



Program Analysis and Evaluation (PA&E)

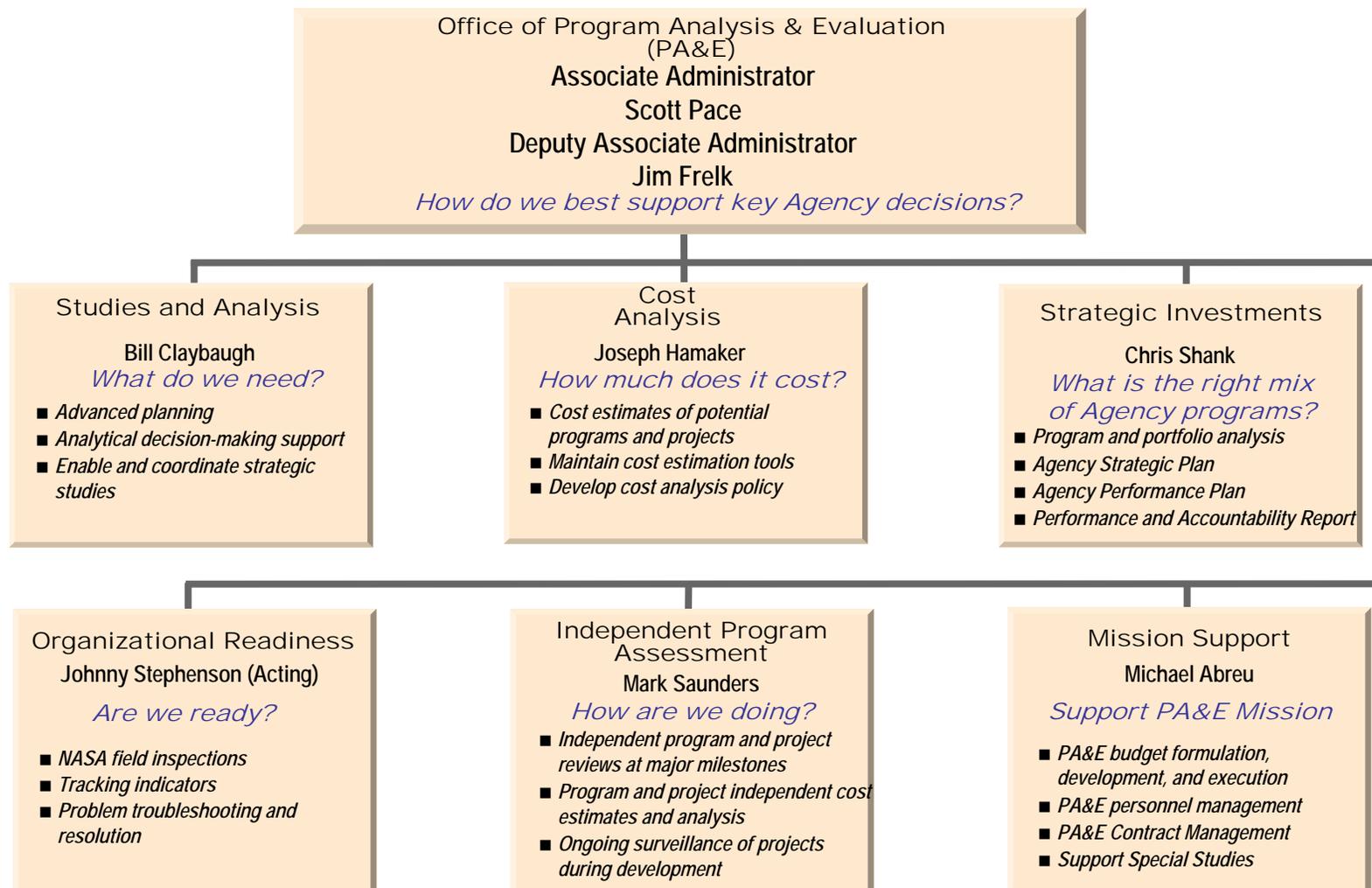
Dr. Scott Pace

Associate Administrator for Program Analysis and Evaluation



PA&E Organization

Office of Program Analysis and Evaluation





PA&E Value Proposition

Office of Program Analysis and Evaluation

- **NASA's credibility is dependent on:**
 - Resources that align with NASA's strategic direction
 - Delivering on our promises
 - **PA&E provides an independent, trustworthy and objective source of analysis on:**
 - Agency strategic direction
 - How NASA should invest its resources
 - Whether NASA can deliver on its commitments
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PA&E Strategic Objectives

