



THE POWER OF COLLABORATION

CONSORTIUM FOR SPACE MOBILITY
AND ISAM CAPABILITIES

COSMIC Engagement Session
Presented by: The Aerospace Corporation

Tiara Johnson
Integration Lead

August 3, 2023

Agenda

- Engagement Session Goals
- What is COSMIC?
- Governance, Leadership, & Operations
- Caucuses & Focus Areas
- Potential Products
- Community Building & Participation
- Q&A

Welcome!

Goals and Outcomes



Education

- ISAM community members come away with an understanding of COSMIC's purpose, planned CONOPS, and benefits of participation

Feedback

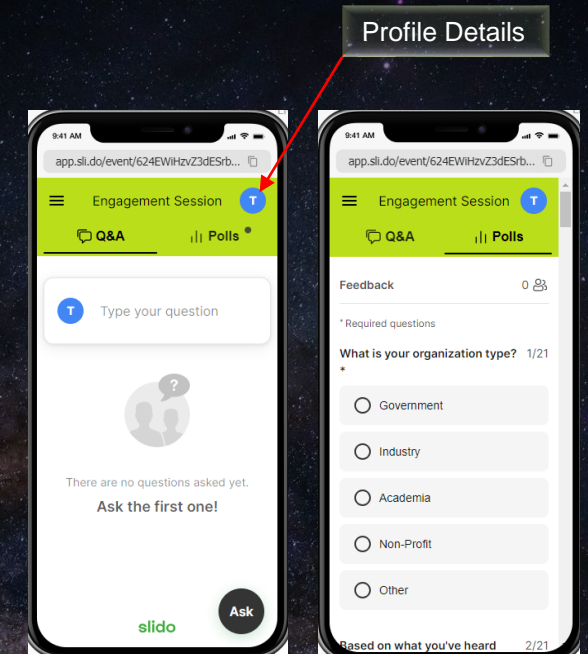
- Consortium Management Entity captures feedback from participants to improve CONOPS

Participation

- Participants understand timeline and how to get involved

Ground Rules

- Participation
 - Participants will be muted during the presentation
 - Please enter questions in slido
 - Populate your profile
 - Questions will be answered throughout, with ~10 mins of dedicated Q&A at the end
- Questions
 - Please keep them topical and concise to allow time for many voices to be heard
 - No discussion of CUI, ITAR or proprietary information
 - Questions not answered in the session will be addressed in written responses posted to the website
 - A survey has been built into slido to capture additional feedback





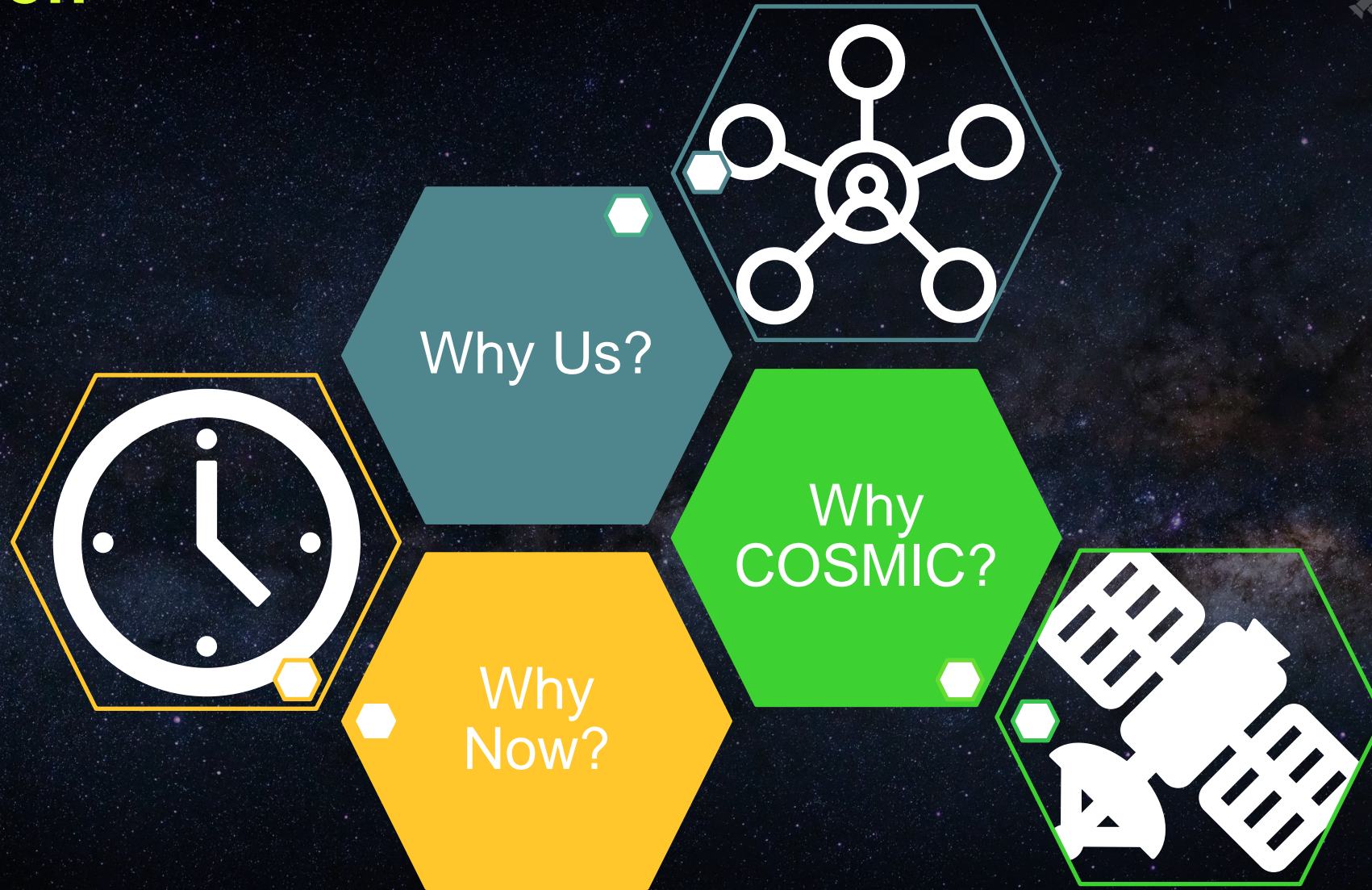
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What is COSMIC?

Greg Richardson
Executive Director

Motivation



COSMIC: A Nationwide Alliance for ISAM



VISION

Create a nationwide alliance that enables the U.S. space community to provide global leadership in ISAM.

MISSION STATEMENT

Making ISAM a routine part of space architectures and mission lifecycles.



CAPABILITY DEVELOPMENT

Develop, mature, and demonstrate ISAM technologies that enable and enhance mission utility.



