User Service Workshop
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Session: Special Facility Access Requirements/International and Governmental Review

# *Governmental* Issues *in Japan*

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# Interim Review of SPring-8conducted by MEXT (1)
## *The background*

The 1st Interim Review (September, 2002)

- *Law on the Promotion of Public Utilization of Specific Synchrotron Radiation Facilities* amended (July, 2006).

The 2nd Interim Review (July, 2007)

- SPring-8 10th anniversary (October, 2007).
- SPring-8 Academic Review Committee (SPARC) (November 2008).
- The number of total user visits to SPring-8 reached 100,000 (June, 2009).
- Regime change (LDP to DP) (2009).
- SPring-8 budget screening by Government Revitalization Unit (November, 2009).
- The Great East Japan Earthquake (March, 2011).
- International Reviews organized by RIKEN and JASRI (2011).
- Tight electricity situation caused The Great East Japan Earthquake (2012).
- Regime change (DP to LDP) (2012)

The 3rd Interim review (April, 2013)

# Interim Review of SPring-8 conducted by MEXT (2)
## *Some Viewpoints*

1. Facility Upgrade
2. Beamline Upgrade
3. User Support
4. User Expansion in Industrial Applications
5. Human Resource Cultivation
6. Feed-back of Scientific Results to Society

# 1. Facility Upgrade

While upgrading, there will be a blackout at SPring-8 for one year, during which other facilities such as Photon Factory should accept SPring-8 users. However, the existing SR facilities may not be able to satisfy SPring-8 users, because they are subject to serious aging problems. The SPring-8 upgrade must be well considered by Japanese Synchrotron Radiation Community nationwide.

SPring-8 upgrade is not just for SPring-8. It should be considered in the network that consists of other Japanese synchrotron radiation facilities by clarifying the mission of each facility.

# 2. Beamline Upgrade

The total number of public beamlines is less than that of contract beamlines. Because of this, the beamtime available at public beamlines is not enough for those users who would challenge ambitious experiment, which could be problematic.

There are two ways to offer longer beamtimes to users, (1) increase the machine operation time, and/or (2) increase beamlines. The way must meet the national interest. Facility and user community should coherently discuss about this issue .

# 3. User Support

SPring-8 has been chronically in short of beamline staffs, i.e., < 2 person/beamline on average, who are scientists, engineers, technicians, and post-doctoral scientists.

It is questionable to ask post-doctoral scientists to further commit for helping users, since they have their own research themes to complete in a given time.

It could be better to expand the “Power User System” by increasing the number of Power Users.

# 4. User Expansion in Industrial Application

Academic users should proactively communicate with industrial users to understand what is happening and what are the problems in private sectors in order to further facilitate industrial application activities.

It is worth trying for SPring-8 to challenge the technological problems general/common to entire fields of business, such as automobile, batteries, catalytic substance etc., although it is still important to support industrial users individually.

# 5. Human Resource Cultivation

Since SPring-8 possesses a wonderful toolkit to educate young generation, undergraduate schools are encouraged to start their own curricula at SPring-8 by participating, for example, on-the-job trainings.

