February 29, 2016

Tanaka Precious Metals
Tanaka Holdings Co., Ltd.

TANAKA to Exhibit at FC EXPO 2016

Tanaka Precious Metals exhibits initiatives altogether ahead of full-scale take-up of fuel cells, including platinum-based electrode catalysts and hydrogen permeable film, plus our first exhibit of an electrode catalysts for water electrolysis

Tanaka Holdings Co., Ltd. (Head office: Chioyoda-ku, Tokyo; Representative Director & CEO: Akira Tanae) today announced that Tanaka Precious Metals, Tanaka Kikinzoku Kogyo K.K. (Head office: Chioyoda-ku, Tokyo; Representative Director & CEO: Akira Tanae), which operates the Tanaka Kikinzoku Group manufacturing business, will exhibit at "FC EXPO 2016—12th International Hydrogen and Fuel Cell Expo," one of the world's largest fuel cell exhibitions, which will be held at Tokyo Big Sight from Wednesday, March 2 until Friday, March 4, 2016.

The booth will feature a first-ever exhibit of electrode catalysts for polymer electrolyte electrolysis cells (PEECs), which are used in the manufacture of hydrogen, which has drawn the attention over the years from the renewable energy field. In addition, there will be a panel display and explanations by staff representatives regarding the precious metal materials used in fuel cell and related technologies that are required in a hydrogen-based society, such as electrode catalysts for polymer electrolyte fuel cells (PEFCs), palladium alloy hydrogen permeable films and combustion catalysts.

With general release of fuel cell vehicles, fiscal 2015 is forecast to be the biggest year ever for shipments of fuel cell electrode catalysts. At this exhibition, Tanaka Kikinzoku Kogyo will exhibit and show off all the fuel cell-related precious metal materials it has been developing and manufacturing over many years. Incidentally, Tanaka has exhibited at FC EXPO every year since it was first held.

The precious metals technology acquired over 130 years by Tanaka Kikinzoku Kogyo since its establishment in 1885 is utilized in the development of fuel cell electrode catalysts, which began in 1985. With demand for residential-use fuel cells and the launch of fuel cell vehicles in recent years, Tanaka invested about one billion yen in 2013 to build a dedicated plant, within its Kanagawa Prefecture plant, for the development and manufacture of fuel cell catalysts. It is developing systems for stable supply of fuel cell catalysts in the expectation of even greater demand going forward.

〈Artist's impression of booth〉


〈First-ever exhibit of electrode catalysts for water electrolysis〉

Overview of FC EXPO 2016—12th International Hydrogen and Fuel Cell Expo booth

■ Dates: 10am-6pm, Wednesday, March 2 to Friday, March 4, 2016 (closes at 5pm on final day)

■ Venue: Tanaka Kikinzoku Kogyo Booth, Tokyo Big Sight (E36-24)

■ Main contents of exhibit:

New Energy Products	Technology Description
New product: Electrode catalysts for water electrolysis	These electrode catalysts are used as the anodes (oxygen-generation poles) in water electrolysis systems. We have succeeded with catalyst surface control, and are currently mass producing the catalysts.
Electrode catalysts for fuel cell (platinum catalysts, platinum/ruthenium catalysts and platinum/cobalt catalysts)	We combine precious metal catalyst technologies and electrochemical technologies, cultivated over many years, in the development of highly active catalysts for fuel cell cathodes, and catalysts with excellent carbon monoxide (CO) poisoning resistance for fuel cell anodes.
Palladium alloys, hydrogen permeable films	In fuel cell hydrogen production, we utilize palladium, which is the only metal that solely allows the permeation of hydrogen gas so that impure gases are removed from hydrogen gas materials. With Tanaka Kikinzoku Kogyo's ultra-thin film processing technology and high purification technology, we are able to offer purified hydrogen gas that is highly reliable with maximum hydrogen permeability.
Exhaust gas purifying catalysts	Catalysts for the purification and deodorization of impure gases resulting from the hydrogen purification process. Metal honeycomb catalysts that support precious metal catalysts are used in order to enable low-temperature combustion.
Reforming catalysts	The fuel cells becoming popular for residential and other applications use hydrogen to generate electricity. Reforming catalysts are able to generate hydrogen from natural gas and other hydrocarbons, with methane, the main component of natural gas, and other steam reforming catalysts currently being developed. We are able to supply low cost catalysts by controlling carbon formation with ruthenium, controlling by-products with platinum and rhodium, maintaining activity across a wide range of temperatures, and even maintaining a high level of activity with low precious metal loadings.
PROX catalysts	These catalysts use oxygen to selectively remove the carbon monoxide from reforming gas used in fuel cells. They feature high activity at a wide range of temperatures, from low to high, and even at a high space velocity, thanks to the high dispersion of precious metals that enables us to reduce precious metal loadings and offer low cost products.

■Tanaka Holdings Co., Ltd. (Holding company of Tanaka Precious Metals)

Headquarters: 22F, Tokyo Building, 2-7-3 Marunouchi, Chiyoda-ku, Tokyo
Representative: Akira Tanae, Representative Director & CEO
Founded: 1885 Incorporated: 1918 Capital: 500 million yen
Employees in consolidated group: 3,511 (FY2014)
Net sales of consolidated group: 856.4 billion yen (FY2014)
Main businesses of the group:
Strategic and efficient group management and management guidance to group companies as the holding company at the center of the Tanaka Precious Metals.
Website: http://www.tanaka.co.jp/english (Tanaka Precious Metals),
http://pro.tanaka.co.jp/en (Industrial products)

■Tanaka Kikinzoku Kogyo K.K.

Headquarters: 22F, Tokyo Building, 2-7-3 Marunouchi, Chiyoda-ku, Tokyo
Representative: Akira Tanae, Representative Director & CEO
Founded: 1885 Incorporated: 1918 Capital: 500 million yen
Employees: 1,992 (as of October 1, 2015)
Sales: 872,677 million yen (FY2014)
Main businesses:
Manufacture, sales, import and export of precious metals (platinum, gold, silver, and others) and various types of industrial precious metals products.
Website: http://pro.tanaka.co.jp/en

<About the Tanaka Precious Metals>

Established in 1885, the Tanaka Precious Metals has built a diversified range of business activities focused on the use of precious metals. On April 1, 2010, the group was reorganized with Tanaka Holdings Co., Ltd. as the holding company (parent company) of the Tanaka Precious Metals. In addition to strengthening corporate governance, the company aims to improve overall service to customers by ensuring efficient management and dynamic execution of operations. Tanaka Precious Metals is committed, as a specialist corporate entity, to providing a diverse range of products through cooperation among group companies.

Tanaka Precious Metals is in the top class in Japan in terms of the volume of precious metal handled, and for many years the group has developed and stably supplied industrial precious metals, in addition to providing accessories and savings commodities utilizing precious metals. As precious metal professionals, the group will continue to contribute to enriching people's lives in the future.

The five core companies in the Tanaka Precious Metals are as follows.

- Tanaka Holdings Co., Ltd. (pure holding company)
- Tanaka Denshi Kogyo K.K.
- Tanaka Kikinzoku Jewelry K.K.
- Tanaka Kikinzoku Kogyo K.K.
- Electroplating Engineers of Japan, Limited