ECOSYSTEM ECONOMICS

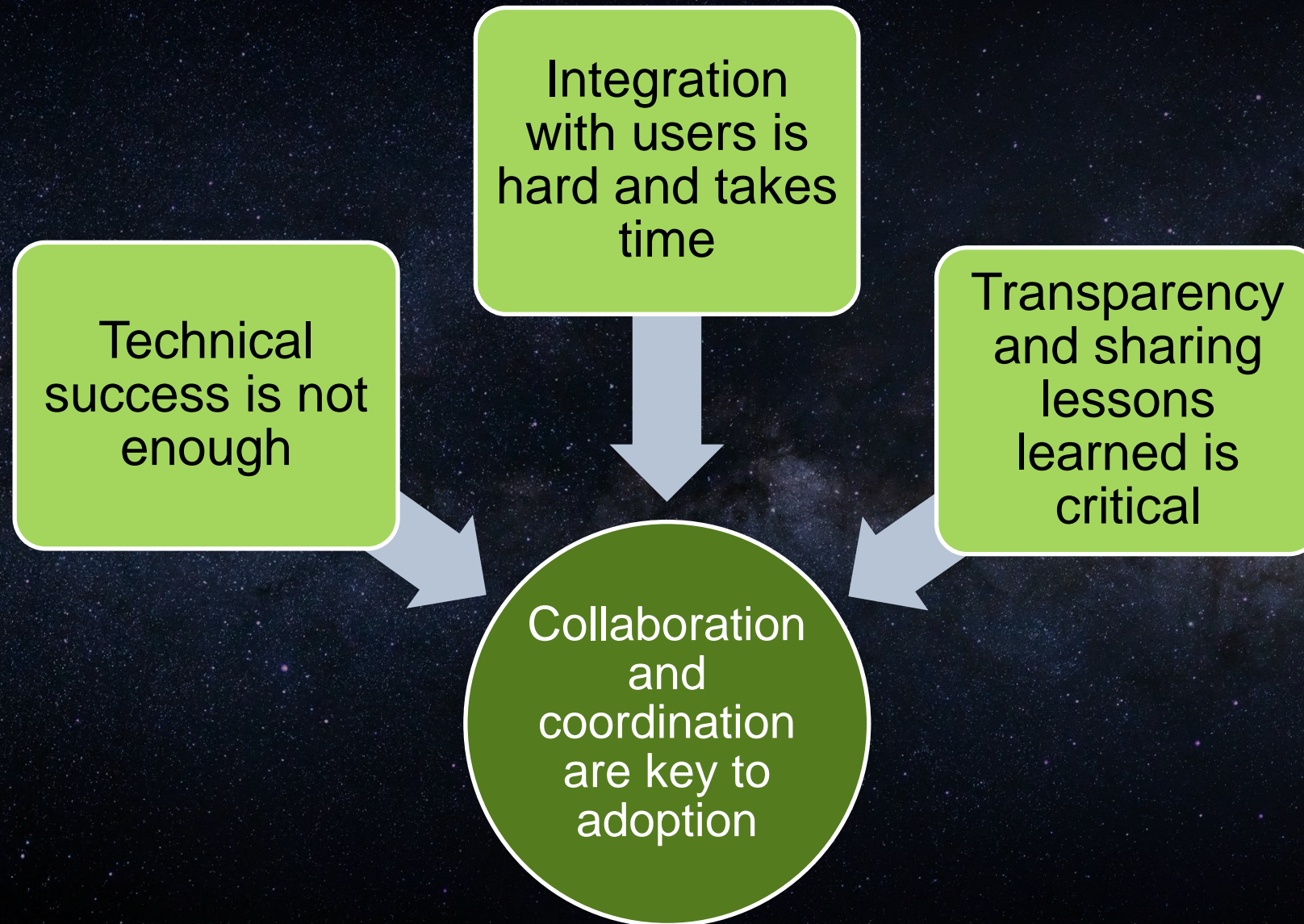
Promote U.S. leadership in ISAM technologies and capabilities that change the business model away from single-use space assets.



MISSION APPLICATIONS

Encourage and guide missions to use ISAM capabilities as part of commercial and government program lifecycles.

Lessons From the Past



Why Now?

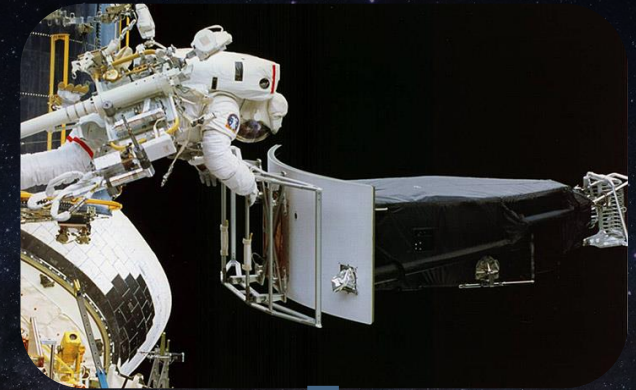
ISAM National Strategy and Implementation Plan

Foster an ecosystem to leverage ISAM capabilities

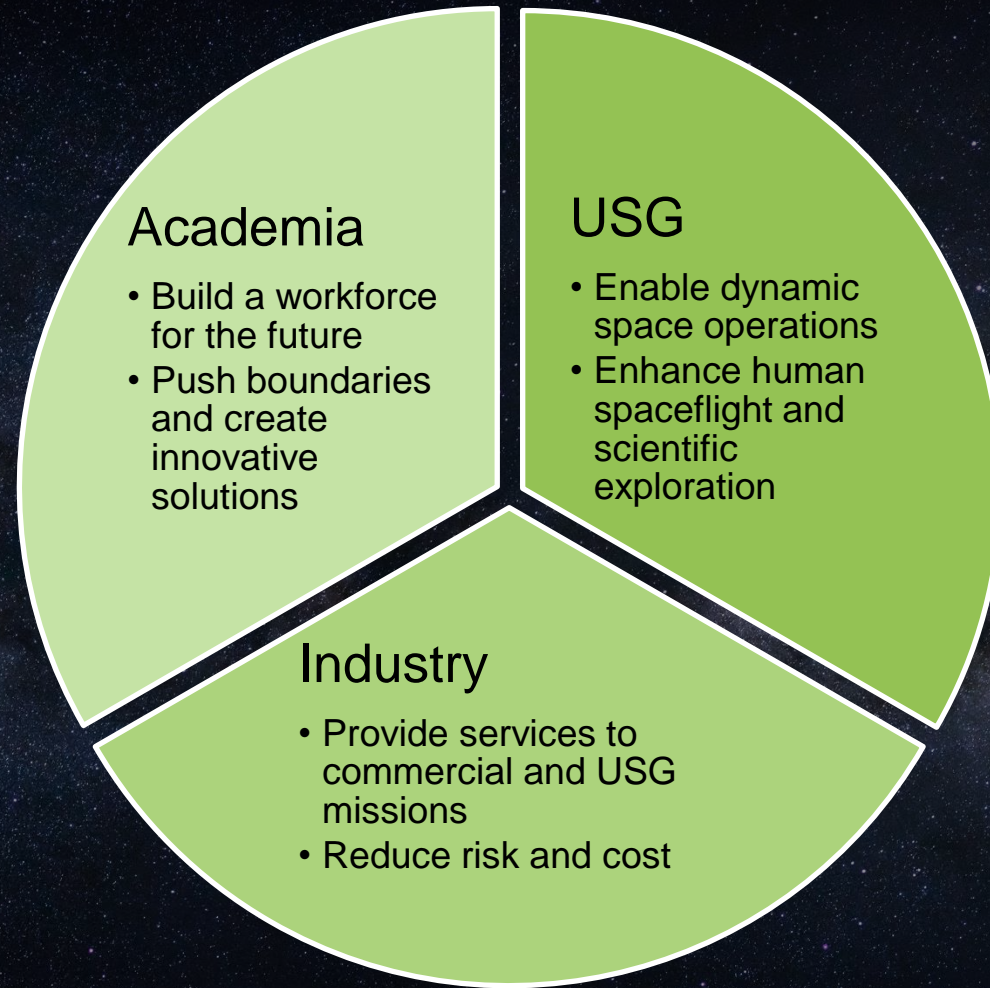
- Support and stimulate USG, academic, and commercial ISAM capability development
- Consistent with U.S. Space Priorities Framework (Dec 2021)

Strategic goals

1. Advance ISAM research & development
2. Prioritize expanding scalable ISAM infrastructure
3. Accelerate the emerging ISAM commercial industry
4. Promote international collaboration and cooperation
5. Prioritize environmental sustainability
6. Inspire a diverse future space workforce



Why Us?



A nationwide alliance for ISAM

Consortium Definition

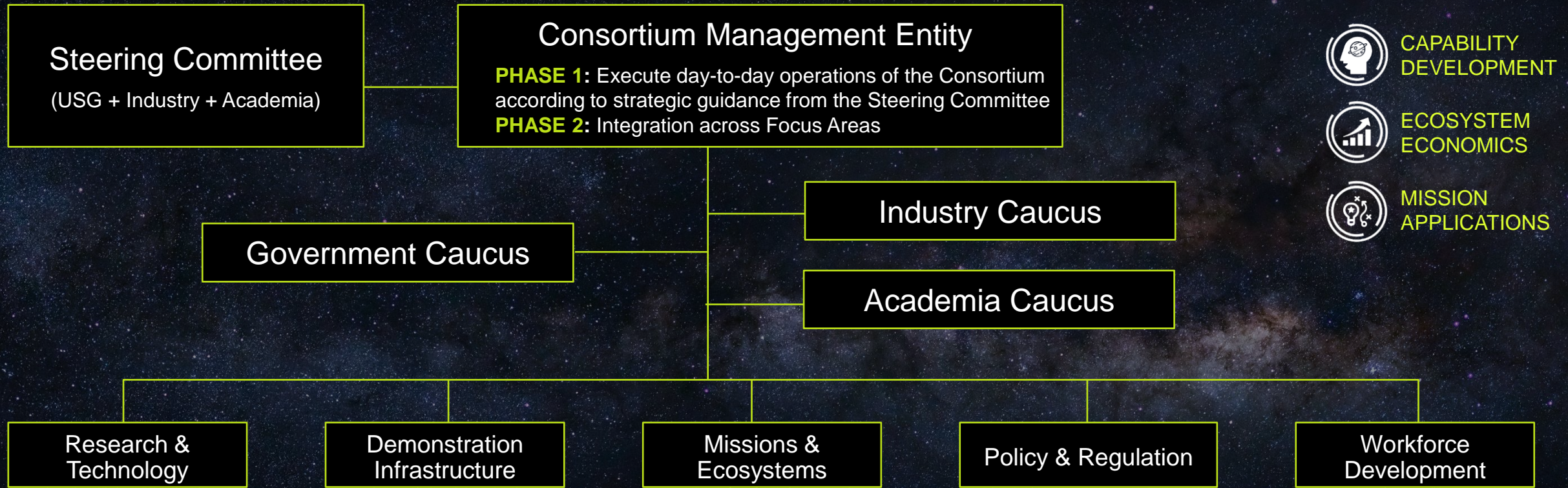
COSMIC IS

- A forum for collaboration and knowledge sharing
- A consortium designed to produce useful products
- A U.S. consortium
- Funded by NASA

