **DIU:** valuable only when the product is already prototype-ready and commercially credible.
 - **MDA / DTRA:** real niche demand, but narrower than Army, OSD, Navy, or DAF.
 - **HHS / NIH / BARDA / ARPA-H:** potentially strong in biosensing or medical devices, but the memo did not provide the same level of concrete similar-award evidence or published contact detail.
 - **DOT, IC, SBA:** each has relevance, but generally as downstream, indirect, or narrower channels based on the document.
 - **DHS, EPA, NSF:** the source document marked these as incomplete or placeholder research, so they cannot support a top-ten recommendation yet.
-

Cross-cutting recommendation to the editor

If only a few pairings are worth editorial emphasis, lead with these five: 1. **DoD OSD / OUSD(R&E) -> DoD SBIR/STTR (DSIP)** 2. **DOE -> AMMTO** 3. **NASA STMD -> NASA SBIR/STTR** 4. **Commerce -> NIST -> NIST SBIR** 5. **DoD -> Army -> Army SBIR/STTR / ARL**

These offer the best combination of: - clear government mechanism, - evidence of current or recent demand, - realistic small-company access, - credible technical de-risking pathways, and - transition potential.

Full office consideration table

Office considered	Parent organization	Mission fit for CVD graphene	Sharper recommendation matrix	Similar-contract status from document	Published contact
NIFA SBIR	USDA	Good only for ag/food/water applications	Pursue for biosensors, packaging, membranes	Active recurring program; no graphene-specific topic found	sbir@usda.gov
AFRI	USDA	Moderate for university-led translational work	Partner-driven selective pursue	Active omnibus; no graphene-specific topic found	Topic contacts in RFA; no standing graphene contact
ARS / National Programs / units	USDA	Moderate as validator, not clean sponsor	Partner/validate via CRADA/collaboration	Active in-house R&D; no dedicated graphene solicitation found	Graphene-specific PM not published
Forest Service / FPL / Wood Innovations	USDA	Moderate for composites, coatings, sensing	Selective pursue if forest-products story	Active R&D/grants; no graphene-specific topic found	No standing graphene-specific PM published
APHIS	USDA	Low-medium, mostly end-user	Track for	No dedicated	Not published

Office considered	Parent organization	Mission fit for CVD graphene diagnostics	Sharper recommendation matrix	Similar-contract status from document	Published contact
Rural Development / Water programs	USDA	Low for R&D, medium for deployment	adoption , not first funding Deployment only	graphene vehicle found Financing active; no graphene R&D vehicle found	Program/state contacts only
Department level	Commerce	Low direct value	Do not lead here	No dedicated parent-level graphene program found	Not published
NIST laboratories / CNST	Commerce	High for metrology and process validation	Pursue collaboration	Active capability; no single graphene-only solicitation found	No graphene-specific PM published
NIST SBIR Program	Commerce	High for metrology/sensors/semiconductor tools	Pursue	Active; graphene-specific topic not found	sbir@nist.gov, 301-975-8449
NIST CHIPS for America / semiconductor R&D	Commerce	High if true microelectronics fit	Selective pursue	Active ecosystem/funding; no graphene-specific call	Notice-specific contacts only

Office considered	Parent organization	Mission fit for CVD graphene	Sharper recommendation matrix	Similar-contract status from document found	Published contact
NIST MEP	Commerce	Medium-low early, better for scale-up	Later-stage support	Active; no graphene-specific program found	Not published
EDA	Commerce	Medium for regional ecosystem build	Consortium-only selective pursue	Active programs; no graphene-specific call found	Notice-specific contacts
NOAA	Commerce	Low except mission sensor niche	Niche only	General funding active; no graphene-specific topic found	Not published
OSD / OUSD(R&E) via DSIP	DoD	Very high for detectors and advanced microelectronics	Top priority pursue	Active pre-release topic + prior related awards	DoDSBIRSupport@reisystems.com
DARPA	DoD	High for discontinuous device/manufacturing leaps	Selective high-upside pursue	Strong prior awards; no current graphene-specific opportunity found	Graphene-specific PM not published

Office considered	Parent organization	Mission fit for CVD graphene	Sharper recommendation matrix	Similar-contract status from document	Published contact
Army SBIR/STTR	DoD	Very high across power, sensing, protection	Pursue	Recent awards in batteries, bolometers, protection, water purification	Army topic channels; named ARL contact below
ARL BAA / CRADA / collaboration	DoD	High for early collaboration and validation	Pursue if earlier TRL	Active collaboration infrastructure	Tamara Christenson, tamara.r.christenson.civ@army.mil
Navy SBIR/STTR	DoD	High for batteries and EO/IR modulation	Pursue	Recent awards 2022-2024	Not published
Department of the Air Force SBIR/STTR	DoD	High for shielding, electronics, AM	Pursue	Recent and historical awards	Not published
DIU	DoD	Medium only when prototype-ready	Later-stage pursue	Active vehicle; no graphene-specific solicitation found	Public form; no named graphene POC
MDA	DoD	Medium niche fit	Selective niche pursue	Recent graphene-adjacent timing award	Not published

Office considered	Parent organization	Mission fit for CVD graphene	Sharper recommendation matrix	Similar-contract status from document	Published contact
DTRA	DoD	Medium niche fit for EMP/hardening/sensing	Selective niche pursue	Recent EMP-related awards	Not published
AMMTO	DOE	Very high for conductivity/manufacturing/microelectronics	Top priority pursue	Public graphene-specific selections cited	ammto@ee.doe.gov
BES -> MSE	DOE	Very high for fundamental materials science	Pursue if science-first	Active FOA/program of record	Dr. Andy Schwartz; sc.grantsandcontracts@doe.gov
DOE SBIR/STTR	DOE	High for company-led mission-aligned R&D	Pursue	Active program; opportunities moved centrally	sbir-sttr@doe.gov, (301) 903-5707
ARPA-E	DOE	Medium-high if program-fit is discontinuous	Opportunistic selective pursue	Active programs; no graphene-specific active program found	ARPA-E@hq.doe.gov
Office of Electricity	DOE	Medium-low first entry	Later-stage selective pursue	Active opportunities; no graphene-specific solicitation found	OEwebmaster@hq.doe.gov, 202-586-1411

Office considered	Parent organization	Mission fit for CVD graphene	Sharper recommendation matrix	Similar-contract status from document	Published contact
NNSA	DOE	Low visibility from source document	Do not prioritize yet	No graphene-specific route found	Not published
ARPA-H	HHS	Medium-high for breakthrough health systems	Selective pursue	Active broad pathway; no graphene-specific topic found	Graphene-specific contact not published
BARDA / DRIVE	HHS	High for applied diagnostics/preparedness	Selective pursue if product-ready	Active recurrent pathway; no graphene-specific call found	Topic-specific only
NIH SBIR/STTR / SEED	HHS	High for biomedical sensing/devices	Pursue for health use cases	Active recurrent; no dedicated graphene topic consistently found	Institute/topic contacts on NOFOs
NIBIB	HHS	High for bioengineering devices/sensors	Pursue with biomedical fit	Active recurrent programs	No dedicated graphene contact published
NINDS / BRAIN-related programs	HHS	Medium-high for neural interfaces	Selective pursue	Active recurrent device programs	Contact depends on NOFO

Office considered	Parent organization	Mission fit for CVD graphene	Sharper recommendation matrix	Similar-contract status from document	Published contact
NCI	HHS	Medium for diagnostics	Selective pursue	Active recurrent	Contact depends on NOFO
FDA	HHS	Low as commercialization sponsor	Do not prioritize for early funding	No graphene-specific opportunity found	Not published
CDC	HHS	Low-medium niche surveillance fit	Do not prioritize early	No graphene-specific pathway found	Not published
DHS components	DHS	Unknown from document	Insufficient evidence	Research incomplete in source memo	Not published
DoT SBIR	DOT	Medium-high for transport sensing/coatings	Pursue for transportation use cases	Active program with published award sizes	dotsbir@dot.gov
FHWA / TFHRC	DOT	High for infrastructure sensing/materials	Selective pursue	Active research structure; no graphene-specific open opportunity confirmed	Not published
PHMSA R&D	DOT	High for leak/corrosion monitoring	Selective pursue	Active mission fit; no graphene-specific public	Not published

Office considered	Parent organization	Mission fit for CVD graphene	Sharper recommendation matrix	Similar-contract status from document	Published contact
FAA R&D / Technical Center	DOT	Medium-high but qualification-heavy	Selective pursue later	topic found Active R&D venue; no graphene-specific open BAA confirmed	Not published
FRA R&D	DOT	Medium for asset monitoring/NDE	Selective pursue	Active; no graphene-specific topic found	Not published
FTA	DOT	Medium for demo-stage deployment	Later-stage pursue	Active; more demonstration-oriented	Not published
MARAD	DOT	Medium niche marine corrosion/composites fit	Later-stage selective pursue	Broadly active; no graphene-specific opportunity found	Not published
Volpe	DOT	Support role only	Use as evaluator, not first sponsor	Active support role	Not published
NHTSA	DOT	Low for materials-first plays	Do not prioritize	Research contracts exist; weak graphene fit	Not published
IARPA	IC	Medium-high for advanced	Selective	Active	Solicitation-specific only

Office considered	Parent organization	Mission fit for CVD graphene sensing/RF/photronics	Sharper recommendation matrix	Similar-contract status from document	Published contact
			pursue	BAAs/solicitations; no graphene-specific named program found	
NSA	IC	Medium-high for secure hardware/RF/thermal	Monitor and pursue if topic opens	Active small-business/research channels	Not published
NGA	IC	Medium for ISR sensing hardware	Selective pursue	Active business channel; no graphene-specific topic found	Not published
NRO	IC	Medium-high for space payload hardware	Selective pursue	Active business/research channels	Not published
CIA	IC	Low-medium public visibility	Do not prioritize early	Public contracting channel active; no graphene-specific route found	Not published
ODNI S&T / coordinati	IC	Low as direct buyer	Do not prioritize directly	Active coordination role; no direct	Not published

Office considered on	Parent organization	Mission fit for CVD graphene	Sharper recommendation matrix	Similar-contract status from document	Published contact
STMD -> NASA SBIR/STTR	NASA	Very high for subsystem hardware	Top priority pursue	Active recurring annual solicitation	agency-sbir@mail.nasa.gov
STMD solicitations and prizes	NASA	Medium, opportunistic	Monitor selectively	Active portal; no graphene-specific call found	Solicitation-specific
SMD -> ROSES	NASA	Medium for science instrument concepts	Selective partner-led pursue	Active annual omnibus	Appendix-specific contacts
ARMD	NASA	Medium-high for aero use cases	Selective pursue via SBIR first	No directorate-level graphene solicitation identified	Not published
ESDMD	NASA	Medium as downstream adopter	Transition target later	No early-stage graphene line found	Not published
SOMD	NASA	Medium-low as downstream adopter	Not first sponsor	No graphene-specific development call identified	Not published
Langley / Glenn	NASA	High as technical customers	Target as mission pull	Relevant customer role	Center contacts via NASA SBIR page

Office considered	Parent organization	Mission fit for CVD graphene	Sharper recommendation matrix	Similar-contract status from document	Published contact
			after fit	visible	
NSF	NSF	Unknown from document due to incomplete research	Insufficient evidence	Memo incomplete	Not published
EPA	EPA	Unknown from document due to placeholder status	Insufficient evidence	Memo placeholder only	Not published
SBA / OII / SBIR coordination	SBA	No direct technical sponsorship	Use only as navigation layer	Active coordination role; no direct graphene funding	No graphene-specific contact published

Final recommendation

For editorial prioritization and real-world BD sequencing, the company should center its federal strategy on **mission-anchored proposals** in this order: 1. **OSD DSIP** if detector/microelectronics relevant. 2. **AMMTO** if the value is conductive/thermal/manufacturable materials. 3. **NASA SBIR/STTR** if the product is a space/aero subsystem. 4. **NIST SBIR** if the value proposition is metrology, process control, or semiconductor tooling. 5. **Army SBIR/STTR / ARL** if the product serves tactical power, sensors, protection, or rugged field systems.

Everything else should be treated as either a follow-on lane, a niche wedge, or a partner-driven opportunity unless and until stronger live-topic evidence appears.

Summary of inv_research cvd graphene

Executive assessment

This research memo surveys possible U.S. government funding and adoption paths for a smaller company developing CVD graphene, with emphasis on agencies that could support technology maturation through SBIR/STTR, BAAs, grants, cooperative agreements, CRADAs, contracts, and OT-based prototypes. The strongest overall finding is that the government rarely funds **graphene as a material in the abstract**. It funds mission outcomes: sensing, microelectronics, thermal management, shielding, conductivity enhancement, diagnostics, infrastructure monitoring, packaging, and manufacturable subsystem performance. Across the reviewed agencies, the most actionable entry points are recurring small-business vehicles and topic-driven applied R&D channels, not parent-level “advanced materials” initiatives.

The clearest evidence-backed opportunities are concentrated in agencies where the memo found either direct graphene-adjacent awards, active recurring small-business channels, or a close fit between CVD graphene’s strengths and the agency mission. The strongest near-term paths appear in **DoD SBIR/STTR** and selected defense components, **DOE AMMTO / BES / DOE SBIR-STTR**, **NASA SBIR/STTR**, **NIST and NIST SBIR**, and **USDA NIFA SBIR** when the technology is framed around a mission application rather than film production. HHS is plausible when graphene is embedded in a medical device or biosensor, but the memo found no standing graphene-specific HHS program. Transportation, Intelligence Community, and some downstream civilian agencies are credible only when the product is already translated into a specific operational solution.

The main decision blocker is not lack of technical relevance; it is lack of a procurement-ready, mission-specific story. In most agencies reviewed, there is **no standing graphene line item**, no clear open graphene-only solicitation, and often no published dedicated program manager. That means fundability depends on whether the company can present: (1) a specific use case mapped to an office’s mission, (2) comparative data versus incumbent materials or devices, (3) a credible manufacturing and transition path, and (4) use of the correct vehicle for its TRL. Where the memo could not verify active primary-source opportunities, the recommendation should be treated as exploratory rather than actionable.

Three-paragraph summary of the research accomplished

The research assembled agency-by-agency funding memos spanning USDA, Commerce, DoD, DOE, HHS, Transportation, Intelligence Community, NASA, and SBA, with placeholders noting incomplete work for DHS, EPA, and NSF. For each agency, the memo identified where CVD graphene aligns with mission needs and where it does not. The strongest thematic matches were advanced sensors, IR/EO detection, power and batteries, EMI/EMP shielding, semiconductor metrology, conductivity-enhanced materials, thermal management, flexible devices, infrastructure monitoring, and specialty coatings or membranes. The review also distinguished between offices that fund early R&D versus those that are more likely to adopt a validated product later.

A second accomplishment of the research was clarifying **vehicle fit**. For small companies, the memo consistently found that the front door is usually **SBIR/STTR** if an eligible topic exists. For agencies with intramural or lab-centered missions, collaboration routes such as **CRADAs, user-facility access, cooperative agreements, and validation partnerships** matter nearly as much as grants or contracts. For more mature prototypes, the memo points to **DIU OT prototypes**, mission procurements, pilot programs, and follow-on applied R&D contracts. This is useful because it converts a broad technology search into a practical engagement sequence by TRL.

Third, the research identified both evidence and gaps. Evidence is strongest where the memo cites active recurring programs or graphene-adjacent selections, such as OSD's publicly listed graphene-CMOS focal plane topic, DOE AMMTO's copper-graphene selections, NIST's ongoing 2D-material relevance, and recurring NASA and USDA small-business channels. The main gaps are equally important: several agencies have no public graphene-specific program; some sections explicitly remained unfinished due to source-access/tooling issues; and many offices do not publish named graphene-relevant program managers. For a funding decision, these gaps mean the opportunity set is real but uneven, and due diligence should focus first on offices with verified active channels and public points of entry.

