

# The Army FUZE xTech Program – xTech|Inversion Competition Announcement

## I. Background and Purpose

The U.S. Army is seeking information from eligible small businesses across the U.S. to identify and advance commercialization pathways for a curated portfolio of high-potential Army Intellectual Property (IP) sets through the xTech|Inversion competition. This platform offers participants the opportunity to engage with the Department of War (DoW), earn prize money and submit a Phase I Army Small Business Innovation Research (SBIR) proposal.

The Assistant Secretary of the Army for Acquisition, Logistics and Technology (ASA(ALT)) is partnering with the Office of the Deputy Under Secretary of the Army (DUSA) to deliver the xTech|Inversion competition. The Army recognizes that the DoW must enhance engagements with U.S. small businesses by (1) understanding the spectrum of world-class technologies being developed commercially that may benefit the DoW; (2) integrating the sector of non-traditional innovators into the DoW Science and Technology (S&T) ecosystem; and (3) providing expertise and feedback to accelerate, mature, transition, and scale technologies of interest to the DoW.

The xTech|Inversion competition will consist of three (3) rounds:

- (1) Call for concept white papers;
- (2) Finals pitch event; and
- (3) Opportunity to submit a Phase I Army SBIR proposal.

The competition will award up to \$1,000,000 in cash prizes throughout the competition to selected participants. **Up to 12 finalists will receive a cash prize of \$20,000 each and an opportunity to pitch their innovative technology solutions to a panel of Army and DoW subject matter experts (SMEs) at or around Fed Supernova in August 2026.** The Army intends to select up to five (5) final winners of the competition to receive an additional cash prize of \$152,000 each. Final winners may submit a Phase I Army SBIR proposal worth up to \$300,000. Phase I Army SBIR proposals will be considered under the topics within this request for proposal (RFP) for proof-of-concept demonstrations that are not to exceed six (6) months in duration. Additional details on prize structure can be found in Section VII.

In addition to non-dilutive cash prizes, participants will have the opportunity to engage with Army and DoW representatives through information-sharing and networking opportunities.

Any subsequent Army SBIR opportunity will be conducted separately under 15 U.S.C. § 638 and applicable Army SBIR procedures.

Government organizations are encouraged to consider leveraging these statutory authorities to pursue follow-on awards with companies identified through the xTech competition process. This approach supports rapid technology maturation, accelerates the transition of innovative capabilities to the field, and promotes collaboration with non-traditional and small business performers.

While the DoW authority of this program is 10 U.S.C. § 4025, the xTech|Inversion competition may generate interest by another U.S. Army, DoW or U.S. Government (USG) organization for a funding opportunity outside of this program (e.g., submission of a proposal under a Broad Agency Announcement). The interested organization may contact the participant to provide additional information or ask for a request for proposal in a separate solicitation. Finalists of the prize competition may be invited to submit a separate proposal for further development of their proposed technology solution based on the needs of the Army. The Army may use a contract

## The Army FUZE xTech Program – xTech|Inversion Competition Announcement

mechanism of their choice and will notify the participants accordingly. No license to any U.S. Government-owned IP is granted by virtue of participation in or winning the prize competition.

**All xTech|Inversion competition submissions are treated as privileged information, and contents may be disclosed to employees of the USG, governments of allied nations, designated support contractors at the USG's discretion for the purpose of evaluation, program support, potential inclusion in Army or DoW marketplaces, and potential follow-on opportunities.**

The Army FUZE xTech Program intends to provide feedback from evaluators to participants during each part of the competition. The purpose of providing this feedback is to help accelerate the transition of the technology to an Army end-user by providing insight into the best applications for the technology, suggestions for product improvement for Army use and recommended next steps for development. However, the Government is not required to respond to questions or inquiries regarding this feedback.

### II. Eligibility Requirements

Small, for-profit, independent U.S. businesses. Restrictions exist about (1) the type of firm; (2) its ownership structure; (3) the firm's size in terms of the number of employees; and (4) prior, current, or pending support of similar proposals or awards, as follows:

- (1) Type of Firm: An eligible firm must be organized as a for-profit concern and meet all the other small business requirements in 13 C.F.R. § 121.702. Non-profit entities are not eligible.
- (2) Ownership and Control: A majority (more than 50%) of an eligible firm's equity (e.g., stock) must be directly owned and controlled by one (1) of the following:
  - a. One (1) or more individuals who are citizens or permanent resident aliens of the U.S.;
  - b. Other for-profit small business concerns (SBCs) (each of which is directly owned and controlled by individuals who are citizens or permanent resident aliens of the U.S.);  
or
  - c. A combination of (a) and (b) above.

