

# Non-Strategic Technology Gaps

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with particular input from

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# Technology “Gaps” Assessment

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- **PhysPAG EC was concerned by the number of submissions which were not relevant to NASA-specified strategic missions**
- **The issue was raised at multiple levels with NASA**
  - with Astrophysics Division leadership at APAC
  - With PCOS technologist via PCOS program & chief scientists

# Program Office Perspective and Results:

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- **Program Office (PO) Technology Objective:** to maintain and prioritize a list of [TRL 3-6](#) technology gaps with strategic alignment
- **PO appreciates that technology gaps with no current strategic alignment may still be of interest to colleagues (APRA, SMD, STMD, SBIR, OCT, Astrophysics community), and including non-strategic gaps makes the work useful to a broader audience.**

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- **Until now, technology gaps prioritized each year were automatically re-prioritized the following year**
- **TMB agreed to establish “Tier 4” priority for technology gaps with no current strategic alignment**
  - Gaps that scored zero for strategic alignment will be put in “Tier 4” after priority Tiers 1-3 (should, would, could investment recommendation tiers)
  - Tier 4 gaps will be included in the Program’s technology gap prioritization summary and published in the PATR for one year only
  - Tier 4 gaps must be updated to show relevance to a strategic mission or they will not be accepted for prioritization again

# The Program Office will also:

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- Email to submitters of gaps in Tier 4 and explain the new category and what changes would allow the gap to be accepted for scoring next year
- Add a section in the gap form requesting submitters to identify which strategic mission(s) their gaps align with
- Provide guidance to the PhysPAG for refining technology gaps:
  - Identify gaps to be considered for Tier 4 if they are not applicable to any strategic mission

Check out the new [Tech Database](#) and [Gap Priorities](#) websites!  
[Submit a technology gap](#) today!

# How to make your TRL 3-6 tech gap strategic?

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- **NASA identifies strategic science via guidance in the Decadal Survey**
  - 2010: [New Worlds, New Horizons](#) in Astronomy and Astrophysics
  - 2020: upcoming!
- **NASA Astrophysics Division creates and updates an Implementation Plan**
  - [2016 latest update](#)
- **and has a 30 year [Roadmap](#)**
  - developed by a community task force of the (now) Astrophysics Advisory Committee ([APAC](#)) in 2013

