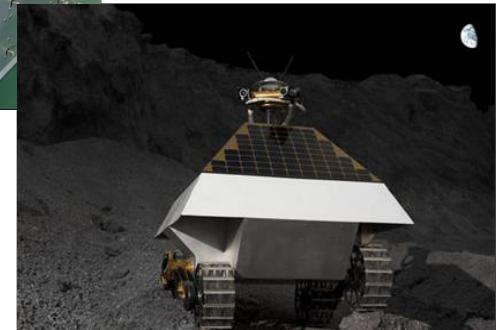
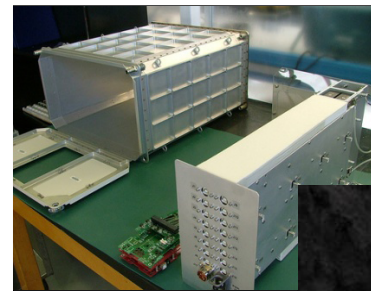
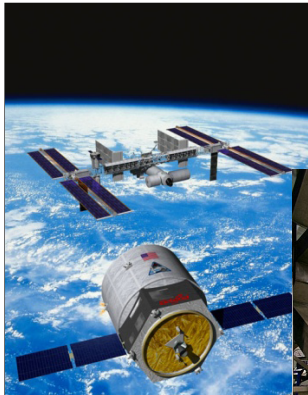


Improving NASA's Innovation Capture



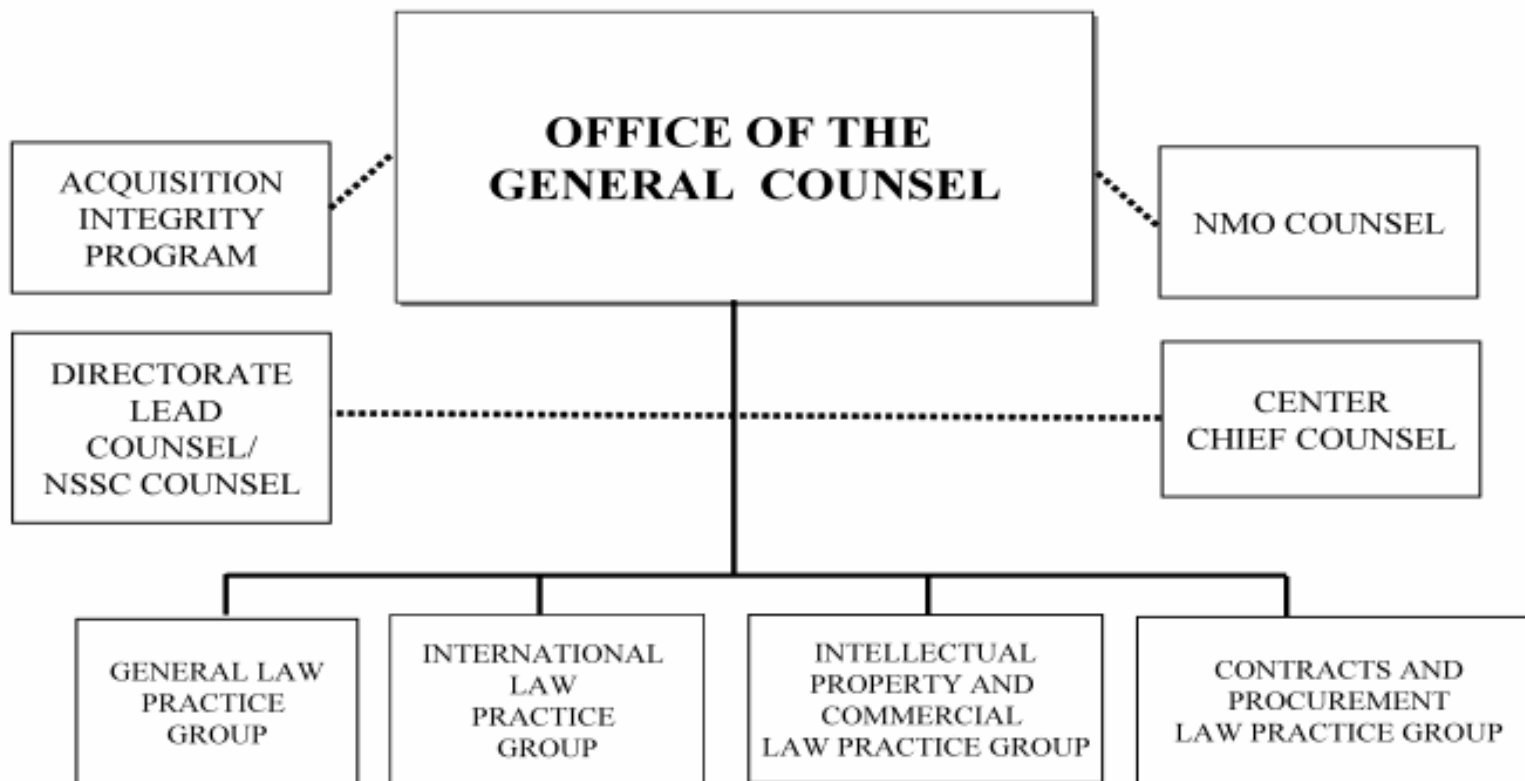
Courtney B. Graham,
Associate General Counsel, Commercial and Intellectual Property Law
Office of General Counsel
NASA Headquarters

