Overview of JST's Technology Transfer Activities & New Funding Program, "A-STEP"

September 15th, 2009

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Department of Industry-Academic Collaboration

Japan Science and Technology Agency

Program: Tech Transfer Activities

10:00-	**Overview of JST's Technology Transfer Activities**	
	Competitive Funding Programs	
10:10-	**□ New Technology transfer Program “A-STEP"**	**Bottom-up**
10:20-	**□ Strategic Promotion of Innovative Research and Development**	**Top-down**
10:35-	**□ Comprehensive Support Programs for Creation of Regional Innovation**	**Regional**
10:50-	**Q&A(1)**	
	Intellectual Property & Various supports	
11:00-	**□ The Circumstances of IP surrounding Japanese Universities and Our Mission**	**IP**
11:15-	**□ Strategic support for acquisition and licensing of IPR**	**IP**
11:30-	**□ Linking mechanism of research results to practical application**	**Support**
11:45-	**Q&A(2)**	

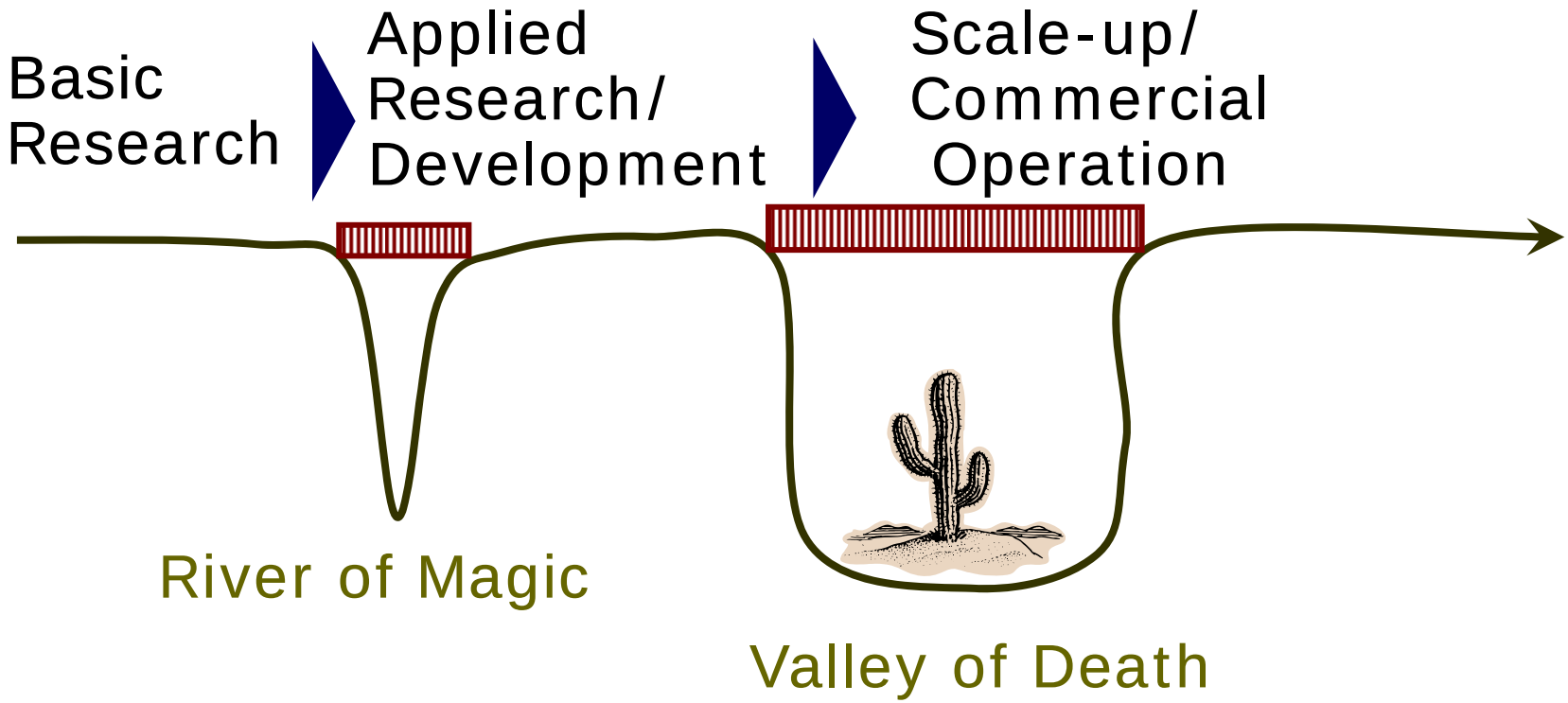
Outline

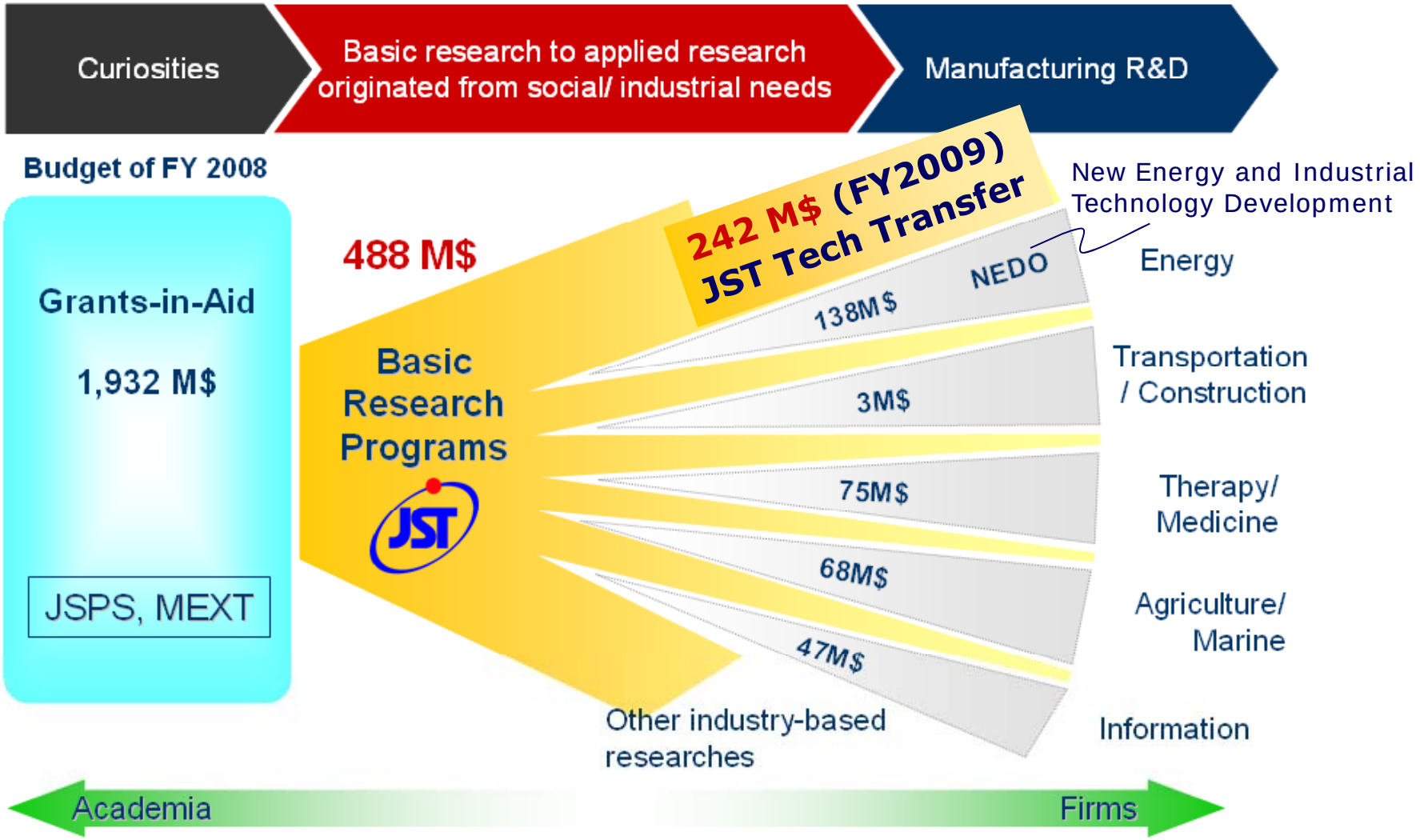
Overview of JST's Technology Transfer Activities

1. Mission
2. Programs: Two Approaches
3. Timeline of Tech Transfer History
4. Remarkable Outputs

Mission :To bridge the gaps in R&D pipeline

- JST advances returning of research results generated at universities to the society and nation.





Modified from "KAKENHI NEWS" 2008 Vol.1 7

Referred from Mr. Furukawa's presentation (Sep. 14th)

Two Approaches

1.COMPETITIVE FUNDING

New 【BOTTOM-UP】
A-STEP

New 【TOP-DOWN】
Strategic Promotion of Innovative Research and Development

Partly New 【REGIONAL】
Comprehensive Support Programs for Creation of Regional Innovation

ACADEMIA

Universities

Public Research Institutes

TLOs

JST

PRIVATE COMPANY

2.Tech Transfer Support

Linking mechanism of research results to practical application

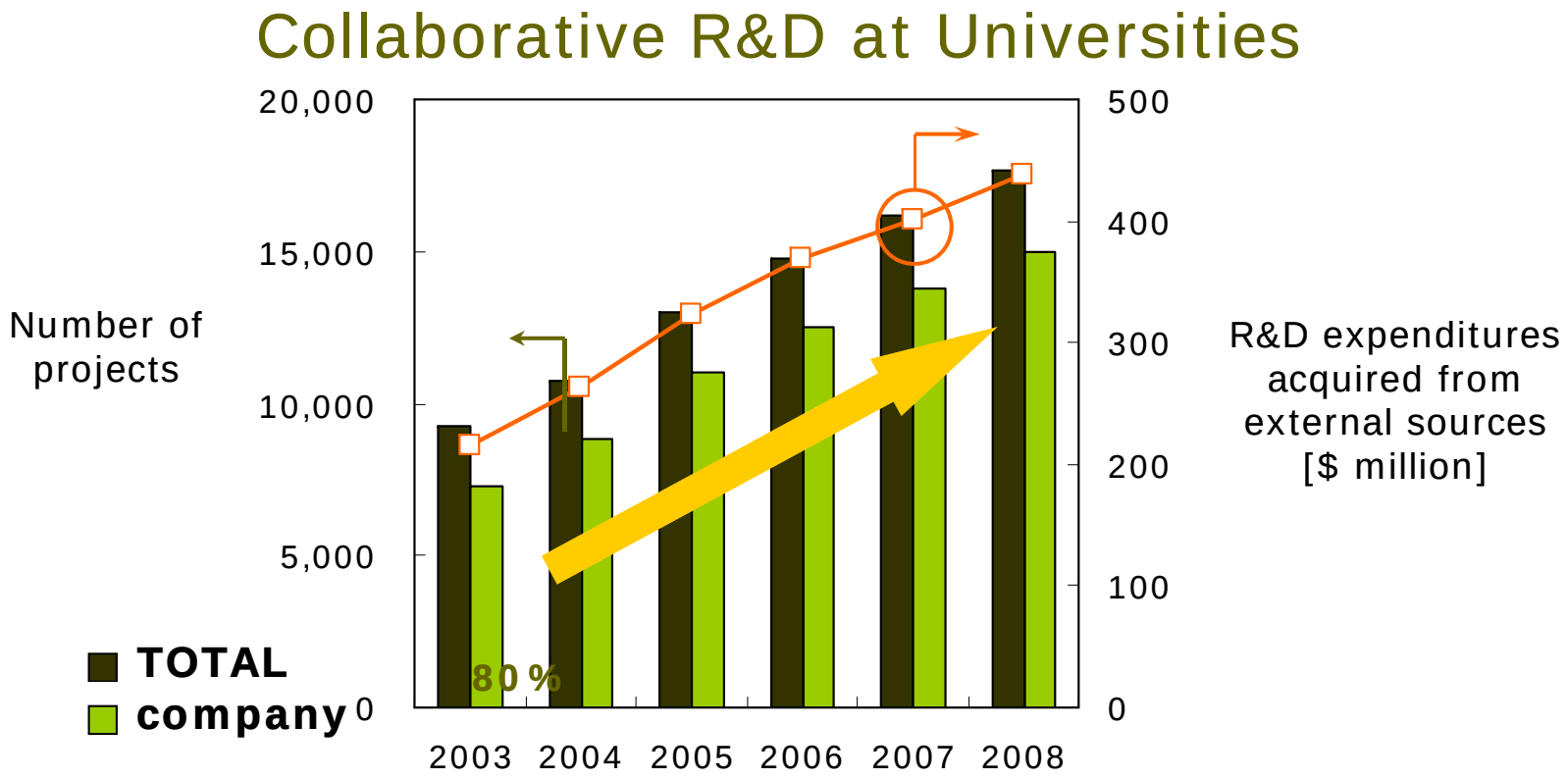
NEW Center for Intellectual Property Strategies

