FIRE INNOVATION STRATEGY

2026-2031

A Roadmap for Unlocking and Accelerating the Next Generation of Innovation and FireTech to end the Wildfire Crisis

FireWERX

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As wildfires escalate in scale, frequency, and devastation, we are no longer facing isolated incidents, but a crisis that threatens lives, communities, and ecosystems across the globe. In the wake of the historic 2025 Los Angeles fires, there is now undeniable clarity that the imperative to act has never been more urgent.

At this crossroads stands FireWERX, a collaborative framework designed to accelerate the transition from reactive suppression to proactive resilience through technology. This is not merely a plan; it is a movement to equip those on the front lines with innovative tools to end the wildfire crisis.

From enabling precision early detection to expanding the safe use of beneficial fire, from hardening communities to advancing predictive modeling powered by AI, FireWERX will integrate cutting-edge science, operational insight, and the wisdom of lived experience. What makes it different is not just its scope, but its structure: a systems-level approach to overcoming the fragmented, underfunded, and slow-to-adopt fire technology ecosystem that has kept us in a cycle of disaster.

We are building the connective tissue to de-risk innovation, accelerate pilot-to-scale transitions, and create an international model of cross-sector collaboration that aligns FireTech innovators with end users. Already shaped by lessons from the Defense Innovation Unit (DIU), AFWERX, DARPA, In-Q-Tel and other leading strategies, FireWERX is not starting from scratch; it is standing on the shoulders of proven innovation programs, ready to launch the next generation of FireTech into the hands of those who need it most - our Firefighters.

This strategy is not about incremental change. It's about catalyzing a transformation before the next red sky becomes tomorrow's new normal. With aligned leadership, and a growing coalition of mission-driven partners, FireWERX is ready. The question is not whether we can afford to act. It's whether we can afford not to.

Chris Anthony, Founder & CEO, FireWERX
Former Chief Deputy Director, CAL FIRE

Vision

Accelerate innovation and empower the Firefighter to end catastrophic wildfire impacts.

We are grateful to the vision and support of our funders and those who gave their time and resources to make this strategy possible. *This crisis is solvable. Yet despite the promise of today, we are at risk of missing the opportunity of tomorrow unless we are more deliberate in how we connect the talent of the technologist to the immediate needs of the Firefighter.*

FireWERX ensures we do not miss this moment.

I. The Wildfire Problem

Wildfire is no longer a regional or seasonal threat, it is a year-round global systems crisis that is impacting lives, communities, economies and natural ecosystems. Warming temperatures, longer dry seasons, hazardous vegetation accumulation, aging utility infrastructure and communities at elevated risk combine to produce fires of unprecedented speed, scale, and intensity. These fires quickly overwhelm first responders and firefighters who are struggling to adapt to this changing paradigm and can no longer rely on traditional approaches and outdated technology for success.

The most extreme wildfires on Earth have more than doubled in both frequency and magnitude over the past two decades, and extreme fire is predicted to increase 30 percent by 2050 and 50 percent by 2100. In the United States, "fast fires" are responsible for nearly 80% of all structures lost and over 60% of suppression expenditures - totaling $18.9 billion. In 2023, Canadian wildfires alone scorched nearly 50 million acres and released an estimated 3 billion tons of carbon dioxide, exceeding Canada's annual emissions by more than threefold- spreading smoke as far as Spain and causing cities from Chicago to New York to suffer the worst air quality on the planet.

Wildfire within the United States is no longer limited to traditionally fire-prone areas. In 2024, there were 64,897 wildfires reported, burning 8.92 million acres, a 127% increase above the 10-year average. Over 520,000 resource requests were filled deploying firefighters all over the country. Fires are now impacting communities and landscapes in Hawaii, Washington, Colorado, Alaska, Texas, Florida, California, Oregon, Montana, Wyoming, and North Carolina. Even the Northeastern US is experiencing elevated levels of fire risk, signaling that wildfire is now a national issue that can strike at any time of the year. This paradigm shift has led to direct economic, environmental, humanitarian, and public health impacts, and has strained local, state, and federal response agencies.

The crisis reached a tipping point on January 7, 2025, when two fast-moving fires swept through Los Angeles City, Los Angeles County and the Angeles National Forest. The Palisades and Eaton Fires, driven by wind gusts of over 80 mph, destroyed communities well outside the reach of traditional fires, and forced the evacuation of more than 200,000 people. These fires became the second (Eaton) and third

(Palisades) most destructive in California's history and destroyed over 16,000 structures and claimed 30 lives. Combined, these fires are projected to be one of the most expensive disasters in US history. Unless there is a system-level change, these types of fires will not be our last.

The sheer speed, complexity, and urban impact of recent fires have revealed profound gaps in the nation's wildfire response systems. Many frontline firefighters still rely on outdated tools and analog workflows ill-suited to today's fire environment. As public expectations rise for agencies to better protect lives, communities, and infrastructure, an innovation gap persists. A 2023 report by the President's Council of Advisors on Science and Technology warned that "*too many firefighting technologies have remained in a time warp dating back to the mid-twentieth century*." Wildfire technology often dies in the "valley of death" between a successful pilot and meaningful adoption. Public agencies lack clear frameworks for evaluating, validating, and scaling new tools, and most pilots are isolated, underfunded, or not integrated into operations. Closing this gap and addressing the barriers to scaling innovation is not just a matter of operational efficiency, it is a matter of lives, livelihoods, and long-term resilience.

II. Introduction to the Fire Innovation Strategy

Despite the complexity of wildfire, this problem is solvable. Across the private sector, academia, non-profits, national labs, and frontline fire agencies, the wildfire technology ecosystem is advancing. Innovators are building AI detection systems, satellite constellations, autonomous vehicles and aircraft, predictive risk models, fire-hardened building materials, and powerful new planning and fire modeling tools. What is missing is an integrated strategy to move these solutions from pilot to full-scale implementation in partnership with end users - the Firefighters who would benefit from these innovations the most.

Built in collaboration with public, private, and non-profit partners, including over 80 leaders across a growing ecosystem of innovators, investors, private companies, public agencies, academia, and non-profit organizations, this document outlines the **Fire Innovation Strategy**, a cross-sector initiative designed to accelerate the development, deployment, and adoption of FireTech. This Strategy outlines how FireWERX will serve as the catalytic entity to bridge the gap between innovation and implementation by connecting pilots, capital, policy, research, and end users in one coordinated ecosystem - de-risking emerging technologies, empowering end users, encouraging public-private partnerships, and fast-tracking scalable solutions.

Vision, Outcome and Wildfire Resilience Priorities

FireWERX advances innovation with speed, creativity, and collaboration to break through bureaucratic drag, empower frontline users, and rapidly scale FireTech.

An effective technology roadmap must address all phases of the wildfire lifecycle, creating a layered mitigation, response, and resilience system. The opportunities for accelerating wildfire resilience through technology have been well researched. These four priorities integrate all aspects of the fire life-cycle and represent the most critical leverage points for innovation to reduce catastrophic impacts.

- **Early Detection and Fast Fire Suppression:** Advancing early detection, response and decision support tools to enable faster, more strategic fire response.
- **Community Risk Reduction:** Develop and scale community risk reduction innovations to stabilize property loss.
- **Ecosystem and Landscape Scale Resilience** Meet ecological thresholds by scaling interventions through innovations in remote sensing, modeling, automated treatment planning, and precision deployment tools.
- **Ignition Reduction:** Integrate strategies to reduce ignition risk, stabilize costs, and modernize utility infrastructure.

The **Fire Innovation Strategy** addresses fragmentation and delivers a coordinated, cross-sectoral approach to help catalyze the next generation of FireTech solutions. By accelerating pilot-to-scale pathways and forging mission-aligned coalitions, FireWERX seeks to do in months what could take years.

