



**Brain Korea 21, a project for  
Nurturing Highly Qualified  
Human Resources  
for the 21st Century  
Knowledge-based Society**

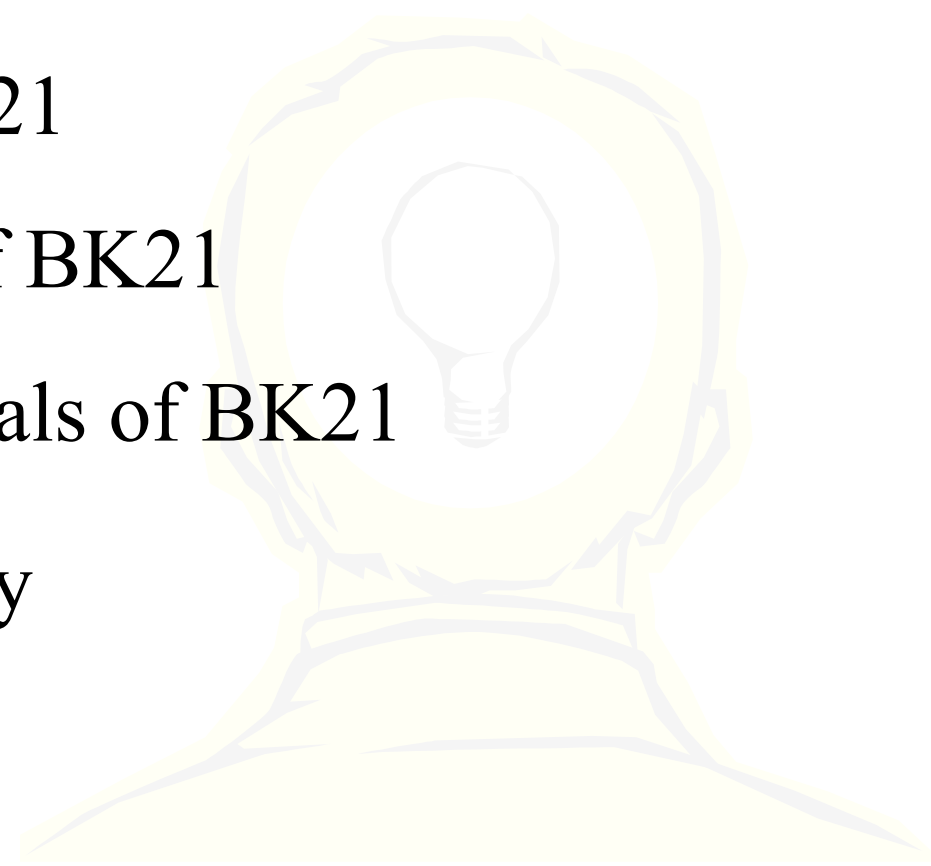
**Ministry of Education & Human Resources Development  
Republic of Korea**

# Table of Contents

- ❑ Introduction to BK21 Project
- ❑ Overview of BK21 Project
- ❑ Proposed Objectives by Project Teams
- ❑ Management and Evaluation System
- ❑ Major Performances by BK21 Project
- ❑ Cases in Other Countries

# Introduction to BK21 Project

- History of BK21
- Background of BK21
- Vision and Goals of BK21
- Action Strategy



# History of BK21 Project

- '98. 4 - '99. 5: Basic planning, Public hearing
- '99. 6: 1st Announcement for the Project(2nd: '99. 10)
- '99. 7-8: 1st Selection of teams (2nd : '99. 10)
- '00. 6-8: 1st year Annual Review
- '01. 5: Built Comprehensive Management Sys.
- '01. 6-8: 2nd year Annual Review
- '02. 4- : Mid-term Review

## Background of BK21 Project-Condition of Higher Education in Korea

[www.moe.go.kr](http://www.moe.go.kr)

- Low output of research and development
  - 16th in SCI-level publications in '98 ( 3.9% of USA's and 15.5% of Japan's)
- Low competitiveness in higher education
  - Less than 1/4 or 1/20 of annual educational expenditure per student at major universities compared with world's leading universities
- Deepening reliance of education & research on foreign countries (Deficit : \$ 700M)
- Need to strengthen creative education system in K-12 schools

