Abridged version

KAWASAKI STEEL TECHNICAL REPORT
No.26 (June 1992)
Artificial Intelligence and Wire Rods and Steel Bars

Establishment of Basic Infrastructure for Expert System Development

Satoshi Fukumura, Katsuaki Sanou

Synopsis :
With a view to disseminating expert system (ES) applications within the company, Kawasaki Steel conducted a special program for strengthening fundamentals of its system development. As a central measure, ES development guide book was compiled to standardize development procedures, and a software was developed as supporting tools for ES building standards. The former summarized proper selection standards for ES applications, ES development processes, and job analysis at each process and its keypoints. The latter mainly emphasized eliminating computer environment dependency, the ease of gaining the mastery of tools, and a design for a hypothetical reasoning unction useful in solving vital planning problems in the future. Since 1989, the number of applications using these tools has increased, contributing notably to effective and efficient system development.

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The body can be viewed from the next page.

Establishment of Basic Infrastructure for

Synopsis:

With a view to disseminating expert system (ES) appli-

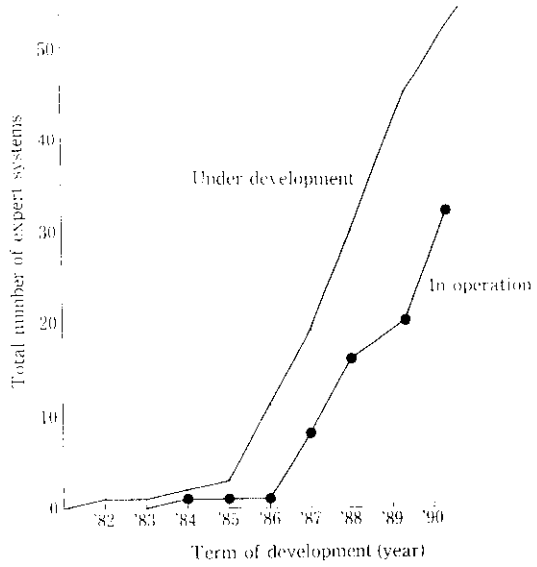

Fig. 1 Increase in total number of expert systems developed by Kawasaki Steel

[redacted]

exaggeration to say that the development has relied on

[redacted]

construct the prototype system to make it conform to the final objectives and operating environment.

Step 14—Design and Program the Subsidiary Section:

ing tandem mill[6]

Applications 1, 2, and 3 are installed on a mainframe computer or work station connected with it, 4 is in-

4.2.6 Phase V—System testing

installed on a process computer. Of the type of problem, 1 and 2 are planning applications, 4 and 6 are diagnostic

5.2 Reasoning Function

5.2.1 Forward and backward reasoning

This tool controls reasoning of the data-driven

cording to the available space in the raw materia l yards and the available unloading and transportation machinery.

specific dynamic characteristics of equipment has to be allowed for.

1982, ES has gone through many experiences, receiving many evaluations of pros and cons. Now that over-