

JSR Corporation

MATERIALS INNOVATION

CORPORATE DATA



Sustainable growth by providing indispensable materials to society

JSR Corporation (formerly 'Japan Synthetic Rubber Co., Ltd.') was established in 1957 for domestic production of synthetic rubbers. Since then, JSR has continuously expanded its business to emulsions, plastics and other materials for the semiconductor, flat panel display, and optical materials fields by leveraging our proprietary polymer technologies. The development of these advanced materials for the information and electronics fields has served as a gateway to innovative changes to the company's business structure.

In the new mid-term business plan "JSR20i9", which started in April 2017, we adopted "Strengthening Competitiveness for the future" as a mission. We will focus on earnings drivers and profit expansion in SSBR, semiconductor materials and Life Sciences Business. We will also work on improving productivity and strengthening out competitiveness through digitalization.

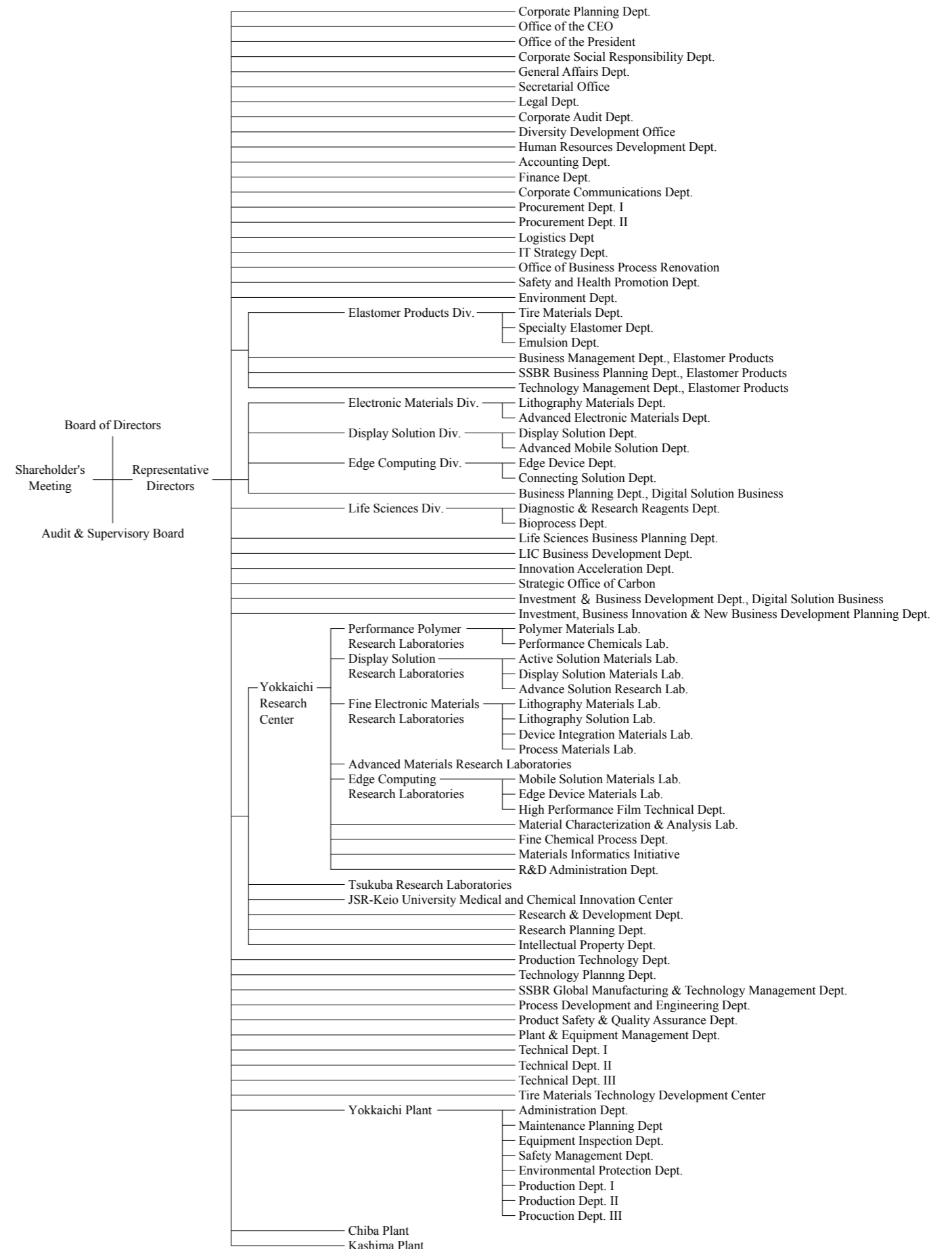
JSR Group's Corporate Mission is "Materials Innovation: We create value through materials to enrich society, people and the environment". We will pursue the possibilities that materials represent, creating value that will make the world around us a better place to live and work.

* The "i" in "JSR20i9" (twenty-nineteen) emphasizes the "Innovation" to realize Materials Innovation, which is the heart of our corporate mission.

1 GENERAL INFORMATION

Company Name	JSR Corporation		
Date of Establishment	December 10, 1957		
Location of the HQ	1-9-2, Higashi-Shimbashi, Minato-ku, Tokyo 105-8640, Japan		
Major Businesses	Elastomers Business	<ul style="list-style-type: none"> ●Synthetic Rubbers: Synthetic Rubbers such as Styrene-Butadiene Rubber, Polybutadiene Rubber, Ethylen Propylene Rubber, etc. and Compounded Products ●Thermoplastic Elastomers: Thermoplastic Elastomers and Compounded Products ●Emulsions: Paper Coating Latex, Styrene Butadiene Latex, Acrylic Emulsions ●Performance Chemicals: Organic/Inorganic Hybrid Coating Materials, High-Functional Dispersant, Industrial Particles, Thermal Control Materials, Binder materials for Lithium Ion Batteries, etc. ●Others: Butadiene Monomers, etc. 	
	Plastics Business	ABS, AES, AS, and ASA Resins	
	Digital Solutions Business	<ul style="list-style-type: none"> ●Semiconductor Materials: Lithography Materials (Photoresists, Multilayer Materials), CMP Materials (Slurries, Cleaning Solution), Packaging Materials, etc. ●Display Materials: Materials for LCD Panels, other Functional Coating Materials, etc. ●Edge Computing: Heat-Resistant Transparent Resin and Films, High-Performance UV Curable Resins, Stereo-Lithography System, etc. 	
	Life Sciences Business	Diagnostic/Research Reagent Materials, Bioprocess Materials, Bioprocess Development, Contract Manufacturing of Biopharmaceuticals, Services to Support Drug Development in Pre-Clinical Phases, etc.	
	Other Businesses	Lithium ion Capacitors, etc.	
	Representative Director	Representative Director and CEO : Eric Johnson	
	Capital	23,370 million yen (as of March 31, 2019)	
Employees	Consolidated : 8,748 Non-consolidated:2,640 (as of March 31, 2019)		

2 ORGANIZATION (As of June 18, 2019)



3 DIRECTORS (* Officers)

Titles	Name & Birthday	Brief biography
Representative Director, CEO and President	Eric Johnson June 19, 1961	1984 Joined VLSI Technology, Inc. (U.S.A.) 1988 Joined Nikon Precision, Inc. (U.S.A.) 1995 Director, Nikon Precision Inc. 1999 Vice President, Nikon Precision Inc. Sep. 2001 Joined JSR Micro Inc. (U.S.A.), Principal Vice President Jun. 2005 President of JSR Micro Inc. Jun. 2011 Officer, JSR Jun. 2015 Senior Officer, JSR Jun. 2017 Managing Officer, General Manager of Life Sciences Div., JSR Jan. 2019 President, JSR North America Holdings, Inc. (present) President, JSR Life Sciences, LLC Jun. 2019 Representative Director and CEO of JSR (present)
Representative Director, President and COO	Nobuo Kawahashi July 23, 1956	Apr. 1981 Joined JSR Jun. 2008 Officer, General Manager of Display Material Business Division and New FPD Materials Division Jun. 2009 Officer, General Manager of Electronic Materials Division Jun. 2010 Officer and President of JSR Micro Korea Co., Ltd. Jun. 2011 Senior Officer Jun. 2016 Director and Managing Officer (CTO) Jun. 2017 Director and Executive Managing Officer (CTO) Jun. 2019 Representative Director, President, COO and CTO (present)
Representative Director, Chairman	Mitsunobu Koshihara November 9, 1955	Oct. 1981 Joined JSR Jun. 2004 Director, General Manager of Electronic Materials Division Jun. 2005 Senior Officer, General Manager of Electronic Materials Division Jun. 2006 Managing Director, General Manager of Electronic Materials Division Jun. 2008 Senior Managing Director Apr. 2009 Representative Director and President Jun. 2019 Representative Director and Chairman (present)
Director and Senior Managing Officer	Koichi Kawasaki * April 20, 1957	Apr. 1983 Joined JSR Jun. 2005 Officer, General Manager of Manufacturing & Technology Division Jun. 2007 Director and Senior Officer, General Manager of Manufacturing & Technology Division Jun. 2011 Managing Officer, General Manager of Petrochemical Products Division Jun. 2016 Representative Director and Executive Managing Officer, General Manager of Manufacturing & Technology Group Apr. 2018 Representative Director and Executive Managing Officer Jun. 2019 Director and Executive Managing Officer (present)
Director and Managing Officer	Hideki Miyazaki * January 22, 1958	Apr. 1980 Joined Nomura Securities Co., Ltd. Jul. 2005 Joined Japan Tobacco Inc. ("JT") Jun. 2012 Director and Executive Vice President, JT Jan. 2018 Director, JT Mar. 2018 Joined JSR, Advisor Jun. 2018 Director and Managing Officer (present)

Titles	Name & Birthday	Brief biography
Outside Director	Yuzuru Matsuda June 25, 1948	Apr. 1977 Joined KYOWA HAKKO KOGYO CO., LTD. ("KHK") (currently Kyowa Hako Kirin Co., Ltd ("KH Kirin")) Jun. 2000 Officer, KHK Jun. 2002 Executive Director, KHK Jun. 2003 President and Chief Operating Officer, KHK Oct. 2008 President and Chief Officer, KH Kirin Mar. 2012 Senior Advisor, KH Kirin Jun. 2012 President of Kato Memorial Bioscience Foundation, a public interest incorporated association Jun. 2014 Outside Director, KUBOTA Corporation (present) Jun. 2014 Outside Director, BANDAI NAMCO Holdings Inc. Jun. 2015 Outside Director, JSR Jun. 2019 Director Emeritus of Kato Memorial Bioscience Foundation, a public interest incorporated association (present)
Outside Director	Shiro Sugata November 17, 1949	Apr. 1972 Joined USHIO INC. Jun. 2000 Director, Senior Officer, USHIO INC. Apr. 2004 Director, Executive Managing Officer, USHIO INC. Jun. 2004 Representative Director, Executive Managing Officer, USHIO INC. Mar. 2005 Representative Director and President, USHIO INC. Oct. 2014 Director and Advisor, USHIO INC. Jun. 2016 Outside Director, JSR (present) Jun. 2016 Advisor, USHIO INC. Jun. 2016 Outside Director, Yokogawa Electric Corporation Jun. 2017 Corporate Advisor, USHIO INC.
Outside Director	Tadayuki Seki December 7, 1949	Apr. 1973 Joined ITOCHU Corporation Jun. 2004 Executive Officer and Chief Financial Officer, Food Company, ITOCHU Corporation Apr. 2007 Managing Executive Officer, General Manager, Finance Division, ITOCHU Corporation Jun. 2009 Representative Director, Managing Director, Chief Officer for Finance, Accounting, Risk Management and CFO, ITOCHU Corporation May 2011 Representative Director, Senior Managing Executive Officer, CFO, ITOCHU Corporation Apr. 2013 Representative Director, Executive Vice President, CFO, ITOCHU Corporation Apr. 2015 Advisor, ITOCHU Corporation May 2016 Outside Director, PARCO CO., LTD. (present) Jun. 2016 Outside Director, NIPPON VALQUA INDUSTRIES, LTD. Apr. 2017 Advisory Member, ITOCHU Corporation Jun. 2017 Outside Director, JSR Jul. 2017 Outside Audit & Advisory Board Member, Asahi Mutual Life Insurance Company (present)
Outside Director	Manabu Miyasaka November 11, 1967	Apr. 1992 Joined UPU Co., Ltd. Jun. 1997 Joined Yahoo Japan Corporation Apr. 2009 Operating Officer, Head of Consumer Business Group Apr. 2012 Chief Executive Officer, & Operating Officer Jun. 2012 President & Representative Director Jun. 2013 Director, SoftBank Corp. (currently SoftBank Group Corp.) Jun. 2015 President and Representative Director, President Corporate Officer, Chief Executive Officer, Yahoo Japan Corporation Jun. 2017 Director, SoftBank Corp. Feb. 2018 Representative Director, Z Corporation Incorporated Apr. 2018 President and Representative Director, Yahoo Japan Corporation Apr. 2018 President and Representative Director, Z Corporation Incorporated Jun. 2018 Chairman of the Board of Directors, Yahoo Japan Corporation Jun. 2019 Outside Director, JSR

