

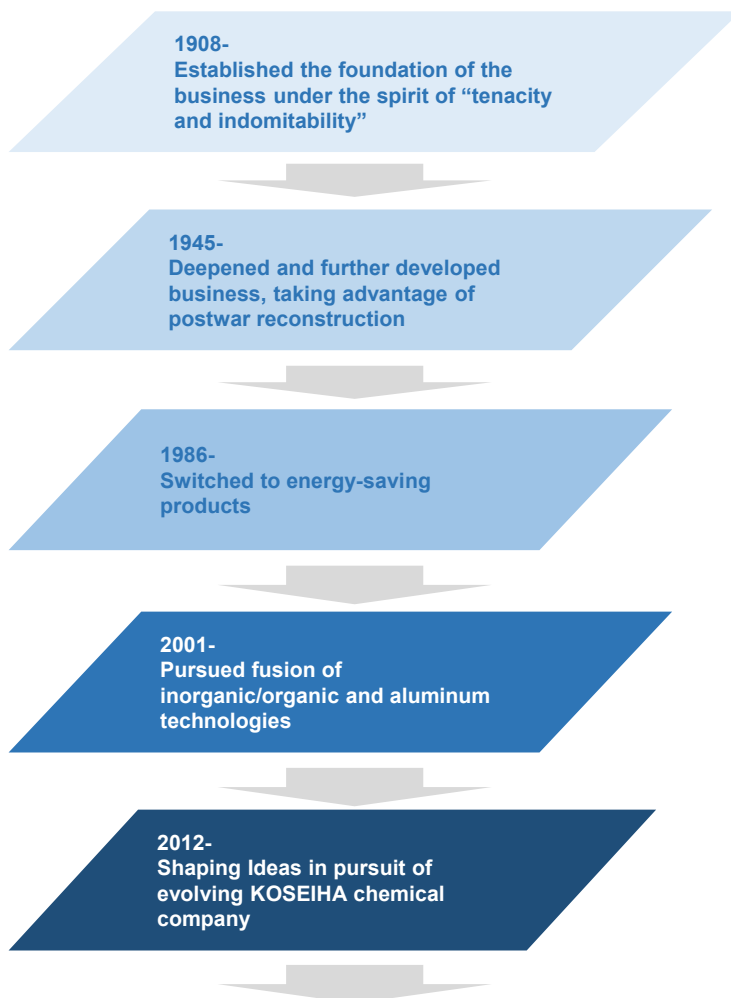
Tender offer for Hitachi Chemical



December 18, 2019
Showa Denko K.K.
President & CEO
Kohei Morikawa

*See notes on page 19

History of Showa Denko (SDK)



- 1931 Started manufacture of ammonium sulfate using domestic technology (Showa Fertilizers K.K.)
- 1934 Industrialized domestically produced aluminum (Nihon Iodine K.K.)
- 1939 Established Showa Denko K.K. through the merger of Showa Fertilizers and Nihon Electrical Industries
- 1969 Produced the first aluminum can in Japan (Showa Aluminum Can Corporation)
- 1969 Oita Petrochemical Complex started commercial operation
- 1986 Started manufacture and sales of aluminum cylinders
- 1988 Expanded into the hard disk business
- 2001 Merged Showa Aluminum Corporation
- 2003 Expanded into the super bright LED market
- 2009 Started production of cooling devices for power semiconductor
- 2015 Established an integrated system for the manufacture of cans in Vietnam
- 2016 Established a joint venture in Korea for semiconductor-processing high-purity gas production
- 2017 Acquired the graphite electrode business of SGL Carbon



Today -
Showa Denko will mark a new page in history together with
Hitachi Chemical

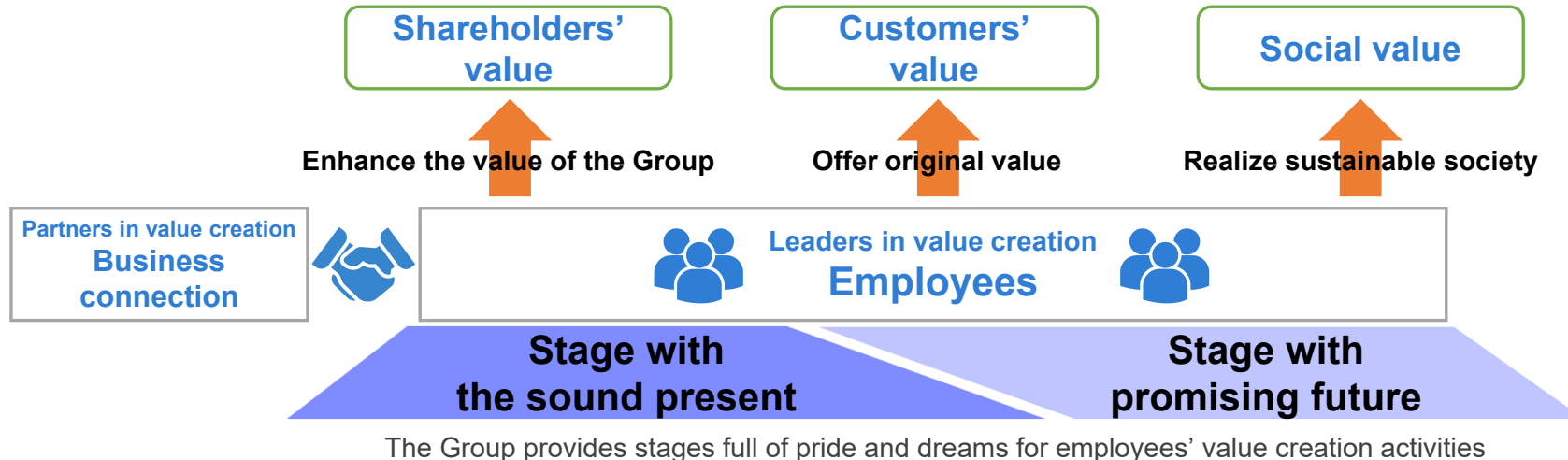
Business Philosophy: “Showa Denko Group’s Mission”