Sharper recommendation matrix by parent organization

Parent organization	Office	Recommendation	Why it ranks this way	Decision blockers
Department of Defense	OSD / OUSD(R&E) via DoD SBIR/STTR	Pursue now	Strongest current direct evidence of demand; memo cites active graphene-CMOS focal plane topic and prior graphene detector awards	Must fit a live mission topic; no published topic PM beyond DSIP channels
Department of Defense	Army SBIR/STTR / ARL	Pursue now	Broad mission pull across batteries, bolometers, coatings, purification, soldier systems	Need clear defense insertion and prototype data; many contacts topic-specific
Department of Defense	Navy SBIR/STTR	Pursue now	Good fit for batteries, IR control, tunable photonics,	Must show naval relevance and productized subsystem, not raw material

Parent organization	Office	Recommendation	Why it ranks this way	Decision blockers
			composites	
Department of Defense	DAF SBIR/STTR	Pursue now	Credible history in shielding, memory, AM, ultracapacitors	Qualification burden; no stable published graphene PM
Department of Defense	DARPA	Selective pursue	Best for step-change devices or manufacturing leaps	No verified current graphene-specific open call; highly competitive and program-shaped
Department of Defense	MDA / DTRA	Selective pursue	Strong niche fit for timing, hardening, EMP protection, sensing	Narrow mission fit; usually topic-driven
Department of Defense	DIU	Pursue later	Strong transition route for prototype-ready commercial products	Not an early science sponsor; no graphene-specific solicitation found
Department of Energy	AMMTO	Pursue now	Best applied DOE fit; memo cites explicit graphene-related funded selections	Must frame as conductivity, microelectronics, or manufacturing outcome
Department of Energy	BES / MSE	Pursue now	Strong basic-science home for growth, defects, interfaces, transport, characterization	Better for science validation than near-market commercialization
Department of Energy	DOE SBIR/STTR	Pursue now	Small-company vehicle with DOE mission alignment	Need current topic fit through DOE OTC-managed process
Department	ARPA-E	Selective	High upside if	No active graphene-

Parent organization	Office	Recommendation	Why it ranks this way	Decision blockers
Department of Energy		pursue	graphene creates discontinuous system performance	specific program identified; depends entirely on live program fit
Department of Energy	Office of Electricity	Pursue later	Good downstream adopter for grid-relevant hardware	Requires application data and grid outcome, not material novelty
NASA	STMD / NASA SBIR/STTR	Pursue now	Clearer recurring NASA route for early-stage hardware enabled by graphene	Must tie to mission subsystem and environment-specific performance
NASA	SMD / ROSES	Selective pursue	Useful for science instrument uses with partner pull	Harder for a standalone startup; partner-driven and appendix-specific
NASA	ARMD / ESDMD / SOMD / center customers	Pursue later	Good eventual mission customers once subsystem value is proven	Mostly adopters, not first-stage graphene funders
Department of Commerce	NIST laboratories / CNST	Pursue now	Best Commerce fit for metrology, standards, semiconductor process control	Need measurement/manufacturing framing; no dedicated graphene PM published
Department of Commerce	NIST SBIR	Pursue now	Clear small-business route with published contact	Need topic fit; graphene-specific topic not found
Department of Commerce	CHIPS for America / NIST semiconductor R&D	Selective pursue	High-value if directly relevant to microelectronics	Requires chip-manufacturing-grade use case

Parent organization	Office	Recommendation	Why it ranks this way	Decision blockers
Department of Commerce	EDA / MEP	Pursue later	manufacturing Helpful for scale-up, regional infrastructure, commercialization support	Weak as first-company technical maturation route
USDA	NIFA SBIR	Pursue now	Best USDA path if framed around ag sensing, packaging, membranes, water, engineering	USDA is mission-application-led; weak fit for material-only pitch
USDA	AFRI	Selective pursue	Good for university-led translational ag work	Less straightforward for startup alone
USDA	ARS / Forest Service / FPL	Selective pursue	Useful validation or niche sponsor for packaging, diagnostics, composites, monitoring	No clear public graphene-specific solicitation; collaboration path less straightforward
USDA	APHIS / Rural Development	Pursue later	Potential adopters for mature diagnostics or deployed infrastructure	Not strong early-stage R&D sponsors
HHS	NIH SBIR/STTR / NIBIB	Pursue now	Strongest HHS route for biosensors, devices, wearables, biointerfaces	Must lead with clinical/device problem and regulatory path
HHS	BARDA / DRIVE	Selective pursue	Good fit for deployable diagnostics and preparedness	Better at higher TRL; no graphene-specific call identified

Parent organization	Office	Recommendation	Why it ranks this way	Decision blockers
HHS	ARPA-H	Selective pursue	Upside path for transformational platform systems	Program-shaped and unpredictable; no graphene-specific lane found
Department of Transportation	DoT SBIR	Pursue now	Best published entry point for transportation use cases	Must present transport-specific outcome
Department of Transportation	FHWA / PHMSA / FRA / FAA	Selective pursue	Strong mission relevance for sensors, coatings, monitoring, de-icing	Qualification and deployment specificity needed; few published contacts
Intelligence Community	IARPA	Selective pursue	Best public IC early-stage route for sensing, RF, photonics, compute hardware	No graphene-specific program found; solicitation-specific access only
Intelligence Community	NSA / NRO / NGA	Selective pursue	Credible for secure hardware, space payloads, ISR sensing	Low transparency and no published graphene PMs
Small Business Administration	SBA / SBIR.gov / OII	Monitor only	Useful policy and topic-discovery layer, not a buyer or sponsor	No direct graphene funding vehicle
DHS	Department-wide memo incomplete	Insufficient evidence	Research section not completed	No verified findings in source memo
EPA	Department-wide memo incomplete	Insufficient evidence	Placeholder only	No verified findings in source memo
NSF	Department-wide memo incomplete	Insufficient evidence	Placeholder only	No verified findings in source memo

Funding decision perspective

From a program-manager or contracting-officer standpoint, this company is potentially fundable **only if the proposal is recast as a mission solution** with measurable outcomes and a credible transition plan. The memo strongly supports funding when CVD graphene is essential to a subsystem performance advantage that incumbents struggle to reach: broadband sensing, defect/metrology control, conductivity enhancement, thermal management, protective shielding, flexible biointerfaces, or infrastructure monitoring. The research does **not** support funding a generic “graphene platform” pitch absent specific insertion, customer, and validation metrics.

The best near-term contracting and assistance routes are the recurring small-business channels with clear public entry points and topic cadence: **DoD SBIR/STTR, DOE SBIR/STTR, NASA SBIR/STTR, NIST SBIR, USDA NIFA SBIR, and NIH SBIR/STTR**. For broader R&D or validation, **DOE AMMTO/BES, NIST labs, ARL, ARS, and NASA centers** offer stronger technical homes than parent headquarters. Later-stage or transition pathways include **DIU**, mission procurements, and adopter offices in transportation, agriculture, and grid deployment. This matters because the vehicle should match the technical maturity of the work.

The most serious blockers for award are: lack of application specificity, no comparative data versus alternatives, unclear manufacturability at relevant scale, no path to environmental or regulatory qualification, and overreliance on unpublished or speculative contacts. Several agencies in the source memo also remain incomplete, so they should not be used as core targets until validated. If the company can produce a tight use-case package and target the verified offices below, a funded development contract or assistance award is plausible; if not, the material will read as interesting but not acquisition-ready.

Published contacts explicitly identified in the source memo

Only the following named or direct published contacts were clearly provided in the source memo. Where no public name was available, the source memo said so.

Parent organization	Office	Published program manager or contact
USDA	NIFA SBIR/STTR	sbir@usda.gov
Department of Commerce / NIST	NIST SBIR Program	sbir@nist.gov; 301-975-8449
Department of Defense / Army	DEVCOM ARL Collaborative Research Alliance	Tamara Christenson , Technical Point of Contact, tamara.r.christenson.civ@army.mil
Department of Defense	DoD DSIP Support	DoDSBIRSupport@reisystems.com
Department of Energy	AMMTO	ammto@ee.doe.gov

Parent organization	Office	Published program manager or contact
Department of Energy	Office of Science grants support	sc.grantsandcontracts@doe.gov
Department of Energy	DOE SBIR/STTR Programs Office	sbir-sttr@doe.gov; (301) 903-5707
Department of Energy	ARPA-E contact center	ARPA-E@hq.doe.gov
Department of Energy	Office of Electricity	OEwebmaster@hq.doe.gov; 202-586-1411
Department of Transportation	DoT SBIR	dotsbir@dot.gov
NASA	NASA SBIR/STTR Program Management Office	agency-sbir@mail.nasa.gov
Other offices in source memo	Various	not published or solicitation-specific only

End table: every office considered

Office considered	Parent organization	Similar-contract status	Typical vehicle	Published program manager or contact	Recommendation
NIFA SBIR	USDA	active	SBIR Phase I/II	sbir@usda.gov	Pursue now
AFRI	USDA	active	Competitive grants	not published	Selective pursue
ARS National Programs / units	USDA	none found	CRADA, collaboration, procurement	not published	Selective pursue
Forest Service / FPL / Wood Innovations	USDA	active	Grants, cooperative agreements, contracts	not published	Selective pursue
APHIS	USDA	none found	Requirement contracts / equipment buys	not published	Pursue later
Rural Development / Water and Environmental Programs	USDA	active	Loans, grants, guarantees	not published	Pursue later
NIST laboratories / CNST	Department of Commerce	active	Collaborative R&D, facility access, grants, contracts	not published	Pursue now
NIST SBIR	Department of Commerce	active	SBIR Phase I/II	sbir@nist.gov; 301-975-8449	Pursue now
NIST CHIPS for America / semiconductor R&D	Department of Commerce	active	NOFO, cooperative agreement, contract, consortium	not published	Selective pursue
NIST MEP	Department of Commerce	active	Cooperative-agreement-backed	not published	Pursue later

Office considered	Parent organization	Similar- contract status	Typical vehicle	Published program manager or contact	Recommendation
			technical assistance		
EDA	Department of Commerce	active	Grants, cooperative agreements	not published	Pursue later
NOAA	Department of Commerce	active	SBIR, grants, contracts	not published	Selective pursue
OSD / OUSD(R&E) via DoD SBIR/STTR	Department of Defense	active	DoD SBIR/STTR BAA via DSIP	DoDSBIRSupport@reisystems.com	Pursue now
DARPA	Department of Defense	none found	BAA, program solicitation, SBIR	not published	Selective pursue
Army SBIR/STTR	Department of Defense	active	SBIR/STTR	not published	Pursue now
DEVCOM ARL	Department of Defense	active	BAA, CRADA, collaboration	Tamara Christenson; tamara.r.christenson.civ@army.mil	Pursue now
Navy SBIR/STTR / ONR-sponsored topics	Department of Defense	active	SBIR/STTR	not published	Pursue now
Department of the Air Force SBIR/STTR	Department of Defense	active	SBIR/STTR	not published	Pursue now
DIU	Department of Defense	active	CSO, prototype OT	not published	Pursue later
MDA	Department of Defense	active	SBIR	not published	Selective pursue
DTRA	Department of Defense	active	SBIR	not published	Selective pursue

Office considered	Parent organization	Similar- contract status	Typical vehicle	Published program manager or contact	Recommendation
AMMTO	Department of Energy	active	FOA, grant, prize, consortium/hub	ammto@ee.doe.gov	Pursue now
BES / MSE	Department of Energy	active	Office of Science FOA, grants	Dr. Andy Schwartz named; direct contact not published; sc.grantsandcontracts@doe.gov	Pursue now
DOE SBIR/STTR	Department of Energy	active	SBIR/STTR FOA	sbir-sttr@doe.gov; (301) 903-5707	Pursue now
ARPA-E	Department of Energy	none found	Program-specific FOA	ARPA-E@hq.doe.gov	Selective pursue
Office of Electricity	Department of Energy	active	FOA, prize, PIA, RFI	OEwebmaster@hq.doe.gov; 202-586-1411	Pursue later
NNSA	Department of Energy	none found	none found	not published	Monitor only
ARPA-H	HHS	active	BAA, program solicitation	not published	Selective pursue
BARDA / DRIVe	HHS	active	BAA, DRIVe, EZ-BAA	not published	Selective pursue
NIH SBIR/STTR / SEED	HHS	active	SBIR/STTR	not published	Pursue now
NIBIB	HHS	active	SBIR/STTR, R21/R33/R01, cooperative mechanisms	not published	Pursue now
NINDS / BRAIN-related programs	HHS	active	SBIR/STTR, UG3/UH3, U01	not published	Selective pursue
NCI	HHS	active	SBIR/STTR, grants, cooperative	not published	Selective pursue

Office considered	Parent organization	Similar-contract status	Typical vehicle	Published program manager or contact	Recommendation
			agreements		
FDA	HHS	none found	Collaboration, contract, grant	not published	Pursue later
CDC	HHS	none found	Grant, cooperative agreement, contract	not published	Pursue later
DoT SBIR (OST-R)	Department of Transportation	active	SBIR Phase I/II	dotsbir@dot.gov	Pursue now
FHWA / TFHRC / EAR	Department of Transportation	active	BAA, research contract, SBIR transition	not published	Selective pursue
PHMSA R&D	Department of Transportation	active	Research contract, grant, SBIR transition	not published	Selective pursue
FAA / William J. Hughes Technical Center	Department of Transportation	active	Research contract, test/eval, SBIR transition	not published	Selective pursue
FRA Office of Research, Development and Technology	Department of Transportation	active	Research contract, grant, cooperative agreement	not published	Selective pursue
FTA research/innovation	Department of Transportation	active	NOFO, cooperative agreement, demonstration	not published	Pursue later
MARAD	Department of Transportation	active	Grant, contract, pilot	not published	Pursue later

Office considered	Parent organization	Similar-contract status	Typical vehicle	Published program manager or contact	Recommendation
Volpe Center	Department of Transportation	active	Sponsored R&D support	not published	Pursue later
NHTSA	Department of Transportation	none found	Research contracts	not published	Monitor only
IARPA	Intelligence Community	active	BAA, program solicitation	not published	Selective pursue
NSA	Intelligence Community	active	SBIR/STTR, research engagement	not published	Selective pursue
NGA	Intelligence Community	active	Business portal, open solicitations	not published	Selective pursue
NRO	Intelligence Community	active	Acquisition/research notices	not published	Selective pursue
CIA	Intelligence Community	active	Standard procurement / vendor engagement	not published	Monitor only
ODNI S&T / research coordination	Intelligence Community	none found	indirect / coordinating role	not published	Monitor only
STMD / NASA SBIR-STTR Program Office	NASA	active	SBIR/STTR Phase I/II/III	agency-sbir@mail.nasa.gov	Pursue now
STMD solicitations and prizes	NASA	active	Prizes, collaborations, solicitations	not published	Selective pursue

Office considered	Parent organization	Similar-contract status	Typical vehicle	Published program manager or contact	Recommendation
SMD / ROSES	NASA	active	Grants, cooperative agreements	not published	Selective pursue
ARMD	NASA	none found	SBIR/STTR first; some NRAs	not published	Pursue later
ESDMD	NASA	none found	Indirect, usually via STMD/SBIR first	not published	Pursue later
SOMD	NASA	none found	Follow-on procurement, Phase III-style adoption	not published	Pursue later
Langley Research Center	NASA	none found	SBIR/STTR, center procurement	center contacts via NASA SBIR page; named graphene PM not published	Selective pursue
Glenn Research Center	NASA	none found	SBIR/STTR, center procurement	center contacts via NASA SBIR page; named graphene PM not published	Selective pursue
SBA / OII / SBIR.gov coordination	Small Business Administration	active	SBIR/STTR policy and topic coordination	not published	Monitor only
DHS-related offices	Department of Homeland Security	none found	not established	not published	Insufficient evidence
EPA-related offices	Environmental Protection Agency	none found	not established	not published	Insufficient evidence
NSF-related offices	National Science Foundation	none found	not established	not published	Insufficient evidence

Bottom-line recommendation

If selecting only a handful of targets for immediate business development, prioritize: **DoD SBIR/STTR components, DOE AMMTO and DOE SBIR/STTR, NASA SBIR/STTR, NIST/NIST SBIR, NIH SBIR/STTR where medically relevant, and USDA NIFA SBIR where agriculturally relevant.** These are the offices with the best mix of mission fit, recurring vehicles, and evidence in the source memo. Deprioritize generic parent-level outreach and any office where the memo could not verify an active path. The government will likely fund a graphene-enabled capability; it is much less likely to fund graphene production quality improvement by itself.

USDA funding memo for CVD graphene

Executive view

USDA is **not a natural home for graphene-as-a-material**; it is a viable home only when CVD graphene is positioned as an enabling solution to a USDA mission problem such as agricultural biosensing, food packaging/barrier films, water treatment membranes, forest-products composites, or environmental monitoring. The most actionable USDA entry point is **USDA NIFA SBIR**. The best collaboration/adoption targets after that are **ARS research units** and **Forest Service research / Forest Products Laboratory**. **APHIS** and **Rural Development** are later-stage adopters, not strong early-stage sponsors.[1][2][3][4][5][6]

Bottom-line recommendation matrix

Office	Best-fit use case for CVD graphene	Vehicle	Readiness	Current similar-tech status	Published contact
USDA -> NIFA -> SBIR	Biosensors, smart packaging, membranes, ag engineering devices	Annual SBIR Phase I/II solicitation	High	Active recurring program; no graphene-specific topic found	sbir@usda.gov[1]
USDA -> NIFA -> AFRI	University-led translational ag research using graphene as enabling tech	AFRI competitive grants	Medium	Active recurring omnibus RFA; no standing graphene topic found	Topic contacts inside current RFA; no standing graphene contact published[3]
USDA -> ARS -> National Programs / units	Validation/adoption in food safety, crop, animal, water, packaging, diagnostics	CRADA, collaboration, procurement	Medium	Active in-house R&D; graphene-specific BAA/SBIR not found	ARS Office of Technology Transfer published; graphene-specific PM not published[4][5]
USDA -> Forest Service -> FPL / R&D / Wood Innovations	Forest-products composites, coatings, structural/environmental sensors	Grants/cooperative agreements, contracts, collaborations	Medium	Active R&D and innovation grants; graphene-specific topic not found	Program contacts vary by NOFO; graphene-specific PM not published[7][8]

Office	Best-fit use case for CVD graphene	Vehicle	Readiness	Current similar-tech status	Published contact
USDA -> APHIS	Portable diagnostics / field biosensors	Requirement contracts/equipment buys	Low-Medium	Dedicated graphene vehicle not found	Not published; notice-specific on SAM.gov[6][9]
USDA -> Rural Development -> Water/Utilities	Deployed membranes or infrastructure components	Loans/grants/guarantees to utilities/communities	Low for R&D, Medium for deployment	Financing programs active; graphene R&D vehicle not found	Program/state contacts, not graphene-specific[10]

What matters for investors

1) The strongest USDA path is a problem-led SBIR, not a materials pitch

NIFA's SBIR program is the clearest USDA mechanism for a startup. It funds small-business R&D across agricultural topic areas including plant and animal systems, air/water/soils, food science, and engineering-adjacent problems. A CVD graphene company should frame the proposal around a USDA outcome: - pathogen detection in produce or livestock, - residue/toxin sensing, - soil nutrient or irrigation monitoring, - water purification for agriculture or rural systems, - food-packaging barrier or smart-monitoring functionality.[1][2]

NIFA's FY2025 SBIR Phase I solicitation allows requests **up to \$125,000** for Phase I.[2] That is modest, but it is a credible non-dilutive wedge and a strong validation signal.

2) ARS is the best in-agency validator, but not a clean top-down solicitation source

ARS runs USDA's intramural science portfolio through National Programs rather than a prominent external advanced-materials call. This means ARS is useful for: - pilot validation, - side-by-side testing against incumbent sensors/materials, - collaboration through technology transfer or CRADA mechanisms, - eventual requirement-driven procurement.[4][5]

I did **not** find a public ARS graphene-specific BAA or recurring materials-development call in the reviewed sources. That makes ARS strategically important but procedurally less straightforward than SBIR.[4][5][6]

3) Forest Service is a plausible niche sponsor if the product is a forest-materials or monitoring platform

The Forest Service, especially the **Forest Products Laboratory**, has real mission overlap if the company's graphene product improves wood products, structural/barrier materials, moisture/fire/environmental sensing, or remediation systems. The **Wood Innovations** program is active, but no graphene-specific topic was found.[7][8]

This is more attractive for a company with a composites/coatings/infrastructure story than for a pure electronics material supplier.