# Vision and Goals of BK21(1)

- Developing world class graduate schools and nurturing R&D manpower
  - Nurture 1,300 doctorates in each year in natural sciences and engineering fields after 2005
  - Promote supported sectors toward world top-10 graduate schools after 2005

## Vision and Goals(2)

- Enhancing research capability through supporting future R&D manpower financially
  - Invest over 70% of total funding for graduate students and post-doctorates, contracting researchers to exert their efforts solely on research and study
  - Leap into world top-10 nation in SCI-level publications after 2005 (17th in 1998 → 14th in 2001)

# Vision and Goals(3)

- Nurturing specialized regional universities and strengthening industry-university ties
  - Establishment of independent system through raising matching-fund from industry and local government and support for merchandizing research outputs
  - Collaborative operation of curricula and projects to nurture human resources relevant to industry



# Vision and Goals(4)

- Reforming university system to nurture creative human resources
  - Diversifying admission system, widening enrolment units, etc.
  - Building central management system of research funding, universalizing professor performance review system

# Action Strategy

- Invest \$1.2 B for 7 years ('99 - '05)

- More funding for advanced applied fields
- University reform as a prerequisite to funding
- “Selection and concentration”
- Over 50% of investment to graduate students
- Strengthen Industry-university ties

# Overview of BK21

1. Overview by sub-projects
2. Overview of selected project teams



# Overview of Sub-projects

- **Develop world-class graduate schools**  
**(\$1.1B/7 Year)**
  - Science and Technology(\$70M/Year)
    - **Develop world-class R&D manpower and research capability in basic sciences and strategic fields**
  - Humanities and Social Science(\$7.7M/Year)
    - **Develop high-qualified researchers in strategic humanities and social science fields for advanced society**

# Overview of Sub-projects

- **Infra-structure for developing graduate school** (\$38M/Year, \$266M/7 Year)
  
- **Developing Leading Regional Universities** (\$38M/Year, \$266M/7 Year)
  - Develop manpower to meet the need of regional industries cooperating with local governments

# Overview of Sub-projects (Continued)

- **Enhance Research Capability of Graduate Schools (\$127M, 5 Year)**
  - Professional Graduate Schools(\$8.5M/Year)
    - **Develop human resources in the fields related to high-value-added industries (Design, Oriental medicine, Film, etc.)**
  - Small Research Groups(\$30M/Year)
    - **Nurture researchers in all fields to develop research capability (Arts, Medical science, Humanities, etc.)**

# Overview of selected project teams

- Science and Technology
  - 26 Primary Project Teams (11 Universities) (22 Secondary Project Teams associated with PPT)
- Humanities and Social Sciences
  - 18 PPT (11 Universities) (2 SPT)
- Leading Regional Universities
  - 13 PPT and 29 SPT (38 Universities)
- Professional Graduate Schools
  - 11 Professional Graduate Schools (11 Universities)

# Proposed Objectives by Project Teams

- **Performing objectives  
proposed by project teams**





# Performing Objectives

## ■ Main Objectives

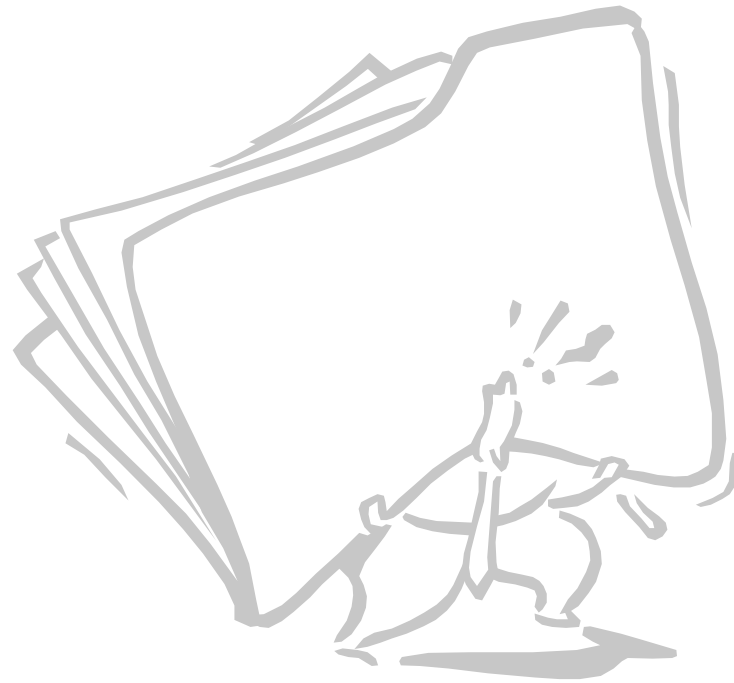
- **Nurture R&D manpower and enhance research capability by proposing 629 tasks from 69 teams**
- **Build supportive system for merchandizing research outputs**
- **Launch international collaboration programs by benchmarking world leading universities**

