### Creating Corporate Value



# **R&D Policy and Organization**



### Number of Patents

The number of patents held by JSR is steadily increasing in Japan and overseas, mainly in the Fine Chemicals and Other Products Business.

As of March 31		2010	2011	2012	2013	2014	2015	2016
Japan	Petrochemical Products	374	377	387	358	334	308	303
	Fine Chemicals and Other Products	1,465	1,685	1,972	2,331	2,633	2,717	2,867
	Others	75	67	79	89	104	99	90
	Subtotal	1,914	2,129	2,438	2,778	3,071	3,124	3,260
Overseas	Petrochemical Products	492	489	507	523	516	531	545
	Fine Chemicals and Other Products		2,365	2,516	2,741	2,957	2,810	3,075
	Others	39	36	33	34	33	29	22
	Subtotal	2,695	2,890	3,056	3,298	3,506	3,370	3,642
Total		4,609	5,019	5,494	6,076	6,577	6,494	6,902

# We will use accumulated technologies to open up new fields of technology

We see our R&D achievements as keys that will unlock the future for JSR. We have consistently striven to enhance an R&D organization that has created many new high-performance materials based on our original technologies. JSR's involvement in the petrochemical field began at the time of our founding with elastomer technology. We have since developed our activities globally by creating highly competitive materials and technologies for a wide range of technology fields, including the seemingly disconnected area of IT. We have accumulated a record of continual research and development to expand business areas behind our main business. That is, not only to deepen our knowledge of our core polymer technology, but also to develop ways of combining it with other technical fields such as optics, inorganic chemistry, and precision processing technology. We continue to challenge ourselves to develop new fields that offer major growth potential, such as next-generation electronics, life sciences, environment, and energy.

#### Integrating R&D with business activities

After discovering seeds of innovation through our R&D activities, we need to link those seeds to actual business activities. Another example of the accelerating integration of R&D and business activities through direct interaction between our researchers and customers. The leading countries and regions for cutting-edge research vary according to every field such as elastomers, semiconductor materials, display materials, life sciences, environment, and energy. By locating our R&D and business sites in the most advanced areas, we are building a structure that will allow us to respond quickly to new trends. We also make extensive use of strategic investments and business partnerships to secure rapid access to the advanced specialist technologies and knowledge, and connect our businesses that we need for our next-generation business creation. We are evolving a structure that can provide new value to society by flexibly integrating R&D with business activities within JSR Group and beyond.

### Creating Corporate Value

**R&D Structure** 

# **R&D Policy and Organization**

Creating materials for the future through materials innovation

Petrochemical Fine Products Chemicals Life Sciences and others **Business** Business **Core Business Third Pillar Next Generation Next Generation** Support Research Seed Research . . . . . . **Technology Research**  Performance Polymer JSR Functional Materials **Research Laboratories Research** Center Display Materials **Business** Research Laboratories Division Collaboration Collaboration Collaboration Fine Electronic Materials **Research Laboratories** Proposal on Advanced Materials Technology Seeds **Research Laboratories** Customer and Consignment Market Needs Research Precision Processina Technology Group, Consortia Precision Processing Lab. Tsukuba Research Joint Research Laboratories Market Needs Technology Seeds 1 **CVC** Activities (Corporate Venture Capital)

#### A Global Approach to Technology Innovation Centering on Four R&D Facilities in Japan

JSR currently has R&D facilities in Yokkaichi and Tsukuba in Japan. These R&D facilities support existing business activities while also helping to launch new businesses.

In our existing businesses, we are enhancing technical service support in a number of countries and constructing a system capable of providing timely support for customers' business promotion. To launch new businesses, they therefore participate in highly innovative and exploratory research initiatives with customers, domestic and international universities, and research institutes. Located within Kinki University's Molecular Engineering Institute, JSR Functional Materials Research Center is the focus of seed investigation and research in JSR Group. We have established JSR-Keio University Medical and Chemical Innovation Center, a joint research facility, within Keio University Shinanomachi Campus, and are conducting research relating to new medical fields to realize health and longevity.