Fire Innovation Strategy Entities

The Fire Innovation Strategy is driven by a connected ecosystem of organizations and initiatives designed to transform how wildfire technology is developed, tested, and adopted. FireWERX is the coordinating hub that bridges innovators with frontline agencies to accelerate the deployment of solutions from pilot-to-scale. Fire Innovation Units (FIUs) embedded within public agencies serve as the operational homes for technology adoption and long-term institutionalization. Guiding this effort is the FireWERX Advisory Council, which brings together leaders from across sectors to provide strategic guidance, sectoral expertise, and networked influence to advance the mission of FireWERX. Together, these entities connect the Fire Innovation Ecosystem across academia, non-profit organizations, entrepreneurs, investors, and the private sector, into a cohesive network—one capable of turning promising ideas into durable, real-world change across the fire management landscape.

FireWERX: FireWERX is a non-profit that serves as the central hub for coordinating wildfire innovation and driving the outcomes of the Fire Innovation Strategy. It supports the

development of FIUs within public wildfire agencies and forges connections across the broader fire innovation ecosystem through pilot-to-scale pathways. Operating as the strategic engine, FireWERX bridges innovators and agency end users, ensuring that technology adoption is aligned with frontline needs. FireWERX works directly with end users to advance this strategy through FIUs. The success of FireWERX will demonstrate the case for long-term public investment, establishing a durable public agency home for sustained wildfire technology adoption. By accelerating pilot-to-scale transitions and building mission-aligned coalitions, FireWERX aims to achieve in months what might otherwise take years.

Fire Innovation Units (FIUs): These are operational entities housed within public agencies and designed to serve as the lasting home for wildfire technology adoption. FIUs will launch in local, state, federal and international agencies in 2025. Fire agency personnel assigned to the FIUs will collaborate directly with FireWERX to accelerate the deployment of innovative wildfire technologies and practices, identify transformative pathways for scaling, and remove barriers to widespread adoption. FIUs (and related innovation programs across the Fire Service catalyzed by FireWERX) represent an in-kind contribution to this strategy and will lay the groundwork for long-term, legislated programs within public firefighting agencies.

The FireWERX Advisory Council: Comprising leaders from non-profits, public agencies, academia, the private sector, and the innovation community, will provide strategic oversight and broaden support for the Fire Innovation Strategy. In addition to championing the strategy with a wider audience, the Advisory Council will provide strategic guidance, sectoral expertise, and networked influence to advance the mission of FireWERX - accelerating the development, deployment, and scaled adoption of transformative wildfire technologies, supporting policy reform, and strengthening innovation capacity across public fire agencies.

Fire Innovation Ecosystem: Made up of various independent entities from academia, non-profit organizations, entrepreneurs, investors, and the private sector, the fire innovation ecosystem is connected to end user needs and the development of pilot-to-scale pathways through FireWERX in close collaboration with the FIUs.

Pilot-to-Scale Pathways Program and Enablers

As FireWERX's flagship initiative, the Pilot-to-Scale Pathways are structured, science-based programs designed to accelerate technologies from prototype to broad deployment. Developed in partnership with the FIU, these pathways will be anchored in a common measurement and evaluation framework, producing a repeatable playbook for durable FIUs. FireWERX will act as an intermediary, channeling grants and direct funding to advance proven wildfire technologies through each stage of the pathway.

Phases of Pilot-to-Scale Pathways

- **Phase 1:** Align on urgent end-user needs and identify potential solutions. The FIU and FireWERX tap the innovation ecosystem via challenges or calls for proposals to find promising ideas for pressing wildfire problems.

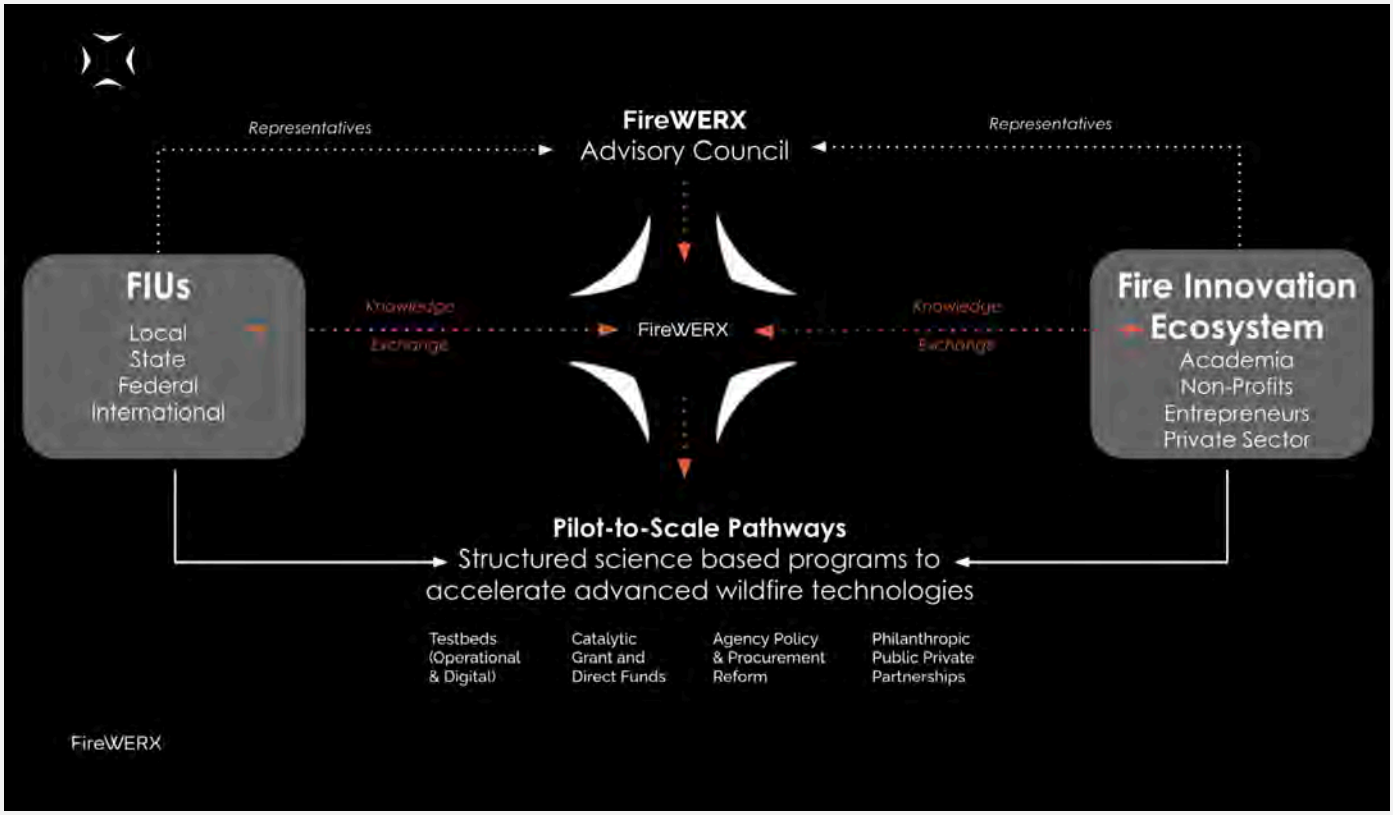
- **Phase 2:** Select the most promising solutions and develop pilot projects to test them in controlled settings. This could include small-scale pilots, simulations, or exercises in non-emergency environments. At this stage, the FIU or FireWERX helps secure funding and expert support to prove the concept on a limited basis.

- **Phase 3:** If a pilot shows clear potential, it moves to more advanced trials in real-world environments alongside end-users. FIU staff put the technology to use in the field along with end-users to validate its performance under operational conditions. These Phase 3 trials double as initial deployments; they often involve data-sharing agreements and pre-planned pathways to expand further if successful. Each pilot comes with a roadmap for next steps and scaling, so there is a clear route from demonstration to widespread adoption.