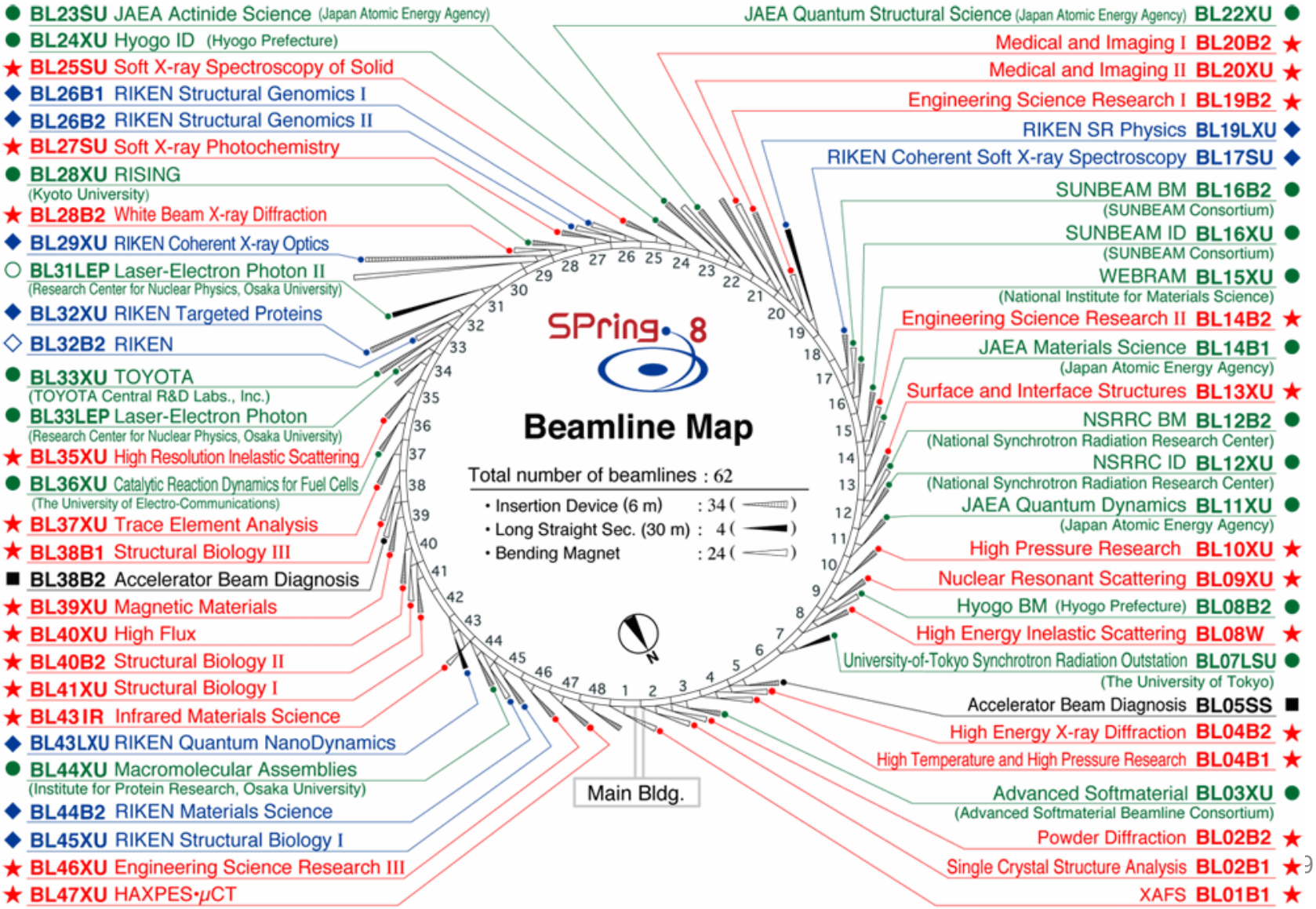
Large facilities tend to hire a lot of young people at construction phase, but finding their career paths later is a difficult task.

In addition to academia, Industrial domain could be another career paths for them, since industrial applications are still keep growing.

# Beamlines

(as of January 17, 2013)

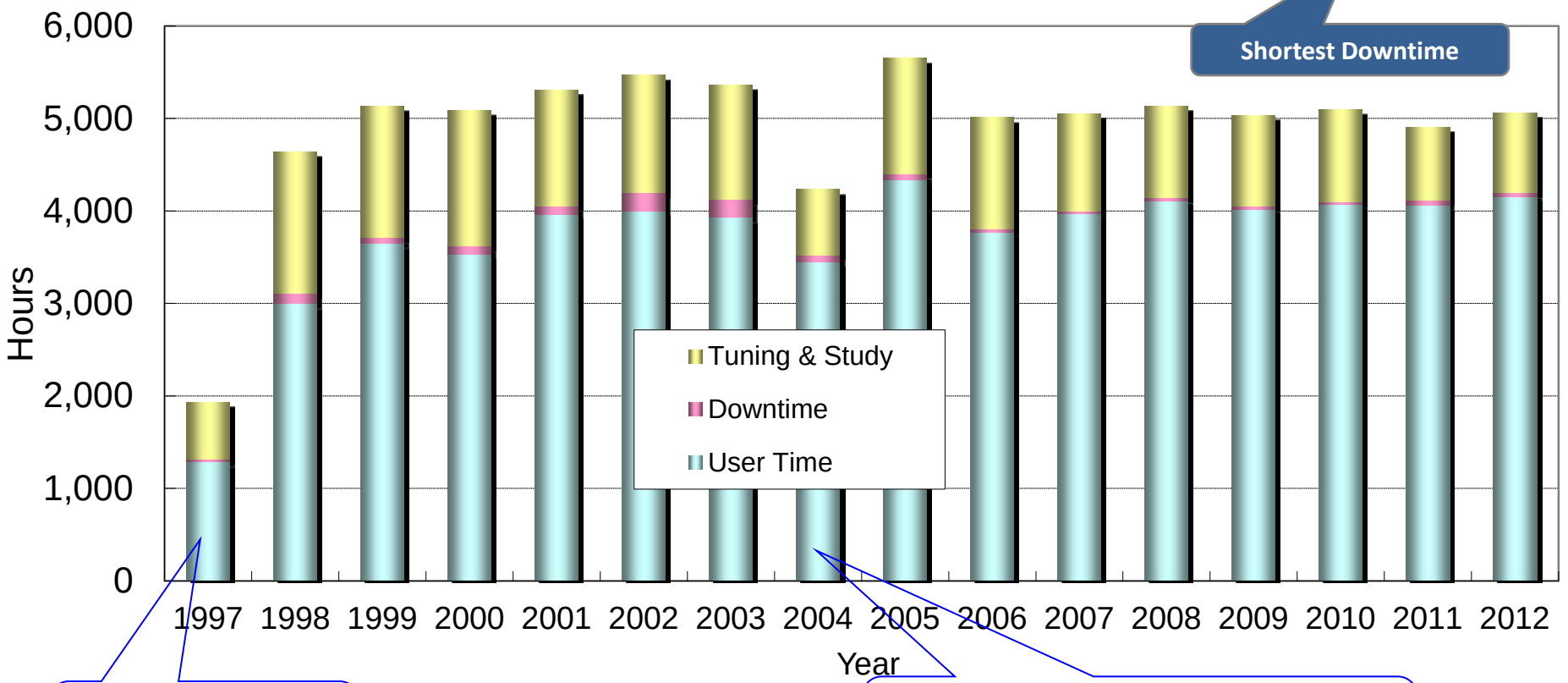
| Status | Public Beamlines | Contract Beamlines | RIKEN Beamlines | Accelerator Diagnostics Beamlines | Total |
|---|---|---|---|---|---|
| Operational | ★ 2 6 | ● 1 8 | ◆ 9 | ■ 2 | 5 5 |
| Planned or Under Construction | | ○ 1 | ◇ 1 | | 2 |
| Total | 2 6 | 1 9 | 1 0 | 2 | 5 7 |



