

นิยามกรอบการวิจัยตามยุทธศาสตร์ และงานวิจัยชั้นแนวหน้า มทร.ธัญบุรี

1. Agro-food Innovation:

Smart Farming, Bio-Agriculture, Food Safety, Value-Added Processing, Agricultural-Based Materials, Functional Foods, BCG Model, AI, Innovative Materials, and Carbon Innovation

- Smart Farming and Precision Agriculture
- Bio-agriculture and sustainable farming practices
- Food safety and quality assurance technologies
- Value-added food processing and agro-industrial innovation
- Agricultural waste utilization for innovative materials
- Functional foods and nutraceuticals
- BCG (Bio-Circular-Green) Economy Model for agriculture and food industries
- AI-driven solutions in agriculture and food production
- Innovative materials derived from agricultural products
- Carbon Innovation for sustainable agro-food systems
- Blockchain technology for traceability in agro-food supply chains
- IoT and automation in food production and supply chain management
- Alternative proteins and plant-based food innovations
- biodegradable mulch materials for agriculture application,

2. logistic Innovation: Aviation, Rail Systems, Biodegradable Material Innovations, AI, and Carbon Innovation

- Aerospace and aviation technology
- Rail transportation systems and smart railway innovations
- Biodegradable material innovations for sustainable logistics
- Artificial Intelligence (AI) in logistics and supply chain management
- Carbon Innovation in transportation and logistics
- Autonomous and electric vehicle logistics
- Smart warehousing and automation in logistics
- Green logistics and sustainable supply chain solutions
- Blockchain for logistics and freight management
- Hyperloop and next-generation transportation systems
- Railway OperationTransportation
- High-Speed Rail,
- Safety and Risk assessment,
- Smart Logistic,
- AI technology with transport,
- Green Industry ,

- Safety Management,
- Transportation,
- EV,
- Green Industry,
- Resource Recovery,
- BCG model

Manufacturer

- Smart Machine Design
- Green Industry
- Renewable Energy
- Waste Treatment and Reuse
- Resource Recovery
- Safety Management
- Data/IT Management
- Computer Program Development
- Safety Management
- Smart Electricity System
- Civil/Structure Engineering
- Green Building Design

Transportation

- EV
- Low Carbon Emission
- Renewable Energy
- Vehicle Maintenance
- Vehicle Innovation
- IT/IoT Transportation

Warehouse and Storing

- Safety Management
- Green Building Design
- Civil/Structure Engineering
- Data/IT/IoT Management
- Energy Saving
- Smart Electricity System
- Storage System

Packing

- Data/IT Management
- Computer Program Development

Packing

- Biodegradable Material
- ECO Packaging Design
- Recycle
- Plant Based
- Packaging Technology and Materials

Receiving

- Data/IT/IoT management
- Machine Transportation Design
- Computer Program Development

Checking

- Service
- Data/IT Management
- Computer Program Development

Cross-docking

- Service
- Data/IT Management
- Computer Program Development

Shipping

- EV
- Low Carbon Emission
- Renewable Energy
- Vehicle Maintenance
- Vehicle Innovation
- IT/IoT Transportation

Returns

- Service
- Data/IT Management
- Computer Program Development

3. Digital Economy: Cloud Automation, Big Data, E-Commerce, ICT, AI, Innovative Materials, Carbon Innovation

- Artificial Intelligence (AI), Deep Learning, Robotics, Smart City, Smart Healthcare, Smart Farming
- Big Data, Data Science, and Data Engineering
- Logistics technology and E-Commerce business platforms
- High-speed communication technology: 5G, 6G
- Cybersecurity technology
- Quantum computing technology
- Blockchain technology
- Virtual Reality (VR) and Augmented Reality (AR) technologies
- 3D Printing technology
- Machine Learning technology
- Drone technology
- Operation Control Center (OCC)
- Deep Learning
- Image Processing

4. Health and Wellness

Comprehensive well-being encompassing physical, emotional, intellectual, and social aspects.

- Design for performance enhancement
- Design for quality of life
- Design for well-being
- Product design for wellness
- Health-promoting recreational equipment
- Health products and dietary supplements
- Packaging design to promote health awareness
- Graphic packaging design for best practice guidelines
- Health-oriented product design
- Creative inventions for better health
- Art therapy: Creating art and aesthetics to enhance emotional and social well-being
- Balancing life through art
- Innovations for well-being and social problem-solving
- Innovative herbal and health food solutions
- Health and beauty products
- Innovative medical materials

5. Frontier Research: งานวิจัยขั้นแนวหน้าที่สร้างองค์ความรู้ใหม่ด้านวิทยาศาสตร์ สังคมศาสตร์ มนุษยศาสตร์ ศิลปกรรมศาสตร์ และเทคโนโลยีขั้นแนวหน้าที่ถูกนำไปประยุกต์ใช้และ/หรือต่อยอด

6. Tourism & Creative Innovation

Urban Development Models for Value Creation in Arts, Culture, AI, Innovative Materials, and Carbon Innovation

- Learning and preserving language, literature, and folklore
- English language and cultural promotion for the service industry
- Tourism and hospitality management
- Service industry development
- Public administration, policy, and governance
- Workforce development in communication for the service industry
- Sustainable social and environmental development models
- Innovative creative products from tourism and hospitality services
- Aesthetic