

*Dare Mighty Things Together:
A Plan for JPL*





Laurie Leshin
Director of JPL

Dare Mighty Things Together

A message from Dr. Leshin...

First of a kind. Pathfinding. Groundbreaking. Impactful. These are words that describe JPL and the work we do every day. From launching the very first American satellite in 1958 to landing rovers on Mars, from fighting climate change to discovering thousands of other worlds, we do hard things and we do them well. Whether you've been a part the JPL team for decades, or if (like me!) you're among the third of us who have become JPLers within the last five years, what brings us together is a shared passion for imagining and then achieving what others might think impossible – in other words, we Dare Mighty Things Together.

While JPL literally pioneered much of the space-exploration ecosystem, at this essential moment in time, the world around us is changing at an accelerated pace, and space exploration continues to evolve in reach, scope, and complexity. These changes present enormous and exciting opportunities, but they also can make the future feel somewhat less certain and harder to see. The purpose of this document is to help us focus on actions that enable JPL to have an expanded positive impact on the space ecosystem in the coming years.

So we can all be working toward common goals, we have laid out a set of strategic imperatives to guide our focus. These strategic imperatives build on the themes discussed with literally thousands of JPLers over the past year at forums like EngageJPL. They build upon my regular conversations with Caltech's Board of Trustees, important ongoing work such as the DEIA Plan, and ways in which we've already begun taking a hard look at ourselves through the response to the Psyche IRB. They also look beyond what we're currently doing to drive us to reach for more transformative science, infuse more technology into our missions, expand our reach to create awe everywhere, engage new partners, and operate in a more integrated, strategic way.

We've intentionally designed the strategic imperatives with a three-year time horizon, taking us to JPL's 90th birthday in October 2026, which allows us to be laser-focused on delivering demonstrable results and positive change in the near term. This timeline gives us the ability to regularly track our progress and have the flexibility to iterate and pivot when needed. As part of these near-term actions, we will position the Lab for the longer term, and build our successful future for decades to come. Said another way, this document is meant to be both *aspirational* and *actionable*.

Our seven strategic imperatives are intended to serve as the foundation of much work over the next three years, advancing our ability to *succeed*, *seed*, and *lead* well into the future. It's incredibly important that every JPLer has visibility and clarity about where we're headed, what we are focused on, and the culture we want to foster. We have a full manifest of missions in the coming years, and to sustain our pace of innovation and exploration, it's critical that we're working from a firm, unified foundation.

One more thing: This document starts with our North Star (as I always do!), but it also updates and simplifies our JPL values – who we aspire to be – *bold*, *inclusive*, and *trusted*. You'll see an explanation of these values right up front in this plan. The strategic imperatives are also designed to help us “walk the talk” – to live our values. Nothing is more essential than this, which is why I think it is so important that our values be simpler and easier for us all to remember.

It's an incredibly exciting time to be at JPL. I'm thrilled to be on this journey with you, and I look forward to your collaboration and partnership in these critical endeavors.

Thank you so much for your support!

Dr. Laurie Leshin



Europa Clipper: Artist's rendering of the spacecraft above the icy moon.

We have a *North Star* that guides us. We seek to:



NISAR Assembly: NASA-ISRO Synthetic Aperture Radar being assembled in SAF.

Drive the forefront of scientific discovery and extraordinary benefit to humanity through innovative missions, technology, and research

Inspire people everywhere to think bigger and imagine what is possible

Leverage our unique capabilities to advance the broader space-exploration ecosystem

Create a safe, inclusive, exciting workplace where all can thrive

We have big aspirations, driven by our *values*. We aim to be:



"Founders Plaque" Event: JPLers gather to view the updated plaque honoring JPL co-founder, Qian Xuesen.

BOLD

We are courageous explorers, driven by our conviction to take informed risks and expand the edge of possibility. We build and manage complex missions designed to tackle the most challenging scientific questions and address global challenges. We are motivated by building first-of-a-kind systems and by knowing that our discoveries will advance knowledge and drive positive change in society.

