Research & Development (R&D) PRIORITY AREAS

Thematic Areas

LEARNING, EDUCATION, AND CULTURE

HEALTH AND WELLBEING

FOOD AND AGRICULTURE

INDUSTRIAL
SOLUTIONS AND
COMPETITIVENSS
DEVELOPMENT

TRANSPORT AND MOBILITY

ENVIRONMENT AND NATURAL RESOURCES CLIMATE, DISASTER RESILIENCE, AND HUMAN SECURITY

ENERGY AND UTILITIES SYSTEM

STI GOVERNANCE

LEARNING, EDUCATION, AND CULTURE

S&T GOAL

S&T programs/projects that will enable the effective delivery of inclusive and quality lifelong learning. These include improving the teaching and learning environment, learning equipment and platforms, continuing professional and learning development, curriculum design, and pedagogy, and science communication.

- Distance Education
- Pedagogy and Instructional Improvement

- Science Communication
- Arts, Heritage, and Language

HEALTH AND WELLBEING

S&T GOAL

S&T programs/projects that ensures accessible, smart, quality, and comprehensive healthcare and nutrition and total well being services, products, and solutions.

- HEALTH
 - Drug discovery and development
 - Biomedical devices
 - Emerging and re-emerging diseases
 - Diagnostics
 - Digital and Frontier Technologies for Health
 - Human Kinetics
 - Brain and Mental Health
 - Geriatrics

- NUTRITION
 - Food Safety
 - Food Quality and Nutrition
 - Functional Food
 - Halal Food/Health
 - Maternal and Child Health

FOOD AND AGRICULTURE

S&T GOAL

Development and/or application of new technologies to improve production efficiency in crops, livestock, and fisheries to ensure food quality, safety, and security. Also includes S&T programs for more cost-effective post harvest handling, agricultural product processing, and agribusiness, marketing, and value chain development.

THEMATIC FOCUS

- CROP PRODUCTION
 - Varietal Improvement and Selection
 - Plant breeding and crop biotechnology
 - Seed systems innovation and development
 - Cultural Management Practices
 - Optimization of nutrient, soil, and water management
 - Plant pest and disease control and management

Crop Production System

- Urban and Smart Farming Approaches
- Farm mechanization and development of climate-resilient technologies
- Intercropping and integrated farming systems

FOOD AND AGRICULTURE

S&T GOAL

Development and/or application of new technologies to improve production efficiency in the agriculture, livestock, fisheries, and forestry to ensure food security. Also includes S&T programs for more cost-effective post harvest handling, agricultural product processing, and agribusiness, marketing, and value chain development

THEMATIC FOCUS

- LIVESTOCK PRODUCTION
 - Breed development, improvement, and conservation
 - Livestock nutrition, feeds, and feeding systems

AQUACULTURE PRODUCTION

- New species for culture
- Fish health. disease diagnostics, and management
- Fish nutrition, feeds, and feeds system

FOOD AND AGRICULTURE

S&T GOAL

Development and/or application of new technologies to improve production efficiency in the agriculture, livestock, fisheries, and forestry to ensure food security. Also includes S&T programs for more cost-effective post harvest handling, agricultural product processing, and agribusiness, marketing, and value chain development

- POSTHARVEST AND PRIMARY PROCESSING
 - Postharvest handling
 - Food innovation
 - Food processing technology
 - Food packaging technology

- AGRIBUSINESS
 - Food value chain development
 - Market assessment of agricultural products

INDUSTRIAL
SOLUTIONS AND
COMPETITIVENESS
DEVELOPMENT

S&T GOAL

S&T programs/projects that enable more efficient, demand driven, smart, sustainable, fully integrated, and agile processes in the manufacturing and service sectors. These include end to end innovations from the demand and supply chains and sustainable manufacturing processes and products.

- PROCESS
 - Chemical Manufacturing
 - Biological and Natural Products
 Manufacturing
- TEXTILE AND DYES
- ELECTRONICS AND COMPUTING SYSTEMS

- CONSTRUCTIONS AND METALS INDUSTRY
 - Fabrication, metal casting, and machining
 - Surface Engineering
 - Sustainable Construction Materials/Innovative Construction Services

INDUSTRIAL
SOLUTIONS AND
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DEVELOPMENT

S&T GOAL

S&T programs/projects that enable more efficient, demand driven, smart, sustainable, fully integrated, and agile processes in the manufacturing and service sectors. These include end to end innovations from the demand and supply chains and sustainable manufacturing processes and products.