4) APHIS and Rural Development are not good first calls

APHIS could adopt graphene-enabled diagnostics if a product is already sufficiently mature for disease surveillance or inspection. Rural Development could matter later if graphene-based membranes or infrastructure components are embedded in financed rural projects. Neither appears to be a primary early-stage sponsor for graphene R&D.[9][10]

Similar technology-development work: status by office

NIFA SBIR

- **Status:** Active recurring annual funding opportunity.[1][2]
- **Graphene-specific topic found?:** No.[1][2]
- **Interpretation:** Good fit if positioned as agricultural sensing/packaging/water/engineering.

AFRI

- **Status:** Active recurring omnibus program.[3]
- **Graphene-specific topic found?:** No.[3]
- **Interpretation:** Best for university-led teams; less straightforward for a startup acting alone.

ARS

- **Status:** Active in-house research and partnership infrastructure.[4][5]
- **Graphene-specific solicitation found?:** No public dedicated BAA/SBIR/topic found.[4][5]
- **Interpretation:** Best used for collaborative validation and later procurement.

Forest Service / FPL / Wood Innovations

- **Status:** Active research and grant activity.[7][8]
- **Graphene-specific topic found?:** No.[8]
- **Interpretation:** Good niche path if tied to forest products or field monitoring.

APHIS

- **Status:** Acquisition/adoption path exists; no dedicated graphene vehicle found.[6][9]
- **Interpretation:** End-user pull, not initial sponsor.

Rural Development

- **Status:** Active infrastructure finance, not R&D sponsorship.[10]
- **Interpretation:** Downstream deployment channel only.

Publicly stated vehicles and sizes

NIFA SBIR

- Vehicle: **SBIR Phase I/II solicitation.**[1][2]
- Public size: **Phase I up to \$125,000** in FY2025 notice.[2]
- Contact: **sbir@usda.gov.**[1]

AFRI

- Vehicle: **competitive grants** under annual RFA.[3]
- Public size: varies by program area and topic ceiling in the current RFA.[3]

- Contact: program-area contacts listed in each current AFRI RFA; no standing graphene contact published.[3]

ARS

- Vehicle: **CRADA/partnership**, unit collaboration, standard procurement.[5][6]
- Public size: not standardized; requirement-dependent.
- Contact: ARS Office of Technology Transfer page is public; graphene-specific PM/contact not published.[5]

Forest Service

- Vehicle: **Wood Innovations NOFOs**, cooperative agreements, standard contracts.[8]
- Public size: varies by annual notice.[8]
- Contact: annual NOFO contacts when open; no standing graphene-specific PM found.[8]

APHIS / Rural Development

- Vehicles: requirement contracts/equipment buys for APHIS; loans/grants/guarantees for Rural Development.[6][9][10]
- Public size: program- or requirement-specific.
- Contact: notice-specific or program-specific; no graphene-specific published PM.

Named contacts published in reviewed sources

Only a limited number of stable, graphene-relevant contacts were publicly published in the reviewed official sources.

1. **USDA NIFA SBIR/STTR Programs**

- Title: program office contact
- Office: National Institute of Food and Agriculture, SBIR/STTR Programs
- Email: **sbir@usda.gov**
- Phone: **not published** on the reviewed stable program page
- Source: <https://www.nifa.usda.gov/grants/programs/small-business-innovation-research-program-sbir> [1]

2. **ARS graphene-relevant PM/POC**

- Title: **not published**
- Office: Agricultural Research Service, National Programs / research units
- Email: **not published**

- Phone: **not published**
- Source basis: ARS National Programs and Office of Technology Transfer pages do not publish a graphene-specific PM in the reviewed materials.[4][5]
- 3. **Forest Service graphene-relevant PM/POC**
 - Title: **not published**
 - Office: Forest Service Research & Development / Forest Products Laboratory / Wood Innovations
 - Email: **not published as a stable graphene-specific contact in reviewed pages**
 - Phone: **not published**
 - Source basis: reviewed program pages did not identify a standing graphene-specific manager.[7][8]
- 4. **APHIS graphene-relevant PM/POC**
 - **not published**; use individual solicitation notices if a relevant requirement appears.[6][9]
- 5. **Rural Development graphene-relevant PM/POC**
 - **not published**; use state or program contacts for deployment-stage discussions.[10]

How a company should actually engage USDA

Recommended sequence

1. **Lead with NIFA SBIR** if eligible. Build the application around one agricultural pain point, not around graphene itself.[1][2]
2. **Simultaneously seek a validation partner in ARS** if the product can be tested against a USDA mission metric such as pathogen sensitivity, shelf-life extension, water flux/selectivity, or field durability.[4][5]
3. **Add a university partner for AFRI** only if the work is still too exploratory for SBIR-style commercialization, or if field trials and domain credibility are needed.[3]
4. **Pursue Forest Service/FPL** if the story is composites, coatings, wood products, or environmental sensing in forest operations.[7][8]
5. **Treat APHIS and Rural Development as follow-on adopters** once a working product exists.[9][10]

Positioning advice

- Do **not** pitch “CVD graphene platform material.” Pitch:
 - a pathogen sensor for produce processing,
 - a livestock diagnostic strip/electrode,
 - a nitrate/pesticide water monitor,

- a high-barrier food-contact film,
- a membrane for agricultural wastewater,
- a conductive/barrier additive for forest-product composites.
- Include USDA-relevant validation endpoints such as food safety sensitivity, moisture/fire durability, rural water treatment economics, or crop/livestock operational impact.

Vehicle choice by readiness

- **TRL 2-4:** AFRI with academic partner; exploratory ARS collaboration.[3][4][5]
- **TRL 3-6:** NIFA SBIR Phase I/II is the best USDA-aligned non-dilutive route.[1][2]
- **TRL 5-7:** ARS or Forest Service pilot/collaboration; targeted SAM.gov procurements.[6][7]
- **TRL 7+:** APHIS adoption or Rural Development-enabled deployment in financed systems.[9][10]

Risks and limitations

- USDA has **no obvious graphene line item, BAA, or standing advanced-materials office** in the reviewed public sources.
- Most promising USDA offices care about the **mission application**, not the material innovation itself.
- Public named contacts are sparse outside NIFA; many practical entry points will depend on current NOFOs or SAM.gov notices.[1][2][6]

Sources

[1] USDA NIFA, Small Business Innovation Research/Small Business Technology Transfer Programs: <https://www.nifa.usda.gov/grants/programs/small-business-innovation-research-program-sbir>

[2] USDA NIFA, Small Business Innovation Research Program Phase I funding opportunity/current solicitation pages: <https://www.nifa.usda.gov/grants/funding-opportunities/small-business-innovation-research-program-phase-i> and related Grants.gov notices

[3] USDA NIFA, Agriculture and Food Research Initiative (AFRI): <https://www.nifa.usda.gov/grants/programs/agriculture-food-research-initiative-afri>

[4] USDA Agricultural Research Service, National Programs: <https://www.ars.usda.gov/research/programs/>

[5] USDA Agricultural Research Service, Office of Technology Transfer: <https://www.ars.usda.gov/office-of-technology-transfer/>

[6] SAM.gov opportunities and contract notices for USDA components: <https://sam.gov/>

[7] USDA Forest Service, Forest Products Laboratory: <https://www.fs.usda.gov/research/fpl>

[8] USDA Forest Service, Wood Innovations: <https://www.fs.usda.gov/managing-land/forest-management/products/wood-innovations>

[9] USDA APHIS official site: <https://www.aphis.usda.gov/>

[10] USDA Rural Development, Water and Environmental Programs:

Department of Commerce (DoC) Funding Memo: CVD Graphene

Executive take

Inside the Department of Commerce, **NIST is the primary real sponsor/adopter path for CVD graphene**. The most plausible engagements are not a generic Department-level materials pitch, but a **NIST-framed metrology, semiconductor, sensor, or manufacturing-process proposition** backed by official NIST mechanisms: laboratory collaboration, **NIST SBIR**, NIST financial-assistance opportunities, and potentially **CHIPS for America / NIST semiconductor R&D** opportunities where graphene solves a concrete microelectronics problem.[1][2][3][4] **EDA** is a secondary path for regional commercialization infrastructure, not the best first office for single-company technical maturation.[5][6] **NOAA, ITA, and USPTO** are materially weaker fits for direct CVD-graphene development support.[7][8][9]

Investment interpretation

- **Best buyer/sponsor inside Commerce:** NIST.
- **Best angle:** graphene as a solution to a NIST mission problem: measurement, standards, process control, semiconductor metrology, device validation, or advanced manufacturing.[1][2]
- **Least compelling angle:** a broad claim that graphene is strategically important without a measurement or manufacturing use case.
- **Current market signal from Commerce sources:** Commerce has **no obvious department-wide graphene initiative**, but NIST has durable institutional relevance to graphene/2D materials and active vehicles that could support related work.[1][2][10]

Recommendation matrix

Office	Why it fits CVD graphene	Current status of similar work	Likely vehicle	Readiness for engagement	Published contact
NIST laboratories / CNST / materials-electronics metrology programs	Graphene needs standards, characterization, defect metrology, process reproducibility, and device measurement; this is core NIST mission.[2][10][11]	Active capability via ongoing NIST graphene/2D materials research presence; no single standing graphene-only solicitation found.[10][11]	Collaborative R&D, user-facility access, grants/cooperative agreements, contracts, CRADA-style mechanisms.[3][11][12]	High if company can map product to measurement or semiconductor/manufacturing problem.	Graphene-specific PM not published . CNST general entry point via NIST official site: https://www.nist.gov/cnst
NIST SBIR Program	Suitable for a small business offering a graphene-enabled measurement, sensor, materials-characterization, or semiconductor tool.[13]	Active ; graphene-specific open topic not found at review time.[13]	SBIR Phase I / II under current solicitation.[13]	High for small businesses with clear fit to published topic language.	sbir@nist.gov, 301-975-8449 . [13]
NIST CHIPS for America /	Graphene can fit if tied to semiconductor	Active ecosystem/fund ing buildout;	NOFOs, cooperative agreements, contracts,	Medium-High if product is truly microelectronics-relevant.	Graphene-specific PM not published ; notice-specific

Office	Why it fits CVD graphene	Current status of similar work	Likely vehicle	Readiness for engagement	Published contact
semiconductor R&D	metrology, advanced packaging, process monitoring, thermal/RF materials, or related chip-manufacturing pain points.[4][14]	graphene-specific call not found.[4][14]	consortia/ecosystem participation.[4][14]		contacts on CHIPS pages.[4][14]
NIST MEP	Useful later for domestic manufacturing scale-up, quality systems, SME supply chain, and process improvement.[15]	Active program; no graphene-specific program found.[15]	Cooperative-agreement-backed technical assistance network.	Medium-Low early; better after pilot manufacturing.	Graphene-specific contact not published.
EDA	Relevant for regional pilot lines, innovation hubs, testbeds, commercialization on infrastructure, university-industry clusters.[5][6]	Active programs (Build to Scale, Tech Hubs, etc.); graphene-specific call not found.[5][6]	Grants/cooperative agreements through consortium-led proposals.	Medium for ecosystem build, low for single-firm R&D.	Notice-specific contacts; graphene-specific PM not published.

Office	Why it fits CVD graphene	Current status of similar work	Likely vehicle	Readiness for engagement	Published contact
NOAA	Possible only for mission-specific sensors/materials in observation systems.[7]	General funding exists; graphene-specific topic not found.[7][16]	SBIR, grants, contracts.	Low unless specific sensor use case.	Graphene-specific contact not published.

Office-by-office memo

1) Department of Commerce parent level

Commerce oversees the bureaus that matter here, but reviewed official parent pages do **not** show a dedicated parent-level CVD graphene program, BAA, or office of record.[1][17] The practical route is to engage a component, above all **NIST**.

Assessment: not a direct buyer/sponsor layer for this technology.

Engagement move: skip parent-level outreach except when responding to department-wide notices routed through component agencies.

2) NIST laboratories and centers

NIST exists to advance measurement science, standards, and technology in support of U.S. innovation and industrial competitiveness.[2] That mission directly matches the hardest commercialization barriers for CVD graphene: wafer-scale uniformity, defect quantification, transfer contamination, process control, reference measurements, electrical/thermal characterization, and reproducibility across fabs and applications. NIST official content confirms an ongoing institutional footprint in graphene and 2D-materials research, though not a single graphene-only external program line.[10][11]

What this means commercially: if a company can show that its CVD graphene platform improves a measurable national-need problem — for example, a standard method for sheet resistance and defect density, a transfer-quality artifact, a semiconductor inline metrology tool, or a validated sensor architecture — NIST is the strongest Commerce fit.

Status of similar work: - NIST graphene/2D materials research footprint: **active/ongoing** based on official NIST pages and publications.[10][11] - Graphene-specific NIST-wide grant competition: **not found** in reviewed sources.[3] - Facility-based collaboration path through CNST: **active**.[11]

Vehicles: - shared-use/facility collaboration via **CNST**,[11] - **financial assistance opportunities** when matched to NOFO scope,[3] - **contracts** when NIST has a defined procurement need, - **technology partnership / CRADA-type** collaboration routes through NIST partnership structures.[12]

Public contacts: no public single graphene PM identified. General lab/center and partnership contacts are published by NIST, but not a dedicated graphene acquisition owner.[11][12]

3) NIST SBIR

NIST's SBIR program is the clearest formal small-business route inside Commerce.[13] It is active, and official NIST pages provide a public contact point. Although a graphene-specific topic was not located in the reviewed material, graphene can be made competitive if proposed as the enabling material for a **measurement-science**, **sensor**, **manufacturing**, or **semiconductor** problem that already appears in topic language.

Status: program **active**; graphene-specific open topic **not found at review time**.^[13]

Vehicle and award structure: standard **Phase I / Phase II SBIR** competitions under current NIST solicitation terms.^[13]

Public contact: sbir@nist.gov, 301-975-8449.^[13]

Investor implication: this is the most accessible Commerce path for an early-stage company, but only if the company translates materials capability into a mission-specific instrument, metrology, or manufacturing application.

4) CHIPS for America / NIST semiconductor programs

NIST's CHIPS role creates a strong thematic adjacency for graphene when the material is part of a semiconductor manufacturing solution.^{[4][14]} Official CHIPS pages show active program development and funding opportunities, but no graphene-specific call was identified in reviewed sources.

Best fit cases: - graphene-based thermal or RF structures relevant to packaging, - in-line process sensors, - metrology artifacts or reference methods for advanced microelectronics, - materials integration work tightly connected to semiconductor manufacturing.

Status: CHIPS ecosystem and funding pathways **active**; graphene-specific solicitation **not found**.^{[4][14]}

Vehicles: NOFOs, cooperative agreements, contracts, and ecosystem/consortium participation depending on notice.^{[4][14]}

Public contacts: notice-specific; no standing public graphene PM found.

Investor implication: potentially high-value but narrower than NIST SBIR. Requires a semiconductor-grade value proposition, not a generic advanced-materials story.

5) MEP

MEP is useful later in the lifecycle.^[15] It is not the likely sponsor for early graphene R&D, but it can matter once a company needs domestic process scaling, QA systems, supplier qualification, or manufacturing implementation support.

Status: active, but graphene-specific work **not found**.^[15]

Investor implication: downstream commercialization support, not lead funding.

6) EDA

EDA can support advanced-materials commercialization indirectly through regional infrastructure and innovation programs such as **Build to Scale** and **Tech Hubs**.^{[5][6]} This is attractive when CVD graphene is part of a place-based coalition — university, state, manufacturing institute, incubator, or pilot-facility network.

Status: active programs; graphene-specific solicitation **not found**.^{[5][6]}

Vehicles: grants/cooperative agreements to consortia, regions, nonprofits, universities, and development organizations.[5][6]

Investor implication: strong only if the company is anchoring a broader regional manufacturing/commercialization strategy.

7) NOAA, ITA, USPTO

These are not priority targets for direct CVD-graphene development support. - **NOAA:** only relevant for mission-specific sensors/instrument materials.[7][16] - **ITA:** trade promotion rather than technology development.[8] - **USPTO:** IP administration rather than R&D funding.[9]

Actual engagement advice

If the company is TRL 2-4

Prioritize **NIST SBIR** and NIST laboratory relationship-building. The pitch should be a **measurement or instrumentation problem**, not a material platform story.[2][13]

If the company is TRL 4-6 and has prototype devices/processes

Pursue **CNST/laboratory collaboration**, NIST semiconductor/metrology opportunities, and any CHIPS-related calls where graphene is subordinate to the manufacturing problem being solved.[4][11][14]

If the company is TRL 6+ and building domestic production/commercialization capacity

Layer in **MEP** for manufacturing adoption support and **EDA** for pilot-line/regional commercialization infrastructure.[5][6][15]

Next-step action plan

1. **Rewrite the offering in NIST language.** Lead with metrology, reproducibility, contamination control, standards, semiconductor process monitoring, or validated sensor performance.[2]
2. **Build a solicitation watchlist** for: NIST SBIR, NIST funding opportunities, CHIPS funding opportunities, and EDA Build to Scale / Tech Hubs.[3][4][5][6][13][14]
3. **Map one concrete office-specific use case:**
 - NIST lab/CNST: characterization or process metrology,
 - NIST SBIR: graphene-enabled instrument/tool,
 - CHIPS: semiconductor manufacturing insertion,
 - EDA: pilot ecosystem / regional cluster.
4. **Use only published channels.** Where no program manager is public, do not infer names; use program-office emails, NOFO contacts, or official facility inquiry forms.

5. **Do not expect a standing graphene line item.** Commerce relevance exists, but it is embedded inside broader measurement/manufacturing programs rather than labeled as graphene.

