

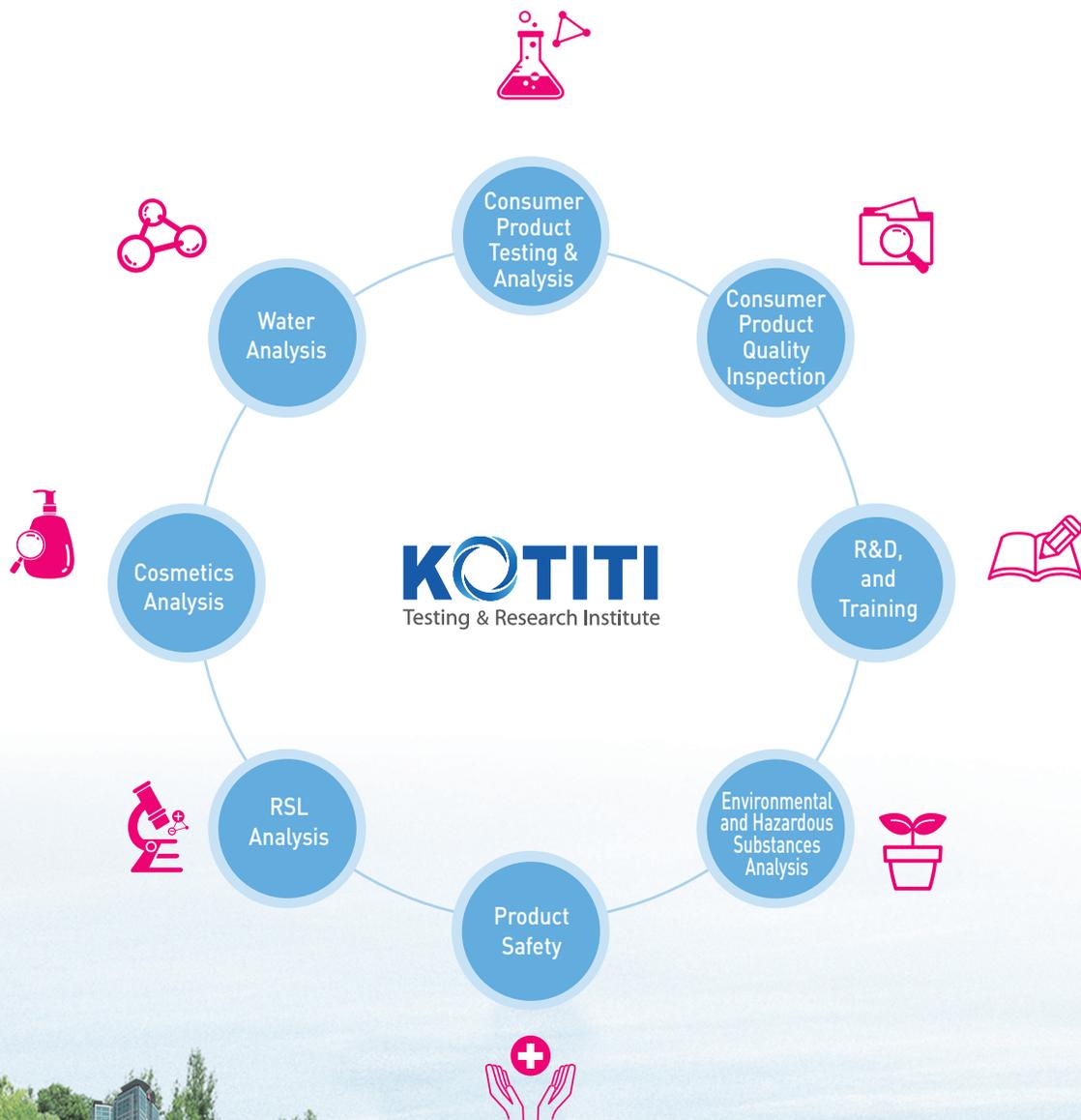


KOTITI

Global Business Partner for
Human Safety and Future Technology

❖ Main Business

Founded in 1961 with the goal of promoting the growth of textile industry in Korea, KOTITI was designated for the first time as the nation-authorized textile inspection and testing institute with performing R&D activity. Equipped with half a century of accumulated experiences, global networks and state-of-the-art equipment, our professional staff are ready to provide swift, accurate and courteous services. Offering specialized technical information services in a “Customer First” attitude.



❖ KOTITI's History

2010 ~ 2014

2014

04. _Established KOTITI Vietnam Ltd. / KOTITI Shanghai Ltd.

