

**MECHATRONICS BOOK SERIES**  
**SELECTED PAPERS FROM**  
**ICOM'01, ICOM'05 AND**  
**ICOM'08**

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## Web based Documentation System for Dynamic Roadmaps

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### Abstract

Technology Roadmapping is a consensus-driven process to identify, evaluate and select technology alternatives to satisfy the needs of a particular group of people. It serves as a high-level planning tool to support the development, implementation and communication of technology development strategies and plans. The outcome of technology roadmapping exercise is a technology roadmap, a document. Since the technology roadmap needs to be updated periodically, it remains dynamic. As such a documentation system that permits selective updating will be ideal. We have developed a web based software to store, retrieve, edit and document different types of Technology Roadmaps. In this paper we discuss the rationale for the system and describe the steps taken to develop a working system based on open source software

**Key Words:** technology roadmap, technology development, planning, software tool, projects

### 1. Introduction

Technology is one of the key sources of innovation and consequently, of value and wealth creation. Be it at the firm, industry or national level, technology development must be planned so as to be able to deliver quality products and services on time to gain competitive advantage. This is becoming more critical as the cost, complexity and rate of technology change increase, the competition and sources of technology globalize. The management of technology requires effective processes and systems to ensure that the technological resources within a firm, industry or for that matter within a country are aligned with its needs, now and in the future. Roadmapping is an approach that is being increasingly applied at the firm, industry and national level to support the development, communication and implementation of technology, and related business and policy strategies.

There are many types of roadmaps and different ways of developing them. Examples of common roadmaps include industry, technology and product roadmaps. *Industry roadmaps* focus on broad market goals for a particular sector, defining a clear set of industry actions to address market, regulatory and other barriers to growth. On the other hand, *technology roadmaps* identify, evaluate and promote the development of collaborative projects within and between industries to fill technology gaps and/or capture technology related opportunities. Narrowing the scope, *product* roadmaps provide firms with thorough, long-range technology assessments of their future product needs and supply complete descriptions of their product lines [1].

In this paper, we highlight the need for having a software system for storing, retrieving, editing and documenting roadmaps. In addition we describe and discuss the steps we have taken to develop such a system.