4 AUDIT & SUPERVISORY BOARD MEMBER

Titles	Name & Birthday	Brief biography
Standing Audit & Supervisory Board Member	Kumano, Atsushi August 8, 1956	1984: Joined JSR 2005: Officer, General Manager of Display Materials Research Lab. 2007: Senior Officer, General Manager of Research & Development Dept. and General Manager of Tsukuba Research Lab. 2016: Corporate Auditor (Present)
Outside Audit & Supervisory Board Member	Kato, Hisako October 18, 1948	1976: Registered as Certified Public Accountant (present) 1985: Registered as Certified Tax Accountant (present) 2008: Representative, Hisako Kato Accounting Office (present) 2014: Outside Audit & Supervisory Board Member (present) 2014: Outside Audit & Supervisory Board Member of NTT Urban Development Corporation
Outside Audit & Supervisory Board Member	Moriwaki, Sumio March 3, 1957	1981: Registered as Attorney at Law (Present) 1981: Joined ISHII LAW OFFICE 1991: Partner, ISHII LAW OFFICE (Present) 1999: Professor, The Legal Training and Research Institute of Supreme Court (Attorney's training in civil laws) 2007: Guest Professor, The University of Tokyo Faculty of Law and Graduate Schools for Law and Politics 2015: Committee Chairman, Reserch Committee of Legal System at Japan Federation of Bar Associations 2017: Outside Audit & Supervisory, Board Member (Present) 2017: Outside Director, TOPY INDUSTRIES, LIMITED (Present)

5 List of Assigned Business Segment and Position of Director and Officers

Titles	Name	Assigned business segment, position
Representative Director, CEO	Eric Johnson	North America Business President of JSR North America Holdings, Inc.
Representative Director, President, COO, and CTO	Nobuo Kawahashi	Research & Development
Representative Director, Chairman of the Board	Mitsunobu Koshiba	
Director, Executive Managing Officer	Koichi Kawasaki	Procurement, Logistics, Manufacturing and Technology, Product Safety & Quality Assurance, Safety and Environment Affairs, Human Resources, Diversity Development President of Japan Butyl Co., Ltd.
Managing Officer	Hayato Hirano	Elastomer Business, Plastics Business General Manager of Elastomer Div. President of Techno-UMG Co., Ltd.
Managing Officer	Katsuya Inoue	Corporate Planning, Business Planning and Investment, Digital Solutions Business, Emerging Business, Office of the CEO General Manager of Corporate Planning Div. General Manager of Office of the CEO Chairman of JSR Micro (Changshu) Co., Ltd.
Director, Managing Officer	Hideki Miyazaki	Accounting, Finance, Corporate Communications
Managing Officer	Tadahiro Suhara	Digital Solutions Business
Senior Officer	Takao Shimizu	Office of the President, IT Strategy, Business Process Renovation General Manager of Office of the President General Manager of Office of Business Process Renovation
Senior Officer	Tsuyoshi Watanabe	China Business Chairman of JSR (Shanghai) Co., Ltd.
Senior Officer	Kazumasa Yamawaki	Elastomer Business (deputy) Deputy General Manager of Elastomer Div. General Manager of Business Management Dept., Elastomer Products Vice President of KRATON JSR ELASTOMERS K. K. Director of JSR Elastomer Europe GmbH
Senior Officer	Makoto Doi	Legal General Manager of Legal Dept.
Senior Officer	Yoshikazu Yamaguchi	Display Solution Business Representative Director of JSR Micro Korea Co., Ltd.
Senior Officer	Kazushi Abe	President of ELASTOMIX CO., LTD. President of ELASTOMIX (FOSHAN) CO., LTD. The Chief Director of JSR Group Corporate Pension Fund
Officer	Eiichi Kobayashi	Executive Vice President of JSR North America Holdings, Inc.
Officer	Yoichi Mizuno	Edge Computing Business General Manager of Edge Computing Div.
Officer	Mika Nakayama	General Manager of Intellectual Property Dept.
Officer	Koichi Saeki	Yokkaichi Plant Yokkaichi Plant Manager
Officer	Seiji Takahashi	Manufacturing and Technology (deputy) General Manager of SSBR Global Manufacturing & Technology Management Dept.
Officer	Yasufumi Fujii	General Affairs, Secretarial Office, CSR General Manager of General Affairs Dept. General Manager of Secretarial Office
Officer	Mikio Yamachika	Lithium Ion Capacitors Business President of JM Energy Corporation
Officer	Tim Lowery	Life Sciences Business General Manager of Life Sciences Div. President of JSR Life Sciences, LLC
Officer	Koichi Hara	Executive Vice President of JSR North America Holdings, Inc. General Manager of Life Sciences Business Planning Dept.
Officer	Junichi Takahashi	Electronic Materials Business General Manager of Electronic Materials Div. General Manager of Taiwan Branch., Electronic Materials Div.
Officer	Keisuke Wakiyama	General Manager of Display Solution Business Div.
Officer	Ichiko Tachibana	General Manager of Support Dept., Emerging Business
Officer	Toru Kimura	General Manager of Research & Development

1 STOCKS

■ Total Numbers

(As of March 31, 2019)

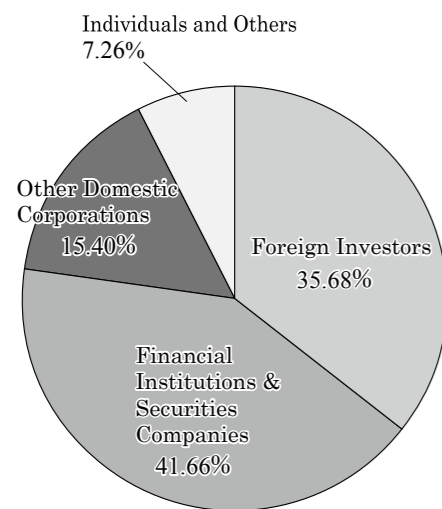
Authorized Stocks : 696,061,000

Issued Stocks	Type	Number of Stocks Issued	Stock Exchange
	Common Stocks	226,126,145	Tokyo (First Section)

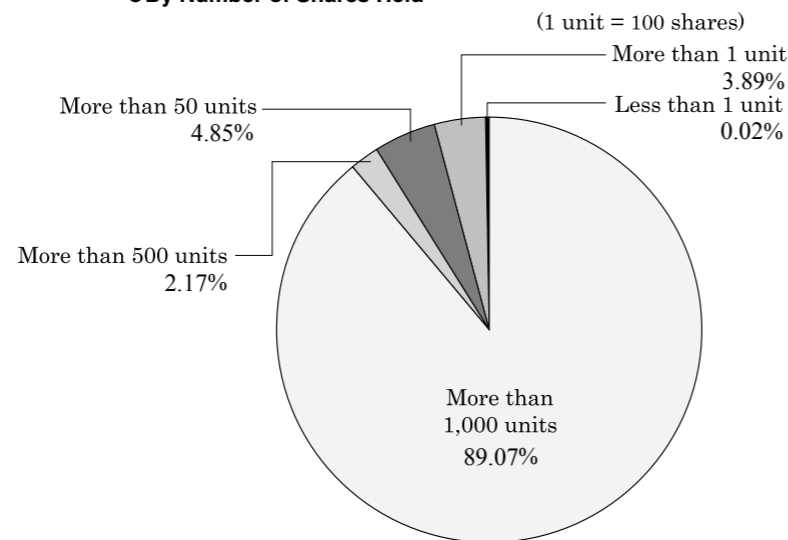
2 DISTRIBUTION OF STOCKS

(As of March 31, 2019)

● By Type of Shareholders



● By Number of Shares Held



3 MAJOR SHAREHOLDERS

(As of March 31, 2019)

Name of shareholder	Investments in the Company	
	Number of shares held (thousand shares)	Shareholding Ratio (%)
Bridgestone Corporation	22,366	10.15
The Master Trust Bank of Japan, Ltd. (trust account)	15,811	7.17
Japan Trustee Services Bank, Ltd. (trust account)	15,017	6.81
Japan Trustee Services Bank, Ltd. (trust account 9)	7,793	3.54
BNYMSAMV AS AGENT/CLIENTS LUX UCITS NON TREATY 1	6,524	2.96
Japan Trustee Services Bank, Ltd. (trust account 5)	3,864	1.75
Nippon Life Insurance Company	3,717	1.69
Meiji Yasuda Life Insurance Company	3,631	1.65
SSBTC CLIENT OMNIBUS ACCOUNT	3,496	1.59
Mizuho Bank, Ltd.	3,325	1.51
Total of the above ten major shareholders	85,544	38.82

Notes 1. The numbers in the columns under "Number of shares held" are rounded to thousands of shares.
 2. The shareholding ratio is calculated using 220,431,196 shares (calculated by deducting number of treasury shares (5,694,949 shares) from the total number of issued shares (226,126,145 shares)* and rounded to two decimal places.
 3. The Company acquired 2,350,900 treasury shares upon resolution of the Board of Directors on July 30, 2018.

1 CAPACITY

(As of April 1, 2019, Unit: tons / year)

	Yokkaichi plant	Chiba plant	Kashima plant	Others	Total
SBR (including NBR, HSR)	255,000				255,000
Latex	120,000				120,000
BR		72,000			72,000
Solution SBR, Hydrogenated Polymer	70,000			100,000 (Thailand) ^{*1}	170,000
IR			41,000		41,000
EPM/EPDM			36,000	220,000 (Korea) ^{*2}	256,000
IIR				98,000 (Kawasaki) ^{*3}	98,000
H-IIR			80,000 ^{*3}		80,000
RB		24,000			24,000
ABS resin, AS resin	250,000 ^{*4}			150,000 (Ube, Otake) ^{*4}	400,000
ARTON		5,000			5,000
Butadiene	148,000	130,000	120,000		398,000
Isoprene			36,000		36,000
WSP			1,200		1,200

Notes: *1 JSR BST Elastomer Co., Ltd.
 *2 Kumho Polychem Co., Ltd.
 *3 Japan Butyl Co., Ltd.
 *4 Techno-UMG Co., Ltd.