2013

- 12. _Designated as Safety Certification Institute
(Korean Agency for Technology and Standards Issue No.7)
- 11. _Designated as Cosmetics Inspection Institute
(Ministry of Food and Drug Safety Issue No.17)
- 10. _Established KOTITI Bangladesh Ltd.
- 07. _Acquired CCMI Testing Lab Accreditation for animal fiber identification
- 06. _Legislated international standard for testing Halogen of E&E products
(IEC 62321-3-2)
- 05. _Designated as official water analysis institute for Jeongseon county
- 04. _Concluded a mutual cooperation agreement with TTRI(Taiwan)
- 03. _Designated as official inspection institute by Public Procurement Service
- 02. _Designated as inspection institute by "UNIQLO"
- 01. _Changed corporate name as "KOTITI Testing & Research Institute"

2012

- 06. _Legislated international standard for the evaluation method of cotton stickness(ISO 12027)
- 05. _Opening Ansan Testing & Inspection Center
(Commenced Testing-Inspection ONE-STOP Service)
- 04. _Designated as official water analysis institute of drinking water of Schools in Seoul
- 02. _Concluded a mutual cooperation agreement with
"Seongnam Industry Promotion Agency"
- 01. _Concluded a mutual cooperation agreement with MATALAN

2011

- 12. _Designated as an official inspection agency by Korea Laboratory Accreditation Scheme(KOLAS)
- 07. _Designated as nation-authorized water inspection institute
(The Han River Basin Environmental Office Issue No. 30)
- 02. _Built a new building in Seongnam and relocated to Sangdaewon-dong, Seongnam, Gyeonggi-Do, Korea

2010

- 11. _Contract for the transfer of patched-yarn technology with Caipoli(Italy)
- 07. _Signed an MOU with E-land and Vietnam Thanh Cong Group

2000 ~ 2009

- 2009 _Established a local subsidiary in Yantai, China
_Conducted hardline testing
_Acquired IDFB accreditation about testing of feathers
- 2008 _Contracted as a cooperative testing & inspection laboratory with SIFI, China
_Concluded a mutual cooperation agreement with TUV Rheinland(Germany)
_Established a local subsidiary in Dalian, China
- 2007 _Opened branch offices in China(Qingdao, Yantai, Dalian, Shanghai)
- 2006 _Designated as a "Green Partner Lab" by LG Electronics
_Designated as an "Eco Partner Lab" by Samsung Electronics
- 2002 _Accredited the certificate of approval for ISO 9001 : 2000 / KS A 9001 : 2001(BVQI)
_Concluded a mutual cooperation agreement with ITV Denendorf
- 2001 _Contracted as a cooperative testing & inspection laboratory with BVCPs

1961 ~ 1999

- 1997 _Contracted as a cooperative testing & inspection laboratory with KELA
(Korea Eco-Labeling Association)
- 1996 _Executed testing & inspection by the mutual authorization with AWE
(Australian Wool Exchange Limited)
- 1994 _Designated as an official testing agency by Korea Laboratory Accreditation Scheme(KOLAS)
- 1990 _Changed corporate name as "Korea Textile Inspection & Testing Institute"
- 1987 _Contracted as a cooperative testing & inspection laboratory with MTL, KAKEN(JSTIIF) and BV
- 1985 _Contracted as a cooperative testing & inspection laboratory with Acts Testing Labs Inc.
- 1981 _Contracted as a cooperative testing & inspection laboratory with SGS
_Changed corporate name as "Korea Textile Technology Promotion Center"
- 1976 _Designated as a quality testing & inspection agency for IWTO
_Concluded a technical exchange agreement with BOKEN(JSIF)
- 1975 _Moved into a new testing and R&D center and headquarter in Yeoksam-dong, Gangnam-gu, Seoul, Korea
- 1972 _Designated as a quality testing & inspection agency for AWC woolpack
- 1964 _Changed the institute's name to "Korea Textile Inspection & Testing Institute (KOTITI)"
- 1963 _Designated as an "Export Inspection Agency" according to the export inspection law by Ministry of Commerce & Industry
- 1961 _Founded as "Textile Testing & Inspection Institute" attached to Spinners & Weavers Association of Korea(SWAK)



Consumer Product Testing & Analysis



❖ Quality assurance test of domestic demand & export products

- Test of domestic & export product
- Variety of test relating to products that are raw and subsidiary and etc.
- Quality confirmation test for approval and mark of Woolmark
- Test of functional properties on textile products
- Test for general merchandise & hardware
- Test for industrial textile products
- Test for cause analysis of defective products
- Test for KC(Korea Certification) mark and China GB