Note: If an employee stock ownership plan owns all or part of the concern, each stock trustee and plan member is considered an owner. If a trust owns all or part of the concern, each trustee and trust beneficiary is considered an owner.

- (3) Size: An eligible firm, together with the affiliates, must not have more than 500 employees.
- (4) Prior, Current, or Pending Support with Similar Technology: Proposals submitted in response to this prize competition must not be substantially the same as another proposal that was funded, is now being funded, or is pending contract award with another federal agency or for any non-funded agreements. **Small businesses with any question(s) concerning prior, current, or pending support of similar proposals or awards must disclose those as early as possible to the Army FUZE xTech Program Office.**

# The Army FUZE xTech Program – xTech|Inversion Competition Announcement

## III. Topics and Problem Statement

The U.S. Army is interested in cutting-edge technology solutions that will drive significant advancements in military capabilities while addressing complex challenges and enhancing national security. The Army faces challenges in rapidly transitioning government-funded scientific breakthroughs into scalable, real-world solutions that address both military and commercial needs. Traditional pathways often limit access to innovative IP and slow the pace of technology adoption. There is a critical need to foster stronger partnerships with non-traditional defense contractors, enabling them to leverage Army-developed IP for dual-use applications—such as autonomous water purification and advanced predictive maintenance sensors. By bridging the gap between foundational research and market-driven innovation, the Army seeks to accelerate the development and deployment of technologies that address complex tactical challenges while also achieving commercial viability.

This competition will be used to competitively down-select up to five (5) winners who can submit a Phase I Army SBIR proposal under Army SBIR Topic “ARM26BX03-NP006” for a potential Phase I award of up to \$300,000. By partnering with the Army SBIR|STTR Program, technologies that are determined to have the highest potential impact on the Army will be selected as finalists and provided a structured pathway to continue developing those solutions for Army systems alongside Army customers. xTech|Inversion encourages submissions from small businesses who may not be familiar with Army challenges but can clearly articulate and demonstrate their technologies competitive advantage, viability, and commercial potential.

The competition seeks white papers for research and development efforts to ***prove the feasibility and commercialization potential of technology solutions*** that fit within one (1) of the following IP sets:

- [IP Set 1: Fibers Loaded With a Zirconium \(IV\) Hydroxide to Capture/Degrade Toxic Chemicals](#)
- [IP Set 2: MXene Catalyst for Chemical Detox](#)
- [IP Set 3: Hazardous Chemical Detoxification Using MOF Beads](#)
- [IP Set 4: Advanced Sealing Interface Surveillance Technology](#)
- [IP Set 5: Spatial Calibration for Accurate Long-Distance Measurement Using Infrared Cameras](#)
- [IP Set 6: Precise Wide Area Ionosphere Correction Solution for Multi-Spectrum Alternative Sources of Space-Based PNT Signals](#)
- [IP Set 7: Pleated Filtration Apparatus Having a Filter Membrane](#)
- [IP Set 8: Non-Contact Power Meter Independent of Placement of Field Sensors Around the Cable](#)
- [IP Set 9: Production of High Energy-Dense Liquid Hydrocarbon From Low Energy-Dense Aqueous Solutions of Oxygen Containing Organic Compound\(s\)](#)
- [IP Set 10: Deformable Array of Semiconductor Devices](#)
- [IP Set 11: Dual Coil Inductive Energy Generator](#)
- [IP Set 12: Voltage Step-Up Converter Circuits for Low Input Voltages](#)
- [IP Set 13: Autonomous UV and Brush Apparatus for Well Fouling Prevention \(Wellbot\)](#)
- [IP Set 14: Photocatalytic Water Treatment](#)
- [IP Set 15: High-Performance Cold Mix Asphalt System](#)
- [IP Set 16: Rapidly Deployable Over Decking Systems](#)

IP set objectives can be found in [Appendix A](#) of this solicitation.

# The Army FUZE xTech Program – xTech|Inversion Competition Announcement

## IV. Program Submission

The xTech|Inversion competition is voluntary and open to all entities that meet eligibility requirements listed in Section II (Eligibility Requirements). **Only one (1) submission per IP set, per eligible entity is permitted; if submitting an application to more than one (1) IP set, the technology solution must be different.**

The registration information and submission upload must be received by **5:00 PM ET on June 30, 2026**. Submissions received after the deadline will not be considered.