Strategy Planning

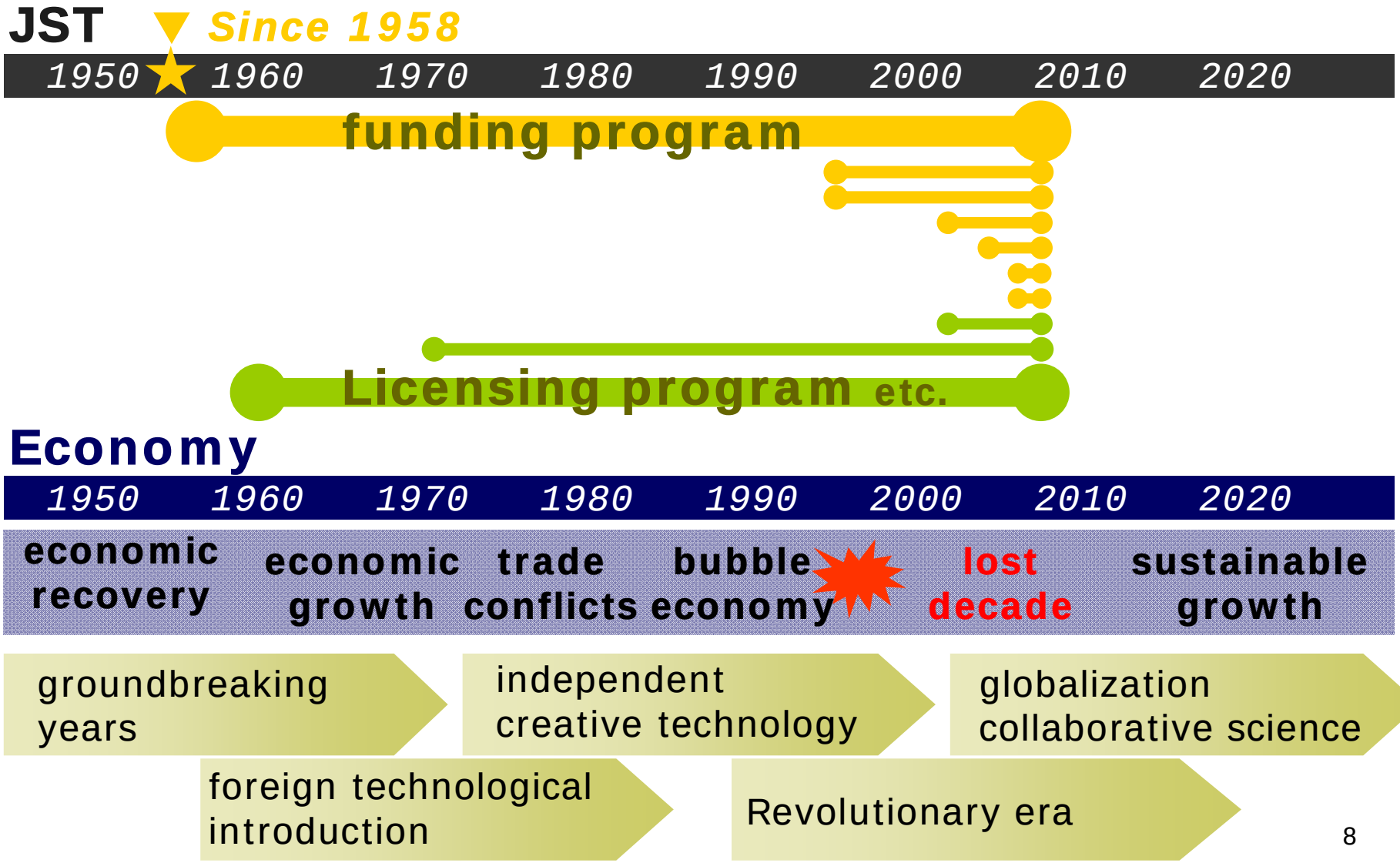
BUSINESS START-UP

Increasing Collaborative R&D

- Collaborative research continue to increase in number and expenditures.



Timeline of Tech Transfer History



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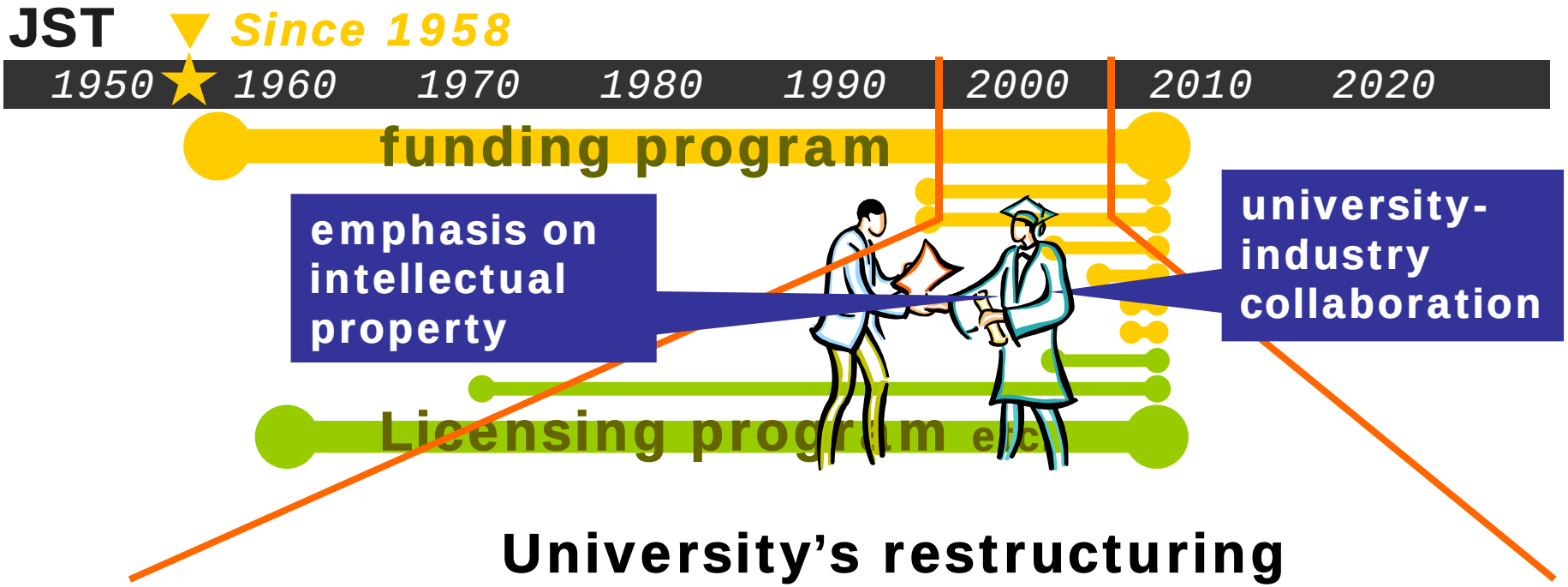


