

November 4, 2014

NGK SPARK PLUG CO., LTD.

**Announcement of a business capital tie-up contract
of the asthma monitoring system with Spirometrix**

Nagoya, November 4, 2014 —NGK SPARK PLUG CO., LTD. (President and CEO: Shinichi Odo, Headquarters: Nagoya, hereafter NTK) are pleased to announce that we entered into the business capital tie-up contract with Spirometrix (CEO: J Dean Zikria, Headquarters, CA, USA) and the R&D and manufacturing agreement of the asthma monitoring system to measure the level of Nitric Oxide (NO) in the breath.

Background and Purpose

NTK has developed the automotive sensor business as one of a core business. We have a top global market share in the “oxygen sensors”, which performs feedback to the ECU by measuring the oxygen concentration in the exhaust gas, leading to the appropriate air-fuel ratio and also deliver the Nitrogen Oxide (NOx) sensor for the diesel exhaust gas. In our medium to long-term strategy, we are considering new businesses in the field of next-generation vehicles, the environment and energy and health care where our ceramics technologies take advantage.

Spirometrix, founded in 2011, focuses on research, development and commercialization of novel breath analysis devices for application in disease diagnosis and management for asthma. In recent years, non-invasive measurement and monitoring of NO in the exhaled breath is becoming established as the biomarker of asthma. (*1)

Both parties' goals are well aligned. NTK gains access to a new market in medical devices for utilizing its existing NOx sensor technology and Spirometrix gains access to sophisticated, high quality mass production of sensors.

14-18 Takatsuji-cho, Mizuho-ku,
Nagoya, 467-8525, Japan

Contract Overview

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|-------------------------|--|
| 1. Contract date | October 23, 2014 |
| 2. Equity investment | \$5 million (in cash) |
| 3. Contractual coverage | appointed one director from NTK
NTK developed a sensor unit of the NO sensor, and is responsible for its manufacturing.
Spirometrix is responsible for unit development and sales to the world market. |

The Future Development

We will strive to develop and manufacture this NO sensor with the aim of further spread of patient-friendly exhaled NO measurement system. This contract is our stepping stone to the medical field in the medium to long term strategy, and we aim to expand the medical field product.

Taking our advantage of the technologies developed in existing businesses, we will develop and promote new businesses and products.

For Your Reference: About Asthma

Asthma is an inflammatory respiratory disease. Due to irritants arising from allergens and the living environment of a patient, an airway reacts sensitively and narrows its lumen. This brings a sudden cough and a rasping breath. A severe seizure may be fatal, and around 6,000 people in Japan died in a year (*2). In the world, approximately 235 million people are suffering from asthma (* 3).

The level of NO has been reported to be elevated in exhaled breath of patients with asthma, and its level can be reduced by steroid therapy (*4). It is beginning to spread as a biomarker of asthma in Europe and the United States. In Japan, the importance of measuring the level of NO in the breath has been noted in academic societies.

(*1) Source: The Journal of the Japanese Respiratory Society 48 (1), 2010. P17

(*2) Source: Japan Medical Association Website

(*3) Source: WHO Website

(*4) Source: The Journal of the Japanese Respiratory Society 48 (1), 2010. P17

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■About Spirometrix

Founded in 2011, the company's mission is to provide cost effective, non-invasive products for the management of chronic disease such as: asthma, COPD, and chronic pulmonary hypertension using a nexus of consumer technologies for preventative healthcare through our proprietary set of sensors and algorithms.

For more information, visit

<http://spirometrix.com/index.html>

■About NGK SPARK PLUG CO., LTD.

NGK SPARK PLUG CO., LTD., headquartered in Nagoya, Japan, is a comprehensive ceramics processing manufacturer. We hold a world leading share of spark plugs and automotive sensors for internal combustion engines and also offer a broad lineup of packages, cutting tools, bio ceramics and industrial ceramics. Our global network of sales and manufacturing organizations, and over 12,000 employees deliver value creation to the world. We are now contributing to a sustainable society by developing products related to the environment energy, next generation vehicles and the medical device and diagnostic. The company's belief is to embrace the challenge of new era under the catch-phrase of "manufacturing only one and number one product".

For more information, visit

<http://www.ngkntk.co.jp/english/index.html>

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