Best New Business Process Award

Establishment of industrial cluster in the commercial aircraft engine business

Mitsubishi Heavy Industries Aero Engines, Ltd. (MHIAEL)

Expanding aerospace industry base by establishing an industrial cluster

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(In charge of providing instructions regarding engineering methods to companies in the industrial cluster and support of facilities introduction)

——Please provide an outline of the project.

In producing engine parts for commercial aircraft, we established an industrial cluster of subcontractor manufacturers and taking advantage of subsidies from the government and local municipalities, built a complete production system, thereby strengthening production capacity and reducing costs. For this particular project, about 100 people from Mitsubishi Heavy Industries Aero Engines, Nagoya Guidance & Propulsion Systems Works, and companies from the cluster took part. It took about four years from conception to actual realization. At first, we formed an industrial cluster around a group of partner companies of the Nagoya Guidance & Propulsion Systems Works, Meiyu Aerospace Support Technology Team (MASTT) for low pressure turbine blades. By transferring our engineering and quality control methods, we secured stable partners that could work comfortably within a regime of strict quality requirements for the long term.

We believe that this activity contributed to business development and expansion, in addition to strengthening the competitive edge of companies participating in the cluster, with the project substantially contributing to industrial promotion.

——Please describe any difficulties and/or impressive things you came across in this project.

Creating a win-win scheme for my company and other respective companies was one of the most difficult issues we faced. With the significant target of developing the Japanese aircraft industry together, we solved challenges one by one, and I felt a strong sense of accomplishment when the product was completed for the first time. Also, we needed to acquire certifications from European and American engine manufacturers, which was rather difficult, and it was most impressive that we all united as one to tackle audit and ultimately successfully passed them all.

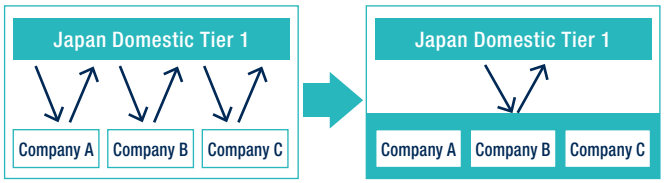
——Please explain future developments and goals.

Currently, we are engaged in launching clusters for combustors and combustor cases, and plan to expand them in our engine business. We are also launching a cluster in Matsusaka city, Mie prefecture, by applying the same scheme horizontally to the manufacture of the MRJ air craft parts. Taking advantage of the know-how we have gained through this activity, we hope to further expand the Japanese aircraft industry.

External view of the new plant of HSK

Production line of HSK

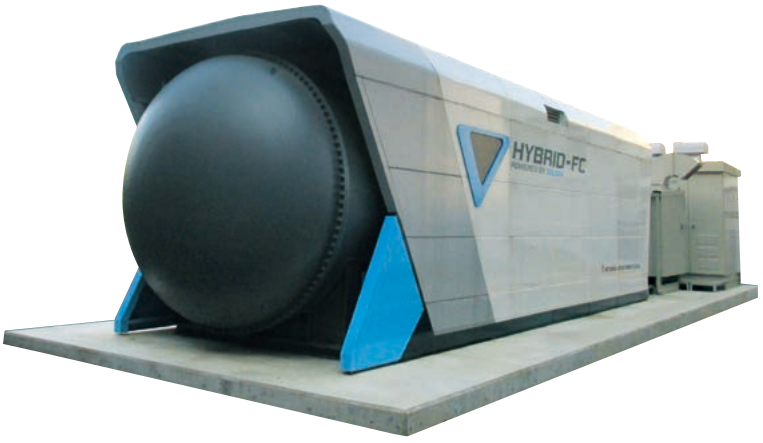
Formation of integrated clusters of small and medium enterprise



achieved it by improving the deviation of electric current within SOFC. That was really impressive to me. Joining the on-site operation at Kyushu University was also a great experience for me. I worked there together with other project members and shared the moment when the system was completed, enabling the customer to operate it automatically.

——Please explain future developments and goals.

We are aiming to introduce this system to business and industrial applications by taking advantage of its excellent features: high efficiency, co-generation, silence, and environmental-friendliness. As we work toward a full-scale market launch in FY2017 and beyond, we will continue with demonstration tests such as on long-term durability, listen to customer feedback, sharpen system advantages, and further improve the system while realizing greater cost reduction. In addition, we will create additional values by enhancing applications, such as to hydrogen stations and as reusable energy. I believe those efforts will accelerate the growth in the use of this system.



Demonstration unit of SOFC-MGT hybrid system “Hybrid-FC 250” installed at Kyushu University. This unit won a FY2015 “Good Design Award.”