❖ Quality label verification test

- Confirmation and recommendation of fiber composition & handle with care instructions
- Other performance tests related to other quality label verification

❖ Test relating to vendor's quality control and technology development

- Functional tests of new product
- Troubleshooting service and technical guidance
- Quality evaluation test of domestic products and exports

❖ Safety guarantee & Korea Certification(KC) test

- Safety guarantee for industrial product subject to safety accreditation
- Safety test of industrial products subject to self-regulatory safety confirmation
- Safety test of industrial products subject to safety & quality inspection mark

❖ Test for comfort and functional properties

- Water absorption and drying properties
- Breathability and water resistance properties
- Static electricity
- Thermal insulation and thermal conductivity
- Hygroscopic heat generation
- Hygiene and antimicrobial properties
- Deodorization property
- UV & NIR protection properties
- Electromagnetic shielding properties
- Evaluation of textile hand(handle)
- Wear comfort using thermal manikin and climate chamber

❖ Technical guidance & Consulting

- Training program on quality control and test method
- Laboratory design and audit service for in-house testing labs
- Development of customized quality assurance manuals

❖ Cooperative test with overseas testing and inspection institutions

- BVCPS(Bureau Veritas Consumer Products Services)
- KAKEN TEST CENTER
- SQI(Shanghai Institute of Quality Inspection and Technical Research) etc.

🔗 Service Guide

- We conduct testing and analysis activities according to various standards(KS, ISO, AATCC, ASTM, EN, JIS and GB) as a state-authorized testing and inspection institute by KOLAS(Korea Laboratory Accreditation Scheme).
- We perform cooperative tests with Bureau Veritas(France), KAKEN(Japan), SQI(China), ITV Denckendorf(Germany) and TUV Rheinland(Germany), etc.
- We provide swift testing & inspection service to Korean customers by establishing laboratories in China(Shanghai), Vietnam(Ho Chi Minh) and Bangladesh(Dhaka)

Consumer Product Quality Inspection



❖ Inspection items

- Textile materials, yarn, fabric, garment, toy, footwear, handbag, etc.
- Home furnishings, leather goods, feather & down products, household items, industrial textiles, etc.

❖ Factory audit

- Factory evaluation
- Social accountability
- HSE(Health, safety & Environment) Audit

❖ Quality assurance inspection of import & domestic products

- Survey inspection on defective imports
 - ▷ Yarn, fabric, and garment products
 - ▷ Textile products & household items

❖ Inspection at the request of buyer & exporter

- Buyer nominated inspection
- Official inspection on international tender
- Technical training & requested inspection by exporters

❖ Overseas dispatch inspection

- Inspection of products such as yarn, fabric, garment and others manufactured from overseas locations.
- Consultation service & inspection of overseas factory or products.

❖ Comprehensive range of inspection services

- Quality control of export enterprise & buying office
- Consulting on production management
- Training for in-house inspector
- Technical support & inspection at each process stage

❖ Cooperative inspection with overseas inspection institutions

- KAKEN(Japan) on-site in KOTITI
- SQI(China)

🔍 Service Guide

- In accordance with the Export Act of 1962, the Korean government designated KOTITI as the nation's first official testing and inspecting institute for yarns and fabrics manufactured for export. KOTITI was also accredited by KOLAS(Korea Laboratory Accreditation Scheme) and since then, we conduct accurate, swift and impartial inspections befitting a state-authorized institute.
- Our branch offices located in China(Shanghai, Qingdao, Yantai, Dalian), Vietnam(Ho Chi Minh, Hanoi), Indonesia (Jakarta, Solo), Bangladesh(Dhaka) and Myanmar(Yangon) also provide inspection services for textile manufacturers operating in these countries.

R&D, Technical Support and Training



Research & Development

- **Technology development supported by the government**
 - Industrial technology development
 - Collaborative R&D program for textile-streams
 - Materials and components technology development
 - Innovative technology development for medium and small enterprises
 - Standardization for industrial technologies
- **Collaborative development with textile companies**
 - Technology transfer of KOTITI's patents
- **Development of new textile testing methods and standards**
 - KS, ISO, etc.