(Unit : tons/year)

Masterbatches	Yokkaichi	Total
	Tokyo	24,000
	Shiga	20,000
	Tianjin (China)	15,000
	Foshan (China)	15,000
	Fuzhou (China)	20,000
	Thailand	9,000
ELASTOMIX CO., LTD.	Indonesia	39,000
		9,000

PETROCHEMICAL PRODUCTS

1. ELASTOMERS

Products	Characteristics	Applications
Emulsion Styrene-Butadiene Rubber (ESBR)	Features superior tensile and tear strength, aging and abrasion resistance. It also features a molecular structure that is characteristics of "Hot SBR" with superior viscosity and adhesiveness.	Tires, belts, shoes, various industrial products, adhesive tape base materials, etc.
Solution Styrene-Butadiene Rubber (SSBR)	SBR with characteristic molecular structure. Features superior processability and dynamic properties.	Tires, etc.
Poly-Butadiene Rubber (BR)	Features superior abrasion resistance, dynamic properties, low temperature performance, and processability.	Tires, belts, golf balls, shoes, various industrial products, etc.
High-Styrene Rubber (HSR)	High hardness rubber with low specific gravity featuring superior processability, abrasion resistance, and flex resistance.	Hard plates, footwear soles and other athletic products requiring high degree of hardness.
Poly-Isoprene Rubber (IR)	Molecular structure similar to natural rubber. Features good processability and vulcanization with superior mechanical tensile strength and resilience.	Tires, belts, various industrial products, shoes, adhesives, rubber threads, rubber bands, surgical gloves, balloon catheter, etc.
Nitrile Rubber (NBR)	Features superior oil, gasoline and mechanical heat resistance and processability.	Packing, gaskets, oil seals, fuel hoses, Freon hoses, rubber plates, print rolls, blankets, spinning parts, airplane parts/items, automobile parts, work boots, adhesives, various industrial products, resin modifier/reinforcement agents, etc
Polymer Blend (NV/NE)	NV (NBR+PVC) and NE (NBR+EPDM) bring new characteristics such as superior ozone resistance and superior weatherability by mixing multiple polymers.	
FUELOCK	Features superior gas barrier properties (gasoline impermeability). Also features oil resistance even in bioethanol-containing gasoline.	
Ethylene Propylene Rubber (EPM/EPDM)	Superior heat resistance, ozone resistance and weatherability.	Telephone/electricity lines, thermo-resistant belts, automobile parts, window frames, sponges, waterproof sheets, packing, various industrial products, resin modifier/reinforcement agents, etc.
Butyl Rubber (IIR) Halogenated Butyl (H-IIR)	Superior gas impermeability, weatherability, ozone and heat resistance. There is also chlorinated butyl and bromide butyl rubber with fast vulcanization speed.	Tire tubes, tire inner liners, automobile parts, belts, telephone/electricity lines, anti-vibration rubber dampers, various industrial products, gasket of prefilled syringe, medicine stoppers, etc. <Manufactured by> Japan Butyl Co., Ltd.
Masterbatches	A range of master batches with SBR, BR, EPDM, and NBR as the base polymer, and a white filler master batch with SBR as the base polymer.	Various tires, shoes, belts, hoses, sports goods, industrial products, and extrusion mold products. <Manufactured/Sold by> ELASTOMIX CO., LTD.

2. THERMOPLASTIC ELASTOMERS

Products	Characteristics	Applications
Syndiotactic 1,2-Poly-Butadiene JSR RB™	Produced only by JSR worldwide. An extremely versatile, general purpose material that features both the hardness of resin and the resilience of rubber.	Films, tubes, various shoe soles, injection molding items, various sponge products, super hard rubber products, rubber, plastic modifiers, medical tubes, etc.
Hydrogenated Polymer DYNARON™	Hydrogenated polymer with a unique structure developed from JSR's proprietary synthesis technology.	Various plastic modifiers, compatibilizers, transparent soft films, sheets, tubes, stationaries, daily sundries, car interior materials, adhesive applications, vial bottles, CAPD drain bags, medical drain tubes, etc.

Products	Characteristics	Applications
Dynamic Vulcanized Type Olefinic Thermoplastic Elastomer (TPV) EXCELINK™	A high performance polymer compound which is produced from JSR special EPDM as a base polymer using the unique compounding technology. The characteristics are high melt flow, high elasticity and low density which can effectively realize energy saving, resource saving, recycling, easy work and cost saving.	Automobile parts, sealing and packing materials, etc.
Styrene butadiene type thermo-plastic elastomer JSR TR	Styrene butadiene based material that has the resilience of vulcanized rubber at room temperature but plasticizes for easy processing at high temperatures.	Various shoe soles, injection molding items, plastic modifiers, asphalt modifiers, binders, adhesives, flexographic printing plate, etc. <Manufactured by> KRATON JSR ELASTOMERS K.K.
Styrene Isoprene Block copolymer JSR SIS™	Styrene isoprene based material that features the resilience of vulcanized rubber at room temperature but plasticizes for easy processing at high temperatures.	Hot melt adhesives, hot melt binders, antiphlogistic transdermal patch, medical tube <Manufactured by> KRATON JSR ELASTOMERS K.K.

3. EMULSIONS

Products	Characteristics	Applications	
Latex	SB Latex	Includes carboxylated SB latex and vulcanizable SB latex. Denatured carboxy SB latex is highly tensile by itself and can be cross-linked using metal and other agents to further enhance tensile strength.	Carpet backing, various binders, foam rubber, foam backing, tire cord binders, adhesives between fiber and rubber, etc.
	Paper Coating Latex (PCL)	Carboxylated latex specialized for paper coating. Features excellent formulating stability, runnability, binding strength, ink receptability and paper/ink gloss. Binding strength can be improved without increasing bonding material and compromising operational stability during coating. As a result, huge cost-reduction and weight-reduction is possible during the papercoating process.	Coating paper for printing purposes
Asphalt modifier JSR ROADEX™ JSR ROADEX™U-II JSR ROADEX™HS		When mixed with asphalt, alleviates thermosensitivity which tends to be a weak point of straight asphalt. Also improves anti-fluidity and increases abrasion resistance and gripping.	Abrasion resistance of pavement, anti-fluidity, water drainage, noise reduction, etc.
Acrylic Emulsion	Acrylic Emulsion (AE)	Has a polymer skeleton which allows for increased durability, adhesion, tackiness and strength through both control of the particle structure and modification of various functional monomers.	Floor polish, painting materials, acrylic pressure sensitive adhesive, adhesives, coatings <Manufactured/Sold by> EMULSION TECHNOLOGY Co., Ltd.
	SIFCLEAR™	A water-based modified emulsion, obtained by alloying the vinylidene-fluoride polymer with the acrylic polymer at molecular level, showing excellent durability and stain resistance. It shows good water wettability on the surface of the coating film, and exhibits excellent stain resistance in outdoor exposure due to stain cleanability by rainfall. It can be suitably used as a binder resin of waterborne paint for the exterior walls and roofs, anti-corrosive paint system, and thermal insulation paint.	Various anti-staining film- or resin-coating materials, construction paint for exterior walls and rooves, anti-corrosive paint systems, thermal insulation paints, etc. <Manufactured/Sold by> EMULSION TECHNOLOGY Co., Ltd.

	Products	Characteristics	Applications
High-functional particles for industrial use	Highly Cross-linked Particles	Submicron size organic particles with an extremely high degree of crosslinking. In addition to exhibiting high hardness and heat resistance, it has a high affinity with organic materials which inorganic particles do not. In addition to being lightweight with a smooth particle surface, it has high homogeneous particle size distribution, which cannot be obtained by general method for producing resin particles such as dispersion polymerization method or suspension polymerization method.	Resin additives, coating materials, paint additives, agents to prevent film blocking, etc.
	SBR Latex (binder for negative electrodes)	Water-based latex binder used to form electrodes for energy storage devices. Derived from polymer synthesis and morphology control technologies. Features both high binding properties and low resistance. Ensures excellent battery performance including cycle properties.	Lithium-ion batteries, nickel-metal hydride, electric double layer capacitors, lithium ion capacitors, etc.
Battery materials	Fluorine-acrylic hybrid latex (binder for positive electrodes)	A proprietary hybrid water-based latex binder. Integrated particles are formed by compatibilizing vinylidene fluoride polymers with acrylic polymers at the molecular level. The water-based particles are characterized as having a low environmental impact and running cost compared with conventional solvent-based positive electrode binders (PVDF). The hybrid design ensures high potential resistance, binding properties, and flexibility.	Lithium-ion batteries, nickel-metal hydride, electric double layer capacitors, lithium ion capacitors, etc.

	Products	Characteristics	Applications
Polymer Alloy	Recycled resource resin ECO PELLET™	Closed-loop recycled material, which uses discharged plastics such as ABS, PC, PET, PA as a raw materials.	Office furniture, IT Equipment, etc.
	ABS/PC Alloy EXCELLOY™ CK, CKF, CW Series UMG ALLOY™ ALPHALOY™ MPC Series	Polymer alloy that contains polycarbonate and styrene resins. There is the “CK Series” with superior heat resistant, “CW and CA Series” featuring superior balanced weatherability, heat resistance and fluidity, and the “CKF Series” self-extinguishing series with superior mold processability, heat resistance, chemical resistance and mechanical properties.	Office automation equipment parts, automobile interior and exterior parts, industrial products, mechanical tools, etc.
	ABS/PC Alloy EXCELLOY™ AK Series ALPHALOY™ MPA Series	Polymer alloy that contains polyamide and styrene resins. Excellent oil resistance and fatigue properties. While keeping excellent surface appearance, large heat resistance and mechanical strength can be maintained.	Automobile interior parts (switch, lever parts), mechanical tools, motorcycle parts, home appliances, etc.
	ABS/PBT Alloy EXCELLOY™ TK Series	A polymer alloy that contains polybutylene terephthalate (PBT) and styrene resins. Excellent chemical resistance and flowability, it also has high resistance to chemical cracks caused by chemicals.	Automobile interior parts (switch, lever parts), mechanical tools, motorcycle parts, home appliances, etc.
	Anti-Squeak Material HUSHLOY™	Styrene-based special thermoplastic resin that makes it possible to reduce the squeaking noise generated from the joints of plastic parts.	Automobile interior parts, electronics parts, home appliances, household goods, etc.
	Highly Colorable Material VIVILLOY	Highly pigmented material for paintless applications. The elimination of the painting process contributes to lower costs overall and helps to reduce environmental impact.	Automobile exterior parts (door mirror, spoiler, radiator grill), building materials, parts, etc.
	Plating Material PLATZON	Material with excellent plating adhesion and excellent balance of heat resistance, moldability and impact resistance. These materials maximize productivity during the production process and help to reduce environmental impacts by improving plating yields.	Plating decoration parts for automobile interior and exterior (radiator grill, emblem, interior decoration parts), mobile phone, other resin plating products

4. PLASTICS <Manufactured/Sold by> Techno-UMG Co., Ltd.

	Products	Characteristics	Applications
	AS Resin SANREX™	Binary copolymer of acrylonitrile and styrene. Transparent amorphous resin, featuring superior properties to polystyrene including mechanical strength and chemical resistance.	Office automation equipment parts, containers for cosmetics, cigar lighters, miscellaneous goods, etc.
	ABS Resin TECHNO ABS™ 100-400, 800 Series UMG ABS™	Ternary copolymer of acrylonitrile, butadiene and styrene. Produced in a wide range of grades including high-impact resistant, highly fluid and highly rigid.	Automobile parts, home appliances, office automation equipment, miscellaneous goods, toys, building materials, etc.
	ABS Heat Resistant Grade TECHNO ABS™ 500, H500 Series TECHNO MUH™ BULKSAM™	Features better heat resistance property comparing to the standard heat resistance grade of ABS resins while maintaining other physical properties.	Automobile interior parts, home appliances, power window switches, heater control panels, etc.
	Flame retardant Resin TECHNO ABS™ F Series UMG ABS™ VW, VD, KD Series	Flame-resistant ABS resin with excellent fluidity, thermal stability, heat resistance, mechanical strength and shock resistance.	Office automation equipment parts, office automation equipment housings, etc.
	AES Resin TECHNO AES™ DIALAC™ E Type	Features superior weatherability and mechanical tensile strength. Is suitable for outdoor use.	Automobile exterior parts, motorcycle parts, construction and agricultural machinery, outer hose cover of air conditioners, building exterior materials, etc.
	ASA Resin TECHNO ASA™ DIALAC™ A Type	Features superior weatherability and mechanical tensile strength. Is suitable for outdoor use.	Automobile exterior parts, motorcycle parts, construction and agricultural machinery, outer hose cover of air conditioners, building exterior materials, etc.
	Woodgrain resin / Wood powder resin UMG WOOD™	Wood powder-mixed ABS pellet for extrusion molding woodgrain material. Available with ABS resin for interior and ASA resin for exterior.	Interior and exterior building material parts, interior and exterior furniture, bench, etc.

