THE PRIME MINISTER ---	**SOCIALIST REPUBLIC OF VIET NAM** **Independence - Freedom – Happiness** ---
No. 49/2010/QD-TTg	*Hanoi, July 19, 2010*

DECISION

APPROVING THE LIST OF HIGH TECHNOLOGIES PRIORITIZED FOR DEVELOPMENT INVESTMENT AND THE LIST OF HI-TECH PRODUCTS ELIGIBLE FOR DEVELOPMENT PROMOTION

THE PRIME MINISTER

Pursuant to December 25, 2001 Law on Organization of the Government;

Pursuant to the November 13, 2008 Law on High Technologies;

At the proposal of the Minister of Science and Technology,

DECIDES:

Article 1. To approve the list of high technologies prioritized for development investment and the list of hi-tech products eligible for development promotion (enclosed herewith).

Article 2. Based on the national socioeconomic development in each period, the Ministry of Science and Technology shall assume the prime responsibility for, and coordinate with concerned ministries, ministerial-level agencies, government-attached agencies and provincial-level People's Committees shall propose amendments and supplements to the lists mentioned in Article 1 of this Decision.

Article 3. The Ministry of Science and Technology shall assume the prime responsibility for, and coordinate with the Ministry of National Defense and the Ministry of Public Security in, proposing to the Prime Minister for approval the list of high technologies prioritized for development investment and the list of hi-tech products eligible for development promotion which are subject to specific requirements in the fields of national defense and security.

Article 4. This Decision takes effect on September 6, 2010.

Article 5. Ministers, heads of ministerial-level agencies and government-attached agencies, and chairpersons of provincial-level People's Committees shall implement this Decision.

PRIME MINISTER

Nguyen Tan Dung

APPENDIX I

LIST **OF HIGH TECHNOLOGIES PRIORITIZED FOR DEVELOPMENT INVESTMENT**

(To the Prime Minister's Decision No. 49/ 2010/QD-TTg of July 19, 2010)

1. Technology for designing and manufacturing high-capacity micro-processing units, integrated circuits and computer memories.

2. Technology of embedded systems.

3. Technology for identifying scripts, voices, images, gestures, movements and thoughts.

4. Technology of high-definition display.

5. Next-generation network technology.

6. Technology of distributed computing and high-performance computing.

7. Technology of visualization and cloud computing.

8. Internet IPv6 technology. Mobile Internet technology.

9. Technology for manufacturing operation systems for computers and mobile equipment.

10. Technology for assuring high-level network security and safety and information confidentiality.

11. Digital terrestrial television technology. Second-generation digital satellite television technology.

12. Gene technology to be applied to diagnosis, examination and treatment.

13. Gene technology to be applied to manufacture and production of recombinant vaccines.

14. Gene technology to be applied to manufacture and production of recombinant proteins.

15. Technology for genetic modification in animals, plants and microorganisms to create high-value products for use in health care, agriculture, industry and environmental protection.

16. Stem-cell technology to be applied to diagnosis and treatment or replacement of tissues and organs.

17. Animal tissue or embryo cell technology; technology for culturing plant cell tissues.

18. Technology for producing enzymes and proteins.

19. Technology of industrial fermentation for recombinant microorganism strains.

20. Microbiological technology for treatment of environmental pollution.

21. Robot technology.

22. Computer-aided design and computer-aided manufacture (CAD/CAM) technology and flexible manufacturing system (FMS) technology for products of high complexity.

23. Technology for controlling mechanical engineering preciseness.

24. Technology for manufacturing special-use marine navigation equipment for ships.

25. Technology for designing, manufacturing, installing and launching drilling platforms and extra-long and extra-heavy structures for petroleum industry.

26. Technology for designing and manufacturing control devices and power electronics converters for power industry and automatic machines for manufacturing mechanical engineering, shipbuilding and transport sectors.

27. Technology for designing and manufacturing measuring devices, actuators, automatic control and monitoring units for complete equipment systems in oil refineries, power plants, cement plants, food or pharmaceutical production and processing chains.