Published contact list

Office	Name	Title	Email	Phone	Source
NIST SBIR Program	not individually named on reviewed page	Program office	sbir@nist.gov	301-975-8449	https://www.nist.gov/tpo/small-business-innovation-research-program
NIST CNST	not published for graphene-specific PM	Center/user-facility contact	not published as single graphene contact	not published as single graphene contact	https://www.nist.gov/cnst
NIST CHIPS	not published for graphene-specific PM	Notice-specific contacts vary	not published as standing graphene contact	not published as standing graphene contact	https://www.nist.gov/chips
EDA programs	not published for graphene-specific PM	Notice-specific contacts vary	not published as standing graphene contact	not published as standing graphene contact	https://www.eda.gov
NOAA relevant office	not published	not published	not published	not published	https://www.noaa.gov/funding-opportunities

Sources

[1] U.S. Department of Commerce, “Bureaus and Offices,” <https://www.commerce.gov/bureaus-and-offices>

[2] NIST, “About NIST,” <https://www.nist.gov/about-nist>

- [3] NIST, "Funding Opportunities," <https://www.nist.gov/financial-assistance/funding-opportunities>
 - [4] NIST, "CHIPS for America," <https://www.nist.gov/chips>
 - [5] EDA, "Build to Scale," <https://www.eda.gov/funding/programs/build-to-scale>
 - [6] EDA, "Regional Technology and Innovation Hubs," <https://www.eda.gov/funding/programs/regional-technology-and-innovation-hubs>
 - [7] NOAA, "Funding Opportunities," <https://www.noaa.gov/funding-opportunities>
 - [8] ITA, "About ITA," <https://www.trade.gov/about-ita>
 - [9] USPTO, "About Us," <https://www.uspto.gov/about-us>
 - [10] NIST official search/content for graphene across NIST pages, <https://www.nist.gov/search?query=graphene>
 - [11] NIST, "Center for Nanoscale Science and Technology (CNST)," <https://www.nist.gov/cnst>
 - [12] NIST, "Technology Partnerships Office," <https://www.nist.gov/tpo/technology-partnerships-office>
 - [13] NIST, "Small Business Innovation Research Program," <https://www.nist.gov/tpo/small-business-innovation-research-program>
 - [14] NIST, "CHIPS Research and Development," <https://www.nist.gov/chips/research-and-development> and related CHIPS funding pages
 - [15] NIST MEP, "About MEP," <https://www.nist.gov/mep/about-mep>
 - [16] NOAA SBIR entry point / related R&D pages, <https://www.noaa.gov/office-of-sea-grant/small-business-innovation-research-sbir>
 - [17] U.S. Department of Commerce, "About Commerce," <https://www.commerce.gov/about>
-

Department of Defense (DoD) funding memo: CVD graphene

Executive view

Recommendation: prioritize **DoD SBIR/STTR** as the primary market-entry path for CVD graphene, with **OSD, Army, Navy, Air Force, MDA, and DTRA** as the best evidenced sponsors. Use **DARPA** for step-change manufacturing or device-performance bets, **ARL** for early research collaboration, and **DIU** only when the product is already prototype-ready and commercially credible.[1][2][3][4][5][6][7][8][9][10][11]

The strongest current public signal is a **2026 OSD SBIR pre-release topic explicitly titled "Monolithic Graphene-CMOS Broadband (UV-LWIR) Focal Plane Arrays for target detection in low-light conditions."** That is unusually direct evidence that a DoD office is presently shopping for a graphene-enabled capability rather than a generic advanced-material concept.[1]

Key judgment

For investors, the question is not “does DoD like graphene?” The answer is yes, but selectively. The better question is: **which offices buy graphene for a mission problem today?** Public records show repeat demand in five mission buckets:

1. **Broadband IR/EO sensing and focal planes.**[1][2][4][6]
2. **mm-wave / THz detectors and tunable photonic devices.**[2][12]
3. **Batteries and tactical power.**[4][6]
4. **EMI/EMP shielding and conductive protection materials.**[7][10][11]
5. **Manufacturable microelectronics / wafer-scale or large-area synthesis.**[2]

That means a CVD graphene company should frame itself as a **sensor, electronics, shielding, or power-material solution provider**, not as a raw-material vendor.

Recommendation matrix

Office	Why it fits CVD graphene	Best vehicle	Readiness fit	Similar-work status	Published contact
OSD / OUSD(R&E) via DoD SBIR/STTR	Cross-cutting sensors and advanced microelectronics; current DSIP topic explicitly calls for graphene-CMOS UV-LWIR FPAs for low-light target detection	DoD SBIR/STTR BAA via DSIP	TRL 3-6	Active pre-release: OSW26BZ06-DV027; related OSD twisted-graphene detector awards in 2022-2023	DSIP support only: DoDSBIRSupport@reisystems.com ; topic POC not published.[1][13]
DARPA	High-risk/high-payoff manufacturing, tunable IR imaging, metasurfaces, wafer-scale synthesis	DARPA BAA / program solicitation / SBIR	TRL 2-5	No current graphene-specific opportunity found ; strong prior awards incl. large-area graphene foil and wafer graphene synthesis	graphene-specific PM/contact not published in reviewed sources.[2][14][15]
Army SBIR/STTR	Tactical power, 6T batteries, bolometers, water purification, protective coatings, wearables	Army SBIR/STTR; ARL BAA for early work	TRL 3-6	Active/recent 2025 awards in batteries, bolometer components, water purification, EM protection	ARL CRA POC Tamara Christenson , tamara.r.christenson.civ@army.mil; phone not published.[4][17]

Office	Why it fits CVD graphene	Best vehicle	Readiness fit	Similar-work status	Published contact
Navy SBIR/STTR / ONR-sponsored topics	Naval batteries, IR beam control, tunable modulators, hyperspectral systems, advanced composites	Navy SBIR/STTR	TRL 3-6	Recent awards in 2022-2024 incl. holey-graphene batteries and graphene-based IR beam control	not published in accessible reviewed sources.[6]
Department of the Air Force SBIR/STTR	EMI/EMP shielding, additive manufacturing improvement, space memory/rad-hard electronics, ultracapacitors	DAF SBIR/STTR	TRL 3-6	Recent + historical awards incl. 2024 EMI/EMP shielding; older space-memory and production-tool efforts	not published in accessible reviewed sources.[7]
DIU	Prototype-ready commercial product with broad DoD adoption potential	CSO + prototype OT under 10 U.S.C. 4022	TRL 6-8	Active vehicle, but no graphene-specific solicitation found	public form only; named graphene POC not published.[8][9][18]
MDA	Timing, EMI shielding, lightweight missile-defense composites	MDA SBIR	TRL 3-6	Recent 2025 quantum timing award using graphene saturable absorber	not published.[10]
DTRA	EMP protection, hardened	DTRA SBIR	TRL 3-6	Recent 2023 EMP concrete	not published.[11]

Office	Why it fits CVD graphene	Best vehicle	Readiness fit	Similar-work status	Published contact
	infrastructure, gas sensing, radiation- aware electronics			awards using graphene; prior graphene sensor work	

Office-by-office memo

1) OSD / OUSD(R&E): strongest current near-term buyer signal

The DSIP topic search currently shows **OSW26BZ06-DV027, “Monolithic Graphene-CMOS Broadband (UV-LWIR) Focal Plane Arrays for target detection in low-light conditions,”** under **DoD SBIR 2026 BAA**, component **OSD**, with a pre-release/opening cycle tied to release 6.[1] That is the clearest present-tense DoD demand signal for CVD graphene found in this review.

A second OSD topic, **OSW26TZ06-NV005**, focuses on ultrafast nonvolatile memory based on 2D-material moiré structures. It is not a graphene call, but it reinforces active OSD sponsorship for novel electronic materials and device physics.[1]

Historical OSD follow-through also exists: SBIR.gov shows **OSD21C-005 “Twisted graphene-based Josephson junction detectors”** with Phase I in 2022 and Phase II in 2023.[12]

Investor implication: if the company’s core claim is monolithic integration, broadband detection, or THz/mm-wave superconducting/detector performance, OSD is the best immediate funding door.[1][12]

Vehicle

- **DoD SBIR/STTR BAA via DSIP.**[1][13]

Public award size / ceiling

- **Not published in the reviewed topic list pages;** check solicitation instructions each cycle.[13]

Contact

- **Topic-specific contact not published** on the public DSIP list page reviewed.[1]
- **DSIP support:** DoDSBIRSupport@reisystems.com.[13]

Engage how

- Track DSIP monthly releases; DSIP says new DoD SBIR/STTR topics release on the **first Wednesday of every month.**[13]
- Ask topic questions during pre-release/open periods in the **Topic Q&A** workflow.[1]

2) DARPA: best for discontinuous device or manufacturing leaps

DARPA has funded CVD-graphene-relevant work before, including: - **New Manufacturing Methods for Producing Large Area Graphene Foil** (Phase I, 2011).[2] - **Graphene synthesis on large-area silicon wafers suitable for manufacture** (Phase I, 2011; Phase II, 2012).[2] - **Graphene based Dynamically Tunable LWIR Detection and Imaging at**

Room Temperature (Phase II, 2022).[2] - **Electronically Tunable Optical Bandpass Filter** using graphene-integrated metasurfaces (Phase I, 2017).[2]

DARPA's public site states it engages through **R&D programs and efforts, challenge competitions, and technology transition efforts** and that its **Contracts Management Office** supports contracts, grants, agreements, and other transactions.[14][15]

No live graphene-specific solicitation was found on the public opportunities page reviewed, but DARPA does list active **office-wide BAAs** and continuously refreshed opportunities.[14]

Investor implication: DARPA is compelling if the startup's edge is not just "better graphene film," but a **non-obvious defense-enabling capability** such as wafer-scale integration, room-temperature tunable LWIR imaging, or radically better photonic/electronic behavior.[2][14][15]

Vehicle

- **DARPA BAA / program solicitation / SBIR.**[2][14][15]

Public award size / ceiling

- **Not published in the reviewed graphene-specific records.**

Contact

- **Not published** for a live graphene solicitation in the reviewed sources.[14][15]

Engage how

- Monitor DARPA **R&D Opportunities** and **Programs** pages.[3][14]
- Use **DARPAConnect** and office-wide BAAs if no exact graphene topic is open.[15]

3) Army: broadest applied demand set

Army records show the widest spread of practical use cases for graphene-related work: - **Rotated graphene anode** batteries and **6T battery** efforts in 2025.[4] - **Longwave bolometer sensor components** in 2025.[4] - **Electromagnetic protection coatings** for artillery projectiles in 2025.[4] - **Portable water purification** with graphene/MXene electrodes in 2025.[4] - A graphene wearable patch concept and graphitic-fiber manufacturing efforts in prior years.[4]

DEVCOM ARL's collaboration pages confirm that ARL supports external collaboration through **BAAs, Army xTech / SBIR-STTR**, and **CRADAs**. [5] ARL also publishes a named contact for one collaboration pathway: **Tamara Christenson**, technical point of contact for Collaborative Research Alliances.[17]

Investor implication: Army is the best place to test whether the company's graphene translates into **practical soldier-system or tactical-power value**, not just impressive material metrics.[4][5]

Vehicle

- **Army SBIR/STTR** for topic-driven prototype work.[16]
- **ARL BAA** for basic/applied research.[5]
- **CRADA** where co-development and IP structure matter.[5]

Public award size / ceiling

- **Not published** on the source pages reviewed.

Contact

- **Tamara Christenson**, Technical Point of Contact, DEVCOM Army Research Laboratory CRA, tamara.r.christenson.civ@army.mil; phone not published.[17]

Engage how

- Enter through **Army SBIR|STTR topics** first.[16]
 - If too early for productization, pursue **ARL BAA or CRADA**. [5]
-

4) Navy: strong fit for power and EO/IR componentization

Navy awards show credible pull for graphene-enabled batteries and tunable IR components: - **MEMMS for enhanced IR Beam Control** (2023), explicitly referencing graphene modulator devices.[6] - **Next-Generation Lithium Battery Enabled by Holey Graphene-based Electrodes** (2022 Phase I, 2023 Phase II).[6] - **Compact Hyperspectral Imager Using Tunable Metasurfaces** (2022 Phase II), highly adjacent to graphene-enabled tunable optics.[6] - **MWIR/LWIR metamaterials-based EO modulators** (2024), another adjacency point for 2D-material device offerings.[6]

Investor implication: if the startup has CVD graphene that improves **modulation speed, spectral tunability, or energy density under platform SWaP limits**, Navy is attractive.[6]

Vehicle

- **Navy SBIR/STTR**. [6]

Public award size / ceiling

- **Not published** in the reviewed records.

Contact

- **Not published** in accessible reviewed sources.[6]

Engage how

- Watch DSIP and SBIR.gov for Navy topic cycles.[6][13]
-

5) Department of the Air Force: clear shielding and space-electronics logic

The Air Force record includes: - **Ultra-Lightweight Nickel Foam-Graphene Composites for EMI/EMP Shielding** (2024).[7] - **Graphene Improvements to Additive Manufacturing** (2020).[7] - **Ultra-Scalable Nonvolatile Graphene Memory and Radiation Hardened Graphene based Nonvolatile Memory for Space Applications** (2014).[7] - **High Specific Energy Ultracapacitor with Hybrid Graphene Nanoplatelet Paper Electrodes** (2012).[7] - **Graphene Production Tool** (2009 STTR), relevant to equipment and deposition infrastructure.[7]

Investor implication: DAF is attractive for companies selling **lightweight shielding, space/air electronics materials, or graphene-enabled manufacturing equipment/processes**.[7]

Vehicle

- **DAF SBIR/STTR**.[7]

Public award size / ceiling

- **Not published** in reviewed records.

Contact

- **Not published** in accessible reviewed sources.[7]

Engage how

- Lead with shielding, rad-hard memory, or AM feedstock/use-case narratives, not graphene purity metrics.[7]

6) DIU: transition office, not early science sponsor

DIU's website is explicit that it exists to award scalable contracts for solutions to national-security challenges and principally uses **Other Transaction** prototype agreements.[8] DIU says it can award prototype OTs in **60-90 days** and that successful prototypes can transition to **follow-on production** without a new competition under **10 U.S.C. 4022**.[8]

However, no active graphene-specific DIU solicitation was found on DIU's open-solicitations page.[9]

Investor implication: DIU is attractive only after the startup can show a **usable product** tied to an actual defense problem, not when it still needs material-process de-risking.[8][9]

Vehicle

- **Commercial Solutions Opening (CSO) + prototype OT**.[8][9]

Public award size / ceiling

- **Not published** on the reviewed pages.

Contact

- Public contact form only; named graphene contact **not published**. [18]

Engage how

- Submit to a posted CSO/challenge if fit exists; otherwise use DIU's contact/company-interest channel. [8][9][18]
-

7) MDA and DTRA: narrower but real mission pull

MDA

MDA awards include a **2025 Phase II** on **on-chip quantum timing using graphene saturable absorber technology** and an older graphene-electrical-interface composite structures topic. [10] That makes MDA credible for **timing photonics, lightweight conductive structures, and interceptor-related shielding/materials**.

DTRA

DTRA's recent **2023 Phase I** EMP-protection concrete topics explicitly mention graphene, and older awards used graphene for gas sensing and radiation-effects work. [11] That makes DTRA credible for **protective infrastructure and strategic-threat sensing**.

Investor implication: these agencies are niche but valuable if the startup's first wedge is **EMP shielding, hardening, or sensing** rather than mainstream electronics. [10][11]

What DoD will likely fund vs. what it likely will not

Likely to fund

- **Mission-defined prototypes:** a focal plane, detector, battery cell, shielding panel, or purification electrode. [1][4][6][7][10][11]
- **Manufacturing methods** where manufacturability is the core challenge: wafer-scale growth, large-area foil, or monolithic device integration. [1][2]
- **Application-tuned materials** that solve SWaP, spectral, conductivity, or survivability problems better than incumbent materials. [4][6][7]

Less likely to fund directly

- A generic claim of "high-quality CVD graphene available for sale."
 - Commodity film manufacturing without a defense-specific device or subsystem pull.
 - Very early materials science with no path to a defense use case, except under DARPA or ARL basic research routes. [5][14][15]
-

Next-step engagement advice

If the company is early-stage (TRL 2-4)

1. Build the pitch around a **single defense effect**: e.g., CMOS-integrated broadband FPA, THz detector, or lightweight EMP shield.[1][7][12]
2. Engage **ARL BAA/CRADA** or **DARPA** if the risk is still mainly in process and physics.[5][14][15]
3. Watch OSD and service **STTR** topics for academic collaboration-heavy work.[1][13]

If the company is mid-stage prototype (TRL 4-6)

1. Make **SBIR/STTR** the center of gravity.[1][4][6][7][10][11]
2. Prioritize **OSD**, then the service component that best matches the mission effect.
3. Prepare a defense-tailored data package: manufacturability, environmental performance, integration path, and comparative advantage vs. ITO, copper, graphite, or incumbent sensor materials.

If the company is later-stage / pilot production (TRL 6-8)

1. Pursue **DIU CSO/OT** only if there is a clear, current mission customer.[8][9]
2. Use prior **SBIR Phase II / Phase III** or agency prototype data as credibility anchor.
3. Emphasize supply-chain resilience and domestic production if the product is U.S.-manufactured CVD graphene.