- TIMBER AND NON-TIMBER PRODUCTS DEVELOPMENT
- SUSTAINABLE TOURISM
- CREATIVE INDUSTRY
 - Creative Services
 - Creative Design

- ADVANCED MATERIALS AND ADDITIVE MANUFACTURING
- AEROSPACE INDUSTRY

MOBILITY AND TRANSPORT

S&T GOAL

S&T programs/projects that ensure efficient, seamless, safe, and secure physical movement or mobility of the flow of goods and people while ensuring equitable mobility opportunities through better urban rural linkages and reducing carbon footprints from the sector.

- TRANSPORTATION
 - Land Transportation
 - Alternative mass transportation systems
 - Modernization of public utility vehicles (PUVs)
 - E-vehicle development
 - Traffic Management
 - Road Safety

- Maritime
 - Ship Building
- Logistics Management
 - Smart Depot and Warehousing Management System
 - Green Supply Chain Management

ENVIRONMENT AND NATURAL RESOURCES

S&T GOAL

S&T programs/projects that focus on the preservation, management, and sustainable use of natural resources. This includes initiatives towards resource recovery and rehabilitation.

- ECOSYSTEMS MANAGEMENT
 - Environmental monitoring
 - Forest resource production and management
 - Mangrove and coastal management
 - Terrestrial biodiversity monitoring and conservation
 - Protection of endangered and endemic species
 - Aquatic and Marine biodiversity monitoring, conservation, and management
 - Coral reef restoration

- POLLUTION CONTROL
 - Air quality monitoring, control, and abatement
 - Resource recovery and rehabilitation
 - Solid waste management
 - Wastewater management

CLIMATE,
DISASTER
RESILIENCE,
AND HUMAN
SECURITY

S&T GOAL

S&T programs/projects that help build resilience of people from the impacts of climate and natural disasters, as well as man-made hazards. These also support initiatives towards national security and peace and order.

- CLIMATE CHANGE
 - Mitigation and adaptation studies of vulnerable communities and ecosystems
 - Strategies/decision management tools for climate change- and disasterresilient environment (e.g., early warning systems)

- DISASTER RISK ASSESSMENT,
 MITIGATION, AND PREPAREDNESS
 - Earthquake monitoring
 - Weather forecasting and flood mitigation
 - Volcanic eruption preparedness
 - Other emergencies (e.g., radiation)

CLIMATE,
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RESILIENCE,
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SECURITY

S&T GOAL

S&T programs/projects that help build resilience of people from the impacts of climate and natural disasters, as well as man-made hazards. These also support initiatives towards national security and peace and order.

THEMATIC FOCUS

- DISASTER RESPONSE AND RECOVERY
 - Weather disturbances
 - Flooding
 - Earthquake
 - Volcanic eruption

SECURITY AND DEFENSE

- Armament and combat uniform
- Integrated Safety, Security and Surveillance

ENERGY AND UTILITIES SYSTEMS

S&T GOAL

S&T programs and projects towards achieving energy security in the country while ensuring efficient, clean, and sustainable extraction, production, refinery, processing, distribution, and consumption of energy resources.

- ENERGY
 - Innovative renewable energy system
 - Energy storage
 - Energy efficiency and conservation

- SUSTAINABLE MINING AND MINERALS
 - Mineral extraction
 - Mineral Processing

- WATER UTILITIES
 - Water Management
 - Water Infrastructure Intervention
 - Water quality monitoring

R&D GOVERNANCE

S&T GOAL

Initiatives that support a conducive environment for various stakeholders in the national S&T system.

- SMART GOVERNANCE FOR PUBLIC SERVICES
- S&T PROMOTION AND COMMUNICATION
 - Awards and recognition
 - Learning events and conferences
 - Scientific exhibition
 - Publications

- TECHNOLOGY MANAGEMENT
 - IP Management
 - Support to Technology Business Incubation and Startup
- INSTITUTIONAL DEVELOPMENT
 - Infrastructure development
 - Human resource development
 - Knowledge Management

R&D GOVERNANCE

S&T GOAL

Initiatives that support a conducive environment for various stakeholders in the national S&T system.

- S&T POLICY ADVOCACY
- PARTNERSHIPS AND LINKAGES
- S&T PROGRAM IMPACT ASSESSMENT
- S&T PROGRAM MANAGEMENT