Register by selecting the xTech|Inversion competition image at:

<https://www.xtech.army.mil/>

## V. xTech|Inversion Competition Structure

### **Part 1: Concept White Paper**

All eligible entities shall submit a concept white paper of **up to five (5) pages** outlining their technical concept, innovation, commercial viability, market potential, team, execution plan, and Army alignment. Each concept white paper will be reviewed by DoW experts across the S&T ecosystem including Warfighter, acquisition, and research and development SMEs.

All concept white papers must adhere to the following requirements:

- Concept white papers **must be submitted using the template found on the [Valid Eval registration page](#)**, "Template\_xTech\_Inversion\_White\_Paper.docx". ***Any proposals submitted in a format other than the template provided will not be reviewed.***
- List your company name and proposal title **EXACTLY** how you would like them to appear in any contest marketing materials. Use a clear and concise proposal title to give readers and potential stakeholders an understanding of how your technology would benefit the Army.

Evaluators will review and score concept white papers using the following scoring criteria (further details on each scoring dimension can be found on the xTech|Inversion competition website registration page):

<b>Criterion</b>	<b>Weight</b>
Technical Concept & Innovation	34%
Commercial Viability & Market Potential	39%
Team, Execution, & Army Alignment	24%
Proposal Quality	3%

Upon conclusion of the concept white paper evaluation period, the Army FUZE xTech Program will select **up to 12 applicants to receive a prize of \$20,000 each** and advance to Part 2: Finals.

### **Part 2: Finals**

Selected participants from Part 1 will conduct an in-person pitch of their solution to a panel of Army and DoW SMEs at or around **Fed Supernova in Austin, Texas between August 18-20, 2026**. The Army FUZE xTech Program will provide additional instructions and the detailed

## The Army FUZE xTech Program – xTech|Inversion Competition Announcement

evaluation criteria at a later date. **Event details, location, and dates are subject to change.**

Upon conclusion of the in-person finals, the Army FUZE xTech Program intends to select **up to five (5) final winners of the competition to receive an additional cash prize of \$152,000 each** and may submit a Phase I Army SBIR proposal worth up to \$300,000.

### **Phase I Army SBIR Proposal**

The Army SBIR Program will issue a separate announcement with detailed instructions to submit the Army SBIR proposal materials.

Final winners selected from the xTech|Inversion competition will be the **only firms eligible** to submit a Phase I Army SBIR proposal under this topic and will receive detailed instructions upon selection. All other submissions will be ineligible.

Final winners will have the opportunity to submit a Phase I Army SBIR proposal. In accordance with the Phase I Army SBIR requirements, each eligible proposing small business concern shall focus on research or research & development to prove the proposed effort's scientific and technical feasibility, and commercialization potential, the successful completion of which is a prerequisite for further DoW support in Phase II.

Winners will be provided detailed instructions to submit the Army SBIR proposal materials under Army SBIR Topic "ARM26BX03-NP006" for a potential follow-on award of up to a maximum of \$300,000 and a six (6)-month period-of-performance. This topic can be found on the [Defense SBIR|STTR Innovation Portal \(DSIP\)](#) and will remain in pre-release for the duration of the competition. Upon selecting competition winners, the open submission window for Phase I Army SBIR proposals will be made available.

In accordance with the Phase I Army SBIR requirements, each eligible proposing SBC shall focus on research or research & development to prove the proposed effort's scientific and technical feasibility, and commercialization potential, the successful completion of which is a prerequisite for further DoW support in Phase II. A separate Army SBIR announcement will be issued with detailed instructions on how to submit the Army SBIR proposal materials.

Participants that are selected and awarded a Phase I Army SBIR will have an opportunity to submit a Phase II Army SBIR proposal at the conclusion of their Phase I Army SBIR contract. Only firms that were awarded a Phase I Army SBIR under this announcement will be eligible for a Phase II Army SBIR award under this topic. Additional instructions and details will be provided to the eligible firms.

### **VI. Proposed Schedule**

The proposed schedule is outlined below and subject to change without notice.

<b>Date</b>	<b>Activity</b>
June 3-30, 2026	Part 1: Concept white paper submission period
July 28, 2026	Finalists announced
August 18-20, 2026	Part 2: Finals pitch event
August 20, 2026	Final winners announced
September 8-25, 2026	Phase I Army SBIR proposal submission period

# The Army FUZE xTech Program – xTech|Inversion Competition Announcement

## VII. Prizes and Incentives

Prizes will be offered under 10 U.S.C. §4025 (Prize Competitions). The total prize pool is \$1,000,000. The Army SBIR contract awards will be offered under 15 U.S.C. §638 and are separate from the prize competition. Phase I Army SBIR awards will be up to \$300,000 each. The total Army SBIR funding pool is \$1,500,000. Other non-monetary incentives are provided through the xTech|Inversion competition to help small businesses engage with the Army.