INCLUSIVE

We create a collaborative culture where our teams, colleagues, and partners feel valued and empowered to innovate. We appreciate excellence, expertise, and experience across all disciplines. We embrace difference with respect and curiosity. We create environments where teams can achieve things not thought possible. We take pride in the breadth of our reach, engagement, and impact.

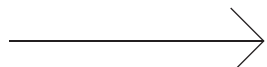
TRUSTED

We operate with integrity and the highest professional standards. We do the right thing. We honor our commitments. We work to advance our relationships. We share information and expertise with each other, with partners, and with the world. We work together toward ambitious common goals and outcomes.

GOALS

Looking forward, we see our work through the lens of:

Within this framework, we will focus on a set of strategic imperatives to guide our path forward.




SUCCEED

Advance science and exploration by delivering on our commitments



SEED

Grow our capabilities to enable the future of scientific exploration from space



LEAD

Be an inspiring role model and enabling industry leader

STRATEGIC IMPERATIVES



S|01

WORLD CLASS WORKFORCE

S|02

POSITION FOR PERFORMANCE

S|03

TRANSFORMATIVE SCIENCE AND TECHNOLOGY

S|04

LAB-WIDE PLANNING AND PRIORITIZATION

S|05

INDUSTRY LEADING WORKPLACE CULTURE

S|06

GLOBAL INSPIRATION

S|07

2036 AND BEYOND – LAUNCHING JPL'S NEXT CENTURY

SUCCEED

SEED

LEAD

GOALS:

SUCCEED

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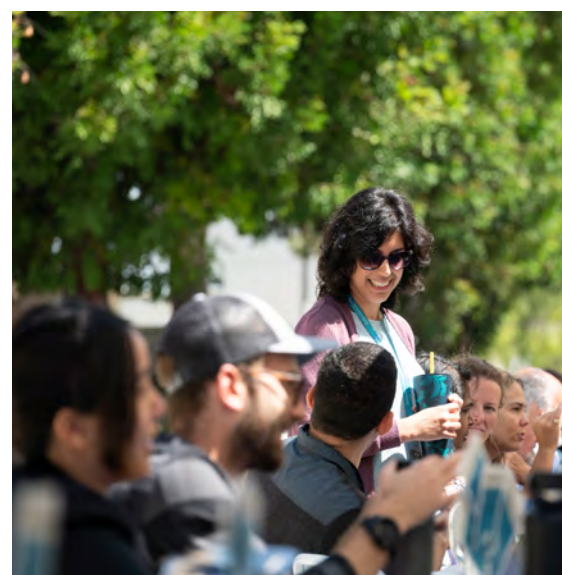
● S|01

WORLD CLASS WORKFORCE

Create and enable the best workforce to
deliver JPL's and NASA's mission



CGI: JPL engineer verifies electrical grounding of avionics systems on the Coronagraph Instrument.



Making Connections: JPL's Welcome Table events bring JPL employees together to share ideas and enjoy conversation.



SWOT Headed to France: Teams from NASA's Jet Propulsion Laboratory in Southern California and the March Air Reserve Base in Riverside County, California, loaded the scientific heart of SWOT into a C-17 airplane.

The Opportunity:

JPLers are critical to our success as a Laboratory, and supporting our world-class workforce is our number-one strategic imperative. We have both an opportunity and a responsibility to enable our people to thrive and succeed, and in doing so we will drive success of our missions and JPL as an organization. During the next three years, we will focus on ensuring that every manager is enabling our employees and teams; on enhancing our onboarding program, mentoring activities, and career-success pathways; and on creating a more compelling work environment in the new era of hybrid work. Together our actions are designed to help enable all JPLers to thrive at work.

