Global Market Expansion Services for the Specialty Chemicals Industry

Think Asia. Think DKSH.
Market Expansion Services: dedicated to growing business

We help companies to grow their business in new and existing markets. We expand their access to knowledge, their sourcing base, their revenue opportunities and their market shares. Providing business partners with a comprehensive package of services to reach their individual goals is what we call Market Expansion Services.

Your strategic partner

DKSH is a Swiss company and the world leader in Market Expansion Services with focus on Asia. Our four Business Units – Consumer Goods, Healthcare, Performance Materials and Technology – operate worldwide through an extensive network of experts. We offer a comprehensive range of services along the entire value chain: from sourcing, marketing and sales to distribution and after-sales services. Along with this we offer long-standing relationships, local knowledge and on-the-ground logistics. As a strategic partner we safeguard the business of our partners while always sharing our unique market insights. It is our aim to be a trusted link between suppliers and customers, taking care of the products of our business partners as if they were our own.

Business Line
Specialty Chemicals Industry

Specialty Chemicals Industry is a key part of DKSH’s Business Unit Performance Materials. We provide Market Expansion Services to companies wishing to source or supply chemicals, primarily in the graphics and electronics, paints and coatings, polymers, fibers and adhesives industries, among others. Specialty Chemicals is a worldwide organization with long-established relationships and networks, leveraging DKSH’s global synergies for the benefit of all our business partners.
The best of both worlds – yours and ours

Experience and networks

DKSH has done business in and with Asia for more than 140 years. We are truly at home in Asia, where we have become an integral part of many local business environments. And we are no strangers to the rest of the world either: DKSH operates in 35 countries, with 440 business locations in Asia and 15 in Europe and the Americas, and employing over 22,000 specialized staff from 50 nations.

Integrating diverse services

We bridge the markets of Europe, Asia and the Americas and have the ability to adapt to the businesses we serve in any local market. The diversity of industries DKSH is involved in is only matched by the range of services we perform: from sourcing raw materials to setting up and running flagship stores for luxury consumer brands, and from feasibility studies and product development to the many facets of marketing.

Our more than 100 state-of-the-art distribution centers work with the largest SAP application in Asia to help execute, track and analyze hundreds of thousands of business transactions every day. The detailed information we gain from this process contributes to the expert knowledge that we use to provide strategic advice to our business partners. Offering all these diverse services from a single source is another important aspect of what we at DKSH call Market Expansion Services.

Experts and entrepreneurs

In order to provide deep industry expertise for these many fields of business, we are not only organized into four Business Units, but are further specialized into Business Lines and Industry Clusters, maintaining the hands-on and entrepreneurial style of business our company was founded on. DKSH provides a balance between specialist knowledge of our partners’ industries and a practical business approach that efficiently gets things done.

Locations in the
Americas
Brazil 1
Chile 1
USA 1

Locations in
Europe
Denmark 1
France 1
Germany 1
Great Britain 1
Italy 1
Netherlands 1
Norway 1
Poland 1
Spain 1
Switzerland 2
Turkey 1

Locations in
Asia Pacific
Australia 5
Brunei 1
Cambodia 2
China 49
Hong Kong 20
India 2
Indonesia 23
Japan 18
Korea 6
Laos 3
Malaysia 65
Myanmar 11
New Zealand 1
Philippines 4
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Vietnam 18

DKSH

Total sales: CHF 8,800 million (2007)
Over 22,000 specialized staff of 50 nationalities
Operations in 35 countries
440 business locations in Asia Pacific
15 business locations in Europe and the Americas
Network of more than 5,500 suppliers and over 500,000 customers
Over 100 state-of-the-art distribution centers
Largest SAP application in Asia
Continuous double-digit growth since 2002
Performance Materials

What we do

DKSH Performance Materials provides Market Expansion Services for specialty chemicals and ingredients used in the animal care, food & beverage, personal care & household, pharmaceutical and specialty chemicals industries. As a business unit we have grown by an average of 13.1% over the past three years. We achieved total sales of CHF 623 million in 2007.

