GESTA Response to NASEM Study Questions
Date: August 3, 2026

Goddard Engineers, Scientists, and Technicians Association (GESTA) is a union, the membership of which consists of the scientists, technologists and engineers employed at NASA Goddard Space Flight Center, including its main campus in Greenbelt, Maryland, the Goddard Institute of Space Studies (GISS) campus in New York, NY and the Katherine Johnson Independent Verification & Validation (IV&V) Facility in West Virginia.

We are responding here to questions asked to us by a bipartisan Congressionally-mandated National Academies study committee, "Assessment of Technical and Scientific Capabilities at NASA Goddard Space Flight Center." Our answers to these questions are based on perspectives and input gathered from GESTA's membership, as well as the broader Goddard workforce and community over the last year and a half. Given the magnitude of the changes at Goddard over this time period and due to the wide scope of Goddard's capabilities and expertise, these answers are not comprehensive. Nevertheless, we hope the snapshot we provide will be helpful to the committee's work. We and the broader Goddard workforce share the same desire as other stakeholders, to build a future where Goddard can continue to lead and support NASA's missions in exploration and space and Earth sciences, for the benefit of the American public and our world.

Questions 1) & 2) & 3a) ask:

- **"*To what extent do you see GSFC today as capable of the kind of missions and support that NASA requires for the current missions it must accomplish?*"**
- ***"Has this capability been enhanced or degraded in the recent past by the consolidation and personnel changes with respect to the ability to execute the mission?"***
- ***"How would you assess the capabilities of the current GSFC workforce to support a mission (either science or human exploration) in the ability to support across the full suite of technical capabilities expected of GSFC to perform missions assigned to it?"***

GESTA has overwhelmingly heard deep concerns about, and testimonial evidence of, short and long term degradation of Goddard's capabilities from the massive loss of personnel over this past year and due to the consolidation of facilities at both the Goddard Greenbelt and GISS campuses. Such personnel losses have had impacts across the full breadth of Goddard's historic capability areas. We are aware that consolidation activities and personnel losses are still ongoing as of August 2026, as a result of decisions made throughout 2025 by NASA leadership at the agency and Goddard management level. Many employees we heard from feel that **Goddard still remains capable of both leading and supporting NASA missions in engineering and science**, but they feel their jobs have been made significantly more challenging due to these changes and that **Goddard is operating at a reduced level**. Other employees make the case that **Goddard is not capable in its current state of fully delivering unique and high profile missions like those we have accomplished in the recent past**,

such as the James Webb Space Telescope, the Roman Space Telescope, and the Plankton, Aerosol, Cloud, ocean Ecosystem (PACE) mission.

Personnel Losses: GSFC's workforce remains one of the most technically capable and experienced at NASA. **The Center continues to benefit from exceptional engineers, scientists, technicians, inspectors, project managers, mission assurance personnel, and technically qualified first-line supervisors who have successfully delivered some of the Nation's most complex and challenging space missions.** The technical foundation required to execute GSFC's mission remains strong because of the expertise, dedication, and collaborative culture of its workforce. However, there are growing **organizational risks** that are impacting the Center's ability to sustain its full suite of technical capabilities over the long term. While facilities can be modernized or replaced, the institutional knowledge, engineering judgment, and collaborative culture developed through decades of mission experience are far more difficult to rebuild.

Workforce reduction offers and insourcing efforts were done without strategic consideration for how they would shape Goddard's long-term capabilities and workforce pipeline. Many of Goddard's capability areas are understaffed, overworked, and approaching a breaking point. The **loss of ~40% of our workforce has led to double-to-triple the workload for some**, and also left us a "swiss cheese organization" in which there are **holes throughout disciplines, skillsets, and capabilities**. Workforce losses have included:

- Subject matter experts across all science and engineering disciplines
- Personnel and technical management.
- Support service personnel
- Term employees
- Pathways interns
- On-site contractors

Institutional knowledge, vital to the successful execution of missions, is created by having a pipeline of **expertise, fostered through a predictable and stable workplace**. This pipeline is achieved demographically through the knowledge and wisdom acquired through decades of experience of senior personnel who overlap significantly in time with mid-career personnel with onboarding of early career employees at a rate that slightly exceeds attrition (as not all early career employees remain at their original institutions). Losses have been especially noticeable among both our early-career and our most senior engineers and scientists. Senior employees with decades of **unique subject matter experience and skills** retired or left Goddard earlier than they had planned, in many cases without adequate time for their knowledge to be fully transferred. Goddard term employees, many of whom were early career employees, faced non-extensions of their terms or departed early due to that uncertainty. Pathways interns at Goddard, promising graduate and undergraduate students who spent years being trained and building careers at NASA while completing their studies, were not converted to full time positions, interrupting this vital workforce pipeline. For the 2025-2026 academic year, Goddard did not host interns at all. Other close academic partnerships with graduate students, post

doctoral students, and research scientists were ended as NASA grants to universities were eliminated or experienced ongoing funding uncertainty and delay.