Technical training

- **Specialized training for companies**
 - Basic textile technology
 - Quality control of textile products for trade&marketing staff
 - Production & quality control of knitted products
 - Process technology education for practicing professionals of cotton spinning
 - Web-based online video training
- **Customized training at the request of a company consignment training of requesting company**
- **Government-sponsored training for manpower cultivation**

Technical information

- **On-line services(www.kotiti.re.kr)**
 - Database service of textile technology & information(Korean & English)
- **Off-line services**
 - Seminar(technical information exchange, etc)
- **Publication of new textile technology & information**
 - Periodical publication : [Textile review], [KOTITI Webzine]
 - Separate volume : [Textile handbook], [Casebook of complaints about clothing], etc.

Troubleshooting technical support services

- **Operation of supporting textile technology**
 - Arrangement measures and analysis of the cause and solutions for the complaints about textile products
- **Solutions for the technical difficulties and new technology development**
 - Quality assurance such as piling, colorfastness to rubbing, etc.
- **R&D Equipments and practical use**
 - Pilot spinning plant, weaving & knitting machine, dyeing and finishing machine
 - Manufacturing the prototype spinning yarns and textiles
 - Support development for new materials and new products

Service Guide

- We perform R&D to develop new technologies that are both environment friendly and beneficial to the humanity, and we are endeavoring to develop technologies that will improve not only productivity of textile companies but also quality of textile products.
- We exert all efforts to offer technical support such as analysis of the cause and solutions for inferior quality of textile products.
- We provide technical training and offer the latest technology information to help enhance the competitive edges of the textile companies.

Environmental and Hazardous Substances Analysis



General service

- Textile products

- Analysis of hazardous substances
- Oeko-Tex® Standard 100 testing
- GOTS eco-friendly fiber product test
- Antimicrobial and antifungal testing
- Korea Certification test(KC mark)
 - ▷ Children's textile product
- Test of industrial products subject to safety & quality inspection(KC mark)
 - ▷ Household textile product
 - ▷ Leather product

- Jewelry and consumer products

- Korea Certification(KC) mark
 - ▷ Children's jewelry
- Bag, shoes, footwear, handbag test according to client protocol

- Toys

- ASTM F 963, EN 71

- Compliance tests to regulation

- REACH(SVHC candidate lists)
- RoHS testing
- CPSIA testing

- Subcontract service of overseas testing

- BV, KAKEN, SQI

Restricted Substance List(RSL) analysis service

- Alkylphenols(AP)
- Alkylphenoethoxylates(APEO)
- Allergenic disperse dyes
- Azo dyes
- Biocides(Triclosan)
- Carcinogenic dyes
- Chlorinated organic carriers
- Chlorinated paraffins
- Chlorinated phenols
- Chromium VI
- Dimethylfumarate
- Extractable heavy metals
- Flame retardants
- Formaldehyde
- Lead(Pb)
- Nickel
- Nonyl Phenol
- Organotin compounds
- Polycyclic aromatic hydrocarbons(PAHs)
- Polybrominated biphenyls(PBBs)
- Polybrominated diphenyl ethers(PBDEs)
- Perfluorooctane sulfonate(PFOS)
- Perfluorooctanoic acid(PFOA)
- Phthalates
- Polyvinylchloride(PVC)
- Solvents
- Surfactants
- Volatile organic compounds(VOCs)

Energy and mineral resources

-Wood pellet

- Generating plant corporation standard analysis
- Korea Forest Service Issue No. 2013-5

Technical support

- Seminar

- Seminar education related to eco-friendly company

- Government support business

- Academic research service business

- Business for improvement of standard technical skills

- KS, IEC/ISO
- Support for Standardization of Enterprises

Service Guide

- We provide hazardous substances analysis services according to international regulations(RoHS, REACH, CPSIA, etc.) in the textile, electric & electronic, automobile industries and accurate test information in order to assist our clients to better cope with various environment regulations against consumer products.

Restricted Substances List Analysis



❖ EU RoHS Service

- **Guidelines for limiting use of hazardous materials within electronic and electrical products**
 - Pb, Hg, Cr6+, PBBs/PBDEs : Each 0.1 wt %, Cd : 0.01 wt %
- **RoHSII (Restriction of the use Hazardous Substances in EEE)**
 - Main points : expanding scope of focus product, CE mark obligation, definition of performer, technical report

❖ EU REACH Service

- **Analysis of SVHC Candidate list**

❖ Analysis service of Halogen & Sulfur

- **Br(Bromine), Cl(Chlorine), F(Fluorine), I(Iodine), S(sulfur)**

❖ Analysis service of Hazardous substances on a human body

- **TVOC(Total Volatile Organic Compounds)**
- **Toluene, Benzene, Formaldehyde and 13 varieties**

