

# National Institute of Advanced Industrial Science and Technology

# AIST

- Introduction to AIST
- PPP strategy of AIST
- International cooperation of AIST

Tsukuba site

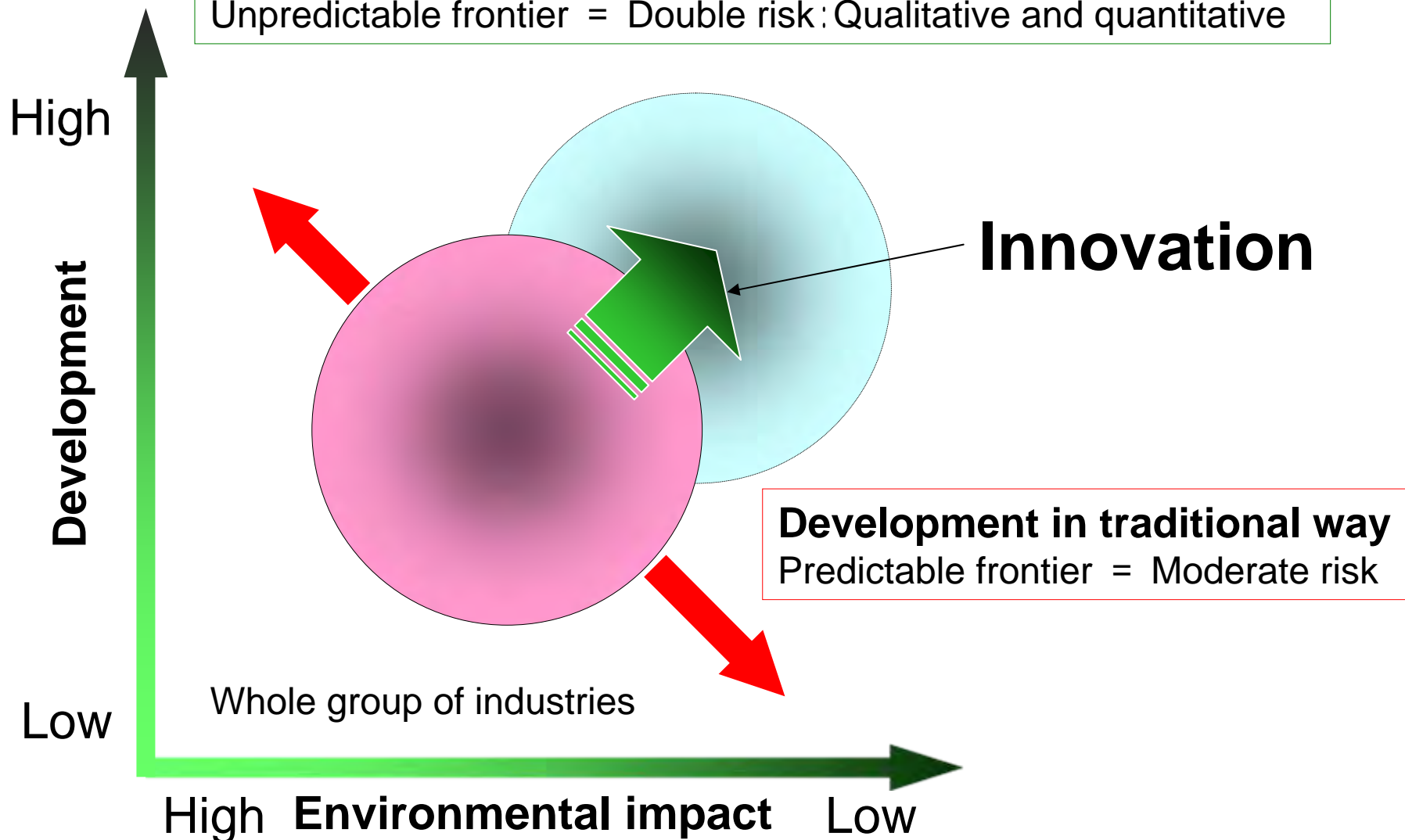
St. Petersburg Business Symp., Tokyo, 25-April-2008

- AIST is a large, comprehensive research organization in Japan.
- AIST is an Independent Administrative Institution, supervised by METI.
- AIST does research for sustainable society through innovation in six major fields.
- Public-Private Partnership (PPP) is a key driver for innovation.

