

# Economics of Information Services for Scientific and Technical Data in the Information Age:

The View from  
a National Data Center in Japan

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CODATA 2002, 18th International Conference  
Montreal, Canada, 29 Sep - 3 Oct, 2002

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## 1. ECONOMICS OF INFORMATION

### 1.1 Microeconomics of Information 1961-

Market Models with Asymmetric Information  
Information Cost / Value  
Lemon Market, Moral Hazard, Failure of Market

### 1.2 Macroeconomics of Information

Studies on Information Industry  
1962 *Tadao UMESAO: Information Industry*  
**Informatization** (Computerization)  
*Informatization Week 1972-;*  
*Informatization Month 1982-*

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**Informatization  
Month  
Oct 2002**

## 1. ECONOMICS OF INFORMATION

### 1.3 Characteristics of informational commodities

non-excludability / non-rivalry

- 1) Information as Public Goods
- 2) Academic Information as *Club Goods*

### 1.4 Information economics in the process of development

**The New Economy ?**

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## 2. HISTORICAL OVERVIEW OF SCIENTIFIC INFORMATION SYSTEMS IN JAPAN

### 2.1 The Science Information System and NACSIS / NII

- 1) Recommendation for  
*the Science Information System* 1980  
Ministry of Education, Science, Sports and Culture:  
(MONBUSHO)
- 2) Shared Cataloging System:  
*NACSIS-CAT* 1984-
- 3) Establishment of *NACSIS* and its Database Service:  
*NACSIS-IR* 1986-  
*NII* 2000-

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## 2. HISTORICAL OVERVIEW OF SCIENTIFIC INFORMATION SYSTEMS IN JAPAN

### 2.2 Electronic Library Functions for Libraries

- 1) Recommendation on Electronic Library Functions 1996
- 2) Digital library Projects at Universities  
*NARA Institute of Science and Technology (NAIST):  
The Electronic Library 1991-*

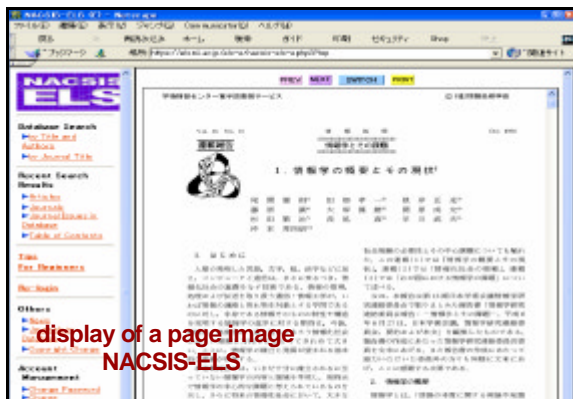
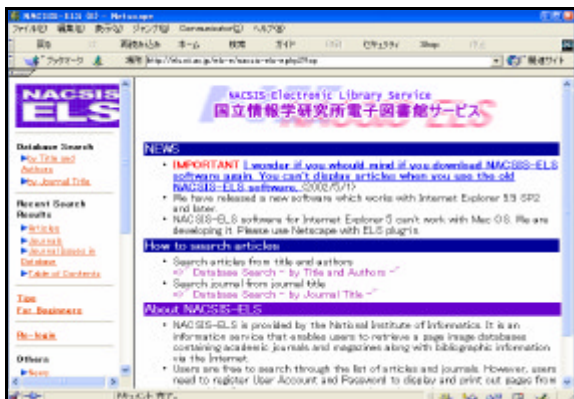
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## 2. HISTORICAL OVERVIEW OF SCIENTIFIC INFORMATION SYSTEMS IN JAPAN

### 2.3 Electronic Journal Systems and Economics of Academic Societies

- 1) **NACSIS-ELS:**  
An Image-based Collection of Japanese Academic Journals
- 2) Electronic Journal Compilation Systems for Societies

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## 2. HISTORICAL OVERVIEW OF SCIENTIFIC INFORMATION SYSTEMS IN JAPAN

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- 1) **NACSIS-ELS:**  
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## 2. HISTORICAL OVERVIEW OF SCIENTIFIC INFORMATION SYSTEMS IN JAPAN

### 2.4 Funding for scientific database construction

- 1) Financial support for scientific database constructions  
Gant-in-Aid for Sci Res (Database) 1981-  
2001: 155 databases, JPY1,420 mil (\$12mil)  
JST Database Support Program 1996-  
2-3 database/yr, JPY100 mil