FINE CHEMICAL PRODUCTS

1. SEMICONDUCTOR MATERIALS

	Products	Characteristics	Applications
Semiconductor Materials	Lithography Materials DUV Photoresists KRF™ Series ARF™ Series, EUVJ™ g/i line Photoresists PFR™ Series NFC™ Series for Multi Layer	Lineup of high resolution DUV photoresists. KRF™ Series, for 248nm light wavelength. ARF™ Series for 193nm light wavelength. EUVJ™ Series for EUV. g- and i-line photoresists, PFR™ Series are used for a wide range of critical and non-critical applications. Furthermore, we handle immersion topcoat materials and hard mask materials for refined processing to meet customer needs.	Used to manufacture semiconductor products
	Process Materials	Includes process materials that are designed for the use for the latest and future advanced semiconductor devices.	
	CMP Slurries CMS™ Series	Includes slurries for Cu applications, that improve dishing and erosion performance and also improve planarity and scratch performance for FEOL applications.	
	CMP Cleaning Solutions CMS™ Series	Includes post Cu-CMP cleaner and post FEOL CMP cleaner which enable low defect and low damage to the finished surface.	
	Thick Layer Photoresists JSR ELPAC™ THB Series	Film thickness can be 100µm, has superior aspect ratio imaging and high resistant to electroplating solutions. Photoresist used to make solder bump, Cu pillar, Au bump or redistribution layer.	
Advanced Packaging Materials	Photosensitive Insulation Materials JSR ELPAC™ WPR Series	Suitable as materials for WL-CSP (Water Level Chip Size Package) and SiP (System in Package) redistribution layers, spin-on photosensitive insulation materials, and organic passivation layers for semiconductor devices.	Used to manufacture semiconductor products and (flexible) print circuit board
	Low Dielectric Constant & Low Dissipation Insulation Materials JSR ELPAC™ HC Series	Provides insulation materials with low-dielectric constant and low-dissipation properties which are required for high frequency printed circuit board to realize low transmission loss in high speed 5G communication.	
	Photoresist for Lift off process LUMILON® LP Series	Provides photoresist for making redistribution layers or pads by less processes.	
	Carboxylated NBR	Carboxylated cross-linked NBR. An ocean (resin) vs. island (rubber) structure is formed through minute dispersion in thermocuring resin, and thereby improving various properties of the thermocuring resin.	
Cross-Linked Rubber	Glycidyl modified NBR	Glycidyl modified cross-linked NBR. An ocean (resin) vs. island (rubber) structure is formed through minute dispersion in thermocuring resin, and thereby improving various properties of the thermocuring resin.	Resin modifiers of IC mold
	Low Electrolytic Corrosion NBR	Binder modifier material to bind PCBs ensuring minimal ionic impurities in electric and electronic parts.	Modifiers of flexible print circuit board adhesive layer

2. DISPLAY MATERIALS

	Products	Characteristics	Applications
Display Materials	Alignment Films OPTMER™ AL Series	Feature good liquid crystal alignment and stable pre-tilt angle. Maintains superior voltage hold properties, residual DC properties and can support various modes of LCD.	Alignment films for VA, PSA, TN, IPS, FFS and STN
	Protective Coating OPTMER™ SS Series	Feature superior heat resistance and transparency, can be used for various color filters and improve surface planarity and reliability.	Protective coatings for LCD and CCD color filter
	Color Pigment Dispersed Resists OPTMER™ CR Series	Features good development (photofabrication) properties and good taper-shaped profiles. Deliver high contrast and high transmittance to meet diverse chromaticity requirements.	Color filter materials
	Photosensitive Protective Coating (Negative) OPTMER™ NN Series	Feature superior development (photofabrication) properties and can be used as superior protective coating for various patterning. Also maintains durability and excellent resistance against liquid crystal staining and can be used as a patterning spacer.	Protective coatings for various patterning, and patterning spacers
	Photosensitive Protective Coating (Positive) OPTMER™ PC Series	Suitable to create 2µm size through holes. Features superior heat resistance and highly permeable patterns.	Protective coatings for various patterning
OLED Display Materials Touch Panel Materials Optical Film Materials	Insulation materials for OLED displays and touch panels. Color pigment dispersed photoresist and protective coatings with high planarization are for W-OLED display with color filter. Low temperature curable insulation materials and low temperature processing alignment films are available	OLED Display Touch Panel Optical Film	

3. EDGE COMPUTING MATERIALS

	Products	Characteristics	Applications
	Heat Resistant Transparent Resins ARTON™	Superior optical properties, heat resistance, chemical resistance, mold processability and film adhesivity. Also provides low specific gravity, transparent engineering plastic.	Optical film, lens, filter and other optical components, etc.
	Water-resistant material and anticorrosive material for automobiles	UV-curable resin used for formation of automobile parts such as water-resistant and anticorrosive parts of harness and connectors which enables rapid and robust formation.	Water-resistant and anticorrosive of automobile parts
	Stereo-lithography System	Extracts 3D images from CAD from several 10 µm to 200µm unit sliced data. Then hardens the UV curable resin, by drawing that layer by laser. With the opto-functional system, each layer is hardened one by one and the accumulation of layers results in a dimensional image. There is good design freedom and allows for rapid 3D modeling.	Rapid proto-typing materials <Sold by> D-MEC Ltd.

LIFE SCIENCES PRODUCTS <Sold>JSR Corporation <Manufactured>JSR Life Sciences Corporation

	Products	Characteristics	Applications
In Vitro Diagnostics and Life Science Research	Latex Particles IMMUTEX™	IMMUTEX™ is a polystyrene latex particle for agglutination test.	Immunoassay, reagents
	Magnetic Particles Magnosphere™	Magnetic particles suitable for immunoassay system such as separating and/or purifying proteins, cells, and nucleic acids with different surface chemistry, depending on applications.	High purity bioseparation reagents (proteins separation, nucleic acid separation, cell separation), immunoassay reagents
	Blocking Reagent Blockmaster™	A blocking agent composed of 100% chemically synthesized polymers that eliminates the safety, quality and purity issues of biological blocking reagents.	Non-adherent surface polymer
	Oligotex™-dT30 Super	Oligotex™ is a latex particle coated with oligo (dT) 30 for purifying poly (A) mRNA.	mRNA separation and purification
	ExoCap™	A kit that includes magnetic particles coupled with antibodies that recognize exosome surfaces, which enables simple and high purity isolation of exosome from serum, plasma and cell culture supernatants.	Exosome isolation Fundamental research of IVD
Bioprocess Materials	Protein A Affinity Resin Amsphere™ A3	Novel protein A resin for advanced purification in downstream processing of antibodies manufacturing. Besides an outstanding high capacity, Amsphere™ A3 has an overall improved process robustness, flow characteristics, optimized impurity removal, productivity and resin lifetime.	Manufacturing of Biopharmaceuticals

OTHER PRODUCTS

	Products	Characteristics	Applications
	Lithium Ion Capacitor ULTIMO™ Laminate Cell/Laminate Cell Module	Capacitor with high voltage, energy and power density, safety and long product life. Suitable for applications that require conserving energy, balancing electricity and more.	Voltage sag mitigation systems, uninterruptible power supply, back-up power supply, forklifts, industrial machinery, transportation (automotive, train, tram), medical devices, wind turbines, solar cells, etc.
	Lithium Ion Capacitor ULTIMO™ Prismatic Cell/Prismatic Cell Module	The same properties as laminate lithium ion capacitor cells but in a more rugged form factor making it ideal for use in transportation applications.	
	FABRIAL™	Filament materials used for Fused Deposition Modeling (FDM) 3D printing method. FABRIAL™ R series is soft, smooth, flexible, low water absorption, and is Biocompatibility (ISO 10993-5,-10)certified. Currently, Kyoraku Co., Ltd. manufactures and sells it as a licensee, offering various colors.	Filament for 3D printers <Manufactured/Sold by> JM Energy Corporation <Manufactured/Sold by> Kyoraku Co., Ltd.

1 R&D AND INTELLECTUAL PROPERTY ORGANIZATION

(As of June 18, 2019)

Yokkaichi Research Center	Performance Polymer Research Laboratories	Polymer Materials Lab.	Rubber for tires, specialty rubbers, functional elastomers, thermoplastic elastomers, etc.
		Performance Chemicals Lab.	Latex for paper coating, functional emulsions, etc.
	Display Solution Research Laboratories	Active Solution Materials Lab.	Alignment film and organic insulation material for array and cell for LCDs, etc.
		Display Solution Materials Lab.	Materials for color filter of LCDs, etc.
		Advance Solution Research Lab.	Novel panel design and materials for display, etc.
	Fine Electronic Materials Research Laboratories	Lithography Materials Lab.	Photoresist and related material for semiconductors, etc.
		Lithography Solution Lab.	Spin-on hard mask materials, new process materials, etc.
		Device Integration Materials Lab.	Thick photoresists, photosensitive insulation materials for LSI etc
		Process Materials Lab.	CMP materials (slurries, cleaning solutions), etc.
	Advanced Materials Research Laboratories		Battery-related materials & technologies, innovative new materials, high performance resins, pipeline research, etc.
	Edge Computing Research Laboratories	Mobile Solution Materials Lab.	Materials development for advanced mobile devices
		Edge Device Materials Lab.	Materials development for CIS-related edge computing devices
		High Performance Film Technical Dept.	Technological development for precision processing. Converting products on optical films, etc.
	Material Characterization & Analysis Lab.		Physical properties, analysis, characterization, CAC, computational science, etc.
	Fine Chemical Process Lab.		Development of manufacturing processes and engineering of fine chemicals, medical materials and other new businesses
Materials Informatics (MI) Initiative		Applying MI to accelerate the discovery and design of new materials	
R&D Administration Dept.		R&D administration in Yokkaichi area	
Tsukuba Research Laboratories		Bioprocess materials; in vitro diagnostics and life science research; UV curable materials, etc.	
JSR-Keio University Medical and Chemical Innovation Center (JKiC)		Industry-academia-medicine collaboration for next generation medical services and for longevity and a health society.	
Research & Development Dept.		R&D strategic initiatives and administration	
Research Planning Dept.		R&D strategic initiatives	
Intellectual Property Dept.		Business related to intellectual property rights	

2 CONTRIBUTION OF PATENTS

(Years ended March 31)

		Fiscal Year							
		2012.3	2013.3	2014.3	2015.3	2016.3	2017.3	2018.3	
Japan	Petrochemicals*1	387	358	334	308	303	302	268	
	Fine Chemicals and Other Products*2	1,972	2,331	2,633	2,717	2,867	2,841	2,905	
	Others	79	89	104	99	90	123	85	
	Subtotal	2,438	2,778	3,071	3,124	3,260	3,266	3,258	
Overseas	Petrochemicals*1	507	523	516	531	545	557	576	
	Fine Chemicals and Other Products*2	2,516	2,741	2,957	2,810	3,075	3,131	3,180	
	Others	33	34	33	29	22	50	37	
	Subtotal	3,056	3,298	3,506	3,370	3,642	3,738	3,793	
Total		5,494	6,076	6,577	6,494	6,902	7,004	7,051	