We Envision a World in Which:

- New team members are valued for their own prior experience and are welcomed into the JPL community with a rich understanding of the history and value of our work, how we are organized, how our work is accomplished, and how they contribute to our mission.
- Team members receive support, opportunities, and tools throughout their career that will allow them to pursue their aspirations and maximize their potential. These include new insights about career pathways and resources for their advancement, as well as an accessible and modern workplace equipped to enable their success.
- Great leaders are developed and attracted to JPL to guide our teams in the work they do to advance JPL's mission. Our workforce views managers as advocates who support their development and enable them to contribute to JPL's success.

By 2026 We Will:

- ① Value and **enable great managers** by deploying development programs that provide the resources, feedback, and support they need to focus on leadership and strategy, inspire the workforce, and empower all team members to contribute at their highest potential.
- ② Develop a **world-class onboarding program** for new employees with orientation, training, and mentor/apprenticeship opportunities to enable new JPLers to quickly become productive, engaged, and invested members of the JPL community.
- ③ Develop a robust network of **career-long professional-development** resources, including sustained career mentoring programs that leverage current and former JPLers, training, cross-collaboration opportunities with Caltech, and a set of job families, levels, and progression opportunities that are aligned with the future of work.
- ④ **Modernize our workspaces** to be more accessible and collaborative, leveraging more updated physical and digital capabilities aligned with the work of today.

SUCCEED

GOALS:

SUCCEED

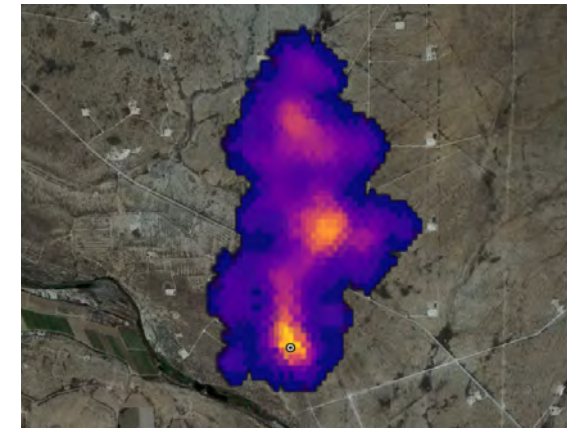
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LEAD



POSITION FOR PERFORMANCE

Sharpen processes to drive excellence and accountability in delivering our flight missions



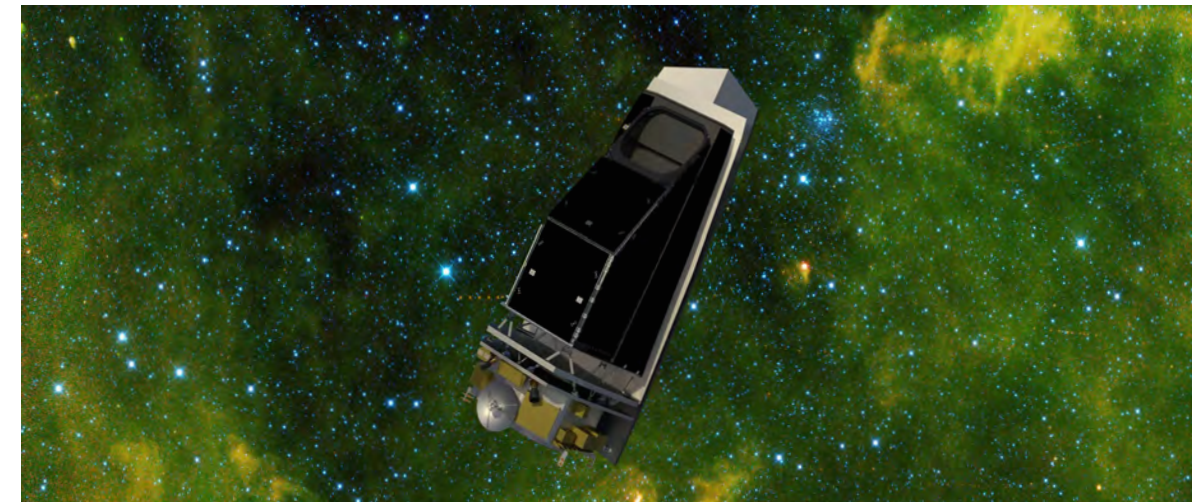
EMIT: Methane plume 2 miles (3 kilometers) long southeast of Carlsbad, New Mexico, as measured by EMIT from the International Space Station.