Unpredictability and delay in funding and resources has made GSFC less competitive in retaining and attracting the top research minds. Over the last year the architecture of “soft money” funding at GSFC’s university partners has been severely damaged not only due to changes at NASA, but also at other funding agencies who contribute to the work at NASA (e.g., NSF, NOAA, DOE). Grant-based researchers partner with GSFC through employers who require a buffer of forward funds to allow for employment. That forward funding has become longer with uncertainties in grant timelines leading to hesitancy in keeping personnel and in the torment of workers getting redundancy notices when their forward funding is short. Some universities have erected “financially protective” barriers to mitigate against this uncertainty. For instance, Columbia University altered its policy for funding buffers for its NASA employees from 3 months prior to 2025 to 6 months today. Layered on top of late funding calls (e.g., ROSES 2026, the Research Opportunities in Space and Earth Sciences, NASA’s grant-based science funding call typically released February 14th, still has not been released) many soft-money institutions are losing and exporting personnel (sometimes abroad) and contracting. It is easiest to institute this contraction at the lowest levels – evidence of this contraction can be found in reduced STEM graduate school admissions. This broader contraction of US science has the direct impact of reducing the number of graduate students and postdocs working at GSFC. These earliest career individuals not only provide onboarding of future mid-career and senior leaders, but at this stage, they have a narrowness in scope of their research interests to be highly productive when paired with an appropriate mentor.

Onsite contractor employees who were part of ongoing mission teams were also terminated in anticipation of the budgetary cuts for the 2026 fiscal year, and prior to Congress's approval of a more generous budget than presented in the PBR. In some cases, cuts to the contractor workforce were justified by insourcing their job functions to the civil servant workforce, but often with little consideration of the perspectives of subject matter experts, projects, or even first line supervisors. **This was a pattern throughout 2025, of subject matter expertise not being adequately considered when technical inputs were needed to inform strategic decisions.**

Personnel losses have led to overburdening of the remaining workforce. In some disciplines (e.g. propulsion), employees are down to only 1 or 2 employees remaining with critical subject matter or technical skills, threatening that capability's long term viability. The loss of support service personnel (e.g. facilities, IT support, badging support, purchasing support, shipping/receiving/transportation support, library services, including digital access to journals and texts) has also complicated Goddard employees' ability to complete their technical and scientific work.

In engineering, the loss of, and also the reassignment of, experienced first-line supervisors outside of their technical disciplines has also reduced the effectiveness of technical governance, workforce development, and succession planning. First-line supervisors are responsible not only for hiring, mentoring, and evaluating specialized engineers, but also for reviewing and approving technical documentation, engineering decisions, risk assessments, and other products that directly support mission execution. These responsibilities require discipline-specific technical

expertise to ensure risks are appropriately evaluated and engineering decisions are well informed.

Consolidation Activities: The Goddard campus consolidation activities have ranged from minimally disruptive (cases where laboratory functionality has been retained after a re-installation period), to resulting in the abrupt and complete divestment of critical Goddard facilities. This included divestment of the following facilities:

- Goddard ElectroMagnetic Anechoic Chamber (GEMAC)
- Microwave Electronics Test and Assembly Laboratory (METAL)
- Digital Communications Laboratory
- Power Systems Branch Battery & Solar Array Laboratories,
- Propulsion Facilities
- Materials Laboratories
- Building 4 thermal chambers
- Building 11 vibration test facilities
- Embedded machine shops (where employees could quickly prototype or correct parts).
- Specialized laboratory for heliophysics instrument development
- Goddard Institute for Space Studies (GISS)

In some instances the divestment of and consolidation of lab spaces directly led to specialized engineering or scientific personnel in those laboratories also deciding to depart from Goddard.

Impacts to capabilities occurred in a context where offices and labs were moved or divested under extremely tight deadlines (often only a few days), and with limited resources. Much of the burden of rapidly sorting, packing, staging and cleaning, was placed on front-line engineers, technicians and management. Due to the short move deadlines, we have also heard of situations where equipment, or valuable hardware have gone temporarily missing, or had to be retrieved from the garbage or excess categorization, and testimonies that millions of dollars of equipment has been excessed improperly.