April 28, 2011

NASA Office of General Counsel



OFFICE OF THE GENERAL COUNSEL

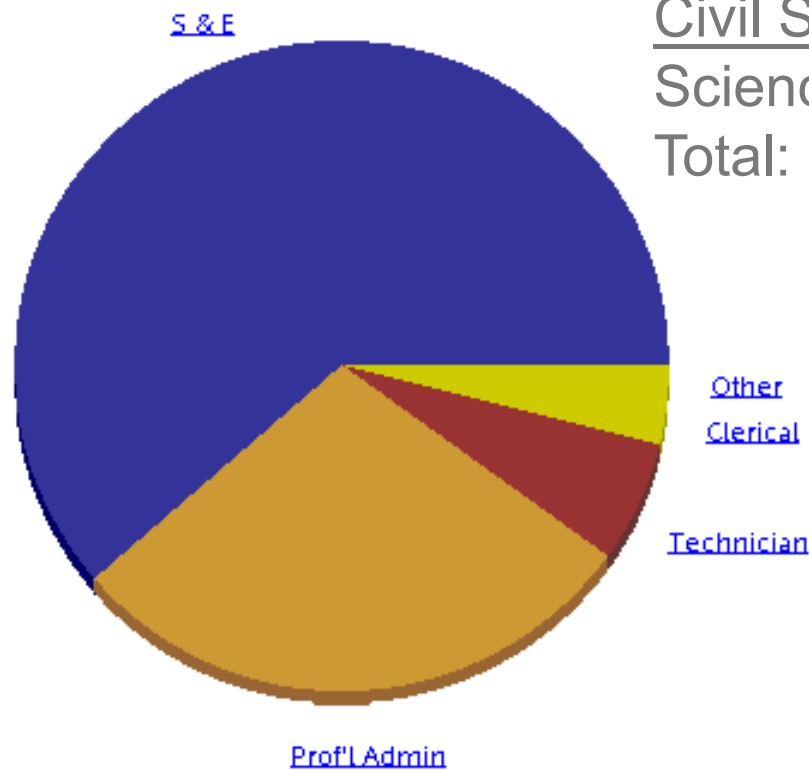
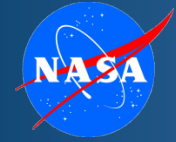


Capture Challenges



- NASA Civil Servants
- Contractors
- No Strategy for Portfolio Management

The NASA Workforce



Civil Servants:

Science and Engineering: 11,668

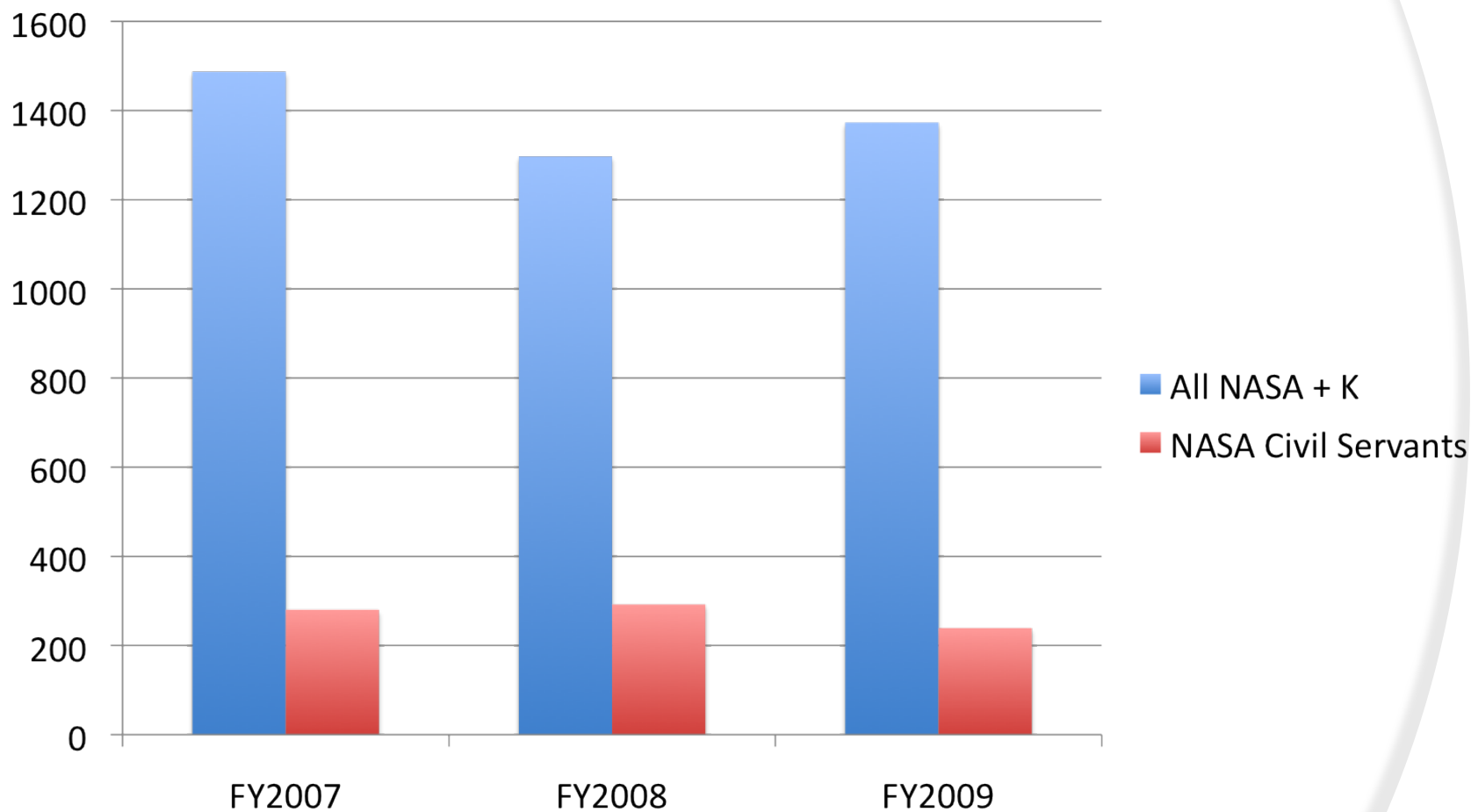
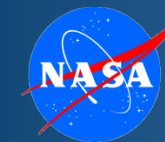
Total: 18,970