Dedicated Testbeds: These strategically leveraged real-world environments enable pilot-to-scale pathways. Led by the FIUs, and coordinated through FireWERX, testbeds are used to develop, ground truth, test, train, and drive adoption of selected technologies with end users. The success of the Fire Innovation Strategy in addressing adoption issues hinges on building these testbeds across the wildfire landscape. These testbeds serve as proving grounds for innovations and ultimately connect end users and technologists in the development process. The testbeds will function as a multi-agency partnership (modeled in part after Texas A&M's Bush Combat Development Complex) or exist as a federated ecosystem of testbed locations.

Catalytic Grant and Direct Funds: Technologies that move through pilot-to-scale Pathways are enabled by catalytic funding delivered through FireWERX as the intermediary. The goal of these funds is to de-risk technology adoption and support the development of scalable funding mechanisms to secure sustainable public funding. As the

Fire Innovation Strategy and blended finance mechanisms are proven, the government will have a strategic opportunity to step in and take over sustainable funding.



Philanthropic-Public-Private Partnerships: Pilot-to-scale pathways are enabled by strategic partnerships. At the center of the Fire Innovation Strategy, FireWERX maintains awareness across the Fire Innovation Ecosystem and serves as a hub to facilitate strategic connections with public agencies, including accessing the tools and partners required to deliver different pilot-to-scale Pathways between participating entities and the FIU.

Agency Policy & Procurement Reform: The durability of the Fire Innovation Strategy is enabled by policy and advocacy to drive the required regulatory and legislative environment in direct support of pilot-to-scale pathways, establishment of the FIU, creation of dedicated testbeds and innovation programs, the removal of structural barriers, procurement reform, and institutionalizing innovation within wildfire agencies.

Together, the Fire Innovation Strategy tackles the fragmentation of the wildfire innovation ecosystem by closing the gap between technologists and the frontline firefighters confronting this growing threat. Recognizing that no single organization can solve this challenge alone, the strategy provides a unifying platform for funders and partners to align

around the shared goal of ending destructive wildfire. It builds innovation programs that accelerate adoption of proven technologies by overcoming systemic barriers, engaging key stakeholders, and creating scalable public-private pathways that enable long-term agency integration.

By advancing aligned policy, smarter regulation, modernized procurement, scalable pilots, and robust public-private partnerships, FireWERX can help catalyze the durable, scalable solutions urgently needed.

III. Blended Finance

Responding to Crisis. Accelerating Innovation. Delivering Impact.

The Fire Innovation Strategy is built on the belief that responding to the wildfire crisis is in the public good. A blended finance model that incorporates public, private, and philanthropic capital has a unique and powerful role to play in transforming wildfire management by de-risking innovation, accelerating adoption, and creating the enabling conditions for durable change. Flexible capital can fund early-stage innovation, support culture change, and connect the ecosystem across sectors. Funding entities can support technologies already being built, help develop the platforms and policies that carry them forward, and support the early adopters and leaders who will lead cultural change inside agencies.

Through the Fire Innovation Strategy, funding entities can set the course for a system that delivers the scalable solutions for public good. This strategy is designed to move capital into the spaces that will matter most to drive innovation forward, faster.

IV. Background

Firefighters lack advanced tools because wildfire innovation remains fragmented, underfunded, and without a clear strategy for scaling solutions.

Public expectations are increasing for fire agencies to better prepare and protect communities, yet integration and deployment of technological capabilities are lagging behind other sectors. A key realization is that the needs of our firefighters overlap substantially with those of our service members across every branch of the military. The successful programs that connect the technology of Silicon Valley to that of the Department of War (DoW) simply do not exist across a fragmented network of local, state, and federal fire agencies. It is critical to implement and champion an integrated strategy that ensures firefighters have access to the most advanced fire technologies, along with the enabling conditions and wraparound support needed for its successful deployment. This requires leadership at the highest levels to prioritize innovation, set clear expectations for technology deployment, and establish a robust organizational framework that creates pathways for widespread adoption, fostering an environment where innovation can thrive.

Traditionally, fire agencies have had to develop their own solutions to the challenges they faced. Now, a growing community of technologists, entrepreneurs, and investors are bringing their time, talent, and resources to address the wildfire crisis. This shift has spurred significant cross-sector interest and an influx of private capital, startups, and research teams that are actively developing new tools. However, it has also unintentionally created tension between the fire service's highly independent, self-reliant culture and the technologists who often struggle to connect with end users.

For this pivotal moment not to be missed, the fire service will need to adapt to the rapid increase in innovation, develop partnership models with innovators, and create frameworks to accelerate adoption of technology into everyday processes. FireWERX seeks to defragment this space and ensure we do not miss this moment.

There are a growing number of early-stage innovations that are integrating into agency operations. Early-stage successes now include AI-powered detection cameras, low earth orbit satellites, advanced wildfire and urban fire modeling tools, prescribed fire robotics, community risk reduction software platforms, and autonomous aircraft for initial attack. Predictive analytics and fire modeling are enhancing pre-incident planning, while satellite-based fire mapping and decision-support tools are improving situational awareness during active fires.

Venture capital is also mobilizing. For example, Convective Capital, a venture capital fund focused on wildfire technology, hosts the annual Red Sky Summit which convenes hundreds of innovators, fire chiefs, investors, insurers, utilities, and policymakers to accelerate solutions. Red Sky Summit emphasized that alternative funding models, including philanthropic support for early-stage gaps, are essential to overcome limitations of traditional investment.

Entrepreneurs face a confusing patchwork of local, state, federal, and private agencies where budgets are fragmented, procurement rules are complex, there is no clear pathway to scale, and no consistent evaluation framework to define success. Conversely, public agencies are struggling to understand how they can engage with the innovation community given resource limitations and lack of a clear policy framework that enables meaningful engagement.

V. Emerging Fire Innovation Ecosystem

Wildfire innovation is expanding across sectors but remains fragmented without a unifying framework to scale.

A wildfire innovation ecosystem is emerging, with a growing network of organizations working to accelerate wildfire resilience technologies. At the federal level, efforts are

underway to establish a national wildfire intelligence center, as called for in the Wildfire Intelligence Collaboration and Coordination Act. Additional federal legislation includes the Fix Our Forests Act, which would establish a Public-Private Wildfire Technology Deployment and Demonstration Partnership designed to foster collaboration between federal agencies and non-federal entities to advance wildfire-related technologies. However, without a federal legislative framework on FireTech, coordination will remain a challenge, with agencies like the US Department of Agriculture, the United States Forest Service, Department of the Interior, NASA, US Fire Administration, US Geological Service, National Weather Service, and the National Oceanic and Atmospheric Administration operating independently. Currently, these agencies each tackle pieces of the problem, but no single entity drives a modern, nationwide wildfire intelligence system.

Philanthropy has stepped into this space with increasing ambition. The Earth Fire Alliance's low earth orbit satellite constellation (FireSat) backed by the Moore Foundation, Google.org, and other funders, exemplifies how philanthropic capital can drive pioneering innovation at a rapid pace. The AI Collaborative: Wildfire (AIC:W) sponsored by Google.org is a key initiative, seeking to embed artificial intelligence into fire detection, prediction, and response. In parallel, innovation challenges, such as the XPRIZE Wildfire competition and programs led by Conservation X Labs, are helping to surface and accelerate wildfire technologies from a global pool of inventors, entrepreneurs, and scientists. Just five years ago, these efforts did not exist.