There have been cases where laboratory infrastructure has not been readied to accommodate relocated facilities in time, resulting in significant capability downtime (e.g. for materials laboratories). Some buildings where engineering laboratories have been consolidated are still in need of significant maintenance or upgrades (e.g., we have heard concerns about the adequacy of cooling capabilities for relocated server rooms, and the potential of available server room space to meet existing or future mission systems needs). We have also heard concerns about overcrowding in offices in some disciplines (e.g. Heliophysics) impacting scientific and technical work productivity, and of inadequate meeting spaces. Inadequate physical workspace and disconnection from university partners has also resulted from the closure of Goddard's GISS facility.

We also understand plans to outsource work to external partners or facilities (e.g. in the case of RF communications and the GEMAC facility) often may not be clearly able to meet NASA mission requirements.

One area of potential strength from the consolidation is the now on-going planning for the construction of a new Detector Systems facilities complex in order to address aging

infrastructure issues with existing facilities. We understand appropriate subject matter experts are being consulted during some levels of these planning discussions. Inefficient and risky intermediate building move activities underway in Detector Systems were also recently halted in late May 2026. However continued care will be needed to ensure that new laboratories facilities meet capability needs, and to minimize negative impacts to missions and programs during move transitions.

Questions 1a) & 2a) & 3a) ask:

- **"*What are the critical capabilities needed at GSFC? What facilities and workforce are needed to support those capabilities?*"**
- **"*What capabilities need to be preserved or expanded with regards to the facilities and infrastructure at GSFC?*"**
- **"*Are there any particular gaps you can identify...*?:"**

Critical GSFC capabilities: GESTA has compiled below a (non-comprehensive) list of capability areas, programs, or facilities that our employees view as core Goddard capabilities necessary to support past, current and future missions. These include facilities and workforce expertise that are essential to supporting missions from formulation through mission design, build, test and operation. They involve multiple engineering and scientific sub-disciplines, many highly specialized. They include maintaining a world-class engineering and scientific workforce and accompanying facilities capable of solving difficult scientific and engineering challenges, and capable of developing innovative and cutting-edge technologies. However, it should be emphasized that **the premiere capability of GSFC is in the mixing of these vast arrays of science, engineering, and technical competencies under one mission-focused organization**. Teams have **the ability to access all of the expertise needed to build an instrument or spacecraft end-to-end** in one community.

Sciences:

- Astrophysics: science, instrumentation and mission development (including gravitational wave, infrared, far-infrared, and x-ray astronomy)
- Astrophysics technology development (x-ray optics, detectors, mirror coatings)
- Astrobiology
- Communications office (communicating scientific and technical return to the public)
- Earth Science instrumentations, observation and modeling (including local- and large-scale, weather forecasting, climate, fire detection, hydrology, disaster management and recovery, resource management, ecosystem health,Ground-based atmospheric monitoring)
- Earth Science Data and Information System (ESDIS)
- Heliophysics, including instrumentation
- Planetary Sciences and instrumentation (including lunar, asteroids, and outer planets)
- Solar System Exploration Research Virtual Institute (SSERVI)
- Earth Sciences and instrumentation
- Planetary Protection
- GISS - Goddard Institute for Space Studies

Mission Development:

- Mission Design Lab
- Instrument Design
- Project management
- Requirements Assessment
- Scientific and Engineering Leadership (including a broad base who can understand what the Decadal Surveys ask of NASA in the future)
- Systems engineering

Instrument Development:

- Instrument Prototyping
- Balloon-borne instrumentation
- Detectors
- Cryogenics systems
- Instrument Electronics (including digital signal processing, readout)
- RF scientific instrumentation
- Lidar systems
- Optical design
- Precision optical alignment and metrology
- Microwave design
- Microwave instrumentation
- Microwave Electronics and Systems Test and Assembly

Spacecraft Development & Operation:

- Mission operations
- Formation flying/multi-vehicle coordination
- Guidance navigation and control
- Attitude ground systems
- Control, stability analysis, propulsion control schemes
- Modeling of complex sensors and actuators dynamics
- Modeling of complex orbital dynamics
- Rendezvous and Proximity Operations modeling and design
- Modeling and design of landing dynamics and estimates
- Power systems (including Battery & Solar Array Laboratories)
- Propulsion Engineering (including pipe routing and pressure testing; general pressure/fluid systems and testing)
- Software and avionics integration
- Supporting Phase E Operations

