

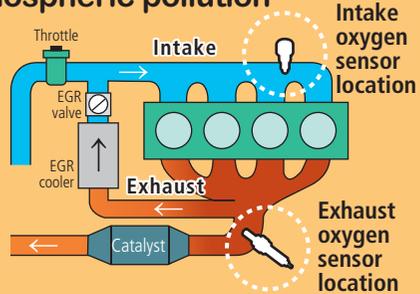
# Providing new value to people worldwide

The NGK SPARK PLUG Group will provide new value in diverse fields in order to realize our corporate philosophy.

New products

## Developing an intake oxygen sensor to prevent global warming and atmospheric pollution

NGK SPARK PLUG decided to develop and commercialize the intake oxygen sensor ahead of others in the industry, applying technology from automobile exhaust oxygen sensors, extensively used in many automotive sensors. The intake oxygen sensor will contribute greatly to further reducing NOx generated in diesel engines and CO<sub>2</sub> produced by gasoline engines by precisely controlling the EGR system that recirculates exhaust gas. In the future, we will make preparations for mass production and aim to expand deployment.



New businesses

## Promoting the fuel cell business to contribute to solving environmental problems



The commercialization of fuel cells as a next technology of power generation for business and industry is approaching. In 2014, NGK SPARK PLUG and Mitsubishi Hitachi Power Systems, Ltd. formed a business tie-up targeting mass production of cylindrical cell stacks, the power generating elements used in solid oxide fuel cells (SOFC). Combining our technologies, the two companies are working to construct a production line in fiscal 2017 in order to contribute to the realization of a low carbon society.

New products

## Promoting improvements to products to lighten the load on the medical frontline

A bone filling material in paste-form is used for sites where a bone transplant is necessary such as bone loss or a fracture. Cerapaste is a paste-form bone filling material developed by NGK Spark Plug.

For the conventional product, mixing is performed by rotating a mixing rod, but lightening the workload involved in mixing was a challenge. In order to solve this, NGK SPARK PLUG has developed Cerapaste (improved) that can be mixed by just moving the mixing rod back and forth, which will contribute to lightening the load on the medical frontline.



# through new products and new businesses

## Pursuing the DNA Project: an engine to promote new businesses

The DNA (Dynamic New Approach) Project is an engine to promote new businesses launched in 2009. It is a new company-wide initiative to create new businesses separately from the conventional approach in research and development departments.

The 4<sup>th</sup> series of DNA initiated in spring 2014 brought together about 30 passionate volunteers with diverse skills and ideas, ranging from young employees through to veterans. They met up about once a week to pursue in-house and external investigations by each of the teams that were formed on a voluntary basis and pieced together proposals for new businesses.

Following a final review in spring 2015, a number of proposals are now progressing through investigation into commercialization. It is expected to produce rapid progress as a project to drive the future of the NGK Spark Plug Group, not only in the creation of new businesses, which was the original objective, but also in the development of human resources and organizational culture.



### Voice of Our Project Member

#### What I got out of the activities was huge

#### Daisuke Tahira

Sensor Engineering Dept. II,  
Sensor Division

I am very grateful to get the opportunity to actually shape the ideas that I want to try.

I think that experiencing the flow of a business proposal that cannot be experienced in the normal course of business, such as the difficulty of making a business materialize, interviews with potential customers following detailed study, and making a proposal to management, will be a great asset for me in tackling my work in the future.

