

# Funding Sources :Japan

## 1. MEXT (Ministry of Education, Culture, Sports, Science and Technology)

JSPS (Japan Society for the Promotion of Science): ~10 B Eu in total

Grant-in-Aid: General topics

10 K to 300 K Eu/3-5 yrs

Grant-in-Aid for Scientific Research on Priority Areas

120 K to 4 M Eu/3-6 yrs

Grant-in-Aid for Specially Promoted Research

3 M Eu/3-5 yrs ...1 project (QI spin & photon) + $\alpha$

JST (Japanese Science & Technology Agency): ~3 B Eu in total

ERATO (Exploratory Research for Advanced Technology)

10 M Eu/5 yrs (20 projects in total)...2 projects (Nuclear spin electronics, SORST:QIP theory)+ $\alpha$

ICORP (International Cooperative Research Project)

6 M Eu/5 yrs (9 projects in total)...1 project (Q-spin info.)+ $\alpha$

Note:Both JSPS and JST belong to MEXT.

## JST

CREST (Core Research for Environmental Science & Technology)  
20 M Eu/5yrs (25 projects in total)...1 project (QIP system)+ $\alpha$

PREST (Proposal-oriented Research Promotion Program)  
3 M Eu/3yrs (16 projects in total)...1 project (Quant & Info )+ $\alpha$

SCF-PST (Special Coordination Funds for Promoting  
Science & Technology)  
4 M Eu/yr x (3+7 yrs)(9 projects in total)  
...1 project (Nano QI Electronics:QI+QD laser+ $\alpha$ )

## 2. **NEDO** (New Energy & Industrial Technology Development Organization)

No information

## 3. **MIC** (Ministry Internal Affairs)

0.65 M Eu/5yrs (~100 projects in total)...1 project (QI)+ $\alpha$

# Quantum Information

	NW/Personal	Outside	Budget/yr	SSQI
<b>MEXT-JSPS</b>	Personal	N	> 4 M Eu	>1 M Eu?
	NW	N	1 M Eu	0.3 M Eu
<b>MEXT-JST-CREST</b>	NW	Y	8 M Eu	2.5 M Eu
<b>PREST</b>	NW	N	1 M Eu	0.3 M Eu
<b>ERATO+SORST</b>	NW	Y	3 M Eu	2 M Eu
<b>ICORP</b>	NW	Y	1.2 M Eu	1.2 M Eu
<b>SCF-RST</b>	NW	N	2 M Eu	1 M Eu
<b>MIC</b>	Personal	N	0.13 M Eu	0.13 M Eu
<b>NEDO</b>	-----			
<b>Industry:</b> Cryptography, Single photon emitter,...			~2 M Eu	~0.4 M Eu?
(NTT, NEC, Fujitsu, Mitsubishi, SONY, Hitachi, Toshiba,...				
			~22.33 M Eu	~8.8 M Eu

- scientific focus of the regional programmes on QIPC. Is it different from the situation in Europe?

