

Lab Agenda

Simultaneous Excellence

Fiscal Year 2026





Commitment Statement

The Leadership Team is fully committed to enabling the Laboratory's mission while supporting its people, further enhancing the culture, and meeting the strategic imperatives and institutional goals outlined in the Lab Agenda.



Back row (left to right): Pablo Prando, LANL general counsel; Srinivas Iyer, ALDCELS; Ed Anderson, executive officer, DDOPS; Nancy Jo Nicholas, ALDGS; Angela Mielke, executive officer, DDSTE; Bob Webster, DDW; David Dooley, ALDWP.

Middle row (left to right): Mark Chadwick, ALDSCT; Ellen Cerreta, ALDPS; Unica Viramontes, ALDDP; Mark Davis, DDOPS; Laurie Monfiletto, HR senior director; Kim Scott, executive officer, DDW; Bret Simpkins, ALDFO.

Front row (left to right): Pat Fitch, DDSTE; Scott Aeilts, ALDBUS; Frances Chadwick, LANL staff director; Thom Mason, LANL director; Mark Anthony, ALDPI; Charlie Nakhleh, ALDX; Steve Coleman, ALDESHQ.



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Executive Summary

Mission

Solve national security challenges through simultaneous excellence.



Strategic Imperatives



Nuclear Deterrence

Ensure the effectiveness of our nuclear deterrent and certify current and future weapons.



Threat Reduction

Anticipate and proactively respond to emerging global security threats.



Technical Leadership

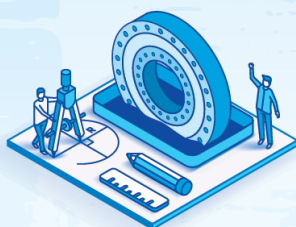
Advance relevant research through scientific and technical breakthroughs.



Trustworthy Operations

Demonstrate and be acclaimed for trustworthy operations.

FY26 Institutional Goals



AI Reasoning

Harness AI reasoning and computation to enable mission impact through breakthroughs in security and science.



Production Systems

Mature and integrate business systems to enable efficient production.



Strategic Deterrence

Develop, assess, and prototype tools and concepts to address strategic needs.

Agile Manufacturing

Accelerate technology maturation to enable rapid prototyping and transition to small-lot production.



Experimental Capabilities

Modernize key experimental capabilities for weapons performance to meet Nuclear Security Enterprise needs.



Service

Serve our nation, partners, and each other.

Integrity

Demonstrate honesty, ethical conduct, accountable stewardship, and individual responsibility.

Teamwork

Respect and collaborate with our colleagues and partners.

Excellence

Ensuring safe and secure mission delivery.

Collaborative problem solving

Continuous learning

Shared outcome

Trustworthy

Commitment

Values and Behaviors

Sustain a culture that values service, integrity, teamwork, and excellence.

How we do our work is as important as what we do.



Introduction

Los Alamos National Laboratory plays a vital role in safeguarding the United States and its allies against the world's most serious threats. The next two decades will be a critical time for the nation and our allies. Artificial intelligence is transforming science, security, and technology at every level. The US is undertaking the modernization of its strategic forces as the world confronts a three-nuclear-peer environment for the first time. As global challenges evolve, the Laboratory draws on its multidisciplinary expertise—spanning supercomputing, materials science, complex systems, signature science, nuclear and particle physics, weapons design and engineering, and more—to develop innovative solutions that support agile, effective deterrence against nuclear warfare and other emerging dangers. Through meeting these objectives, the Laboratory not only strengthens national security but also drives world-changing discoveries.

Meeting the Needs of the Nation

As a federally funded research and development center, the Laboratory's comprehensive deterrence framework reflects key US priorities across nuclear security, intelligence, defense, nonproliferation, counterterrorism, emergency response, science leadership, energy security, environmental management, and beyond. This strategy is closely aligned with guidance from the Department of Energy (DOE), the National Nuclear Security Administration (NNSA), and national policy documents.

