

# Construction of an Advanced Integrated Control Structure for Safety and Functional Maintenance in Disaster-Stricken Industrial Complex

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## **【 Outline of survey 】**

Abstract of Research Project: The purposes of this project are to obtain advanced control technology for safety and management technology for safety information with cooperation of engineers in factories in the local industry complex and (2) to construct an information system to share information on safety technology and on investigated accidents among the industry complex. To achieve the purposes, the following three tasks are planned to be conducted; First, to construct an integrated management system for safety, that is, (a) to construct a database on risk evaluation methods and risk managing methods and to obtain an information system managing the database and supporting engineers, (b) to apply the system to factories in the local industry complex. Second, to obtain an advanced technology for distributed control, distributed operation and logistics management to maintain functions of isolated factories in disaster. Third, to construct operation supporting and training systems to keep safety, to prevent human error and to function as a co-operator.

## **【 Expected results 】**

Expected Production of Research: The results of this project are to be applied to safety management in disaster or in large-scale accidents. In daily operations, accidents caused by human error occur frequently, since companies reduce their labor force to save costs. The results can be also used to reduce such accidents and to raise safety in daily operations. Using the information systems obtained in this project, the risk evaluation processes are to be transparent to local residents and safety information will be supplied to them easily and local companies receive confidence on safety from local people.

## **【 References by the principal researcher 】**

Mingcong Deng, Akira Inoue, Kazushi Ishikawa, and Yoichi Hirashima;

Tracking of Perturbed Nonlinear Plants using Robust Right Coprime Factorization Approach  
2004 American Control Conference, Boston, UAS, June 30 - July 2, 2004

Zenta Iwai, Akira Inoue and Shigeyasu Kawaji: Observers , Modern Control Series, Vol.3, Corona Publishing Co. 1988 (In Japanese)

**【 Term of project 】** F Y 2004 - 2008

**【 Budget allocation 】** 85,800,000 yen

**【 Homepage address 】** <http://www.suri.sys.okayama-u.ac.jp/kaken/index.html>