



### ***A Guide to Nanotechnology for Colorado's Citizens***

- **As a science, nanotechnology involves the manipulation of matter on an extremely small scale** (1 to 100 nanometers) to create structures, devices and systems with novel and unique properties and functions that become possible because of their small size. A nanometer is one billionth of a meter, about 75,000 times smaller than a human hair. At this scale, different laws of physics apply; material properties change and new material behaviors come into existence.
- **As an economic driver, nanotechnology is no 'small matter'.** Over the next 10 to 20 years, it is anticipated that nanotechnologies will change almost every product on the market today and create unique new products with features and benefits applicable to nearly every aspect of human endeavor. By 2014, nanotechnology will be incorporated into 15% of global manufacturing output totaling \$2.6 trillion. With market growth rates exceeding biotech and infotech, nanotech is forecasted to produce a \$1 trillion global market by 2015 and create 7 million U.S. jobs.
- **Nanotechnology is extremely important to Colorado's economic future.** It is a cross-cutting science with applications in many technology industries including aerospace, defense/homeland security, biomedicine, electronics information technology, and energy. At least 75 Colorado companies are already working in nanotechnology and 32.6% of survey respondents say it will be critical to company profitability within 10 years.
- **The "Colorado Nanotechnology Roadmap"** was released in September, 2006, by the Leeds School of Business at CU-Boulder. This comprehensive report provides the state's business, academic, research, economic development and government leaders with an action plan to ensure a strong future technology-based economy that maximizes the benefits of responsible development and deployment of nanotechnology.
- **Colorado Nanotechnology Alliance** is a not-for-profit corporation with a broad-based Board of Directors that will lead, coordinate and enable partner organizations to complete the action steps necessary to improve Colorado's competitive position in five target areas: leadership, business growth, research & technology transfer, workforce development and public education & societal change.
- **Colorado's competitive position:** Those states that seek to provide the high-salaried jobs inherent in a technology-based economy must ensure nanotechnology research excellence in its universities, education of a 21<sup>st</sup> century workforce, and a business environment that supports entrepreneurs and companies that will develop and deploy new products based on this technology. There is no question that Colorado must invest now to maintain its technology-based economy and support future growth of the technology industries currently prominent in the state. Only with the concerted effort of many will we catch up to competing states, so that our own sons and daughters are prepared for high-wage technical jobs and that those jobs remain in Colorado.
- **Colorado's citizens are important to our success.** Nanotechnology promises to improve our quality of life with advances in medical diagnostic and treatment; clean energy and manufacturing; environmental monitoring and mitigation; faster, smaller, cheaper electronics; light weight materials and much more. Colorado's highly educated, technology savvy citizenry needs to be educated and engaged in the deployment of nanotechnology, and in planning and preparing for the social and economic changes it will bring.

**This is no small task...get involved today.**