Showa Denko Group’s business philosophy (= Mission)

We will satisfy all stakeholders

We at the Showa Denko Group will provide products and services that are useful and safe and exceed our customers’ expectations, thereby enhancing the value of the Group, giving satisfaction to our shareholders, and contributing to the sound growth of international society as a responsible corporate citizen.



Showa Denko that has the sound present and promising future

Vision “KOSEIHA Company”



“KOSEIHA Company” is “an aggregate of KOSEIHA Businesses that can maintain high levels of profitability and stability.”

“KOSEIHA Business” is a business in which SDK has a top market share in the market of appropriate scale (tens of billions of yen - hundreds of billions of yen)

(Ref.) Features of KOSEIHA Businesses

**By 2025,
make half
or more
“KOSEIHA
Businesses”**

Our global No.1 businesses Market size (SDK's share)

HD media	400 bil. yen (25%)
High-purity gases for electronics	150 bil. yen (25%)
Graphite electrodes (UHP)	300 bil. yen ~ (Over 30%)

Operating margin
10% or more

Operating income
**Billions of yen or
more**

Stable profitability
tolerant to
environmental change

SDK's strength

– Group of products with high global share –



Chemicals



High purity gases for electronics

(World's No. 1 share in C_4F_6 , HBr, Cl_2)

Gases used for etching, cleaning and as film-forming material in the semiconductor manufacturing process



HPLC column (SHODEX™)

(No. 1 share in Japan)

Equipment used for component analysis of substances such as pharmaceuticals



Inorganics



Graphite electrodes

(World's No. 1 share)

Electrodes used to melt iron scrap in an electric steel furnace in steel production



High purity titanium oxide

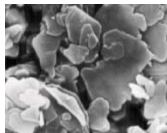
(No. 1 share in Japan)

Main material for making ceramics capacitors



Heat radiating filler

Contribute to energy conservation with highly heat radiating components



Electronics



HD media

(World's No. 1 share specialized manufacturer)

Used as data recording medium in hard disk drives



Lithium ion battery materials

- Aluminum laminated packaging material

SPALF™ (World's No. 2 share)

Used for LIB in smartphones and other devices



- Carbon nanofiber VGCF™

(Proprietary product)

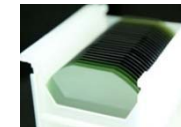
Electrode material additive that contributes to extending lifespan of lithium ion batteries



SiC epitaxial wafer for power devices

(World's No. 2 share)

Next-generation power semiconductor materials expected to help achieve smaller, lighter, more efficient and energy saving modules for power control units



Infrared light emitting LED

For sensing devices used in security, automobiles and FA



Aluminum



High purity aluminum foil

(World's No. 1 share)

Used for electrolytic capacitors mounted on IT devices, home appliances, and automobiles



Overview of Hitachi Chemical



- Corporate name Hitachi Chemical Company, Ltd.
- Establishment October 10, 1962
- Head Office address 1-9-2, Marunouchi, Chiyoda-ku, Tokyo
- Representative Representative Executive Officer, President and Chief Executive Officer Hisashi Maruyama
- Listing First section of Tokyo Stock Exchange (code: 4217)
- Principle shareholder Hitachi Ltd. (share: 51.2%)
- Lines of business Functional materials (electronics materials, printed wiring board materials, electronics components)
Advanced components and systems (mobility components, energy storage devices and systems, life science-related products)

Business fields

Information and Communications	Mobility	Energy	Life Sciences
Manufacturing and sale of materials for interface devices and systems that support an advanced information-oriented society, such as semiconductors materials, displays materials, wiring boards materials, and wiring boards	Manufacturing and sale of materials and components for automobiles and transportation infrastructures, such as resin molded products, friction materials, powdered metallurgy products, and anode materials	Manufacturing and sale of products that contribute to new energy and environmental trends, such as lead-storage batteries and capacitors for industrial and automotive applications	Development, manufacturing, and sale of diagnostic products utilizing material technologies, and contract manufacturing services of regenerative medicine products
 	 	 	 