## Innovation for industrial transformation

towards ensuring the society sustainable

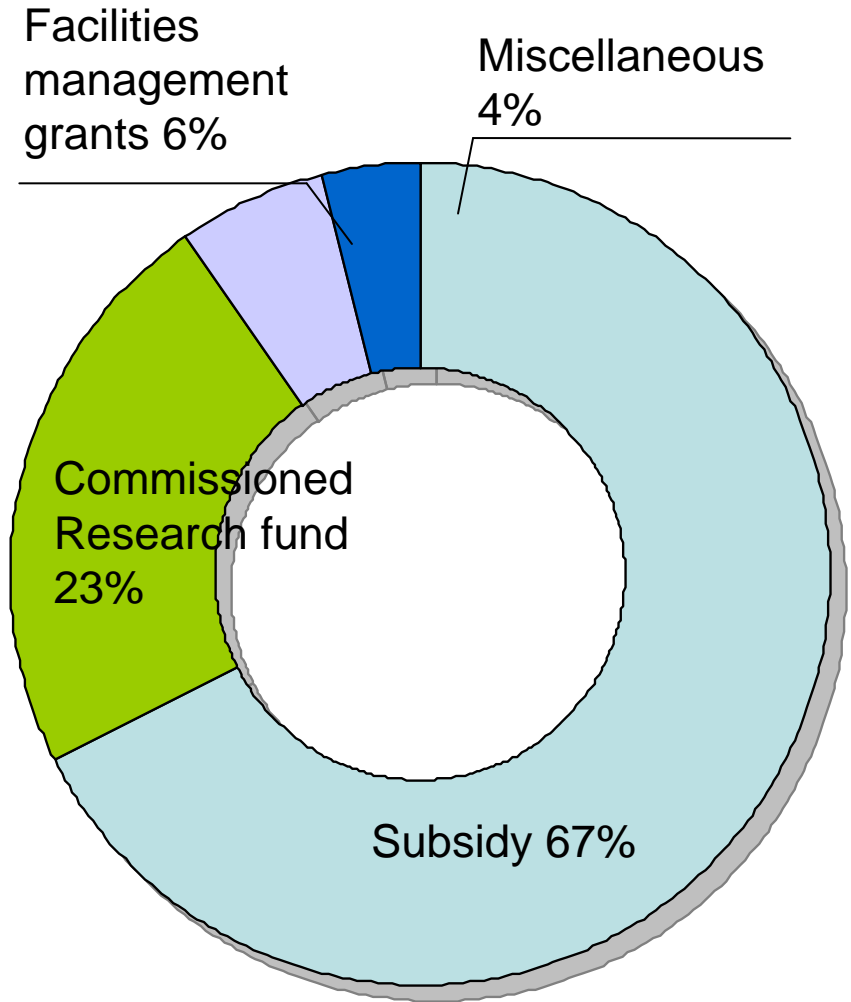
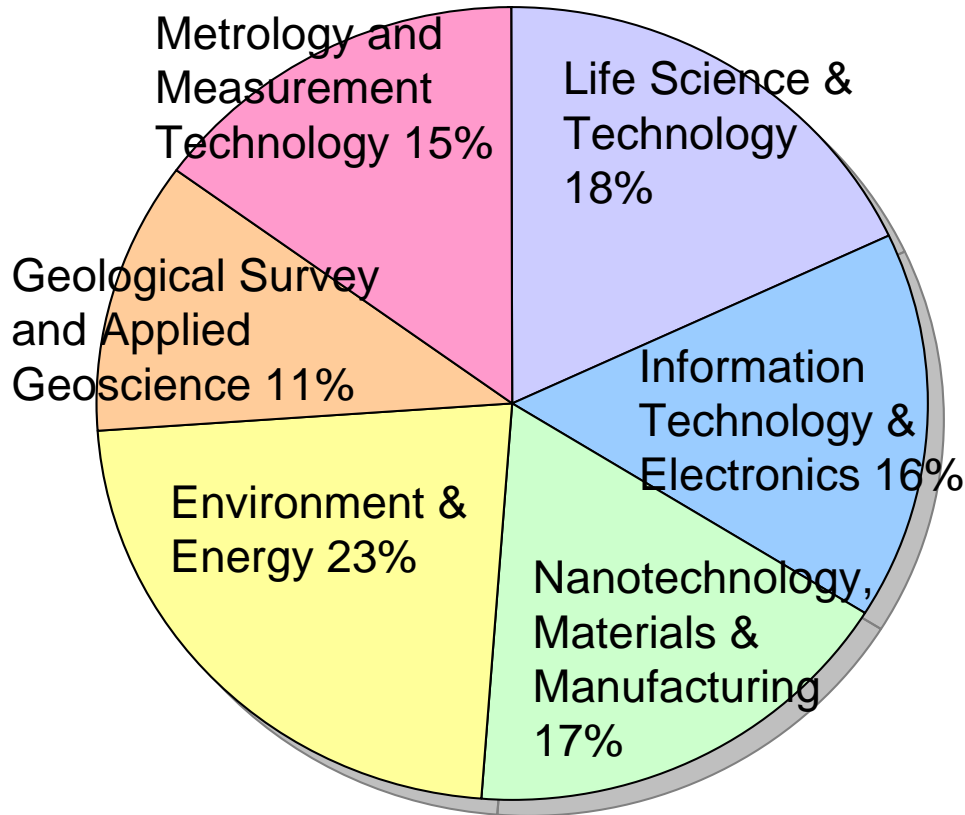
Unpredictable frontier = Double risk: Qualitative and quantitative