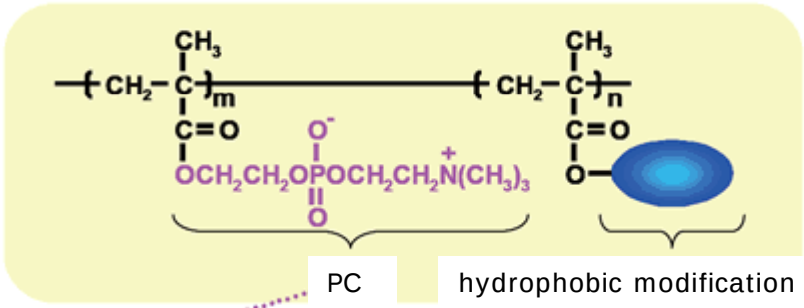
University's restructuring

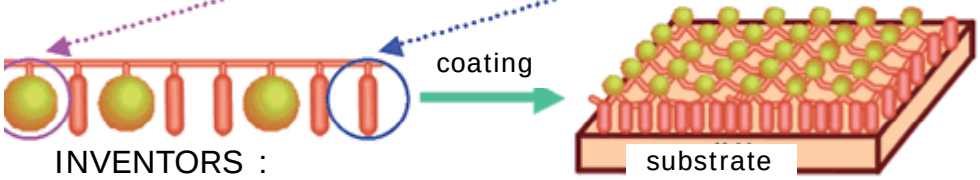
- ▼The Basic Law on Science and Technology *(1995)*
- ▼Japanese Bayh-Dole Act *(1999)*
- ▼Council for Science and Technology Policy *(2001)*
- ▼Japan's national universities became *(2004)* independent national corporations

Remarkable Outputs

Manufacturing technology of biocompatible MPC polymer

MPC Polymer





INVENTORS :
- **Nobuo NAKABAYASHI**
  (Tokyo Medical and Dental University)
- **Kazuhiko ISHIHARA**
  (The University of Tokyo)

JST Project

Clinical Test

Company : NOF Corp.
Development : 1994 – 1999
JST funds: c.a. $8million

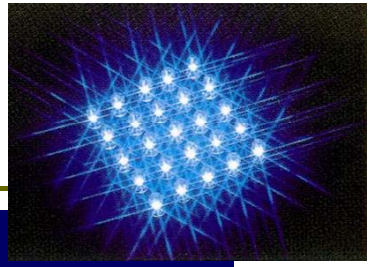
Application

Medical Device Coating Materials
(e.x. artificial heart)

SUCCESS in acquiring a new market

Cosmetics Materials

Contact Lens Care Materials



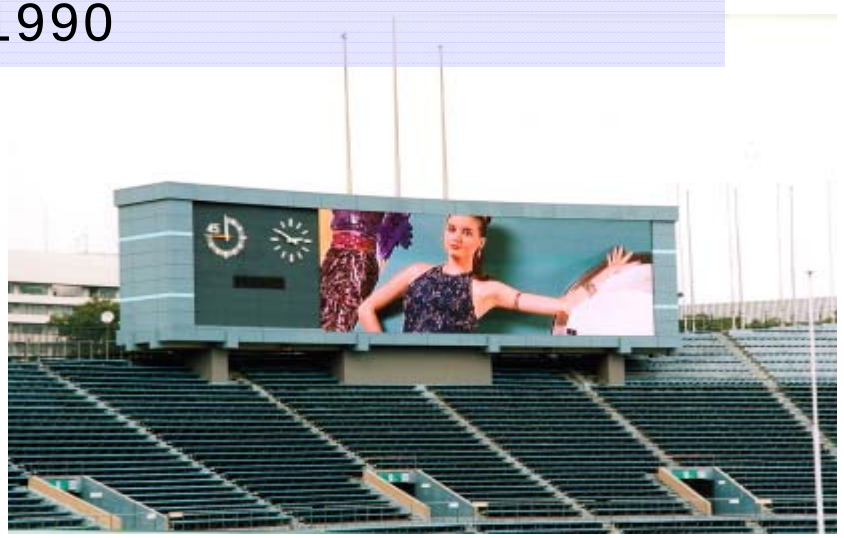
No.1 Success Story

Commercialization of GaN blue LED

Inventor	Isamu AKASAKI (Nagoya University)
Company	TOYODA GOSEI Co., Ltd.
JST funds	$5.5 million
Royalty	$52 million
JST project	Mar 1987 - Sep 1990