Global reach

We are active in 25 countries, with 40 locations worldwide and 15 sourcing offices that draw from 68 markets – giving us a network of unrivalled scope and depth. We provide reliable sourcing around the globe and instant access to markets, managing the entire supply chain of our business partners. With our long-standing experience and relationships in the market we support and serve our customers’ businesses whether small, medium-sized or on a multinational scale. We speak the local languages and understand the local business environments.

Ideas to market

Innovation cycles are growing ever faster and our business partners are under pressure to deliver new products at shorter intervals and lower overall cost. DKSH Performance Materials operates 15 innovation centers across Asia, in Europe and the Americas, where we generate product ideas, develop and customize them, work on new ingredients and technology applications, provide hands-on training, and run acceptance tests. In short: we cut time-to-market by actively researching and formulating solutions for the evolving needs of our business partners.

As a highly competent development partner we help to cut costs significantly. With the market insight gained from 4,000 suppliers and 20,000 customers worldwide, we have the expertise to know exactly what matters in a specific application or product. We proactively put insights, expert knowledge and our networks to use to obtain tangible business results for our partners.

Business Unit Performance Materials

| **Total sales:** CHF 623 million (2007) |
| **1,100 specialized staff** |
| **Operations in 25 countries** |
| **26 business locations in Asia Pacific** |
| **14 business locations in Europe and the Americas** |
| **Network of more than 4,000 suppliers and 20,000 customers** |
| **15 sourcing offices worldwide** |
| **15 innovation centers worldwide** |
| **13.1% average growth rate over the last three years** |
**Business Line Specialty Chemicals Industry**

**Who we are**

With our 425 specialized staff and 37 offices in 18 countries, Business Line Specialty Chemicals Industry provides an extensive range of raw materials for the development of innovative and competitive formulations for the industries we serve. We also offer global chemistry competency and specialized technologies for and from a wide variety of manufacturers. Our team is made up of university-educated chemists, chemical engineers, and other experts with many years of industry experience. Our professional capabilities and our genuinely entrepreneurial mindset help us to understand the needs of our business partners and to deliver fast and flexible solutions. By providing deep chemistry expertise and experienced technical sales and service staff, we enable our business partners to confidently focus on their core expertise of manufacturing. Our Market Expansion Services help our partners gain access to new technologies and ideas that improve their products and open up new market opportunities.

**What we do and how we do it**

We offer innovative chemical products to develop new applications and markets, as well as services such as sourcing, logistics, warehousing and distribution, and technical assistance. Along with this we provide new product development services, custom manufacturing and quality assurance. Finance and insurance services are also part of our solutions-oriented approach. Our market know-how and insights come particularly strongly into play when we act as a

<table>
<thead>
<tr>
<th>Sourcing</th>
<th>Research and Development</th>
<th>Manufacturing</th>
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<tr>
<td>Define product specifications</td>
<td>Patent research</td>
<td>Scouting, screening and managing of toll manufacturers</td>
</tr>
<tr>
<td>Search for hard-to-find ingredients through our global supplier network</td>
<td>Quality management, SEQRA, REACH, ISO, cGMP audit, change control</td>
<td>Quality management, SEQRA, REACH, ISO, cGMP audit, change control</td>
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<td>In-house quality assurance and control, cGMP audit, regulatory affairs</td>
<td>Project management, technical transfer, troubleshooting</td>
<td>Project management, troubleshooting</td>
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<tr>
<td>Scouting and screening of new suppliers</td>
<td>Global logistics network, just-in-time delivery of ingredients</td>
<td>Global logistics network, just-in-time delivery of ingredients and products</td>
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<td>Tailor-made product modifications and product development</td>
<td>Warehousing</td>
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<td>Negotiation purchase order, contract with supplier</td>
<td>Development of suppliers to produce new substances</td>
<td>Develop new suppliers to produce new products exclusively for us and sold only under DKSH brand</td>
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<td>Just-in-time delivery and availability based on agreement</td>
<td>Support for new patent developments</td>
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As part of Business Unit Performance Materials, we profit from global DKSH synergies and infrastructures. With 500 suppliers and 2,000 customers worldwide, we also have our own network and the local relationships and experts in place to address every challenge.