Published contact appendix

Office	Name	Title	Email	Phone	Source
DEVCOM Army Research h Laborato ry	Tamara Christen son	Technical Point of Contact, Collaborati ve Research Alliance	tamara.r.christenson.civ@ army.mil	not publis hed	https://arl.devcom.army.mil/collaborate-with-us/opportunity/collaborative-research-alliance/
DoD SBIR/ST TR	DoD DSIP Support	Portal support	DoDSBIRSupport@reisyst ems.com	not publis hed	https://www.dodsbirsttr.mil/submissions/login ; https://www.dodsbirsttr.mil/topics-app/
DARPA	not publishe d	graphene- relevant live- opportunit y PM/CO not published in reviewed sources	not published	not publis hed	https://www.darpa.mil/work-with-us ; https://www.darpa.mil/work-with-us/opportunities
Navy / ONR	not publishe d	graphene- relevant topic/prog ram contact not confirmed in accessible	not published	not publis hed	https://www.sbir.gov/awards?keywords=graphene%20Navy

Office	Name	Title	Email	Phone	Source
		reviewed sources			
Department of the Air Force / AFRL	not published	graphene-relevant topic/program contact not confirmed in accessible reviewed sources	not published	not published	https://www.sbir.gov/awards?keywords=graphene%20Air%20Force
DIU	not published	contact form only on reviewed pages	not published	not published	https://www.diu.mil/contact-DIU
MDA	not published	topic contact not published in reviewed award records	not published	not published	https://www.sbir.gov/awards?keywords=graphene%20MDA
DTRA	not published	topic contact not published in reviewed award	not published	not published	https://www.sbir.gov/awards?keywords=graphene%20DTRA

Office	Name	Title	Email	Phone	Source
records					

Sources

- [1] DoD SBIR/STTR DSIP Topics and Topic Q&A, graphene search results:
<https://www.dodsbirsttr.mil/topics-app/>
 - [2] SBIR.gov awards, graphene + DARPA:
<https://www.sbir.gov/awards?keywords=graphene%20DARPA>
 - [3] DARPA Programs: <https://www.darpa.mil/research/programs>
 - [4] SBIR.gov awards, graphene + Army:
<https://www.sbir.gov/awards?keywords=graphene%20Army>
 - [5] DEVCOM Army Research Laboratory, Collaborate With Us:
<https://arl.devcom.army.mil/collaborate-with-us/>
 - [6] SBIR.gov awards, graphene + Navy:
<https://www.sbir.gov/awards?keywords=graphene%20Navy>
 - [7] SBIR.gov awards, graphene + Air Force:
<https://www.sbir.gov/awards?keywords=graphene%20Air%20Force>
 - [8] DIU Work With Us: <https://www.diu.mil/work-with-us>
 - [9] DIU Open Solicitations: <https://www.diu.mil/work-with-us/open-solicitations>
 - [10] SBIR.gov awards, graphene + MDA:
<https://www.sbir.gov/awards?keywords=graphene%20MDA>
 - [11] SBIR.gov awards, graphene + DTRA:
<https://www.sbir.gov/awards?keywords=graphene%20DTRA>
 - [12] SBIR.gov awards, graphene + OSD:
<https://www.sbir.gov/awards?keywords=graphene%20OSD>
 - [13] DoD SBIR/STTR DSIP login / solicitation schedule:
<https://www.dodsbirsttr.mil/submissions/login>
 - [14] DARPA R&D Opportunities: <https://www.darpa.mil/work-with-us/opportunities>
 - [15] DARPA Work With Us: <https://www.darpa.mil/work-with-us>
 - [16] Army SBIR|STTR Topics: <https://armysbir.army.mil/topics/>
 - [17] DEVCOM ARL Collaborative Research Alliance contact page:
<https://arl.devcom.army.mil/collaborate-with-us/opportunity/collaborative-research-alliance/>
 - [18] DIU Contact page: <https://www.diu.mil/contact-DIU>
-

DOE funding memo: CVD graphene

Executive take

For a company developing **CVD graphene**, the Department of Energy is not one market; it is several different sponsor logics. The strongest current fit is **DOE applied materials/manufacturing funding via AMMTO**, because DOE publicly shows graphene-adjacent selections in that office's project database, including two copper-graphene conductivity projects under the **2022 AMMTO Multi-Topic FOA**.^[1] The strongest basic-research fit is **Office of Science → Basic Energy Sciences → Materials Sciences and Engineering (MSE)**, which funds fundamental materials synthesis and characterization through open financial-assistance FOAs and related BES programs.^{[2][3][4]} **ARPA-E** is a selective upside path if graphene enables a genuine step-change under a live program metric, while **Office of Electricity** is a downstream adopter for grid-specific performance gains rather than a primary graphene sponsor today.^{[5][6]} DOE **SBIR/STTR** remains a company-access vehicle, but currently routes through DOE's Office of Technology Commercialization rather than the old Office of Science-only workflow.^{[7][8]}

Recommendation matrix

Office	Why it fits CVD graphene	Best vehicle	Readiness for a graphene company	Published contact
DOE → CMEI → AMMTO	Applied advanced materials, conductivity-enhanced materials, microelectronics, manufacturing scale-up, secure supply chains.[9][10]	FOA, grant, prize, consortium/hub.[10][11]	Highest near-term if the pitch is conductivity, thermal management, microelectronic s, or scalable manufacturing.	ammto@ee.doe.gov ; office address published, phone not published.[11]
DOE → Office of Science → BES → MSE	Fundamental 2D-material synthesis, interfaces, transport, defects, and characterization; ideal for use-inspired basic science.[2][3]	Open SC FOA via Grants.gov/PAMS; EFRC-like team science where applicable.[4][12][13]	High for pre-product science and validation; lower for near-market manufacturing.	Dr. Andy Schwartz named as division director; no direct email/phone published. SC grants contact: sc.grantsandcontracts@doe.gov . [3][14]
DOE SBIR/STTR	Best for company-led R&D aligned to DOE mission topics; useful bridge from materials proof to product concept.[7][8]	SBIR/STTR FOA topics.	High if topic language matches application.	sbir-sttr@doe.gov, (301) 903-5707 ; forward-looking questions to sbir-sttr@hq.doe.gov . [7]
DOE → ARPA-E	Only if graphene unlocks discontinuous performance in power electronics, materials, or manufacturing.[5][15][16]	Program-specific FOA/open topic.	Medium ; depends entirely on live program fit.	ARPA-E contact center: ARPA-E@hq.doe.gov . [5]

Office	Why it fits CVD graphene	Best vehicle	Readiness for a graphene company	Published contact
DOE → Office of Electricity	Potential adopter of graphene-enabled conductors, storage interfaces, sensors, and power electronics for grid outcomes.[6]	FOA, prize, PIA, RFI.[17]	Medium-low as first entry; better after performance data exists.	OEwebmaster@hq.doe.gov, 202-586-1411.[6]
DOE → NNSA	Theoretical fit for advanced materials/manufacturing and national security hardware, but no graphene-specific public route found in reviewed sources.[18]	Not established from reviewed sources.	Low visibility from public sources.	not published

What DOE is already funding that looks like CVD-graphene relevance

1) AMMTO is the clearest current evidence

The AMMTO project database contains two publicly visible, graphene-specific selections: - **“High throughput experimentation to enhance the electrical conductivity of the copper-graphene nanocomposite” — University of Utah — 2022 AMMTO Multi-Topic FOA — \$300,000 — shown with dates 9/7/2023 to 12/6/2026.**[1] - **“Conductivity of copper enhanced by infusion of graphene achieved by the flash sintering process” — University of Colorado Boulder — 2022 AMMTO Multi-Topic FOA — \$300,000 — shown with dates 9/7/2023 to 12/6/2026.**[1]

These are not generic nanomaterial projects; they show DOE funding specifically tied to **graphene-enhanced conductivity** and manufacturing-process questions. For investors, this is the strongest signal that DOE has a live pattern of interest in graphene when the value proposition is framed around **performance-enhanced conductors and manufacturable advanced materials.**[1]

AMMTO’s own mission language supports that interpretation. It says it advances innovation in materials and manufacturing for a resilient energy system and secure supply chain, and highlights **next-generation materials and processes, high-performance materials, conductivity-enhanced materials, and energy-efficient microelectronics.**[9][10]

2) BES/MSE is the strongest fundamental-science home

BES says it funds research laying the foundation for new energy technologies, and MSE specifically supports discovery and design of new materials with novel structures, functions, and properties.[2][3] CVD graphene fits especially well when the R&D problem is: - scalable thin-film growth, - growth/transfer defect control, - grain-boundary or substrate effects, - transport and conductivity mechanisms, - interfacial behavior, - or advanced materials characterization.

BES is also linked to DOE scientific infrastructure that graphene developers often need: the Scientific User Facilities division supports **five Nanoscale Science Research Centers** and major x-ray, neutron, and electron-beam facilities.[19]

3) ARPA-E and OE are outcome-driven, not material-driven

ARPA-E’s catalog shows it organizes around challenge programs in areas such as materials, manufacturing, power electronics, grid, and industrial efficiency.[5] Example programs illustrate the model: - **ADEPT** targeted breakthroughs in power conversion hardware and is now **alumni.**[15] - **AMPLIFY** is an **active, \$35 million**, three-year research program on advanced material processes for methane conversion.[16]

That means ARPA-E is not a “graphene office.” It becomes relevant when graphene is the hidden enabler of a much bigger jump in efficiency, cost, footprint, or manufacturability.

Similarly, OE's current opportunities center on grid outcomes such as storage, microgrids, reconductoring, and utility digitization.[17] A graphene company should approach OE only after it can demonstrate a grid-relevant hardware benefit.

Current opportunity status by office

AMMTO

- **Research on Circular Economy, Smart Manufacturing, and Energy-Efficient Microelectronics** — listed amount **up to \$2.5M**; type **Grant**; close date shown **Jan. 29, 2024**.^[11] The page still shows “Open,” but the date indicates it is practically **recently expired or stale on-page status**.
- **\$33 Million for Smart Manufacturing Technologies for Material and Process Innovation** — **Under Review**; close **Nov. 18, 2024**.^[11]
- **Advance Domestic Manufacturing of Next Generation Batteries** — **\$15.7M**; **Under Review**; close **March 7, 2024**.^[11]
- **Critical Materials Accelerator Funding Opportunity** — **\$10M**; **Under Review**; close **March 22, 2024**.^[11]
- **Critical Materials Innovation Hub RFP 2024** — **up to \$10M** open call from the DOE Energy Innovation Hub, with concept papers due **Dec. 20, 2024** and later milestones posted by Ames Lab.^[20]

BES / Office of Science

- **FY 2026 Continuation of Solicitation for the Office of Science Financial Assistance Program (DE-FOA-0003600)** — listed on SC Open FOAs with close date **Sept. 30, 2026**.^[12] **Active**.
- BES/EFRC remains a **program of record**; BES says the **2024 funding opportunity** created 10 new EFRCs and notes biennial 4-year competitions.^[13]

DOE SBIR/STTR

- The Office of Science funding page says **all Office of Science SBIR/STTR opportunities are closed** on that legacy page and directs users to DOE's **Office of Technology Commercialization** for current opportunities.^[8] Status: **program active, current opportunities moved**.

ARPA-E

- No **graphene-specific active program** found on the reviewed public pages.^{[5][15][16]}

Office of Electricity

- Public OE listings include active and closed opportunities like **STEP Prize**, **SPARK**, **C-MAP**, and several partnership intermediary agreements.^[17] No graphene-specific OE solicitation found.

Vehicles DOE actually uses

- **Office of Science/BES:** financial assistance FOAs through **Grants.gov**, with application support through **PAMS**; SC says it does **not** accept unsolicited applications for financial assistance.[4][12][14]
- **AMMTO:** FOAs, grants, prizes, and consortia / hubs / Manufacturing USA-style ecosystems.[10][11]
- **ARPA-E:** program-specific solicitations and open-topic style program calls.[5]
- **OE:** funding opportunities, prizes, RFIs, requests for comments, and partnership intermediary agreements.[17]
- **DOE SBIR/STTR:** topic-based SBIR/STTR FOAs now managed centrally by DOE OTC.[7][8]

Published contacts

AMMTO

- **Advanced Materials and Manufacturing Technologies Office**
Email: ammto@ee.doe.gov
Phone: **not published**
Address: Office of the Assistant Secretary, Energy Efficiency and Renewable Energy, Mail Stop EE-1, Department of Energy, Washington, DC 20585.[11]

Office of Science / BES

- **Dr. Andy Schwartz** — Director, Materials Sciences and Engineering Division.[3]
Email: **not published**
Phone: **not published**
Source: <https://science.osti.gov/bes/mse>
- **Office of Sponsored Activities / Grants and Contracts Support**
Email: sc.grantsandcontracts@doe.gov. [14]
- **PAMS Helpdesk**
Phone: (855) 818-1846, (301) 903-9610
Email: sc.pams-helpdesk@science.doe.gov. [12]

DOE SBIR/STTR

- **DOE SBIR/STTR Programs Office**
Phone: (301) 903-5707
Email: sbir-sttr@doe.gov. [7][8]
- Forward-looking questions: sbir-sttr@hq.doe.gov. [7]

ARPA-E

- **ARPA-E Agency Contact Center**
Email: ARPA-E@hq.doe.gov. [5]
- Named PM on reviewed page: **Dr. Jungho Kim**, Program Director for AMPLIFY; direct email/phone not published. [16]

Office of Electricity

- **Office of Electricity**
Phone: 202-586-1411
Email: OEwebmaster@hq.doe.gov.[6]

Investor interpretation

Best-funded story

A CVD graphene company has the strongest DOE case if it pitches **not a material platform in the abstract**, but one of the following: 1. **Conductivity-enhanced materials** for conductors/interconnects. AMMTO already funded copper-graphene examples.[1] 2. **Energy-efficient microelectronics** or advanced thermal/electrical materials manufacturing. AMMTO publicly calls out this area.[11] 3. **Fundamental thin-film/2D-material science** under BES/MSE when the core risk is scientific, not scaling/commercial demand.[2][3] 4. **Grid or power-electronics performance** once product data exists, creating a later-stage OE or ARPA-E angle.[5][6][17]

Weakest story

The weakest DOE pitch is “graphene is useful in many industries.” DOE offices do not buy broad platform narratives. They buy mission outcomes: - lower energy losses, - more conductive and manufacturable materials, - better microelectronics, - better grid hardware, - more secure supply chains, - or new fundamental understanding of materials.

Next-step engagement advice

1. **Start with AMMTO.** Build the first outreach around published DOE language: “conductivity-enhanced materials,” “energy-efficient microelectronics,” “next-generation materials and processes,” and “advanced manufacturing processes.”[9][10][11]
2. **Use the AMMTO project database as precedent evidence.** Explicitly cite the two copper-graphene projects to show you understand DOE’s existing pattern.[1]
3. **Prepare a BES version of the pitch.** If the core challenge is film quality, wafer-scale growth, transfer damage, reproducibility, or interface science, package it for BES/MSE and the annual Office of Science FOA.[2][3][12]
4. **Track DOE SBIR/STTR centrally through OTC.** Use it if the company has a clear product and customer pathway but still needs federal R&D support.[7][8]
5. **Treat ARPA-E as opportunistic.** Only pursue when a live program metric makes graphene obviously discontinuous versus incumbents.[5][15][16]
6. **Approach OE only with application data.** For OE, lead with a grid benefit: improved conductor ampacity, reduced losses, higher thermal resilience, or better storage/power-electronics performance.[6][17]

Sources

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 - [2] DOE Office of Science, "Basic Energy Sciences."
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 - [3] DOE Office of Science, "Materials Sciences and Engineering (MSE) Division."
<https://science.osti.gov/bes/mse>
 - [4] DOE Office of Science, "Funding Opportunity Announcements (FOAs)."
<https://science.osti.gov/grants/FOAs>
 - [5] ARPA-E, "View All Programs." <https://arpa-e.energy.gov/programs-and-initiatives/view-all-programs>
 - [6] DOE Office of Electricity, "Office of Electricity." <https://www.energy.gov/oe/office-electricity>
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HHS funding memo: CVD graphene

Executive view

For **Department of Health & Human Services (HHS)**, CVD graphene is not a standalone **procurement category**; it is most fundable when positioned as an **enabling material inside a health product** — especially a **biosensor, point-of-care diagnostic, neural interface, wearable monitor, bioelectronic device, or advanced countermeasure platform**. The strongest HHS pathways are **NIH SBIR/STTR, NIBIB-led bioengineering funding, BARDA DRIVE / BARDA BAA**, and selected **ARPA-H** programs. FDA and CDC are secondary or indirect paths.

Recommendation matrix

Office	Why CVD graphene fits	Likely vehicle	Readiness	Status of similar work	Published contact
HHS → ARPA-H → program/ BAA level	High-risk biosensing, wearable, neural, and platform health technologies where graphene is an enabling component	Open BAA, program solicitation, solution submission, SAM.gov notices	Best for differentiated platform with step-change performance and credible scale-up	Active as a pathway; graphene-specific topic not found	Program-specific PM/contact only on active calls; graphene-specific contact not published
HHS → ASPR → BARDA → DRIVE / diagnostics	Diagnostics, fieldable sensing, outbreak response, exposure monitoring, deployable device platforms	BARDA BAA, DRIVE, EZ-BAA	Best for applied diagnostics and preparedness devices at higher TRL than basic research	Active/recurrent pathway; graphene-specific call not found	Topic-specific contacts on active calls; not published for graphene
HHS → NIH → SEED / SBIR-STTR	Broadest early-stage path for biomedical sensing, devices, nanotech, biointerfaces	SBIR/STTR omnibus and institute-specific notices	Best entry point for startup-stage platform development	Active/recurrent; dedicated graphene topic not consistently found	Institute/topic contacts on NOFOs; no standing graphene contact published

Office	Why CVD graphene fits	Likely vehicle	Readiness	Status of similar work	Published contact
HHS → NIH → NIBIB	Strongest NIH mission fit for bioengineering, flexible sensors, imaging instrumentation, micro/nano devices	SBIR/STTR, R21/R33/R01, translational cooperative mechanisms	Ideal for device, sensor, imaging, and lab-on-chip applications	Active/recurrent programs; graphene-specific program not found	NOFO contacts public when notices are active; dedicated graphene contact not published
HHS → NIH → NINDS / BRAIN-related programs	Neural recording, stimulation, flexible electrodes, neurochemical sensing	SBIR/STTR, UG3/UH3, U01, BRAIN notices	Best for neurotech applications with clear disease/research relevance	Active/recurrent device programs; graphene-specific topic not found	Contact depends on NOFO; not published as graphene-specific
HHS → NIH → NCI	Cancer diagnostics, liquid biopsy instrumentation, assay platforms	SBIR/STTR, diagnostics grants/cooperative agreements	Good fit for oncology diagnostics	Active/recurrent; graphene-specific topic not found	NCI topic contacts public on notices; no graphene-specific contact published
HHS → FDA	Regulatory science, materials characterization, device evaluation methods	Research collaboration, contract, grant	Indirect pathway, not primary commercialization funding	Graphene-specific opportunity not found	Not published
HHS → CDC	Surveillance or public-health detection tools	Grant, cooperative agreement, contract	Secondary path only	Graphene-specific pathway not found	Not published

What HHS is most likely to fund

1. NIH: the default non-dilutive door

NIH is the most practical first stop because it regularly funds enabling biomedical technologies through **SBIR/STTR** and investigator-initiated grants. CVD graphene can fit if the application is framed around a disease, diagnostic, or instrumentation problem rather than around the material alone. The best NIH alignment is typically through **NIBIB** for bioengineering and through disease-focused institutes when the product is tied to a specific clinical area.

Implication: If the company is preclinical or early prototype stage, HHS funding strategy should likely begin with **NIH SBIR/STTR**, especially under **NIBIB**, and then branch to NCI/NINDS or another institute by use case.

2. BARDA: strongest applied HHS path for diagnostics and preparedness

BARDA is relevant when graphene improves a product that matters for **medical countermeasures, outbreak detection, rapid diagnostics, or deployable monitoring**. A company with a graphene-enabled assay cartridge, sensor stack, or fieldable diagnostic reader could fit BARDA's mission if it can show speed, sensitivity, manufacturability, ruggedization, and a plausible regulatory path.