## ■ Reforming Academic System

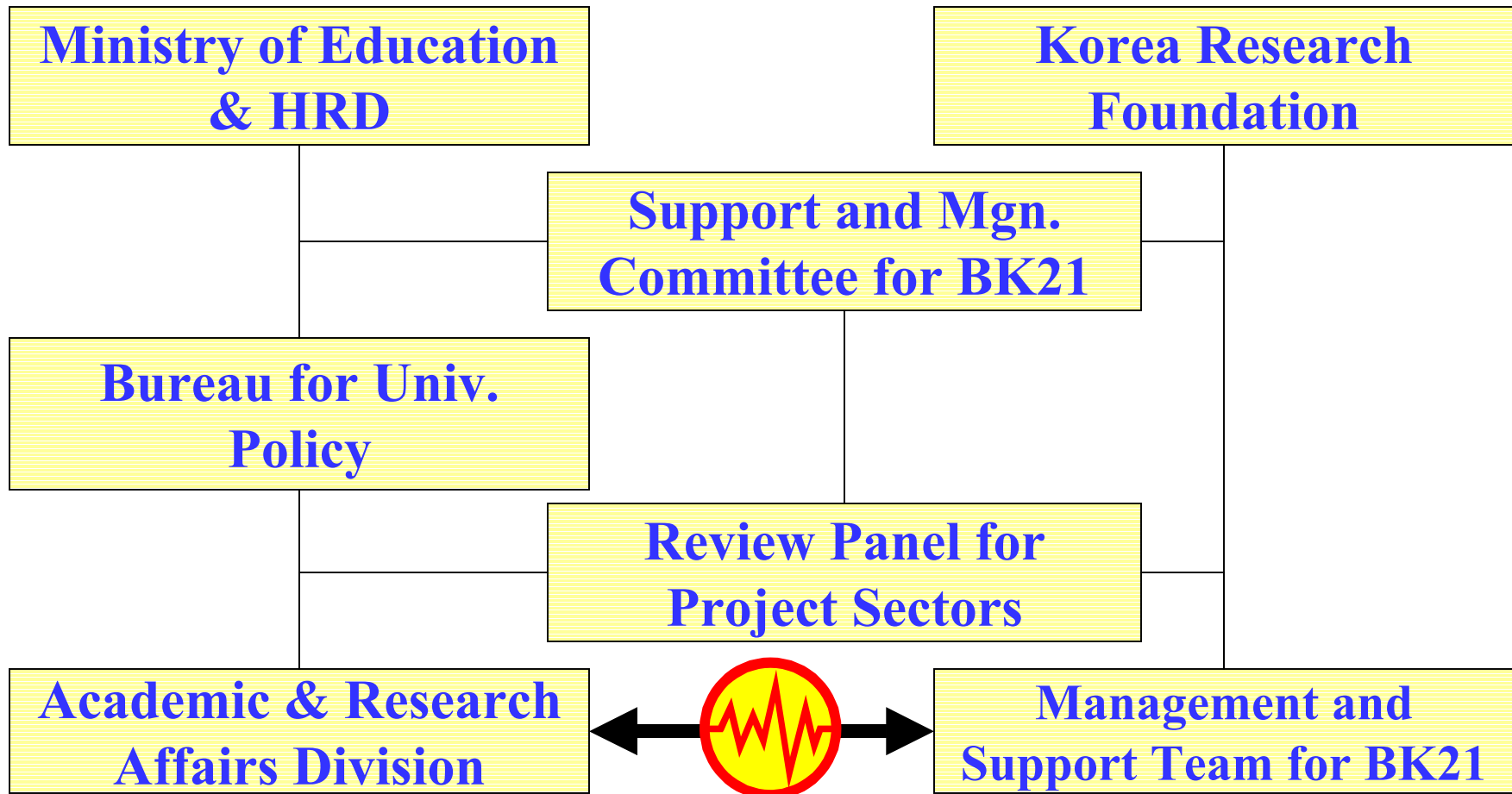
- **Admission system**
- **Reduction of enrollment establishment**
- **Open-door policy to graduate schools**
- **Widening enrollment units**
- **Centralizing management of research funding**
- **Link professor performance review to personnel system**