COSMIC IS NOT

- A funding body
- A solicitation vehicle
- A standards body
- A lobbying organization
- An international consortium
- Led by NASA

COSMIC Organization





EXPLORING THE POWER OF COLLABORATION

November 7-8, 2023

University of Maryland
College Park, MD



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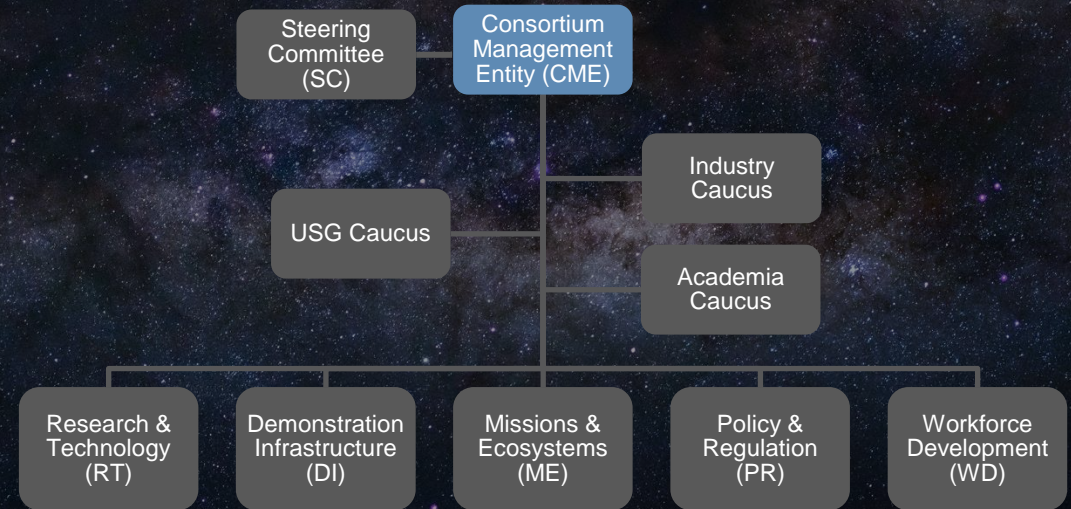
Governance, Leadership, Operations

Matt DeMinico
Secretary of the Steering Committee

Consortium Management Entity (CME)

Overview

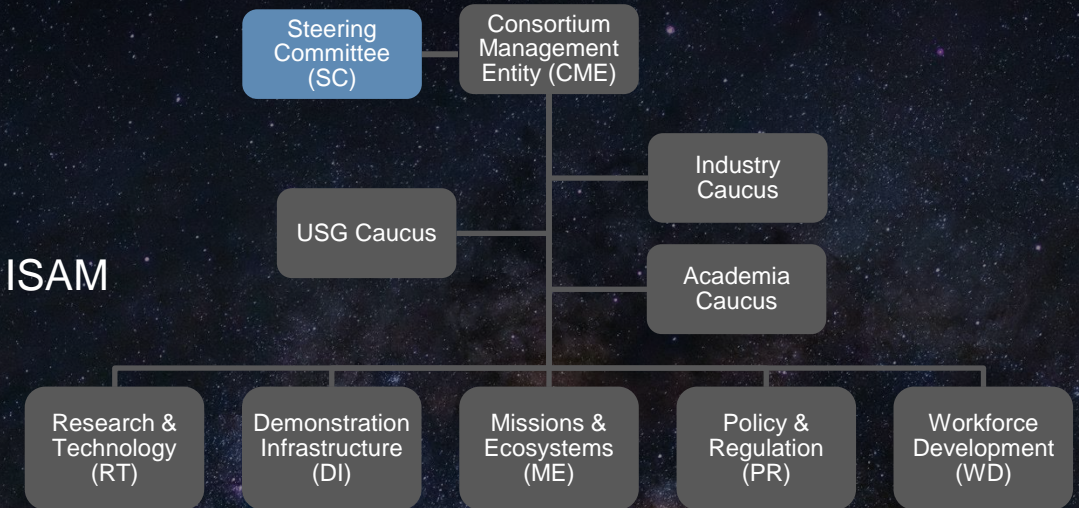
- The Consortium Management Entity (CME) is funded by NASA to manage COSMIC operations
- The Aerospace Corporation (an FFRDC) is the COSMIC CME
- The CME will:
 - Manage COSMIC’s daily operations
 - Integrate work among Caucuses, Focus Areas, and the SC
 - Facilitate coordination among members
 - Lead communication activities (newsletters, website, etc.)
 - Support development of COSMIC products
 - Manage the COSMIC document release process
- The CME is a non-voting member of any COSMIC committee




Steering Committee

Overview

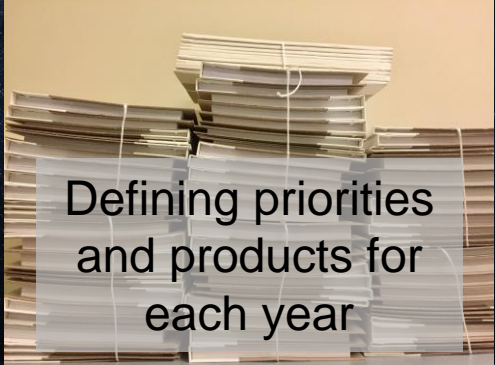
- CME activities are guided by the Steering Committee (SC)
- The Steering Committee (SC) is the governing body for COSMIC
 - Goal: Ensure COSMIC serves the interests of the entire U.S. ISAM community, including U.S. national interests




SC Activities Summary:




Identifying clear and measurable yearly objectives / risks



Defining priorities and products for each year



Working with the CME to shape COSMIC direction



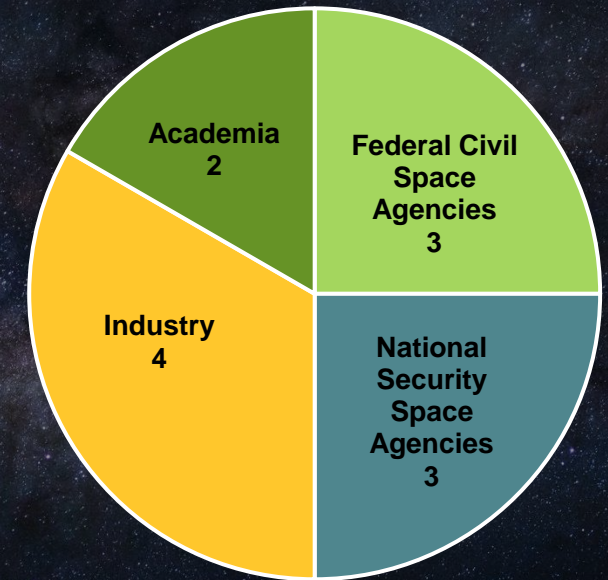
Managing changes to the Operating Plan

Steering Committee

Proposed Membership

- The SC is a 12-person committee
- Representatives are elected by the three COSMIC caucuses
 - For COSMIC’s first year, SC members will be appointed by the CME to represent a broad cross-section of the U.S. ISAM community, including:
 - Government, industry, and academia
 - Servicing, assembly, and manufacturing
 - Providers, users, and researchers
 - Each Focus Area
- The Chair of the SC is **non-voting** civil servant member of COSMIC, leaving 11 voting members
- Each representative on the SC will appoint an alternate
- SC membership will be for 2-year (TBR) terms with a staggered rotation

STEERING COMMITTEE COMPOSITION



Steering Committee

Proposed General Procedures

Cadence

- The SC will meet (at a minimum) on a quarterly basis [TBR]



Procedure

- The CME will provide a Secretary of the SC to streamline SC operations
- The SC will strive to obtain unanimity in all decisions
 - Absent unanimity, a 2/3rds [TBR] majority of all SC members is required

SC Outputs

- List of priorities for COSMIC products
- Regular assessment of COSMIC's progress towards meeting its key objectives
- List of top COSMIC risks (with input from Focus Areas)