Phase	Winners	Prize	Army SBIR Award
<b>Part 1: Concept White Paper</b>	Up to 12	\$20,000 each	N/A
<b>Part 2: Finals Event</b>	Up to 5	\$152,000 each	N/A
<b>Opportunity to Submit an Army Phase I SBIR Proposal</b>	Up to 5	N/A	Up to \$300,000 each
	Total	Up to \$1,000,000	Up to \$1,500,000

## VIII. Disclaimers

Registered participants are required to assume any and all risks and waive claims against the USG and its related entities, except in the case of willful misconduct, for any injury, death, damage, or loss of property, revenue, or profits, whether direct, indirect, or consequential, arising from their participation in this prize competition, whether the injury, death, damage, or loss arises through negligence or otherwise.

## IX. Intellectual Property

The Army is a strong proponent of deliberate IP rights and management by the private sector and the DoW. For the xTech|Inversion competition:

- The Federal Government may not gain an interest in IP developed by a participant without the written consent of the participant;
- Nothing in this xTech|Inversion prize competition shall diminish the government's rights in patents, technical data, technical information, computer software, computer databases, and computer software documentation that the government had prior to this xTech|Inversion prize competition, or is entitled to, under any other government agreement or contract, or is otherwise entitled to under law;
- Any participant or awardee may negotiate a future license for Government-owned inventions involved in the prize competition in accordance with 35 U.S.C. §§ 207-209 and 37 C.F.R. Part 404; and
- The Federal Government may negotiate a license for the use of IP developed by a registered participant in the prize competition.

**Register by selecting the xTech|Inversion competition image at:**

<https://www.xtech.army.mil/>

## X. Point of Contact

The Army FUZE xTech Program Office  
Office of the Deputy Assistant Secretary of the Army, Research and Technology  
Email: [usarmy.xtech@army.mil](mailto:usarmy.xtech@army.mil)  
Website: <https://www.xtech.army.mil/>

**APPENDIX A – Problem Statement Objectives**

**IP Set 1: Fibers Loaded With a Zirconium (IV) Hydroxide to Capture/Degrade Toxic Chemicals**

**Patents:** US11975313, US11648548, US11097261

**Originating Lab:** DEVCOM Chemical Biological Center (CBC)

**IP Set Objective:** To develop and deploy a reactive filtration material integrated into fibers and textiles that can neutralize and degrade chemical warfare agents and other toxic industrial chemicals upon contact.

**IP Set 2: MXene Catalyst for Chemical Detox**

**Patent:** US12132210

**Originating Lab:** DEVCOM Chemical Biological Center (CBC)

**IP Set Objective:** To utilize the unique catalytic properties of MXene materials to create a highly efficient, rapidly deployable solution for the large-scale decontamination of sensitive equipment and personnel exposed to hazardous chemicals.

**IP Set 3: Hazardous Chemical Detoxification Using MOF beads**

**Patents:** US11998785, US11987594

**Originating Lab:** DEVCOM Chemical Biological Center (CBC)

**IP Set Objective:** To engineer Metal-Organic Framework (MOF) materials into a bead format for practical application in capturing and breaking down a wide spectrum of airborne and waterborne chemical threats.

**IP Set 4: Advanced Sealing Interface Surveillance Technology**

**Patent:** US11723441B1

**Originating Lab:** DEVCOM Chemical Biological Center (CBC)

**IP Set Objective:** To provide real-time monitoring and diagnostics of seal integrity in critical mechanical and hydraulic systems, enabling predictive maintenance and preventing catastrophic failures.

## The Army FUZE xTech Program – xTech|Inversion Competition Announcement

### **IP Set 5: Spatial Calibration for Accurate Long-Distance Measurement Using Infrared Cameras**

**Patent:** US12536701

**Originating Lab:** DEVCOM Armaments Center (AC)

**IP Set Objective:** To significantly enhance the accuracy of long-range targeting and surveillance by developing a novel calibration method that corrects for environmental and hardware-induced distortions in infrared imaging systems.