Forums like the Red Sky Summit, are cultivating cross-sector communities focused on scaling FireTech by creating a venue for technologists and end users to come together. To complement these efforts, the Association for FireTech Innovation (AFI) seeks to champion policy reform and increase funding for FireTech development and deployment by aligning entrepreneurs, agencies, and lawmakers in supporting scalable innovation pathways. And non-profit entities, like MegaFire Action, are addressing the historical lack of advocacy for wildfire prevention and pushing for policy change at the federal and state level.

Utility companies have strong incentives to adopt fire mitigation tech, given their liability for ignitions. They are investing in measures like grid sensors, weather stations, and predictive risk models to anticipate and prevent powerline-caused ignitions. Some utilities pilot advanced tools such as drones for powerline inspections. They also partner in financing forest resilience projects that reduce hazardous vegetation capable of carrying a

wildfire at a rapid pace (e.g. Forest Resilience Bonds). Utilities, however, face regulatory constraints and often operate cautiously with new technology that isn't yet proven to regulators.

Academic institutions, such as UC San Diego and Stanford University, are also playing a pivotal role, serving as key drivers of research, technology development, and real-time operational tools. At UC San Diego, the WIFIRE Lab has developed integrated fire science platforms that combine fire modeling, real-time analytics, and decision support systems to operationalize wildfire situational awareness and response. San Diego Gas & Electric (SDG&E) and UC San Diego also collaborate through the WIFIRE Lab to enhance the current and evolving need for utility weather forecasters and wildland fire researchers cross-trained in the areas of data, AI, fire and weather science, and critical infrastructure protection. ALERTCalifornia, a statewide network of AI-enabled, high-resolution fire cameras and sensors that provide 24/7 monitoring capabilities to fire agencies, utilities, and emergency managers, is a public-private partnership also run out of UC San Diego.

At Stanford, interdisciplinary teams are advancing innovations in modeling, environmental sensing, and resilience-focused public policy. The university also collaborates with government and philanthropic partners to inform strategic investments and shape emerging technology pathways, including hosting convenings that connect researchers with practitioners and venture capital. Together, these institutions demonstrate how university-based research can be operationalized to accelerate innovation.

Collectively, these efforts represent promising momentum but also expose the fragmented nature of the wildfire innovation community. Most initiatives remain siloed, and no single framework exists to coordinate efforts across sectors. Moving forward, the ecosystem must coalesce around scalable models for innovation adoption, sustainable funding mechanisms, policy and procurement reform, and the de-risking of new technologies for end users. Without this, the full potential of a coordinated wildfire innovation strategy will remain out of reach, and impactful companies will not successfully pass over the valley of death.

VI. Common Themes: Key Barriers and Opportunities for Adoption of Wildfire Technology Solutions

The upward trend in wildfire size and impacts is projected to continue unless firefighters have access to the most advanced tools and technologies the private sector can provide. In the absence of innovation acceleration across all sectors of the fire apparatus, firefighters will continue to be outpaced and outflanked by the size, severity, and complexity of fire at the landscape and community level.

To inform the development of this strategy, over 80 meetings and a survey of 117 respondents were completed, representing stakeholder groups spanning fire, government agencies, philanthropy, utilities, venture capital, private companies, academia, and non-profit organizations. Several interrelated barriers were identified that help explain why even proven innovations struggle to gain traction, revealing common themes that impede the transition from wildfire innovation to widespread deployment.

Common Themes

1. **Fragmented Agency Ecosystems**: The wildfire management market for new technology is fragmented among numerous agencies (local, state, and federal agencies, plus utilities and private landowners). This results in costly, time-consuming and inefficient processes for innovators seeking to obtain end user input or demonstrating technologies to potential consumers.
2. **Lack of Sustained Funding Post-Pilot**: Even for technology that completes pilots to prove efficacy, issues moving from pilot-to-scale for broad implementation exist, preventing delivery of the solutions to end users.
3. **Capacity Issues & Limited Incentive for Technology Adoption**: Underinvestment in wildfire management means agencies are stretched thin simply responding to today's fires. Federal wildfire agencies struggle to hire and retain firefighters, and many positions are seasonal. When personnel are overextended, bandwidth for training on new tools or implementing pilot projects is limited. Wildland fire agencies have a culture that values proven methods and chain-of-command decision-making. This culture, while critical for safety during emergencies, can also create an internal resistance to change. Without attention to the human capacity aspect, including change management and incentives for personnel to try new approaches, even funded technology can sit unused.
4. **End User Engagement in Development & Proven Effectiveness of Emerging Technologies**: Engaging end users in the process of developing technologies based on real-world needs and applications is a hurdle. Many fire organizations have been using many of the same tools for decades, and field personnel may be skeptical of outsiders bearing high-tech solutions.
5. **Public Sector Procurement & Regulatory Constraints**: Government procurement processes can be slow and cumbersome. Agencies generally are working with procurement rules that favor established vendors. These rules have lengthy approval cycles that aren't aligned with the fast pace of innovation. Additionally, many FireTech acquisitions happen on an emergency basis, rather than through a strategic innovation procurement process. This approach limits adoption and may result in missed opportunities for agencies to take a solution from pilot-to-scale through an innovation procurement process. Certain policies, or lack thereof, inadvertently slow innovation. Without clear policy guidance, agency leaders may err on the side of caution and stick with traditional approaches, and the lack of policy

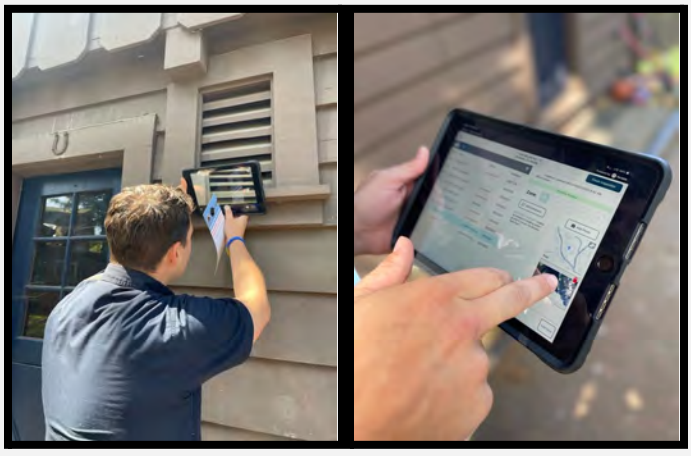
mandates or funding for innovation is also a barrier as agencies respond to what legislation and budgets prioritize. Until recently, few laws explicitly required adoption of modern wildfire technology. That is starting to change, but continued policy advocacy is needed to institutionalize a culture of continuous improvement and uptake. This is seen as a strategic opportunity for philanthropy to de-risk and support.

Opportunities and a Path Forward

Like the defense and intelligence sectors, wildfire agencies can overcome barriers by building a strong innovation community that connects technologists, funders, policymakers, and end users to scale solutions. Other sectors (e.g. DoW) have faced similar challenges in modernizing legacy systems and have developed strategies to overcome them. While integration of advanced technologies into the military is nearly a decade ahead of wildfire agencies, through FireWERX we seek to close that gap in half the time. By bridging the gap between technology solutions and end users, an environment can be created where innovation thrives and scales in the wildfire sector.

Blended Capital & Pilot-to-Scale Pathways: An opportunity exists for funders to play a critical role in de-risking technologies. By bringing together a philanthropic, public, private partnership to support pilot-to-scale pathways, structured science-based programs to rapidly move technology from prototype to widespread deployment. Through funding, a coordinated and proven technology ecosystem can be developed and adopted by the public sector to continuously adapt to changing needs and opportunities.