Lab Agenda

The Lab Agenda helps align the Laboratory's work with national needs, foster collaborative implementation across organizations, and inform decisions—from institutional investments to individual goals. This year's agenda includes the Laboratory's strategic imperatives, institutional goals for fiscal year 2026 (FY26), and the values and behaviors that shape our culture. Everyone at the Laboratory has a role in helping achieve strategic imperatives. Institutional goals are purposefully focused on key challenges and opportunities where near-term, cross-cutting discretionary investments will help ensure the Laboratory's national-scale impact. Necessarily, then, the institutional goals do not capture all the Laboratory's priorities or encompass all areas of the Laboratory's work. However, regardless of whether our individual efforts align directly with these select goals, we are united in achieving the Laboratory's mission, advancing our strategic imperatives, upholding our values, and securing the future together.

Laboratory Mission

To solve national security challenges through simultaneous excellence in nuclear security; threat response, mission-focused science, technology, and engineering; and community engagement.

Vision

To be trusted by our nation, emulated by our peers, and respected by the world.

Culture

How we do our work is as important as what we do.



Strategic Imperatives

Los Alamos National Laboratory has four strategic imperatives that guide mission delivery: nuclear deterrence, threat reduction, technical leadership, and trustworthy operations.

Nuclear Deterrence

Lead the nation in evaluating, developing, and ensuring the effectiveness of our nuclear deterrent, including the design, production, and certification of current and future nuclear weapons.

As 21st century geopolitical realities reshape our national security policy, deterring nuclear attacks and preventing large-scale conventional warfare remains one of our nation's priorities. Los Alamos is the design agency for four of the seven weapons systems in the United States' on-alert deterrent—the B61 (Air Force), the W78 (Air Force), the W76 (Navy), and the W88 (Navy)—and the Laboratory supports a safe, secure, and effective nuclear deterrent with essential production and world-class science and engineering tools. Through its catalog of stockpile stewardship programs, the Laboratory maintains the nation's capability to assure its allies and adversaries that our warheads are reliable and will remain so in the coming decades.

Threat Reduction

Anticipate persistent and emerging threats to global security in all domains; develop and deploy revolutionary tools to detect, deter, and respond proactively.

The Laboratory develops innovative solutions to identify and rapidly respond to emerging threats worldwide, including cyber-physical vulnerabilities, threats in space, risks with new technologies, and more. The Laboratory also collaborates with the Intelligence Community and the US military to identify state-of-the-art technologies to maintain our nation's advantage over its adversaries and to provide cutting-edge technologies that combat small-scale, intense conflict.

Technical Leadership

Deliver scientific discoveries and technical breakthroughs to advance relevant research frontiers and anticipate emerging national security risks.

Since its inception as the Manhattan Project, the Laboratory has led the nation and the world in breakthrough scientific discoveries backed by the technical expertise to translate those discoveries into action. The Laboratory's six capability pillars—Information Science and Technology, Materials for the Future, Nuclear and Particle Futures, Weapons Systems, Science of Signatures, and Complex Natural & Engineered Systems—advance cutting-edge research and development and maintain competitive advantage in the scientific capabilities underlying the Laboratory's mission.

Trustworthy Operations

Consistently demonstrate and be recognized by stakeholders for trusted and trustworthy operations.

To maintain the trust of our national, scientific, and neighboring communities, the Laboratory has tailored operational processes and systems to effectively and safely carry out our mission. These functions underpin our success in the other three imperatives by ensuring facilities are safe, secure, and available, business and computer systems function, and employees are supported. Trustworthy operations further encompasses the Laboratory's relationships with the community and its customers and sponsors, which are critical to our ability to deliver on our promise to be a force for good in our community and nation.



Institutional Goals

The Laboratory's institutional goals focus on key challenges and opportunities that require immediate, cross-organizational collaboration to align scientific and technical opportunities with national security needs. Each goal supports two or more strategic imperatives and is designed to drive significant progress through focused investments and actions.

For FY26, the Laboratory will prioritize five institutional goals: Agile Manufacturing; AI Reasoning; Experimental Capabilities; Production Systems; and Strategic Deterrence.

Excellence and continuous improvement in foundational and enduring functions—from safety and security to facilities management, business systems, human resources, and community partnerships—are essential for the success of each goal.

Agile Manufacturing

Accelerate and mature capabilities for developing tooling, design concepts, weapon-component materials, and production processes to enable agile prototyping and small-lot production.

AI Reasoning

Harness artificial intelligence (AI) reasoning and computation to rapidly increase the pace of discovery, develop new technologies, and transform the way the Laboratory solves national security challenges.