Spacecraft Communications

- Near Space Network (NSN)
- Goddard ElectroMagnetic Anechoic Chamber (GEMAC)
- RF microwave design
- Space Communications development (RF, microwave and submillimeter for both spacecrafts and instruments) spectrum support, and communication system troubleshooting

Integration and Test Facilities

- Large facilities for spacecraft and instrument integration and test, and small facilities for sub-system and components.
- Integration and test engineering
- EGSE, OGSE and MGSE labs
- Sub-orbital (Balloon, Sounding rocket) Integration and Test Facilities
- Space environmental testing, including thermal-vacuum (TVAC), radiation, vibration, electromagnetic interference, and acoustics test facilities

Safety Quality and Mission Assurance:

- ESD and Workmanship Programs
- Industrial Hygiene
- Mission Resilience & Protection
- Pressure Vessel Safety
- Cleanroom infrastructure
- Quality assurance engineering

Cross-Disciplinary Engineering Capabilities

- Materials characterization facilities
- Polymerics
- Thermal Engineering
- Mechanical and Structural design
- Precision machine shops
- Photonics and optical fiber integration for spaceflight
- Labs for fabricated boards and mechanisms.
- Specialized optical and thermal coatings development
- Computing resources
- Contamination control
- EEE parts failure analysis and reliability
- Harness and packaging technicians
- Management of specialized engineering equipment, tooling, and test assets

Capabilities Gap Details: We describe in more detail below, three examples of these capability areas and existing gaps within them.

Propulsion

- We understand only one senior technician who specializes in metal tubing is remaining. This capability is responsible for work that currently enables Davinci and future missions. Hiring propulsion technicians to transfer that knowledge is critical to future missions success.
- Propulsion analysis capabilities have been lost that will be needed even if Goddard only completes out of house missions in the future. Training of new analysts must occur well in advance of flight needs.
- Propulsion is in need of permanent lab space to build back the capability to support pressurized systems testing for both propulsion and instruments.
- The propulsion facilities and expertise are also needed for mass spectrometers being built for missions such as MOMA, DraMS, and VMS. Some of the propulsion facilities (e.g. tube bender, precision welding and cleaning) used for propulsion lines are also needed for the tubes and valves that carry the gas in mass spectrometers.
- GSFC has also lost trained experts in Computational Fluid Dynamics analysis needed for both mass spectrometers and propulsion systems.

GEMAC - Goddard Electromagnetic Anechoic Chamber

- This RF/antenna testing chamber facility was completely divested in October 2025 and most of the associated specialized personnel have since left.
- The GEMAC was verified to operate over an unusually large frequency range, with high resolution, including down to very low frequencies applicable to a wide array of uses.
- The GEMAC was on campus and readily available. It included the facilities and associated expertise to provide technical assistance, modifications, and troubleshooting.
- Due to a wall that could be opened, the GEMAC allowed testing of entire instruments, a capability not always available with other chambers.
- The GEMAC's unique combination of accessibility and integration with other RF and machining facilities directly enabled specific results, including the timely and on-cost completion of the PACE Earth Coverage Antenna (ECA) and Roman High Gain Antenna (HGA) through the pandemic.
- Due to the loss of GEMAC, GSFC does not currently have the ability to perform a test and reconfiguration in the same day and must go through multiple shipping/reconfiguration cycles for each configuration.
- Personnel and facilities do not currently exist at NASA to design, test, and deliver the HGA for Roman if work were started again today. Performing this work out-of-house will subject future projects to accommodate the schedules of these outside testing facilities and any expensive fees.

GISS - Goddard Institute for Space Studies

- GISS is the institutional base for climate simulations of all rocky planets, including the Earth, at NASA
- All personnel were evicted from the facility mid-May 2025:
    - Work in preparation for IPCC7 (International Panel on Climate Change, Phase 7) was well underway in Q2 2025. GISS plans on contributing to the CMIP7 (Climate Model Intercomparison Project, Phase 7). Focus on this time-deliverable work was meaningfully co-opted by the move and subsequent funding chaos.
    - Attrition occurred because of the demoralization of having no physical space.
    - Collaborative work has proceeded disjointedly as there are no longer collaborative spaces large enough to host the majority of the 130 GISS personnel.
- All internal NASA network connections in New York were eliminated:
    - Operation on the High Performance Computers (HPC) of the NASA Center for Climate Simulation (NCCS), physically located on the GSFC campus, is slow and awkward when done by VPN outside the NASA network. Security of the vital HPC machines demands that the connection of these machines to the outside be carefully controlled.
    - Local servers in NYC in the GISS facility that had previously been inside the NASA network were relocated to GSFC and the Lamont Doherty Earth Observatory Campus.
- A state-of-the-art conference facility was demolished, leaving the agency with a $1.7M dollar outstanding renovation bill at the time of removal.
- The original purpose of the GISS facility being located on a university campus--to foster university partnerships–has been broken.
- The physical set-up of New York City makes it easier to host international colleagues who often do not drive.
- International meetings for which GISS was a prime location have had to be relocated, depriving the agency of the opportunity to expand its international reach.
- International partnerships may now forgo NASA.
- Disruptive consolidation of *all*, *Agency-Wide* earth science modeling work
    - The combination of agency wide earth science modeling has proceeded in a top-down fashion, leaving expertise holes and uncertainty.
    - In December 2024, NASA issued the findings of the NTSSC/GISS evaluation of the leases of the GISS facility in NYC and another at MSFC. The findings included a recommendation *against* creating a virtual modeling institute
    - In January 2025, NASA began its work to create IMVI- Integrated Modeling Virtual Institute
    - Predictive modeling at long time-scales, such as required for estimating temperature trends over the next 50 years is **fundamentally different** from