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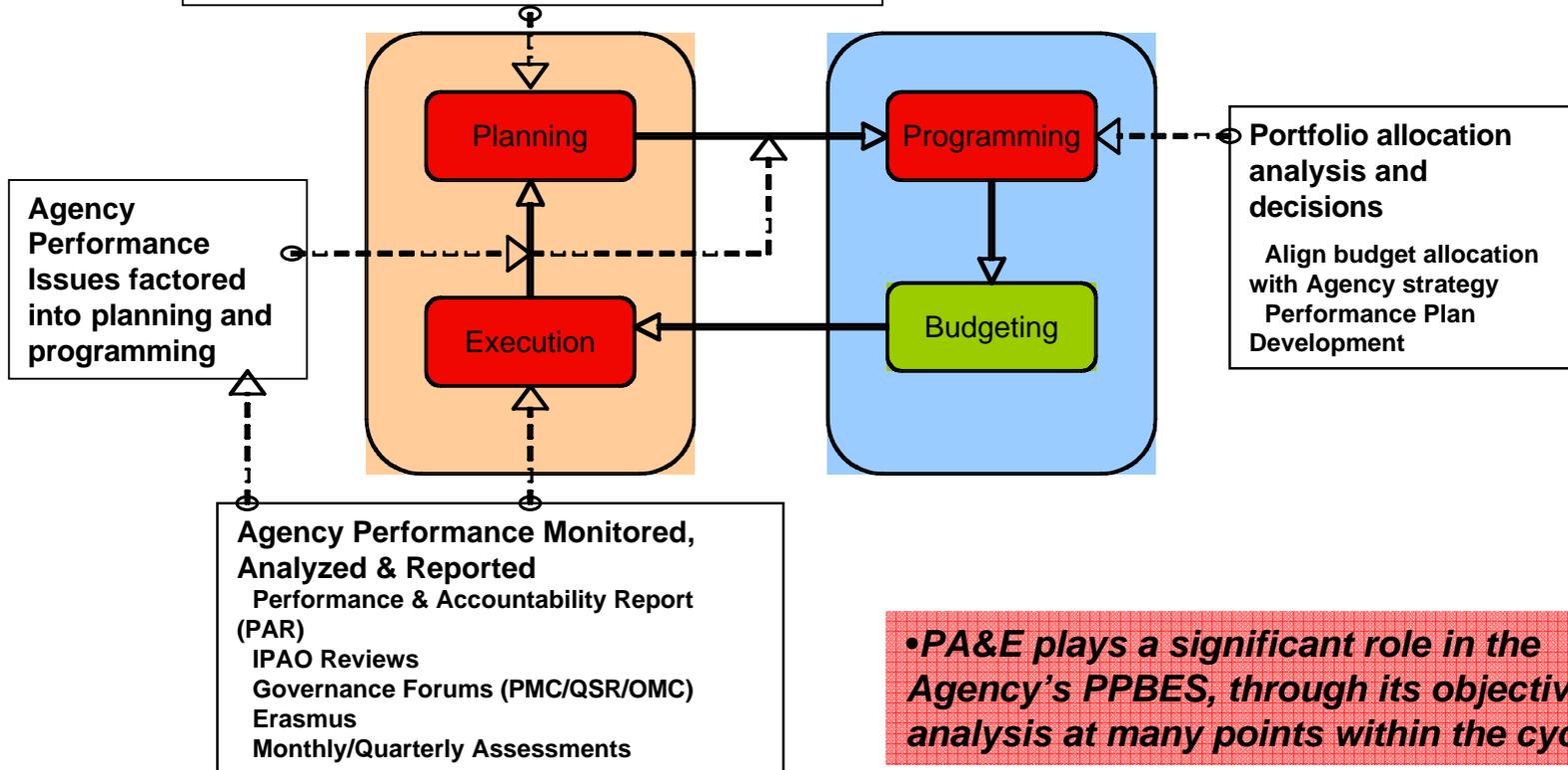
- **Support a culture of objective analysis in NASA senior decision-making**
 - **Strengthen the programmatic and institutional foundations of the Agency architecture through analysis**
 - **Establish a Planning, Programming, Budgeting and Execution System (PPBES) as a stable, work content-driven budget process**
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PA&E Objective Analysis Role

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Foundational studies and analysis for setting Agency direction and implementation strategy
Architecture Trade Studies/Analysis of Investment Alternatives
Program and Institutional SWOT Analysis
Baseline Program/Mission Support Plan Verification
Investment Gap Analysis
Key Agency Performance Indicators Determined



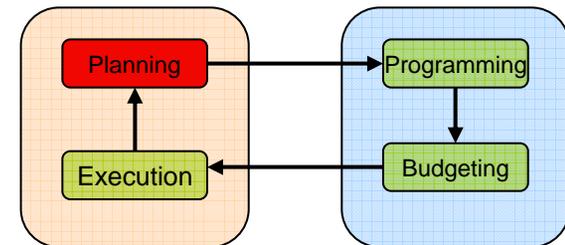
•PA&E plays a significant role in the Agency's PPBES, through its objective analysis at many points within the cycle



PA&E Studies - Ongoing Tier 1

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- James Webb Space Telescope Special Assessment
 - Jeff Jones, Chair
- Funds Distribution
 - Johnny Stephenson & Pedro Jimenez, Co-chairs
- Exploration Safety Architecture Review
 - Bill Claybaugh, Chair
- Research and Technology Portfolio Planning
 - Jay Falker, Chair
- Innovative Partnership Program Review
 - Mike Canga, Chair
- Managing VSE Recurring Costs for Sustainability
 - Bill Claybaugh, Joe Hamaker, Co-chairs
- Organizational Options for Space Communications
 - Terry Reese, Chair
- Lunar Robotic Exploration Architecture
 - (in formulation)
- Commercial Crew Cargo Project Review
 - Joe Sullivan, Chair