The Opportunity:

Developing and executing complex first-of-a-kind missions with new technologies, innovative measurement techniques, and breakthrough capabilities is fundamental to JPL and a foundation of NASA's success. Delivering technically complex missions with acceptable risk while meeting our commitments to cost and schedule is a challenge that requires continuous attention to and improvement in how we execute our mission work. From formulation to requirements definition to verification to procurements to manufacturing approaches, we must work to simplify our processes and increase the velocity of smart decision-making. We must equip project teams, decision-makers, and sponsors with better information with which to understand the scope and risk of their commitments. This imperative is focused on how to improve our performance and ensure JPL delivers what we promise. All of NASA benefits when we deliver on this strategic imperative.

SUCCEED

We Envision a World in Which:



The Near-Earth Object Surveyor: NEO Surveyor is designed to help advance NASA's planetary defense efforts to discover and characterize most of the potentially hazardous asteroids and comets that come within 30 million miles of Earth's orbit (illustration).

- We are a trusted implementer, accountable for delivering on our mission commitments.
- We quickly, accurately, and frequently forecast and assess cost, schedule, and technical status for projects that are underway.
- We implement projects within an efficient process framework so that effort can be applied to areas of true innovation.

By 2026 We Will:

- ① Establish a **Program Analysis & Evaluation** function to track technical and programmatic baselines with metrics that look ahead to predict cost and schedule performance.
- ② Modify **assigned mission formulation** practices to make use of established, appropriate best practices from our competed mission formulation process.
- ③ Reform **flight implementation end-game processes**, specifically risk assessment/management, Verification & Validation (V&V), and Problem/Failure Reporting (PFR) to better balance efficiency with mission success.
- ④ Set up a **Technical Logistics Organization** to support prototyping and manufacturing resource planning. Identify and streamline key processes and optimize supply chain capacity through intelligent inventory stocking, infrastructure investments, and supplier development.



Atomic Chips: Inside this compact vacuum chamber, physicists orchestrate a series of precisely timed cooling stages by applying laser beams, dynamic magnetic fields, and chirped radio waves, culminating in a condensed cloud of quantum gas near absolute zero.

GOALS:

SUCCEED

SEED

LEAD



TRANSFORMATIVE SCIENCE AND TECHNOLOGY

Pursue leading-edge science questions and boldly drive innovation and technology into flight missions



CADRE: NASA's Cooperative Autonomous Distributed Robotic Exploration project is developing a network of shoebox-size mobile robots that could enable future autonomous robotic exploration of the Moon, Mars, and beyond.

The Opportunity:

JPL pursues scientific discoveries that benefit humanity. We seek to understand how Earth works as a system and how it is changing. We explore the many mysteries of our vast universe and how our own solar system formed and is evolving. We search for evidence of life elsewhere, past, or present. These fundamental questions drive our existence and enable our future. To pursue them, we must invent or leverage new technologies that enable ever more daring flight missions and scientific analyses. We must imagine a future of science from space that others can't yet see. With our partners across the scientific community at Caltech and around the world, the nation depends on us to drive the frontiers of science and technology for the benefit of humanity.

We Envision a World in Which:



EELS: JPLers test a snake robot called EELS. Designed to sense its environment, calculate risk, travel, and gather data without real-time human input, EELS could eventually explore destinations throughout the solar system.

