

NEMOTO

CORPORATE
PROFILE

Greeting

Our corporate motto is
“Chemicals for the Benefit of the Earth and Mankind”

The 21st century has brought a paradigm shift in values shared by people around the world. The age of total faith in science and technology as the path to greater convenience and prosperity for mankind is over. A new set of values has defined a new role for science and technology in what will be an ongoing challenge for mankind to coexist with the environment that nurtures us. In other words, we must now focus our human ingenuity on a new generation of environmentally friendly science and technology.

Since its founding in 1941, Nemoto & Co., Ltd. has continued to be a technological development-oriented corporate group dedicated to the ideal of “Chemicals for the Benefit of the Earth and Mankind” and focusing our resources on the development of new products in specialized areas that meet the highest international standards. Primarily, we have applied innovative technologies to develop unique new materials, products and businesses in the fields of Safety, Security and Health.

In our luminous paints business we apply our core technologies in the three fields of phosphor manufacturing technology, radioisotope handling technology and painting and printing technology to seek out and develop new applications and new business opportunities. Working from our core competency in luminous paints, we have expanded into other fields with new products employing luminescent materials for lighting, display and the like, while also expanding our businesses in the fields of sensors and life science.

Going forward, the independent companies comprising the Nemoto Group will continue to pursue the specialization, diversification and globalization of business based on the ideal of “finding what we can do today to summon in the future” (from Peter F. Drucker). We ask for your continued support of our corporate activities.



Mieko Nemoto
President&CEO,
NEMOTO & CO., LTD.

The Nemoto Vision

Management Principles

The Nemoto Group aims to improve the wellbeing of society and the environment through our business activities.
The Nemoto Group's objective is to be a world-leading corporate group with unique technology and products.

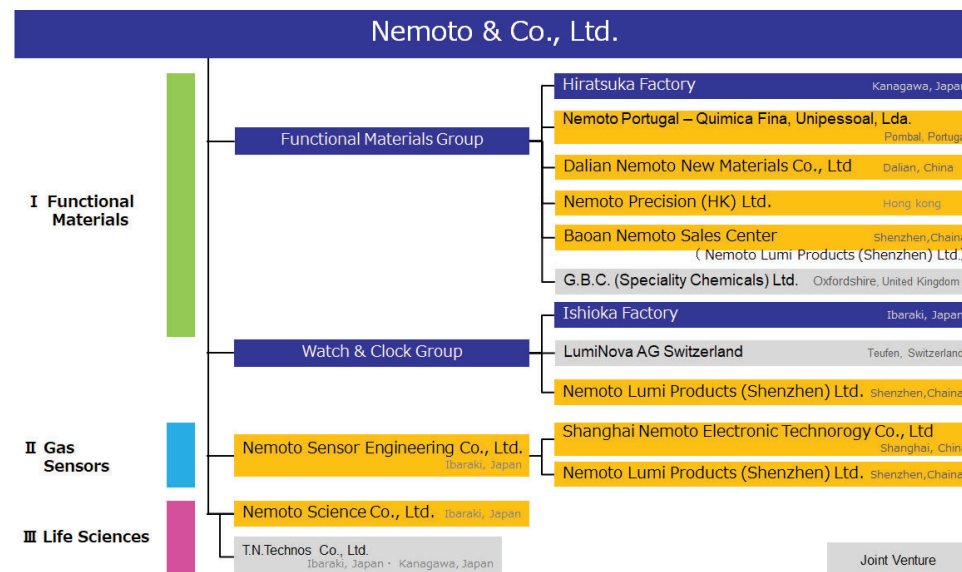
Environmental Principle

The Nemoto Group is aware that protection of the environment is of utmost importance for humankind, and we commit ourselves to running all aspects of our businesses with full consideration for any impact on the environment.

Quality Principle

The Nemoto Group aims for corporate practices and management that places top priority on customer satisfaction by supplying products and services of the highest quality that answer real customer needs.

Nemoto Group Map



Nemoto Global Network



- Nemoto Portugal - Quimica Fina, Unipessoal, Lda. (Pombal, Portugal)
- Dalian Nemoto New Materials Co., Ltd. (Dalian, China)
- Nemoto Precision (HK) Ltd. (New Territories, Hong Kong)
- LumiNova AG Switzerland (Teufen, Switzerland)
- Shanghai Nemoto Electronic Technology Co., Ltd. (Shanghai, China)
- Nemoto Lumi Products (Shenzhen) Ltd. (Shenzhen, China)



Nemoto & Co., Ltd.