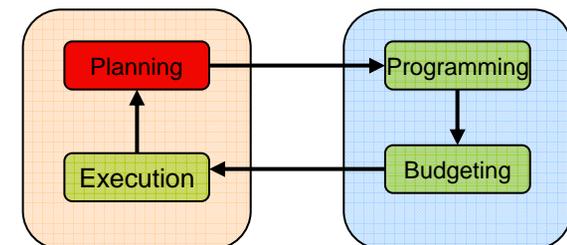




PA&E Studies - Ongoing Tier 2

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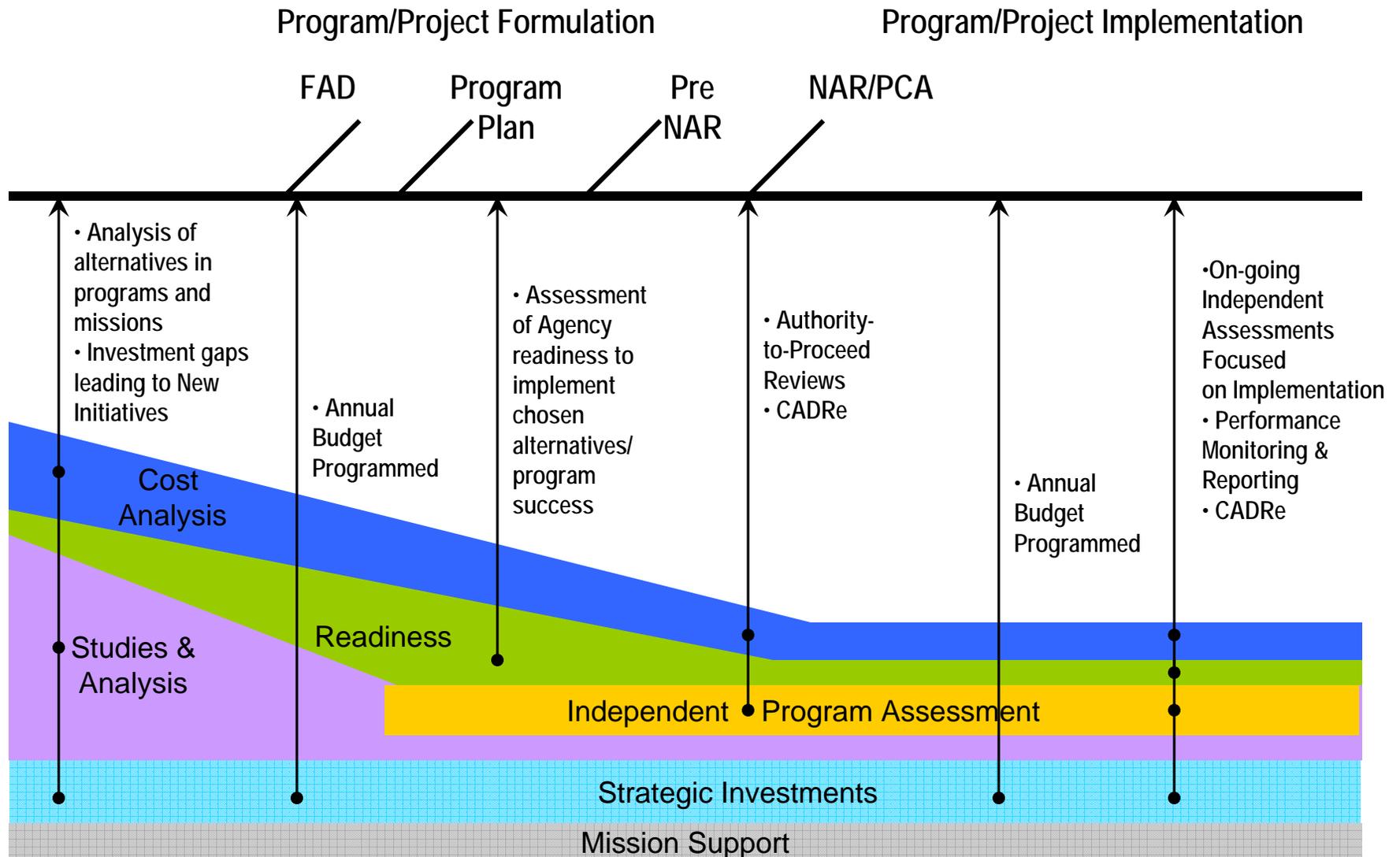
- Long Term Agency Plan for the Verification of Large Space Telescope Observatories
 - Julie Crooke, Chair
- Readiness: Robotics Lunar Exploration Program
 - Vicky Hwa, Chair
- Readiness: CEV Lox/Methane Technology
 - J.C. Duh, Chair
- Spacehab Pallet Proposal
 - Phil McAlister, Chair
- Management Tools and Integration Assessment
 - Mike Tanner, Chair with OneNASA
- Erasmus Requirements Study Steering Group
 - Julie Pollitt, Chair
- Benchmark Program Offices
 - Joanna Gunderson, Chair
- Agency Mission Planning Model
 - Judith Robey, Chair
- Exploration Safety Implementation Policy Options
 - Rod Liesveld, Chair