Implication: BARDA is better once there is a product concept with operational relevance, not just a material demonstration.

3. ARPA-H: high upside, but only for program-shaped platforms

ARPA-H is attractive for breakthrough device or sensing concepts, but it is not a general materials funder. The proposal must fit a current ARPA-H program or open BAA concept and show a plausible path to transformational health impact.

Implication: Use only if graphene is one part of a compelling end-to-end system with extraordinary performance claims and translational ambition.

Status of similar technology-development activity

- **ARPA-H:** active solicitation pathways exist broadly, but no public **graphene-specific** program was identified.
- **BARDA/DRIVE:** active and recurrent innovation pathways exist for diagnostics and preparedness technologies; no public **graphene-specific** topic was identified.
- **NIH SBIR/STTR:** active and recurrent, with broad device/diagnostic/nanotechnology fit; graphene usually appears, if at all, inside broader topic umbrellas rather than as its own line item.
- **NIBIB/NINDS/NCI grants and translational mechanisms:** active and recurrent at the mechanism level; no dedicated public graphene program of record identified.
- **FDA/CDC:** no clear graphene-specific current funding lane found.

Vehicles and likely award structures

NIH

- **SBIR/STTR Phase I and II** are the most founder-friendly vehicles.
- Additional mechanisms can include **R21, R33, R01, UG3/UH3**, or institute-specific translational awards.
- Exact current award caps should be verified in the live NIH SEED omnibus and institute notices.

BARDA

- **BARDA BAA** for larger advanced-development work.
- **DRIVE / EZ-BAA** for lower-friction submission into innovation areas.
- Award sizes are call-specific rather than governed by a single all-purpose ceiling.

ARPA-H

- **Open BAA** and program-specific solicitations.
- Award values vary materially by program; no standard single graphene ceiling exists.

Contacts

No directly relevant **graphene-specific** HHS program manager, contracting officer, or published solicitation contact was identified from currently confirmed public sources in this session.

Use this rule: - If the official solicitation or NOFO lists a scientific/research contact, use that named person. - If not, treat the contact as **not published** and engage through the official submission channel or institute small-business office.

Next-step engagement advice

If the company is TRL 2–4

1. Build a use-case-specific **NIH SBIR/STTR** plan.
2. Start with **NIBIB** unless the application is clearly oncology or neuro-specific.
3. Position graphene as the reason the device or assay reaches a target spec — for example lower LOD, flexible form factor, lower power, continuous monitoring, or multiplexing.

If the company is TRL 4–6 and has a deployable diagnostic or sensor

1. Review **BARDA DRIVE / EZ-BAA** and current BARDA diagnostics areas.
2. Translate performance into operational metrics: time-to-result, shelf life, ambient storage, rugged use, manufacturability, and CLIA/FDA path.

If the company has a breakthrough platform story

1. Screen current **ARPA-H** programs for a mission match.
2. Prepare a system-level value proposition, not a material-science pitch.

Practical messaging guidance

HHS buyers and sponsors are unlikely to respond to “graphene” by itself. The strongest framing is: - **clinical problem** or **public-health problem**, - **device/system architecture**, - why **CVD graphene** is essential to the performance gain, - evidence of **reproducible manufacturing**, - pathway to **regulatory validation**, - milestones appropriate to the chosen vehicle.

Source references to verify live before outreach

- **ARPA-H** official research/funding pages and current SAM.gov notices
- **ASPR/BARDA** official BAA and DRIVE/EZ-BAA pages
- **NIH SEED** official SBIR/STTR pages
- **NIH Guide for Grants and Contracts**
- **NIBIB, NINDS, NCI**, and **BRAIN Initiative** official funding pages
- **Grants.gov** for current NOFOs

Final assessment

Most promising HHS path: NIH SBIR/STTR, especially via **NIBIB** or disease-specific institutes.

Best applied-development path: **BARDA** if the product is a deployable diagnostic or preparedness device.

Highest-upside but least predictable path: **ARPA-H**.

Not primary targets: **FDA** and **CDC**, except for narrow regulatory-science or surveillance contexts.

DHS funding memo for CVD graphene

Research in progress; browser access tool is currently unavailable due to a Playwright browser session lock (Browser is already in use). I could not complete the required live web verification and citation collection from DHS, SAM.gov, Grants.gov, or component sites in this run.

Please retry the task so I can complete the required primary-source research and produce the full memo with inline citations, recommendation matrix, and engagement advice.

Department of Transportation (DoT) Funding Memo: CVD Graphene

Bottom line

The Department of Transportation is **not** running a visible department-wide graphene program of record, but several DoT modal administrations have clear mission reasons to fund or test **CVD graphene-enabled products** if they are framed as transportation solutions rather than materials science projects. The best entry points are:

1. **DoT SBIR (OST-R)** for early-stage validation of graphene-enabled sensors, coatings, or multifunctional materials;[1]
2. **FHWA** for bridge/pavement sensing, corrosion mitigation, and long-life infrastructure materials;[2][3]
3. **PHMSA** for leak detection, corrosion monitoring, and hazardous-environment barrier/coating concepts;[4]
4. **FAA** for aircraft structures, icing/lightning/EMI, and aviation sensor applications;[5][6]
5. **FRA** for rail asset monitoring and nondestructive inspection;[7]
6. **FTA** and **MARAD** for demonstration-stage infrastructure or fleet applications;[8][9]
7. **Volpe** as a cross-modal evaluator/integrator rather than the original funding sponsor.[10]

The practical implication: a developing company should **not pitch “graphene” generically**. It should pitch a **specific transportation outcome** — for example, a bridge-strain sensor, pipeline corrosion monitor, de-icing film, gas sensor, or anti-corrosion coating — then align that use case to the right modal office.[1]-[10]

1) What DoT would buy or fund

DoT and its operating administrations exist to improve transportation safety, reliability, resilience, and lifecycle performance.[11][12] That makes CVD graphene potentially fundable when it is part of one of the following:

- **condition-based maintenance sensors** for bridges, pavements, rail, pipelines, aircraft, or port assets;
- **corrosion-resistant coatings/barriers** for infrastructure, pipelines, marine systems, and transport equipment;
- **multifunctional composites or films** that add lightweighting, conductivity, thermal performance, or EMI/lightning tolerance;
- **gas or chemical sensors** tied to hazardous materials, leaks, fire safety, or operational monitoring;
- **durability-enhancing materials** that reduce maintenance and improve asset life.

DoT is unlikely to fund a stand-alone proposal to improve CVD growth yield or generic graphene quality absent a direct transportation mission tie. It is much more likely to support a **graphene-enabled transportation subsystem**. [1]-[12]

2) Recommendation matrix

Office	Transportation problem that fits CVD graphene	Vehicle	Readiness assessment	Published contact
DoT SBIR (OST-R)	Cross-modal sensing, coatings, materials, asset monitoring	SBIR Phase I / II	Best first entry for small businesses; active program with stated award sizes; graphene-specific topic not currently identified in reviewed sources [1]	dotsbir@dot.gov [1]
FHWA Office of Infrastructure R&D / TFHRC	Bridge/pavement strain sensing, corrosion monitoring, durable coatings/materials	BAA, research contract, SBIR transition	High-priority target because infrastructure sensing/materials directly fit FHWA mission [2][3]	not published
PHMSA R&D	Leak detection, corrosion/integrity monitoring, hazardous environment sensing or barrier materials	Research contract, grant, SBIR transition	High-priority target because graphene sensor/coating value proposition maps tightly to pipeline safety [4]	not published
FAA R&D / William J. Hughes	Structural health monitoring, icing/de-icing,	Research contracts, test/eval, SBIR	High-value but qualification-	not published

Office	Transportation problem that fits CVD graphene	Vehicle	Readiness assessment	Published contact
Technical Center	lightning/EMI, aviation sensors	transition	heavy; strongest for mature aviation-specific applications [5][6]	
FRA Office of Research, Development and Technology	Rail track/bridge/rolling-stock monitoring, NDE, materials safety	Research contracts, grants/cooperative agreements	Good fit for infrastructure sensing and inspection use cases [7]	not published
FTA research/innovation	Transit asset monitoring, resilient coatings/materials, reliability pilots	NOFO, cooperative agreement, demonstration	Demonstration-oriented; likely later than SBIR [8]	not published
MARAD	Marine corrosion control, coatings, composites, port sensing	Grant, contract, pilot	Use-case dependent; likely demonstration rather than basic R&D [9]	not published
Volpe Center	Cross-modal validation, test design, systems integration	Sponsored R&D support	Support route, not primary sponsor [10]	not published
NHTSA	Vehicle safety sensors/electronics only where safety outcome is direct	Research contracts	Lower priority for graphene materials plays [13][14]	not published

3) Office-by-office funding view

A. DoT SBIR (Office of the Assistant Secretary for Research and Technology)

The DoT SBIR program is the clearest published entry point for a startup. DoT states that Phase I awards are generally up to **\$150,000** for about **6 months**, and Phase II awards are generally up to **\$1,000,000** for about **2 years**. [1] That is a natural fit for: - graphene strain

or corrosion sensors for transport infrastructure, - leak-detection or environmental sensors, - anti-corrosion/de-icing films, - multifunctional materials with measurable transportation maintenance benefits.

Readiness: strongest for **TRL 2-5** concepts that still need validation and pilot evidence.[1]

Contact: dotsbir@dot.gov. [1]

B. FHWA

FHWA's infrastructure R&D mission and TFHRC research portfolio make it one of the strongest eventual buyers/sponsors for graphene-enabled civil infrastructure technology.[2][3] CVD graphene is most credible here in: - embedded or surface-mounted bridge/pavement sensing; - corrosion detection for steel/rebar assets; - smart coatings for moisture/chloride exposure; - multifunctional materials that improve asset life.

FHWA's **Exploratory Advanced Research (EAR)** program is also relevant for higher-risk concepts, although no current graphene-specific topic was found in reviewed official sources.[3]

Readiness: strongest for **TRL 4-6** if there is already lab evidence and a transportation deployment concept.

C. PHMSA

PHMSA is a particularly strong fit if the company's graphene product is a **sensor or protective material** rather than a general material platform.[4] Strong use cases include: - methane or other gas leak detection, - corrosion/integrity monitoring, - barrier/coating performance in hazardous environments.

Readiness: attractive once the technology can be tied to measurable integrity-management outcomes.

D. FAA

FAA can be important, but aviation adoption is qualification-heavy and may require long validation timelines.[5][6] The strongest cases are: - structural health monitoring on aircraft or aviation structures, - de-icing/heating films, - lightning or EMI-related multifunctional materials, - fuel, fire, or environmental sensors.

Readiness: best for **later-stage, application-specific** technologies with strong test data.

E. FRA

FRA's Office of Research, Development and Technology is a credible target for rail inspection and condition-monitoring concepts.[7] CVD graphene fits if positioned as a reliability and safety tool for rail assets.

Readiness: good after proof-of-concept, especially if a field pilot can be designed.

F. FTA and MARAD

These are more likely to matter at the **pilot/demonstration** stage than at the fundamental materials stage.[8][9] Transit and marine operators care about reliability, corrosion, maintenance burden, and asset visibility. If the graphene offering is already packaged into a demonstrable subsystem, these offices become more relevant.

4) Similar-work status by vehicle

Vehicle type	Status in reviewed DoT sources	Notes
Department-wide graphene-specific program	Not found	No official DoT-wide graphene program of record identified [11][12]
DoT SBIR	Active	Published award sizes and program contact [1]
FHWA exploratory/infrastructure research	Active	Active research structure; no graphene-specific open opportunity confirmed in reviewed sources [2][3]
FAA applied R&D / Technical Center support	Active	Strong technical venue; no graphene-specific open BAA confirmed in reviewed sources [5][6]
FRA rail R&D	Active	Program office exists; no graphene-specific topic found [7]
PHMSA pipeline R&D	Active	Mission fit is strong; no graphene-specific public topic found [4]
FTA innovation/research	Active	More demo-oriented; no graphene-specific NOFO found [8]
MARAD research/technology	Active at broad level	No graphene-specific opportunity found [9]
Volpe support role	Active	Supports sponsors across modes; not a standalone graphene sponsor [10]

5) Published contacts

Only one clearly published, directly useful cross-modal contact was identified in reviewed official sources:

- **DoT SBIR Program**
 - **Office:** Office of the Assistant Secretary for Research and Technology
 - **Email:** dotsbir@dot.gov
 - **Phone:** not published on the reviewed page

- **Source:** <https://www.transportation.gov/ost-r/innovation/small-business-innovation-research-program> [1]

For modal administrations, reviewed official pages generally published organization pages but **did not publish a named graphene-specific program manager or contracting point of contact**. Where solicitation-specific contacts are needed, they would typically appear only in the relevant **SAM.gov notice, NOFO, or BAA**.

6) Next-step engagement advice

If the company is early stage

Start with **DoT SBIR**. [1] Build the application around a modal problem statement, not around material novelty. Good first targets: - FHWA-aligned infrastructure sensing; - PHMSA-aligned leak/corrosion monitoring; - FAA-aligned de-icing or structural sensing.

If the company has prototypes and data

Prioritize **FHWA** and **PHMSA** first, then **FRA** or **FAA** depending on the application. These offices have the clearest mission pull for sensing/coatings/materials that improve inspection and lifecycle performance. [2]-[7]

If the company wants near-term adoption

Look for a **pilot customer** in a transit, rail, highway, pipeline, or maritime operating environment, then use that field problem to approach the modal office for demonstration support. DoT buyers are more likely to back a graphene product when: - the transportation asset/problem is specific, - test methods are clear, - maintenance/safety benefit is quantified, - field deployment risk is manageable.

Messaging that is likely to work

Lead with: - reduced lifecycle maintenance cost, - earlier fault detection, - better corrosion or leak visibility, - resilience in harsh environments, - measurable safety and reliability benefits.

Avoid leading with: - generic graphene superiority claims, - semiconductor-style platform language without transportation relevance, - manufacturing-scale pitch decks that lack field validation.

7) Investment takeaway

For investors, DoT is a **real but application-dependent** customer set for CVD graphene. It is strongest where graphene is embedded in a transportation product with a direct maintenance or safety outcome. The **highest-probability path** is:

1. win or pursue **DoT SBIR** funding;[1]
2. validate with a mode-specific use case, especially **FHWA** or **PHMSA**:[2][4]
3. transition to a pilot/demonstration or applied R&D contract with the relevant modal office;[2]-[10]
4. use **Volpe** or a modal test center for independent evaluation if needed.[5][10]

This is therefore **not** a “sell raw graphene to DoT” market. It is a **sell a transportation solution enabled by CVD graphene** market.

Sources

- [1] U.S. Department of Transportation, Office of the Assistant Secretary for Research and Technology, “Small Business Innovation Research Program,” <https://www.transportation.gov/ost-r/innovation/small-business-innovation-research-program>
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Environmental Protection Agency (EPA) — CVD Graphene Government-Funding Memo

Research in progress: browser session unavailable in this run, so this placeholder should be replaced with sourced findings before delivery.

Intelligence Community (IC) funding memo: CVD graphene

Bottom line

For a company developing **CVD graphene**, the Intelligence Community’s best publicly acknowledged entry point is **IARPA**, followed by **NSA SBIR/research channels**, and then mission-component business offices at **NGA** and **NRO**. Public evidence does **not** show an IC-wide, graphene-named program of record. Instead, the adoption path is to fit graphene into open calls for **advanced microelectronics, RF hardware, sensing, photonics, packaging, cryogenic/quantum-adjacent devices, or space payload components**. [1][2][3][4][5][6]

The practical implication: do **not** market “graphene” by itself. Market a mission result the IC already buys openly: lower-loss RF front ends, higher-sensitivity detector interfaces, lighter space thermal spreaders, conformal sensing surfaces, or higher-performance secure microelectronics packaging. [1][4][5][6]

What parts of the IC matter most

1) IARPA

Why it matters: IARPA is the IC’s clearest public early-stage R&D sponsor. Its mission is high-risk, high-payoff research for future intelligence capabilities, and it openly solicits performers through BAAs, program solicitations, and proposers’ days. [1][7]

Relevance to CVD graphene: strong fit for: - RF and THz devices - advanced sensor materials - photonics/optoelectronics - low-noise or cryogenic interfaces - advanced compute hardware and packaging - specialty detectors and interconnects [1][7]

Current public status: - IARPA open acquisition/research channel: **active**.^[1] - Graphene-specific named program: **not found** in reviewed public materials.^{[1][7]} - Adjacent enabling-hardware opportunities: **active as a category**, but program-specific.^{[1][7]}

Vehicle: BAA / **program solicitation**.^{[1][7]}

Award size: **solicitation-specific**; no single standing ceiling published on the general Work With Us page.^[1]

Contact: standing graphene PM **not published**; use the POC in the active solicitation.^{[1][7]}

2) NSA

Why it matters: NSA's mission relies on advanced RF, microelectronics, secure hardware, and high-performance compute. Public NSA business pages show participation in small-business and research partnership mechanisms.^{[3][8][9]}

Relevance to CVD graphene: fit is strongest where graphene improves: - RF performance and frequency agility - detector/readout layers - thermal management for dense electronics - specialty interconnects or secure packaging - quantum/cryogenic-adjacent hardware support^{[3][8][9]}

Current public status: - NSA small-business/research channels: **active**.^{[8][9]} - Graphene-specific topic: **not found** in reviewed sources. - Adjacent topics: possible via current SBIR or research postings.^{[8][9]}

Vehicle: SBIR/STTR when posted; other research engagement as announced.^{[8][9]}

Award size: generally follows **federal SBIR topic structure**; exact ceilings depend on the current solicitation/policy version.^[9]

Contact: graphene-specific PM/POC **not published** in reviewed sources.^{[3][8]}

3) NGA

Why it matters: NGA's GEOINT mission creates demand for better ISR-related sensing and exploitation hardware. Public NGA pages maintain an active "doing business" interface.^[4]

Relevance to CVD graphene: most plausible for: - detector interface materials - lightweight conformal sensing hardware - RF/antenna materials - thermal spreading in airborne/spaceborne ISR electronics^[4]

Current public status: - Public business/innovation channel: **active**.^[4] - Graphene-specific topic: **not found**.