❖ Instruction and Others

- **Consulting**
 - Technical support to deal with RoHS(Korea, China, Europe), REACH, CPSIA
- **Seminar**
 - Training & Seminar for visiting company corresponding to environment regulation
 - Management investigation & Instruction of processing hazardous substances system(Hazardous Substances Process Management, HSPM)
 - Support business of KS, IEC/ISO standardization
 - Support & Analysis of defective products
- **Government-supported business**
 - Construction of Green Company Supply Chain
 - Excellent Green-Biz Consulting
 - Green Partnership for small, medium, and large Business
 - Problem-solving support by providing technology experts
 - Acquisition of overseas standards
 - Consulting for environmental accreditation
 - Analysis support business to deal with environment regulation

🔍 Service Guide

- KOTITI not only provides analysis test reports also promises 'One-Stop Service' related to environmental regulations such as visiting consultation, problem-solving, support of education, connection of government funds (administrative assistance), etc.

Cosmetics Analysis



Items of cosmetics test & inspection

- **Cosmetics in circulation**
 - Domestic & imported cosmetics
- **Functional cosmetics**
 - Whitening, anti-wrinkle, UV protection, multi-functional cosmetics
- **Test and inspection of export cosmetics**
- **Inspection of hazardous substances on cosmetics raw materials**

Main items of test & inspection

- **General cosmetics**
 - Contents, pH, Pb, As, Hg, Sb, Cd, 1, 4-dioxane, methanol, formaldehyde, phthalates(BBP, DBP, DEHP), whole number of aerobic living germs
- **Functional cosmetics**
 - Whitening cosmetics : 8 types from ministry of food drug safety
 - Anti-wrinkle cosmetics : 4 types from ministry of food drug safety
 - UV protection cosmetics : 28 types from ministry of food drug safety

Other testing items

- **Antiseptics contents**
- **Cosmetic raw materials confirmation & contents**
- **Microorganism preservative ability**

Inspection of cosmetics container

- **Processing test inspection on quality control level**
 - Heavy metals : Pb, As, Hg, Sb, Cd, Ni, Cr+6 and etc.
 - Hazardous materials : phthalates(BBP, DBP, DEHP)



Service Guide

- We perform test & inspection on a wide variety of hazardous materials of packaging containers, cosmetic raw materials, imported and exported cosmetic products or domestics that are in circulation.
- We offer test and inspection services for preparing documents to get permission of functional cosmetics.

Water Analysis



Testing table

Classification	Use	Period	No. of items
Village waterwork	Water-purification	Quarterly	13
Drinking water	Mineral spring	Yearly	46
Ground water	Drinking water	Biennially	46
	Public water	Triennially	19
	Agriculture & Industrial water	Triennially	14
Water supply equipment	Water tank	Yearly	6
	Water supply pipe	Yearly	7
School	Water purifier	Quarterly	2

- Test application information

- Visiting skilled technical experts in person to get water sample after consultation and application
- Apply KOTITI with client's self-acquiring water sample

Testing & analysis items

- Microorganisms

- Total colonies, Total coliforms, Fecal coliforms, *E. coli*, *P. aeruginosa*, *Salmonella*, *Shigella*, *Yersinia*, *Fecal Streptococcus*, *C. perfringens*

- Inorganic materials

- Pb, F, As, Cr, Hg, CN, Se, NO₃-N, B, Cd, Sb, NH₃-N

- Organic materials

- Phenol, Diazinon, Fenitrothion, Organic phosphorus, Parathion, Carbaryl, Benzene, Toluene, Ethyl Benzene, 1, 4-dioxane, Xylenes, 1, 1, 1-Trichloroethane, Dichloromethane, 1, 1-Dichloroethylene, Tetrachlorocarbon

- Esthetic materials

- Taste, Odor, Hardness, ABS, Al, Zn, Mn, pH, Cu, SO₄²⁻, Cl⁻, Fe, Total Solids, Color, Turbidity, Consumption of KMnO₄