*1 Includes Elastomers and Plastics Businesses

*2 Includes Digital Solutions and Life Sciences Businesses

3 TECHNOLOGY TRANSFER

Date of Contract Effectuation	Technology	Licensee's Country	Licensee's Name	Note	
May 17, 1967	BR	East Germany	Buna (currently Trinseo)	Patent License	
November 10, 1969	ABS	England	ISR (currently Versalis)		
November 10, 1969	ABS	Netherlands	DSM (currently Lanxess)		
March 27, 1971	BR	U.S.A.	Goodyear		
December 28, 1971	SBR	Korea	KKPC		
September 25, 1972	ABS	Brazil	Nitriflex		
April 22, 1974	SBR	Iran	IJPC		
March 29, 1976	SBR	China	Jilin Chemical (currently Jilin Petrochemical Company)		
June 15, 1976	ABS	Korea	Lucky (currently LG Chemical)		
March 31, 1978	BR	Korea	KKPC		
May 2, 1980	ABS	Taiwan	GPPC		
July 8, 1981	Halcoat Spraysion	Korea	Hae Sung Epoxy		
August 21, 1981	SB latex	Korea	KKPC		
June 4, 1983	CMB	Taiwan	Kuo Cheng Industrial		
March 7, 1985	EPM / EPDM	Brazil	Nitriflex (currently DSM)		Energy Saving
October 10, 1985	BD	China	Jilin Chemical (currently Jilin Petrochemical Company)		
December 24, 1985	SAN Resin	Korea	Lucky		
April 1, 1986	CMB	Korea	Korea CMB		
May 20, 1986	EPM / EPDM	Korea	Kumho E.P.Rubber (currently Kumho Polychem)		
June 4, 1986	Isoprene	Brazil	Copene (currently Braskem)		
March 5, 1987	SSBR	Korea	KKPC		
May 22, 1987	ABS	Taiwan	Nan Ya Plastics		
October 13, 1987	Hal GP Coat	Korea	Hae Sung Epoxy		
March 17, 1988	Positive Photoresist	Belgium	UCB		
July 14, 1988	SAN Resin	Brazil	Nitriflex		
September 9, 1988	ABS	India	ABS Plastics (currently Ineos Styrolution)		
November 17, 1988	Latex Compound	Korea	Korea Latex Compounding (currently Korea CMB)		
February 1, 1989	SBR	Netherlands	Shell	Improvement	
September 12, 1989	Solvent for Photoresist	U.S.A.	Olin-Hunt (currently Olin Microelectronics)		
October 18, 1989	SAN Resin	India	ABS Plastics (currently Ineos Styrolution)		
November 2, 1989	BD	Korea	KKPC		
November 2, 1989	NBR	Korea	KKPC		
February 20, 1990	Photoresist	Belgium	UCB Electronics (currently JSR Micro N.V.)		
March 23, 1990	ABS	Korea	Lucky Engineering		
December 22, 1990	Rubber Asphalt Emulsion	Korea	Hae Sung Epoxy		
April 8, 1991	Cement Mixing Agent	Korea	Hae Sung Epoxy		
July 8, 1991	NBR	China	Jilin Chemical (currently Jilin Petrochemical Company)		
March 5, 1992	BR	India	IPCL (currently Reliance Industries)		
January 19, 1994	SBR	Brazil	Petroflex (currently ARLANXEO Brazil)		
June 23, 1994	NBR	U.S.A.	Uniroyal		
September 14, 1994	Positive Photoresist	U.S.A.	OCG (currently Fuji Film)		
March 6, 1995	ABS	China	Jilin Chemical (currently Jilin Petrochemical Company)		
July 1, 1995	Positive Photoresist	U.S.A.	Hoechst (currently AZ)	Patent License	
August 16, 1995	EPDM	Korea	Kumho E.P. Rubber (currently Kumho Phlychem)		
December 24, 1996	SBR	Thailand	BST Elastomers		
December 24, 1996	BR	Thailand	BST Elastomers		
March 31, 1997	Positive Photoresist	Japan	Clariant Japan (currently AZ Japan)		
June 4, 1997	BD	Korea	KKPC		
February 13, 2002	BD	Russia	Togliattikauchuk		

Date of Contract Effectuation	Technology	Licensee's Country	Licensee's Name	Note
February 5, 2003	Rubber Asphalt Emulsion	Korea	Daewha P. C.	Improvement
January 31, 2004	BD	India	Reliance Industries	
September 27, 2004	BR	India	IPCL (currently Reliance Industries)	
June 4, 2007	BD	Czech	Butadien Kralupy a.s.	
April 16, 2008	SB Latex	Korea	KKPC	
April 16, 2008	SSBR	Korea	KKPC	
April 16, 2009	Isoprene	Taiwan	Formosa Petrochemical Corporation	
June 22, 2011	BR	India	Reliance Industries	
September 8, 2011	SSBR	Thailand	JSR BST Elastomer Co., Ltd.	
April 13, 2012	latex reagents intermediates	China	J and W Beijing Biotech Co., Ltd.	
March 13, 2013	SSBR	Thailand	JSR BST Elastomer Co., Ltd.	
December 11, 2013	Isoprene	Korea	Yeochun NCC Co., Ltd.	
December 19, 2013	Isoprene	Korea	Lotte Chemical Corporation	
March 25, 2014	SSBR	Hungary	JSR MOL Synthetic Rubber Ltd.	
May 19, 2015	Display Material	China	JSR Micro (Changshu) Co., Ltd.	
June 19, 2018	BD	Korea	Yeochun NCC Co., Ltd.	

4 TECHNOLOGY INTRODUCTION

Date of Contract Effectuation	Technology	Licensor's Country	Licensor's Name	Note
March 18, 1958	BD	U.S.A.	Houdry	Dehydrogenation
March 18, 1958	BD	U.S.A.	ESSO (currently Exxon Mobile)	CAA Process
March 18, 1958	SBR,SBR Latex	U.S.A.	Goodyear	Improvement
July 19, 1960	SBR Latex	U.S.A.	Goodyear	
May 7, 1963	BR	U.S.A.	Phillips	
July 9, 1963	BD	Netherlands	Shell	
January 24, 1967	BD	England	Shell	
November 29, 1969	BD	West Germany	BASF	
January 16, 1974	BD	West Germany	BASF	
January 22, 1980	Soft Contact Lens	U.S.A.	Biocontacts	
November 23, 1981	Pliogrip	U.S.A.	Goodyear (currently Ashland)	
January 20, 1982	NBR	U.S.A.	Goodyear	
April 24, 1982	Optical fiber coatings	U.S.A.	Desoto (currently DSM Desotech)	
April 1, 1987	Inorganic Coating Material	U.S.A.	SDC	
September 14, 1994	Positive Photoresist	U.S.A.	OCG (currently Arch Specialty Chemicals)	

Note : Parenthesis indicate succession of licensee/licensor status.

1957	December : In accordance with the special measures law passed by the Japanese government to commence domestic production of synthetic rubber, Japan Synthetic Rubber Co., Ltd. (currently JSR Corporation) was established with a total capital of ¥625 million. The president was Shojiro Ishibashi.	Plant, and production commenced.	July : Vice-President Kyoshi Kawasaki was promoted to President.		June : Tatsuo Asakura was promoted from Senior Managing Director to President.	ISO9002 for synthetic resins and NBR produced in the Yokkaichi Plant.
1960	April : Operations began at the Yokkaichi Plant, with production and sales of Butadiene, SBR and SB Latex. The Osaka Branch was opened.		1970 April : JSR AMERICA, INC. was established.	1988 March : Sales of OPTMER™AL (alignment films) and OPTMER™SS (protective coatings) began.		December : The Shanghai Office (China) was opened. OPTMER™CR (pigment dispersed resists) for LCDs color filters entered the market. Capital investment was made in PIINDUSTRY (Thailand) to conduct local production of CMB.
1961	September : NICHIGO SHOJI CO., LTD. (currently JSR Trading Co., Ltd.) was established.		1971 January : The Kashima Plant was completed and production of butadiene and SBR began.	1989 April : Started the Saturday/Sunday 2-day weekend holiday and flex-time system.		April : JSR THAILAND Co.,Ltd. (formerly TECHNO POLYMER THAILAND CO., LTD.) a subsidiary sales company for synthetic resin, was established in Bangkok (Thailand).
1962	June : The Nagoya Branch was opened. Sales of High-styrene latex began.		1972 May : Production of waterproof HALCOAT™ began.		May : Tsukuba Research Laboratories was officially opened.	July : The JSR Seoul Office (Korea) was opened. A statement was made by the president of JSR on how JSR Corp. will cope with Responsible Care. A Management Policy regarding Safety, Environment, Quality, and Product Safety was formulated, and a Responsible Care Promotion Headquarters was established.
1963	July : Sales of High-styrene rubber began.		June : An isoprene plant was completed within the Kashima Plant.		October : Japan's first plant specializing in TR (thermoplastic elastomer) production, SHELL JSR ELASTOMERS K.K. (currently KRATON JSR ELASTOMERS K.K.) was completed at the Kashima Plant. As a second site for resin sales and technology transfer to southeast Asia, JSR Plastics Hong Kong Co., Ltd. (currently TECHNO POLYMER HONG KONG CO., LTD.) was established.	September : Registration certification of ISO9002 was obtained for the Semiconductor and Display materials of the Yokkaichi Plant.
1963	January : A carbon masterbatch plant was completed within the Yokkaichi Plant and production began.		December : Sales of IR began.		November : Sales began for newly developed PCRs and ICs inspection systems.	1996 June : A photoresist manufacturing subsidiary, JSR Electronics Kyushu Co., Ltd. was established.
	July : Sales of paper coating latex (PCL) began.		1973 November : An RB plant was completed at the Chiba Plant, and production began.		February : A joint venture contract was signed with UCB (Belgium) to support photoresists in Europe and North America.	July : Sales of an epoxy-type, photo-curing resin having high accuracy and high performance for photofabrication (stereolithography) models began.
	October : Emulsion Technology Co., Ltd. was established.		1974 June : Sales of RB began.		1990 October : Sales of DYNAFLOW™ began.	In Tianjin (China) a joint venture company, TIANJIN KUO CHENG JSR RUBBER INDUSTRY Co., Ltd. was established together with KUO CHENG INDUSTRIAL Co., Ltd. (Taiwan).
1964	August : JSR ELASTOMIX CO., LTD. (currently ELASTOMIX CO., LTD.) was established.		1975 April : Sales of acrylic emulsion began.		1991 January : Childcare leave and healthcare leave systems were introduced.	July : The ABS resin business was integrated with that of the Mitsubishi Chemical Co., Ltd., and a joint venture company, Techno Polymer Co., Ltd. was established.
	October : JSR advanced into the field of synthetic resins and production of ABS resin began within the Yokkaichi Plant.		May : President Kawasaki became Chairman, and Vice-President Shinnosuke Katsumoto was promoted to President.		May : DYNARON™ (a new hydrogenated polymer) and DYNARON ALLOY (the thermoplastic elastomer using this polymer), were developed and sales began.	August : A synthetic resin sales subsidiary, Techno Polymer (Shanghai) Co., Ltd. (China) was founded.
	November : Sales of NBR began. A BR plant was completed within the Yokkaichi Plant.		December : The Head Office was moved from Kyobashi to Tsukiji, both in Tokyo's Chuo-ku.		November : An EPDM production plant was completed at the Kashima Plant. A hydrogenated polymer plant was completed at the Yokkaichi Plant.	1997 March : Construction was completed for a photoresist plant (Sunnyvale, California U.S.) of JSR MICROELECTRONICS, INC.
1965	February : Sales of BR began.		1976 August : JSR LOGISTICS CO., LTD. (currently JEY-TRANS CO., LTD.) was established.		1992 July : Childcare leave and healthcare leave systems were introduced.	September : An ARTON™ mass-production plant was completed at the Chiba Plant. Chiba Plant obtained the Registration Certification of ISO9002.
	May : President Ishibashi became Chairman, and Vice-President Taro Matsuda was promoted to President.		1978 September : Sales of asphalt and spray emulsion. SPRAYSION™ began.		May : DYNARON™ (a new hydrogenated polymer) and DYNARON ALLOY (the thermoplastic elastomer using this polymer), were developed and sales began.	October : In order to expand the Semiconductor and
1967	February : Japan Butyl Co., Ltd. was established in a joint venture with ESSO.		1979 April : Sales of CIR™ (negative photoresist) began.		November : An EPDM production plant was completed at the Kashima Plant. A hydrogenated polymer plant was completed at the Yokkaichi Plant.	
	May : Sales of ROADTEX™ (asphalt pavement reinforcement) began.		1981 April : Sales of AES resin began.		January : A new research building was completed at the Yokkaichi Plant site.	
	November : From the shares of JSR owned by the government, one hundred thousand were conveyed to the public in competitive bidding.		July : With the commencement of sales of IMMUTEX™ (uniform latex for clinical diagnostics), JSR advanced into the Life Sciences.		June : President Asakura became Chairman, and Managing Director, Eiichi Matsumoto became President.	
1968	April : The Chiba Plant was completed, and production of butadiene began.		1982 May : Entered into a joint venture with Desote (currently DSM Desotech).		July : UCB-JSR Electronics S.A. (Belgium) becomes a wholly-owned subsidiary and is named JSR.	
	July : The European Office was opened.		June : President Katsumoto became Chairman, and Vice-President Hisashi Yoshimitsu was promoted to President.		February : Obtained Registration Certification of International Quality Assurance Standard	
1969	March : Sales of IIR began.		November : Sales of PFR™ (positive photoresist) began.			
	April : The government's plans to bring an end to the special measures law was formally approved, and on the same day promulgation enforcement ensued and JSR became a purely publicly-owned company. The BR plant was completed within the Chiba		1983 July : Sales of AR (acrylic rubber) began.			
			1984 April : Sales of Mighty Series (structural adhesive), DESOLITE™ (optical fiber coating materials), SBS (thermoplastic elastomer), and AS resin begin."			
			1985 May : Sales of SIS (thermoplastic elastomer) began.			
			June : Entered into a joint venture with KKPC, Kumho Polychem Co., Ltd. (Korea) was established.			
			October : The Kashima plant of Japan Butyl Co., Ltd. was completed.			
			1987 April : Entered into a joint venture with Shell (Japan), the SHELL JSR ELASTOMERS K.K. (currently KRATON JSR			