Financial data



Hitachi Chemical

Business year ending on March 2019
(consolidated, IFRS)

Revenues	681.0 bil. yen
Adjusted operating income	48.6 bil. yen
Net income attributable to owners of the parent	28.7 bil. yen
Common stock	15.5 bil. yen
Total equity	429.6 bil. yen
Total assets	708.7 bil. yen
Number of employees	22,989

Showa Denko

Business year ending on December 2018
(consolidated, Japanese GAAP)

Net sales	992.1 bil. yen
Operating income	180.0 bil. yen
Net income attributable to owners of the parent	111.5 bil. yen
Capital stock	140.6 bil. yen
Total shareholder's equity	465.3 bil. yen
Total assets	1075.7 bil. yen
Number of employees	10,476

Deal overview (1/2)



Overview

- HC Holdings K.K., a wholly owned subsidiary of SDK (hereafter “SPC” or the “tender offeror”) has decided to purchase all shares of Hitachi Chemical Co., Ltd. through a tender offer
- The tender offeror has already entered into a contract with Hitachi Ltd. stipulating that Hitachi Ltd. will accept the tender offer for all the Hitachi Chemical shares it owns (ownership:51.2%)
- Hitachi Chemical has expressed consent to the tender offer and encourages Hitachi Chemical shareholders to accept the tender offer

Shares to be purchased

- Number of shares 208,219,903 shares
- Minimum number of shares 138,813,300 shares (2/3 of the voting shares)
- Maximum number of shares Not applicable

Tender offer price/ Purchase price

- Tender offer price 4,630 yen per share
- Purchase price Approx. 964 bil. yen (obtained by multiplying the tender offer price with the number of shares to be purchased)

Execution

- The tender offer will commence provided that certain conditions are fulfilled including completion of necessary procedures based on competition laws and other regulations of Japan and relevant countries
- The tender offeror aims to commence the tender offer by around February 2020
- Period of tender offer Planned to be 20 business days
- Tender offer agent Mizuho Securities (Otemachi Chiyoda-ku, Tokyo)

Deal overview (2/2)

Fund procurement

- SDK plans to make financial arrangements in a way to avoid a decline in capital efficiencies due to the dilution of shares and with consideration for maintaining financial soundness. Specifically speaking, SPC is planning to use the following funding approaches for the purpose of executing the tender offer
 - Loan from Mizuho Bank (non-recourse loans) : 400 bil. yen
 - Subscription of Class A preferred shares by Mizuho Bank and Development Bank of Japan : 275 bil. yen
 - Subscription of common shares by SDK: 295 bil. yen
- Regarding Class A preferred shares, SDK plans to receive equity content from a rating agency for a certain ratio of the procurement
- SDK does not plan to engage in fund raising activity involving the issue of common shares in relation to the tender offer

Financial policy

- While the financial leverage (net D/E ratio) may increase temporarily following the acquisition, the mid-term target will be around 1.0x
- Will aim to maintain A rank zone in the JCR rating