PA&E in the Program/Project Lifecycle

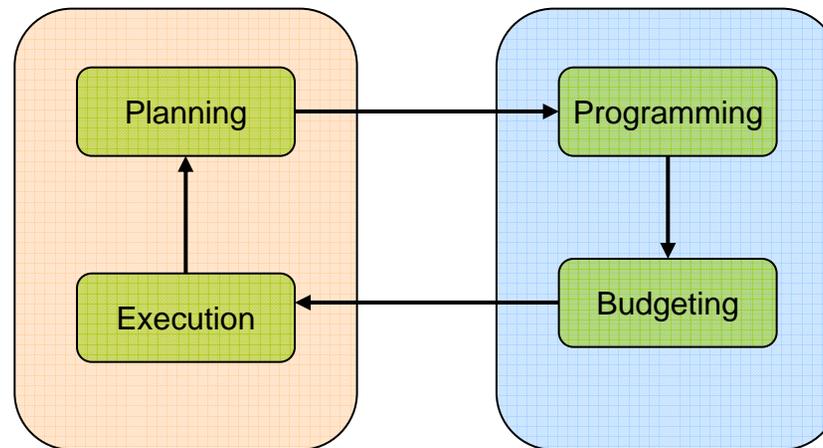
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Planning, Programming, Budgeting and Execution System (PPBES) Development

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- A planning and budgeting process under development by NASA to convert strategies and priorities into programs and budgets
 - A focus on “Programming” is what makes it different from other planning and budgeting processes:
 - High-level, multi-year, structured analyses of alternative uses of capabilities and capacities
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Why Are We Changing to PPBES?

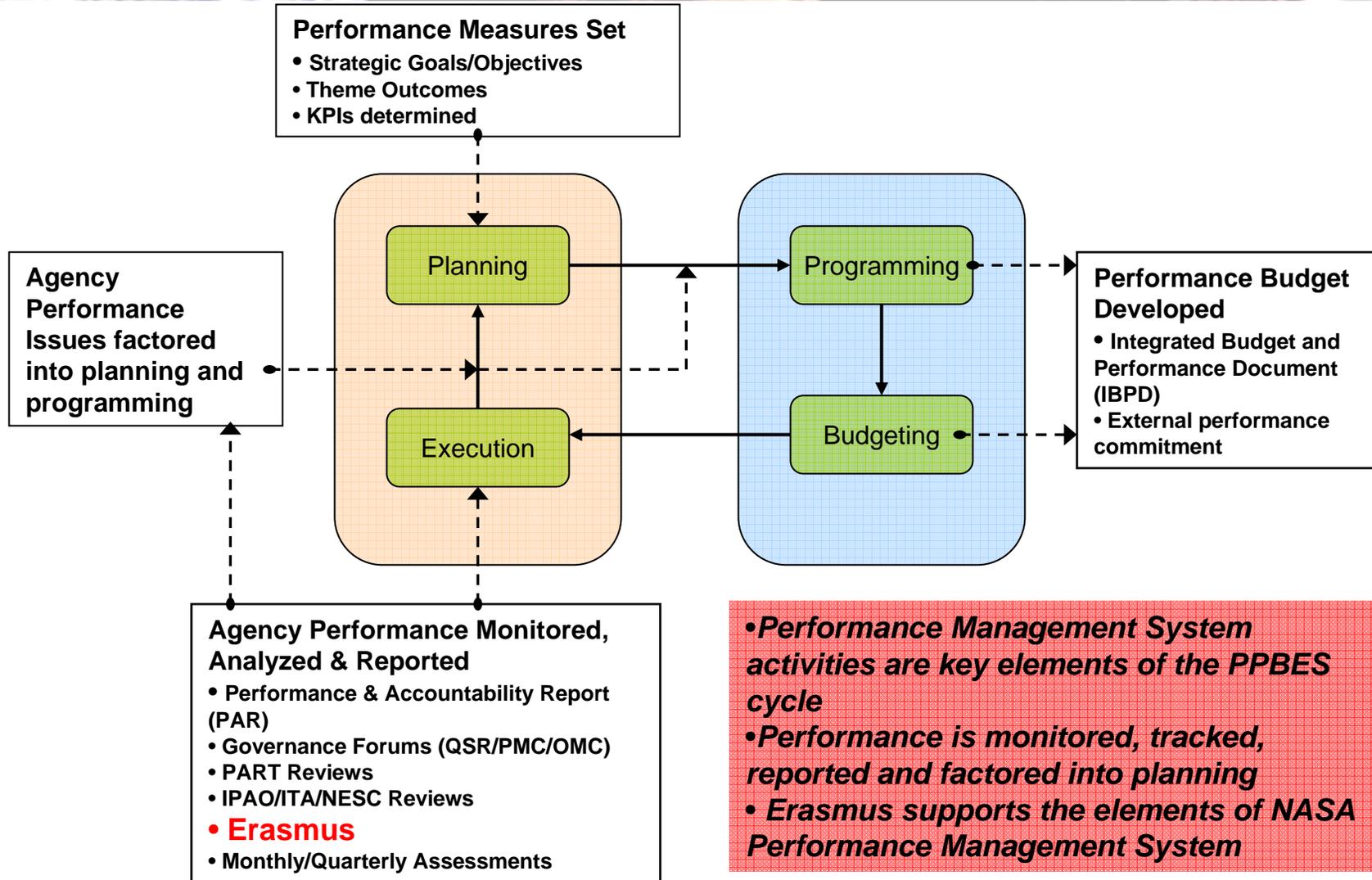
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- Well-defined, structured, rational process for decision-making
 - More simplified process; decisions are made once
 - High-level, multi-year structured analyses of alternative uses of capabilities and capacities
 - Management focus on translating strategy into actionable programs
 - More analytical approach to decision-making
 - Flexibility to deal with inevitable changes
-