Applying our core technologies as an R&D-oriented company

Corporate Profile

Founded December 1941
Capital 99,000,000 (Yen)

President & CEO Mieko Nemoto
Senior Managing Director Mitsuhiro Murata
Managing Director Shinichi Watanabe
Director Jiro Ono
Auditor Kenji Tsuruhara
Auditor Michiko Nemoto

Head Office

4-10-9 Takaido-Higashi, Suginami-ku,
Tokyo 168-0072, Japan

■ Administration Department
Tel +81-3-3333-2711 Fax +81-3-3333-2712
■ Watch Related Business
Tel +81-3-3333-7341 Fax +81-3-3333-7344
■ Intellectual Property
Tel +81-3-3333-2751 Fax +81-3-3333-9568

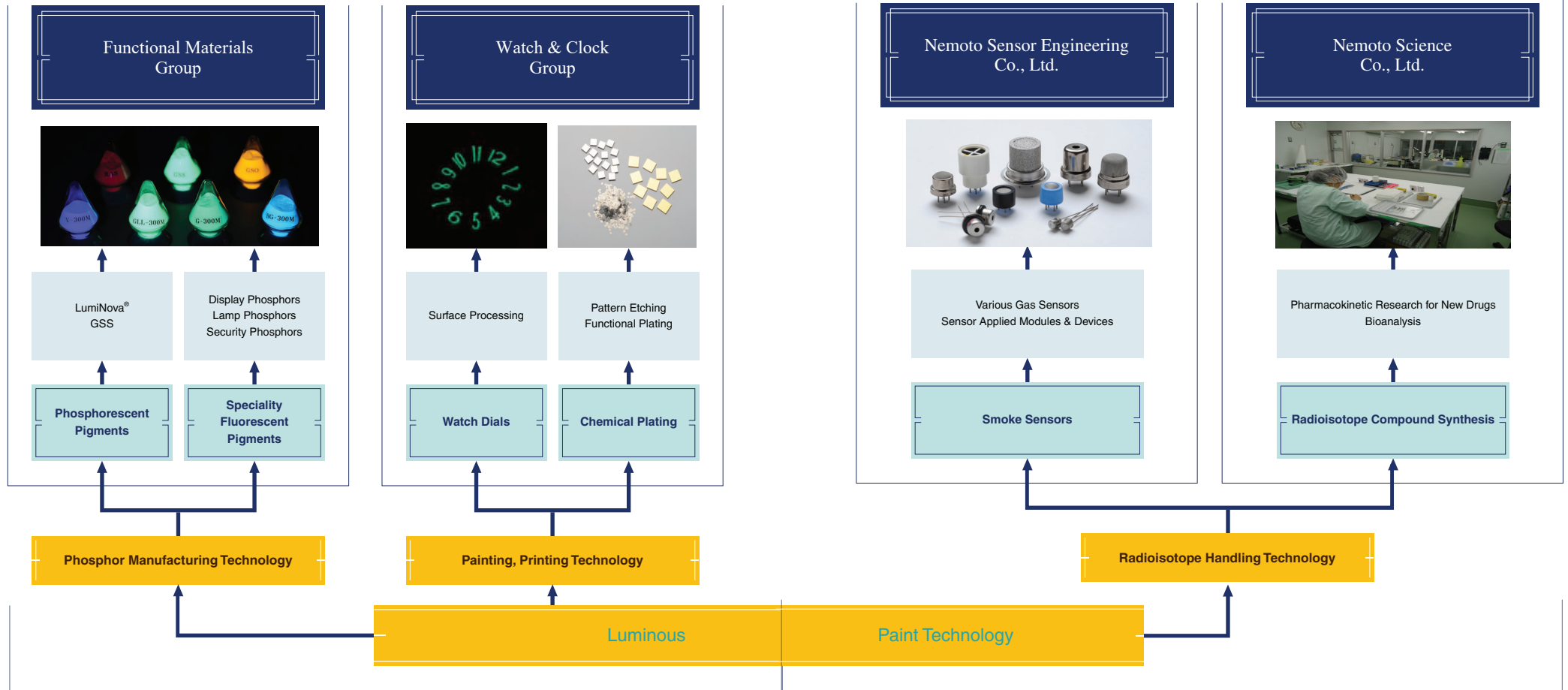


Mieko Nemoto
President & CEO

About the Nemoto Group (Sep 2017)