- Antiseptics and antiseptic by-product

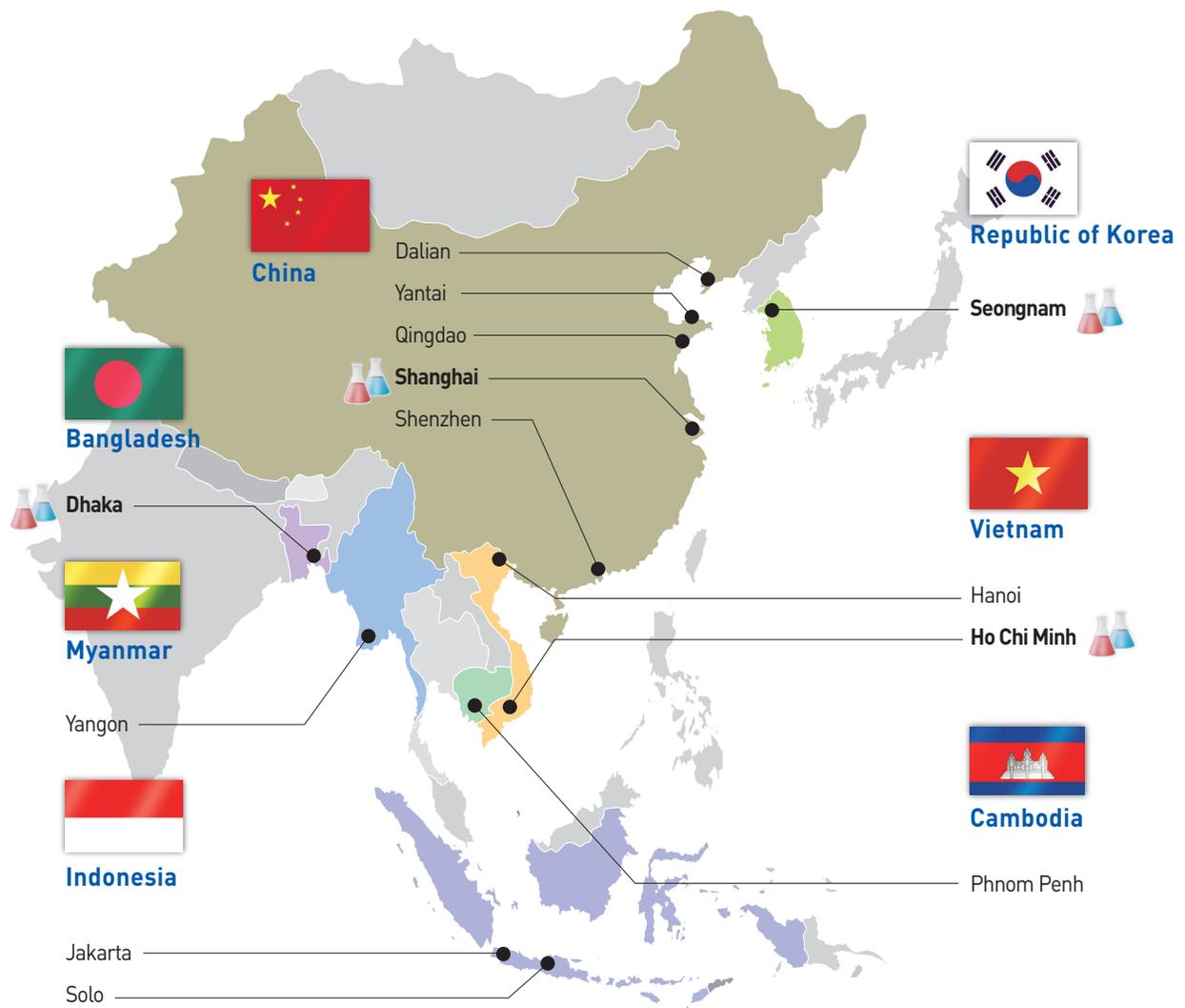
- Residual chlorine, total trihalomethane (THMs), chloroform, CHBrCl₂, CHBr₂Cl, chloral hydrate, dibromo acetonitril, dichloro acetonitril, trichloro acetonitril, Halo Acetic Acids (HAAs), formaldehyde

Service Guide

- We perform water quality analysis for all categories of drinking water and source water in accordance with the test standards for water quality as an authorized water inspection institute from the Han River Basin Environmental Office(HRBEO) under the Ministry of Environment.

∴ KOTITI Overseas Network

- **International Corporation and branch offices:**
Branching out in over 6 countries in 12 different areas
- **Independent Corporations running their own laboratories:**
Shanghai, Ho Chi Minh, and Dhaka



🌐 Business information of International Corporation and other branch offices

- Test for offshore buyers (MATALAN, Forever21, CPSIA, REACH, other USA & EU Clients)
- Korea domestic demand brand test (E-Land, LOTTE International, KC Mark, etc)
- Quality inspection of Korea & overseas buyers
- LG, Samsung electronic & electrical product test
- Jewelry hazardous substances test

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