weather-type, short-term reanalyses which are vitally important for estimating the full earth system from discrete measurements.
    - It is beyond the scope for us to propose the correct way to streamline American efforts in Climate and Weather modeling including assimilation methods, physics based methods and machine learning methods. However, a separate study powered by mid-career researchers alongside senior and early career researchers could provide a framework.
- Climate laboratories are in need of renovation after severe neglect
    - A climate model is a **laboratory** to study fundamentals in how the earth system works.
    - A climate model is also **software** that requires constant maintenance and updates and the attendant of expert personnel (existing and brought in through partnerships externally and between upper level and early career scientists).
    - International competitiveness and publication of cutting-edge science *reinforce* the desire of the brightest international researchers to do work at NASA GISS, but lack of funds and personnel have made it exceptionally challenging to compete internationally
    - Simulations and computing have been undergoing a major shift the last 5 years away from traditional HPC (high performance computing) towards GPU (graphical processing units) based methods.
    - Machine learning algorithms and techniques have been applied by many GISS researchers, but the institutional means to upgrade the architecture of the entire GISS model have been lacking. Funding saved for this purpose was instead spent to save existing personnel during the Q2:2025-Q2:2026 protracted periods of non-funding.
    - Other groups have been funded well enough to already accomplish upgrades in software infrastructure, leaving GISS in a posture of playing catch-up, even as the ideas generated in the group remain cutting edge.
- Funding uncertainty and delay is adversely impacting collaborations with Columbia University
    - Two thirds of GISS personnel are Columbia University employees who are funded via competitive research grants from NASA, NSF, DOE, and NOAA.
    - NASA translated federal dictates in Q1/Q2 2025 to mean that **no new grants could be issued to Columbia University**. From August 2025 onwards, NASA issued a new dictate demanding that any new grants have “A-suite signoff”, meaning that the administrators of NASA themselves would need to approve any new funding.
    - For ~6 months, funding was so poor that the entire unit faced the prospect of needing to fire half the personnel within the month. Several people were compelled into involuntary retirement.
    - Facilities and Administration (F&A, or colloquially overhead) was chaotically variable since the May 2025 eviction with rates doubling from 27% to 55%.

- Attrition of early and mid-career researchers occurred because of the uncertainty of funding, particularly early career scientists. GISS personnel structure has civil servants as the functional full-professors of the unit.

Question 2b) asks *"Have recent workforce changes impacted GSFC's ability to maintain critical infrastructure?"*

Recent workforce changes have affected the institutional knowledge and technical expertise required to effectively maintain, manage, and utilize critical infrastructure throughout its full lifecycle. Specialized facilities and technical assets require experienced engineers, technicians, and technically qualified first-line supervisors who understand their intended purpose, operational requirements, maintenance requirements, and long-term strategic value.

There are multiple engineering and science facilities where existing facilities and infrastructure personnel have recently been overburdened due to workforce losses (e.g. Detectors), impacting the maintenance of that infrastructure. Furthermore, the workers who remain to support GSFC's facilities have been tasked with additional workloads surrounding the campus consolidation efforts. Some of these concerns are also exacerbated by facilities funding gaps. The loss in facility support staff is creating delays to general building maintenance as well.