Business Line Specialty Chemicals Industry is organized into four Industry Clusters in order to focus on specific industry needs: Graphics & Electronics, Paints & Coatings, Polymers, Fibers & Adhesives, and Other Industries. As well as products such as chemical intermediates for electronics and liquid crystals, resins, specialty materials for the graphics industry, and monomers and additives, we offer integrated services along the entire value chain.

Specialty Chemicals Industry helps to expand markets by enlarging the chemical toolboxes of our business partners, enabling faster development of their next-generation products. Our partners rely on our unique combination of market insights and global network for swift and stable sourcing, and on our tailor-made solutions that produce results. With our deeply rooted industry network, and the advantages of global DKSH synergies, we are able to accompany our business partners in any market worldwide.

Marketing and Sales
- Develop market access strategies and business plans
- Find new markets for suppliers and customers
- Expertise and market knowledge
- Import licenses, importation through customs, relations with national and international authorities, handling of regulatory affairs
- Marketing support
- After-sales services
- Market feedback to suppliers and customers
- Technical assistance

Distribution
- Well-established distribution channels and comprehensive customer networks in many countries
- Project management
- Logistics service, including handling of products under special conditions such as dangerous goods and hazardous materials, transportation, e.g. in cool and top-ventilated containers
- Advisory service on transportation safety
- Warehousing
- Stock handling and management and just-in-time deliveries

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With 500 suppliers and 2,000 customers worldwide, we also have our own network and the local relationships and experts in place to address every challenge.
Industry Cluster Graphics & Electronics

supplies a wide range of innovative, high performance chemicals, formulations and services for the two industries that give it its name, as well as materials and services for film coating applications. Our areas of expertise include applications such as semiconductors, printed circuit boards, liquid crystal displays, conductive materials, printed electronics, solar cells and optical films. Our expertise also covers packaging and technical films, industrial graphics with coatings for printing plates, printing inks, and other photographic applications.

Our offering for film coating includes high-tech films, packaging and lamination, environmentally friendly products, and ID and security applications. We help our business partners find the correct, most innovative materials, while flexibly sourcing worldwide to ensure best value. We also act as the marketing and sales arm for medium-sized specialty chemicals producers without their own sales force outside their home territories.

Product groups

Graphics

We provide the following products for graphics:

– Custom-made materials for the formulation of coatings for printing plates (including computer-to-plate) such as photopolymers, novolacks, sensitizers, N-IR dyes, pigment dispersions, diazo resins, triazines, coumarines and other specialty additives
– Inkjet receptive media for paper and plastic substrate
– Specialty materials for ink formulations such as:
  – Plasticizers compatible with key resins and suitable for food packaging
  – Biodegradable and compostable resins from non-GM renewable sources
  – Adhesion promoters such as chlorinated and chlorine-free polyolefins and organic titanates, and highly polymerized co-polyester resins
– UV-curable materials such as acrylates and methacrylates, cationic resins, oligomers and diluents, photoinitiators and synergists, and additives
– Other materials such as thermal and UV color change pigments, additives to modify the texture, feel and aroma of printed inks, aqueous polyolefins to enhance rub resistance, and nano-sized particles

Electronics

We provide the following products for electronics:

– A specialized range of materials for the
production of IC lithographic resists, color filter resists, solder-resists and dry-film-resists such as novolaks, phenols and polyvinylphenols, norbornanes and adamantanes, diazo compounds and resins, photocacid and photobase generators, fluorine bisphenol derivatives, photoinitiators and sensitizers, dyes and color formers, and polyimide intermediates