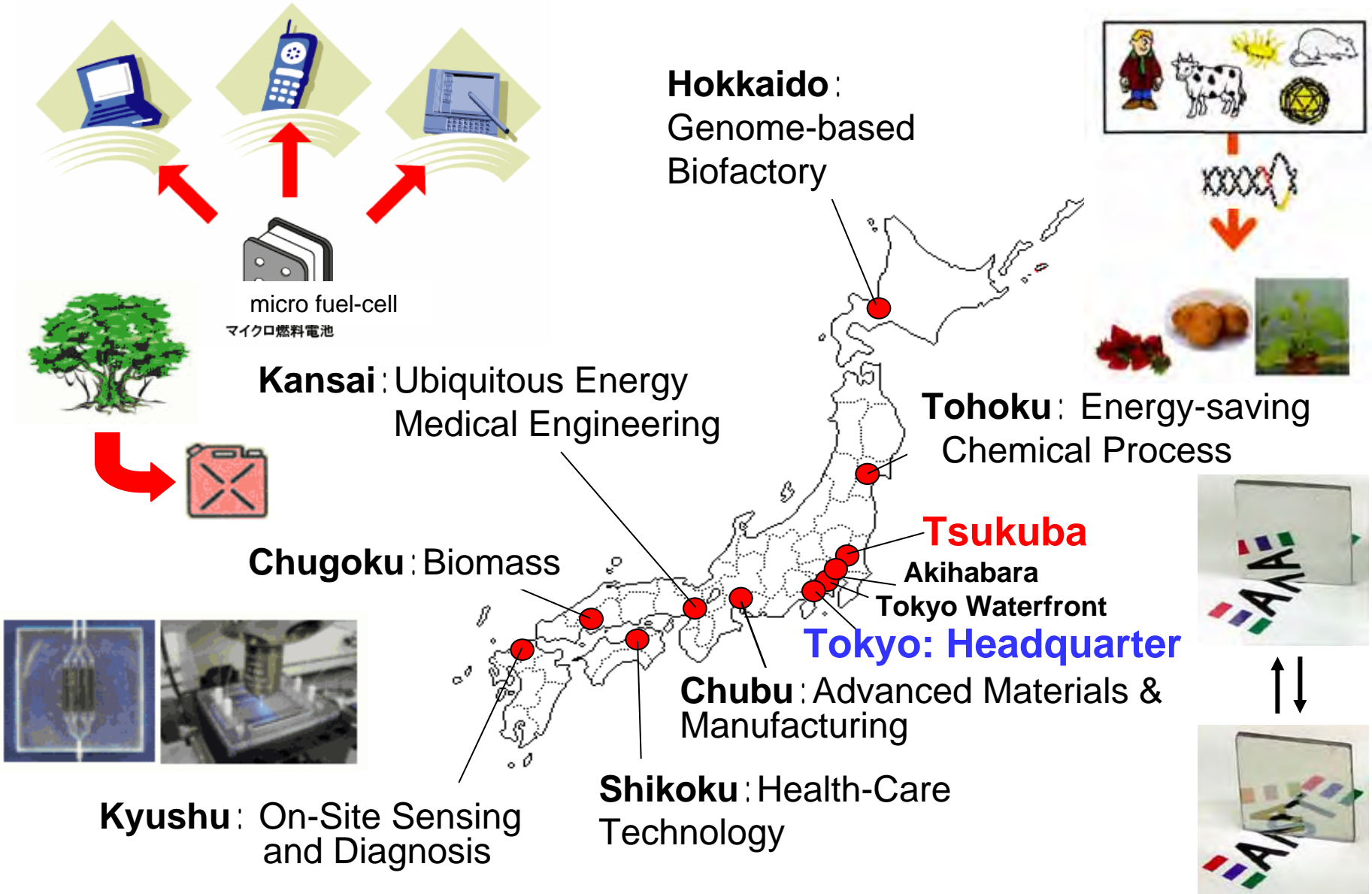


**Employees : 3,191** (FY2007)

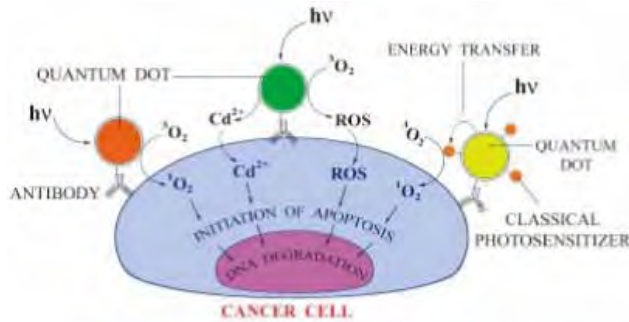
**Visiting Researchers: 5,300**

**Budget : ¥98.5 b** (FY2006)





## Life Science & Bio-Technology



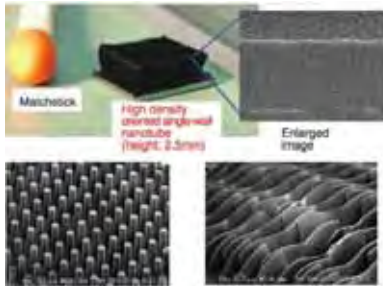
Mechanism of apoptosis (cell death) in cancer cells caused by nanomaterial

## Information Technology & Electronics



Operation plan for humanoids with arm/leg coordination and development of plan formulation method

## Nanotechnology, Materials & Manufacturing



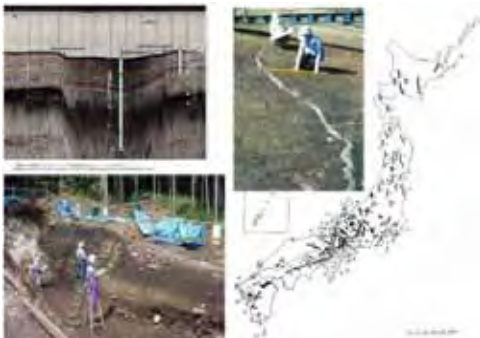
A revolutionary synthesis technology for single-walled carbon nanotubes