Significance of the merger



* Materials Informatics

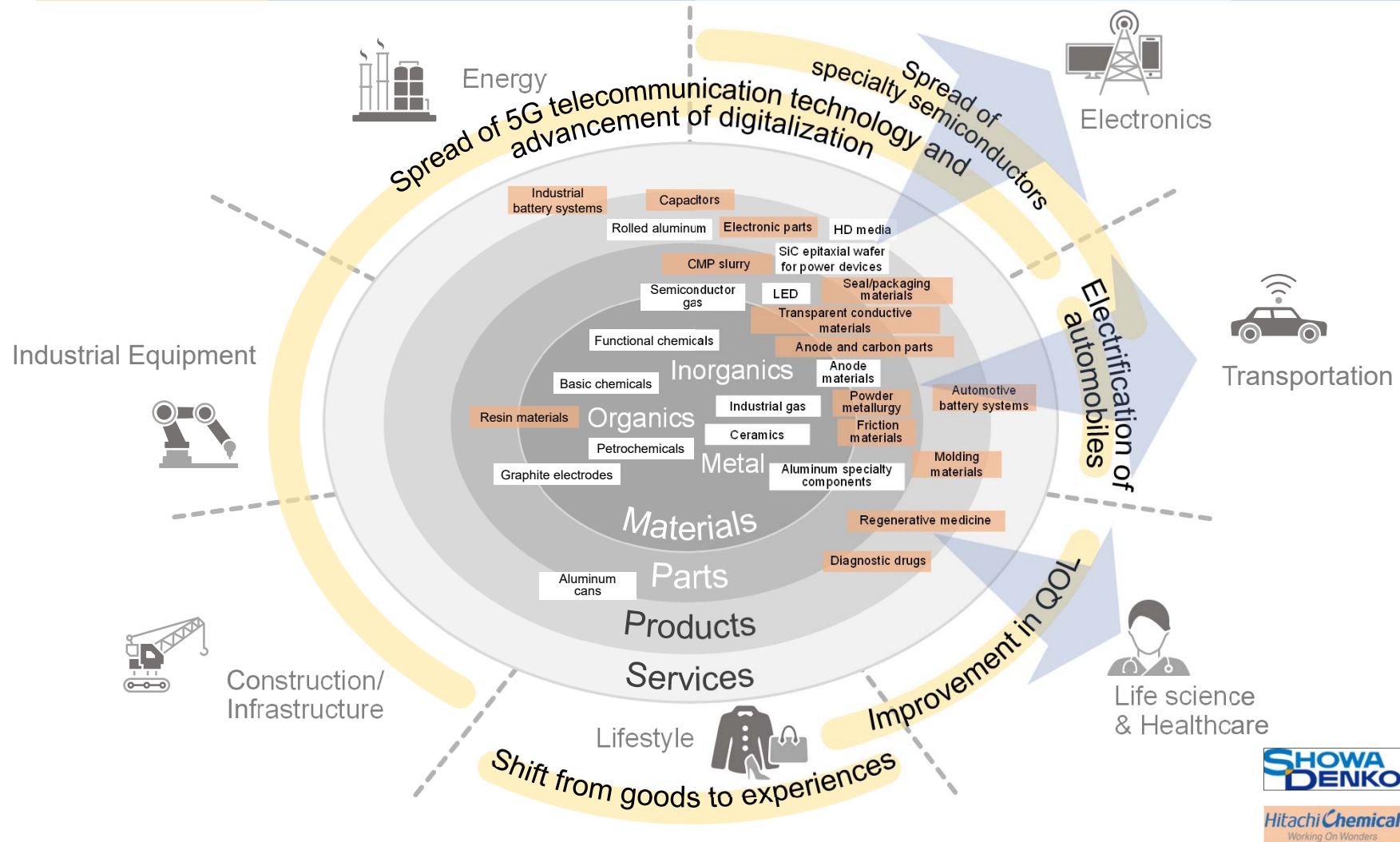
Significance as strategic partners



	SDK		Hitachi Chemical
High affinity	Aspiration Value: “Maximizing customer experience” Changing our business model to offer solutions beyond the limits of a manufacturer	≈	As one of the top global manufacturers of high-performance materials it creates innovative functions by combining material technologies to deliver solutions that solve problems faced by customers
	Business strategy KOSEIHA Company An aggregate of KOSEIHA Businesses that can maintain high levels of profitability and stability KOSEIHA Business A business in which we have a global top market share in the market of appropriate scale (tens of billions of yen to hundreds of billions of yen)	≈	Niche and cluster strategy Niche: high value-added products to aim for high profitability Cluster: product and business groups aiming for the global top position in the market, which provides total solutions to customers and the market by grouping each product, business, technology and service
Strong complementary relation	Core technologies Surface and interface precise control technologies in inorganic materials such as aluminum, ceramics, carbon and innovative material design capability in a variety of materials ranging from inorganic to organic (resin, etc.) materials		“Material design technology utilizing characteristics of raw materials, ability to evaluate functions, ability to design functions leading to process technology, including module segmentation” to link customer needs to solutions

World’s leading solution company boasting an array of global top share businesses