Mobile Phone Backlight

Traffic Signal



Large Full-color Display

Program: Tech Transfer Activities

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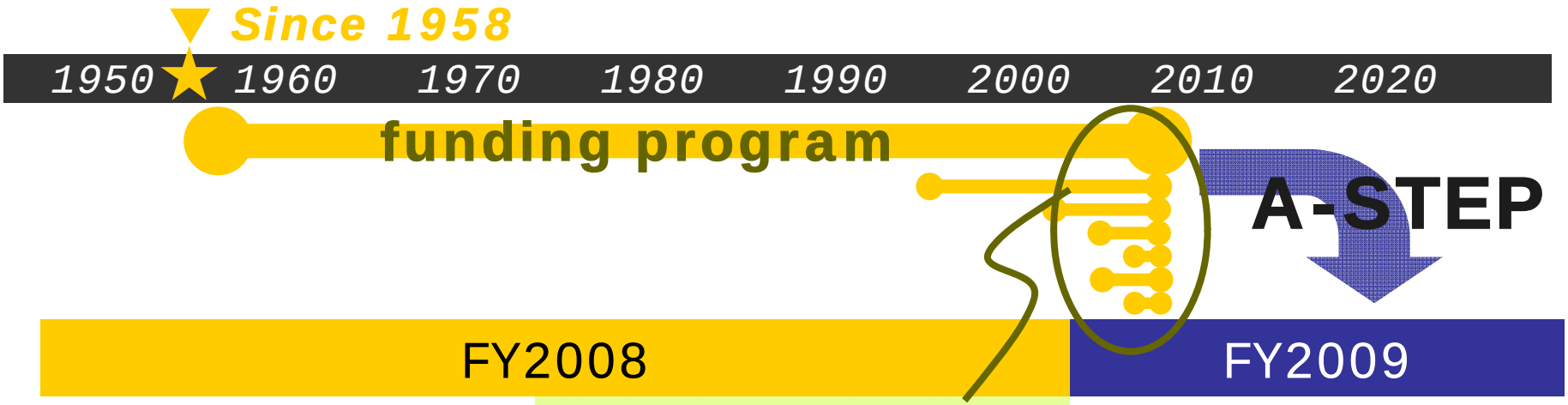
Outline

New Funding Program, "A-STEP"

1. Motivation
2. Synopsis
3. Programs by scale
4. Program Flow
5. Proposals by Program & Field
6. Summary

Reorganization and Launching A-STEP



Pros	Cons	Pros & Pros?
▫All Japan ▫Bottom-up ▫Selection of 7 programs ▫Wide range of R&D processes	▫Four divisions ▫Difficult to identify most suitable program ▫Difficult to access ▫Application unique to each program	▫One division ▫Unified application

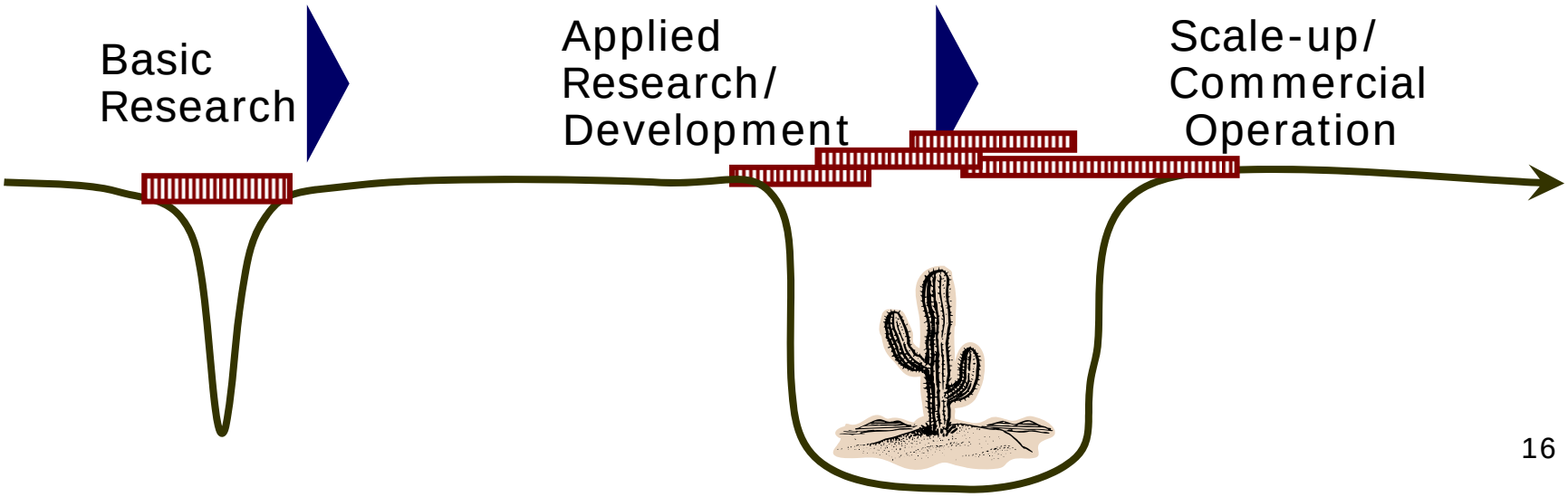
A-STEP

- Proposals by university-company partners
  - Calls for applications twice a year (FY2009)
- Seamlessly integrates wide range of R&D from early phase to mass production.
  - Feasibility Study (2 programs)
  - Full Scale R&D (6 programs)
- Covers all fields of science and technology, including medical sciences

What does A-STEP stand for?

- The answer is ・・・

  "Adaptable and Seamless Technology Transfer Program through Target-Driven R&D."



Programs by Scale(1)