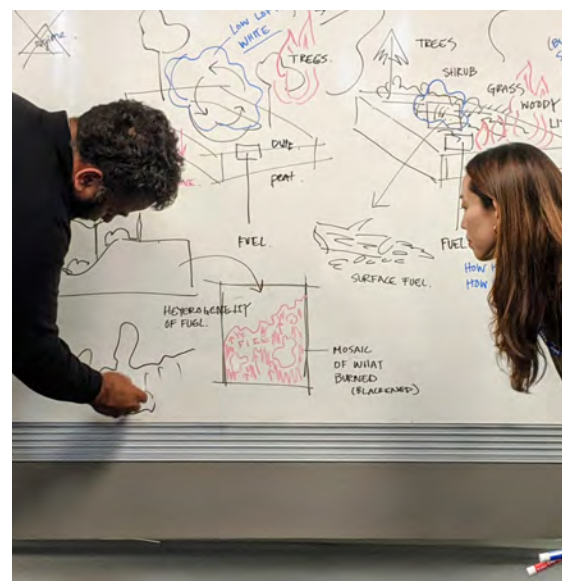
→ JPL and campus researchers enable and drive transformational science from space, and JPL is the academic community's partner of choice across Earth, astrophysics, and planetary science disciplines.

→ We have a Lab-wide coordinated technology development and infusion program and a defined strategic investment plan that is science-driven and strategically aligned.

→ We have an approach to small-scale flight demonstration and innovation that is forward leaning in speed, risk tolerance, and cost.

By 2026 We Will:

- ① Articulate Lab-wide **transformational science challenges** to drive internal investments and research.
- ② Expand JPL's role as a **convenor, host, and promoter of the Earth- and space-science communities** aligned with NASA's missions.
- ③ Develop a **technology infusion program** that enables and leverages a set of forward-leaning technologies, developed internally or externally, that are science driven, strategically aligned, and coordinated Lab-wide.
- ④ Create an **innovation hub** with Caltech to validate flight capabilities with greater risk tolerance to mature and have them ready them for infusion into JPL missions.



Whiteboard Moments: Two JPLers collaborate in the Office of Strategy and Formulation.

SEED

GOALS:

SUCCEED

SEED

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● S|04

LAB-WIDE PLANNING AND PRIORITIZATION

Forecast and prioritize new work across JPL to align with our capabilities and goals



VITAL: Some of the dozens of engineers involved in creating a ventilator prototype specially targeted to coronavirus disease patients.



Mars Ingenuity Helicopter: Team members for the Mars Ingenuity helicopter review a plan for the flight model test in the 25-foot space simulator at JPL.



Deep Space Network: The DSS-14 antenna at the Goldstone Deep Space Communications Complex.

SEED

The Opportunity:

Our success depends on core capabilities that keep us at the leading edge across our programmatic areas of work. However, lack of integrated understanding of our current and upcoming commitments put pressure on our people, facilities, and systems and strains our pursuit of new work. Resource realities require us to make decisions that assure successful execution of current work, and yet we must always look to the future toward transformational science, next-generation capabilities, and the new missions that will come our way. Without a JPL-wide forum and a systematic approach to making decisions, we are inclined to overcommit, and our ability to deliver on those commitments is compromised. By embracing integrated planning with new tools, we can create more accurate resource projections (including funding, people, and infrastructure) that will enhance our ability to make smarter decisions about our future work so that we may maintain an exciting and balanced portfolio for years to come.

We Envision a World in Which:

- We understand and regularly assess our current and future capacity to enable smart decisions on future commitments and the overall health of the Lab.

- We align JPL core capabilities with NASA and national priorities to enable future opportunities. We deploy unique technology and skills to solve problems of national significance.

- We undertake projects that match the Lab's strategic capabilities and fit within the infrastructure and human resources with understood and managed institutional requirements.

- Our programmatic directorates work together in portfolio planning and decision-making to maximize benefit across our diverse set of impactful activities.

- We make robust make-buy decisions related to workforce, systems, subsystems, and components to focus our efforts on what we do uniquely well.

By 2026 We Will:

- ① Establish a **Future Work Board** to enable balanced, integrated decision-making about new mission activities that drive partnerships and make-buy decisions.

- ② Develop an integrated approach and tools for **capacity management** that will align resources and infrastructure with Lab priorities, respond to changes as needed, and better leverage partnerships to enable surge capacity and flexibility.