Agency Performance in the PPBES

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ERASMUS as a PPBES Tool

Office of Program Analysis and Evaluation

ERASMUS

[Home](#)
[Mission Directorate](#)
[Theme List](#)
[Center](#)
[Archive](#)
[Report Generation](#)

Data current as of Mon Dec 19
 Erasmus Documents

Aeronautics Research

962 M / 6 %

Aeronautics Technology

C	S	T	M	P
Y	Y	Y	Y	Y

FY 05: 962 M / 6 %

Exploration Systems

Office of Education

Science

Space Operations

Enterprise Management

Aeronautics Technology

C	S	T	M	P
G	G	G	G	G

FY 05: 101.7 M

ASP-Human Measures & Performance

C	S	T	M	P
G	G	G	G	G

FY 05: 31.1 M

ASP-Next Generation Air Transportation System

C	S	T	M	P
G	G	G	G	G

FY 05: 0 M

ASP-Small Aircraft Transportation System

C	S	T	M	P
G	Y	G	G	G

FY 05: 112.7 M

ASP-Space-Based Technologies

C	S	T	M	P
G	G	G	G	G

FY 05: 160 M

ASP-Strategic Airspace Usage

C	S	T	M	P
G	G	G	G	G

FY 05: 103.4 M

ASP-Super Density Surface Management

C	S	T	M	P
G	G	G	G	G

FY 05: 0 M

ASP-Technical Integration

C	S	T	M	P
G	G	G	G	G

FY 05: 0 M

ASP-Human Measures & Performance

	Program/Project Background	Monthly Reports	Quarterly Reports
Summary	<input type="checkbox"/> PMC One Pager	<input type="checkbox"/> Stop Light <input type="checkbox"/> Current Status <input type="checkbox"/> Key Accomplishments <input type="checkbox"/> Issues	<input type="checkbox"/> Risk Matrix
Cost	<input type="checkbox"/> Program/Project Cost Commitment <input type="checkbox"/> Current Funding and Cost Plan	<input type="checkbox"/> Cost & OBS Report <input type="checkbox"/> Reserves	<input type="checkbox"/> Estimate to Complete
Schedule	<input type="checkbox"/> Current Approved Baseline	<input type="checkbox"/> Milestone Status <input type="checkbox"/> Cost/Schedule	<input type="checkbox"/> Schedule Status
Technical Performance	<input type="checkbox"/> Program Objectives	<input type="checkbox"/> Performance Indicators <input type="checkbox"/> Quality Indicators	<input type="checkbox"/> Management Discussion <input type="checkbox"/> Undefinitized Contract Authorizations
Human Resources	<input type="checkbox"/> Program/Project Organization <input type="checkbox"/> Point of Contact	<input type="checkbox"/> Civil/Service Contractor Full Time Equivalents	<input type="checkbox"/> Human Capital Assessments
Supporting Documents	HMP Project Plan		

To open supporting documents click the document name.

Agency Watchlist

C	S	T	M	P											
g	G	g	G	g	ARC	DFR	GRC	GSFC	HQ	JPL	JSC	KSC	LRC	MSFC	SSC
G	G	G	G	G	G	G	G	G	G	G	G	R	R	G	G

IEMP FY05 74 M Enterprise Management
 Agency Safety Safety and Mission Assurance

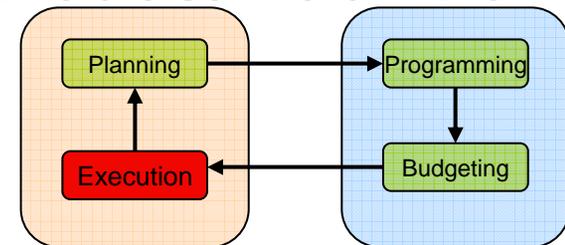
Version: 6.1.2



ERASMUS Role

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- **Intended as the Agency-level Performance Information System for Decision-Making**
 - Currently is the only system at the Agency level that contains performance information on key programs/projects, themes, etc.
 - Sets the Agency-level performance metric hierarchy
 - Has Senior Executives and PA&E as the Consumers
- **Seeks to be both a dashboard and authoritative data source**
 - Draws from the existing authoritative data sources
 - Contains some information that is not held elsewhere in the Agency, i.e., stoplight charts

