

Fig.1. The basic philosophy underlying this transition was always Kaichiro Imaizumi's spirit of being autonomous and challenging, which has been passed down from generation to generation. NKK's R&D activities have been characterized by its unique and integrated R&D system that aims to create synergistic effects by combining steel production technology with engineering technology. In 1978, the Technical Research Center was reorganized into the Research and Development Division, which has been maintained to the present.

In the 1970's, various world-first technological developments came to fruition in rapid succession. For example, the continuous casting molten steel level meter (eddy current detector), NKK-CAL for continuous annealing, and snow and ice technologies, as represented by the construction of the Antarctic expedition ship. NKK's R&D activities have reached notable achievements that are second to none in the industry. Evidence of this includes the prestigious prizes and awards that the Company has received in recent years, such as the Okochi Memorial Prize (**Table 1, Fig.2**) and the National Invention Award (**Table 2, Fig.3**).

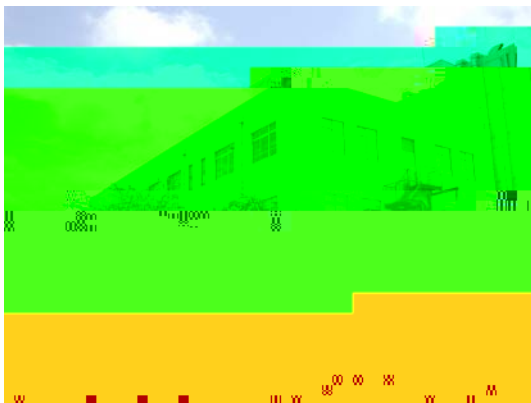
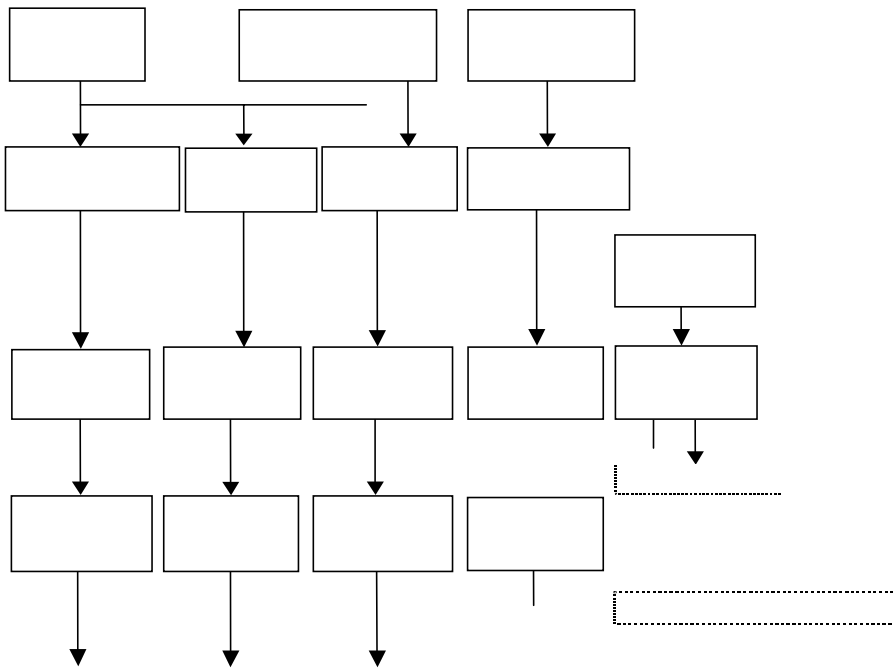
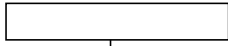
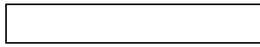


Photo 1 Former Technical Research Department Building (currently NKK Tubes Office)