- High-purity chemicals for developers, strippers, etchants, fluxes, electroplating and surface treatments such as TMAH 25%, triazoles, tetrazoles, mercapto derivatives, thia diazoles, organic acids and solvents, gallates, non-ionic surfactants, and benzaldehyde derivatives
- Selected specialties for the formulation of UV curing systems and stereolithography composites such as acrylates and methacrylates, cationic resins, oligomers and diluents, high and low refractive index materials, photoinitiators and synergists, multi-functional acrylates, and additives
- Printed electronics materials for EL lamps, switch membranes, touchscreens, RFID antennas, solar cells and OPC-drums such as polypyridine (PEDOT), polyaniline and polypyrrole-based transparent conductive polymers, silver and carbon-based conductive pastes, silver and aluminium-based firing pastes, charge generation and transportation materials, precious metal, ITO and ATO powders
- Liquid crystal intermediates for liquid-crystal production
- Special N-IR dyes
- OLED materials

Film coating

We provide the following products for film coating:
- A specialized range of high molecular weight co-polyesters
- Biodegradable and compostable resins manufactured from non-GM renewable sources
- Non-chlorinated primers for PP, TPO and engineering plastics, heat-sealing adhesives for metals and plastics – with food contact approval and environmentally friendly grades
- Water-based primers for heat-sealing adhesives for metals, paper and film, additives for inks and paints – with approval for direct and indirect food contact for packaging
- Others (including custom synthesis molecules) such as CPO adhesion promoters, receptor coatings for inkjet printing, conductive and anti-static materials, polymeric beads, high-heat, scratch and chemical resistant coatings, and additives for thermal papers
Industry Cluster Paints & Coatings

For our business partners in the paints and coatings industry, our Industry Cluster Paints & Coatings team performs as a technical marketing and sales force that provides key raw materials and ideas to help drive technology forward. We source and supply innovative raw materials and low cost alternatives to formulate automotive and industrial paints, decorative and architectural paints, powder coating, wood coating, and can and coil coating, among others.

Product groups

Products include:
- Adhesion promoting resins for different substrates, including polyolefins (PP, TPO, PE), rubber and metals (Al and steel), supplied in solid, solvent-borne (high resin content), and water-borne form
- High-performance resins (solvent and water-borne) with special properties such as easy cleaning systems, weatherability-improving, heat resistant coatings, electric insulation, marine paint, matt and glossy coating for glass, and binder for can and coil coatings
- Special-effect additives including scratch resistance, soft effect, light diffusion, thermochromic and photochromic pigments, and anti-blocking, conductive and antistatic agents
- Additives for powder coating such as matting agents, anti-yellowing agents, cross-linkers, flow improvers, hardeners, UV absorbers, and anti-oxidants
- Other products including nano-particles, UV acrylate monomers, oligomers and photoinitiators, plasticizers, hot melt, data scavenger, anti-skinning and opacifiers
Industry Cluster Polymers, Fibers & Adhesives globally sources and supplies the best chemicals for the polymer industry at competitive market prices. This includes sourcing of custom synthesis molecules from cutting-edge markets. With our longstanding partnerships and market overview, we are able to develop new and alternative sources for critical raw materials in an increasingly difficult market. Our areas of expertise include products and services in resin manufacturing, PU elastomers, engineering plastic, specialty fibers and leather, as well as adhesives.