Fire Innovation Units: Fire has an opportunity to learn from strong examples that already exist to support the development of Fire Innovation Units. Defense innovation can be looked to as models to address wildfire threats, drawing on proven DoW programs, like the Defense Innovation Unit (DIU) and the Air Force's AFWERX program. These entities are now known for their ability to integrate dual-use commercial technology to meet the emerging technical demands of the military and intelligence services through flexible contracting and rapid prototyping. Although connecting the DoW to Silicon Valley's innovation ecosystem initially faced significant challenges and resistance, success was ultimately achieved through sustained commitment, high-level leadership, end-user engagement, procurement reform, clear identification of outdated technologies (and their associated



inefficiencies), early strategic wins that demonstrated the value of innovation, and a cultural shift toward engaging startups early to co-develop solutions.

Regional Testbeds for Piloting Fire Technologies: The development and deployment of interagency testbeds and demonstration areas can support the testing, training, and adoption of proven technologies needed to take projects from pilots through to deployment. These real-world testing centers will be in different geographies to account for varying biodiversity in different regions, allowing firefighters to use new technologies in environments they actually fight fires in.

Strong Leadership: Importantly, any opportunity to scale the use of effective technologies will be challenged without leadership to champion the opportunities and enhance their workforce's capabilities. Leaders will be critical to break through cultural barriers by building trust, bringing key stakeholders together, demonstrating reliability, and involving end users in the design process from start to finish.

VII. The Fire Innovation Strategy

Aligning local, state, federal, and international priorities, the Fire Innovation Strategy is a cross-sector initiative designed to accelerate the development, deployment, and adoption of wildfire technology and solutions. Ultimately, this strategy presents an opportunity to implement a systems-level shift built upon the growing group of founders, investors, innovators, technologists, academics, fire professionals, and philanthropists seeking to connect wildfire technology to the wildfire community so that every firefighter and at risk community has the tools to prevent, withstand, and recover in a fire resilient future.

The Fire Innovation Strategy aims to:

- Incubate FireWERX as a catalytic entity to coordinate the partners, activities, and funding needed to deliver wildfire technology and innovation to end users at scale.
- Work alongside existing fire technology and innovation efforts to amplify and accelerate initiatives already underway.
- Support the creation of Fire Innovation Units in public agencies.
- Create structured pathways to move technology and innovations from prototype to pilot to institutional deployment.
- De-risk high potential wildfire technology solutions through pilot programs, evaluations, and convenings.
- Establish dedicated testbeds to leverage real-world environments for ground truthing, refinement, and frontline training.
- Equip public agencies to adopt and operationalize new tools through training, policy reform, and procurement reform.

- Build a culture of innovation in the fire service by embedding technologists, training early adopters, and supporting agency leadership.
- Structure blended finance vehicles to scale adoption and unlock private capital.
- Support enabling policy frameworks that reduce bureaucratic friction.

The strategy delivers a comprehensive approach to addressing systemic barriers for durable and scalable adoption of wildfire technologies and innovations to reduce catastrophic impacts.

Fire Innovation Strategy - Organizational Structure

FireWERX

A new, non-profit, FireWERX will serve as the central coordinating hub and catalytic entity that drives Fire Innovation Strategy outcomes. FireWERX will be able to deploy funds directly in support of strategic priorities maintaining a direct line to and actively supporting the public agencies that house and deploy the Fire Innovation Units (the tactical implementation arms of the Fire Innovation Strategy). FireWERX is intended to be a temporary entity working directly with public agencies to develop and prove the Fire Innovation Strategy through Fire Innovation Units. The success of FireWERX will build the case for long-term funding of FIUs to deliver ongoing and scaled wildfire technology adoption.

FireWERX will:

- Lead the development of the Pilot-to-Scale Pathways program
- Facilitate collaboration and philanthropic-public-private partnerships
- Support the development and long-term viability of the FIUs
- Provide advisory services to the Fire Innovation Ecosystem and the FIUs
- Build innovation capacity through the FIUs
- Steward capital as an intermediary
- Work with a policy partner to drive policy and procurement reform

FireWERX is designed to play a critical convening and advisory role through the establishment of a dedicated team positioned as the connective link between the Fire Innovation Ecosystem and the FIU. These expert liaisons will help vet and deploy new tools, streamline approvals, and support hands-on integration with agency workflows. The FireWERX team supports the development of FIUs and connects the larger Fire Innovation Ecosystem to end users through its Pilot-to-Scale Pathways program.

This model aims to fast-track the scaling of effective wildfire technologies from pilot projects to broadscale deployment in just a few years. Through the development of

Pilot-to-Scale Pathways, FireWERX will coordinate a suite of innovation programs. FireWERX will curate strategic communications and a physical presence in the larger ecosystem that directly influences adoption outcomes. FireWERX aims to generate transition successes that prove wildfire innovation can move reliably from pilot to sustained operational capability, delivering return on investment through improved effectiveness and reduced wildfire suppression and response costs.

The Advisory Council

Expert-Led Guidance

Guided by an Advisory Council of public, private, non-profit and philanthropic leaders, the FireWERX Advisory Council will be established to provide strategic guidance, sectoral expertise, and networked influence to advance the mission of FireWERX - accelerating the development, deployment, and scaled adoption of transformative wildfire technologies, supporting policy reform, and strengthening innovation capacity across public fire agencies.

The Advisory Council exists to guide the implementation of the FireWERX strategy and ensure alignment with mission and outcomes, provide high-level advice on strategic priorities, funding opportunities, technology adoption pathways, and partnership development. The Advisory Council helps facilitate collaboration across government, industry, academia, philanthropy, and civil society to accelerate wildfire resilience innovation. This ensures that FireWERX activities remain relevant to operational realities while advancing systemic change in procurement, policy, and innovation adoption.

Fire Innovation Units

Public Agencies

The FIUs are public agency-housed operational entities that will become the durable home of ongoing technology adoption. FIUs will be developed across local, state, federal and international fire agencies. FIUs work in partnership with FireWERX to accelerate innovative wildfire technologies. Together, they identify the most transformative pathways to scale innovation and overcome key barriers to widespread adoption. Innovation programs within the Fire Service, and catalyzed by FireWERX, will serve as an in-kind contribution to this strategy and will initiate long-term, durable programs within public firefighting agencies.

The FireWERX and FIU teams will intentionally support the culture change required for adoption by identifying innovation champions and creating a peer network of early adopters who can model and mentor effective implementation. These roles are essential to ensure new technologies are not only introduced, but also trusted and embedded into day-to-day fire suppression, land-use, and prevention operations. This includes

comprehensive outreach and education to discuss with fire personnel how to engage with emerging technologies, and those who develop them, to better understand fireground realities. This will foster a more tech-informed fire service that expects and embraces innovation as part of its professional identity. Incentive structures and recognition programs to publicly celebrate successful deployments of new technology will allow fire agencies to create a positive feedback loop that rewards risk-taking and experimentation.

The FIU will begin as the operational arm of the strategy and will demonstrate to other wildfire agencies (local, state, federal, and international) how innovation programs function to drive solutions to adoption. The FIU will play a critical role in end-user engagement across the pilot development lifecycle and lead implementation through dedicated testbeds.