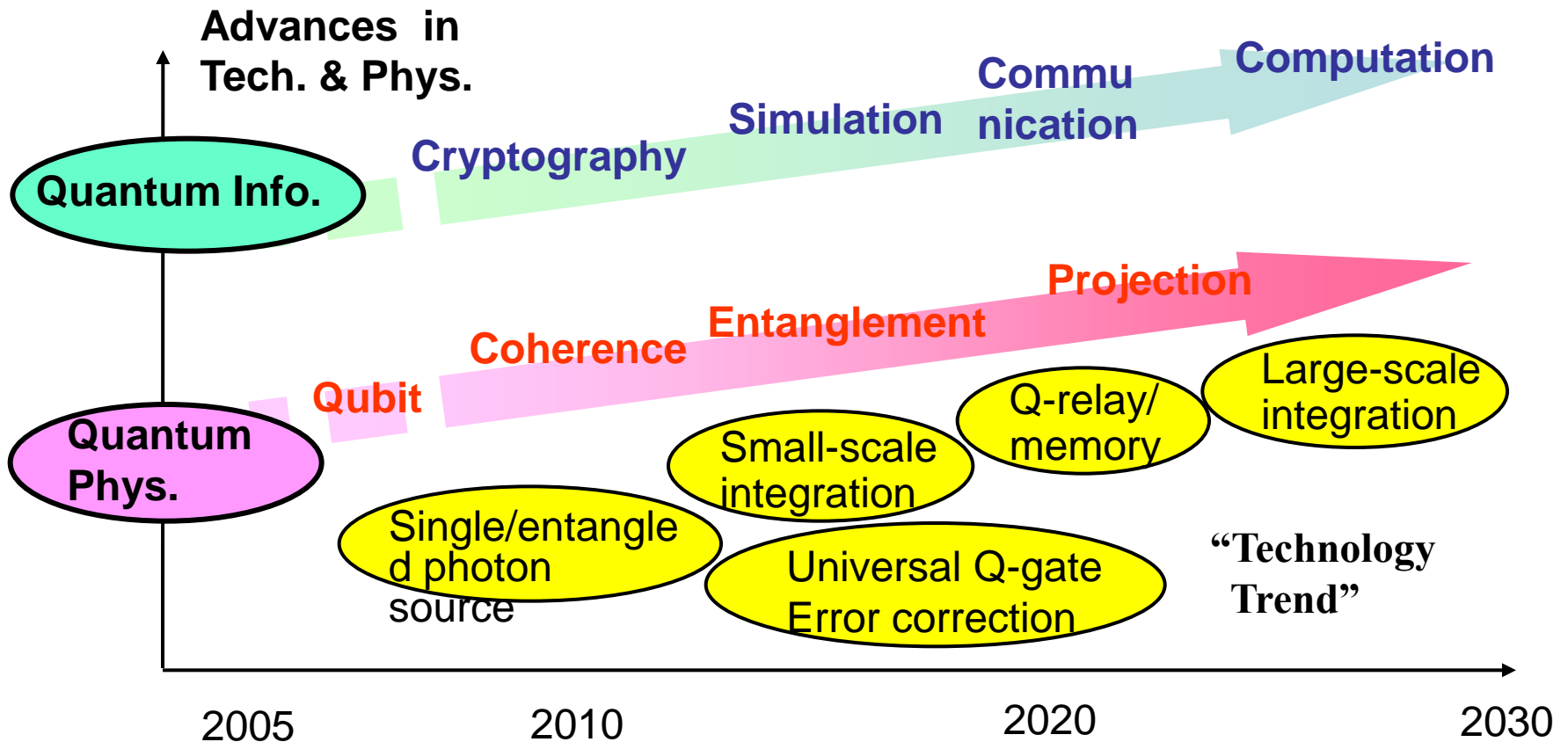
Technology and physics should go together.

Optical for communication, Solid-state for computation, Any for physics

Industry+university headed for short-term: cryptography, single photon source

University headed for long term: simulation, communication, computation

Focused funding on targets, not on qubit system



- What is the estimated mix of funding for more foundationally oriented research compared to more technologically oriented activities?

Foundationally oriented: Long-range (>10 yrs): ~90 %

Communication and computation....Fundamental physics & tech.

Mostly funded by MEXT-JSPS & -JST for all organizations

Cooperative programs including different organizations well accepted

Technologically oriented: Short-range (<10 yrs): ~10 %

Cryptography...Commercialized at relevant stages of development

QD lasers...Good for other uses

Mostly funded by industry and MEXT special projects

- What are the funding instruments in the regions? Support of single teams or consortia including several teams? Typical duration of the projects? Is a monitoring mechanism in place?

MEXT-JSPS: Fundamental, long-range ....Link to future applications

Bottom-up project (Proposal base)

MEXT-JST: Fundamentals and applications

Top-down project (Target given)

3 yrs / 3-5 yrs selective / 5 yrs / 3+7 yrs (judge after 3 yrs)

≥5 yr, 300 K Eu/yr ...mid-term evaluation by external committee

- Are the programmes open to collaboration with foreigners?

Yes for some programs but not for all (Listed)

- What is desirable in terms of international collaboration from the other regions (US, Japan etc.) and from the European side?

Way of collaboration: Make a strongest team

Exchange ideas, technology and people

Collaboration rather competition

Keep mutual reliability

Budget : Fully shared or Matching fund

Continuation rather than temporal concentration

- conclusions to be drawn for the shaping of the European activities

EU budget should go outside, so more fair and more efficient

for long-term collaboration