**Product groups**

Products for the preparation and formulation of:

- Adhesives and sealants for high-performance formulations such as adhesion promoters, aliphatic isocyanates, high molecular weight co-polyster, liquid isoprene rubbers, moisture scavengers (PTSI), non-chlorinated co-polyolefines, oxetane reactive diluents and plasticizers
- Master batches
- Compounds
- Engineering plastics and rubbers: additives, stabilizers and curing agents such as blowing agents, co-agents for peroxidal vulcanization, fluorescent pigments, halogen-free flame retardants, metal deactivators, nanosilver masterbatches, non-staining antioxidants, nucleating agents, and optical brighteners
- Production of epoxys, polyurethanes, acrylcs, polyesters, and polyamide resins, where our product range includes: diamines, disocyanates, diols, acids, sulfonated monomers, acrylamides, acrylates, and cross-linkers
- Materials for leather, fibers, and textile treatment, such as functional additives, coatings for inkjet printing on artificial leather, paper, and technical fabrics such as additives for fibers extrusion, aziridines, color pastes and PMMA microbeads, curatives for high-resistant composites, cycloaliphatic diamines, and soft-touch modifiers
- Films for industry applications
- Other materials such as color pastes, diamines (cycloaliphatic and aromatic), isocyanate blockers, meta-xylenediamine, permanent antistatic fillers, special diols, and thermolatent diaminic hardeners
Other Industries

Our Business Line is also involved in sourcing, procuring and offering the entire range of Market Expansion Services for specialty materials needed in several other industries.

Product groups

Materials for:
– Catalysts and adsorbents: we provide a wide range of catalysts and adsorbents to the petroleum refining, petrochemical and gas industries. This is part of our ongoing effort to help reduce pollution and protect the environment. Once we have thoroughly studied a customer’s operating conditions we are able to provide advanced technical services to accompany products. We have the expertise to make recommendations in a number of areas, such as catalyst and adsorbent selection, data monitoring, operational improvement, spent sample analysis, unit troubleshooting, and catalyst design
– Petrochemicals industry: we supply additives and services to refineries, focusing on sulfur degassing with a unique product. We provide a comprehensive logistics and packaging service, enabling safe handling of the product and compliance with all regulations
– Construction
– Plant protection and pest control: this product group focuses on materials and services for the two industries that give it its name. Our areas of expertise include crop protection, professional indoor pest control, and home, garden and household insecticides. As well as being the distributor of choice for many medium-size companies, and supporting selected products with comprehensive registration data packages, we offer a state-of-the-art sourcing service for active ingredients and intermediates manufactured in China. We are also a proud contributor to an environment-friendly industry with our key product pyrethrum and our pheromone portfolio
– Fine chemical producers and industrial chemicals and services: we supply tailor-made materials for high-end applications and custom synthesis. We supply these materials under strict confidentiality agreements with our partners
– Water treatment
– Ceramics
– etc.
Sharing success

Challenge

One of our customers in the United States needed to develop new technology for electro luminescent backlight displays for a new generation of cell phones. The need to speed up development was due to high consumer demand for lighter, thinner cell phones. Consequently, fast coordination of samples, evaluation and response by the supplier, the customer and DKSH were essential in order to meet market demand.

Approach

DKSH’s Business Line Specialty Chemicals Industry offered to call on its network around the world and immediately located the most suitable supplier for one of the key raw materials for making the electro luminescent backlight display: conductive pastes. Our customer appreciated this support, and three-way cooperation began immediately. In follow-up meetings at the company’s R&D center with DKSH experts, our supplier was able to develop a custom-grade conductive paste that met all the customer’s specifications – and that no other player was able to offer. This enabled us to win the new business.

Result

Thanks to swift DKSH action, both the customer and the supplier succeeded in the timely development of an innovative product for their respective markets. All the partners involved gained new business, and they are continuing to develop materials for the next product generation. To improve manufacturing efficiency and support market expansion, the customer is now moving production from the United States to China. At the new location in China, DKSH continues to support the customer and the supplier, delivering material and providing technical assistance through our local experts and staff.

Market Expansion Services at work: speed, reliability and a global network

Becoming a trusted link between business partners and understanding the needs of all concerned requires diligence and deep industry expertise. Thanks to our global reach and network, and our timely action, we are able to develop and accompany business worldwide with and for our business partners.
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