28. Technology for designing and manufacturing special-use chips for measuring apparatuses and control systems.

29. Technology for manufacturing equipment for imaging diagnosis for medical use; medical instruments using nuclear technology.

30. Space technology.

31. Nano-material technology.

32. Micro-electromechanical system (MEMS) technology, nano-electromechanical system (NEMS) technology and sensors on new principles.

33. Optoelectronic and photonic material and component technology.

34. Technology for manufacturing pig iron and special alloys.

35. Technology for surface treatment and welding in special environments.

36. Technology for manufacturing super-durable, ultra-light and environment-friendly materials or materials for use in harsh environments.

37. Technology for manufacturing high-class and environment-friendly special-use paints.

38. Technology for manufacturing bio-degradable polymers.

39. Technology for manufacturing high-quality combinant polymer and composite polymer materials which are durable in tropical climate.

40. Technology for manufacturing special-use technical rubber and synthetic rubber for machine building, electricity generation, electronics, security and national defense.

41. Technology for manufacturing high-class technical ceramics for electricity, electronic and machine building industries. Technology for manufacturing high-class porcelain products for civil use.

42. Technology for converting and storing renewable energy sources.

43. Technology for designing large-sized ships and ships with complex properties.

44. Technology for manufacturing composite materials in elastic or bimetal form.

45. Technology for working materials with ultrasound, ignition, plasma, laser or digital control.

46. Technology for manufacturing special glass fiber, optical fiber or carbon fiber materials.

APPENDIX II

LIST OF HI-TECH PRODUCTS ELIGIBLE FOR DEVELOPMENT PROMOTION

(To the Prime Minister's Decision No. 49/ 2010/QD-TTg of July 19, 2010)

1. High-capacity micro-processing units, integrated circuits and computer memories (ROM/RAM).

2. Micro-electromechanical systems (MEMS), nano-electromechanical systems (NEMS) and equipment using these systems.

3. Heavy-duty cells and accumulators for information and communications equipment.

4. Equipment for identifying scripts, voices, images, gestures, movements and thoughts.

5. High-definition displays.

6. Next-generation equipment and network.

7. Automatic optical circuit switches.

8. Laser data transmission equipment.

9. 3G terminal and next-generation network modules and control devices.

10. Radio access equipment of BTS Indoor/Outdoor and terminal equipment of Setup Box; Fix-phone; IP-phone; G-phone; Modem ADSL2+; VDSL2+; SHDSL.

11. Satellites and satellite equipment.

12. Terminal equipment and terminal relay stations of satellites.

13. Super-computers, parallel computers and high-performance computers.

14. Internet IPv6 equipment and networks, mobile Internet equipment and networks.

15. Equipment for assuring high-level network security and safety and information confidentiality.

16. Smart monitoring equipment.

17. Smartcards and smartcard readers.

18. Radio frequency identification card (RFID) printers and readers.

19. Computer operation systems for special- use computers and operation systems for mobile equipment.

20. Designing and optimization of telecommunications networks and systems in the national telecommunications infrastructure.

21. Computer interfaces and mobile equipment using Vietnamese language.

22. Software for assuring high-level network security and safety and information confidentiality.

23. Software for controlling 3G terminals and next-generation networks. Soft phones and codecs for multi-service assistance on the 3G and next-generation network background.

24. Software for systems applying RFID. Software for processing bio-medical information.

25. Multilingual automatic translation systems for text documents.

26. Software and equipment for identifying scripts, images, invoices, gestures, movements and thoughts.

27. Services of designing and integrating systems applying new-generation webs, Internet IPv6, mobile Internet-

28. Services of designing and integrating cloud computing systems.

29. Services of applying GPS/GIS technologies to vehicle management.

30. Receivers, transmitters and inverters for use in digital terrestrial television; receivers and transmitters applying the second-generation digital satellite television.