- ③ Create an **Institutional Quarterly Review** of the health of JPL across multiple dimensions to inform future planning and risk management.

● S|05

INDUSTRY LEADING WORKPLACE CULTURE

Create an inclusive, collaborative, and engaging workplace culture that serves as a role model for the space industry



Laurie Leshin's welcome quilt: Created by 153 fiber artists and contributors, Dr. Leshin's welcome quilt has become a symbol of JPL's community.

The Opportunity:

At JPL, we seek to dare mighty things together. Our social cohesion, team dynamics and ability to be seen and feel valued as colleagues are fundamental to our existence as a high-performing organization. We believe a culture of inspiration, inclusion, respect, and belonging drives better innovation and collaboration, creates a stronger sense of purpose, positions us as an ideal employer, and is essential for mission success. We have the opportunity to lead the space ecosystem in creating a modern, inclusive workplace with a world-leading diversity, equity, inclusion and accessibility (DEIA) culture. In doing this, we seek no less than becoming a model for the space industry.

We Envision a World in Which:



International Women's Day: More than 650 women gathered on Lab for the annual International Women's Day photo, participating in a generational time-lapse showing the growth of female employees on Lab through the decades – starting with the longest tenured NASA employee, and ending with the Lab's first female Director.

→ People at all levels of our organization operate in an environment of trust, support and collaboration, and where our high-performing teams of all kinds are recognized for their contributions to JPL's success.

→ We are defined by a talented and innovative workforce, rapid information sharing and a culture of inclusion and respect.

→ We have established common values and a shared set of expectations about how we live those values within our community.

By 2026 We Will:

① Deliver on our commitments to an inclusive culture captured in **JPL's DEIA Plan**.

② Institute a **team-building program** that provides training and resources to foster new modes of collaboration and effective communication within and between teams – including Caltech, NASA, and partners – which will empower our people to deliver on our exciting work.

③ **Value inclusion** as a basic requirement in the selection, development, and promotion of leaders.



Welcome Table: JPL's Welcome Table series brings JPLers together to spark connections and conversations with new and familiar faces.

GOALS:

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● S|06

GLOBAL INSPIRATION

Catalyze a global community to share compelling stories about space and Earth exploration that are synonymous with the future of humanity



Eyes on Earth: An employee uses the JPL-developed Eyes on Earth data-visualization application to demonstrate to visitors how we study the changing Earth.



Explore JPL: A JPLer shows the Mars Perseverance rover wheel design at the 2023 Explore JPL public event.



Orbit Pavilion: From 2016 to 2022, this JPL-designed sound installation taught Huntington Gardens visitors about NASA's Earth-science missions.

The Opportunity:

Imagine a world where JPL generates awe and sparks imaginations at massive scale and with real societal impact. To achieve this, it is crucial that our outreach be bigger and broader than JPL, or even NASA. We must create an environment that encourages others to engage with and share stories about the value of space and Earth science, and exploration through different vantage points, lived experiences, and perspectives. We must look beyond our usual partners to enhance how we connect with people everywhere. By doing so we will greatly expand our global reach and impact. As we unleash the incredible creativity that already exists across JPL and outside of the Lab, we will help shape and amplify the stories that are redefining the future of humanity through space exploration at this extraordinary moment in time.

We Envision a World in Which:

- We have dramatically expanded engagement of humanity in space exploration and Earth stewardship.
- We have fueled future generations' passions in science, technology, engineering & math (STEM) education and careers, and helped those not in STEM imagine a future in which space exploration plays a much greater part than in prior decades.
- We have invested in and designed compelling visualizations, content, and immersive experiences that democratize data, allow for co-creation, and catalyze engagement and action.
- We have forged new connections and leveraged the networks of culturally relevant storytellers and influencers to magnify the awe we can create together.

By 2026 We Will:

- ① Host a **global forum** that regularly catalyzes storytellers everywhere to create content connecting space exploration and stewardship of Earth with the future of humanity.
- ② Build a much larger and more diverse **network of creators**, influencers, industry and STEM partners to unleash awe beyond the traditional space community.
- ③ Pilot **cutting-edge storytelling and outreach** technologies and techniques to make space exploration both tangible and inspirational to people everywhere.

