



## **STRATEGIC GOALS FOR NSTIP PROGRAMS**

### **1. Advanced Materials:**

#### **Strategic Goals:**

- Improve the contribution of advanced materials to the critical national needs and the competitiveness of KSA industry.
- Enable a domestic technology-based advanced materials industry in key areas (such as membranes and catalysis).
- Raise KSA's international position in the area of advanced materials.
- Improve the Kingdom's human resources and institutions for advanced materials R&D.

### **2. Biotechnology:**

#### **Strategic Goals:**

- Transfer and develop the newest medical, agricultural, and environmental biotechnologies.
- Provide settings that encourage creativity and investment in the field of biotechnology.
- Direct the applications of biotechnology to achieve health and food safety in the Kingdom.
- Protect the biodiversity resources of the Kingdom through the development of appropriate biotechnology applications.
- Use biotechnology to prevent, diagnose, and cure common medical problems in Saudi Arabia.

### **3. Electronics, Communication and Photonics:**

#### **Strategic Goals:**

- Development of high value added technologies.
- Establishing advanced labs.
- Promoting research.
- Forming new specialized employment opportunities.

### **4. Energy Technology:**

#### **Strategic Goals:**

- Efficiently exploiting national energy resources.
- Supporting national self dependence in critical energy technologies.
- Developing innovative technologies for special needs that cannot be satisfied efficiently or economically through existing systems.
- Transferring, adapting, and developing technologies for local users and markets through business models that promote creation and maximization of employment and investment opportunities, as well as economic diversification and competitiveness.
- Promoting the national image and stature in science and technology.

### **5. Environmental Technology:**

#### **Strategic Goals:**

- Establishing a national infrastructure for environmental technologies.
- Transferring, localizing, and developing high quality environmental technologies to tackle national environmental issues.
- Contributing to the concept of advanced environmental technology industries to enhance the national economy.
- Developing national and international strategic partnerships.
- Providing scientific consultation in the field of environmental technologies.

## 6. Information Technology:

### **Strategic Goals:**

- Support an expanding and innovative KSA IT industry.
- Advance IT capabilities to meet critical needs in the Kingdom in areas, such as computer networking and security.
- Develop innovative high quality IT applications to meet specialized needs in the Kingdom, such as for the oil and gas industry, and Islamic applications.
- Develop world class capabilities in language technologies, especially applied to serve the Arabic Language.
- Improve scientific and supercomputing facilities to expand the Kingdom's capabilities in science and engineering through modeling, simulation, and visualization.

## 7. Nanotechnology:

### **Strategic Goals:**

- Improve Nanotechnology infra-structure
- Train man-power in the area of nanotechnology
- Develop advanced applications using Nanotechnology

## 8. Oil and Gas:

### **Strategic Goals:**

- Innovative technology to enable higher recovery of oil and gas from the discovered reservoirs
- Better understanding of the reservoir, easy access, and efficient production of oil and gas
- Improved and more complete data of subsurface formations and oil and gas reservoirs

## **9. Petrochemicals:**

### **Strategic Goals:**

- Support and develop domestic capacity in critical petrochemicals and refining technologies.
- Support the local refining and petrochemicals industry with technology solutions that facilitate new product development, improve production efficiency, price/value efficiency, environmental protection and similar concerns.
- Develop innovative high quality petrochemical technologies and applications to meet specialized industrial and commercial needs in the Kingdom such as in oil and gas.
- Adapt and localize petrochemical technologies to support the development of national capability.
- Enhance the Kingdom's competitiveness in regional manufacturing through transfer and development of advanced petrochemical technologies.

## **10. Space and Aeronautics Technology:**

### **Strategic Goals:**

- Development of research teams and lab facilities in the area of space and aeronautics technology.
- Production of a targeted prototype in the national program.
- Development of services and products, based on the application of aerospace technologies, to fulfill the local and regional needs.

## **11. Water Technology:**

### **Strategic Goals:**

- Developing advanced local technologies for water desalination and purification and treatment at economical and competitive costs.
- Developing bench-scale prototypes for technology products.
- Establishing specialized work teams in desalination and treatment technologies.
- Developing high-quality human resources.

## 12. Mathematics and Physics:

### **Strategic Goals:**

- Improve mathematics and physics education at all levels so that students are better prepared to study science and engineering in college and beyond.
- Involve university faculties in improving K-12 mathematics and physics education through various programs, including research on effective curriculum, improved text books, and e-learning materials.

## 13. Medical and Health:

### **Strategic Goals:**

- Development and retention of national manpower and expertise in medical and health sciences research.
- Development of infrastructure for sustainable, cutting-edge and competitive research in the medical and health sciences.
- Facilitate the performance of novel, competitively-funded and high quality research in the medical and health sciences.
- Effective communication of research findings and significance of those findings to policy-makers and the public.

## 14. Agriculture Technology:

### **Strategic Goals:**

- Transfer, localization and development of competitive and environmentally safe agricultural technologies intended to promote the Kingdom's sustainable growth and biosafety.
- Development of human knowledge of urgent agricultural issues and related technology.
- Development of a competitive R&D infrastructure for KSA agricultural technologies.
- Creation of a competitive environment for an agricultural technologies industry to compete in global markets.
- Steering modern technology applications and research to support vertical farming.

## **15. Building and Construction:**

### **Strategic Goals:**

- Transfer, localize and develop feasible and cost effective building and construction technologies to improve quality of life.
- Enhance the quality and productivity of research in strategic areas relevant to safety and long-term service life of the structures.
- Develop sustainable, durable and environmental friendly structures based on latest research and technological advancements.
- Encourage construction industry to have professionals who add value to the development of building and construction technologies.
- Bridge the gap between end users, R&D organizations and private sector to generate new investment opportunities.
- Involve stakeholder in action plan and decisions making.
- Develop human resources – in numbers and caliber - to undertake these formidable tasks.