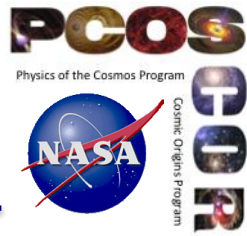
<https://science.nasa.gov/astrophysics>

⇒ **Get your science in the Decadal Survey!**

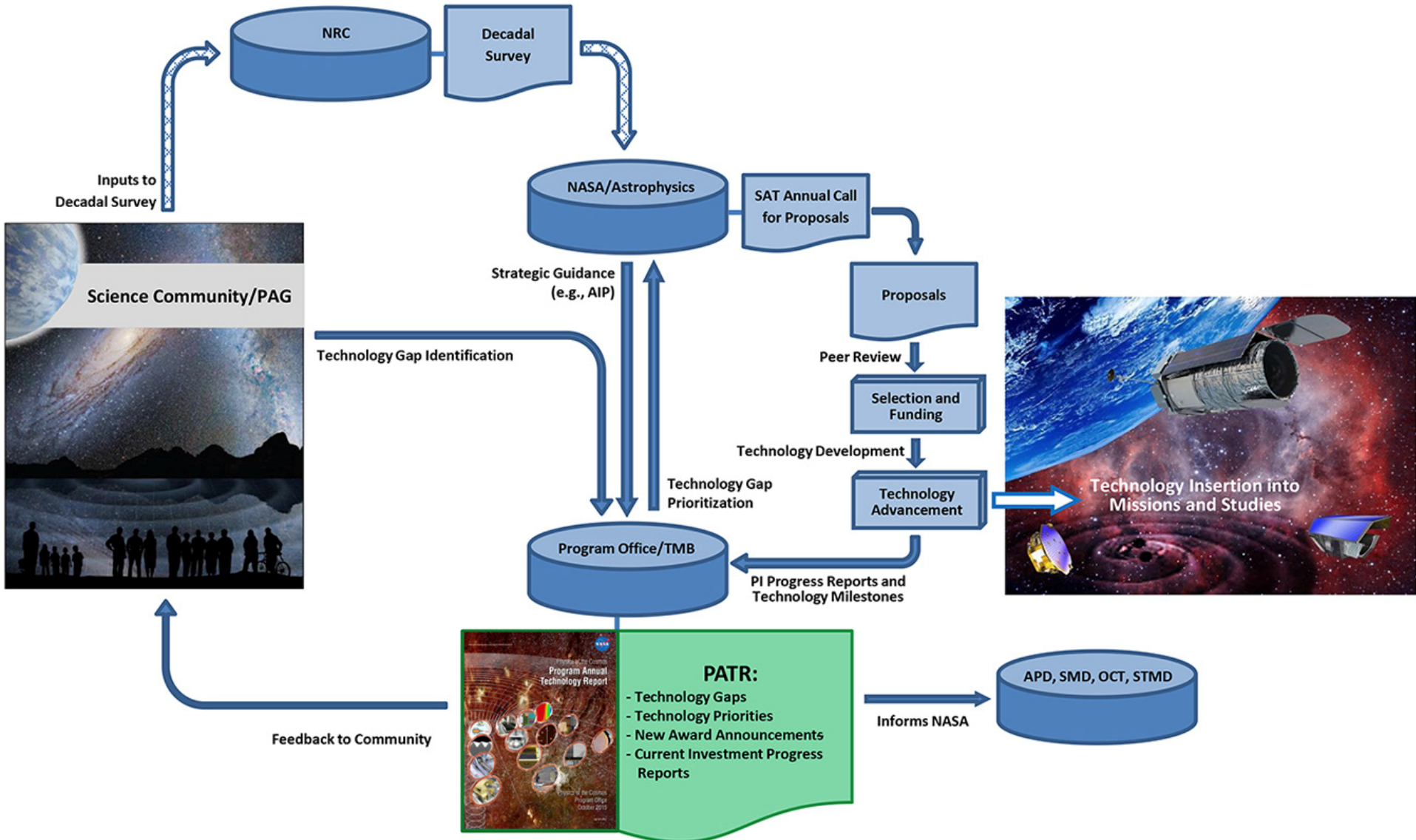
- via White Papers, Community events eg PhysPAG and SIG meetings, etc

# Backup

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# Strategic Astrophysics Technology (SAT) Overview: (TRL 3-6)





## The Program Office will also:

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- **Email to submitters of gaps in Tier 4 and explain the new category and what changes would allow the gap to be accepted for scoring next year**
- **Add a section in the gap form requesting submitters to check off which strategic mission(s) their gaps align with (see next page)**
  - Strategic missions will be identified and listed in this new section of the gap form for the submitter to confirm. Updates will be made as needed.
  - An “Other” entry will be available to capture those submissions that a submitter believes are strategic but that are not listed on the gap form

# Addition to Technology Gap Form:

1. Name of technology capability gap
2. Listing of applicable PCOS strategic missions
3. Description of technology capability needed
4. Assessment of the relevant current state-of-the-art technologies and those that could close this gap, including their Technology Readiness Levels (TRLs) with justification
5. Description of quantitative/ measurable performance goals and objectives to fill this capability gap
6. Scientific, engineering, and/or programmatic benefits of achieving this capability (filling the “gap”)
7. Potential applications and relevant mission(s)
8. Urgency: time to estimated launch date or other schedule driver

Program Technology Capability Gap Input Form	
Technology Capability Gap Name:	Date Submitted:
Your Name:	Organization:
Telephone:	Email Address:
<b>PATR Prioritization Information (see accompanying instructions)</b>	
<b>Please check which strategic mission(s) your technology gap is applicable to:</b> <input type="checkbox"/> LISA <input type="checkbox"/> Lynx X-ray Surveyor <input type="checkbox"/> Inflation Probe <input type="checkbox"/> Black Hole Mapper <input type="checkbox"/> Other: _____	
Brief Description of the Technology Capability Needed (100 – 150 words):	
Assessment of the Current State-of-the-Art (SOTA) and references justifying TRLs quoted at right (100 – 150 words):	Current TRL of SOTA:
	Current TRL of Full Solution:
Target Goals and Objectives to Fill the Capability Gap:	
Scientific, Engineering, and/or Programmatic Benefits (100 – 150 words):	
Applications and Potential Relevant Missions for PCOS, COR, and ExEP:	
Urgency (time to estimated launch date for enabled/enhanced missions or other schedule driver):	
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