Experimental Capabilities

Modernize key capabilities to advance accelerator science, explosives formulations, and materials manufacturing to support weapons performance and Nuclear Security Enterprise needs.

Production Systems

Mature the Laboratory's production and business systems to achieve and sustain a high level of operational performance, control, and quality performance across all of the Laboratory's production missions.

Strategic Deterrence

Develop the evidence-based analytic capability needed to inform the emerging national debate on how to structure a modern, dynamic, flexible, and comprehensive deterrent.



Agile Manufacturing

Goal

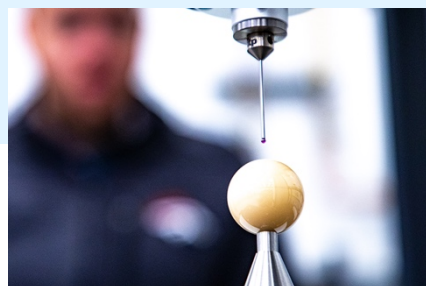
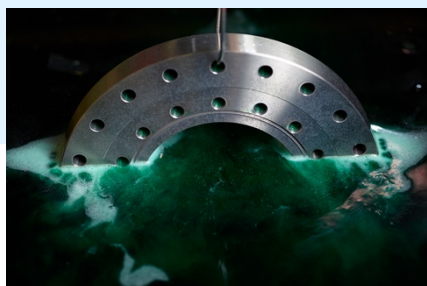
Accelerate and mature capabilities for developing tooling, design concepts, weapon-component materials, and production processes to enable agile prototyping and small-lot production.

Context

The Laboratory's deterrence and threat-reduction missions rely on our ability to use advanced manufacturing to support tooling development, design analysis and testing, advanced materials science for new weapon component materials, and improved manufacturing processes that streamline the production of qualified parts. A focused agile manufacturing effort will help determine what future capabilities and funding are necessary to maintain and continue improving over the long-term. This work will enable the Laboratory to create full-sized prototypes and processes that are relevant for actual production and flexible enough to adapt to the needs of future technologies. It will open a pathway for producing required specialized tooling and full-scale components to further develop, test, and evaluate new technologies as they emerge. By investing in agile manufacturing, the Laboratory will build a new capability that allows engineering and physics design principles to be examined while new materials and processes are in development. The combination of design and manufacturing science in a prototyping capability enables the acceleration of technology-readiness-level and manufacturing-readiness-level schedules, underpinning an ability to build, qualify, and certify new components with new manufacturing technologies. This framework will drive rapid maturation of conceptual designs from prototypes to small-lot production, with the goal of inserting new technology into programs across the US nuclear enterprise.

Desired Outcomes

- Advanced manufacturing techniques for rapidly producing specialized tooling for production that outperform traditional tooling fabrication.
- By 2027, the Laboratory will demonstrate a new, faster way of designing and producing weapons technology at scale. The new approach will speed up the timeframe to go from initial design to production and reduce the required amount of qualification.
- By 2028, the Laboratory will demonstrate the use of advanced manufacturing to produce prototype parts using exotic and/or hazardous materials. The Laboratory will validate the ability of advanced manufacturing techniques to unlock the materials' unique properties and to facilitate the rapid production of highly specialized parts, should such a material be deemed appropriate for insertion into a weapon system.





AI Reasoning

Goal

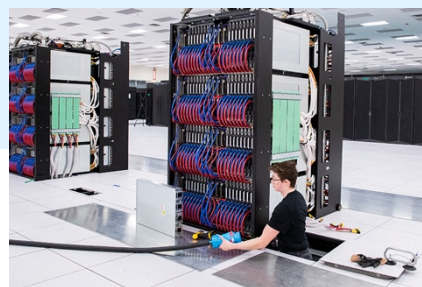
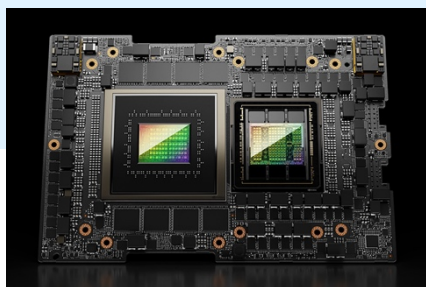
Harness artificial intelligence (AI) reasoning and computation to rapidly increase the pace of discovery, develop new technologies, and transform the way the Laboratory solves national security challenges.