## Environment & Energy



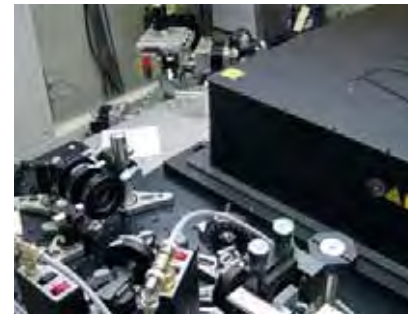
First successful use of non-palladium metal membrane in hydrogen purification

## Geological Survey & Applied Geo Sciences



Research on active faults is carried out systematically as a high priority subject by AIST's Active Fault Research Center.

## Metrology & Measurement Technology



An ultraprecision pitch calibration system with a deep ultraviolet (DUV) laser diffractometer for rulers with the pitch of down to 97 nm has been newly constructed.

# Main Players of R&D in Japan

	(billion yen)
• TOYOTA MOTER CORPORATION	890.8
• Matsushita Electric Industrial Co., Ltd.	578.1
• Honda Motor Co., Ltd.	551.8
• Sony Corporation	543.9
• Nissan Motor Co., Ltd.	464.8
• Hitachi, Ltd.	412.5
• TOSHIBA Corporation	394.0
• NEC Corporation	334.6
• Canon Inc.	308.3
• DENSO CORPORATION	279.9
• NIPPON TELEGRAPH AND TELEPHONE CORPORATION	272.1
• FUJITSU LIMITED	254.1