- Phase Ⅰ : Feasibility Study

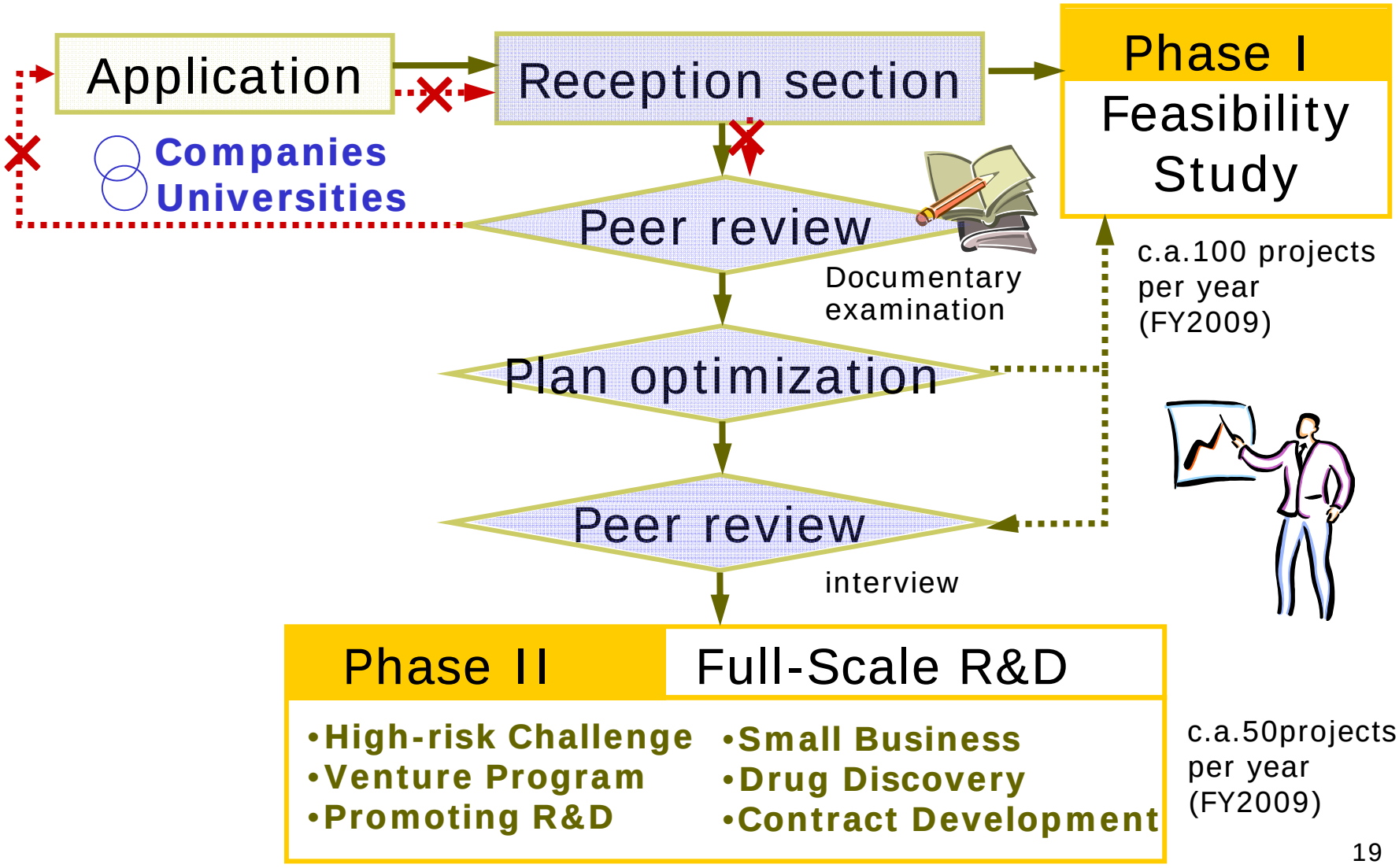
Program	up to	Budget	Fund type
Seeds Validation	1yr	- $100K	Grant
Start-up Validation	1yr	- $100K	Grant

Programs by Scale(2)

- Phase II : Full-Scale R&D Commercialization →

Program	up to	Budget	Fund type
High-risk Challenge	2yrs	- $200K	Grant
Venture Program	3yrs	- $1.5million	Grant
Promoting R&D	4yrs	- $2 million	Matching fund
Small Business	5yrs	- $3million	Conditioned fund
Drug Discovery	5yrs	- $10million	Conditioned fund
Contract Development	7yrs	- $20million	Risk-taking fund

Program Flow: Plan Optimization

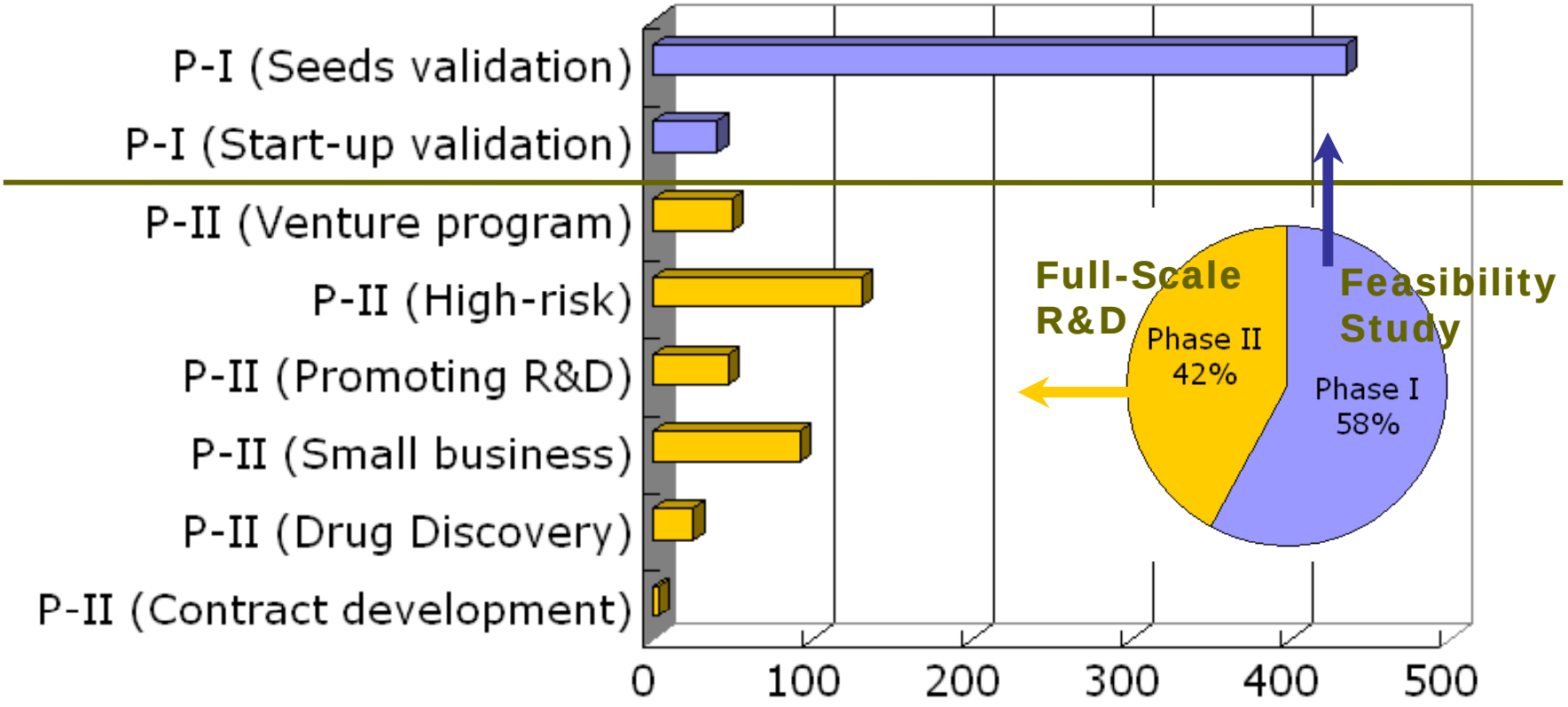


Peer Review Criteria

No.	Item	Feasibility Study	Full-Scale R&D
1	Originality, novelty, competitive edge and availability	✓	✓
2	Validity of target setting	✓	✓
3	Possibility of making innovation	✓	✓
4	Execution possibility of proposed action plan	✓	✓
5	Commercialization Possibility		✓
6	Risk in development		✓