LEAD

GOALS:

SUCCEED

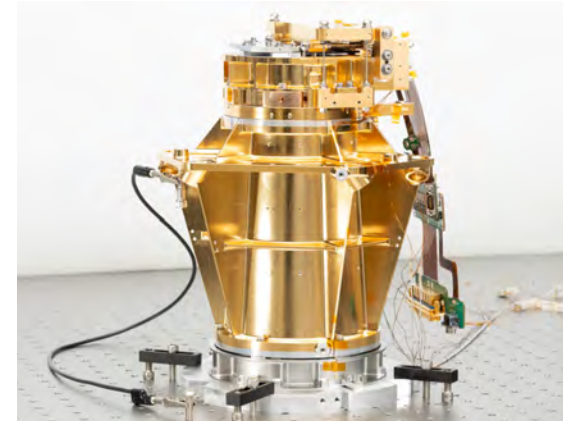
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LEAD



2036 AND BEYOND – LAUNCHING JPL'S NEXT CENTURY

Envision and position JPL for a bright long-term future in the space ecosystem



Carbon Plume Mapper Prototype Testing: The Carbon Plume Mapper will provide the world with a valuable new tool to find and fix methane leaks and help mitigate global warming.



In Flight: Artist's rendering of Lunar Trailblazer.



Psyche: Engineers integrate the gamma ray and neutron spectrometer instrument into the agency's Psyche spacecraft.

The Opportunity:

We face unprecedented change and new opportunities as the global landscape for Earth and space science evolves. As the commercial space industry advances, new private space economies take hold, and new national space agencies emerge, the form of science and exploration over the coming decades will be fundamentally different than in the past. Within this new, expanded, and exciting space ecosystem, how should we think about the role of JPL? How should we evolve to organize and operate for this future? How and when should we develop or commercialize JPL product lines, lean into new forms and scales of partnerships, and otherwise adapt to new opportunities? We will take time to engage the whole Lab and beyond over the next three years to co-create a vivid picture of JPL's longer-term future as a leader in the space ecosystem beyond the horizon of this three-year plan. In doing so, we will navigate toward our North Star and continue to drive the forefront of scientific discovery for the benefit of humanity.

We Envision a World in Which:

- We have the vision, systems, and structure to thrive. We are responsive, supportive, and agile in the face of change and opportunity while always staying aligned with our core values. We continuously focus on the future and understand the changing landscape of government and industry within the space ecosystem.
- We support the democratization of space and help the new space economy to thrive. As NASA's FFRDC, we embrace the opportunity to sit at the interface between NASA's needs and emergent commercial capabilities in alignment with scientific priorities. We increase our interaction with nontraditional partners and are more agile with impactful technology transfer and creative public-private partnerships.
- As a key member of the NASA family, and in partnership with Caltech, we help enhance US leadership through multi-national science-driven endeavors and enabling allied-nation civil space agencies to pursue their aspirations.