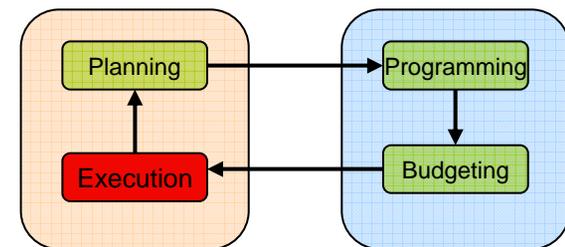




ERASMUS Challenges

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- **Currently unsatisfactory for performance monitoring and decision-making, due to:**
 - Labor intensity, i.e. data owners input same data into Erasmus and multiple other performance monitoring forums and systems
 - Unclear data definitions and standardization, with little guidance on these, lead to no ability for comparative analysis
 - Set-up prior to systematic approach to Agency performance measurement
 - Some measures used inappropriately
 - Missing key areas of assessment, i.e. no institutional metrics and a subset of key programmatic
 - 7120.5c was necessary but not sufficient

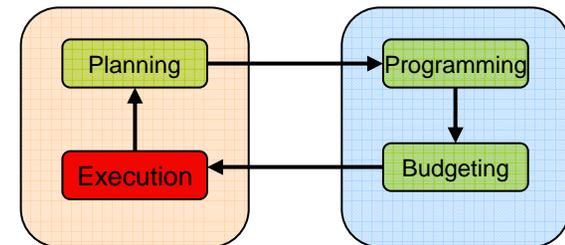




ERASMUS Planned Changes

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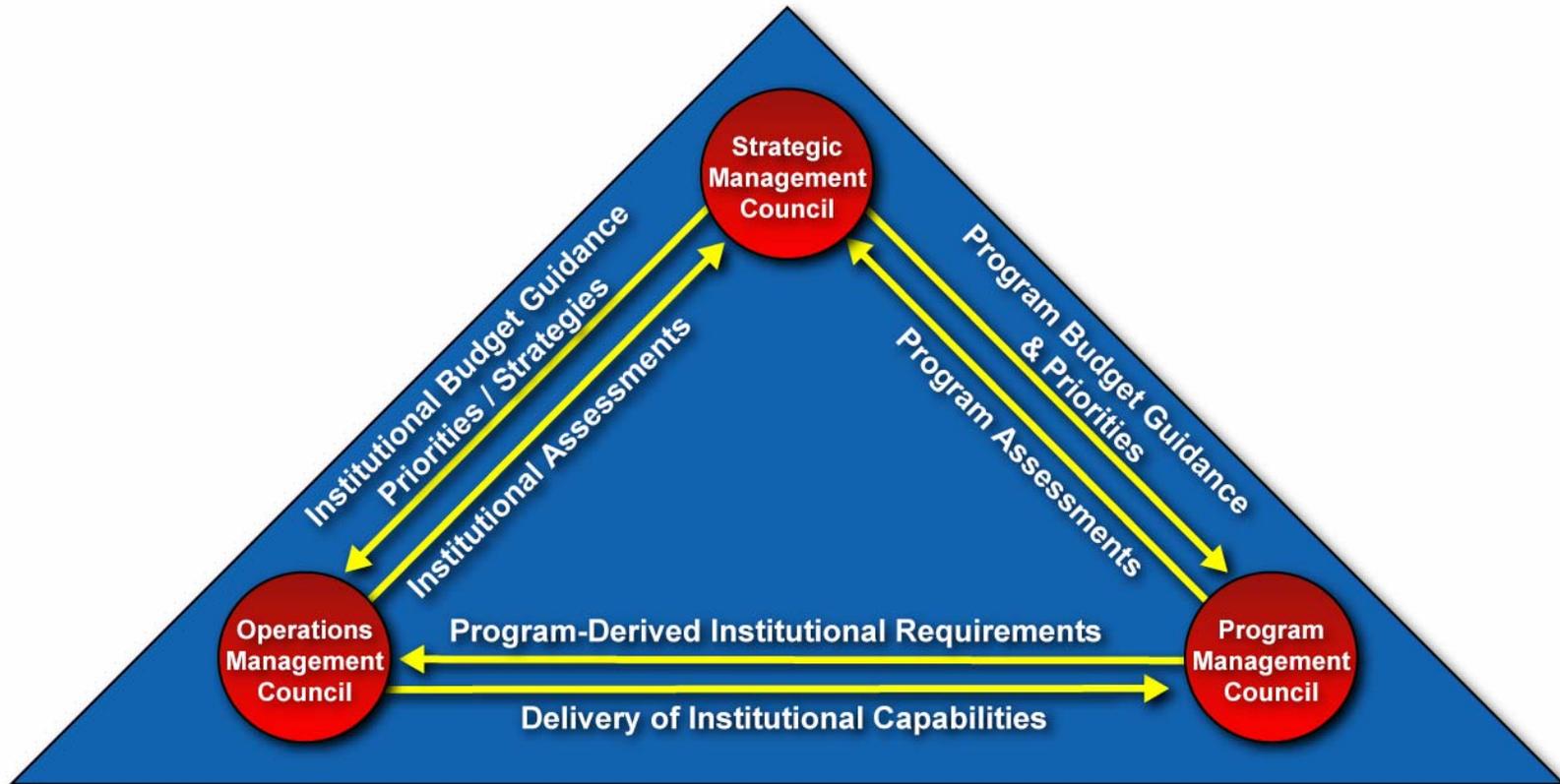
- **To address challenges and fulfill its role, changes are needed in:**
 - **Functionality:**
 - Automated Data Updates
 - Report generation
 - Flexibility
 - **Content:**
 - Technical
 - Programmatic
 - Financial
 - **Analytics:**
 - Relate data from disparate databases (e.g. financial vs. employee) to create multi-dimensional reports
 - Trending capability
 - Improved metrics