Proposals by Program

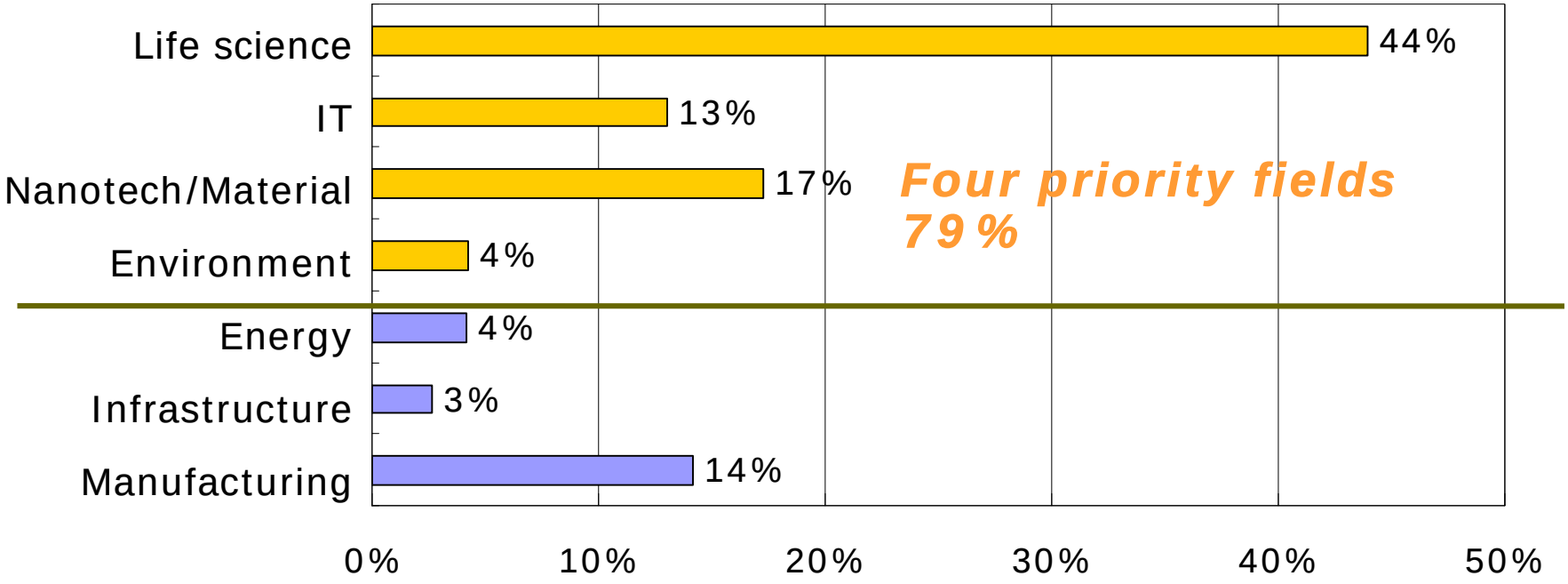
(FY2009, 1st)