Our corporate theme is “Chemicals for the Benefit of the Earth and Mankind”

Group and Affiliated Companies: 13 (Japan, China, Hong Kong, Portugal, Switzerland)
Employees: Approx. 650



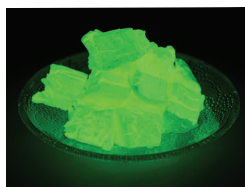
Functional Materials

Products

Phosphorescent Pigments

LumiNova®

Developed by Nemoto in 1993, LumiNova® are hailed as “dream phosphors” that glow 10 times brighter and 10 times longer than conventional phosphorescent pigments. LumiNova® is excited by a wide wavelength band (200-470 nm) of light from sources ranging from sunlight to fluorescent lighting to emit high levels of brightness and over longer periods. Furthermore, with special processing it can be used outdoors under direct sunlight because of its excellent light fastness. LumiNova® is a people-friendly and environment-friendly phosphorescent pigment that is absolutely free of hazardous and radioactive substances.



LumiNova® pigment (in the dark)



LumiNova® is also used in luminous emergency exit signage in public buildings, tunnels, railway stations and passenger transport around the world.

GSS

Nemoto GSS series are phosphorescent pigments characterized by their ability to absorb/store the energy of natural and artificial light and to emit it in the form of visible light in the dark. The cycle of absorbing, storing, and emitting light can be repeated virtually indefinitely. Standard GSS consists of very fine crystals of zinc sulfide doped with copper (ZnS:Cu) and it can be mixed into most synthetic resins and processed into different forms for a wide range of uses in paints and inks, etc.

Speciality Fluorescent Pigments

Display Phosphors

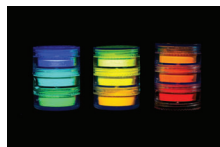
CCFL Phosphors, PDP Phosphors, EL Phosphors

Security Phosphors

Anti-counterfeiting phosphors,
Brand protection phosphors

Speciality Lamp Phosphors

Lamp phosphors, Black light phosphors



R&D Center
Hiratsuka, Japan



ISO 9001

**Nemoto Portugal -
Quimica Fina, Unipessoal, Lda.**
Pombal, Portugal ISO 9001



**Dalian Nemoto
New Materials Co., Ltd.**
Dalian, China ISO 9001/ISO 14001



Contact Us

Nemoto Portugal - Quimica Fina, Unipessoal, Lda.

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Tel: +351-236-209310
Fax: +351-236-216185

EUROPE

Nemoto Precision (HK) Ltd.

Rm 1213C, Landmark North, 39 Lung Sum Avenue,
Sheung Shui, Hong Kong

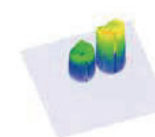
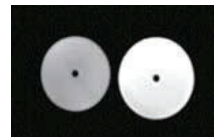
Tel: +852-3703-5531
Fax: +852-3596-3272

ASIA

Watch & Clock

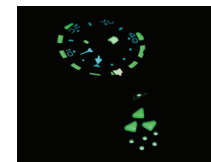
Products

Since its development, LumiNova® have been used by timepiece makers worldwide for luminous watch/clock dials and hands. In the Swiss watch/clock making industry, LumiNova®-based phosphorescent pigments produced by the Nemoto Group enjoy a nearly 100% market share.

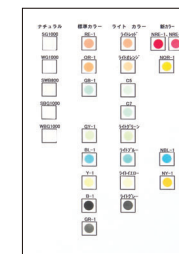


LumiNova® printing for Watch & Clock dials & Hands

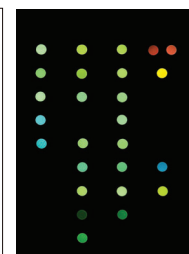
Several kinds of index sticker including LumiNova®



LumiNova® Capsule



LumiNova® Color Variation



Index sticker

**Nemoto
Lumi Products (Shenzhen) Ltd.**
Shenzhen, China



LumiNova AG Switzerland
Teufen, Switzerland



Nemoto's joint venture in Switzerland, which produces special high grade Swiss Super-LumiNova® for the Swiss watch industry under Nemoto's LumiNova® patents.