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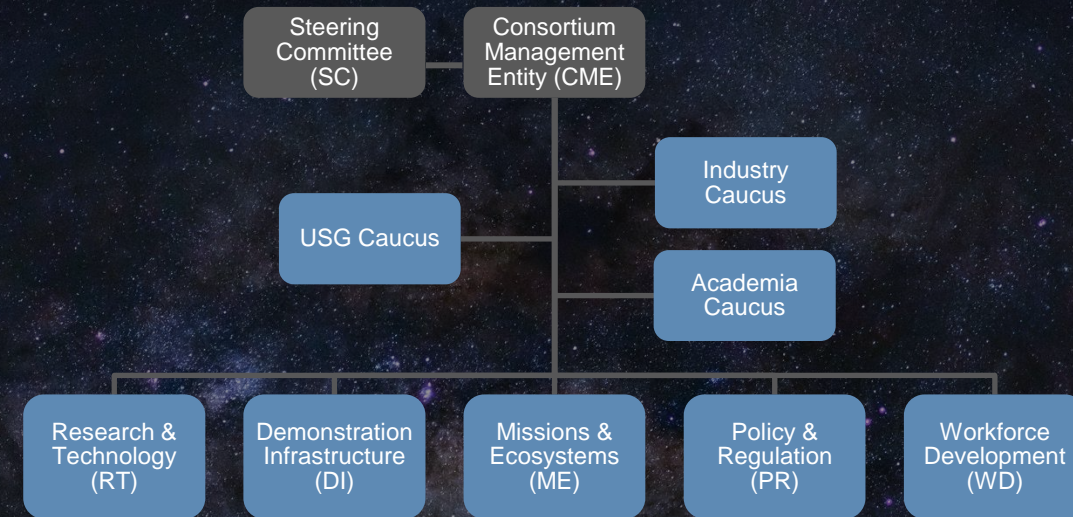
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Caucuses & Focus Areas

David S. Kang, PhD
Missions and Ecosystems Focus Area Lead

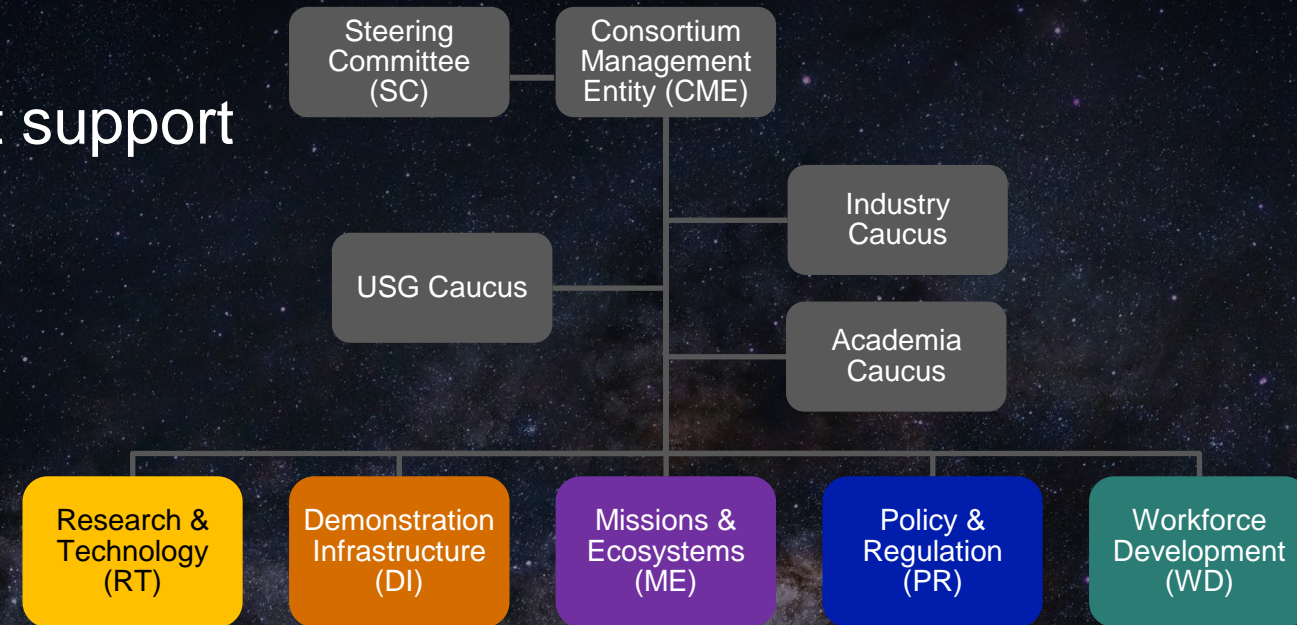
Caucuses and Focus Areas

Focus Area	Caucus
Working Group & sub-groups as needed	Discussion forums for USG, Industry, & Academic stakeholders
Product Ideas & Product Creation	Product Ideas & Needs Identification
Members can support one or more Focus Areas of their choosing	Members are automatically assigned to their Caucus
Coordinated by CME	Coordinated by elected chair with support from CME

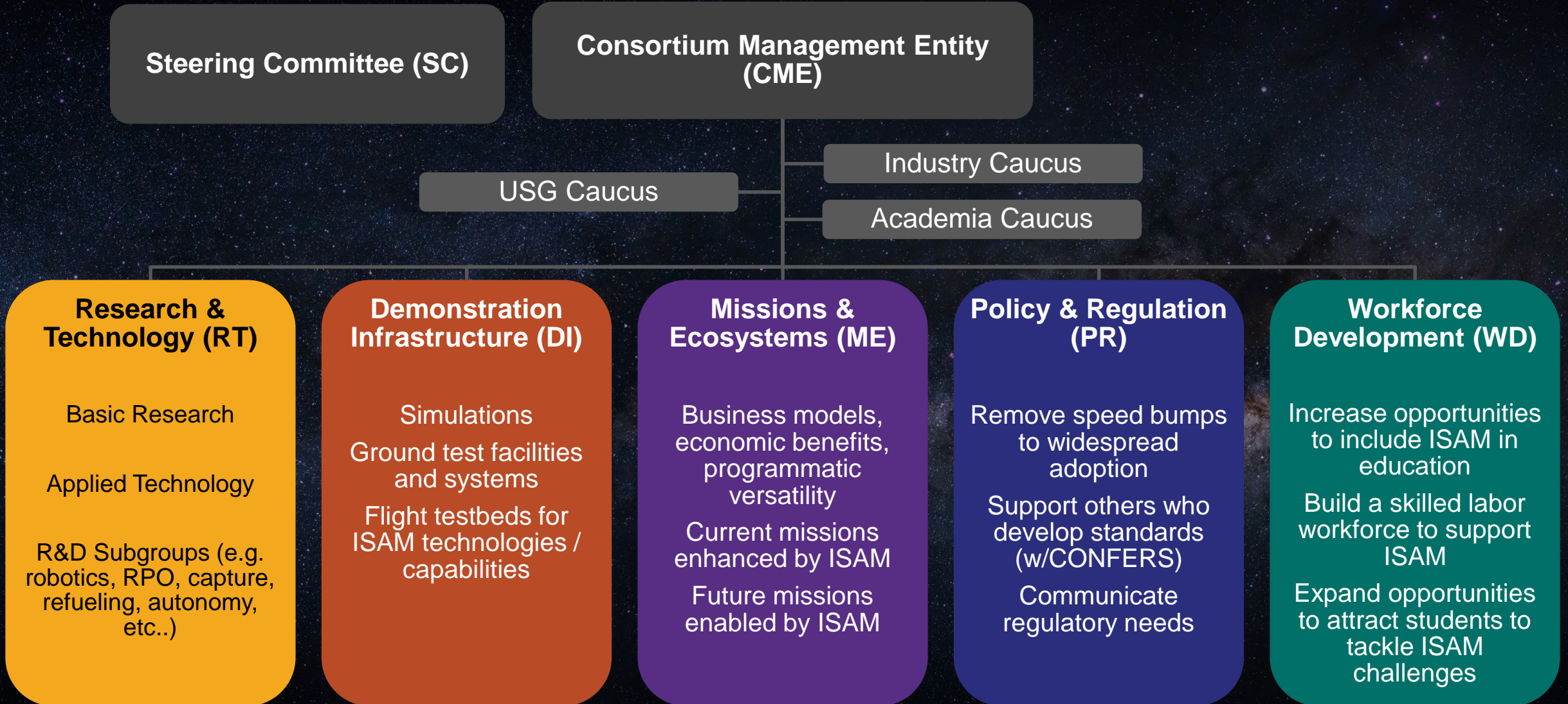


Focus Areas – “where work gets done”