**Private Sector:**  
12.7 trillion yen

<R&D Expenditure by stage>

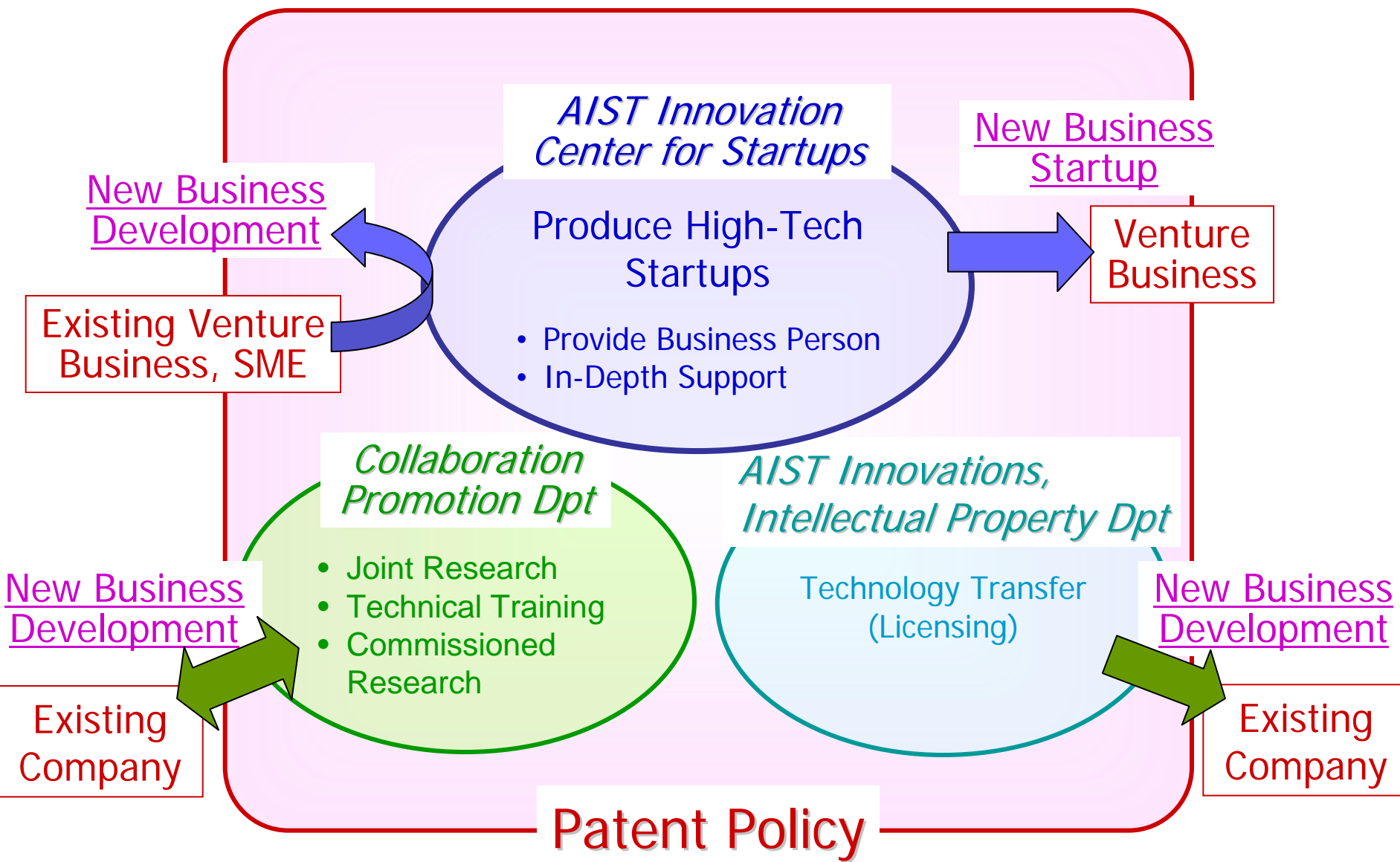


**Public Sector:** 3.7 trillion yen

(FY 2005)

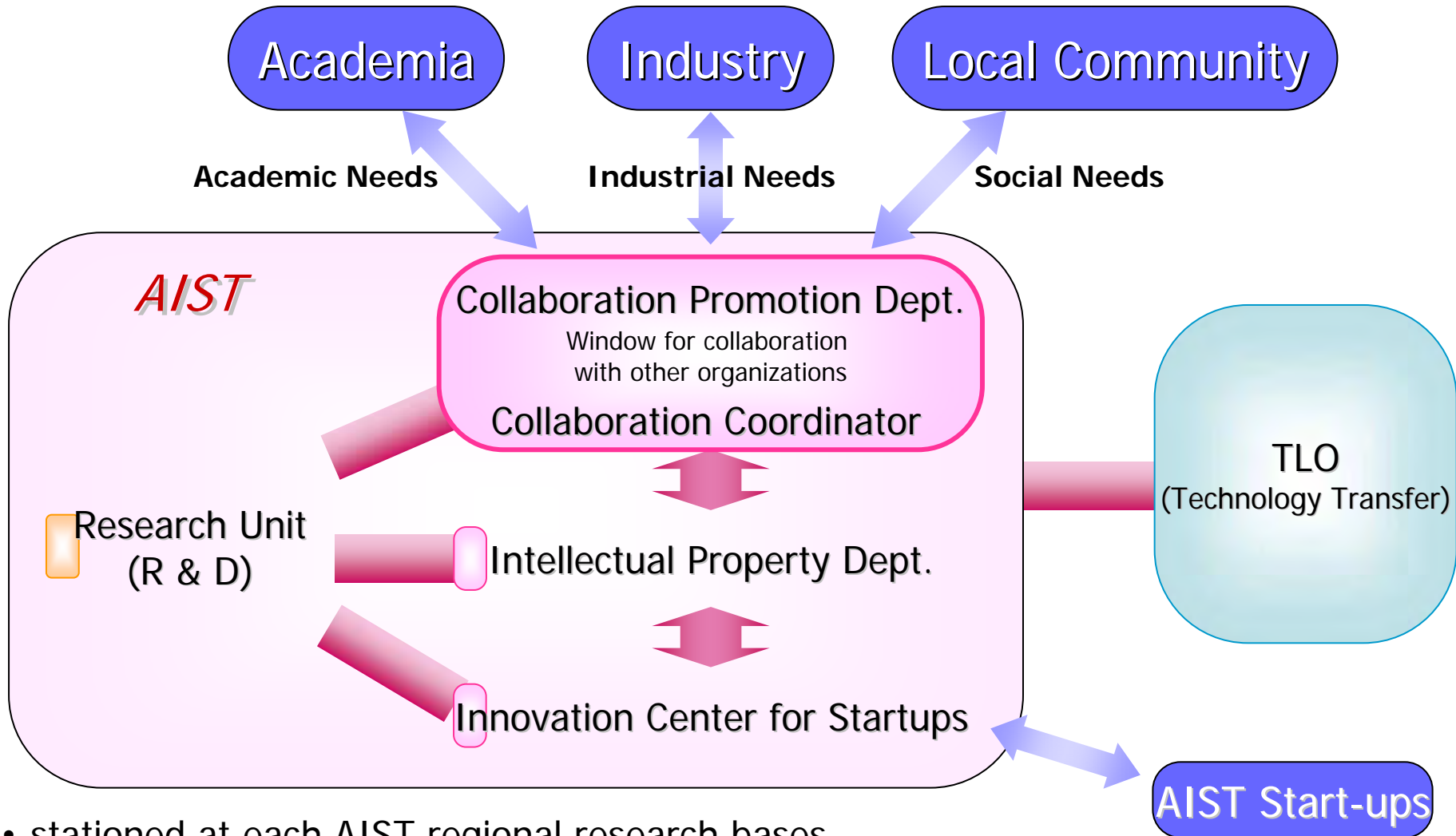
	(billion yen)
• National Universities	1219.4
• Japan Aerospace Exploration Agency (JAXA)	225.5
• New Energy Development Organization (NEDO)	216.5
• Japan Atomic Energy Agency (JAEA)	189.8
• Japan Society for the Promotion of Science (JSPS)	158.8
• Technical Research and Development Institute, Japan Ministry of Defense (TRDI)	157.3