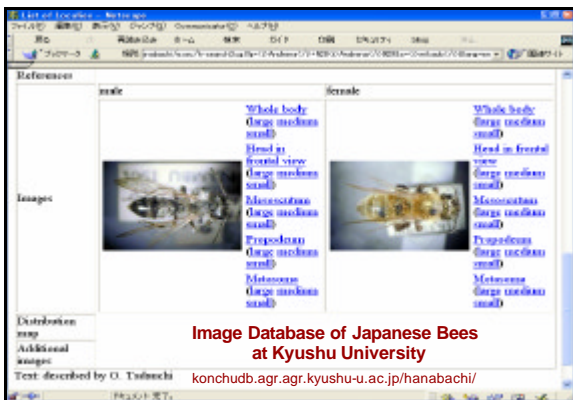
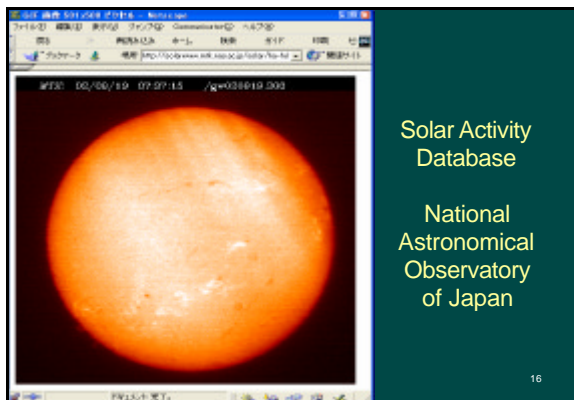
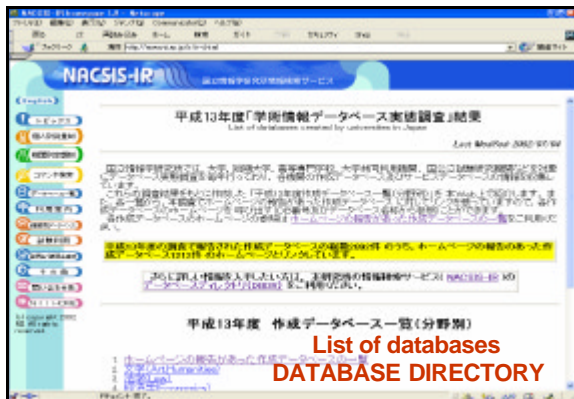
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2. HISTORICAL OVERVIEW OF SCIENTIFIC INFORMATION SYSTEMS IN JAPAN

2.4 Funding for scientific database construction

2) **Database Directory (DBDR)** at NII and Current Status of Scientific Database Construction

2001: 2,892 databases  
 Multi-disciplinary 43%, Literature 12%,  
 Medicine 9%, Science 5% (Library catalog 22%)



2. HISTORICAL OVERVIEW OF SCIENTIFIC INFORMATION SYSTEMS IN JAPAN

2.4 Funding for scientific database construction

3) Changes in Charging Policy

**Benefit Principle => Free Access**

### 3. NEW POLICY DEVELOPMENT FOR DIGITAL RESEARCH INFORMATION INFRASTRUCTURE IN JAPAN

#### 3.1 Report of the Working Group for Digital Research Information Infrastructure 2002

Council for Science and Technology,  
Ministry of Education, Culture, Sports, Science and Technology (MEXT)



### 3. NEW POLICY DEVELOPMENT FOR DIGITAL RESEARCH INFORMATION INFRASTRUCTURE IN JAPAN

#### 3.2 Acquisition of Electronic Journals at University Libraries

Exploring Appropriate Business Models

#### 3.3 Information Transmission from Universities

University Portals, Institutional Servers  
Matadata Approach

### 3. NEW POLICY DEVELOPMENT FOR DIGITAL RESEARCH INFORMATION INFRASTRUCTURE IN JAPAN

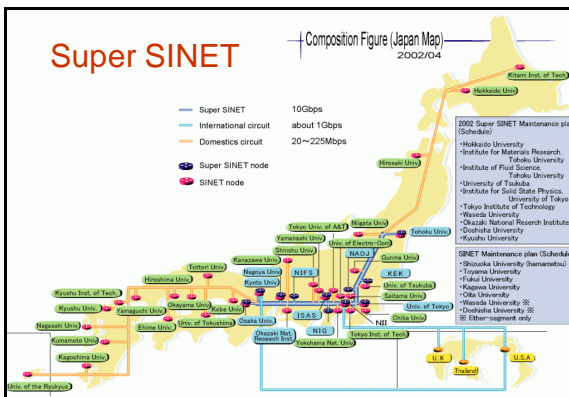
#### 3.4 Information Transmission from Academic Societies

#### 3.5 Transmission of Japanese Scholarly Information Abroad

National Portal at NII, Join SPARC

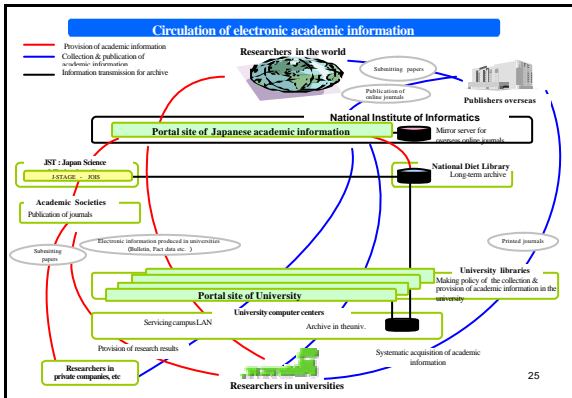
#### 3.6 Reinforcement of Network Infrastructure

