Ryoji Noyori, Director (and President of RIKEN)
Next-Generation Supercomputer R&D Center, RIKEN

In many fields of science, simulations are an important research method alongside experiment and theory. Simulations will be essential for the future of science and technology. In industry they are highly useful in the development and design of products. For Japan to maintain and improve its international competitiveness in science and technology, it is essential that we carry out top-quality R&D in supercomputing hardware and software.

This is why the government's third Science and Technology Basic Plan called for the development and utilization of the Next-Generation Supercomputer, as a technological foundation of national importance that requires major investment. A law supporting this recommendation has now come into force. RIKEN is responsible for the development and operation of the supercomputer under this law.

One of RIKEN's important missions is to design and create the R&D facilities that are essential for the advancement of Japanese science and technology, and to take the lead in putting these facilities to use. We are putting our full efforts into the development of the Next-Generation Supercomputer, which we believe will be recognized as the world's best. We will create a top-quality environment for the supercomputer, and build a center of excellence for research and the training of future generations of scientists and engineers.

Tadashi Watanabe, Project Leader
Next-Generation Supercomputer R&D Center, RIKEN

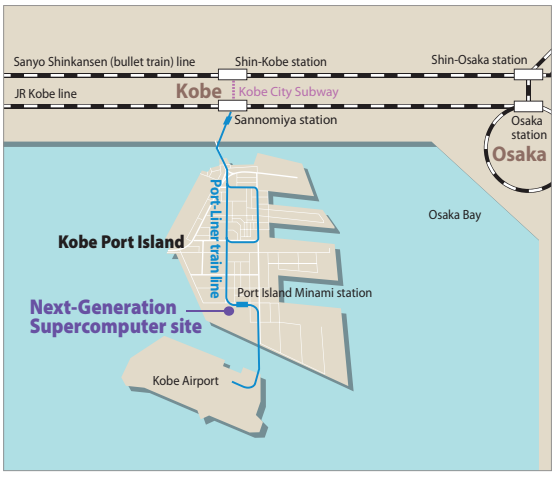
The Next-Generation Supercomputer will be a driving force behind Japanese science and technology and an essential foundation for advanced research and development. It will be used in the natural sciences (physics, chemistry, and biology), nanoscience, the life sciences, engineering, and the prediction of environmental change and natural disasters. To build the supercomputer, we have to develop many pieces of cutting-edge computer technology, from semiconductors to system software, and to continue developing supercomputers in the future, we will have to keep up this level of R&D in Japan. We also plan to make these technologies available to other research institutes, where we hope they will contribute to Japanese information technology in general. For all these purposes, we are gathering Japanese expertise and putting our full efforts into building the fastest supercomputer in the world.

Mitsuo Yokokawa,
Research and Development Group Director,
Next-Generation Supercomputer R&D Center, RIKEN

In developing a high-performance supercomputer, development of component technologies, such as advanced semiconductor technology, and system techniques that integrate the said technologies play important roles. As the Next-Generation Supercomputer will be a system on an unprecedented scale, integration technologies, at which Japan excels, will be particularly important to ensure success in the project. The supercomputer's robust calculation capabilities will also propel dramatic improvement in many science and technology areas. Everyone is making their best efforts to complete the Next-Generation Supercomputer.

Kazuo Minami, Research and Development Group, Application Development Team Leader
Next-Generation Supercomputer R&D Center, RIKEN

The Next-Generation Supercomputer, a parallel machine connecting together many processors, requires advanced software technology to make use of the functions of all its computers. In order to expand the Next-Generation Supercomputer into an even larger-scale system, we are developing more advanced software technology to exploit this high-level performance, with the aim of using it in real applications. We are focusing all our efforts toward upgrading this software so that it harnesses the full performance of the Next-Generation Supercomputer and contributes to society.



Metric prefixes

kilo-	K	1,000	(10^3)	千	(sen)
	(10K)	10,000	(10^4)	万	(man)
mega-	M	1,000,000	(10^6)	(百万)	(hyaku-man)
	(100M)	100,000,000	(10^8)	億	(oku)
giga-	G	1,000,000,000	(10^9)	(十億)	(ju-oku)
tera-	T	1,000,000,000,000	(10^{12})	兆	(chou)
peta-	P	1,000,000,000,000,000	(10^{15})	(千兆)	(sen-chou)
	(10P)	10,000,000,000,000,000	(10^{16})	京	(kei)
exa-	E	1,000,000,000,000,000,000	(10^{18})	(百京)	(hyaku-kei)
	(100E)	100,000,000,000,000,000,000	(10^{20})	垓	(gai)
zetta-	Z	1,000,000,000,000,000,000,000	(10^{21})	(十垓)	(ju-gai)
yotta-	Y	1,000,000,000,000,000,000,000,000	(10^{24})	じょ(秭)	(jo)

This leaflet was created with support from the following organizations:
Fujitsu Ltd.; Industrial Committee for Super Computing Promotion (ICSCP); Institute for Molecular Science (IMS); Japan Aerospace Exploration Agency (JAXA); Japan Agency for Marine-Earth Science and Technology (JAMSTEC); Japan Atomic Energy Agency (JAEA); Kobe City; Ministry of Education, Culture, Sports, Science and Technology (MEXT); National Astronomical Observatory of Japan (NAOJ); National Institute of Informatics (NII); National Research Institute for Earth Science and Disaster Prevention (NIED); Nissan Motor Co., Ltd.; Tohoku University; University of Tokyo; University of Tsukuba