

# CISR NATIONAL R & D PLAN TASKING

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PPD-21 requires a national plan for R&D that identifies key national R&D priorities, support enhanced collaboration across the public and private sectors, and consider cross-sector vulnerabilities and interdependencies

- Framing questions for the NIAC to consider:
  - What does the NIAC view as the most significant cross-sector R&D priorities and might this view change looking to 2020 and beyond?
  - What factors should be considered in prioritizing national R&D activities?
- Deliverables in Final Report and Recommendations
  - An integrated perspective of cross-sector R&D priorities of national significance,
  - Rationale for prioritization,
  - Strategic drivers for future requirements, and
  - Recommendations for potential partnerships to facilitate national priority investments.

# CISR NATIONAL R & D PLAN -FINDINGS

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- Strategic Drivers for National Research and Development Requirements
  - Challenges and Requirements for Critical Infrastructure Security and Resilience
- National Priorities for Required Capabilities
  - Criteria for Nationally Significant Capabilities-Defining National Significance
  - Required Capabilities of National Significance
- Recommendations
  - Priority Areas of Research and Development
  - Timeline for Action
  - Improvement to Public-Private Partnerships
  - Next Steps

# CISR NATIONAL R & D PLAN-FINDINGS

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## ■ **Strategic Drivers for National Research and Development Requirements**

- Challenges and Requirements to Advance Critical Infrastructure Security and Resilience
  - Overcoming Obstacles to Action: Policy, Regulatory, and Structural Barriers
  - Dependency on an interconnectedness through cyber systems
  - Aging infrastructure and the effects of catastrophic natural disasters
  - Evolving terrorist and other man-made physical threats
  - Growing complexity and consequences of cross-sector dependencies and range of threats
  - Workforce changes, evolution and requirements

# CISR NATIONAL R & D PLAN-FINDINGS

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## ■ National Priorities for Required Capabilities

### ■ Criteria for Nationally Significant Capabilities-Defining National Significance

As described by former Homeland Security Deputy Secretary Jane Holl Lute – Events or issues which require coordination or support by the Federal government beyond regional boundaries and resources beyond the ability of local or state governments to provide.

# CISR NATIONAL R & D PLAN-FINDINGS

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## ■ National Priorities for Required Capabilities (cont.)

### ■ Required Capabilities of National Significance-Two Categories

#### ■ Overcoming Obstacles to Action

- Regulations and Policy
- Market Incentives for Mission-Critical Investments
- Addressing Barriers to Cross Sector and Public-Private Collaboration

#### ■ Security and Resilience Implementation and Operations Support

- Cyber Security Capabilities
- Understanding and Management of Cross-sector Dependencies and Cascading Effects
- Building of Resilience into Design and Operations
- Workforce Development
- Contingency and Preparedness Planning

# CISR NATIONAL R & D PLAN-RECOMMENDATIONS

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## ■ Recommendations

### ■ Priority Areas of Research and Development

- 1) Role and impact of regulation, public policy, and consolidation within sectors on resilience and innovation
- 2) Identifying and applying best practices
- 3) Managing cyber risks
- 4) Developing and integrating modeling and simulation tools

### ■ Timeline for Action

- 18-24 Months
- Within 5 Years
- 2020 and Beyond

# CISR NATIONAL R & D PLAN-RECOMMENDATIONS

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## ■ Recommendations (cont.)

### ■ Improvement in Public-Private Partnerships

- Greater leveraging of academic institutions
- Identifying meaningful metrics

### ■ Next Steps

- Identify key success elements for sustainable implementation
- Research, analysis and documentation of existing policy, regulatory disincentives, and obstacles