Contact Us

United Mineral & Chemical Corporation

http://www.umccorp.com/
inquiry@umccorp.com

Our US Agent

G.B.C. (Speciality Chemicals) Limited

http://www.luminova.co.uk/
info@gbcspcs.co.uk

Our EU Agent

Nemoto Sensor Engineering Co., Ltd.

Corporate Profile

Founded	June 2008	Marketing Group	
Capital	60,000,000(Yen)	4-10-9 Takaido-Higashi, Suginami-ku, Tokyo 168-0072, Japan Tel: +81-3-3333-2760 Fax: +81-3-3333-7344	
President & CEO	Mieko Nemoto		
Managing Director	Shinji Miyazaki	Ushiku Works	Since Feb 2017
Director	Hiroto Yuki	R&D Division	ISO 9001 ISO14001
Director	Mitsuhiro Murata	4-2-1 Hitachino-nishi, Ushiku-shi, Ibaraki-ken 300-1206, Japan	
Auditor	Shinichi Watanabe	Tel: +81-29-872-7771 Fax: +81-29-872-7770	

Main Products Development

- 1978 NIS-09C is developed and marketed as an ionization type smoke sensor
- 1979 Hot-wire type gas sensor NAP-7A developed, mounted on gas detectors
Gas detector mounting the hot-wire type gas sensor NAP-7A wins UL1484 certification
- 1984 NAP-2A, NAP-3A developed as the world's first hot-wire type gas sensors to combine the detection element and compensator element in one unit, mounted on various types of gas detectors
- 1993 World's smallest class catalytic type gas sensors NAP-55A, NAP-66A developed, contributing to slimmer detectors
- 1997 NAP-78A gas sensor for monitoring incomplete combustion is developed, mounted on water heaters
- 2000 Electrochemical CO sensor NAP-701 developed, mounted on CO detectors
- 2002 Industrial-use flammable gas sensor NP series developed and marketed World's smallest class electrochemical CO sensor NAP-505 developed, mounted on CO detectors
Industrial-use electrochemical CO sensor NE series developed and marketed
- 2004 Electrochemical CO sensor NAP-505 wins UL1484 certification
- 2005 NSU-131A and NSU-131AF developed as sensors for fuel-cell gas leakage, mounted on fuel cells
- 2008 Sensor development and manufacturing divisions spun off as a separate company, Nemoto Sensor Engineering Co., Ltd.
CO intake monitor BC-711M developed, approved and patented as a medical device, sales begin
- 2011 Industrial-use electrochemical CO sensor NE-7CO-H for detecting CO in exhaust gas developed and marketed
- 2012 NE-7CO developed and marketed as a high-sensitivity type of the NE-CO
- 2013 NAP-80A developed and marketed as a type of the NAP-78A with high-concentration hydrogen tolerance
- 2014 NAP-57A developed and marketed as an industrial-use catalytic combustion type flammable gas sensor
NAP-52A developed and marketed as a consumer-use catalytic combustion type flammable gas sensor

R&D Center
Ibaraki, Japan ISO 9001/ISO 14001



Shanghai Nemoto Electronic Technology Co., Ltd.
Shanghai, China ISO 9001/ISO 14001



Contact Us

Nemoto Sensor Engineering Co., Ltd.

Marketing Group

E-mail: sensor2@nemoto.co.jp

Our products are widely sold throughout the world.

We offer a wide range of sensors with different detection principles to meet different requirements with regard to target gases, detection level of gas concentration, and differing use environments. As customer needs continue to diversify in today's market, we are working constantly to develop new technology.

Products



Catalytic (Hot-wire) type for Residential Gas Detectors



Electrochemical type for Residential Gas Detectors



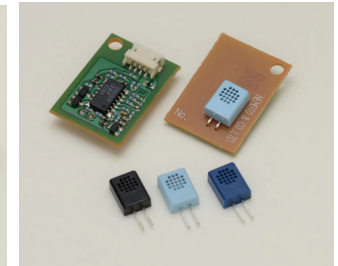
Ionization type Smoke Sensors



Catalytic (Hot-wire) type for Industrial Applications



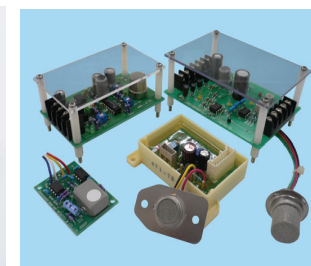
Electrochemical type for Industrial Applications



Polymer resistant type Humidity Sensors



Catalytic (Hot-wire) type for Commercial Applications



Various units



Electrochemical type CO monitor

Nemoto Science Co., Ltd.