Business areas to pursue and notable growth drivers



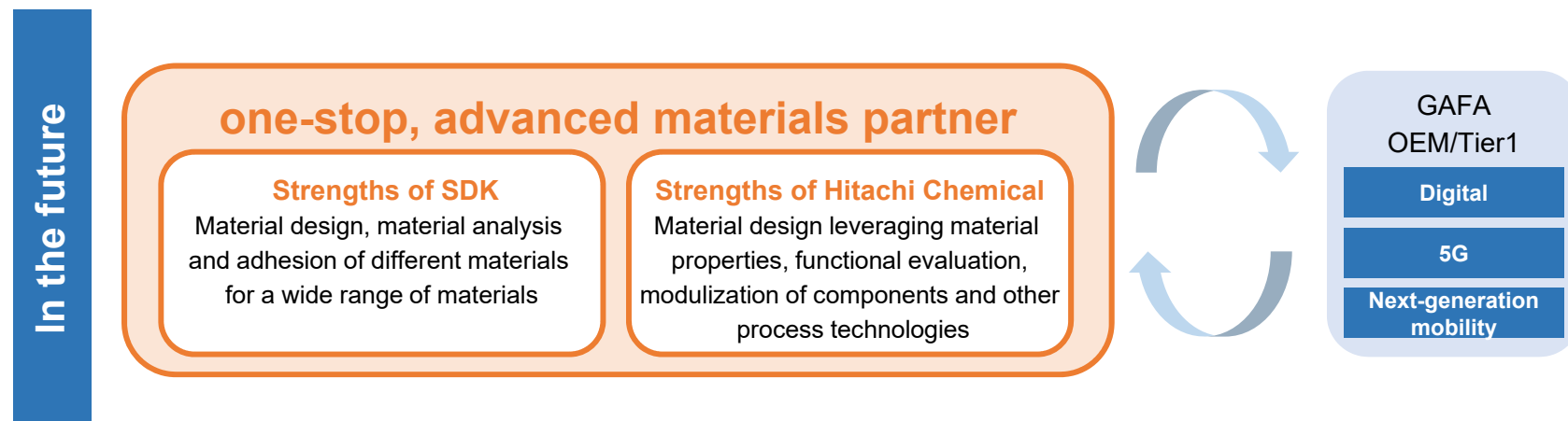
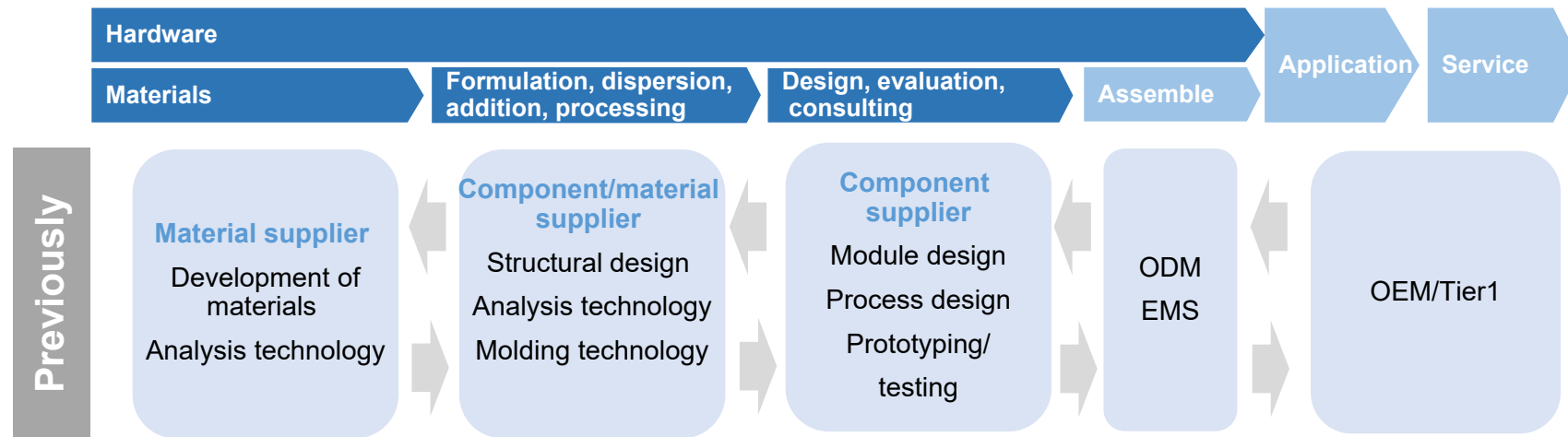
By combining the core technologies of SDK and Hitachi Chemical, the two companies will together aim to grow in 7 business areas including 5G, semiconductors, and electrification of automobiles



One-stop, advanced materials partner



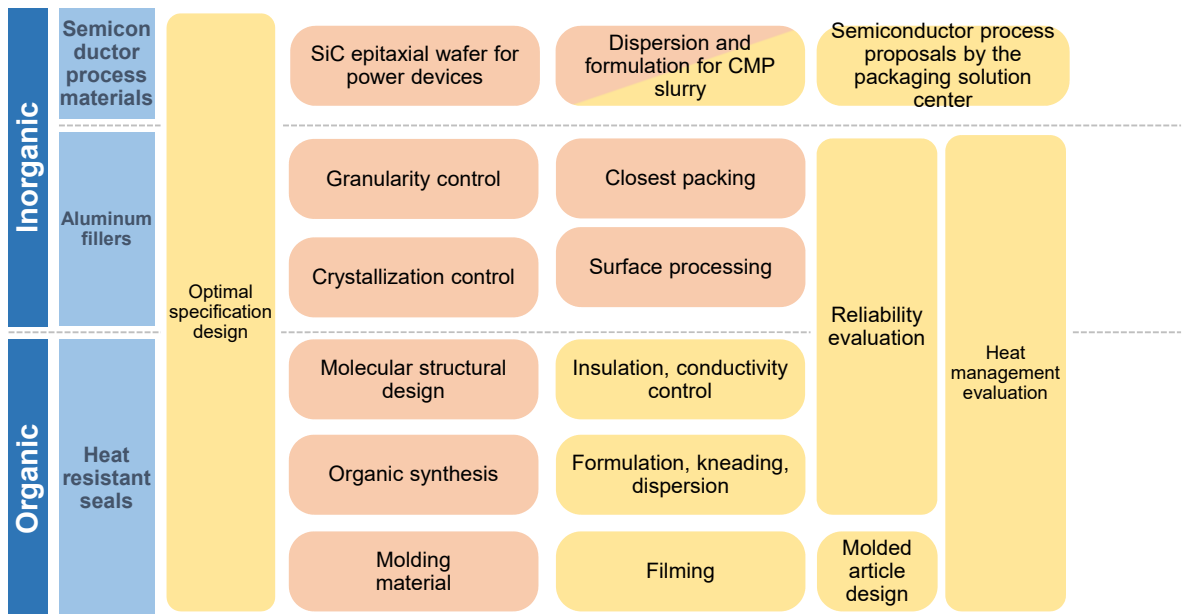
Technology companies will become more directly involved in each level of the value chain in the future. SDK and Hitachi Chemical will fuse to acquire the **ability to propose a consistent and total solution** covering from the **material level** to **design and evaluation**