NASA spends \approx 15% of its budget on civil servants

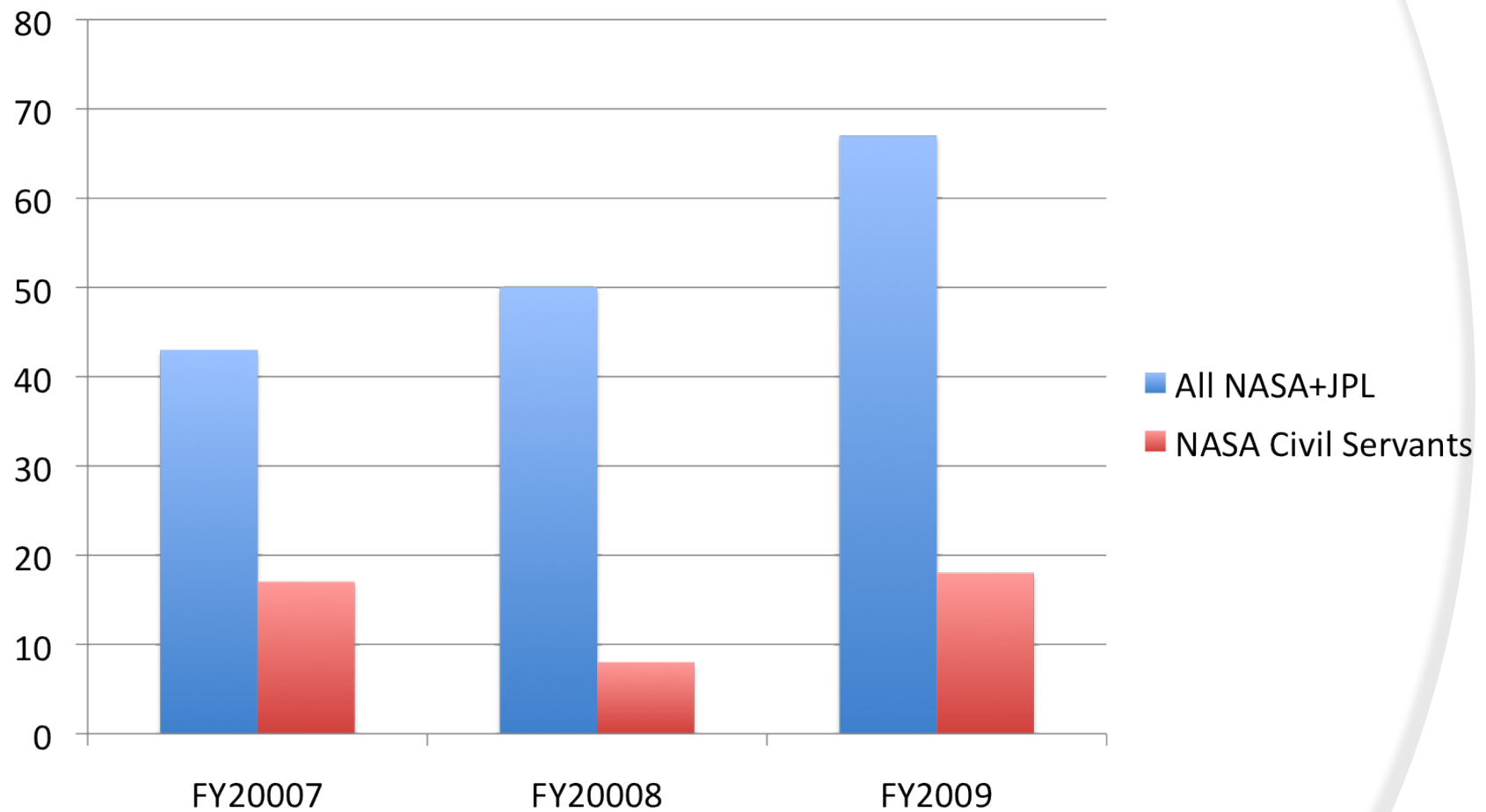
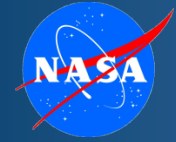
Contractor workforce estimated at \approx 40,000

Source: <http://nasapeople.nasa.gov/workforce/>, Retrieved 4/28, 2011

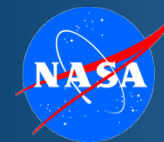
Invention Reports by NASA Civil Servants



Licenses of NASA Civil Servant Technology

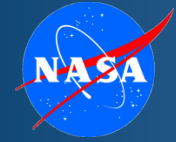


Civil Servant Innovation



- Numbers show that NASA may not be effectively capturing CS innovation.
- GSFC doubled disclosures through training
 - From approx. 50/yr. to 100+/yr.
 - Now >1/3 NASA CS reports
- OCE/OCT/OGC reviewing awards system to improve CS participation.