	(billion yen)
• Japan Science and Technology Agency (JST)	104.3
• The Institute of Physical and Chemical Research (RIKEN)	82.8
• National Institute of Advanced Industrial Science and Technology (AIIST)	69.7
• National Agriculture and Food Research Organization (NARO)	52.6
• National Institute of Information and Communications Technology (NICT)	47.8
• Japan Agency for Marine-Earth Science and Technology (JAMSTEC)	38.0





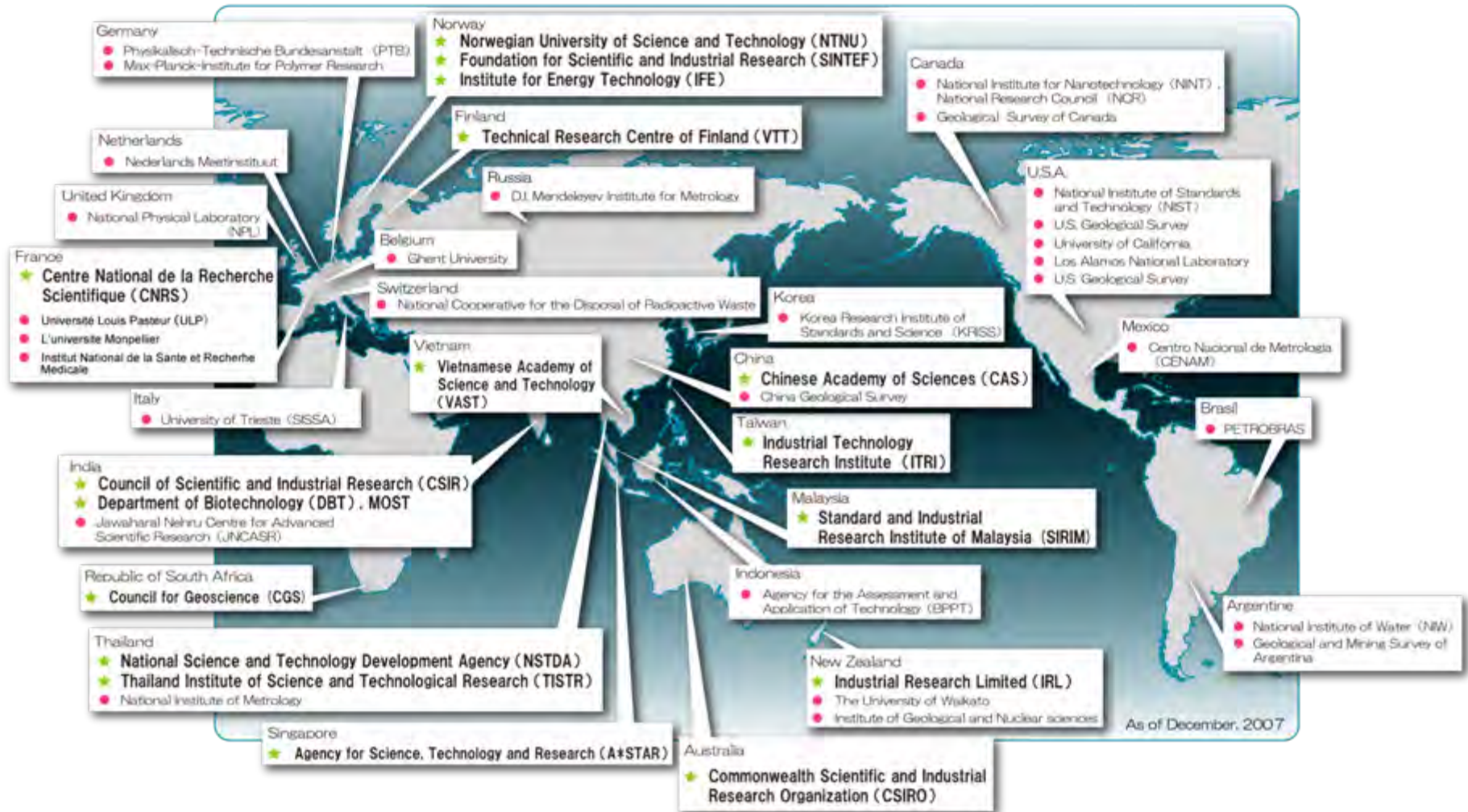
# Overview of Collaboration Promotion Dept



- stationed at each AIST regional research bases
- accurately determine socio-economic needs
- act as intermediaries between the businesses in the local community and AIST

	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006
Joint Researches	1,131	1,577	1,829	1,756	1,876	2,144
Collaborative Researches from Private Sector	78	195	359	412	632	745
million yen	343	1,185	2,277	2,654	3,238	3,505
Start-ups originated at and supported by AIST (newly entitled)	0	16	11	23	19	15
Japan Patent Applications	1,105	1,465	1,586	1,194	1,185	1,184
Licensing Contracts	187	296	394	433	640	638
Patent Execution Fee (million yen)	144	307	401	462	446	446

# International Collaboration through MOUs



AIST has comprehensive MOUs on research cooperation with 18 major organizations in 14 countries /regions. ( in the figure), and 107 MOUs in specific research fields with research organizations in 29 countries/regions (major ones are shown with ).

## ***Establishment of Network of Excellence***

### **Modality of Research Collaboration:**

- ***Exchange of Information***
- ***Workshops & Seminars***
- ***Exchange of Researchers : Funds provided by AIST, JST, JSPS & NEDO***
- ***MOU and/or Research contracts***
- ***Joint Research supported by concrete funds***
- ***Innovation / Business partnering through AIST TLO***

## ***Researcher Exchange (FY 2006)***

Non-Japanese Researchers invited	<b>722</b> (64Countries)
Tenured Non-Japanese Researchers (as of April 1, 2007)	<b>79</b> (18Countries)
Fixed-term Non-Japanese Researchers (as of April 1, 2007)	<b>190</b> (33Countries)
AIST Researchers sent abroad on mission	<b>3,889</b> (79Countries)

## ***Universities and Research Institute in St. Petersburg***

- St. Petersburg State University
- Ioffe Physico-Technical Institute
- Other Universities and Research Institutes

**First what and with whom... then how...**

***Thank you!***

**!**