Context

The Laboratory is well-positioned to create a transformative, AI-driven ecosystem that enables accelerated scientific discovery and technology development for our national security missions. This effort combines industry's frontier reasoning models with the Laboratory's bespoke AI models, high-performance computing capabilities, expanded data infrastructure, and expertise to transform the way the Laboratory addresses national security challenges, including design for agile deterrence, materials discovery and manufacturing, and counterproliferation. The new AI ecosystem will build on the Lab's successes with the Venado supercomputer, NVIDIA and OpenAI partnerships, and the ArtIMis project. The AI ecosystem will involve two types of agents. One set of "thinking" agents will be capable of analyzing information to solve problems. Another set of "action" agents will be responsible for tasks like coding, simulation campaigns, experimental design, mathematical reasoning and optimization, and manufacturing and testing. This initiative will also develop a small set of AI foundation models focused on critical needs, such as understanding complex physical systems and predicting how different materials will behave, which can be called on by the overall AI ecosystem. The foundation models will be able to learn quickly and design systems by working backward from the desired result.

Desired Outcomes

- A prototype defense science AI ecosystem that includes (1) a system of agents for hypothesis generation, evidence evaluation, and cost-benefit decision-making, accessible to staff across the Laboratory on Venado and other computers; (2) a framework for task-specific agents and a library of such agents, accessible to staff across the Laboratory, developed while solving example problems; and (3) fine-tuned versions of the Laboratory's foundation models, which will help simulate complex physical systems and predict material performance.
- Demonstrated progress by June 2026 (with incremental earlier demonstrations) that positions the Laboratory for NNSA AI funding in areas that include national security agile deterrence, material discovery, and energy dominance.





Experimental Capabilities

Goal

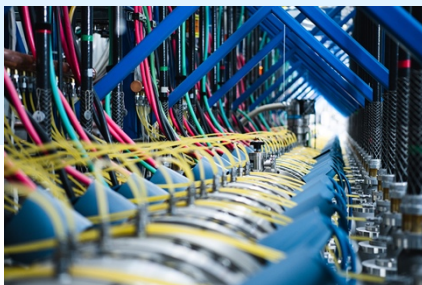
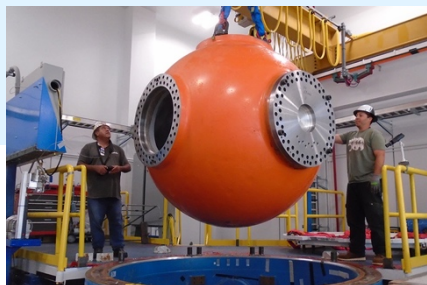
Modernize key capabilities to advance accelerator science, explosives formulations, and materials manufacturing to support weapons performance and Nuclear Security Enterprise needs.

Context

The Nuclear Security Enterprise (NSE) relies on the Laboratory's experimental capabilities—from focused experiments on materials and components to integrated systems experiments—to underwrite the nuclear deterrent. This effort will focus on establishing a lasting mechanism to modernize the Laboratory's experimental capabilities and position it to provide next-generation radiography capabilities. The Laboratory will coordinate modernization investments in its flagship facilities through a unified "One Lab" strategy, starting with the Los Alamos Neutron Science Center (LANSCE) and the Dual-Axis Radiographic Hydrodynamic Test (DARHT) facility, and expanding to the Contained Firing Facility and firing sites. In the first year, the Laboratory will target resources to support the completion of the LANSCE Solid-State High-Power Radio Frequency (RF) and DARHT Multi-Pulse Target Line projects. In the intermediate term, the initiative will drive the execution of the LANSCE Accelerator Modernization Project (LAMP) and advance major projects at LANSCE, DARHT, the Energetic Material Characterization (EMC) R&D Campus, and the Integrated Testbed for Agile Manufacturing (ITAM). By investing in these mission-essential capabilities and strategically integrating across projects, the Laboratory will ensure access to the experimental capabilities needed by the NSE into the future.

