



HMS I

Holonic Manufacturing Systems – Phase I

IMS Project No. 95003

The HMS website is located at <http://hms.ifw.uni-hannover.de/> and contains a wealth of information about the project including the following.

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HMS Holonic Manufacturing Systems

HMS Introduction

Holonic Manufacturing Systems Introduction

1. Introduction

Change is a fact of life. In the closing years of the 20th century fundamental changes in government, business, technology and society are transforming the world into a form that defies prediction. The rate and magnitude of these changes have created problems that are common to industrialized nations around the world. To thrive in the changing economic climate of the modern world, the industrialized nations must implement fundamental changes in their manufacturing base. Manufacturers around the globe must develop the means to operate efficiently on a global scale and to meet the needs of an ever more demanding consumer market.

To face this challenge Australia, Canada, the European Community (EC), European Free Trade Association (EFTA), Japan, and the US have begun an international collaborative research program in manufacturing, called the Intelligent Manufacturing Systems (IMS) program. This program has established a mechanism to carry out joint international research, pre-competitive development, systematic organization and standardization for the next generation of manufacturing technologies. The IMS program currently consists of six major projects:

- Clean Manufacturing in the Process Industry.
- Global Concurrent Engineering.
- Globeman 21: Enterprise Integration for Global Manufacturing Towards the 21st Century.
- Rapid Product Development.
- Holonic Manufacturing Systems: System Components of Autonomous Modules and Their Distributed Control.
- Knowledge Systematization: Configuration Systems for Design and Manufacturing (Gnosis).

This document discusses the fifth project in the list, Holonic Manufacturing Systems or HMS. This material presented here is the result of a one year preliminary investigation to assess the feasibility of a more comprehensive long term collaborative project. Companies from all six regions identified above participated in the work. Appendix B lists the HMS Test Case Partners. These companies organized themselves as a consortium and each company signed a consortium agreement that detailed a common set of responsibilities and obligations. Critical to the consortium agreement were the conditions governing intellectual property rights. These conditions provide a fair and equitable ownership of the project results between the participating companies.

One year was a brief period of time relative to the ambitious goals of HMS. However, the achievement of significant results has established the feasibility of carrying on to a longer term project. The results and experience gained by the consortium will be essential for achieving all the goals of HMS through the long term

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