Synergy in enhancing product competitiveness (Example: semiconductor packaging)



Combining SDK's **material technology** and Hitachi Chemical's advantages in **specification design, evaluation and process proposal**, it will become possible to **comprehensively optimize the product** by realizing **consistent heat management design** necessary for fast-growing applications such as power semiconductors



SDK's material technologies Hitachi Chemical's material technologies

Semiconductor packaging solution
(logic semiconductors, power semiconductors)

Heat dissipation **Heat resistance**

As a semiconductor packaging solution...
Realize optimal conditions for heat conduction

- Optimal specification design as a package
- Optimization of the heat conduction properties of the material and contact interface
- Making comprehensive proposals from product evaluation to implementation process as part of the sales approach

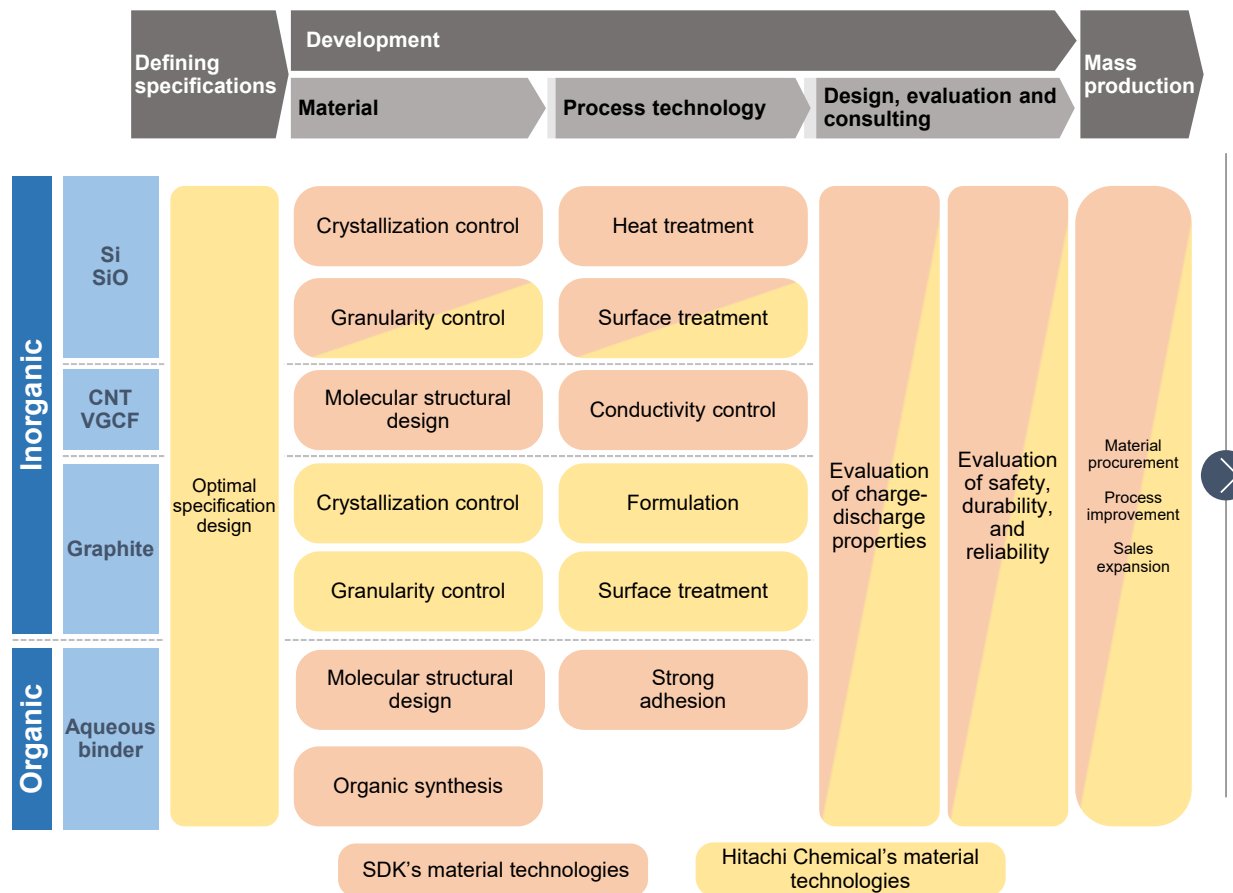
Expanding the scope of applicable products thanks to improved heat resistance of the material