2012	<p>Established diagnostic products joint venture called "J&W Biotech Co., Ltd." in China.</p> <p>February : Began operations at recently completed LCD Materials Research and Development Facility at JSR Micro Taiwan Co., Ltd.</p> <p>Established new company called "JSR Life Sciences Corporation" in acceleration of biomedical business.</p> <p>April : JSR receives Intel's Supplier Continuous Quality Improvement Award.</p> <p>Completion of J & W Beijing Biotech Co., Ltd. headquarter and plant.</p> <p>September: JSR selected for the first time for Dow Jones Sustainability Asia/Pacific Index, leading international index for socially responsible investment.</p>	2015	<p>October : JSR established a joint venture, JSR Electronic Materials Korea Co., Ltd., for electronic materials business in Korea.</p> <p>December: JSR established a joint venture, JSR Micro (Changshu) Co., Ltd., to manufacture display materials in China</p> <p>February: JSR jointly acquired KBI Biopharma, Inc., a contract developer and manufacturer of biopharmaceuticals in the United States.</p> <p>March : JM Energy's new lithium ion capacitor commercial plant was completed.</p> <p>JSR Receives Supplier Continuous Quality Improvement (SCQI) Award from Intel Corporation.</p> <p>Increased our shareholding in MBL.</p> <p>JSR reached an agreement with Keio University to jointly establish and operate the JSR/Keio University Medical and Chemical Innovation Center (JKiC), a joint research institute to be positioned as a base for industry-academia-medicine cooperation.</p>	2017	<p>64th Award for Technical Development.</p> <p>May : Reached an agreement with UBE Industries and Mitsubishi Rayon Co., Ltd. (Mitsubishi Chemical Corporation) to begin negotiations for the merger of subsidiaries in the ABS resin business.</p> <p>August : Transferred OPSTAR™ business to ARAKWA CHEMICAL INDUSTRIES, LTD..</p> <p>Developed a 3D printed prosthetic leg with ANA and SHC Design.</p> <p>September: Made a strategic investment in US startup, Carbon, Inc. with innovative 3D printing technology.</p> <p>October : ELASTOMIX Co., Ltd. decided to establish a new carbon masterbatch company in Mexico.</p> <p>March : EUV resist manufacturing facility was completed at the EUV Resist Manufacturing & Qualification Center N.V. (Belgium).</p> <p>Received Intel's Prestigious Supplier Continuous Quality Improvement Award.</p> <p>May : Expanded Amsphere™ A3 Production Capacity</p> <p>KBI Biopharma, Inc. expanded manufacturing capabilities.</p> <p>June : Agreed to acquire Swiss pioneering cell line developer Selexis SA</p> <p>July : Ranked on the ESG Indexes FTSE Blossom Japan Index and MSCI Japan Empowering Women Index.</p> <p>Agreed to acquire medical 3D software maker LEXI Co., Ltd.</p> <p>November: JSR, Keio University held opening ceremony for the JSR-Keio University Medical and Chemical Innovation Center (JKiC).</p>	2019	<p>Co., Ltd.</p> <p>November: Introduced commercial services from Accenture to support a smart industrial complex.</p> <p>December : Developed a roll-to-roll continuous pre-lithiation technology.</p> <p>March : Recognized for three consecutive years as a Excellent Health and Productivity Management Organization (White500).</p> <p>Established US Headquarters for JSR Life Sciences and North America Holding Company.</p> <p>Entered into a strategic partnership with Hubrecht Organiod Technology (HUB) to further develop organiod technologies.</p>
2013	<p>February: JSR Group's Elastomix forms PT. ELASTOMIX INDONESIA, a joint venture with PT. Prospect Motor.</p> <p>JSR invests strategically in Swiss biopharmaceutical purification technology company ChromaCon.</p> <p>April : Received Intel's Supplier Continuous Quality Improvement Award.</p> <p>JSR Group's New Carbon Masterbatch Plant in Tianjin is completed.</p> <p>August : JSR Group and SCIVAX Life Sciences Partner for Three-dimensional (3D) Cell Culture Business.</p> <p>September: JSR Group's New EPDM Plant in Korea is completed.</p>	2016	<p>April : ELASTOMIX Co., Ltd. doubles the carbon masterbatch (CMB) production capacity of ELASTOMIX Foshan Co., Ltd. in China.</p> <p>June : D-MEC Ltd. begins to sell a stereolithography 3-D printer that achieves the largest-size reproduction in Japan.</p> <p>JSR and JSR Life Sciences started selling ExoCap™ Kit optimized for serum, plasma and cell culture.</p> <p>October : MBL becomes a consolidated subsidiary of JSR.</p> <p>JSR and JSR Life Sciences developed Amsphere™ A3, a next generation protein A chromatography resin.</p> <p>December: JSR, IBM Japan, Ltd. and Senju Metal Industry Co., Ltd. jointly develop Injection Molded Solder (IMS), for 300mm wafers, which is a technology to form bumps for high density semiconductor packagings.</p>	2018	<p>January : Selected to the Morningstar Socially Responsible Investment Index (MS-SRI).</p> <p>February: Completed a new research building at the Yokkaichi Plant.</p> <p>Recognized for second consecutive year as a 2018 Excellent Health and Productivity Management Organization (White 500).</p> <p>March : Received Intel's Preferred Quality Supplier Award.</p> <p>April : Established Techno-UMG Co., Ltd. as an integrated ABS resin business.</p> <p>Started operations of JSR Elastomer India Private Limited, a new subsidiary in India.</p> <p>May : Agreed to collaborate with Oxford Performance Materials, Inc. in the fields of medical and dental applications.</p> <p>Completed aquisition of Crown Bioscience International.</p> <p>September: Started operations of JSR Trading Vietnam</p>		
2014	<p>February: D-MEC Ltd. to launch world's first microwave molding system that enables quick, inexpensive and easy molding of products.</p> <p>Announcement of termination of the capacity rights agreement of SSBR with Styron Europe GmbH.</p> <p>March : Established a joint venture, JSR MOL Synthetic Rubber Ltd., for the production and sale of SSBR in Hungary.</p> <p>April : JSR receives Supplier Continuous Quality Improvement (SCQI) Award from Intel Corporation.</p> <p>JSR established JSR • mbIVC LifeScience Investment Limited Partnership with MBL Venture Capital Co., Ltd., a subsidiary of MEDICAL & BIOLOGICAL LABORATORIES CO., LTD. (MBL).</p> <p>June : CMIC and JSR established a joint venture, CMIC JSR Biologics Co., Ltd., for the Development of next-generation antibodies.</p>	2016	<p>February: JSR and imec established a new company "EUV Resist Manufacturing and Qualification Center N.V." for the production and qualification of EUV photoresist.</p> <p>March : JSR Receives Supplier Continuous Quality Improvement (SCQI) Award from Intel Corporation.</p> <p>JSR is selected for the FY 2015 Nadeshiko Brands by the Ministry of Economy, Trade and Industry and the Tokyo Stock Exchange.</p> <p>Received The Chemical Society of Japan's</p>				

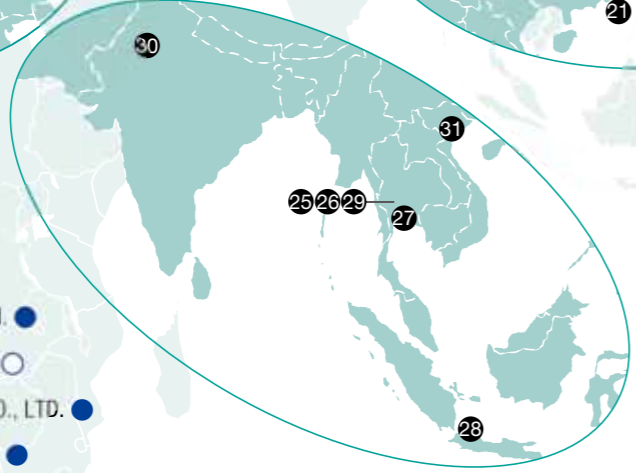
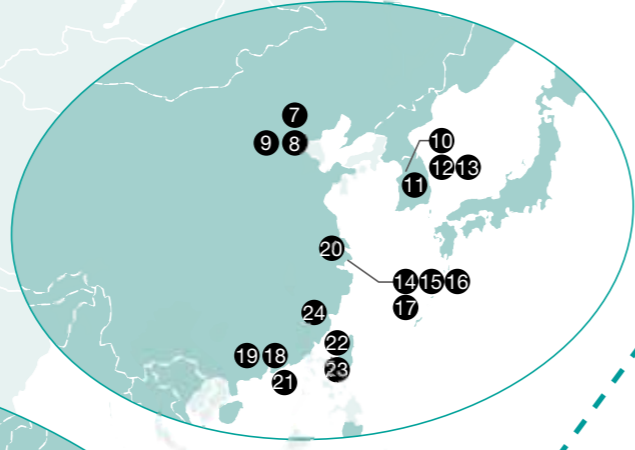
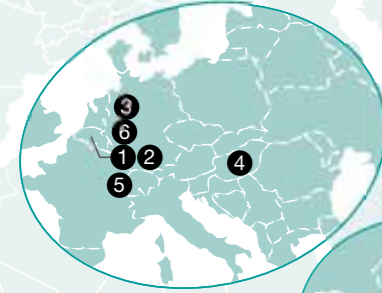
JSR's Network in the World

As of July 31, 2019

JSR Group is building its business activities on a global scale through its 41 overseas business sites.

- 1 JSR Micro N.V.
- 2 EUV Resist Manufacturing & Qualification Center N.V.
- 3 JSR Elastomer Europe GmbH
- 4 JSR MOL Synthetic Rubber Ltd.
- 5 Selexis SA
- 6 Techno-UMG Europe GmbH
- 7 J & W Beijing Biotech Co., Ltd.
- 8 Tianjin Kuo Cheng Rubber Industry Co., Ltd.
- 9 MBL Beijing Biotech Co., Ltd.
- 10 Kumho Polychem Co., Ltd.
- 11 JSR Micro Korea Co., Ltd.
- 12 JSR Electronic Materials Korea Co., Ltd.
- 13 JSR Elastomer Korea Co., Ltd.
- 14 JSR Trading (Shanghai) Co., Ltd.
- 15 JSR (Shanghai) Co., Ltd.
- 16 Techno-UMG Shanghai Technical Center Co., Ltd.
- 17 Techno-UMG Shanghai Co., Ltd.
- 18 Techno-UMG Guangzhou Co., Ltd.
- 19 ELASTOMIX (FOSHAN) CO., LTD.
- 20 JSR Micro (Changshu) Co., Ltd.
- 21 Techno-UMG Hong Kong Co., Ltd.
- 22 JSR Corporation Taiwan Branch
- 23 JSR Micro Taiwan Co., Ltd.
- 24 MBL Hangzhou Biotech Co., Ltd.