Capturing Contractor Innovation



- March 26, 2010

SPACE NEWS

Home Launch Contracts Civil Military Satellite Telecom Earth

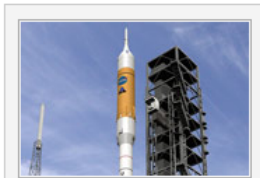
03/26/10 05:33 PM ET

Young Hits U.S. Spaceflight Plan

By Amy Klamper

✉️ ShareThis

WASHINGTON — One of the aerospace industry's most widely respected experts told House lawmakers March 24 that NASA's proposal to rely on commercial crew taxis for operations in low Earth orbit is too risky and urged Congress not to approve the plan.



NASA's Ares 1 launcher. Credit: NASA artist's concept

[Enlarge Image](#)

During a hearing before the House Science and Technology space and aeronautics subcommittee, former Martin Marietta Chief Executive A. Thomas Young said NASA should continue the Moon-bound Constellation program President Barack Obama **proposed canceling in his 2011 budget request**. Young said the Obama plan would leave the nation reliant on a private sector that is "a long way" from satisfying human space transportation needs.

"This is a risk too high and not a responsible course," said Young, a venerable industry veteran who is frequently called upon by the government to assess civil and military space programs. "The commercial crew option should not be approved."

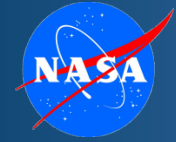
Rohrabacher asserted NASA's more than \$9 billion investment in Constellation has yielded "not one new piece of technology."

But Cooke said NASA has developed about a dozen new technologies under the program, many of which are part of the Orion crew capsule, "that will be potentially migrated into our technology programs."

Capturing Contractor Innovation

- Technology transfer is not considered as part of the acquisition planning process.
 - Does not encourage “big picture” view of benefit from development activity apart from NASA requirements
 - Approach emphasizes final product over capturing innovation
- NASA routinely waives its right to take title to inventions.
 - Revisiting in light of new emphasis on supporting commercial space industry
- Contract administration doesn't emphasize IP
 - Delivery of data and technology products
 - Difficult to police invention reporting
 - Small entity contractors report more inventions than large entity contractors