- Materials for use in power semiconductors

Synergy in next-generation technologies (Example: LiB materials)



Combining SDK's organic/inorganic **material technologies** and Hitachi Chemical's **graphite anode material design technology**, it will become possible to realize the **high capacity, fast charging, long life, safety performance and cost competitiveness** required of next-generation LiB cells and thus accelerate the creation of next-generation LiB materials to contribute to next-generation mobility and low-carbon society



Next-generation LiB anode material (next-generation LiB cell package)

High capacity

Fast charging

Long-life

Highly safe

Realize high performance by combining and fusing technology elements necessary for the creation of next-generation LiB anode materials

- Crystal Si metal for achieving **high capacity**
- CNT for **improving conductivity**
- Granularity control and surface treatment of component materials for **reducing internal resistance**
- **Strong junction** using special aqueous binders to achieve high capacity and long life
- **Specification optimization** by optimal specification design and mix formulation tailored to customer needs
- **Accelerated** development speed

Realize high cost competitiveness

- **Enhanced procurement** of graphite
- **Accelerated cost reduction** by sharing manufacture knowhow of artificial graphite

Cash creation



Accelerate growth and at the same time take **earnest steps to improve cash creation ability** starting from the first year of integration

Steadily realign and review business portfolio and continue regular reviews after integration

Target to achieve cost reduction synergy savings of **more than 20 billion yen per year in three years**

Cost synergy

Ensure achievement of cost synergy

- Reduce procurement cost by joint purchase of needle coke and other raw materials and indirect materials
- Reduce indirect costs through consolidation and abolition of manufacturing processes and plants as well as head office functions

Realignment of business portfolio

Accelerate realignment of the business portfolios of the two companies

- Steadily proceed with and accelerate realignment of business portfolio
- Continue to regularly review and realign business portfolio even after completion of the integration process

Cost structural reform

Take action to reform the cost structure of SDK and Hitachi Chemical from the first year of integration

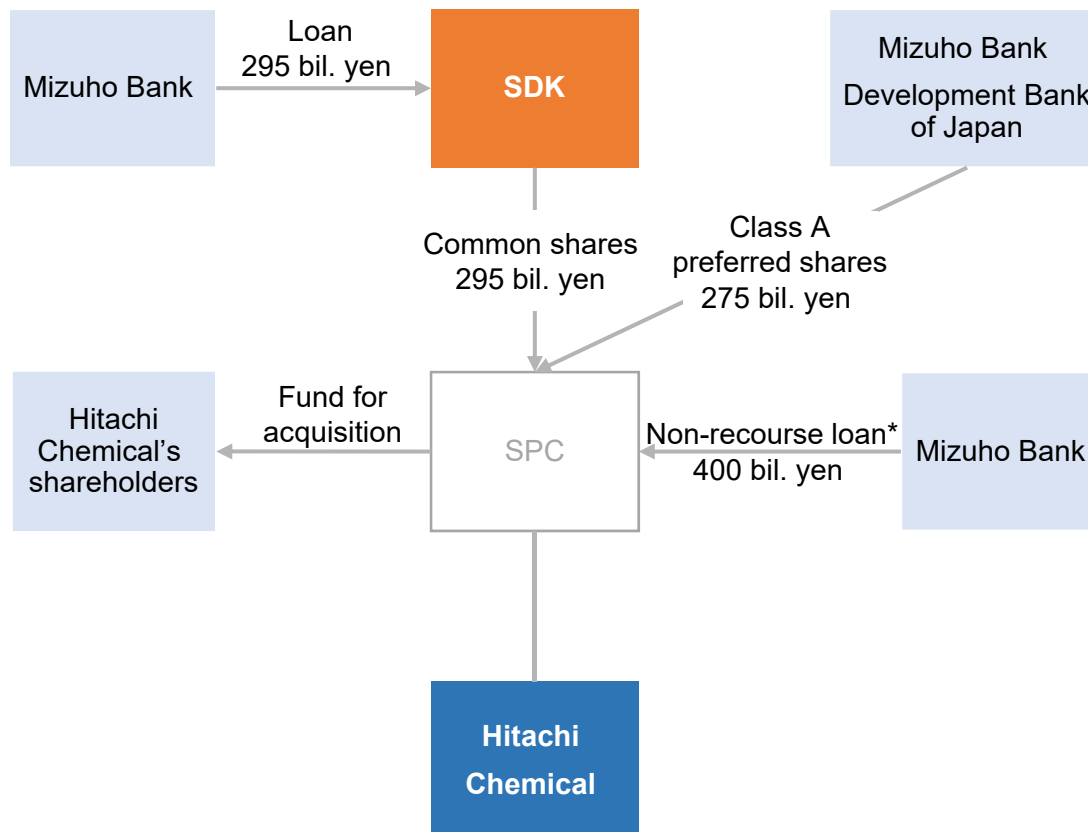
- Beside cost synergy savings, plan and promote revenue improvement measures that can be carried out by either one of the two companies
- Comprehensively review direct and indirect costs, operating capital, etc