Fire Innovation Ecosystem

Innovators and Technologists

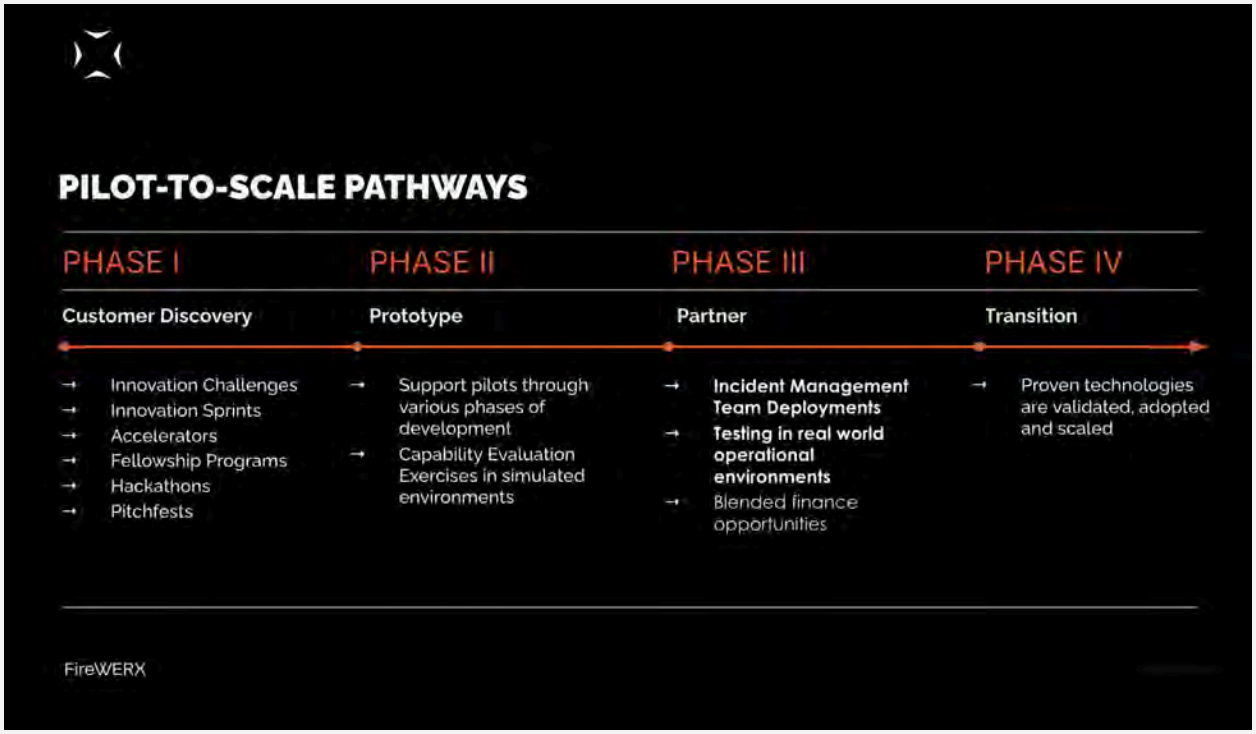
Made up of various independent entities from academia, non-profit organizations, entrepreneurs, and the private sector, the fire innovation ecosystem is connected to end user needs and the development of Pilot-to-Scale Pathways through FireWERX in close collaboration with the FIUs. *See more in the "Emerging Fire Innovation Ecosystem" section.*

Fire Innovation Strategy Program and Enablers: Pilot-to-Scale Pathways

The flagship programmatic initiatives of FireWERX are the structured science-based programs developed to rapidly move technology from prototype to widespread deployment. FireWERX, working closely with the FIUs, will co-develop and deliver a proven playbook for Pilot-to-Scale Pathways for ongoing use in durable FIUs.

These pathways systematically address the failure in wildfire technology adoption that occurs when promising innovations stall due to a lack of structured evaluation, support, and funding continuity. Technologies will be selected through the FireWERX Pilot-to-Scale Pathways based on proven frameworks that help fire service leaders assess new technologies and guide innovation decisions.

Funding delivered through FireWERX will provide grants and direct funds to efficiently move promising technologies and innovations through the various phases of Pilot-to-Scale Pathways to widespread adoption and scale.



- **Phase 1**: FireWERX, in partnership with the FIUs, will align around end-user needs and opportunities to identify transformative projects through the Fire Innovation Ecosystem (i.e. targeted innovation challenges, innovation sprints, hackathons, academic accelerators, etc.). An early and active example is the Global Space-Based Development Challenge led by CAL FIRE in collaboration with the Gordon and Betty Moore Foundation and the Earth Fire Alliance. This challenge was a proof of concept Phase 1 Pilot-to-Scale Pathway.

- **Phase 2**: Projects selected by FireWERX and the FIUs that demonstrate measurable potential to reduce wildfire risk, as assessed through a structured measurement and evaluation framework, will advance to pilot development. This phase focuses on controlled testing and validation, including small-scale pilots and capability evaluation exercises conducted in simulated or otherwise controlled environments, to assess performance, feasibility, and operational relevance.

- **Phase 3**: Pilots that demonstrate success will progress to advanced pilot testing led by the FIUs, with direct participation from end users. This phase emphasizes real-world evaluation in operational environments, including field deployments, testbeds, and live exercises. The goal of this phase is to assess performance under operational conditions that support pathways toward adoption, integration, and scale.

The Pilot-to-Scale Pathways program shepherds innovations from prototype to field deployment and ultimately, broad adoption with active firefighter engagement. Each pilot

will include a roadmap that identifies next steps, funding sources, and procurement mechanisms. By incorporating end-user design and metrics-based evaluation, the program ensures that solutions are operationally viable and agency-endorsed. These pilots are designed with data-sharing agreements and pre-negotiated paths to scale. Most importantly, they demonstrate how end user-defined problems can be addressed by technologists.

Dedicated Testbeds

FireWERX and the FIUs will establish and strategically leverage real-world environments as a critical enabling space for pilot-to-scale pathways. Led by the FIU and coordinated through FireWERX, testbeds are used to develop, ground truth, test, train, and drive adoption of selected technologies with end users. The success of the Fire Innovation Strategy in addressing adoption issues hinges on identifying these testbeds across the wildfire landscape.

Testbeds will serve as structured operational environments where new wildfire technologies can be evaluated under real-world conditions. The testbeds will be open to participation by fire agencies, utilities, insurance partners, and approved technology developers, and will provide observation and data access to fire service leadership to inform adoption pathways.

Testbeds will validate innovation and foster a culture of experimentation, turning end users into active co-developers of the tools needed for our urgent wildfire resilience challenges. A critical step in the pilot-to-scale pathways, testbeds create a reliable onramp for emerging technologies to transition from concept to field deployment, closing the pilot-to-scale gap that has historically hindered technology adoption.

FireWERX will also consider existing place-based demonstration projects called SPARKs, or Select Pilots to Achieve Resilience by Key Indicators Pilots, supported by the Gordon and Betty Moore Foundation. Distributed across Western North America, these place-based pilots serve as real-world environments to test and refine technologies with meaningful community input. These partnerships ensure efforts support locally informed mitigation strategies and accelerate shared learning across geographies and ecosystems.

Catalytic Grant and Direct Funds

Technologies that move through pilot-to-scale pathways are enabled by catalytic funding delivered through FireWERX as the intermediary. The goal of these funds are to de-risk technology adoption and support the development of scalable funding mechanisms to secure sustainable public funding. As the Fire Innovation Strategy and blended finance mechanisms are proven, the government will have a strategic opportunity to step in and take over sustainable funding. Supporting the pilot-to-scale pathways is a blended capital strategy: philanthropic seed funding initiates early-stage pilots, which are then co-funded with public or private investment. This funding model reduces risk and accelerates deployment cycles that would otherwise take years and be very costly to FireTech companies.

FireWERX will have the necessary operational support and authority to deliver grants and direct funds to various partners driving the Fire Innovation Strategy and the Pilot-to-Scale Pathways program. The core idea is to unite technologists, public agencies, utilities, venture capitalists, and philanthropic funders where each party contributes to deployment, evaluation, and, if successful, broad adoption of effective wildfire technologies.

To enable broader rollout, this will include a pooled fund for advanced wildfire technologies, delivered through FireWERX. The funds will provide catalytic, non-dilutive capital to support early pilots, cover integration costs, and de-risk adoption by public agencies. Over time, government agencies would fund targeted research and institutionalize these efforts with ongoing budgetary support.