# Management and Evaluation System

1. **Operation System**
2. **Tasks and Function**



# Operation System



# Tasks and Function

- Ministry of Education and HRD
  - Academic & Research Affairs Division, Bureau for University Policy
  - Main Function
    - **Policy development and establish basic direction for management**
    - **Ensure and distribute finance for BK21**
    - **Develop Post- BK21 Project**

# Management and Support Team for BK21

- Attached to Korea Research Foundation  
(Since October 2000)
  
- Main tasks
  - Assist Committee on Support & Management for BK21 Project
  - Plan and support annual and mid-term review, develop review standards, etc.
  - Analyze project teams' annual reports
  - Operate data base for the Project

# Committee and Panels for BK21

## ■ Committee on Support and Management

- **Vice ministerial advisory committee**
- **Deliberate major issues**
- **Composed of 11 members, representing academic society, industry, press, etc.**

## ■ Review Panels

- **Under CSMBK21**
- **Annual and mid-term evaluation**
- **85 members in 5 groups**

# Main Performances of BK21 (1999 - 2001)

1. Infra-structure for nurturing R&D manpower and research
2. Research Products
3. International patents and collaboration / exchange

# Infra-structure for high-qualified human resources and research

- Nurture high-qualified R&D manpower through developing world-class graduate schools
  - Financial support to 34,153 graduate students for 3 years and nurture next generation of R&D manpower
  - Recruit 1,933 post-doctorates and 1,096 contract professors and enhance research capability
- Change in research and higher education
  - Competition in research and development and in recruiting excellent students nationwide



# Research Products

- Publication of SCI-level paper in science & engineering
  - **Top 7 universities participating in BK21 Project share 56% of total publications of SCI-level papers (Total 192 4-year colleges or universities in Korea)**
  - **3,842 papers before BK21 ('98) → 5,698 papers in 2001**
  - **2.74 per participating professor before BK21 → 3.72('01)**
- International and national publications in humanities and social sciences
  - **288 publications before BK21 → 624 publications in 2001**
  - **1.1 publications per participating professor before BK21 → 2.3 publications in 2001**

# International Patent and Collaboration

- **International Patents**
  - **Increase in merchandizing research outputs such as international patents**
    - \* **116 cases before BK21('98) → 189 cases in 2001**
  
- **Upgrade in educational and research through international exchange and collaboration**
  - **Equipping with global mindsets through supporting short-term (12,751) and long-term (510) overseas training for graduate students for three years**
  - **Inviting 431 distinguished foreign scholars and implanting state-of-the-art research and education**

# Cases in Other Countries

## Taiwan, China, and Japan's cases



# Cases in Other Countries

- Taiwan : 『4-year Development Plan for University Research Excellence』
  - Selection and financial support of internationally leading fields [\$ 400 M (4 Year)]
- China : 『211 Project』
  - Nurture 800 departments at 100 major universities [\$ 162 M (5 Year)]
- Japan : 『Project for Top 30 Departments』
  - Support Top 30 departments in basic science and advanced fields [\$1-5 M/Year per department (5 Year)]

## Corresponding to: Ministry of Education and HRD

[www.moe.go.kr](http://www.moe.go.kr)

- Director General for University Policy Bureau,  
Nam Soo Seo, Ph.D. ([nsseo@moe.go.kr](mailto:nsseo@moe.go.kr))
- Director for Academic & Research Division,  
Geol Woo Lee, Ph.D. ([gwlee55@moe.go.kr](mailto:gwlee55@moe.go.kr))
- Team Leader for Research Support,  
Gyutae Kim, MPA ([kgt0901@moe.go.kr](mailto:kgt0901@moe.go.kr))
- Deputy Director for BK21 Project,  
Jong-chul Jung, Ph.D. ([jcjung@moe.go.kr](mailto:jcjung@moe.go.kr))



<http://www.moe.go.kr>  
Sejong-ro 77, Jongro-gu, Seoul, Korea, 110-760  
☎. 02-735-4273 Fax. 02-720-3438

Brain Korea 21