- 32 JSR Micro, Inc.
- 33 JSR Elastomer America, Inc.
- 34 Techno-UMG America, Inc.
- 35 KBI Biopharma, Inc.
- 36 MBL International Corporation
- 37 JSRT México S.A. de C.V.
- 38 ELASTOMIX MEXICO S.A. de C.V.
- 39 Crown Bioscience International
- 40 JSR North America Holdings, Inc.
- 41 JSR Life Sciences, LLC

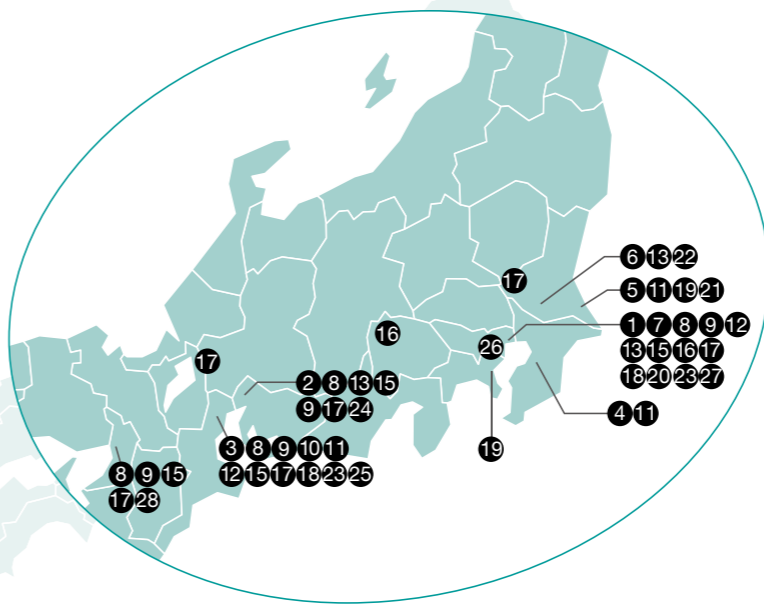


- 25 JSR BST Elastomer Co., Ltd.
- 26 Techno-UMG Asia Co., Ltd.
- 27 ELASTOMIX (THAILAND) CO., LTD.
- 28 PT. ELASTOMIX INDONESIA
- 29 JSR Trading Bangkok Co., Ltd.
- 30 JSR Elastomer India Private Limited
- 31 JSR Trading Vietnam Co., Ltd.

- Elastomers Business
- Plastics Business
- Digital Solutions Business
- Life Sciences Business
- Others

- 1 JSR Corporation Head Office
- 2 JSR Corporation Nagoya Branch
- 3 JSR Corporation Yokkaichi Plant and Research Laboratories
- 4 JSR Corporation Chiba Plant
- 5 JSR Corporation Kashima Plant
- 6 JSR Corporation Tsukuba Research Laboratories
- 7 JSR-Keio University Medical and Chemical Innovation Center

- 8 JSR Trading Co., Ltd.
- 9 Emulsion Technology, Co., Ltd.
- 10 JSR Logistics & Customer Center Co., Ltd.
- 11 JSR ENGINEERING CO., LTD.
- 12 JSR Business Services Co., Ltd.
- 13 D-MEC LTD.
- 14 JSR Micro Kyushu Co., Ltd.
- 15 Techno-UMG Co., Ltd.
- 16 JM Energy Corporation
- 17 ELASTOMIX CO., LTD.
- 18 JAPAN COLORING CO., LTD.
- 19 Japan Butyl Co., Ltd.
- 20 JAPAN FINE COATINGS Co., Ltd.
- 21 KRATON JSR ELASTOMERS K. K.
- 22 JSR Life Sciences Corporation



JSR's Network in Japan

The JSR network in Japan consists of the parent company, together with key manufacturing sites, research facilities and 21 JSR Group companies.

- 23 JN System Partners Co., Ltd.
- 24 MEDICAL & BIOLOGICAL LABORATORIES CO., LTD.
- 25 JEY-TRANS CO., LTD.
- 26 CMIC JSR Biologics Co., Ltd.
- 27 LEXI Co., Ltd.
- 28 Goko Trading Co., Ltd.

Network in the World

No.	Company Name	Address	Telephone	Facsimile	Representative	Capital	JSR Ownership (%)	Purpose of Enterprise	Date of Establishment
①	JSR Micro N.V.	Technologielaan 8, B-3001, Leuven, Belgium	32-16-832-832	32-16-832-839	Bart Denturck	EUR11,155,000	100	Production and sales of semiconductor materials and life sciences related materials	Feb. 20, 1990
②	EUV Resist Manufacturing & Qualification Center N.V.*	Technologielaan 8, B-3001, Leuven, Belgium	32-16-832-832	32-16-832-839	Bart Denturck	Nondisclosure	69.4	Production of EUV photoresists for semiconductor	Dec. 18, 2015
③	JSR Elastomer Europe GmbH	Am Seestern 8, 40547 Dusseldorf, Germany	49-211-730-669-0	49-211-730-669-20	Keisuke Miyoshi	EUR25,000	100	Sales agency of products such as synthetic rubbers	Apr. 27, 2016
④	JSR MOL Synthetic Rubber Ltd.	Október huszonharmadika utca 18., Budapest, Hungary	–	–	Takatoshi Nagatomo	EUR100,017,500	51	Sales and manufacturing of solution polymerization styrene-butadiene rubber	Mar. 25, 2014
⑤	Selexis SA	Chemin des Aulx, 14, CH-1228 Plan-les-Ouates, Geneva, SWITZERLAND	–	–	Igor Fisch	467,911CHF	100	Cell-line development services	Mar. 22, 2001
⑥	Techno-UMG Europe GmbH *	Berliner Allee 29, 40212 Düsseldorf, Germany	49-0-211-54235720	–	Chiaki Okabe	EUR300,000	51	Sales and technical services of synthetic resin in Europe	Apr. 3, 2018
⑦	J & W Beijing Biotech Co., Ltd.	No.31 Life Science Park Road, Chanping Districk, Beijing 102206, China	86-10-5952-8900	–	Fan kejun	RMB40,000,000	60	Development, manufacturing and sale of latex reagents intermediates and chemiluminescent reagents intermediates	Feb. 8, 2012
⑧	Tianjin Kuo Cheng Rubber Industry Co., Ltd. *	No28, Jinhai Road, Jinghai Economic Development Area, Tianjin, China	86-22-5979-2025	86-22-5979-2029	Lin Kung Chi	US\$2,600,000	50	Compounding of crude rubber and sales of compounding products	Dec. 6, 1995
⑨	MBL Beijing Biotech Co., Ltd.*	Room 1606, Xueyuan International Tower, 1 Zhichun Road, Haidian District, 100191 Beijing, China	86-10-8289-9503	86-10-8289-0976	Tamao Kaku	RMB12,000,000	50.4	Sales of in-vitro diagnostic reagents, basic research reagents, IVD reagent materials and bioprocess materials. Sales and contract manufacturing of gene diagnostic materials and synthetic DNA, RNA products	Apr. 13, 2005
⑩	Kumho Polychem Co., Ltd.	8F, East Wing, Signature Tower #100, Cheonggyecheon-ro, Jung-gu, Seoul 100-230, Korea	82-2-6961-3876	82-2-6961-3812	Takeshi Sugimoto	WON21,500,000,000	50	Production and sales of ethylene propylene rubber	Jun. 5, 1985
⑪	JSR Micro Korea Co., Ltd.	97, Gwahaksaneop 4-ro, Oksan-myeon, Heungdeok-gu, Cheongju-si, Chungcheongbuk-do, 28122 Korea	82-43-219-3333	82-43-219-3396	David Sangmin Park Yoshikazu Yamaguchi	WON2,000,000,000	100	Design, development, production and sales of display materials	Jan. 28, 2003
⑫	JSR Electronic Materials Korea Co., Ltd.	Samwhan HIPEX A-610,240,Pangyoeyeok-ro,Bundang-gu,Seongnam-si,Gyeonggi-do 13493, Korea	82-31-698-4420	82-31-698-4421	David Sangmin Park Junichi Takahashi	WON100,000,000	40	Sales agency of products such as semiconductor materials	Sep. 30, 2014
⑬	JSR Elastomer Korea Co., Ltd.	Gwanghwamun Bldg. 15th Floor, 149 Sejong-daero, Jongno-gu, Seoul 110-730, Korea	82-2-399-2731	82-2-399-2730	Yosuke Tanaka	WON300,000,000	100	Sales agency of products such as synthetic rubbers	Apr. 22, 2015
⑭	JSR Trading (Shanghai) Co., Ltd. *	Rm 603 SMEG PLAZA 1386 Hongqiao Road, Shanghai 200051	86-21-6295-3340	86-21-6295-3345	Shinichi Takiguchi	US\$200,000	100	Exports and imports, purchase and sales of the following: various chemicals, machinery, equipment, distribution materials	Jan. 10, 2003
⑮	JSR (Shanghai) Co., Ltd.	Rm 606 SMEG PLAZA 1386 Hongqiao Road, Shanghai 200051	86-21-6278-7600	86-21-6278-7604	Tsuyoshi Watanabe	US\$200,000	100	Sales agency of products such as synthetic rubbers, semiconductor materials, LCD materials and performance chemicals	Mar 19, 2010
⑯	Techno-UMG Shanghai Technical Center Co., Ltd.*	207 Zhongqing Rd., Maqiao, Minhang, Shanghai, 201111 P.R.C.	86-21-5457-3262	86-21-6409-5590	Hideyuki Kurimoto	RMB2,666,000	51	Production and processing of plastics and technical services related to plastics in China	Sep. 15, 2000
⑰	Techno-UMG Shanghai Co., Ltd.*	RM 2507-08, THE PLACE, TOWER A, 100 ZUNYI ROAD, SHANGHAI 200051, CHINA	86-21-6295-3327	86-21-6295-3722	Nobuyoshi Kobayashi	US\$200,000	51	Sales and technical services of synthetic resin in China	Mar. 24, 1995
⑱	Techno-UMG Guangzhou Co., Ltd.*	Room4104, China Shine Plaza, 3-15 Linhe xi Road, Guangzhou, China 510075	86-20-3810-3655	86-20-3810-3657	Tomonori Mitomi	US\$300,000	51	Sales and technical services of synthetic resin in Guangzhou and neighboring regions	Feb. 26, 2008
⑲	ELASTOMIX (FOSHAN) CO., LTD. *	Sanshui Industrial Park, Foshan, Guangdong, P.R.C.	86-757-873-80386	86-757-873-80387	Kazushi Abe	US\$3,500,000	100	Compounding of crude rubber and sales of compounded products	Mar. 10, 2005
⑳	JSR Micro (Changshu) Co., Ltd.	No.101, Changchun Rd., Riverside Industrial Park, Changshu Economic Development Zone, Jiangsu Province, China	86-512-5264-8000	–	Katsuya Inoue	US\$33,000,000	51	Production of display materials	May 19, 2015
㉑	Techno-UMG Hong Kong Co., Ltd.*	Room 1406-07, 14/F, Tower 2, Admiralty Centre, No.18 Harcourt Road, Hong Kong	852-2521-7622	852-2525-6915	Louis C.S. Lo	US\$320,000	51	Sales and technical services of synthetic resin in Hong Kong and neighboring regions	Oct. 20, 1989
㉒	JSR Micro Taiwan Co., Ltd.	No.11, Kehu 1st Rd., Huwei Town, Yunlin County 632, Central Taiwan Science Park Huwei Park, Taiwan, R.O.C.	886-5-632-3000	886-5-632-3275	Hiroaki Nemoto	NT\$200,000,000	100	Design, development, production and sales of display materials	Mar. 16, 2005

Note : * The investment ratio is the same as the holding ratio, which also includes indirect holdings.