### **IP Set 6: Precise Wide Area Ionosphere Correction Solution for Multi-Spectrum Alternative Sources of Space-Based PNT Signals**

**Patent:** US12618979

**Originating Lab:** DEVCOM Armaments Center (AC)

**IP Set Objective:** To ensure accurate and reliable Position, Navigation, and Timing (PNT) data in GPS-denied or degraded environments by developing a system that corrects for ionospheric distortions affecting alternative PNT signals.

### **IP Set 7: Pleated Filtration Apparatus Having a Filter Membrane**

**Patent:** US11052351

**Originating Lab:** DEVCOM Armaments Center (AC)

**IP Set Objective:** To increase the efficiency and service life of filtration systems by designing an advanced pleated filter apparatus that maximizes surface area and optimizes flow dynamics.

### **IP Set 8: Non-Contact Power Meter Independent of Placement of Field Sensors Around the Cable**

**Patent:** US11566918B2

**Originating Lab:** DEVCOM Army Research Laboratory (ARL)

**IP Set Objective:** To develop a robust and user-friendly power meter that can accurately measure electrical power without requiring precise sensor placement or direct contact, simplifying diagnostics and power management.

**IP Set 9: Production of High Energy-Dense Liquid Hydrocarbon From Low Energy-Dense Aqueous Solutions of Oxygen Containing Organic Compound(s)**

**Patent:** US10913902B2

**Originating Lab:** DEVCOM Army Research Laboratory (ARL)

**IP Set Objective:** To create a novel process for synthesizing energy-dense liquid fuels from readily available, low-energy organic compounds, enabling on-demand fuel production in austere environments.

**IP Set 10: Deformable Array of Semiconductor Devices**

**Patent:** US11923472B2

**Originating Lab:** DEVCOM Army Research Laboratory (ARL)

**IP Set Objective:** To create flexible and conformable electronic systems by developing arrays of semiconductor devices that can bend and stretch without breaking, enabling electronics to be integrated into unconventional form factors.

**IP Set 11: Dual Coil Inductive Energy Generator**

**Patent:** US11421972B2

**Originating Lab:** DEVCOM Army Research Laboratory (ARL)

**IP Set Objective:** To improve the efficiency and power output of inductive energy harvesting systems through an innovative dual-coil design, enabling more effective scavenging of ambient energy.

**IP Set 12: Voltage Step-Up Converter Circuits for Low Input Voltages**

**Patent:** US11342854B1

**Originating Lab:** DEVCOM Army Research Laboratory (ARL)

**IP Set Objective:** To design highly efficient power converter circuits that can operate with very low input voltages, enabling the effective use of low-power energy sources like solar cells, thermoelectric generators, or energy harvesting devices.

**IP Set 13: Autonomous UV and Brush Apparatus for Well Fouling Prevention (Wellbot)**

**Patent:** US12378846B2

**Originating Lab:** Engineer Research and Development Center (ERDC)

**IP Set Objective:** To automate the cleaning and rehabilitation of water wells through a robotic system that uses UV light and brushes to remove and prevent biological and chemical fouling,

## The Army FUZE xTech Program – xTech|Inversion Competition Announcement

maximizing well efficiency and consistency

### **IP Set 14: Photocatalytic Water Treatment**

**Patent:** US11298689

**Originating Lab:** Engineer Research and Development Center (ERDC)

**IP Set Objective:** To develop and transition a solar-driven photocatalytic material into a functional water treatment system that degrades trace organic contaminants (e.g., pharmaceuticals, pesticides, personal-care products) remaining after conventional treatment, enabling low-cost, energy-efficient remediation for military and civilian use by integrating the composition-of-matter material into a prototype device; this effort advances the loose material toward deployable systems and scalable applications without extending beyond validated contaminant classes.

### **IP Set 15: High-Performance Cold Mix Asphalt System**

**Patent:** US-20250092260-A1

**Originating Lab:** Engineer Research and Development Center (ERDC)

**IP Set Objective:** To create a high-performance cold mix asphalt utilizing a reactive binder formulation that allows for the creation of durable pavement repairs and construction at ambient temperatures, eliminating the need for energy-intensive hot-mixing equipment

### **IP Set 16: Rapidly Deployable Over Decking Systems**

**Patent:** US11214932

**Originating Lab:** Engineer Research and Development Center (ERDC)

**IP Set Objective:** To engineer a lightweight, modular, configurable, and rapidly deployable decking system that can be quickly installed without the use of heavy machinery over damaged or uneven surfaces to create stable pathways for heavy vehicles and personnel.