Vehicle: business portal and open solicitations as issued.^[4]

Award size: solicitation-specific; **no standing graphene ceiling found**.^[4]

Contact: specific PM/CO for graphene-relevant work **not published** in reviewed sources.^[4]

4) NRO

Why it matters: NRO is the strongest mission adopter for advanced materials in space ISR systems, especially where weight, thermal performance, survivability, radiation resilience, and specialty electronics matter.[5][10]

Relevance to CVD graphene: strong fit for: - lightweight conductive layers - space thermal spreaders - specialty sensor materials - high-frequency electronics - advanced packaging for payload electronics[5][10]

Current public status: - Public business/acquisition-research channel: **active**. [5][10] - Graphene-specific solicitation: **not found**.

Vehicle: public acquisition/research notices and business engagement channels.[5][10]

Award size: solicitation-specific; **no standing graphene value published**. [5][10]

Contact: graphene-specific PM/CO **not published** in reviewed sources.[5][10]

5) CIA

Why it matters: CIA maintains a public contracting channel, but its open technical detail is comparatively limited.[2]

Relevance to CVD graphene: plausible for specialty technical systems, small-form-factor sensors, and hardened electronics, but this is less visible publicly than IARPA or NSA.[2]

Current public status: - Public contracting channel: **active**. [2] - Graphene-specific BAA/SBIR/topic: **not found**. [2]

Vehicle: standard procurement / vendor engagement.[2]

Award size: **not publicly identified** in reviewed sources.[2]

Contact: graphene-relevant PM or contracting POC **not published** on reviewed page.[2]

6) ODNI S&T / IC research coordination

Why it matters: ODNI coordinates across the IC and helps identify technical priorities, but reviewed public pages do not show a strong direct open-contracting path for CVD graphene.[6]

Relevance to CVD graphene: strongest as a cross-IC sponsor or transition influence rather than as a visible direct buyer.[6]

Current public status: - S&T/research role: **active**. [6] - Graphene-specific direct funding channel: **not found**. [6]

Vehicle: likely indirect, through IARPA or component agencies.[6]

Contact: **not published** for graphene-specific engagement.[6]

Recommendation matrix

Office	Best fit for CVD graphene	Current visible vehicle status	Readiness for outreach	Published contact status	Recommendation
IARPA	Enabling material for sensing, RF, photonics, compute hardware	Active BAAs/solicitations[1][7]	High	Solicitation-specific only	Highest-priority target
NSA	Secure hardware, RF, thermal, specialty microelectronics	Active SBIR/research channels[3][8][9]	High if topic match appears	Not published	Monitor topics; prepare fast response
NRO	Space payload electronics, thermal, lightweight conductive materials	Active business/research channel[5][10]	Medium-High	Not published	Position around space mission hardware gains
NGA	GEOINT sensor materials and ISR electronics	Active business channel[4]	Medium	Not published	Target sensing/detector applications
CIA	Specialty technical systems	Public contracting channel active[2]	Medium-Low	Not published	Use only with strong mission-specific pull
ODNI S&T	Cross-IC influence and coordination	Active coordinating role[6]	Low as direct contract path	Not published	Treat as signaling layer, not primary buyer

Engagement advice for a developing company

Near-term strategy

1. **Build an IARPA-ready concept paper deck** framed around a mission effect, not around material novelty alone.[1][7]
2. **Map the product to NSA SBIR language** in RF, secure hardware, advanced packaging, or detector interfaces; be ready to pivot into a topic as soon as one opens.[8][9]
3. **Create separate NRO and NGA versions** emphasizing either space thermal/RF performance or ISR sensing performance.[4][5][10]

Messaging that is likely to work

Use language such as: - lower-loss/high-frequency device layer - ultra-light thermal spreader for space electronics - conformal conductive/sensing surface - advanced detector/readout interface material - secure microelectronics packaging and interconnect enabler

Avoid leading with: - “graphene platform company” - commodity coating language - broad claims without mission hardware metrics

Readiness by TRL

- **TRL 2-4:** IARPA is the best fit.[1][7]
- **TRL 3-6:** NSA SBIR is the best public small-business route if a topic aligns.[8][9]
- **TRL 5-7:** NRO or NGA mission-hardware opportunities become more credible if you can show environmental data, packaging maturity, and subsystem integration.[4][5][10]

Published contacts

Across the reviewed public IC sources, **graphene-specific program managers or contracting officers were generally not published**. The most reliable rule is to use the **solicitation-specific POC** when a live BAA, SBIR topic, or notice appears.[1][2][4][5][7][8][10]

Sources

[1] IARPA, “Work With Us,” <https://www.iarpa.gov/work-with-us>

[2] CIA, “Contracting / Work with CIA,” <https://www.cia.gov/launchpad/work-with-cia/contracting/>

[3] NSA, “Centers of Excellence,” <https://www.nsa.gov/Business/Programs/Centers-of-Excellence/>

[4] NGA, “Doing Business with NGA,” https://www.nga.mil/resources/Doing_Business_with_NGA.html

[5] NRO, “Acquisition Research Center,” <https://www.nro.gov/Business-Innovation/Acquisition-Research-Center/>

[6] ODNI public research/S&T page, <https://www.odni.gov/index.php/who-we-are/organizations/ic-cao/ic-cao-related-menus/research>

[7] IARPA opportunities/acquisition guidance via Work With Us, <https://www.iarpa.gov/work-with-us>

[8] NSA small business program pages, <https://www.nsa.gov/Business/Programs/Small-Business-Programs/>

[9] SBIR.gov agency/topic portal, <https://www.sbir.gov/>

[10] NRO Business and Innovation pages, <https://www.nro.gov/Business-Innovation/>

NASA funding memo: CVD graphene

Bottom line

For a company developing **CVD graphene**, the best NASA entry point is usually **Space Technology Mission Directorate (STMD) → NASA SBIR/STTR Program Office**, because NASA publicly and repeatedly uses that channel for early-stage technologies in advanced materials, thermal control, sensors, electronics, structures, and related subsystem hardware.[1][2] By contrast, **Science Mission Directorate (SMD)** can fund graphene when it is embedded in a science instrument concept through **ROSES**, while **Exploration Systems Development Mission Directorate (ESDMD)**, **Aeronautics Research Mission Directorate (ARMD)**, and **Space Operations Mission Directorate (SOMD)** are more often downstream adopters or mission customers than the first source of basic material maturation funding.[3][4][5][6]

Recommendation matrix

Office	Why it matters for CVD graphene	Likely vehicle	Readiness fit	Similar-work status	Published contact
STMD → NASA SBIR/STTR Program Office	Best fit for crosscutting space hardware enabled by graphene: thermal spreaders, EMI shielding, flexible sensors, transparent heaters, multifunctional composites, conductors[1][2]	SBIR/STTR Phase I / II / III [2]	TRL 2-5 entering; TRL 4-6 for stronger Phase II case	Active by annual cycle; current and archived solicitations available[2]	agency-sbir@mail.nasa.gov; center contacts also published[7]
STMD → Solicitations and Prizes	Useful when NASA issues a challenge or technology maturation call tied to infusion[1][8]	Prizes, collaboration opportunities, other STMD solicitations [8]	TRL varies by call	Active portal; graphene-specific open call not found in reviewed sources [8]	Solicitation-specific; otherwise not published
SMD →	Fit only if graphene is part of	Grants/coop	Usually	Active	Program-

Office	Why it matters for CVD graphene	Likely vehicle	Readiness fit	Similar-work status	Published contact
ROSES	a detector, membrane, coating, or science-payload subsystem[3]	enerative agreements through NSPIRES/ROSES[3]	higher scientific-use specificity required	by annual cycle; no standing graphene line found[3]	officer contacts are appendix-specific; overview-level graphene POC not published
ARMD	Potential user for de-icing, sensing, lightweight conductivity, EMI/lightning, electrified aircraft packaging[5]	Usually SBIR/STTR first; some NRAs	TRL 3-6	Directorate-level graphene call not found	Not published outside solicitations
ESDMD	Strong long-term customer for lunar surface systems, habitats, power/thermal, multifunctional structures[4]	Usually SBIR/STTR or STMD first, then program infusion	TRL 4-6+ for adoption discussions	Early-stage graphene solicitation not found	Not published
SOMD	Downstream operational user for sensors, thermal control, low-mass electronics packaging[6]	Follow-on procurement / SBIR Phase III / center contract	TRL 5-7+	Graphene-specific solicitation not found	Not published
Langley / Glenn center technical customers	Langley: structures/sensors/aero; Glenn: power/thermal/materials/electronics[9][10]	SBIR/STTR, center procurement if published	TRL 3-6	Relevant customer role visible; center-only graphene BAA not found	Center contacts via NASA SBIR page[7]

What NASA is likely to buy versus what it is unlikely to buy

More likely

NASA is more likely to support **graphene-enabled parts or subsystems** with quantified mission benefit than to fund raw material scale-up alone. Strong NASA-aligned claims include: - lower mass and equal or better thermal conductivity for spacecraft thermal management, - transparent conductive films or heaters for windows, optics, dust mitigation, or anti-icing, - radiation/atomic-oxygen durable coatings for space exposure, - flexible or conformal sensors for structures, crew systems, or vehicles, - EMI shielding and lightweight conductive layers for avionics and electronics packaging.[1][2][4][5][10]

Less likely

NASA is less likely to fund a proposal framed only as “high-quality CVD graphene manufacturing” without a mission subsystem, infusion path, or validated environment-relevant performance. Public NASA solicitations emphasize use-driven technology outcomes, not commodity material production alone.[2][3][8]

Office-by-office assessment

1. STMD → NASA SBIR/STTR Program Office

NASA’s **SBIR/STTR** portal is the clearest recurring mechanism for a graphene company. NASA publishes current and archived solicitations there, along with topics/subtopics and contact information.[2][7] Because STMD is NASA’s mission directorate for transformational space technology, it is the most natural sponsor for graphene when it improves spacecraft or aviation hardware rather than only demonstrating novel materials science.[1]

Status of similar work: active recurring annual solicitation; archived topics show repeated demand for materials, sensors, thermal management, electronics, structures, and power-relevant hardware. Exact graphene wording varies by year; the evidence of demand is the recurring presence of adjacent use cases rather than a permanent “graphene topic.”[2]

Vehicle: SBIR/STTR Phase I and II, with potential follow-on and Phase III transition.[2]

Award sizes: NASA states the exact values in each year’s solicitation; recent NASA SBIR/STTR programs typically place Phase I in the low hundreds of thousands of dollars and Phase II around the high hundreds of thousands to low millions. Verify current ceilings in the live solicitation before quoting them externally.[2]

Public contact: NASA SBIR/STTR Program Management Office, **agency-sbir@mail.nasa.gov**. Center-level contacts are also published on NASA’s official contact page.[7]

Engagement advice: submit only when tied to a NASA mission pull, such as thermal straps for deep-space electronics, lightweight shielding for avionics, or transparent conductive heaters for dust/ice mitigation.

2. STMD → other solicitations and prizes

NASA's STMD maintains an official solicitations/prizes portal.[8] This matters because NASA sometimes uses challenge, collaboration, or non-SBIR technology calls to mature hardware with infusion prospects. For graphene, this is a secondary path because the portal is broad and not consistently materials-specific.

Status of similar work: active portal; no graphene-specific open call identified in the reviewed top-level sources.[8]

Vehicle: prizes, collaboration announcements, call-specific agreements.[8]

Engagement advice: monitor, but do not build the go-to-market plan around this path unless a specific call appears.

3. SMD → ROSES

NASA SMD's **ROSES** omnibus solicitation funds science and instrument technology through NSPIRES.[3] This is relevant if the company can show that CVD graphene is essential to a detector interface, membrane, transparent electrode, cryogenic conductor, or similar science payload function.

Status of similar work: active annual omnibus; no standing graphene-specific program element identified from the overview page.[3]

Vehicle: grant or cooperative agreement through the applicable appendix.[3]

Engagement advice: pursue only with a science instrument champion or academic/mission partner. This is not the easiest first route for a standalone materials startup.

4. ARMD

ARMD is strategically relevant because graphene can help with advanced aerostructures, sensing, anti-icing/de-icing, conductivity, and electrified aircraft systems.[5] But public ARMD-wide materials calls are less standardized than NASA SBIR.

Status of similar work: no directorate-level graphene solicitation identified in reviewed sources; most realistic path is through NASA SBIR topics that support aeronautics applications.[2][5]

Vehicle: SBIR/STTR first, then possible follow-on via center/program customers.

Engagement advice: claim testable aviation metrics, such as erosion resistance, conductivity retention, anti-icing heat flux, or structural health monitoring sensitivity.

5. ESDMD

ESDMD is important as a future adopter because lunar and deep-space systems value multifunctional, lightweight, robust materials.[4] But public evidence points to ESDMD more as a downstream user than as the first solicitation source for graphene material development.

Status: no public ESDMD-specific early-stage graphene funding line found in reviewed sources.[4]

Vehicle: indirect—mature through STMD/SBIR first.

Engagement advice: once prototype data exists, map it to lunar surface power/thermal systems, habitat materials, logistics packaging, or EVA-related component needs.

6. SOMD

SOMD is a practical adopter only after risk reduction, especially for communications, avionics packaging, or durable sensing hardware.[6]

Status: no public graphene-specific development call identified.[6]

Vehicle: likely follow-on procurement or Phase III-style adoption after NASA technical validation.

Engagement advice: not a first-call office for outreach.

Published contacts

Contact	Title	Office	Email	Phone	Source
NASA SBIR/STTR Program Management Office	Program office	STMD / NASA SBIR/STTR	agency-sbir@mail.nasa.gov	not published	https://sbir.nasa.gov/contact-us [7]
Center-specific SBIR/STTR representatives	Center representatives	Relevant NASA centers	listed on official contact page	varies if listed	https://sbir.nasa.gov/contact-us [7]
Topic manager for a specific graphene-relevant subtopic	not published unless shown in solicitation	NASA SBIR/STTR	not published	not published	NASA solicitation-specific topics[2]
ROSES appendix program	appendix-specific	SMD / ROSES	appendix-specific	appendix-	ROSES appendix notices[3]

Contact	Title	Office	Email	Phone	Source
officer				specific	

Next-step engagement advice

1. **Pick one NASA use case, not ten.** Best opening use cases are often thermal management, transparent heating, EMI shielding, or structural sensing because NASA already buys adjacent performance through SBIR topics.[2]
2. **Draft to NASA's environment, not the commercial market.** Include vacuum compatibility, radiation tolerance, atomic oxygen resistance, cryogenic cycling, outgassing, contamination control, and reliability as applicable.
3. **Anchor to the right NASA customer.**
 - **Glenn** if the value is thermal, power, electronics, or materials behavior under extreme environments.[10]
 - **Langley** if the value is structures, composites, aero sensors, or multifunctional skins.[9]
4. **Use SBIR/STTR as the front door.** NASA already publishes this process, schedules, and contact channels.[2][7]
5. **Treat ROSES as a partner-driven opportunity.** Enter only with a credible science instrument use case and likely mission user.[3]
6. **Watch STMD solicitations and prizes** for special calls, but assume they are opportunistic rather than the baseline commercialization path.[8]

Source references

- [1] NASA, Space Technology Mission Directorate:
<https://www.nasa.gov/directorates/stmd/>
- [2] NASA SBIR/STTR, Solicitations: <https://sbir.nasa.gov/solicitations>
- [3] NASA SMD, ROSES / grant solicitations:
<https://science.nasa.gov/researchers/sara/grant-solicitations/roses-2/>
- [4] NASA, Exploration Systems Development Mission Directorate:
<https://www.nasa.gov/directorates/esdmd/>
- [5] NASA, Aeronautics Research Mission Directorate: <https://www.nasa.gov/aeronautics/>
- [6] NASA, Space Operations Mission Directorate:
<https://www.nasa.gov/directorates/space-operations/>
- [7] NASA SBIR/STTR, Contact Us: <https://sbir.nasa.gov/contact-us>
- [8] NASA STMD, Solicitations and Prizes:
<https://www.nasa.gov/directorates/stmd/solicitations-and-pricing/>
- [9] NASA Langley Research Center: <https://www.nasa.gov/langley/>
- [10] NASA Glenn Research Center: <https://www.nasa.gov/glenn/>

NSF Funding Memo for CVD Graphene

Research in progress. I encountered a browser-session tooling issue that prevented access to the official NSF pages and related government sources needed to verify directorates, divisions, award vehicles, current solicitations, and published contacts.

To avoid unsupported statements, this memo is not yet completed.

Government funding memo: Small Business Administration (SBA) and CVD graphene

Executive takeaway

For **CVD graphene**, the U.S. Small Business Administration (SBA) is **not the technical buyer** and should not be treated as the performer of R&D. SBA's role is to **administer and coordinate SBIR/STTR policy and infrastructure across participating agencies** through **SBIR.gov** and the **Office of Investment and Innovation (OII)**.¹²³ A company developing CVD graphene should use SBA's system to reach the **participating agencies that actually fund advanced-materials work**, especially **DoD, DOE, NSF, NASA, and application-dependent HHS/NIH**.⁴⁵

SBA itself publicly states that it generally **does not provide grants for starting or expanding a business**; firms seeking federal innovation support are directed instead toward **SBIR/STTR**.⁶ That makes the central diligence conclusion straightforward: **inside SBA, the adoption pathway is coordination, not procurement**.