No.	Company Name	Address	Telephone	Facsimile	Representative	Capital	JSR Ownership (%)	Purpose of Enterprise	Date of Establishment
24	MBL Hangzhou Biotech Co., Ltd.*	501F, No.22 XinYan Road, Yuhang economic and technological development zone, Yuhang District, Hangzhou, Zhejiang Province, China	86-571-8610-8768	—	Fan kejun	RMB15,000,000	50.4	Manufacture of clinical diagnostics materials, antibodies and intermediates	Feb. 28, 2017
25	JSR BST Elastomer Co., Ltd.	175 Sathorn City Tower 10th FL., South Sathorn Road, Tungmahamek, Sathorn, Bangkok 10120 Thailand	66-2679-6644	66-2679-6650	Itti Rittaporn	BT5,220,000,000	51	Sales and manufacturing of solution polymerization styrene-butadiene rubber	Jun. 28, 2011
26	Techno-UMG Asia Co., Ltd.	968, 28th Floor, U-Chuliang Foundation Building Rama 4 Road, Silom, Bangrak, Bangkok 10500, Thailand	66-2-636-7569	66-2-636-7576	Kaku Ohara	THB12,000,000	51	Sales and technical services of synthetic resin in ASEAN region	Apr. 5, 2012
27	ELASTOMIX (THAILAND) CO., LTD. *	No.7/11 6, Moo 4, Tumbol -Mapyangpom, A-Pluakdaeng, Rayong 211 40, Thailand (In AMATA CITY INDUSTRIAL ESTATE)	66-38-016-381	66-38-016-391	Masashi Kato	BT75,000,000	90	Compounding of crude rubber and sales of compounding products	Mar. 6, 2000
28	PT.ELASTOMIX INDONESIA *	Kawasan Industri Mitra Karawang Jl. Mitra Raya Selatan III Blok H-8, Desa Parungmulya, Kec. Ciampel, Kab. Karawang, Indonesia	62-267-8638-110	62-21-2961-4026	Minoru Horie	RP90,000,000,000	75	Compounding of crude rubber and sales of compounding products	Jul. 10, 2013
29	JSR Trading Bangkok Co., Ltd. *	163 Thai Samut Bldg., 17th Floor, Room 17C, Surawongse Road, Suriyawongse, Bangrak, Bangkok 10500, Thailand	66-2-236-7291	66-2-236-7294	Shuuchi Ishikawa	BT19,000,000	100	Export, purchase and sale of various chemicals and distribution materials. Purchase and wholesale of various equipment	Dec. 6, 2011
30	JSR Elastomer India Private Limited *	Unit 506,Vatika City Point, MG Road, Gurgaon, Haryana-122002, India	91-124-4867530	91-124-4867560	Kensaku Mitamura	INR15,000,000	100	Sales agent for synthetic rubbers and other elastomer products	Dec. 20, 2017
31	JSR Trading Vietnam Co., Ltd.	#1713, Skyline Service Office, Prime Centre Building,53 Quang Trung Street, Hai Ba Trung District, Hanoi, Vietnam	84-24-7300-0072	84-24-3943-7208	Fuminori Tsuboi	VND 20,798,000,000	100	Export, import and sales of synthetic rubber and steel container and market development	July 25, 2018
32	JSR Micro, Inc. *	1280 North Mathilda Ave., Sunnyvale, CA 94089 U.S.A.	1-408-543-8800	1-408-543-8999	Mark Slezak	US\$34,637,500	100	Production and sales of semiconductor materials	Jun. 29, 1990
33	JSR Elastomer America, Inc.	5300 DuPont Circle, Building 16, Suite D, Milford, OH 45150 U.S.A	1-513-421-6166	1-513-421-6148	Toshiyuki Fujisawa	US\$1,200,000	100	Sales of synthetic rubber	Apr. 1, 1970
34	Techno-UMG America, Inc.*	5405 DuPont Circle, Suite E Milford, OH 45150 USA	1-513-248-2033	1-513-248-2133	Koji Negishi	US\$7,000,000	51	Sales of plastics, technical services related to plastics in North America	Feb. 12, 2002
35	KBI Biopharma, Inc.	1101 Hamlin Road Durham, NC 27704, USA	1-919-479-9898	1-919-620-7786	Timothy M. Kelly	US\$49,168,000	90	Biopharmaceutical contract development and manufacturing services	Dec. 31, 2001
36	MBL International Corporation *	15A Constitution Way Woburn, MA 01801, USA	1-800-200-5459	—	Nalini Murdter	US\$10,590,000	75.7	Development, manufacturing and sales of solutions-based products for both life science research and clinical diagnostics	Nov. 19, 1993
37	JSRT México S.A. de C.V. *	Rio San Lorenzo No.619 Modulo 1, Parque Tecnoindustrial Castro del Rio, Irapuato, GTO, Mexico C.P. 36810	52-462-607-4929	—	Yukihiro Yusa	MXN6,019,257	100	Sales of synthetic rubber, steel box, materials and market development	Jan. 6, 2017
38	ELASTOMIX MEXICO, S.A. de C.V. *	Rio San Lorenzo No.619, Parque Tecnoindustrial Castro del Rio, Irapuato, Guanajuato 36810, Mexico	52-462-607-4900	52-462-607-4911	Kimihiko Matsuura	MXN5,140,000	98.51	Compounding of crude rubber and sales of compounding products	Feb. 17, 2017
39	Crown Bioscience International	16550 West Bernardo Drive Building 5, Suite 525 San Diego, CA 92127	1-858-622-2900	—	Jean Pierre Wery	US\$44,800,000	100	Efficacy testing services for candidates of drugs against oncology, inflammation, cardiovascular and metabolic disease and development of antibodies for those diseases	Apr. 25, 2006
40	JSR North America Holdings Inc.	1280 North Mathilda Avenue, Sunnyvale, CA 94089, USA	1-408-543-8800	1-408-543-8872	Eric Johnson	US\$29,891,710	100	Management and oversight of JSR Micro, Inc. and JSR Life Sciences, LLC's global operation	Jan. 1, 2019
41	JSR Life Sciences, LLC	1280 North Mathilda Avenue, Sunnyvale, CA 94089, USA	1-408-543-8800	1-408-543-8872	Tim Lowery	US\$4,133,272	100	JSR Life Sciences global business headquarters and distribution of life sciences products in the US market	Jan. 1, 2019

Note : * The investment ratio is the same as the holding ratio, which also includes indirect holdings.

Network in Japan

	Company Name	Address	Telephone	Facsimile	Representative	Capital	JSR Ownership (%)	Purpose of Enterprise	Date of Establishment
8	JSR Trading Co., Ltd.	1-9-2 Higashi-Shinbashi, Minato-ku, Tokyo, 105-0021, Japan	81-3-6218-3802	81-3-6218-3815	Shinji Sakamoto	¥480,000,000	100	Exports, imports, purchase and sale of various chemicals, machinery, equipment, distribution materials, daily supplies, foodstuff, real estate, and more	Sep. 1, 1961
9	Emulsion Technology Co., Ltd.	1-6-16 Obata, Yokkaichi, Mie, 510-0875, Japan	81-59-345-0022	81-59-347-2593	Osamu Ishikawa	¥168,000,000	100	Compounding and sales of crude latex	Oct. 19, 1963
10	JSR Logistics & Customer Center Co., Ltd.	100 Kawajiri-cho, Yokkaichi, Mie 510-8552, Japan	81-59-336-6652	81-59-346-8249	Kazuhiko Nishihara	¥10,000,000	100	Customer service agent and logistics management	Apr. 1, 2014
11	JSR ENGINEERING CO., LTD.	100 Kawajiri-cho, Yokkaichi, Mie, 510-0871, Japan	81-59-345-8100	81-59-345-8185	Etsuo Noda	¥180,000,000	100	Engineering and consultation for chemical engineering equipment	Feb. 24, 1984
12	JSR Business Services Co., Ltd.	1-9-2 Higashi-Shinbashi, Minato-ku, Tokyo, 105-0021, Japan	81-3-6218-3771	81-3-6218-3770	Junichirou Okita	¥10,000,000	100	Human resources, payroll calculation, welfare, general affairs	Nov. 12, 1984
13	D-MEC Ltd.	1-9-2 Higashi-Shinbashi, Minato-ku, Tokyo, 105-0021, Japan	81-3-6218-3582	81-3-6218-3690	Hideaki Kumazawa	¥65,000,000	100	3D model generation, analysis by CAE and sales of solid modeling system and optically-hardened resins	Feb. 28, 1990
14	JSR Micro Kyushu Co., Ltd.	1580-1 Kamiizumi, Kuboizumi-cho oaza, Saga, 849-0902, Japan	81-952-98-3001	81-952-98-3855	Michinori Nishikawa	¥300,000,000	100	Production of semiconductor and display materials	Jun. 5, 1996
15	Techno-UMG Co., Ltd.	1-9-2 Higashi-Shinbashi, Minato-ku, Tokyo, 105-0021, Japan	81-3-6218-3860	81-3-6218-3875	Hayato Hirano	¥3,000,000,000	51	Production, sales and R&D of ABS resin	Jul. 1, 1996
16	JM Energy Corporation	8565 Nishi-ide, Oizumi-cho, Hokuto, Yamanashi 409-1501, Japan	81-551-38-8008	81-551-38-8009	Mikio Yamachika	¥300,000,000	100	Design, development, production and sales of lithium ion capacitors	Aug. 1, 2007
17	ELASTOMIX CO., LTD.	100 Kawajiri-cho, Yokkaichi, Mie, 510-0871, Japan	81-59-345-2022	81-59-346-5038	Kazushi Abe	¥416,000,000	98.51	Compounding of crude rubber and sales of compounded products	Aug. 24, 1964
18	JAPAN COLORING CO., LTD.	4-6 Tomarikoyanagi-cho, Yokkaichi, Mie, 510-0883, Japan	81-59-347-3750	81-59-347-3801	Hideki Takeda	¥280,000,000	100	Coloring and sales of synthetic resins	Apr. 1, 1968
19	Japan Butyl Co., Ltd.	10-3 Ukishima-cho, Kawasaki-ku, Kawasaki, Kanagawa, 210-0862, Japan	81-44-288-7351	81-44-288-7356	Koichi Kawasaki	¥3,168,000,000	50	Production and sales of butyl rubber	Feb. 10, 1967
20	JAPAN FINE COATINGS Co., Ltd.	57-1 Sawabe, Tsuchiura, Ibaraki, 300-4104, Japan	81-29-862-5784	81-29-862-5771	Hideyuki Sajimoto	¥92,000,000	30	Sales and manufacture of coating materials for fiber-optic cables reinforced by ultraviolet or electron radiation and for other apparatus	May 19, 1982
21	KRATON JSR ELASTOMERS K.K.	34-1 Towada, Kamisu-shi, Ibaraki 314-0102 Japan	81-299-96-6881	81-299-96-6722	Shinsuke Nakanishi	¥1,500,000,000	50	Production, purchase, and sales of thermoplastic rubber	Apr. 27, 1987
22	JSR Life Sciences Corporation	25, Miyukigaoka, Tsukuba, Ibaraki, 305-0841, Japan	81-29-856-1106	81-29-879-9181	Hideaki Nomura	¥310,000,000	100	Manufacture of life sciences related materials	Feb. 1, 2012
23	JN System Partners Co., Ltd.	1-9-4, Edagawa, Koutou-ku, Tokyo, 135-0051, Japan	81-3-6666-5891	81-3-6666-5897	Asami Sakamoto	¥10,000,000	40	Computer system design, programming, operation and maintenance	May 1, 2013
24	MEDICAL & BIOLOGICAL LABORATORIES CO.,LTD.	KDX Nagoya Sakae Bldg. 10F 5-3 Sakae 4 chome, Naka-ku, Nagoya, 460-0008, Japan	81-52-238-1901	81-52-238-1440	Kimimasa Yamada	¥4,482,930,000	50.4	R&D, manufacture and sales of diagnostic and research reagents	Aug. 23, 1969
25	JEY-TRANS CO., LTD.	2-16-13 Obata, Yokkaichi, Mie 510-0875, Japan	81-59-345-0738	81-59-340-3934	Hitoshi Andou	¥170,000,000	40	Freight forwarding, warehousing, delivery management	Aug. 18, 1976
26	CMIC JSR Biologics Co., Ltd.	Hamamatsucho Bldg., 1-1-1 Shibaura, Minato-ku	81-3-6779-8013	81-3-6683-3988	Hiroshi Kosaku	¥50,000,000	50	Development of design and manufacturing process for next-generation antibodies, to methods for management and quality control for next-generation antibodies	Mar. 4, 2014
27	LEXI Co., Ltd.	2-11-1, Sugamo, Toshima-ku, Tokyo, 170-0002	81-3-5394-4833	81-3-5394-4834	Akio Seitoku	¥10,000,000	66.7	Development, sales, and services of software and devices for supporting surgical operations	Jul. 18, 1988
28	Goko Trading Co., Ltd. *	Central Shin-Osaka Bldg. 9F, 4-5-36 Miyahara, Yodogawa-ku, Osaka, 532-0003, Japan	81-6-6152-5430	81-6-6399-5586	Shinji Sakamoto	¥95,760,000	100	Export, import, purchase and sale of synthetic rubber, natural rubber, and rubber related materials	Jun. 29, 1954

Note : * The investment ratio is the same as the holding ratio, which also includes indirect holdings.

JSR Corporation

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160-8582 Japan
TEL. 81-3-6274-8602
FAX. 81-3-6274-8649

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http://www.jsr.co.jp/jsr_e