Desired Outcomes

- Funding to transform accelerator and experimental infrastructure after key early successes, including (1) Completion of the LANSCE Solid-State High-Power RF and DARHT Multi-Pulse Target Line projects; (2) full compliance with DOE Order 420.2D for K-15 and Microtron, demonstrating the Laboratory's leadership in accelerator safety and readiness; (3) Critical Decision 1 approval secured for LAMP, initiating the formal design phase of a billion-dollar-class investment and positioning the Laboratory as the pinnacle of national accelerator science for decades to come.
- Strong sponsorship and funding are achieved for a coordinated portfolio of experimental capability modernization projects, including LANSCE Enhancements (LANE), the DARHT Capability Expansion (DCX), the TA-9 Campus plan, the EMC R&D Campus plan, and the ITAM.
- Execution of the future dynamic radiography capability need that is identified in the NNSA Enterprise Blueprint, positioning the Laboratory at the forefront of next-generation radiographic science necessary for future stockpile stewardship challenges. This new capability is built on a detailed, integrated plan to improve and strengthen experimental capabilities.





Production Systems

Goal

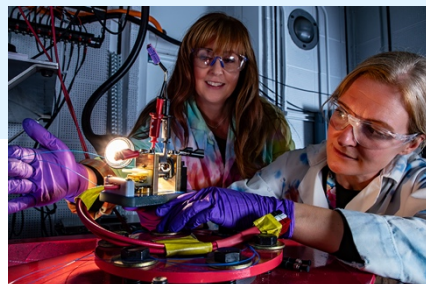
Mature the Laboratory's production and business systems to achieve and sustain a high level of operational performance, control, and quality performance across all of the Laboratory's production missions.

Context

The Laboratory's production mission is central to US national security. This effort will mature the Laboratory's production processes and critical business support systems to achieve and sustain a high level of operational performance, control, and quality performance across all production missions. This includes, but is not limited to, the Laboratory's commitment to producing a minimum of 30 War Reserve pits per year in 2028. The Laboratory will accomplish improved production by applying six strategies: (1) focus our efforts on strategically addressing gaps or weaknesses in the maturity of production mission processes, systems, supporting business services, and tools; (2) mature the production mission through a series of planned projects and/or initiatives to enable mission success; (3) continuously improve and optimize production mission maturity by identifying additional new projects and/or initiatives to enable success; (4) apply solutions that are scalable and can be tailored to meet the needs crosscutting our variety of production missions from War Reserve pit production and detonator production to NASA power supplies; (5) work collaboratively with NNSA headquarters and programs, with regulators, and across the NSE to broaden the policy-based aperture for work performed in high-hazard nuclear and high-explosive facilities; and (6) partner with NNSA NSE sites and DOE sites across the complex, leveraging strengths and lessons learned and working in an integrated and collaborative fashion to optimize production mission performance.

Desired Outcomes

- Clearly defined, documented, and implemented production and manufacturing systems, processes, and workflows.
- A fully digital production environment process and a pilot of that process.
- Interfaces between disparate institutional data systems that allow for automated data transfer between software programs. All production data are integrated and visible in the FORGE platform on relevant networks.
- A Lean Six Sigma program tailored for the Laboratory production environment, providing tools and problem-solving methods to address inefficient processes and offering mentorship in continuous improvement strategies.
- An asset management system that tracks equipment and other assets and allows for proactive maintenance. The system is focused on plutonium production facilities but could be adapted by other institutional facilities.
- Application of enabling technologies such as machine learning, radio-frequency identification (RFID), and mechatronics in the Laboratory's secure, high-hazard production environments.





Strategic Deterrence

Goal

Develop the evidence-based analytic capability needed to inform the emerging national debate on how to structure a modern, dynamic, flexible, and comprehensive deterrent.

Context

The US is at an inflection point as it undertakes the modernization of its strategic and conventional forces to accomplish new missions in an evolving global landscape. Given its role as both a design agency and a production agency, the Laboratory bears a special responsibility within the NSE to address the principal concerns of the US government. This effort will integrate resources across the Laboratory's directorates to provide decision-makers within and beyond the Laboratory with feasible options for fielding weapons systems in responsive timeframes. By investing in this integrated effort, the Laboratory will build and apply new, important capabilities to support strategic deterrence and position the Laboratory to remain the nation's central technical resource for anticipating and addressing strategic competition in a complex global landscape.