Year	Theme	Prize
2001	Development and application of automatic surface flaw inspection using 3-channel polarized light	Technology Award
2000	Development of environment-friendly, new steelmaking process	Technology Award
1998	Development and application of environmentally friendly regenerative burner system	Memorial Award
1997	Development and application of high-performance rapid steel analyzer	Technology Award
1996	Development of mass-production technology of 6.5%-silicon steel sheet	Technology Award
1994	Development of manufacturing and application technology of ribbed steel pipe for steel and concrete composite structure	Technology Award
1993	Development of high-quality, rolled, clad steel plate manufacturing technology using sandwich type assembled slabs	Technology Award
1991	High strength steel with high seismic performance for building structures	Technology Award
1990	Production technology of new, high quality agglomerate (Hybrid Pelletized Sinter)	Technology Award

Fig.3

With the business consolidation of NKK and Kawasaki Steel, R&D activities will start under the new organization in April 2003. I hope that the spirit of Kaichiro Imaizumi, which has been cultivated since NKK's corporate founda-

tion, will be maintained regardless of the changes in organization, and that the JFE Group will continue to create numerous new technologies that lead the 21st century.

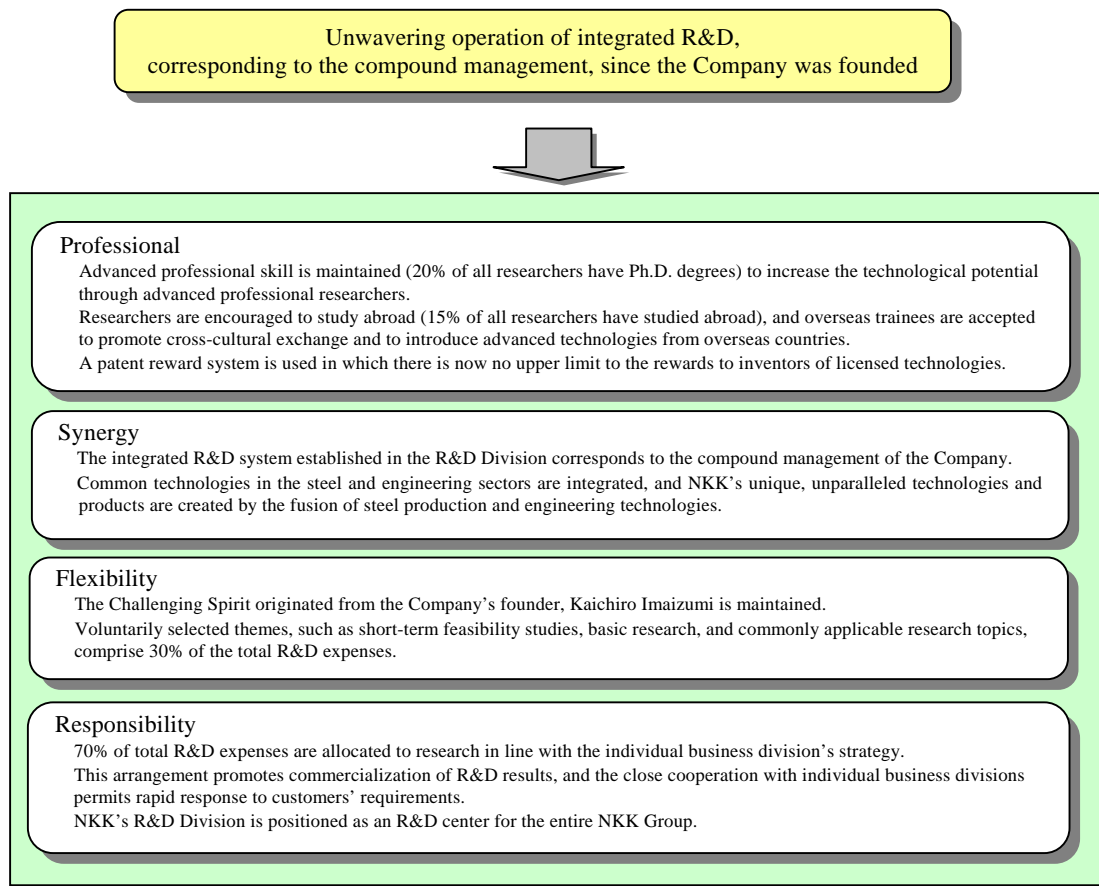


Fig.5 Characteristics of NKK's R&D activities expressed by four key words