- Purpose: Produce useful products that support the needs of the ISAM community
- COSMIC’s five Focus Areas include:
 - Research & Technology
 - Demonstration Infrastructure
 - Missions & Ecosystems
 - Policy & Regulation
 - Workforce Development
- The SC will determine when and if additional Focus Area working groups are needed, as well as whether an existing group has fulfilled its purpose and can be retired
- Focus Area Cadence:
 - Focus Area work, including telecons, video conferences, or other virtual communication will continue throughout the year on a **monthly** basis



Focus Areas – Scope



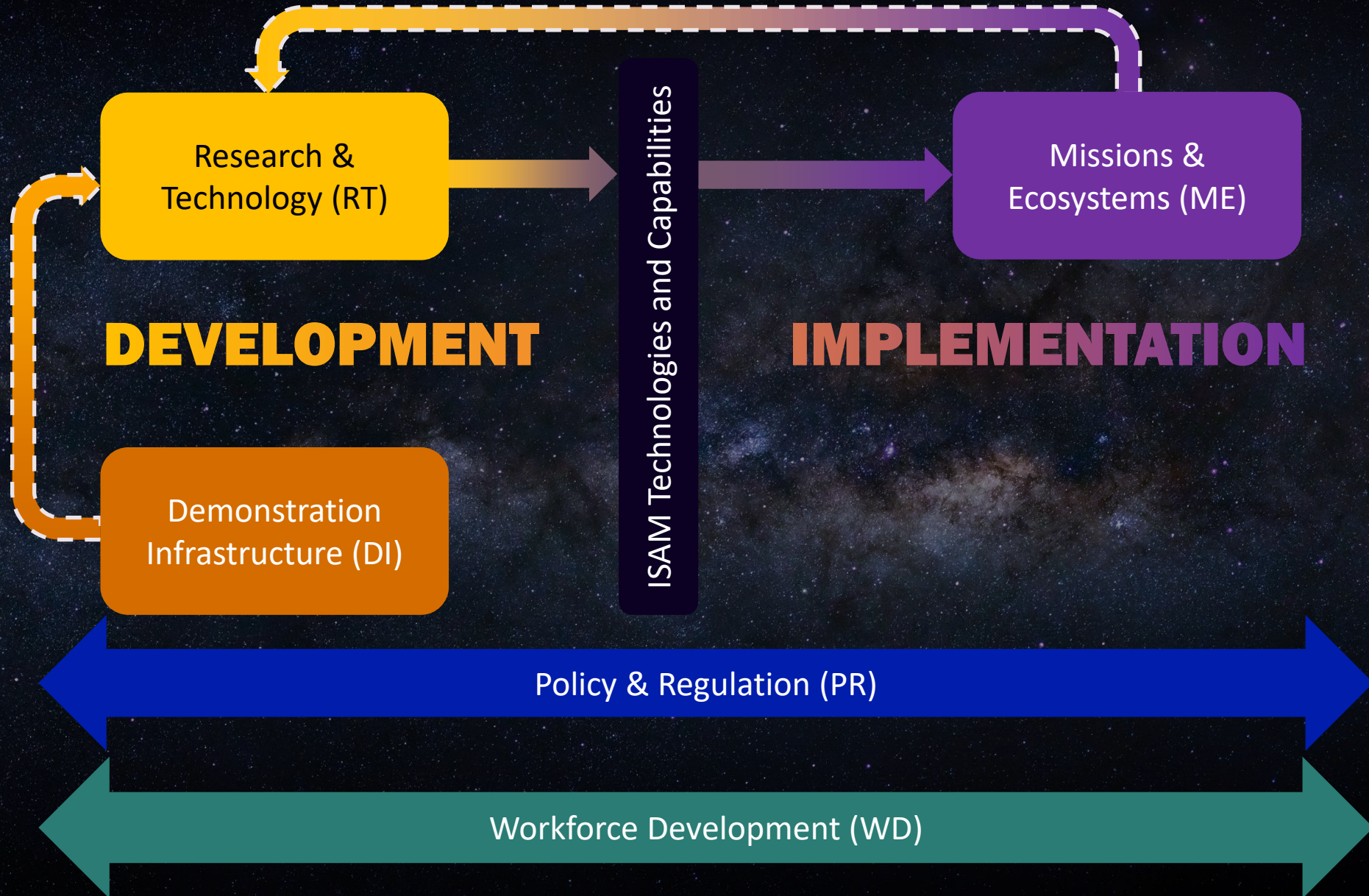
Focus Area Relationships

Demonstration & Infrastructure enables Research & Technology

Mission & Ecosystem uses the technologies developed by Research & Technology

Mission needs are communicated back to Research & Technology

Policy & Regulation and Workforce Development overlay all phases of development and implementation



Caucuses

- Purpose: provide a forum for like stakeholders to identify their ISAM needs and communicate them to the Focus Areas who will work to produce products to address those needs

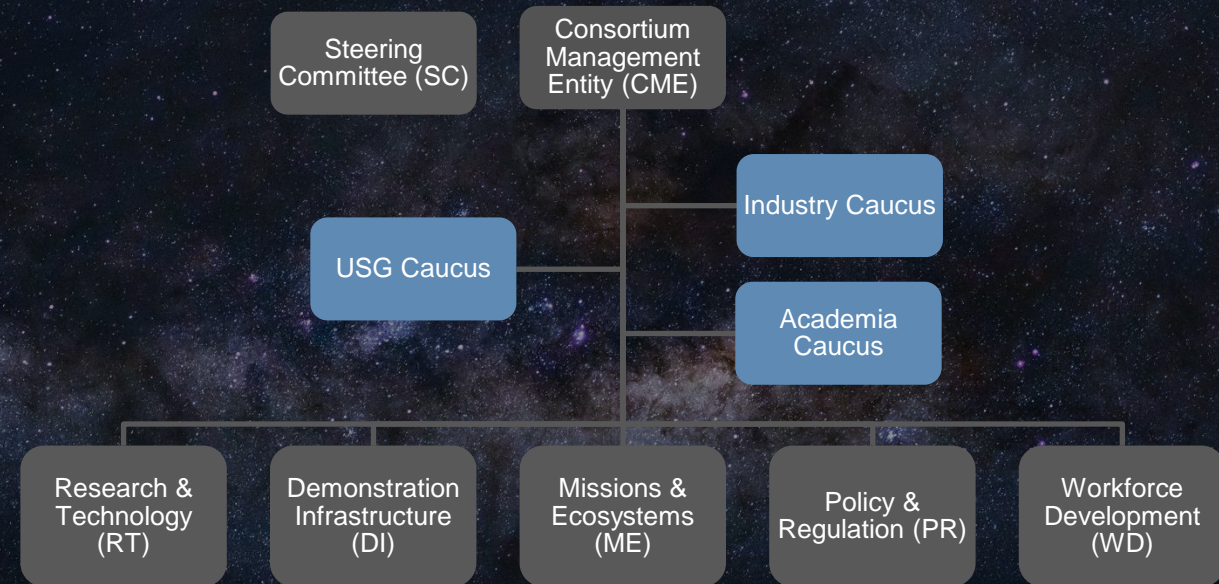
- U.S. Government
- Industry
- Academia

- Caucus Decision Making

- Caucus chair shall be chosen by each caucus
 - Simple majority vote; 1 year term

- Caucus Cadence

- Caucus work, including telecons, video conferences, or other virtual communication will continue throughout the year on at least a **quarterly** basis





