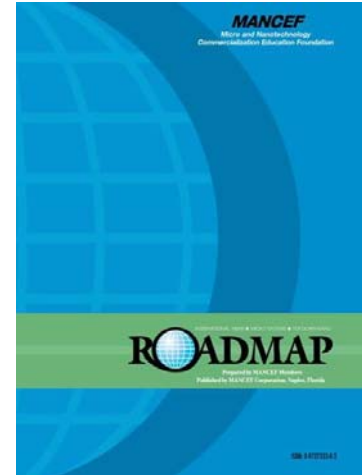


2nd Edition of International Micro-Nano Roadmap – Nov 2004

This roadmap is a "living document" that has been 6 years in the making. With the introduction of the hugely successful First Edition in Sep 2002, the Second Edition builds on what the leadership team learned and our customers told us what they needed to know to succeed in the MST marketplace.

Five new chapters are offered:

- **Nanotechnology** (explores the nuances of Nanosystems, nano enabled industry segments)
- **MEMS Patents** (contains a year by year mapping of Microsystems intellectual property)
- **Process and Equipment for MST**
- **Equipment and Tooling for MNT**
- **RF MEMS** (explores RFMEMS including new opportunities, intellectual property advances, technological process and process advances)



Two chapter updates are also included: **Foundries** and **Packaging & Assembly**.

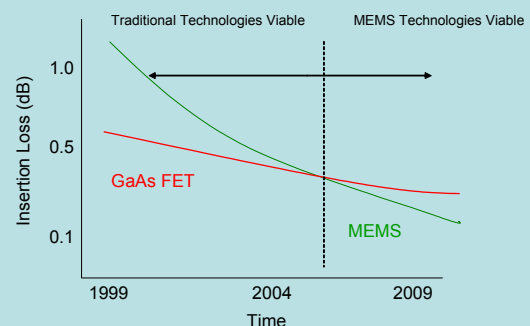
This roadmap is designed for those seeking to understand the industry and where future growth and profit opportunities lie, as well as for those intending to develop their own commercialization roadmaps for their products in specific industry segments. To that end, this document provides general trends in 15 specific areas essential to the commercialization process of MST/MEMS/Micro machining-based products. This roadmap in particular aims: To "Speed-up" the process of commercialization of products based on Microsystems technologies through the pre-competitive sharing of information between the firms and contributors involved in this road mapping process.

Table of Contents	Page
Executive Summary, Introduction	1
RF MEMS	49
Nanotechnology	152
MEMS Patent Review	316
Microtechnology Process Flows and Equipment Infrastructure	375
Equipment and Tooling For MNT	411
Status and Future Of Microsystems / MEMS Foundries	474
MEMS Packaging and Assembly	510

Some examples of Roadmap Findings



Patent study showing where MEMS patents are being issued



Study showing the transition from traditional technology to MST based RF switches

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