# Operation Hours at SPring-8

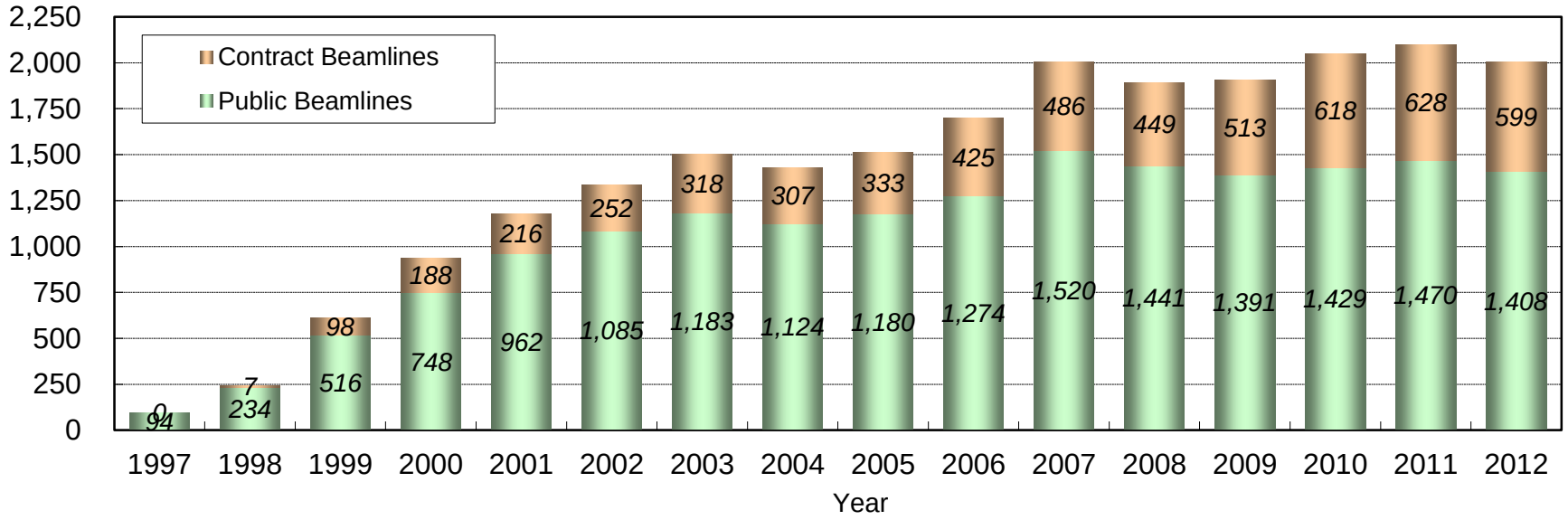
Annually, about 5,000 hours of operation has been achieved with downtime due to failure kept to a minimum.

| | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Operation Time (hours) | 1,932 | 4,640 | 5,137 | 5,090 | 5,311 | 5,467 | 5,363 | 4,233 | 5,651 | 5,012 | 5,055 | 5,133 | 5,035 | 5,096 | 4,904 | 5,063 |
| Machine Study | 614 | 1,527 | 1,426 | 1,468 | 1,254 | 1,269 | 1,237 | 711 | 1,246 | 1,204 | 1,056 | 991 | 986 | 997 | 789 | 868 |
| User Time | 1,286 | 2,997 | 3,648 | 3,534 | 3,965 | 4,001 | 3,930 | 3,449 | 4,338 | 3,770 | 3,969 | 4,111 | 4,015 | 4,072 | 4,059 | 4,156 |
| Downtime | 32 | 116 | 63 | 88 | 92 | 197 | 196 | 73 | 67 | 38 | 29 | 31 | 35 | 27 | 57 | 39 |

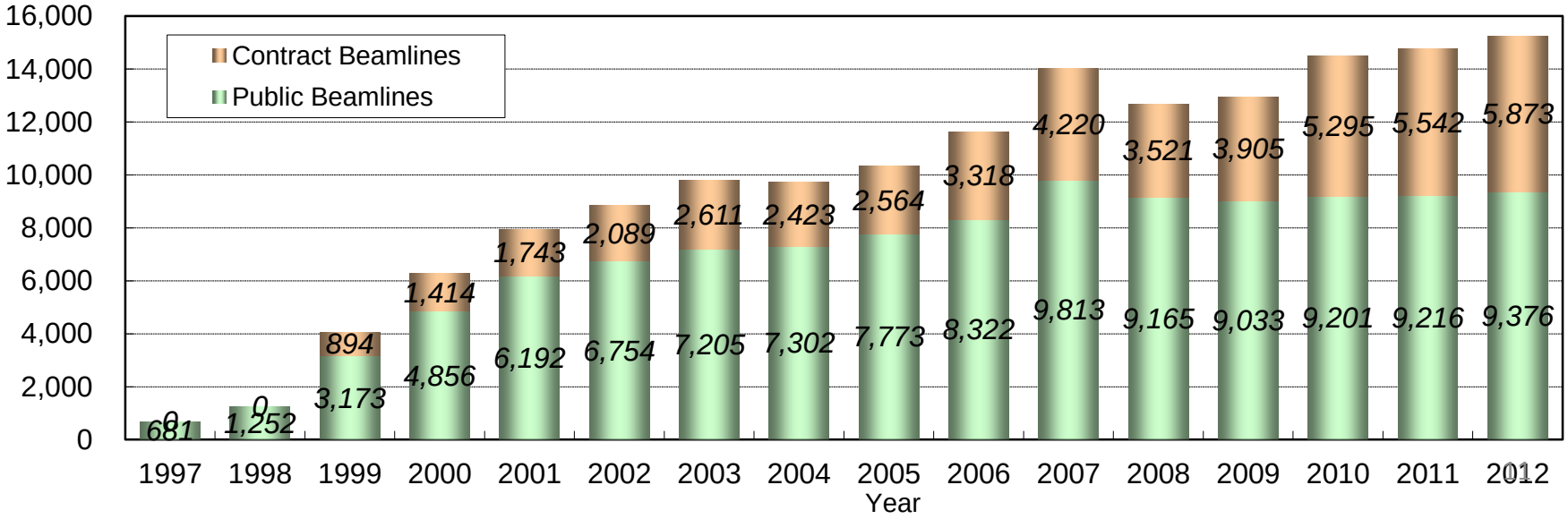


# Statistics of Conducted Experiments and Users

## *Number of cumulative conducted experiemnts*



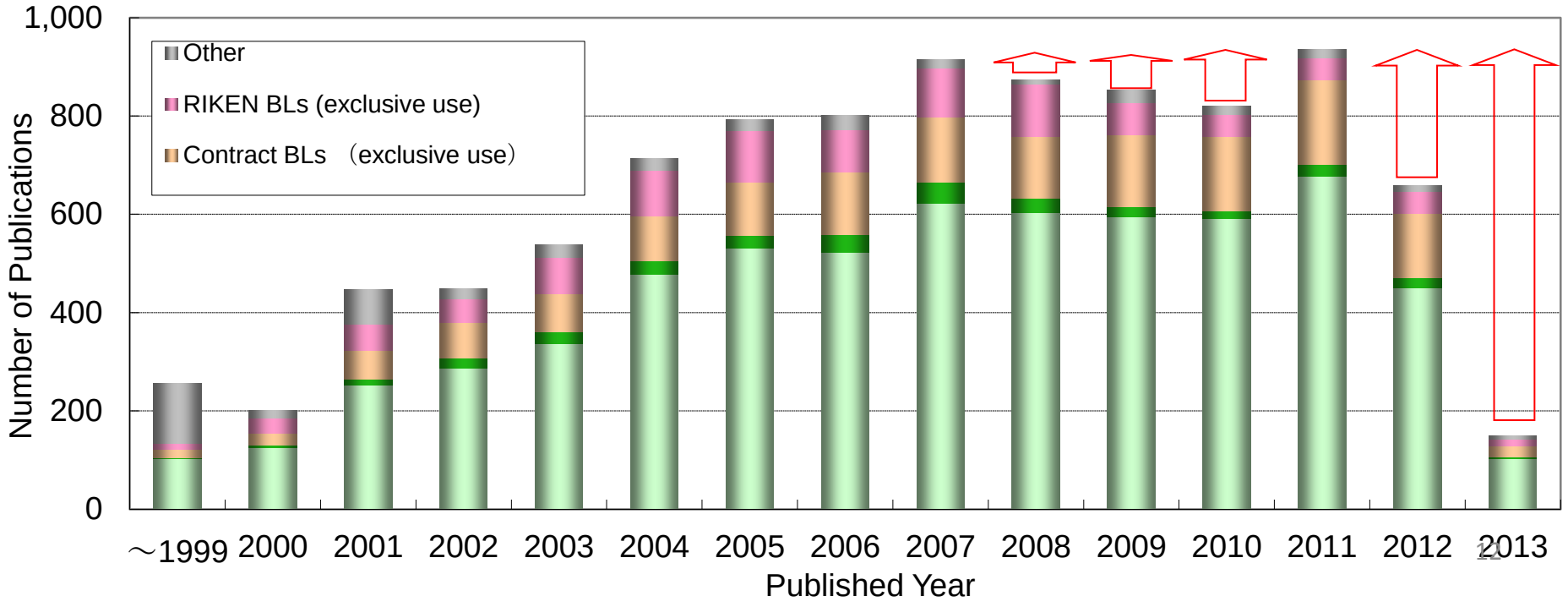

## *Number of cumulative Users*



# Publications (Refereed Journal Articles) as of end of Mar. 2013

The yearly number of publications resulting from research using SPring-8. The number of registered refereed publications is much lower compared to the ESRF and the APS. To promote the dissemination of research results through publications, users are required to publish their work in refereed journals and register their published works with the SPring-8 Publications Database within three years from the end of the research term for research to be considered non-proprietary as a general rule from 2011B.

| As of end of Mar. 2013 | Publication Year | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ～1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | Total |