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AND ISAM CAPABILITIES

Potential Products

Shannon Zirbel
Demonstration Infrastructure Focus Area Lead

COSMIC Products Overview



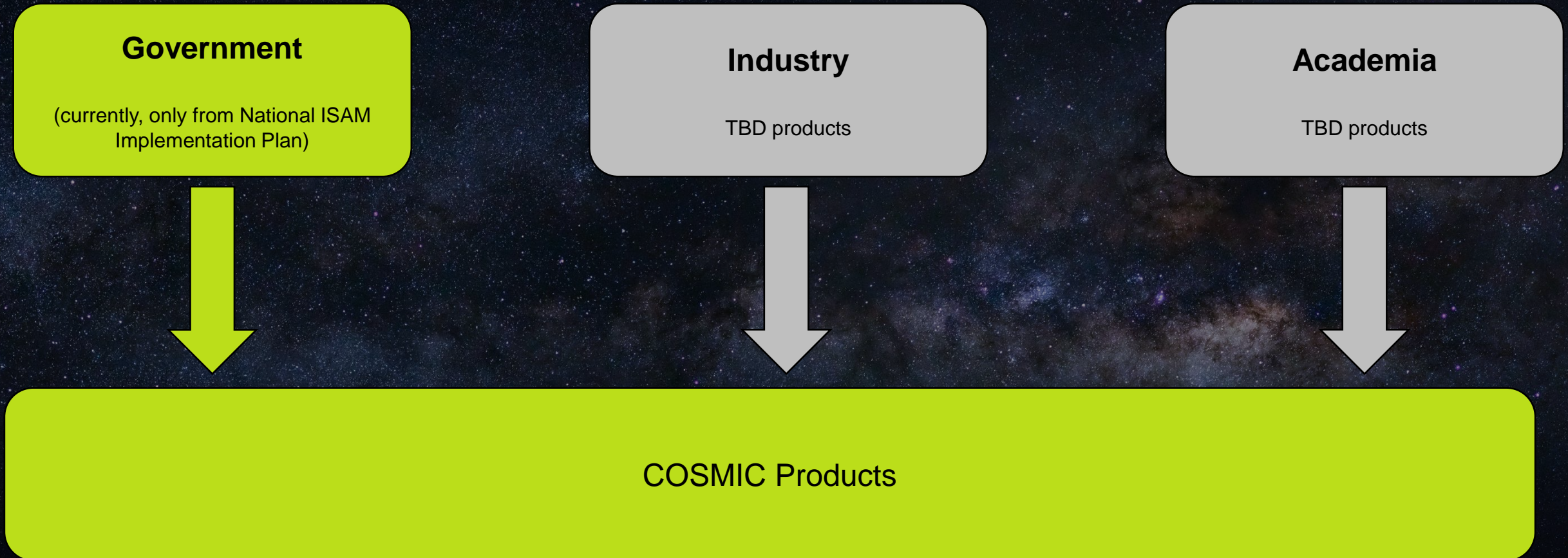
- What is a product?
 - Materials created by the consortium and delivered to COSMIC members and the public
- Proposed products list derived from the National ISAM Implementation Plan
 - Products assigned to either the Consortium Management Entity (CME) or one of the Focus Areas
 - Steering Committee products are defined in the Consortium Operating Plan (COP)
- Additional products will be defined as we solicit feedback from the Industry, Academia, and Government Caucuses
 - Please suggest products you think COSMIC should create through the chat and in the survey!

COSMIC is here to get work done!

What products would you like to help COSMIC create?

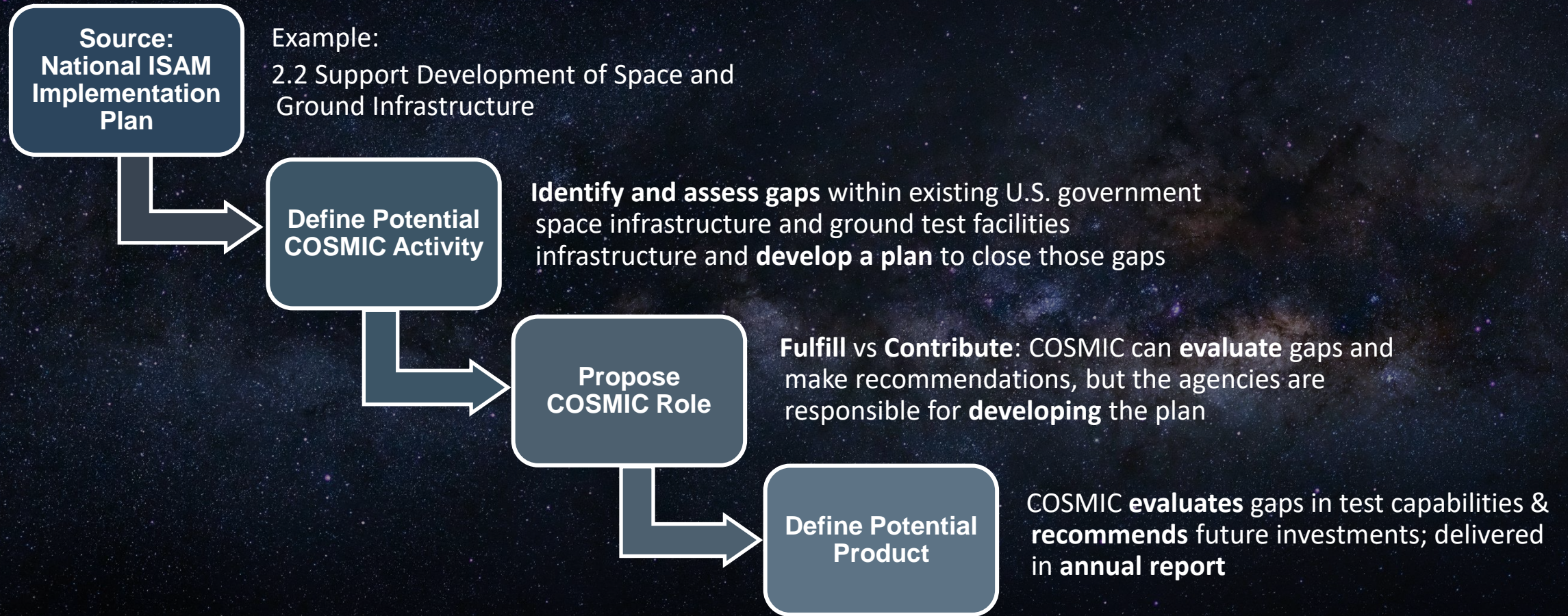
Product Definition Needs Community Engagement

We've only just started defining products!

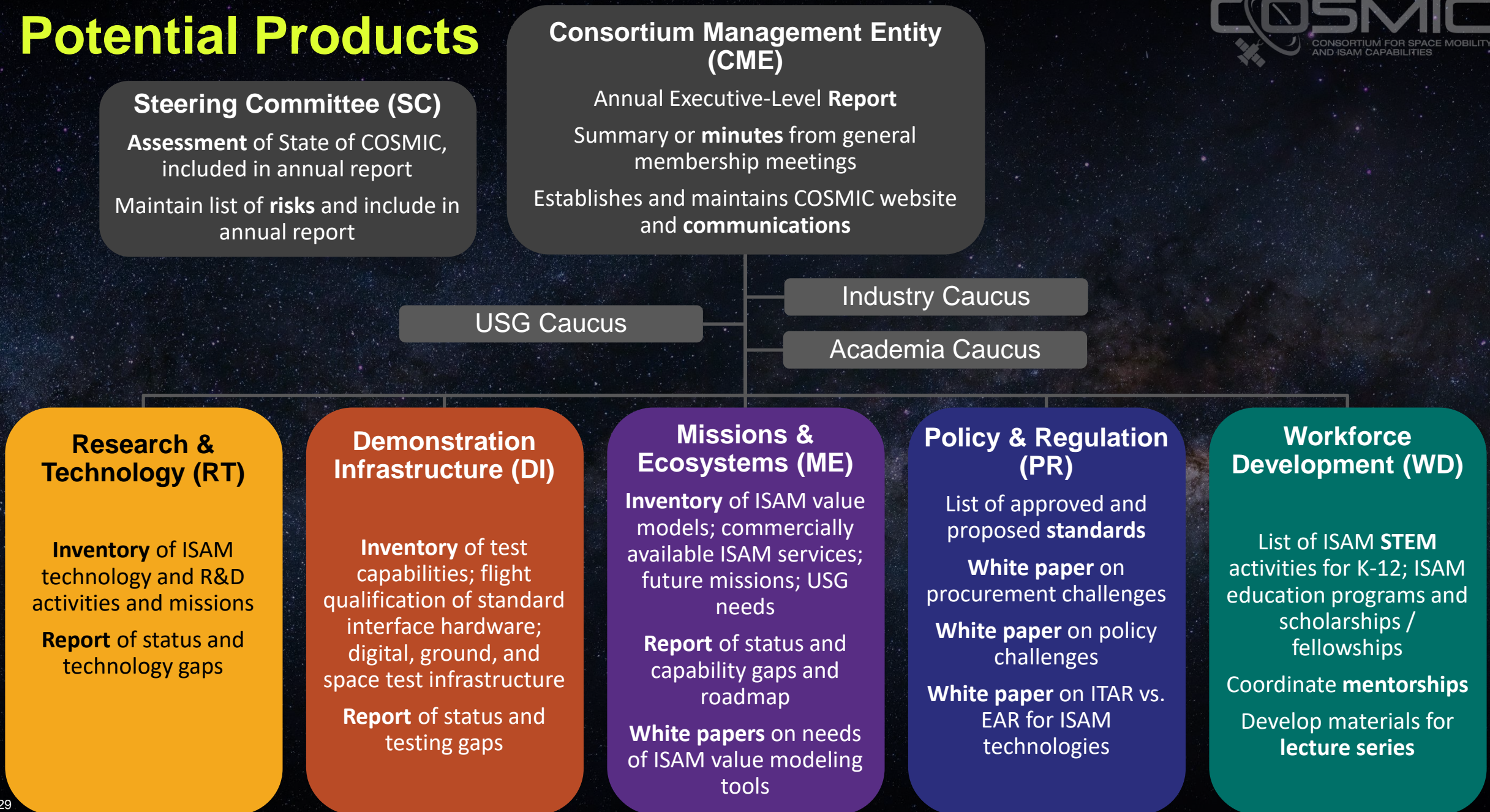


Looking for YOUR feedback to define the products needed by Industry, Academia, and other Government!