The National Academies' 2024 "NASA at a Crossroads" report covered thoroughly the state of infrastructure at GSFC, and the condition of facilities that remain at GSFC has only further deteriorated over the two years since. Many of Goddard's key engineering and technical facilities are in buildings whose infrastructure is degraded or obsolete. Increased occupancy due to campus consolidation efforts has only made these maintenance needs more plain. The failing infrastructure levies ongoing risk on the workers, equipment and hardware in the many buildings; staff must constantly be vigilant to protect their work from power surges and outages, water leaks and floods, insects and rodents, contamination and debris (crumbling paint or floor tiles), and dramatic shifts in temperature and humidity.

Question 3b) and 5) ask:

- ***"How would you assess the capabilities of the current GSFC workforce in the ability to hold open scientific and technical discussions with respect to mission formulation and execution?"***
- ***"Do you have any further comments to the committee with regards to GSFC's capabilities and workforce and infrastructure required to deliver those capabilities?"***

GSFC has historically fostered a culture where open scientific and technical discussions have been fundamental to mission formulation, engineering design, risk management, and mission execution. This culture has been one of the Center's greatest strengths, enabling multidisciplinary teams of scientists, engineers, technicians, mission assurance personnel, and technically qualified first-line supervisors to collaboratively identify technical risks, evaluate design alternatives, and develop innovative solutions to complex mission challenges. Maintaining this culture requires an environment where technical discussions are encouraged,

diverse technical perspectives are valued, and employees at all levels feel comfortable raising engineering concerns, offering alternative approaches, and challenging assumptions based on technical merit. Open dialogue strengthens engineering judgment, improves decision-making, and ultimately contributes to mission success.

In 2025 the culture of psychological safety among GSFC employees that enabled open discussions began to break down. Organizational silence became the norm instead. Communication between layers of management, and between management and the workforce were shifted to primarily in-person verbal communications which restricted the durability and spread of information. Communications were also primarily top-down in direction and delivered via the lowest lines of management to employees. These lower lines of management often had limited authority or ability to influence decisions in response to the feedback they received from subject matter experts. This was a stark change to the prior culture at Goddard. As an example, in the Engineering and Technology Directorate employees were directly told not to communicate beyond first-line engineering management levels and not to “break the chain of command.” As a result, **the foundational concept of technical authority was short-circuited**. In addition, we note that several roles key to the structure of technical authority, including the GSFC Chief Engineer and Chief Engineer for the Engineering and Technology Directorate, have been vacant since August 2025. With no or little internal avenues remaining for programmatic or technical authority-based dissent, and with evidence of management's inability to protect the Center’s capabilities from potential immediate harm, many Goddard employees were forced into alternate avenues to blow the whistle on the center’s potentially illegal and damaging actions, including pursuing congressional oversight channels and speaking with media outlets.

Employees have described a culture of fear over the last year and a half, including well-founded fears of losing not only critical GSFC laboratories, and technical and scientific capabilities they have dedicated their careers to, but also their career and employment. This has led to further breakdowns in communication between employees and management and between employees in different organizations.

The communications from Goddard management to the workforce and the public regarding the campus consolidation efforts were grossly inadequate. To-date, complete plans have not been disseminated by Goddard management to the entire GSFC workforce about what buildings have or will be closed and what capabilities have or will be divested. Communications from GSFC management regarding the consolidation efforts generally have not directly addressed employees' concerns or have demonstrated a lack of a full understanding of the impacts of consolidation activities to the workforce, equipment and capabilities, and lacked a clear understanding of the processes and timelines required to properly consolidate laboratories and equipment (e.g., the unrealistic consolidation schedule made public by a Congressional committee in early December 2025). Employees repeatedly had to adjust not only to the lack of information but also to continuously changing information and directions about moving conditions, moving timelines, and future plans for their office and lab spaces. To date, we have still not seen management take adequate responsibility for campus transformation actions or

acknowledge the harm done to the GSFC workforce and capabilities. In this regard, **trust is still fundamentally broken between the workforce and Goddard center management.**

Technological development capability: Collaboration has been particularly stifled between engineering and science disciplines due to changing strategic focus areas and internal funding programs that have de-prioritized direct NASA science applications. In 2025, Goddard adopted three new strategic focus areas to inform internal research and development (IRAD) investments and center priorities:

- Terrestrial Resource and Hazard Prevention (TRaHP)
- Advancing Solar System Exploration and Technology (ASSET) and
- Harnessing Innovation for Technological Superiority (HITS)

These focus areas have been described as "mapping to" NASA science, but now ensure that strategic areas are no longer solely and directly motivated by responding to NASA scientific mission needs. Additionally, Goddard management has prioritized projects and technologies that fall under only one of three categories:

- Moon to Mars
- Planetary Defense, and
- National Security,

These frameworks have hindered the workforce ability to have honest and open scientific, technical and programmatic discussions. They also mean that **internal investment funds are no longer entirely in alignment with NASA mission needs**, including the direction that the agency has declared for Goddard's role to serve as "an Earth and Space Science Center of Excellence." Some employees feel that these strategic areas are pushing us in such narrow directions that they have prevented us from taking advantage of our full expertise. We risk losing the capabilities to advance the technology readiness (TRL) of technologies crucial to future NASA science missions. This situation was exacerbated by overall drastic funding cuts to the Goddard internal research and development program in 2026.