To further scale, FireWERX aims to activate more private capital. As early pilots demonstrate impact, investors are expected to participate more fully. Corporate partners could provide in-kind support from companies seeking to address the wildfire crisis. This collaborative approach seeks to coordinate action across foundations, public agencies, and industry to avoid duplication and align strategic capital.

Philanthropic-Public-Private (PPP) Partnerships and Funding Mechanisms

Pilot-to-scale pathways are enabled by strategic partnerships. At the center of the Fire Innovation Strategy, FireWERX maintains awareness across the Fire Innovation Ecosystem and serves as a hub to facilitate strategic connections with public agencies. Philanthropic-public-private partnerships include accessing the tools and partners required to deliver different pilot-to-scale pathways between participating entities and the FIUs.

Fire Agency Policy and Procurement Reform

The durability of the Fire Innovation Strategy is enabled by policy and advocacy to drive the required regulatory and legislative environment in direct support of the Pilot-to-Scale Pathways, establishment of the FIUs, creation of dedicated testbeds, innovation programs, the removal of structural barriers, and institutionalizing innovation within wildfire agencies.

This requires development of a strategy to leverage policy and promote advocacy to embed innovation into wildfire management systems, remove structural barriers, and create an enabling environment for the adoption of new technologies. Even the most promising tools will fail without supportive policy frameworks, flexible procurement processes, and sustained funding.

One major focus is procurement reform. Current procurement processes are slow and not designed to encourage emerging technologies, often sidelining new innovations in favor of legacy solutions. To address this, the strategy recommends creating wildfire-specific innovation procurement pathways through phased contracts, more flexible authorities, and clear regulations. This would help bridge the gap from successful pilot to widespread deployment, while building procurement pathways that encourage adoption of emerging innovation while also protecting the integrity of public funding.

Key legislative and policy levers are also required to deliver Fire Innovation Strategy Outcomes. These include authorizing innovation-focused contracting authority for state and federal agencies and enabling public-private partnerships. Organizations like MegaFire Action can support policy efforts, working with key decision-makers, hosting legislative briefings and site visits to showcase successful pilot projects. Together, agency policy and procurement reform ensure innovation becomes part of the culture and DNA of local, state, and federal fire agencies.

Creating Standardized Pilot-to-Scale Pathways: Testing, Validation, and Certification

A critical gap in the current wildfire technology ecosystem is the absence of standardized testing protocols that can reliably evaluate effectiveness, performance, and safety across diverse operational environments. Unlike tech adoption frameworks within industries such as aviation, space, defense, or intelligence, the wildfire industry currently lacks a unified framework for validation. This creates uncertainty for both innovators and end users, as agencies struggle to compare solutions objectively, and companies face unpredictable adoption timelines without clear benchmarks for success. To address this challenge, FireWERX will work with organizations seeking to develop and institutionalize comprehensive testing, readiness, and certification pathways. These standardized pathways could include (1) Technology Readiness Levels (TRLs) adapted specifically for

wildfire applications, (2) “Success Memos” issued by agencies after a prototype project is successfully completed, and (3) Certification off-ramps to world-class testing institutions and laboratories.

TRLs provide a standardized 1 to 9 scale to measure a technology’s maturity, from initial concept (TRL 1) to fully operational deployment (TRL 9). This objective rating system offers a common language in use for decades for evaluating readiness and risk, enabling informed decision-making about which projects to fund or advance. In contrast, “Success Memorandum” uses a narrative evaluation to document the outcomes of a prototyping effort, in use by agencies like the DIU. It provides formal evidence that a solution has been field-tested and proven effective. TRLs help fire practitioners gauge how technically ready an innovation is, while the memo-based process captures how operationally successful and deployable it is.

Fire agencies and dedicated innovation units should choose the framework that best fits their context, and they can even combine them for comprehensive evaluation. TRLs may be useful during early research and development phases or when comparing multiple projects. Success Memos are valuable after a pilot or prototype has been completed and when a fire agency needs to decide on scaling up a solution that has clearly demonstrated mission value. Both approaches can be used in tandem or independently.

Rather than creating new certification infrastructure, FireWERX can serve as an off-ramp for technologies to leverage world-class testing institutions and laboratories that have proven expertise in rigorous evaluation protocols such as National Fire Protection Association (NFPA), Underwriters Lab (UL), IBHS (Insurance Institute for Business and Home Safety), National Institute for Standards and Technology (NIST), and relevant DoW test centers. FireWERX can help innovators and agencies navigate these existing pathways by coordinating connections, clarifying requirements, and ensuring that emerging tools reach the appropriate third-party evaluators. Certification would remain the responsibility of these recognized institutions, which have the governance, credibility, and technical depth to assess safety, performance, and interoperability.

VIII. Best Practices from Related Ecosystems

Wildfire management today mirrors where defense was decades ago facing a mounting threat environment, but hamstrung by fragmented bureaucracy and legacy approaches. Innovative startups often find themselves stuck in endless pilot programs with no clear path to scale across agencies due to procurement challenges and a lack of dedicated funding. These are precisely the kinds of hurdles the defense and intelligence communities addressed by creating alternative acquisition pathways for major programs that prioritize speed and iterative development. For example, they have leveraged Other Transaction Authorities (OTA) to enable research and prototyping with non-traditional performers and requesting dedicated appropriations for technology adoption.

FireWERX seeks to apply the defense and intelligence tech paradigms to wildfire by treating the wildfire crisis as a state and national security issue and mobilizing technology accordingly. In practical terms, this means fostering the same kind of public-private partnerships and rapid acquisition models that the Pentagon is using to field technology quickly.

FireWERX's strategy draws on proven innovation models from DARPA, DIU, AFWERX, and In-Q-Tel. These programs demonstrate how specialized structures, flexible funding, and a mission-driven culture can accelerate technology solutions. Each emphasizes challenge-based innovation sourcing and streamlined contracting mechanisms to speed prototypes into use. They also foster close collaboration with end users (whether warfighters or firefighters), ensuring solutions are driven by real operational needs. For an initiative like FireWERX focused on wildfire resilience, adopting such practices can create a dynamic ecosystem to develop and scale solutions.

One key lesson from the DoW is the use of challenges and flexible procurement. AFWERX, for example, runs open prize challenges to solicit novel solutions for Air Force needs, accelerating how complex problems are tackled and transitioning winning ideas into operation. Similarly, the DIU uses a Commercial Solutions Opening process and aims to go from problem identification to prototype award within just 60 to 90 days, often leveraging OTAs for fast-track prototyping. FireWERX will mirror these tactics by launching wildfire technology challenges that invite non-traditional vendors and startups to propose solutions, then using flexible funding models to rapidly pilot those ideas. This approach ensures the best ideas are identified and tested early, rather than hitting bureaucratic drag by lengthy and repetitive procurement cycles. FireWERX is incorporating lessons learned from In-Q-Tel, one of the nation's most effective non-profit innovation partners to the government, as a model for how mission-driven, public-benefit investment can accelerate technology adoption, guide strategic sourcing, and shape a durable future approach to our work.

Another best practice is embedding end users in co-development to co-create solutions with technology innovators, ensuring frontline needs guide innovation. For example, AFWERX embeds Airmen and Guardians directly into the innovation process through mechanisms such as Spark Cells, operational challenges, and hands-on experimentation, allowing users to trial prototypes, provide rapid feedback, and shape solutions before formal acquisition. This user-driven, mission-focused co-development model ensures technologies are built for real-world operations and transition more readily into sustained use.

In the FireWERX model, this translates to pilot programs and dedicated testbeds that place firefighters and fire managers at the center of technology evaluation under real-world wildfire conditions. By piloting innovations in operational environments, FireWERX enables end users to validate performance, refine designs through direct feedback, and advance proven solutions through readiness levels toward durable adoption.