Desired Outcomes

- Intra-directorate teams established to conduct pre-phase-one studies and develop concepts and prototypes to address combatant command, military service branch, and NNSA requirements.
- Strong working relationships with key stakeholders, including STRATCOM, INDO-PACOM, EUCOM, SPACECOM, military service branches, and the NSE labs, plants, and sites.
- Laboratory-developed methodologies and products are integrated into Laboratory plans and planning.
- Recognition from NNSA of Laboratory-developed A-to-Z methodology and incorporation of the methodology and its products into headquarters planning and plans.
- Combatant commands and service branches endorse Laboratory-developed software to inform plans and requirements.





Values and Behaviors

The Laboratory achieves its national security mission through a culture in which how we do our work is as important as what we do. This culture is embodied in our institutional values of service, integrity, teamwork, and excellence. The Laboratory focuses on nurturing these values through continuous learning to strengthen our cultural foundation at the individual, leadership, and institutional levels.

Values

Service:	Serving our nation, our partners, our community, and each other.
Integrity:	Demonstrating honesty, ethical conduct, accountable stewardship, and individual responsibility.
Teamwork:	Achieving our best by respecting different opinions and backgrounds, exploring alternatives, and collaborating with colleagues and partners.
Excellence:	Ensuring safe and secure mission delivery in nuclear security; science, technology, and engineering; operations; and community relations.

Behaviors

Collaborative Problem Solving:	Exhibits initiative and willingness to work with others and be inclusive with people inside and outside their organization; is open-minded to find appropriate solutions to facilitate the accomplishment of Laboratory work goals.
Continuous Learning:	Proactively develops, adapts, and transforms oneself and shares lessons with others. Applies feedback and lessons learned in response to changing mission, business needs, processes and work responsibilities. Assesses risk to ensure it is addressed appropriately.
Shared Outcome:	Demonstrates a shared purpose within the Laboratory. Respects others and maintains a positive/responsive attitude to accomplish work in an ethical, efficient, and cost-effective manner. Encourages and supports security and safety for ourselves and each other.
Trustworthy:	Interacts with others in a way that gives them confidence in one's intentions and those of the organization; communicates openly, honestly, and with integrity with colleagues and customers; follows through on initiatives.
Commitment:	Stays motivated, focused, and dedicated to a position or plan of action.



Acronyms and Abbreviations

AI	artificial intelligence
ALDBUS	Associate Laboratory Director Business Management
ALDCELS	Associate Laboratory Director Chemical, Earth & Life Sciences
ALDPI	Associate Laboratory Director Plutonium Infrastructure
ALDDPP	Associate Laboratory Director Defense Protection Program
ALDESHQ	Associate Laboratory Director Environment, Safety, Health, and Quality
ALDFO	Associate Laboratory Director Facilities and Operations
ALDGS	Associate Laboratory Director Global Security
ALDICP	Associate Laboratory Director Infrastructure & Capital Projects
ALDPS	Associate Laboratory Director Physical Sciences
ALDSCT	Associate Laboratory Director Simulation, Computation, and Theory
ALDW	Associate Laboratory Director Weapons Engineering
ALDWP	Associate Laboratory Director Weapons Production
ALDX	Associate Laboratory Director Weapons Physics
ArtIMis	Artificial Intelligence for Mission
CD-1	Critical Decision 1 (Marks the completion of the project definition phase and the conceptual design. Provides authorization to begin project execution.)
DARHT	Dual-Axis Radiographic Hydrodynamic Test (facility)
DCX	DARHT Capability Expansion
DDOPS	Deputy Director of Operations
DDSTE	Deputy Director of Science, Technology, & Engineering
DDW	Deputy Director of Weapons
DOD	Department of Defense
DOE	Department of Energy
EMC	Energetic Material Characterization
EUCOM	European Command
FORGE	Factory Organization and Resource Gathering Environment



FY	fiscal year
HR	Human Resources
INDOPACOM	Indo-Pacific Command
ITAM	Integrated Testbed for Agile Manufacturing
LAMP	LANSCE Accelerator Modernization Project
LANCSE	Los Alamos Neutron Science Center (facility)
LANL	Los Alamos National Laboratory
NASA	National Aeronautics and Space Administration
NNSA	National Nuclear Security Administration
NSE	Nuclear Security Enterprise
R&D	research and development
RF	radio frequency
RFID	radio-frequency identification
SPACECOM	Space Command
STRATCOM	Strategic Command
TA	Technical Area
US	United States

Securing the future.
Together.



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