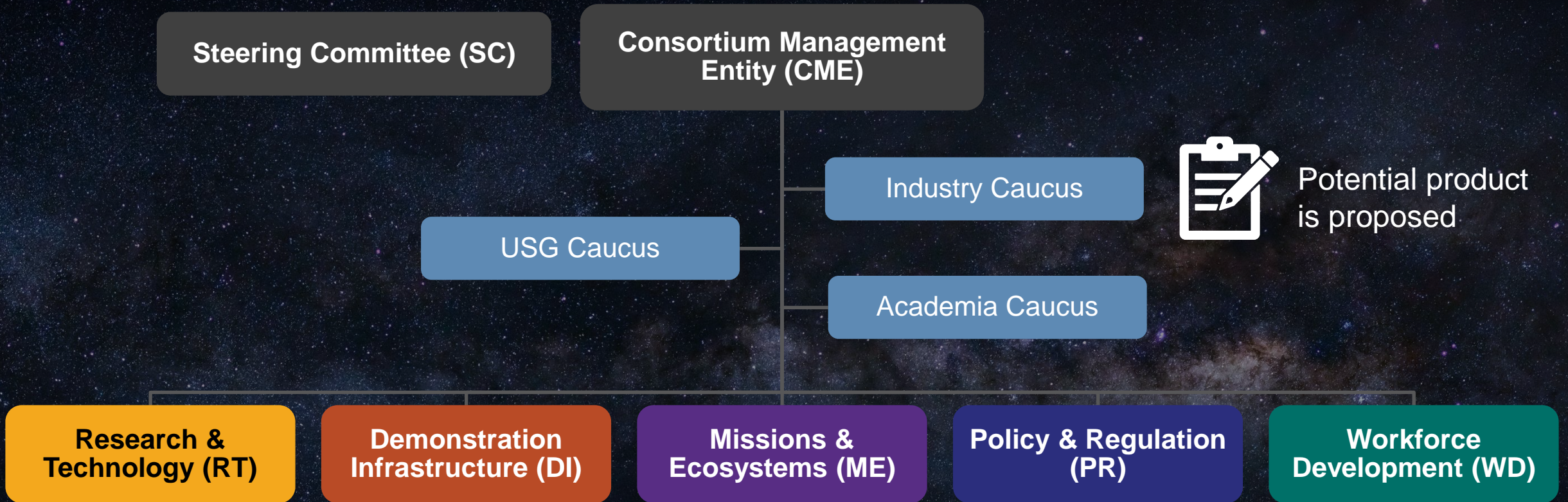
Example Product Derivation



Potential Products



COSMIC Products Lifecycle



COSMIC Products Lifecycle



Steering Committee (SC)

Consortium Management Entity (CME)

Prioritization set annually by SC

USG Caucus

Industry Caucus

Academia Caucus

Research & Technology (RT)

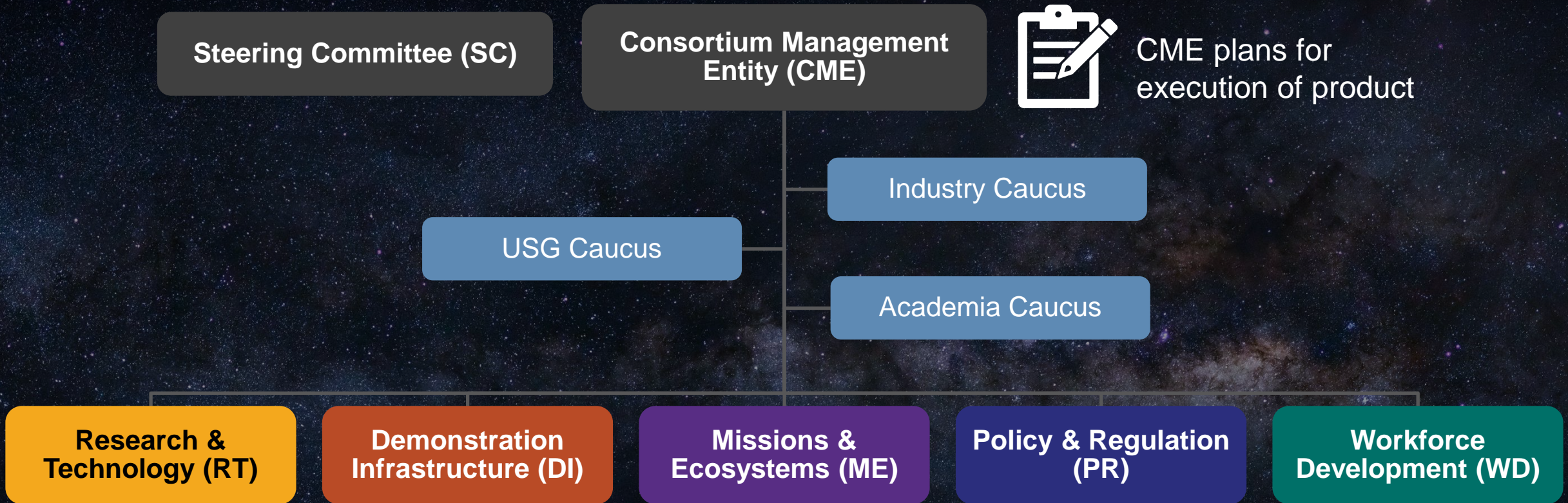
Demonstration Infrastructure (DI)

Missions & Ecosystems (ME)

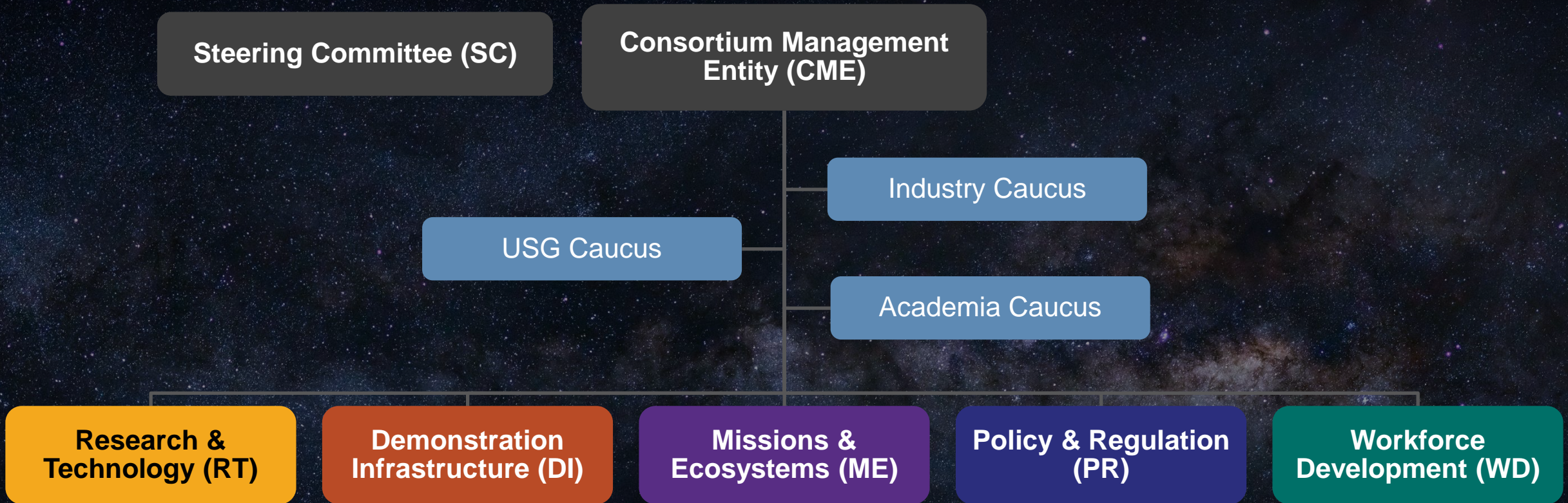
Policy & Regulation (PR)

Workforce Development (WD)

COSMIC Products Lifecycle



COSMIC Products Lifecycle



Product is assigned to FA

COSMIC Products Lifecycle



Steering Committee (SC)