PA&E and NASA Governance

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Back-up



PA&E Goals

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- Top 3 goals short-term (next 6 months to 1 year):
 - Release FY07 budget, FY06 strategic plan and strategic budget guidance
 - Execution of Tier 1 studies and independent reviews
 - Improve project/program reviews
 - Top 3 goals mid-term (1-5 years):
 - Implement PPBES
 - Improve cost estimation and program/institutional portfolio analysis
 - Improve agency readiness to execute the Agency Architecture (including consolidations)
 - Top 3 goals long-term (next 5-10 years):
 - Define and baseline an affordable and sustainable Agency architecture
 - Rebalance work and infrastructures to strengthen in-house NASA capabilities across 10 healthy centers to implement the Agency Architecture
 - Ensure agency budgets and mission contents are compatible
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PA&E Role in Congressional Reporting Requirements

Office of Program Analysis and Evaluation

- PA&E will be quality control check on Authorization and Appropriations reports before they go to the Hill
 - Taking lead on Authorization Bill's Baseline Reporting Requirements (Section 103)
 - Using definition of "Major Project" as defined in Bill - i.e. lifetime cost greater than \$250M and approved to proceed to implementation
 - Including projects that have completed the NAR, as defined in NPR 7120.5C
 - PA&E is developing the format for baseline reports, using the IBPD as a starting point and adding necessary information
 - PA&E is working closely with the Mission Directorates to populate the document; PA&E will then compile into a finalized product to be sent to Hill
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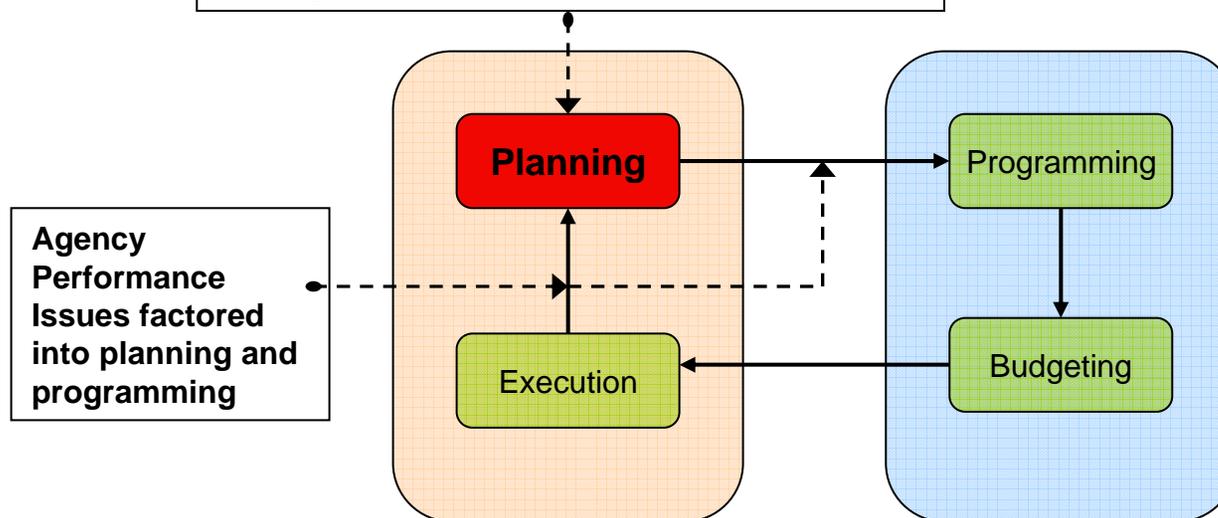


PA&E Role in Planning Phase

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Foundational studies and analysis for setting Agency direction and implementation strategy