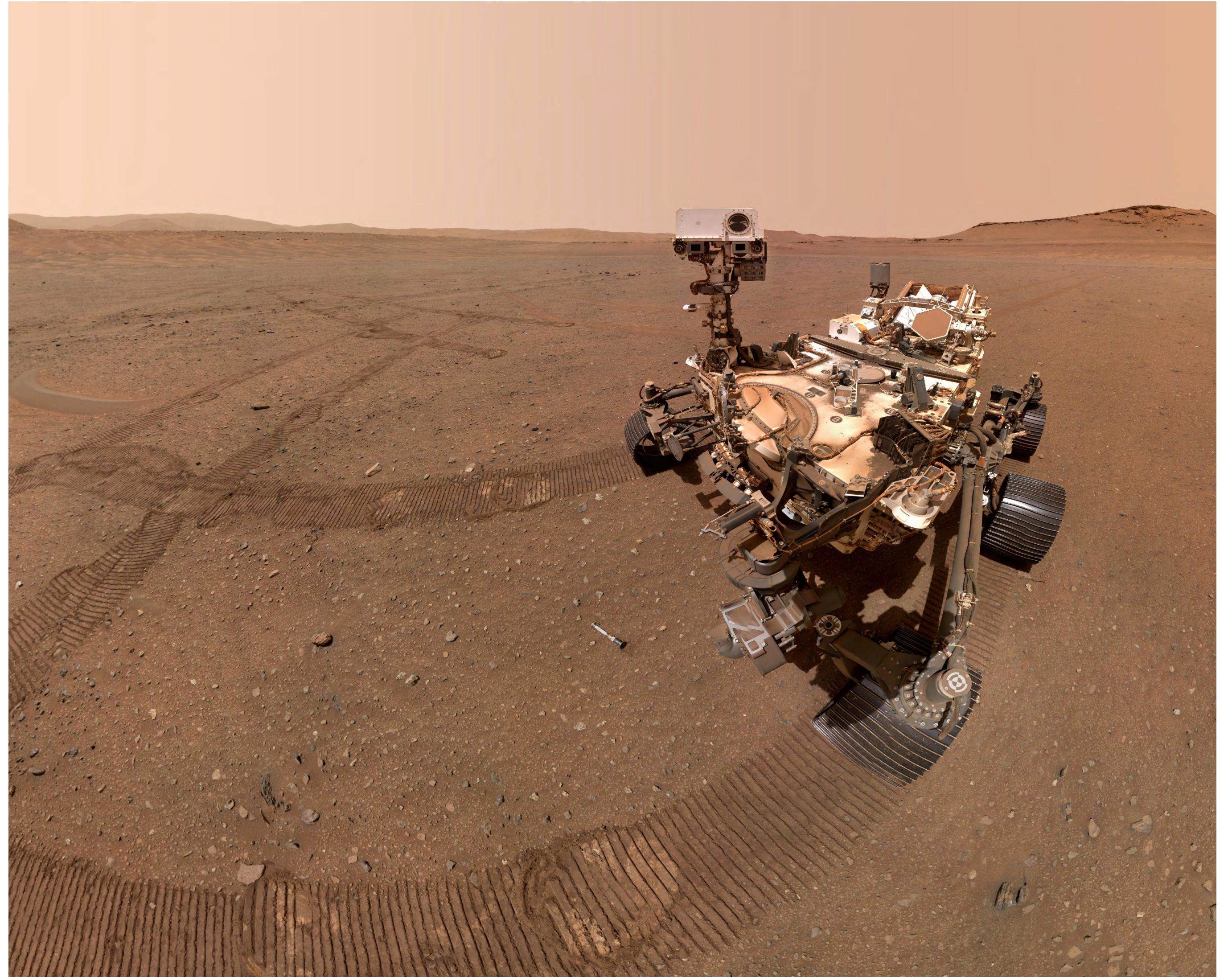
By 2026 We Will:

- ① Strengthen JPL's **strategic foresight** and advance our ability to understand and respond to political, societal, scientific, and industry trends.
- ② Articulate "Who We Are" and "What We Want to Be" within the future space ecosystem. **Create a roadmap** focused on positioning JPL for our second century.

LEAD

When We Succeed...

Taken together, this plan is ambitious and exciting. It is aligned with input received from across JPL and beyond. It not only addresses needed near-term changes and focus areas, but sets up JPL, NASA, and the broader space ecosystem for long-term success. By staying focused on our strategic imperatives, we will continue to change JPL for the better and dramatically increase our impact in the world. And we will do it together. When we celebrate JPL's 90th birthday in 2026, we will do so knowing we have embraced opportunity and taken a hard look at ourselves and look forward with pride to our coming centennial. We will truly embody the spirit of "Dare mighty things together!"



Dare Mighty Things Together:
A Plan for JPL

2023 ● ● ● 2026