NASA Patent Strategy

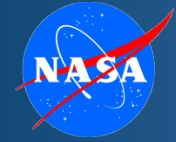


OCT TECHNOLOGY ROADMAP

NASA Center Patent Assets

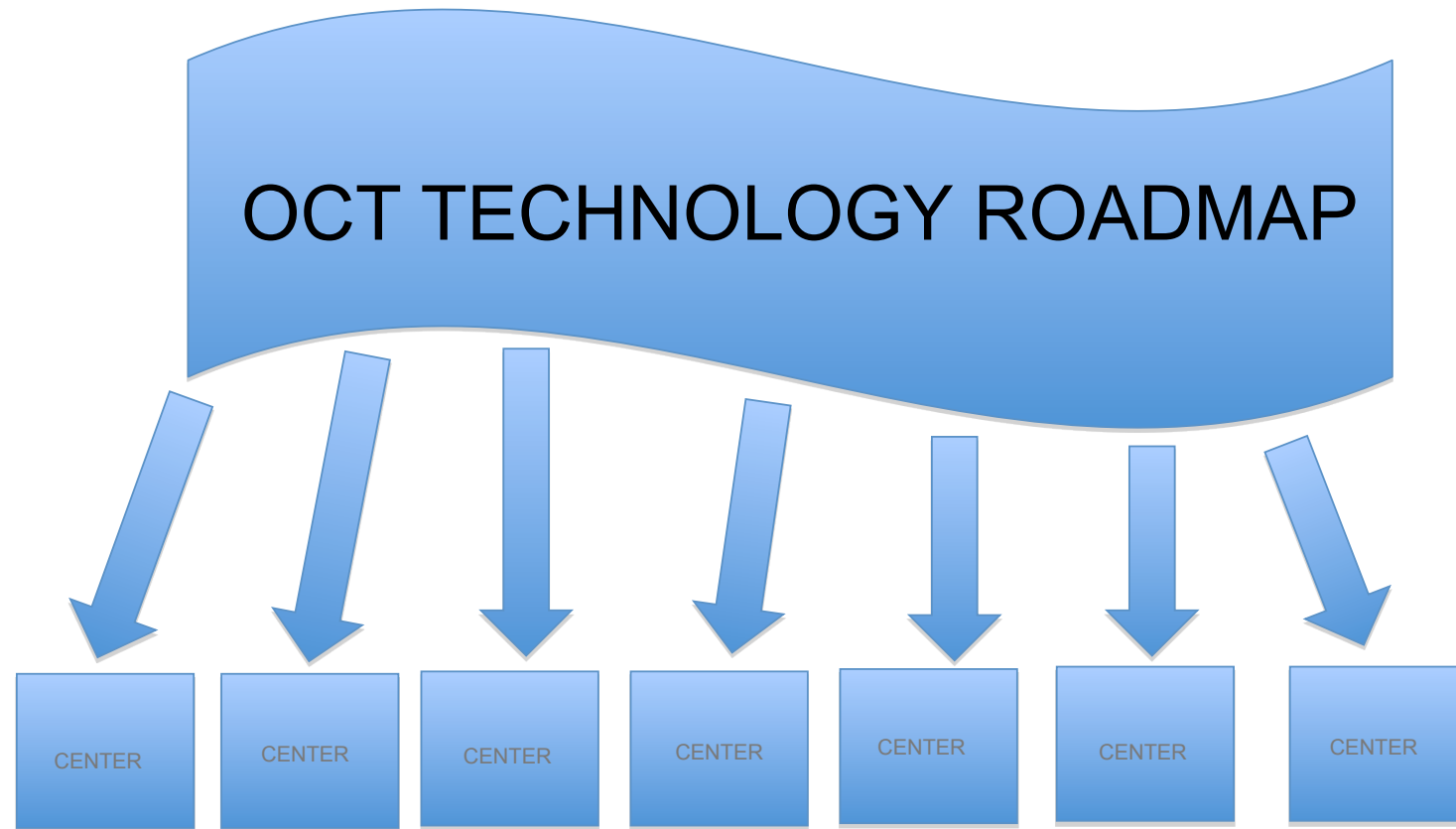
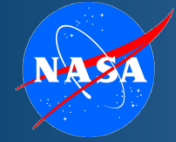


NASA Patent Strategy



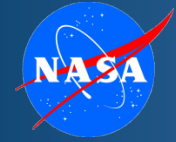
- Patenting decisions are made at the Centers
- Current structure may limit ability to implement agency technology priorities through strategic intellectual property protection
 - Difficult to ensure most effective use of limited resources (money and people)
 - Difficult to effectively leverage technology assets that currently exist