| Public BLs | 103 | 125 | 252 | 287 | 337 | 477 | 531 | 522 | 623 | 603 | 594 | 592 | 677 | 451 | 103 | 6,277 |
| Contract ・RIKEN BLs （Public use） | 2 | 5 | 12 | 20 | 23 | 28 | 26 | 37 | 42 | 29 | 21 | 14 | 25 | 20 | 3 | 307 |
| Contract BLs （exclusive use） | 16 | 24 | 59 | 73 | 78 | 92 | 109 | 126 | 132 | 126 | 146 | 152 | 171 | 130 | 23 | 1,457 |
| RIKEN BLs (exclusive use) | 12 | 32 | 54 | 48 | 74 | 92 | 104 | 87 | 101 | 107 | 65 | 44 | 45 | 45 | 14 | 924 |
| Other | 123 | 14 | 69 | 20 | 26 | 25 | 23 | 29 | 16 | 9 | 27 | 18 | 18 | 13 | 7 | 437 |
| **Total** | **256** | **200** | **446** | **448** | **538** | **714** | **793** | **801** | **914** | **874** | **853** | **820** | **936** | **659** | **150** | **9,402** |
| **Total (unique)** | **226** | **185** | **376** | **380** | **451** | **600** | **682** | **664** | **787** | **757** | **753** | **726** | **794** | **544** | **118** | **8,043** |



# 6. Feed-back of Scientific Results to Society

Look saturated are User Time, Number of Beamlines, Number of Proposals Submitted/Approved, and Number of Papers Published.

Even if the total number of proposals conducted is saturated, it is O.K. as long as the quality of publicized papers related to SPring-8 stays at a high level in terms of citation index, which is currently 15.86 citations/paper as good as No.3 in Japan.


Thank you for your attention.