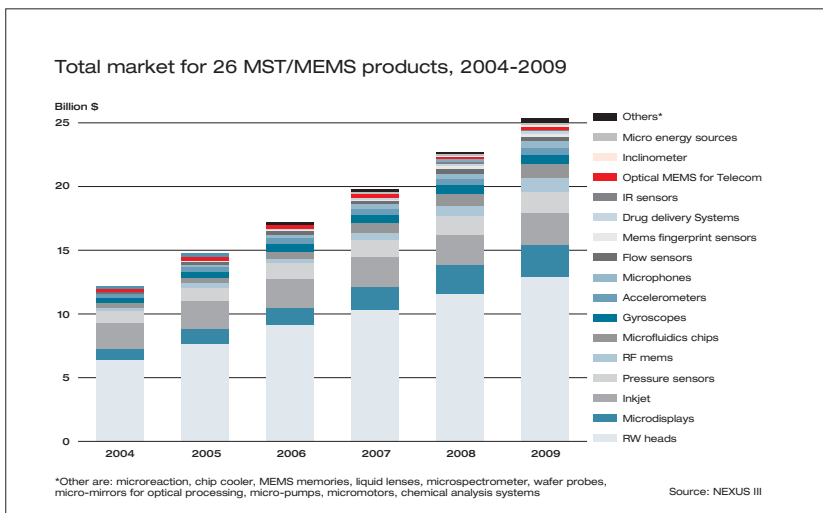


# NEXUS Market Analysis for MEMS and Microsystems III, 2005-2009

Microsystems (including MST/MEMS) sensors and actuators are consolidating their position in established markets and finding new applications, leveraging a combination of low manufacturing costs, compact size, low weight and power consumption, as well as increased intelligence and multi-functionality.

Over the next five years, this market is predicted to grow at a rate of 16% per year from \$12 billion in 2004 to \$25 billion in 2009 across a spectrum of 26 MEMS/MST products. Employing the historical definition given by NEXUS – the smallest unit containing MEMS that is commercially available – the market will grow from \$ 36 billion to \$ 52 billion in 2009.



Driving these markets are read/write heads, micro-displays and inkjet heads. Of particular note, however, is the predicted meteoric growth of the consumer electronics segment, a market that is forecast to treble over the period 2004 to 2009.

## Stay up-to-date with NEXUS

NEXUS Market Analysis for MEMS and Microsystems III, 2005-2009 is a reliable resource for MEMS and Microsystems products and applications.

It builds on the world renowned reputation

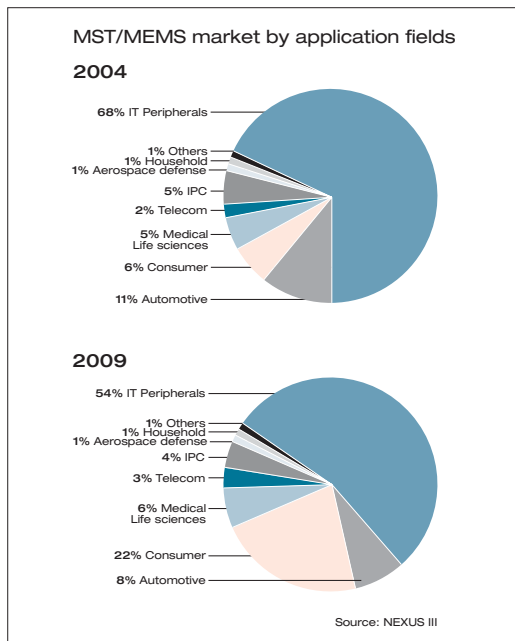
of previous NEXUS reports covering 1998-2002 and 2000-2005. The third NEXUS report continues to describe market winning technologies and provide the kind of actionable intelligence that gives you a head-start in existing and new high potential opportunities - microdisplays, microphones, tire pressure monitors and RF MEMS - business information that will improve your margins.

## 26 products described in detail

In total, the report details opportunities for 26 MEMS/MST products. Chief among these are read/write heads with 50 % share and microdisplays, which will overtake inkjet heads in 2009 as Texas Instruments forges ahead with the DLP chip for front projectors and rear projection TVs. Fast growing markets for microphones, RF MEMS, and tire pressure monitors are examined next to established pressure and motion sensors, which are increasingly driven by consumer applications.

Emerging markets include wafer probes, micro-motors, micro-spectrometers, micro-pumps and micro-reaction products. NEXUS also considers products that will begin to impact markets at the end of the decade, namely micro fuel cells, MEMS memories and e-fuses, chip coolers and liquid lenses for autofocus/zoom in camera phones. No other report offers this breadth of coverage.

Each product is described in terms of function, MST advantage, and market opportunity up to 2009. Important trends, e.g. technology drivers, legislative barriers and opportunities, are identified and placed into the context of market figures. Breakouts include price targets, unit volumes, product specifications and time-to-market.



## Applications and trends dissected

NEXUS III breaks out the complete application fields for MST/MEMS (see figure). Each application is described and cross-referenced with products to give a sector-wide overview of MEMS and Microsystems activities. Key manufacturers are identified in each sector. All assessments are validated with senior experts from leading companies including Bosch, HL Planar, Infineon, Nokia, Olivetti, Philips and Roche Diagnostics. New to this report is a regional analysis of the MEMS/MST industry.

Coordinated by WTC-Wicht Technologie Consulting, NEXUS Market Analysis III, 2005-2009 is available in December 2005, priced at 1.100,00 Euro, excl. VAT.

## How to order

Order forms can be downloaded from NEXUS at <http://www.nexus-mems.com/taskforce.asp> or WTC-Wicht Technologie Consulting <http://www.wtc-consult.de> or contact WTC directly: Tel. +49 89 207 0260-98; Email: [info@wtc-consult.de](mailto:info@wtc-consult.de)

## Table of Contents

### Table of contents

1. Introduction
2. Executive Summary and Conclusion
3. Task Force and Contributing Experts
4. Methodology and Definitions
5. Evaluation of the NEXUS Market Analysis 2000-2005
6. MST Application Fields
  - Automotive
  - IT peripherals
  - Consumer and Lifestyle Products
  - Telecommunications
  - Medical and Life Sciences
  - Household Appliances
  - Industrial Process Control
  - Aerospace, Defence and Homeland Security
7. MST Products
  - Read-Write Heads
  - Inkjet heads
  - Microdisplays
  - Pressure sensors
  - Flow sensors
  - Accelerometers
  - Gyroscopes
  - IR sensors
  - Microfluidics chips
  - Optical MEMS for Telecom
  - Microspectrometers
  - Chemical analysis systems
  - Inclometers
  - RF MemS
  - Microphones
  - Drug delivery systems
  - Micro energy sources
  - Micro-reaction products
  - Micro Cooling Devices
  - MEMS memories and efuses
  - Micromachined wafer probes
  - Micropumps
  - Micro-mirrors for Optical Processing
  - Micromotors
  - MEMS Fingerprint
  - Auto-focus and zoom lenses
8. Regional Analysis
  - MST/MEMS in North America
  - MST/MEMS in Europe
  - MST/MEMS in Asia