Questions 3a) and 4) ask:

- ***…how would you address them [gaps you identified]*?**
- ***"How would you assess the capabilities of the current GSFC workforce in the ability to attract the best and brightest for their future workforce? What improvements would you recommend to increase that appeal?"***
- ***"Are there challenges or opportunities in the recent GSFC plan to convert contractors into civil servants?"***
- ***What recommendations would you provide to ensure GSFC is able to both execute challenging missions and develop the next generation workforce?"***
- ***"What are the challenges and opportunities… in the planned hiring of civil servants?"***

The Center's greatest strength is not any single facility or organization, but the integration of exceptional people, world-class technical capabilities, and a culture of engineering excellence. **Protecting that integrated capability will be essential to ensure that GSFC continues to meet NASA's evolving mission needs**. GSFC has historically attracted some of the Nation's best and brightest because of its reputation for technical excellence, challenging missions,

scientific innovation, and opportunities to contribute to projects with national and global impact. Maintaining that reputation will require continued investment not only in facilities and technology, but also in the people, leadership, and culture that enable technical excellence to thrive. We suggest the committee consider the following actions:

Workforce Development

- Ensure that Goddard receives a steady stream of cutting-edge space, Earth science and exploration missions such that a broad base of employees are able to gain **hands-on direct experience in mission and technology development.** This also ensures employees are able to fully utilize and advance their areas of expertise.
- Re-introduce internal development pipelines and training programs (e.g. PREP, SEED, PDL, TMT, technical certifications, leadership development programs, voluntary rotational assignments, continuing education) to ensure that Goddard employees can further develop the technical, scientific and leadership skills needed to serve the center and agency into the future.
- Continue investment in technical forums, engineering design reviews, scientific workshops, lessons-learned exchanges, and cross-disciplinary collaboration.
- Relatedly, remove barriers to scientific and technical conference attendance so scientists and engineers can professionally participate in their fields, and stay current on fast-moving science and engineering progress.
- Re-establish fair and merit-based performance awards.
- Re-establish telework and remote work flexibilities which increase worker productivity and also improve GSFC's ability to recruit and retain its workforce.

Workforce Hiring & Recruitment:

- Stabilize center funding to levels that allow Goddard to maintain its core workforce capabilities.
- Ensure scientific and technical hiring decisions are made based on sound and expert evaluations directly tied to NASA's technical and scientific needs as informed by subject matter experts.
- Transition contractors into civil servant positions while also opening new permanent civil servant positions to those beyond the current contracting workforce, since conversions in themselves will not increase total workforce numbers.
- Prioritize converting contractor personnel who possess mission-critical scientific and technical expertise, unique institutional knowledge, and experience. Conversions should be driven by mission needs and scientific and technical capability.
- Ensure that experienced contractors who don't wish to convert are not penalized and Goddard is still able to retain their expertise. Many experienced contractors may be reluctant to convert because federal pay scales and career progression opportunities may not be competitive with private-sector compensation, particularly for highly specialized technical disciplines.

- Increase recruitment and training of early-career employees (see more details below) through:
    - Fellowships
    - Post-doctoral appointments
    - University partnerships
    - A Pathways program where impenetrable commitments are made to undergraduate and graduate students for long term conversion.
    - Internships
    - Increasing or reinstating probationary employee protections
- **Prioritize mentorship and knowledge transfer as a crucial component of (and not a distraction from) technical work.**
- Re-introduce emeritus programs to allow retired civil servants to pass on the depth of their knowledge to the next generation.
- Ensure civil servant rights are protected (whistleblowing rights, bargaining rights, equal employment opportunity, the merit system).
- Streamline hiring processes.
- Address salary discrepancies between government and industry in the specialized technical and scientific fields required at Goddard, and ensure civil servant benefits (e.g job security, pensions, work life balance etc) remain competitive to provide compensation that may outweigh the higher salaries available in some contracting or industry positions.
- Relatedly, address government salary cap limitations (hiring and promoting hires into salary competitive GS levels and addressing current government promotion limits for specialized technician positions where salary is currently limited by education levels rather than years of experience).