Finally, aligning public and private capital is crucial for scalable innovation. FireWERX will unlock larger streams of capital for fire innovation. In practice, FireWERX's pilot projects would be designed to blend funding and expertise from public, private, and non-profit partners. This not only ensures that successful pilots have the resources to scale, but also embeds a culture of innovation through partnership.

Mirroring the success of defense and intelligence agencies, FireWERX will create an environment where wildfire resilience ideas are scaled into widespread practice. Such an approach will accelerate the development of FireTech and drive a system wide improvement in adoption. We stand at an inflection point where the wildfire community can learn from the innovation surge experienced by the airforce, space, defense, and intelligence industries. The solution is not to militarize firefighting, but to bring the best of American tech entrepreneurship and strategic planning into the wildfire domain.

IX. Rollout Roadmap and Milestones

The Fire Innovation Strategy is designed to evolve from concept to full-scale implementation through a structured rollout plan. The roadmap unfolds in three distinct stages: **1) Establishment and Launch, 2) Pilot Implementation and Iteration, and 3) Expansion and Embedding.**

Stage 1: Establishing and Launching FireWERX (2026)

In the first year, FireWERX will lay its foundation by formalizing governance, securing multi-year funding, and onboarding leadership to develop the organization. This phase begins with a high profile public launch, aligned with the Red Sky Summit in November 2025 to signal the cross-sector commitment and communicate the FireWERX vision.

Additionally, an Advisory Council will be established, with representation from philanthropic organizations, fire agencies, and technical experts. A measurement and evaluation framework will be developed during this time. To demonstrate immediate value, a series of projects will be launched with aligned FIUs and accelerator programs established with major universities. FireWERX evaluates multi-agency partnerships and potential testbed locations, including but not limited to CAL FIRE Demonstration State Forests, University of California sites, National Forests, federal military installations, and SPARK pilot locations.

Stage 2: Pilot Implementation and Iteration (2026-2028)

Developing successful pilot-to-scale pathways, including the expansion of testbed locations, depends in large part on positive agency partnerships. FireWERX seeks to support agencies as they launch pilots, troubleshoot challenges, collect data, and evaluate performance of new technologies. Existing pilot efforts exist, such as DoW's Innovation Landscape Network and CAL FIRE's Demonstration State Forest System. These efforts create space for pilot implementations to move ahead even as FireWERX continues building out its organizational infrastructure.

By the end of 2028, policy advocacy will result in statutory support for FIUs at state and federal levels along with the requisite funding. At this time, at least 10 pilots will be in different phases of the pilot-to-scale process, with two new testbed locations established and actively used. Pilots that demonstrate clear impact will begin transitioning to broader adoption. These efforts are supported by ongoing convenings, public showcases, a FireWERX symposium, continuously supporting end user adoption and bringing new collaborators into the ecosystem. Additional funding for FireWERX will be evaluated.

Stage 3: Expansion and Embedding (2028-2031)

Having established multiple pilot-to-scale pathways, and with statutory support for FIUs, FireWERX will shift focus to institutionalization and expansion. Successful pilots are scaled, and the frequency of new pilots increases to address emerging challenges. FireWERX will help support the establishment of FIUs and document a playbook for replication across the United States, federally, and internationally. It will be important that FireWERX remains agile and is able to shift priorities in response to fire events, political changes, or technological breakthroughs. This adaptive approach ensures long-term success and replicability.

X. Staffing

FireWERX is intentionally designed to begin as a lean, high-impact entity and scale over time as demand increases, partnerships grow, and Fire Innovation Units mature. Initial staffing reflects the minimum viable organizational structure required to launch pilot-to-scale pathways, support end users, steward philanthropic capital, and establish durable operating models within public agencies.

As FireWERX demonstrates value, its organizational structure is expected to expand. Additional functions, specialized teams, and regional or domain-specific roles may be added as FIUs are established, pilot portfolios grow, and long-term public funding is secured.

Staffing growth will be driven by outcomes and operational demand, not fixed headcount targets, allowing FireWERX to remain adaptive, fiscally responsible, and aligned with agency needs over time.

XI. Objectives and Measurement Framework

The Fire Innovation Strategy timeline will de-risk and prove the model, establish FIUs, and deploy effective technologies to reduce the threat of wildfire.

Ultimate Outcome: *By 2031, FireWERX will have supported the establishment of Fire Innovation Units as durable innovation programs within public fire agencies at the local, state, federal, and international levels. Through these programs, FireWERX will enable the scaled operational adoption of transformative wildfire technologies to measurably reduce the threat of extreme wildfire, accelerate the application of ecologically beneficial fire, and decrease community vulnerability to urban fire conflagrations - achieved through reformed procurement processes and aligned federal, state, and local policies.*

Objective 1: FireWERX, and the development of FIUs, will be a proven center of excellence known for effectively leading the operationalization of fit-for-purpose technology and fire service transformation.

Objective 2: FireWERX will have established a nationally recognized and replicable, structured innovation pathway for efficiently moving technology through a systematic process from pilot-to-scale.

Objective 3: FireWERX will establish regional sites, providing successful training and deployment of scaled FireTech into wildfire agency field operations.

Objective 4: Public and private partners fund a sustainable wildfire technology and innovation financial ecosystem with solutions de-risked through blended finance and

scaled predominantly by public and private-funded operations.

Objective 5: FIUs will have institutionalized a replicable "request for an innovation program" into agency procurement, allowing for other transaction authorities, middle-tier acquisition, and delivering fast-tracked pathways that encourage the adoption of emerging technologies and innovations, while also protecting the integrity of public funding.

Indicators and Outcomes

To ensure that funding translates into measurable, real-world impact, FireWERX will implement a rigorous framework tied directly to execution. Progress will be demonstrated through tangible outcomes, including the establishment and operationalization of Fire Innovation Units (FIUs), the identification and activation of testbeds, and the successful transition of validated pilots into scaled deployment. Each outcome area will be supported by defined indicators, with annual reporting providing funders and partners a clear account of progress through metrics, case studies, and documented learning. This approach not only ensures accountability and informs continuous improvement, but also contributes actionable insight to the broader wildfire innovation ecosystem.

High Level Theory of Change

The FireWERX theory of change presents a clear roadmap for how investment can unlock systemic change in wildfire resilience. It starts from the recognition that despite a surge of innovative tools, adoption remains stalled by fragmented pilots, procurement barriers, and agency risk aversion. FireWERX will build the enabling conditions required for scale by aligning policy reforms, de-risking early deployments, harmonizing standards, and convening agencies and innovators into structured pilot-to-scale pathways. The ultimate outcome is a durable system where innovation is no longer ad hoc, but institutionalized. A framework where validated technologies move predictably from pilot to adoption, agencies are empowered to act with confidence, and funders can leverage their dollars to unlock far larger pools of public and private investment. For funders this provides an opportunity to invest in a platform that not only delivers measurable near-term results, but also reshapes the structural conditions that determine whether innovations survive or stall, ensuring that their capital achieves exponential and enduring impact.

XII. Conclusion and Next Steps

The wildfire crisis represents one of the most urgent and complex threats facing lives, communities, economies, and ecosystems across the U.S. Decades of fuel accumulation, climate volatility, and development in fire-prone areas have pushed beyond the capabilities of our response systems. With the right strategy, leadership, and investment, we can move

from reaction to proactive resilience. The Fire Innovation Strategy led by FireWERX outlines how a coordinated philanthropic strategy can accelerate the adoption of fire technologies and build safer, more adaptive communities. If we succeed, the next decade will mark a turning point where destructive megafires become less frequent, and communities are defined by fire resilience.

APPENDIX

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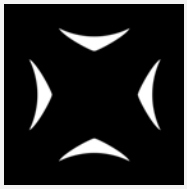

-Catalyzing Wildfire Tech Innovation-