*SINET / Super-SINET*



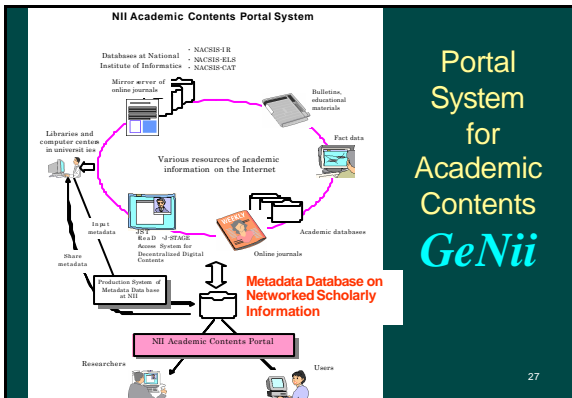
### 4. EXPECTED ROLES OF NII

- 1) Center Function
- 2) National Portal Site System: Genii
- 3) Metadata Database System
- 4) Citations in Japanese Journals



#### 4. EXPECTED ROLES OF NII

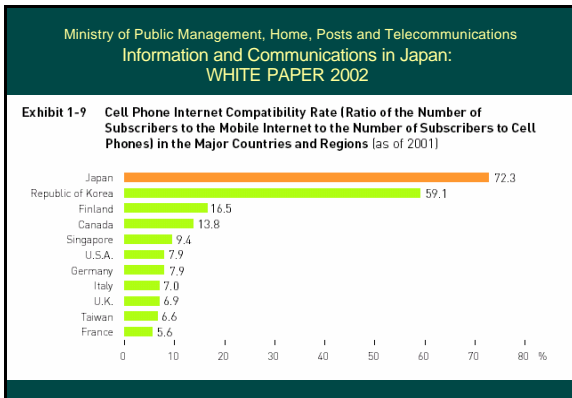
- 1) Center Function
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#### 5. e-JAPAN STRATEGY

##### 5.1 Mobile Internet Access as Japan the World Leader

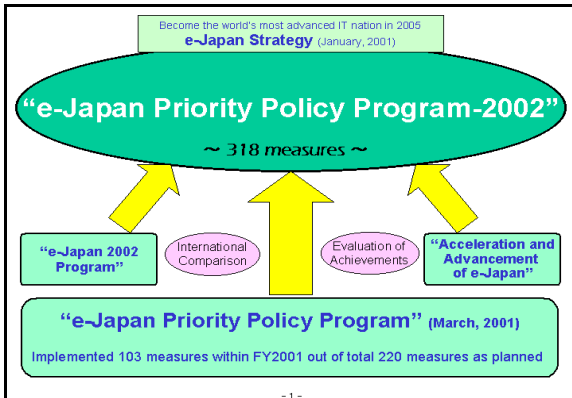
Ubiquitous Network Society



#### 5. e-JAPAN STRATEGY

##### 5.2 e-Japan Strategy

Basic Law on the Formation of an Advanced Information and Telecommunications Network Society (IT Basic Law) 2000  
 IT Strategic Headquarters 2001-  
 e-Japan Strategy:  
 The World Most Advanced IT Nation in 2005  
 e-Japan Program  
 e-Japan Priority Policy Program



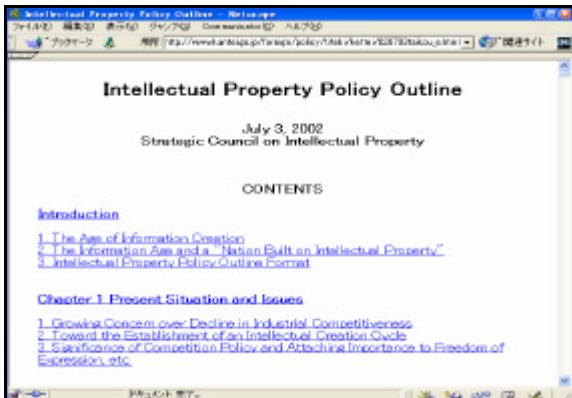
5. e-JAPAN STRATEGY

5.3 Shift to Pro-patent policy

Strategic Council on Intellectual Property 2002-

**Nation Built on Intellectual Property**  
Japanese Version of Bahy-Dole Act

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5. e-JAPAN STRATEGY

5.4 Science and Technology Policy

Council for Science and Technology Policy of Cabinet Office

Science and Technology Basic Plan 2001-2005

- 1) life sciences
- 2) Information and communication technologies
- 3) environmental sciences
- 4) nanotechnology and materials

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6. UNIVERSAL CONTRIBUTION OR NATIONAL INTERESTS

Deregulation, Commercialization,  
Privatization, Competitiveness, Globalization

International Collaboration of Researchers

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Thank You

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