31. Recombinant proteins and enzymes for use in pharmaceuticals, foods, industry and environmental treatment.

32. Recombinant ADN vaccines and recombinant protein vaccines used for humans, cattle, poultry and aquatic animals.

33. Biological kits for diagnosis of diseases and control of food safety.

34. Plant varieties, animal breeds and genetically modified microorganisms.

35. Gene assessment services.

36. Substitutive tissues and organs created from stem cells.

37. New plant varieties and animal breeds created on the basis of cell technology.

38. New, disease-free, high-productivity and high-quality plant varieties and animal breeds produced on an industrial scale.

39. Microorganism preparations for use in agriculture and environmental treatment (up to international standards).

40. Biological chips and sensors.

41. Bio-fuels produced from algae ,agricultural waste and garbage by bio technology.

42. Opened-chain industrial robots, parallel robots with three or more degrees of freedom.

43. Computerized numerically controlling (CNC) units for machine tools and manufacturing machines.

44. Special-use AC servo engines, multi-axial servo gearing systems, decelerator boxes of high precision for robots and CNC machines.

45. Special-use automatic equipment and systems for various large gravity load cranes.

46. Automated balancing system in ships.

47. Self-lifting rig, semi submersible floating for oil gas mining

48. Systems of measuring devices, actuators, automatic control and supervision units for complete equipment systems in petroleum refineries, power plants, cement plants, food or pharmaceutical production chains, agriculture.

49. Supervisory control and data acquisition (SCADA) system for power grids. Digital relay protectors for the power system.

50. Smart solar/wind inverters. Smart solar power cells connected to power grids and the Internet.

51. Power generator and generation stations powered by wind, solar or tidal energy. Stirling external combustion engines.

52. Digital medical instruments: X-ray, color ultrasound and electro-encephalographic machines. Laser medical instruments. Motors and drilling machines for dental care.

53. Power electronics converters used for power generation stations powered by renewable energies, smart power transmission, special-use engines, large gravity load cranes, ships and vehicles.

54. Special-use chips for measuring apparatuses, actuators and control units. Sensors and smart actuators.

55. Special-use basic software for metrology and cybernetics .

56. Detector scanning microscopes to be applied to chemical, physical and biological analysis and molecular-level processing.

57. Nano-materials for industry, agriculture, health care, biology and environmental protection; nano-composites for a number of industries.

58. Micro-electromechanical materials and components and sensors on new principles.

59. Semi-conductor materials for manufacture of integrated circuits and special-use electronic components.

60. Optoelectronic and photonic materials for telecommunications, automation, robot, high-definition flat-panel displays and energy-saving high-efficiency lighting.

61. High-class magnetic materials for energy sector, communications and automation.

62. Optical-fiber cables manufactured by hybridization technology using high-purity petroleum gases.

63. Metal membranes on different materials manufactured by physical vapor deposition (PVD) and chemical vapor deposition (CVD) technologies.

64. Super-elastic and super-conductor materials. Super-durable, ultra-light and environment-friendly materials for construction.

65. Special alloy steel of high durability for construction.

66. Stainless alloy steel, heat-endurance and abrasion- and erosion-proof alloys. Special alloys for industrial use, power industry, ship building and military equipment.

67. High-intensity carbon fibers for composite materials.

68. Metallic-background composite materials, polymer-background composites for use by electric and electronic techniques in harsh environments.

69. High-pressure- and chemical erosion-resistant composite tubes for ship building and other industries.

70. Bio-degradable polymer materials; water-super absorbent polymers made from domestic materials.

71. Technical plastics of high elongation-resistance and high elasticity module. Gears, deceleration boxes and details of technical plastics for machine building.

72. Special-use technical rubber and synthetic rubber materials for machine building, electricity industry, electronics, security and national defense.

73. Technical ceramic materials for industrial electricity and electronics. Zircon oxide ceramic (instead of aluminum oxide, titanium oxide ceramics, ceramics for internal combustion engines)

74. Materials for the collection, storage and metabolism of new energy sources

75. Materials of heat endurance, radioactivity-shielding and high pressure-resistant materials for manufacturing nuclear reactor housings in atomic energy plants.

76. Medium-density fiberboards (MDF) and particle boards (PB) up to the EU standards. Cellulose composites for use as substitutes for natural wood.-