NASA Patent Strategy



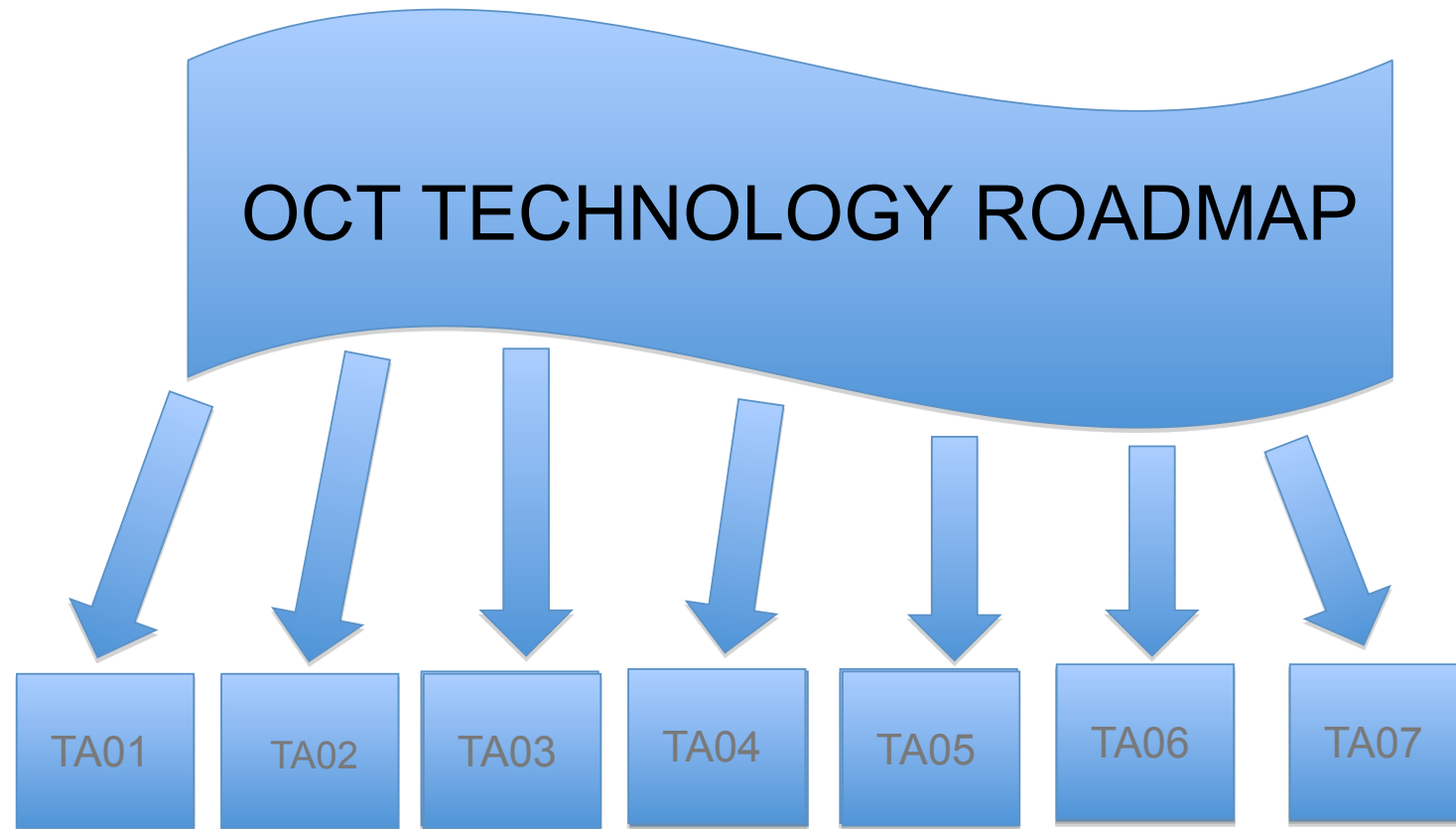
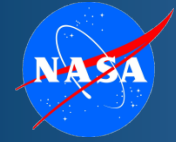
NASA Center Patent Assets

How to align the Agency's efforts?



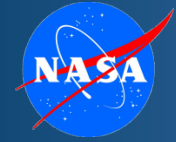
- Possible solution could be modeled after NASA's Strategic Capabilities Asset Program (SCAP).
 - Certain assets are centrally funded and managed to ensure that capabilities “deemed essential” to the needs of NASA or the nation remain available.
 - Includes ARC High-End Computing Capability, testing infrastructure, and other unique capabilities.

What might it look like?



NASA Agency Patent Portfolio

Capture Challenges



- Current data reporting doesn't break out contribution by NASA Civil Servants (CS)
 - Hard to compare apples to apples
- CS likely underreporting
 - Education has proved effective
 - Awards systems may need updating
- Little emphasis on capturing contractor innovation
 - Acquisition planning process does not address IP
 - Default has been to waive title to inventions.
- No overarching strategy on patenting
 - OCT Technology Roadmap provides a path
 - IP should be handled as a strategic agency asset
 - Facilitate portfolio management
 - Creates a more valuable “product” for technology transfer