Consortium Management Entity (CME)

SC reviews final product

USG Caucus

Industry Caucus

Academia Caucus

Research & Technology (RT)

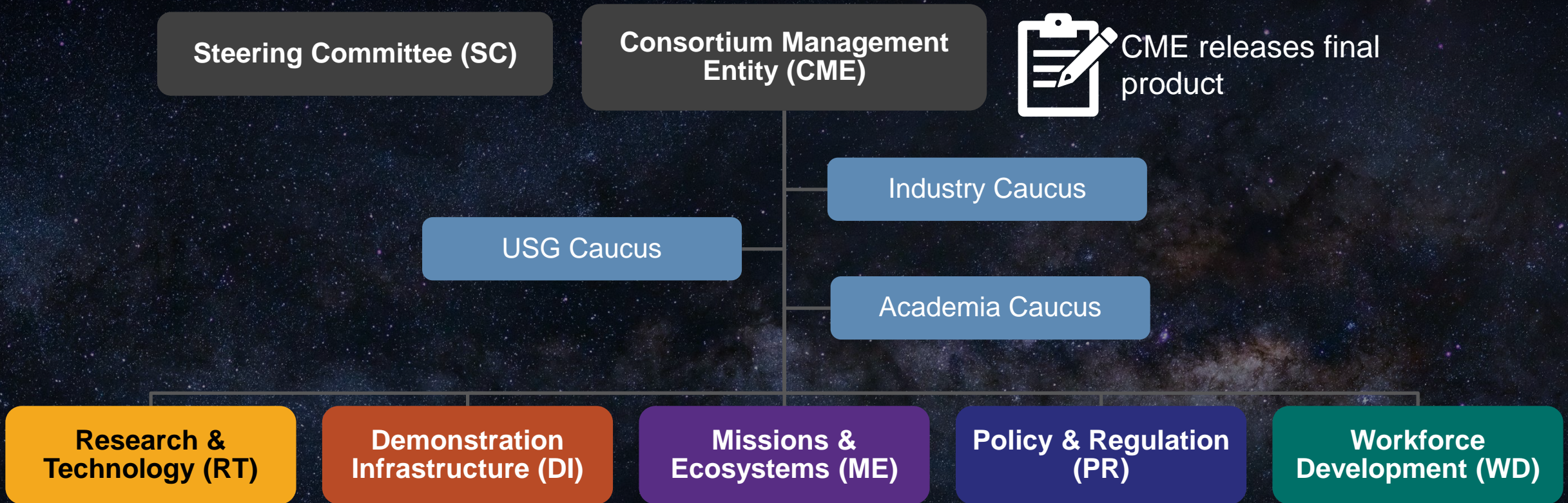
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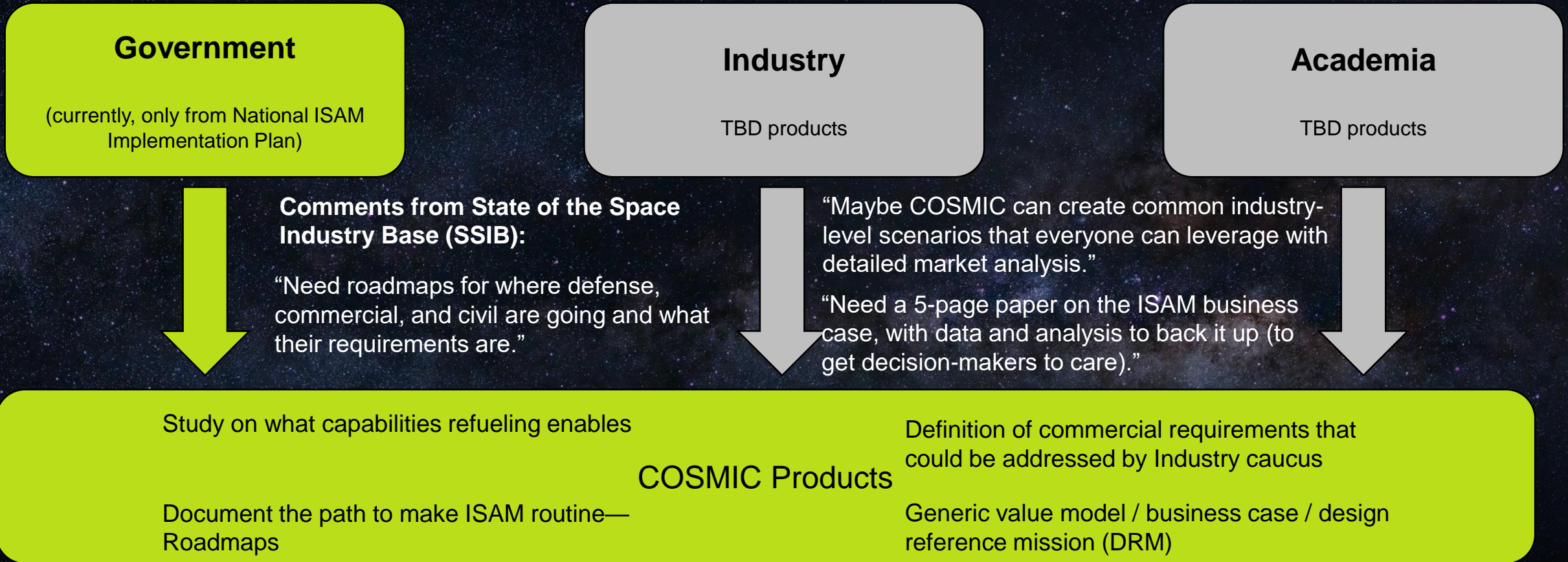
Workforce Development (WD)

COSMIC Products Lifecycle



Product Definition Needs Community Engagement

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Looking for YOUR feedback to define the products needed by Industry, Academia, and other Government!

Enter comments in Slido chat and in the survey, Question 16.



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Community Building & Participation

Greg Richardson
COSMIC Executive Director

Participation

- **General membership benefits:**

- No cost to join; no obligation
- Access to “members only” collaboration
- Focus area meetings
- Caucus meetings

- **Participants will be invited to:**

- Share information
- Create products
- Select representatives
- Identify new activities and products

Government	Industry	Academia
<ul style="list-style-type: none"> • Interagency collaboration and cooperation • Integrated demand signal, messaged to broader community • Representation from expanded ISAM-related agencies • Exposure to developments across wide span of ISAM applications 	<ul style="list-style-type: none"> • Create direct links to entire U.S. ISAM community • Integration and cooperation for ISAM ecosystem and infrastructure development • Ecosystem and community focus beyond singular missions • Resource for emerging companies 	<ul style="list-style-type: none"> • In-depth exposure to ISAM futures • Share knowledge about tech advancements, test facilities, and research with users and partners • Identify and engage industry for collaborative research and teaming • Identify active ISAM tech gaps

“Decisions are made by those who show up”

What Does COSMIC Success Look Like?



- Enabling the U.S. space community to provide global leadership in ISAM is not a short-term problem
 - Identifying interim and long-term metrics ensures we are on the right track, and we know when we are done
- **At year 1:** A thriving community engaged in product creation, and participating in ongoing discussions about how to solve national-level problems
- **At year 5:** A measurable increase in ISAM acceptance / implementation within and across the U.S. space community
- **At year N:** ISAM is a routine part of space architectures and mission lifecycles

Get Involved!



- **Fill out feedback survey in slido**
- Continue to engage with Aerospace to provide additional feedback about COSMIC
 - Consortium organization and direction
 - Consortium activities
 - Releasable products
 - Coordination and collaboration opportunities
 - Membership
- Engage your home institution to consider how you plan to engage with COSMIC at the kickoff and beyond
- Talk to others in your network about COSMIC

Get Involved!



- **Attend the COSMIC kickoff **November 7th & 8th** at **University of Maryland – College Park****
- Virtual and in-person options available
- Be ready for working sessions about consortium activities and products
 - Consider subgroups that should form up within Focus Areas
 - Identify your needs and challenges
 - Brainstorm potential products

Kickoff Agenda

Day 1

- Keynote speakers
- Cosmic Overview
- Panels
 - Servicing
 - Space Mobility
 - Assembly
 - Manufacturing
 - Economic Factors
- Social Hour

Day 2

- Panels
 - Consortium Collaboration
- FA/Caucus Intros
- Working Group Breakouts

Get Involved!



- Support COSMIC's steady-state cadence
 - Attend monthly FA meetings
- Develop the first-year products and identify plans for the next year
- Help our ISAM community continually improve and thrive



EXPLORING THE POWER OF COLLABORATION

November 7-8, 2023

University of Maryland
College Park, MD