Corporate Profile

Founded	May 2000
Capital	80,000,000(Yen)
Chairman & CEO	Mieko Nemoto
President	Hiroki Tomisawa
Senior Managing Director	Yoshihiko Tagawa
Managing Director	Akio Morohashi
Director	Mitsuhiro Murata
Auditor	Shinichi Watanabe

Head Office

4-10-9 Takaido-Higashi, Suginami-ku, Tokyo 168-0072, Japan

Tsukuba Laboratories

6136-4 Ohnogo-machi, Joso-shi, Ibaraki-ken 300-2521, Japan
Tel: +81-297-24-0781 Fax: +81-297-24-1047

Main Products Development

- Dec. 1941 Founded for the production and sales of self-luminous paints for watches and other instruments.
- Jun. 1962 Incorporated Nemoto Photo-Chemical Co., Ltd. into Nemoto & Co., Ltd.
- Feb. 1984 Started custom syntheses of radiolabeled compounds for ADME studies at Tokyo laboratories of Nemoto & Co., Ltd.
- Oct. 1986 Started contract ADME studies on radiolabeled compounds at Tsukuba plant
- Apr. 1989 Completed second research building for life science at Tsukuba plant. (Synthetic and pharmacokinetic test facility)
- Nov. 1989 Completed third research building for life science at Tsukuba plant (Pharmacokinetic test facility and data storage facility)
- Mar. 1995 Started contract research business for toxicokinetic analysis in accordance with GLP
- Apr. 1997 Started contract research business for pharmacokinetic studies in accordance with Data Integrity Standards
- May. 2000 Established Nemoto Science Co., Ltd. taking over all operations from the life science division of Nemoto & Co., Ltd.
- Jul. 2001 Started contract research business for *in vivo* / *in vitro* pharmacokinetic screening tests in full scale
- Aug. 2001 Cooperated with RC TRITEC AG (Switzerland) and started contract syntheses of tritium labeled compounds
- Jan. 2006 Cooperated with Institute of Accelerator Analysis Ltd. and started contract clinical research using AMS detection
- Oct. 2009 Cooperated with Curachem Inc. (Korea) and expanded contract syntheses services of radiolabeled compounds
- Feb. 2014 Started contract research business for stability test for formulations
- Mar. 2015 Obtained certification for the laboratory animal facilities from Japan Health Science Foundation
- Dec. 2016 Completed animal experimental building for contract ADME studies on radiolabeled compounds

Tsukuba Laboratories Ibaraki, Japan



Contact Us

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Contract research for drug discovery and development

Drug discovery research

Radio-synthesis and purification
In vivo / *in vitro* pharmacokinetic studies

Pre-clinical development (Data Integrity Standards*)

Radio-synthesis and purification
In vivo / *in vitro* pharmacokinetic studies
Toxicokinetic studies (GLP)



Clinical development (Data Integrity Standards* or GLP**)

Phase I -IV studies
Bioequivalence studies



* Data Integrity Standards: "Data Integrity Standards for Product Application": Japanese regulations
** GLP: Good Laboratory Practice

Competitive Advantage

- Well-trained technicians
- Competent instruments
- Report written in CTD
- Use of a variety of radioisotopes permitted

^3H , ^{14}C , ^{22}Na , ^{32}P , ^{35}S , ^{45}Ca , ^{51}Cr , ^{57}Co ,
 ^{59}Fe , ^{65}Zn , $^{99\text{m}}\text{Mo}$, $^{99\text{m}}\text{Tc}$, $^{110\text{m}}\text{Ag}$, ^{111}In ,
 ^{123}I , ^{125}I , ^{131}I , ^{147}Pm , ^{153}Gd

Stability test (Data Integrity Standards*)

Identification and Assay
Performance tests



GLP Compliance

First inspection	Rating : A	August 24, 1998
Second inspection	Rating : A	June 10, 2002
Third inspection	Rating : A	August 3, 2005
Fourth inspection	Rating : A	June 24, 2008
Fifth inspection	Rating : A	June 6, 2011
Sixth inspection	Rating : A	July 24, 2014
Seventh inspection	Compliant	August 24, 2017