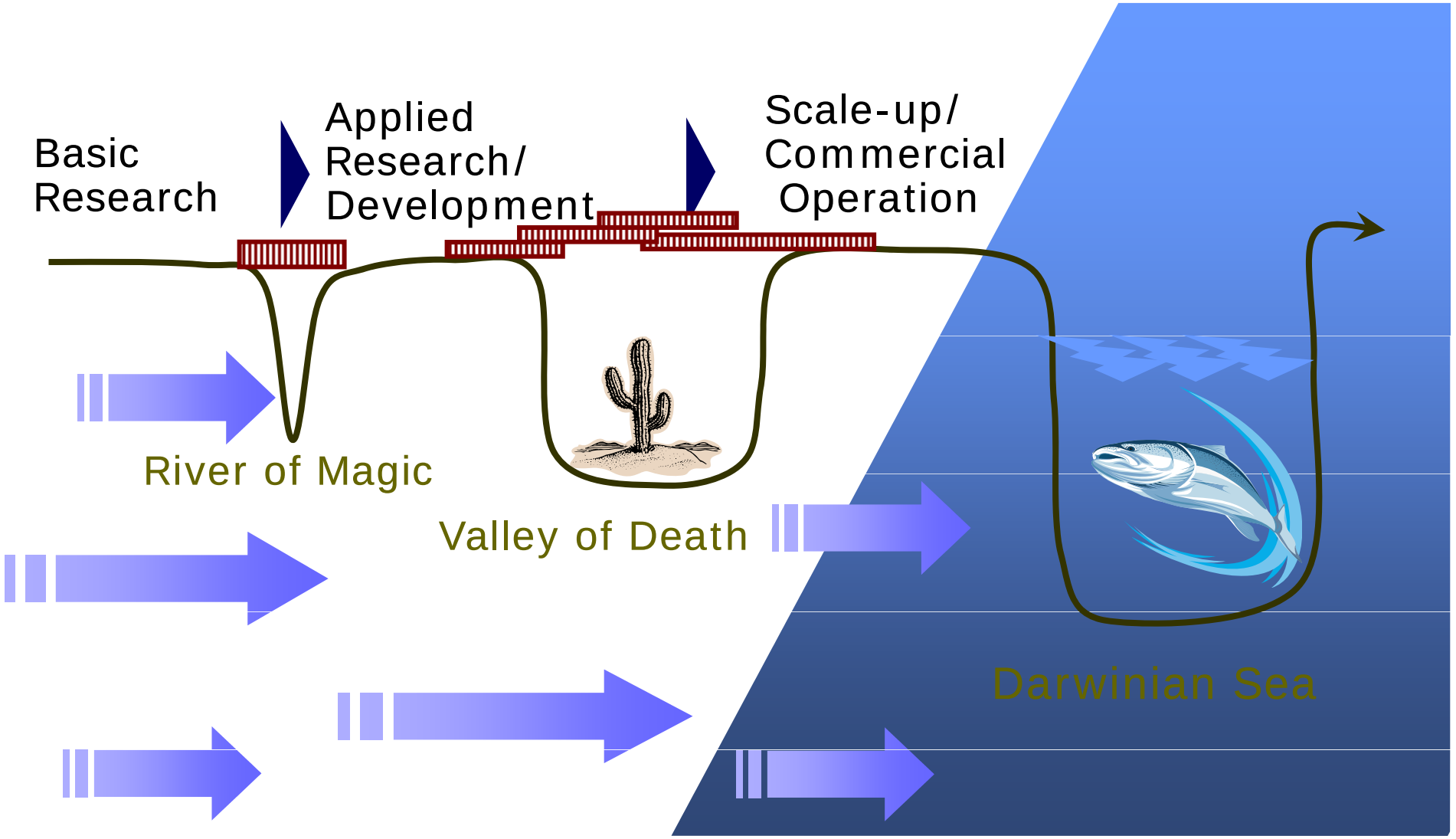
# of proposals

Proposals by Field

(FY2009, 1st)



To bridge the gaps in R&D pipeline



Summary

- A-STEP bridges the gap between the research lab and the market place.
- A-STEP places particular emphasis on the next generation of creative and innovative science and technology.

Thank you for your attention

～APPENDIX～

A-STEP Program

Program		up to	Budget	Fund type
Phase-I Feasibility Study	Seeds Validation	1yr	- $100K	Grant
	Start-up Validation	1yr	- $100K	Grant
Phase-II Full-Scale R&D	High-risk Challenge	2yrs	- $200K	Grant
	Venture Program	3yrs	- $1.5million	Grant
	Promoting R&D	4yrs	- $2 million	Matching fund
	Small Business	5yrs	- $3million	Conditioned fund
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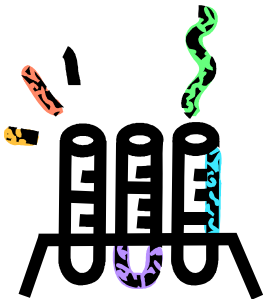
Phase I (Feasibility Study)

Feasibility Study

one year, ～$100K



- to examine the possibility of commercial viability of research results obtained in academia
  - (1) seeds validation
  - (2) start-up validation

Grant JST → company / university / development supporter ※start-up

Phase II (High-risk Challenge)

- High-risk Challenge Program

~two years, ~$200K

  - to help companies pursue high-risk R&D
    - Proposals has the potential for high impact, but that are too novel or at a stage too early to for companies to invest private funding.
    - Target is to relay results of this program closer to the commercialization.

Grant JST → company / university

Phase II (Venture Program)

Venture Program

～three years, ～$1.5million

- to support start up university venture
  - Proposal are submitted by jointly R&D representative, entrepreneur, and development supporter.
  - Entrepreneur orient, guide and advise project and expected to be chief of a start-up.

Grant JST

- R&D representative
- entrepreneur
- development supporter

Phase II (Promoting R&D)

- Promoting R&D Program

~four years, ~$2million

  - to help companies promote high-risk long-term R&D

matching fund

JST  company (capitalized at ≦$10 million)

1:1

JST  company (capitalized at ＞$10 million)

2:1

Phase II (Small Business)

- Small Business Program

~five years, ~$3million

  - to help <u>small and medium sized companies</u>(*) carry out development for commercialization
    - (*) : capitalized at $10 million and less
    - The business plan is evaluated as well as development plan.

Conditioned fund

Phase II (Drug Discovery)

- Drug Discovery Program

  - to help pharmaceutical company carry out drug discovery development.
    - Company must be capitalized at $300 million and less.
    - Target is to complete phase IIA clinical trial.
    - Development result is expected to move on to phase II-b clinical trial by applicant, licensing out, or alliances with another pharmaceutical company.

Phase II (Contract Development)

- Contract Development Program

～seven years,
～$20million

  - to support companies challenge the commercialization R&D with a business plan
    - by the up-front budget of at most $20million
    - by JST's taking a potential risk in the new technology

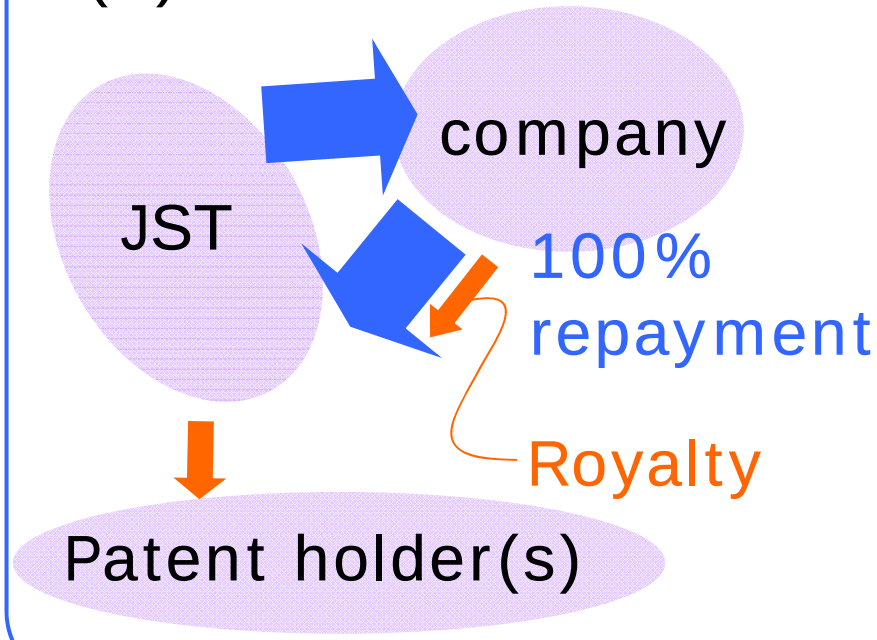
Phase II (Contract Development)

Contract Development Program

"Risk-taking" fund

～seven years,
～$20million

(1)if R&D is successful



(2)if R&D is unsuccessful