¹ SBIR.gov, "About SBIR and STTR," <https://www.sbir.gov/about>

² U.S. Small Business Administration, SBIR/STTR resources page, <https://www.sba.gov/offices/headquarters/ovbd/resources/1499731>

³ SBIR.gov, "Policy & Guidance," <https://www.sbir.gov/policy-and-guidance>

⁴ SBIR.gov, "About SBIR and STTR," <https://www.sbir.gov/about>

⁵ SBIR.gov, "Topics," <https://www.sbir.gov/topics>

⁶ U.S. Small Business Administration, "Grants," <https://www.sba.gov/funding-programs/grants>

What SBA would do with CVD graphene

Parent organization: U.S. Small Business Administration

Mission fit: SBA matters because it sets and administers the government-wide small-business innovation framework under SBIR/STTR. If a graphene company is looking for early-stage federal R&D support, SBA is the policy gateway and topic-discovery gateway, not the end customer.⁷⁸

Direct CVD-graphene funding status: Not found. No official SBA materials program, graphene BAA, OTA, prize, or technology-development contract specific to CVD graphene was found in reviewed SBA official sources.⁹¹⁰

Vehicle: None directly for graphene. SBA points firms to agency SBIR/STTR opportunities.¹¹¹²

How to engage: Use SBIR.gov and agency-specific solicitations.¹³¹⁴

Contact: Technology-specific sponsor at SBA parent level: **not published.**

Relevant office: Office of Investment and Innovation (OII)

Mission fit: SBA's OII houses the SBIR/STTR-related function and operates program resources used by applicants and participating agencies.¹⁵¹⁶

⁷ SBIR.gov, "About SBIR and STTR," <https://www.sbir.gov/about>

⁸ SBIR.gov, "Policy & Guidance," <https://www.sbir.gov/policy-and-guidance>

⁹ U.S. Small Business Administration, SBIR/STTR resources page, <https://www.sba.gov/offices/headquarters/ovbd/resources/1499731>

¹⁰ U.S. Small Business Administration, "Grants," <https://www.sba.gov/funding-programs/grants>

¹¹ SBIR.gov, "About SBIR and STTR," <https://www.sbir.gov/about>

¹² U.S. Small Business Administration, "Grants," <https://www.sba.gov/funding-programs/grants>

¹³ SBIR.gov, "About SBIR and STTR," <https://www.sbir.gov/about>

¹⁴ SBIR.gov, "Topics," <https://www.sbir.gov/topics>

¹⁵ U.S. Small Business Administration, SBIR/STTR resources page, <https://www.sba.gov/offices/headquarters/ovbd/resources/1499731>

¹⁶ U.S. Small Business Administration, Office of Investment and Innovation, <https://www.sba.gov/offices/headquarters/ovbd>

Current status: Active as program coordination and policy infrastructure, not as a graphene sponsor.¹⁷¹⁸

Vehicle / size: No direct OII award vehicle for graphene. OII supports access to SBIR/STTR mechanisms whose terms are implemented by the participating agencies.¹⁹²⁰

Contact: CVD-graphene program manager: **not published**.

Engagement: Use OII/SBIR.gov materials for eligibility, timeline, and agency navigation, then move immediately to the technical agency.²¹²²

Relevant office/function: SBA SBIR/STTR coordination via SBIR.gov

Mission fit: SBA “coordinates the SBIR/STTR programs across the 11 participating agencies” and provides common policy guidance and a common portal.²³

Current status: Active. Topics and agency links are live on SBIR.gov.²⁴²⁵

Vehicle / size: No standalone SBA topic ceiling. SBA policy directives govern structure; actual topic amounts and limits are set in agency solicitations.²⁶

Contact: Technology-specific contact: **not published**. Technical topic contacts are published by the issuing agencies.²⁷

¹⁷ U.S. Small Business Administration, SBIR/STTR resources page, <https://www.sba.gov/offices/headquarters/ovbd/resources/1499731>

¹⁸ U.S. Small Business Administration, Office of Investment and Innovation, <https://www.sba.gov/offices/headquarters/ovbd>

¹⁹ U.S. Small Business Administration, SBIR/STTR resources page, <https://www.sba.gov/offices/headquarters/ovbd/resources/1499731>

²⁰ SBIR.gov, “Policy & Guidance,” <https://www.sbir.gov/policy-and-guidance>

²¹ U.S. Small Business Administration, SBIR/STTR resources page, <https://www.sba.gov/offices/headquarters/ovbd/resources/1499731>

²² SBIR.gov, “Topics,” <https://www.sbir.gov/topics>

²³ SBIR.gov, “About SBIR and STTR,” <https://www.sbir.gov/about>

²⁴ SBIR.gov, “About SBIR and STTR,” <https://www.sbir.gov/about>

²⁵ SBIR.gov, “Topics,” <https://www.sbir.gov/topics>

²⁶ SBIR.gov, “Policy & Guidance,” <https://www.sbir.gov/policy-and-guidance>

²⁷ SBIR.gov, “Topics,” <https://www.sbir.gov/topics>

Engagement: Search by use case and agency mission, not by expecting SBA to issue a graphene topic itself.²⁸

Participating agencies most relevant to CVD graphene

SBA's coordination role matters because it channels companies toward the agencies that actually spend R&D dollars. Based on official agency topic/program pages, the strongest matches for CVD graphene are below.

Recommendation matrix

Office / agency	Why it fits CVD graphene	Vehicle	Status	Readiness for a CVD graphene company	Published contact status
SBA – OII / SBIR-STTR coordination	Policy gateway; topic discovery; no direct R&D sponsorship	SBIR/STTR coordination only	Active	Immediate for navigation, not funding	Technology-specific contact not published
DoD SBIR/STTR components	Sensors, thermal management, coatings, microelectronics, survivability, EMI shielding	SBIR/STTR topics; some BAAs/OTAs outside SBIR by component	Active	Highest if defense-relevant prototype or material integration exists	Topic contacts published per solicitation; no single SBA-side PM ²⁹³⁰
DOE SBIR/STTR	Energy storage, membranes, power electronics, advanced manufacturing, materials science	SBIR/STTR FOAs	Active	Highest for energy/materials platform applications	FOA contacts published ^{31 32}
NSF SBIR/STTR	Broad deep-tech commercialization of advanced materials	NSF SBIR/STTR / Project	Active	Highest for platform technology	Program staff published;

²⁸ SBIR.gov, "Topics," <https://www.sbir.gov/topics>

²⁹ Defense SBIR/STTR Innovation Portal, <https://www.dodsbirsttr.mil/>

³⁰ DoD submission / solicitation guidance pages, <https://www.dodsbirsttr.mil/submissions/>

³¹ DOE SBIR/STTR Programs Office, Funding Opportunities, <https://science.osti.gov/sbir/Funding-Opportunities>

³² DOE SBIR/STTR Programs Office, <https://science.osti.gov/sbir>

Office / agency	Why it fits CVD graphene and manufacturing	Vehicle	Status	Readiness for a CVD graphene company	Published contact status
		Pitch		seeking commercial proof points	graphene-specific PM not published ³³
NASA SBIR/STTR	Lightweight multifunctional materials, thermal control, electronics, space sensors	SBIR/STTR subtopics	Active	High if space or aeronautics use case exists	Subtopic managers published in solicitation ³⁴
HHS/NIH SBIR/STTR	Biosensors, diagnostics, wearables, biomedical interfaces	SBIR/STTR FOAs and omnibus notices	Active	High only for health-care application	Institute contacts published per FOA ³⁵
DHS SBIR	Protective materials, sensing, infrastructure monitoring	SBIR topics	Active	Moderate, application-driven	Published per solicitation ³⁶
EPA SBIR	Environmental sensing, membranes, remediation	SBIR topics	Active	Moderate if environmental use case	Published per solicitation ³⁷
DOT SBIR	Infrastructure sensing and transportation materials	SBIR topics	Active	Moderate if transportation-specific	Published per solicitation ³⁸
USDA SBIR	Agricultural sensors, water, packaging	SBIR topics	Active	Moderate if ag or food	Published per

³³ NSF Seed Fund, <https://seedfund.nsf.gov/>

³⁴ NASA SBIR/STTR Solicitations, <https://sbir.nasa.gov/solicitations>

³⁵ NIH SEED, <https://seed.nih.gov/>

³⁶ DHS SBIR, <https://www.dhs.gov/science-and-technology/sbir>

³⁷ EPA SBIR, <https://www.epa.gov/sbir>

³⁸ DOT SBIR, <https://www.volpe.dot.gov/work-with-us/small-business-innovation-research-sbir-program>

Office / agency	Why it fits CVD graphene	Vehicle	Status	Readiness for a CVD graphene company application	Published contact status solicitation ³⁹
NOAA SBIR	Marine sensing, corrosion/environmental platforms	SBIR topics	Active	Niche	Published per solicitation ⁴⁰

Similar-work status: what is active vs. not found

Inside SBA

- **Direct SBA CVD graphene contract / BAA / OTA / grant: Not found** in reviewed official SBA sources.⁴¹⁴²
- **SBA SBIR/STTR coordination, topic portal, policy guidance: Active.**⁴³⁴⁴⁴⁵⁴⁶

In participating agencies coordinated through SBA

- **DoD SBIR/STTR: Active;** recurring solicitations are posted on the Defense SBIR/STTR Innovation Portal.⁴⁷
- **DOE SBIR/STTR: Active;** funding opportunities are posted by DOE's SBIR/STTR Programs Office.⁴⁸

³⁹ USDA NIFA SBIR Program, <https://www.nifa.usda.gov/grants/programs/small-business-innovation-research-program-phase-i>

⁴⁰ NOAA SBIR Program, <https://www.noaa.gov/work-with-us/small-business-innovation-research-program>

⁴¹ U.S. Small Business Administration, SBIR/STTR resources page, <https://www.sba.gov/offices/headquarters/ovbd/resources/1499731>

⁴² U.S. Small Business Administration, "Grants," <https://www.sba.gov/funding-programs/grants>

⁴³ SBIR.gov, "About SBIR and STTR," <https://www.sbir.gov/about>

⁴⁴ U.S. Small Business Administration, SBIR/STTR resources page, <https://www.sba.gov/offices/headquarters/ovbd/resources/1499731>

⁴⁵ SBIR.gov, "Policy & Guidance," <https://www.sbir.gov/policy-and-guidance>

⁴⁶ SBIR.gov, "Topics," <https://www.sbir.gov/topics>

⁴⁷ Defense SBIR/STTR Innovation Portal, <https://www.dodsbirsttr.mil/>

- **NSF SBIR/STTR: Active;** NSF Seed Fund accepts Project Pitches and applications under current program rules.⁴⁹
- **NASA SBIR/STTR: Active;** annual solicitations and subtopics are published by NASA.⁵⁰
- **NIH/HHS SBIR/STTR: Active;** NIH SEED and institute FOAs remain live.⁵¹

Typical vehicles and award sizes

Because SBA is not the awarding office, the important diligence point is that **award sizes are agency-specific even under SBA's common SBIR/STTR framework.**⁵²

SBA-level rule framework

SBA publishes the policy structure for Phase I, Phase II, and Phase III through SBIR/STTR policy guidance, but agencies may publish current ceilings, hard caps, or waivers in each solicitation.⁵³

Practical vehicle guidance by agency

- **DoD:** SBIR/STTR topics through DSIP; often best for application-specific graphene insertions into defense systems. Award sizes are stated in current component solicitations.⁵⁴⁵⁵
- **DOE:** SBIR/STTR FOAs with published Phase I and II amounts on DOE program pages.⁵⁶⁵⁷

⁴⁸ DOE SBIR/STTR Programs Office, Funding Opportunities, <https://science.osti.gov/sbir/Funding-Opportunities>

⁴⁹ NSF Seed Fund, <https://seedfund.nsf.gov/>

⁵⁰ NASA SBIR/STTR Solicitations, <https://sbir.nasa.gov/solicitations>

⁵¹ NIH SEED, <https://seed.nih.gov/>

⁵² SBIR.gov, "Policy & Guidance," <https://www.sbir.gov/policy-and-guidance>

⁵³ SBIR.gov, "Policy & Guidance," <https://www.sbir.gov/policy-and-guidance>

⁵⁴ Defense SBIR/STTR Innovation Portal, <https://www.dodsbirsttr.mil/>

⁵⁵ DoD submission / solicitation guidance pages, <https://www.dodsbirsttr.mil/submissions/>

⁵⁶ DOE SBIR/STTR Programs Office, Funding Opportunities, <https://science.osti.gov/sbir/Funding-Opportunities>

⁵⁷ DOE SBIR/STTR Programs Office, <https://science.osti.gov/sbir>

- **NSF:** Project Pitch followed by Phase I/II process; current amounts published by NSF Seed Fund.⁵⁸
- **NASA:** Annual subtopic-based SBIR/STTR with published award structure in solicitation documents.⁵⁹
- **NIH/HHS:** Institute-specific FOAs and omnibus deadlines with award details published in FOAs.⁶⁰

Published contacts

The user requested named program managers or contracting contacts when published. For SBA itself, a **CVD-graphene-specific** PM or contracting contact was **not published** in the reviewed official pages.

SBA contacts

- **CVD graphene sponsor within SBA:** not published
- **Email:** not published
- **Phone:** not published
- **Source URLs:** SBA OII and SBIR.gov pages describing coordination role rather than naming a graphene sponsor.^{61 62 63}

Where named contacts usually do exist

- **DoD:** topic authors / help desk in the live solicitation.⁶⁴
- **DOE:** FOA points of contact in each solicitation.⁶⁵
- **NSF:** program directors and solicitation staff on the NSF Seed Fund site.⁶⁶
- **NASA:** subtopic managers and procurement contacts in the annual solicitation.⁶⁷

⁵⁸ NSF Seed Fund, <https://seedfund.nsf.gov/>

⁵⁹ NASA SBIR/STTR Solicitations, <https://sbir.nasa.gov/solicitations>

⁶⁰ NIH SEED, <https://seed.nih.gov/>

⁶¹ SBIR.gov, "About SBIR and STTR," <https://www.sbir.gov/about>

⁶² U.S. Small Business Administration, SBIR/STTR resources page, <https://www.sba.gov/offices/headquarters/ovbd/resources/1499731>

⁶³ U.S. Small Business Administration, Office of Investment and Innovation, <https://www.sba.gov/offices/headquarters/ovbd>

⁶⁴ Defense SBIR/STTR Innovation Portal, <https://www.dodsbirsttr.mil/>

⁶⁵ DOE SBIR/STTR Programs Office, Funding Opportunities, <https://science.osti.gov/sbir/Funding-Opportunities>

⁶⁶ NSF Seed Fund, <https://seedfund.nsf.gov/>

- **NIH/HHS:** institute program contacts in each FOA or omnibus notice.⁶⁸

Best engagement path for a developing company

1) Do not start with “graphene”; start with the mission use case

SBA coordinates agencies, but the agencies buy outcomes. The pitch should be framed as: - lower-loss RF or sensing films, - high-thermal-conductivity interface layers, - transparent conductive films, - corrosion/EMI barrier coatings, - battery/current-collector performance, - biosensor transduction, not simply “we make CVD graphene.” This increases fit with agency topics.⁶⁹⁷⁰⁷¹⁷²

2) Use SBA’s system to shortlist agencies

Use **SBIR.gov Topics** to identify the participating agencies currently running topics in materials, electronics, energy, sensors, aerospace, or biomedical devices.⁷³

3) Engage only through published channels

SBA itself does not provide the technical topic green light. During agency pre-release windows, ask the **published topic contact** whether a CVD-grown graphene approach is in scope.⁷⁴⁷⁵

4) Match readiness to vehicle

- **TRL 2–4 / platform still forming:** NSF SBIR/STTR or DOE SBIR/STTR.
- **TRL 3–5 / mission prototype in mind:** DoD or NASA SBIR/STTR.
- **Biomedical validation path:** NIH/HHS SBIR/STTR.
- **Environmental or infrastructure niche:** EPA, DHS, DOT, USDA, NOAA as application fit dictates.⁷⁶⁷⁷⁷⁸⁷⁹⁸⁰

⁶⁷ NASA SBIR/STTR Solicitations, <https://sbir.nasa.gov/solicitations>

⁶⁸ NIH SEED, <https://seed.nih.gov/>

⁶⁹ SBIR.gov, “Topics,” <https://www.sbir.gov/topics>

⁷⁰ Defense SBIR/STTR Innovation Portal, <https://www.dodsbirsttr.mil/>

⁷¹ DOE SBIR/STTR Programs Office, Funding Opportunities, <https://science.osti.gov/sbir/Funding-Opportunities>

⁷² NASA SBIR/STTR Solicitations, <https://sbir.nasa.gov/solicitations>

⁷³ SBIR.gov, “Topics,” <https://www.sbir.gov/topics>

⁷⁴ Defense SBIR/STTR Innovation Portal, <https://www.dodsbirsttr.mil/>

⁷⁵ NASA SBIR/STTR Solicitations, <https://sbir.nasa.gov/solicitations>

5) Plan for post-Phase II transition outside SBA

SBA's policy framework covers Phase III, but the actual transition customer is the participating agency or its procurement ecosystem, not SBA.⁸¹

Bottom-line recommendation

For investors or management, the actionable conclusion is: 1. Treat **SBA as the coordinator**, not the buyer.⁸²⁸³ 2. Use SBA's SBIR/STTR framework to target **DoD, DOE, NSF, NASA, and NIH/HHS if biomedical**.⁸⁴⁸⁵ 3. Build proposals around a **specific mission insertion** for CVD graphene. 4. Expect **technical points of contact to be agency-specific and solicitation-specific**, because SBA does not publish a standing graphene PM.⁸⁶⁸⁷⁸⁸⁸⁹

Sources

⁷⁶ Defense SBIR/STTR Innovation Portal, <https://www.dodsbirsttr.mil/>

⁷⁷ DOE SBIR/STTR Programs Office, Funding Opportunities, <https://science.osti.gov/sbir/Funding-Opportunities>

⁷⁸ NSF Seed Fund, <https://seedfund.nsf.gov/>

⁷⁹ NASA SBIR/STTR Solicitations, <https://sbir.nasa.gov/solicitations>

⁸⁰ NIH SEED, <https://seed.nih.gov/>

⁸¹ SBIR.gov, "Policy & Guidance," <https://www.sbir.gov/policy-and-guidance>

⁸² SBIR.gov, "About SBIR and STTR," <https://www.sbir.gov/about>

⁸³ U.S. Small Business Administration, SBIR/STTR resources page, <https://www.sba.gov/offices/headquarters/ovbd/resources/1499731>

⁸⁴ SBIR.gov, "About SBIR and STTR," <https://www.sbir.gov/about>

⁸⁵ SBIR.gov, "Topics," <https://www.sbir.gov/topics>

⁸⁶ SBIR.gov, "Topics," <https://www.sbir.gov/topics>

⁸⁷ Defense SBIR/STTR Innovation Portal, <https://www.dodsbirsttr.mil/>

⁸⁸ DOE SBIR/STTR Programs Office, Funding Opportunities, <https://science.osti.gov/sbir/Funding-Opportunities>

⁸⁹ NASA SBIR/STTR Solicitations, <https://sbir.nasa.gov/solicitations>