<u>GSFC Pathways program:</u>

- **Ensure that all students currently in the Pathways Program at Goddard are offered conversions to <u>permanent</u> civil servant positions upon their graduation and successful completion of all Pathways program requirements**.
- Explore whether Pathways students who left in 2025 can be brought back on board.
- Change the structure of the Pathways program for future students to streamline conversion and make conversion the default, assuming Pathways program requirements are met.

<u>Term employees:</u>

- Ensure term employees can be converted to permanent positions to retain their expertise in core competencies at Goddard.
    - Require every term appointment include a provision in the SF-50 to allow for **non-competitive conversion to a permanent position** (some do not currently have this provision, making it harder to convert them to permanent status)

- Term positions should be limited to 2 years only, followed by a review and **conversion to a permanent position.** This will save time and money and make the process simple, streamlined, and clear.
- Require sound and detailed justifications (subject to oversight) as to why conversion is not offered.

Probationary employees:

- Reverse the changes made to the Federal Register 90 FR 26727 in June 2025 and revert back to the requirements for probationary employee termination as described in eCFRs 315.804 and 315.805.
  - Background: The previous eCFRs only allowed probationary employees to be terminated for unsatisfactory performance. The new rules stipulate a probationary employee can also be terminated if the agency determines their employment is no longer "in the public interest." New rules require the agency to **certify the employee's continued employment 30 days prior** to the probationary period end date; **otherwise, the employee is automatically separated from service**

Technical decision-making and management

- **Preserve technical and scientific leadership and authority at Goddard and ensure technical and scientific authority is closely aligned with technical and scientific expertise.**
- Ensure decisions affecting critical infrastructure and Goddard's specialized scientific and engineering workforce remain informed by technically qualified first-line supervisors and subject-matter experts who understand how these capabilities contribute to mission success across multiple programs.
- Revitalize hiring practices in executive and management roles to ensure GSFC is led by individuals who have both the leadership skills to rebuild trust with the Goddard workforce, and a deep technical understanding of how Goddard's workforce and facilities map to NASA's mission.
- Strengthen oversight and programmatic mechanisms to prevent the future implementation of non-strategic workforce, facility and capability cuts, including during periods of future funding uncertainty.
- Re-align Goddard's strategic focus areas and internal and external investments to more closely match Goddard's science and exploration mission objectives.
- Implement changes that will ensure transparency and accountability in leadership decision-making, and re-open lines of communication between leadership and employees.
- Ensure technically qualified first-line supervisors. Increase resources, training, and development opportunities available for first-line supervisors on technical and leadership topics as well as NASA policies and procedures.
- Consider programmatic adjustments where possible to mission schedules and funding to accommodate the currently reduced workforce and capabilities.

Facilities conditions:.

- Manage engineering equipment, tooling, and test assets as strategic institutional capabilities rather than as general facility resources. Decisions regarding their access, allocation, storage, maintenance, reuse, or disposition should be informed by personnel with appropriate technical expertise who understand their role in spacecraft development, integration, testing, and mission execution.
- Stabilize and designate inflation-adjusted funding for Goddard facilities to ensure that Goddard workers have access to facilities that are safe, and are upgraded to meet needs. The National Academies' 2024 "NASA at a Crossroads" report lays out suggested funding mechanisms for this, including creating a working capital fund to stabilize funding levels across fiscal years. We recommend that this roadmap is followed.
- Future investments should focus on modernizing aging infrastructure while protecting core technical capabilities. Decisions regarding facilities should consider not only utilization and cost, but also the strategic importance of maintaining national capabilities that directly support NASA's ability to develop, integrate, test, and successfully fly increasingly complex missions.
- Conduct a transparent property inventory process after the consolidation activities to properly assess any losses.
- Reevaluate the closure of the main cafeteria, closure of the health clinic, and suspension of office trash services, limiting of janitorial services and adequate cleaning and stocking of restrooms, and adequate physical office spaces, which all also impacts our ability to retain and recruit the best and the brightest to our workplace.
- Reopen the Goddard library, a key collaboration space, training space, and critical scientific and technical capability for NASA's Space and Earth Science Center of Excellence.
- Re-establish full electronic journal access for the many disciplines Goddard needs to plan and execute missions.
- Re-establish the records archival process, which was destroyed with the library closure.
- Re-establish the GISS facility.

These actions would help ensure that GSFC remains a premier national resource for engineering excellence, scientific innovation, technology development, and mission success in support of NASA's strategic objectives and the Nation's scientific leadership, nationally and internationally, for decades to come.