Fund procurement structure and financial policy



Procure funding in a way to avoid a decline in capital efficiencies due to the dilution of shares and with consideration for maintaining financial soundness by utilizing preferred shares and non-recourse loans

Fund procurement structure



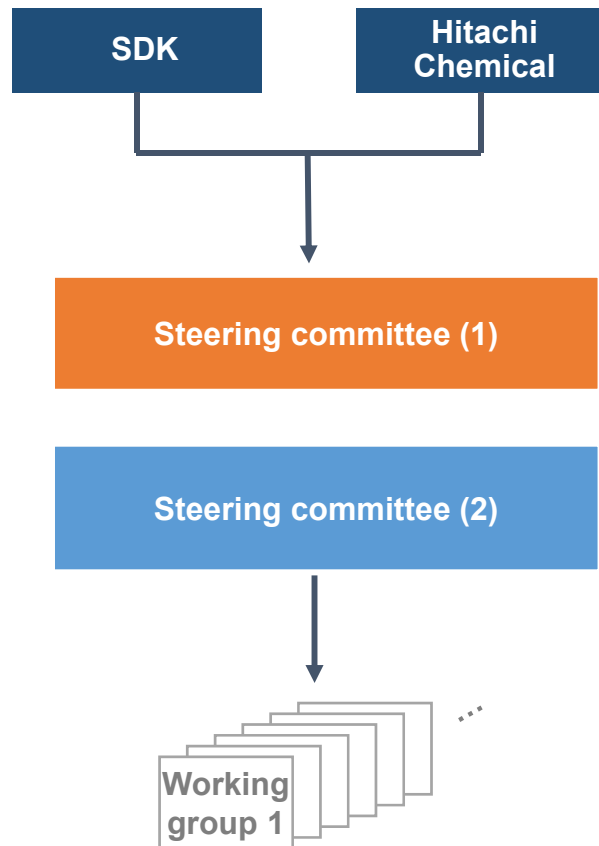
Background

- It will be possible to **hold down direct investment** by SDK by utilizing preferred shares and non-recourse loans
- Plan to receive **certain equity content from a rating agency** for the preferred shares
- While net D/E ratio may increase temporarily following the acquisition, the **mid term target will be around 1.0x**
- Will aim to **maintain A rank zone** in the rating agency
- SDK does not plan to engage in fund raising activity involving the issue of common shares and thus **equity dilution will not occur**

* A non-recourse loan is a financing method based on the repayment capacity of the target company (Hitachi Chemical), and the risk of Showa Denko is limited to the investment amount at the time of acquisition

Operation after the acquisition

Two steering committees will be set up to discuss approaches for "selecting and concentrating" businesses and to facilitate business integration



The steering committees will be comprised of senior decision makers of the two companies (e.g. CEO, board members, etc.)

Two committees will be established according to purpose

- (1) Decision making related to business portfolio management, investment, budget and financing
- (2) Management and supervision of integration process

Administrative office and working groups organized under the two committees

Target: Substantially complete integration within a year after the closing of the acquisition

Disclaimer

Any statements made in this communication that are not descriptions of historical facts, including those relating to the anticipated timing, closing conditions, completion and success of the proposed transaction, and the potential effects and benefits of the transaction on SDK and any other statements about future expectations, are forward-looking statements that are based on management's beliefs, certain assumptions and current expectations and evaluated as such. Forward-looking statements are based on, among other things, opinions, assumptions, estimates and analyses that are inherently subject to significant risks, uncertainties, contingencies and other factors that may cause actual results and events to differ materially from those expressed or implied by the forward-looking statements. There are a number of important factors that could cause actual results or events to differ materially from those indicated by such forward looking statements. These risks and uncertainties include, but are not limited to, general economic and market conditions and the satisfaction of the conditions to the consummation of the proposed transaction. Further, forward-looking statements speak only as of the date they are made, and SDK does not undertake any obligation to update or revise any forward-looking statements to reflect changed assumptions, the occurrence of unanticipated events or changes to future operating results over time, except as required by laws.

The Tender Offer is not being made, directly or indirectly, in, or to, the United States, and is not being conducted through the United States Postal Service, or other means or instrumentality of interstate or international commerce, or through security exchange facilities in the United States. No tender to the Tender Offer will be accepted by said means, instrumentality, through said facilities, or from the United States.