- Architecture Trade Studies/Analysis of Investment Alternatives
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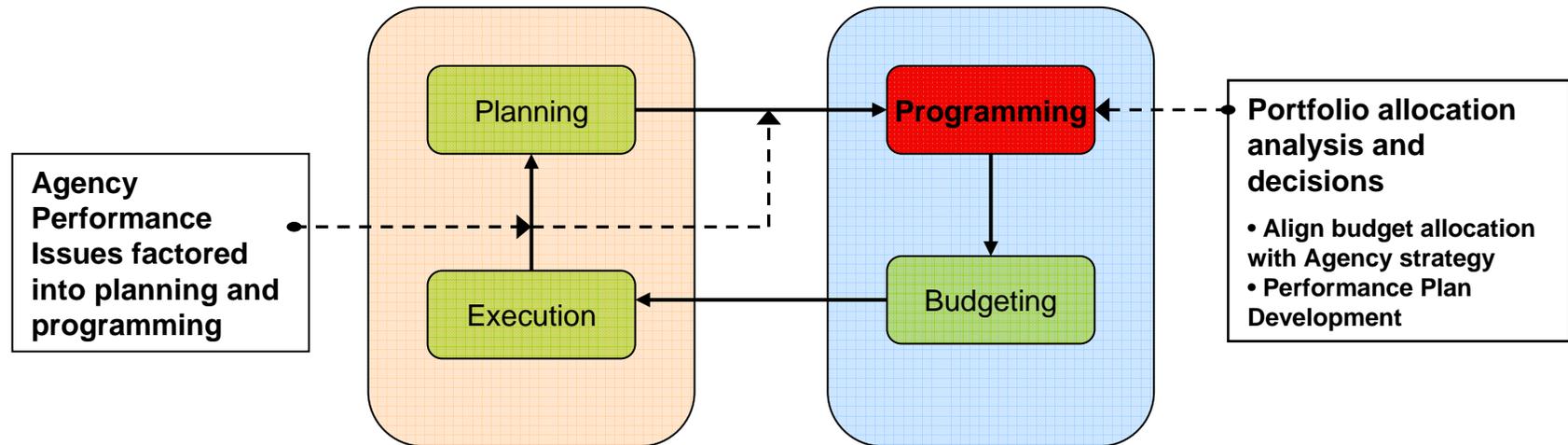
Leads the Planning phase of the PPBES process to:

- Ensure that Agency strategy fulfills policy and best interest of the Nation
 - Determine Agency priorities for programs and institutional resources
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PA&E Role In Programming Phase

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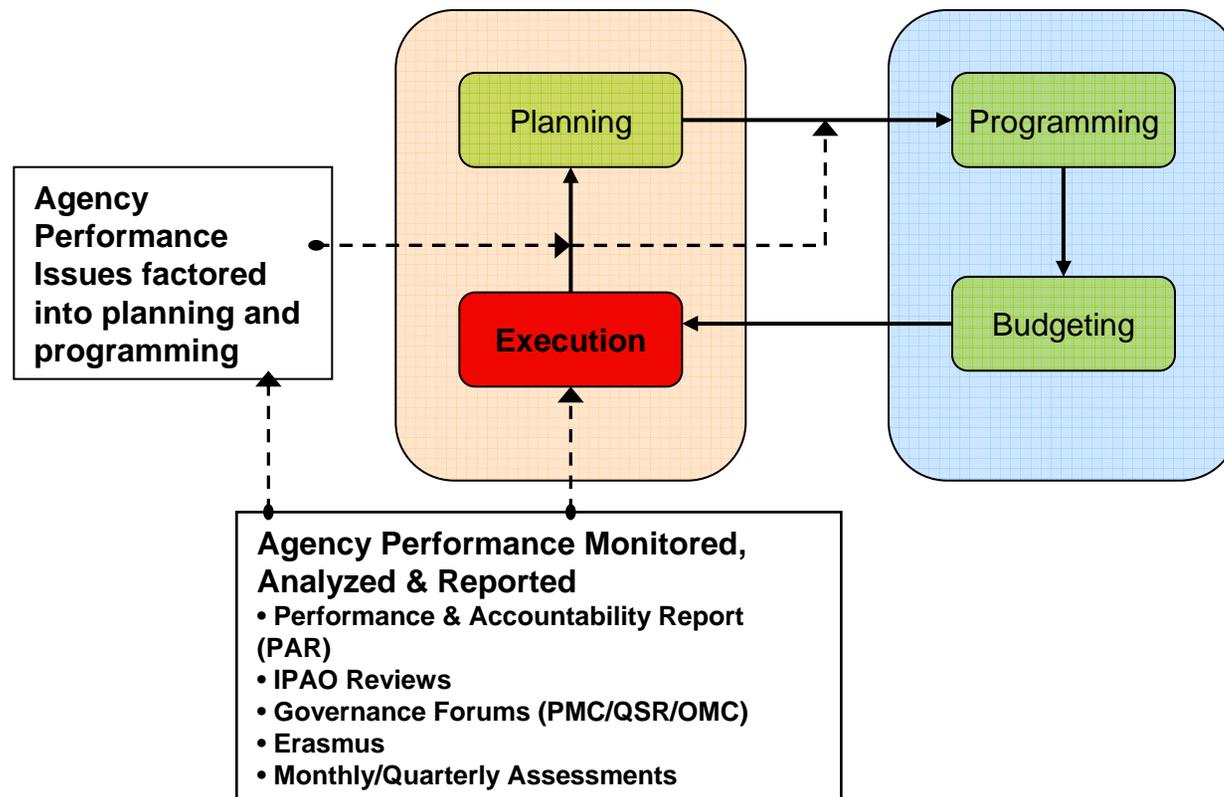
Leads the Programming phase of the PPBES process to:

- Ensure that Agency strategy is converted into implementable programs, project outcomes
 - Match resources with strategic direction
 - Determine new Agency initiatives
 - Review/right-size Agency infrastructure to support programs
 - Capture and make decisions concerning Mission Directorate and Center issues prior to the PPBE Budgeting phase
-



PA&E Role in Execution Phase

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Monitors the Execution phase of the PPBES process to:

- Assure that strategy and Agency goals are being met through that execution
 - Report to key stakeholders on progress toward the relevant Agency plans
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Erasmus Upgrade Schedule

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