



FOLEY & LARDNER LLP

NNI's IMPACT MEASURED IN PATENTS

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PATENTS AS INNOVATION METRIC

- The Economist
 - uses patents per person as a measure of each country's level of innovation (www.economist.com/indicators)
- The Wall Street Journal
 - Features weekly “Patent Scorecard” as measure of company strength
 - Uses blended indicators of quantity and quality

NANOTECH PATENTS WITH GOVERNMENT SUPPORT

United States Patent [19] [11] **Patent Number:** **5,505,928**
Alivisatos et al. [45] **Date of Patent:** * **Apr. 9, 1996**

[54] **PREPARATION OF III-V SEMICONDUCTOR
NANOCRYSTALS**

[75] **Inventors:** **A. Paul Alivisatos, Berkeley, Calif.;**
Michael A. Oshavsky, Brunswick,
Ohio

[73] **Assignee:** **The Regents of University of**
California, Oakland, Calif.

OTHER PUBLICATIONS

Oshavsky et al, Organometallic Synthesis of GaAs Crystals Exhibiting Quantum Confinement, *J. American Chemical Society*, 1990, 112, pp. 9438-9439.
 Henglein, *Exp. Care Chem.* (1988) 143:113-160.
 Brus, *J. Phys. Chem.* (1986) 90:2555-2560.
 Brus, *IEEE J. J. Quantum Electron* (1987) QE-22:1909-914.

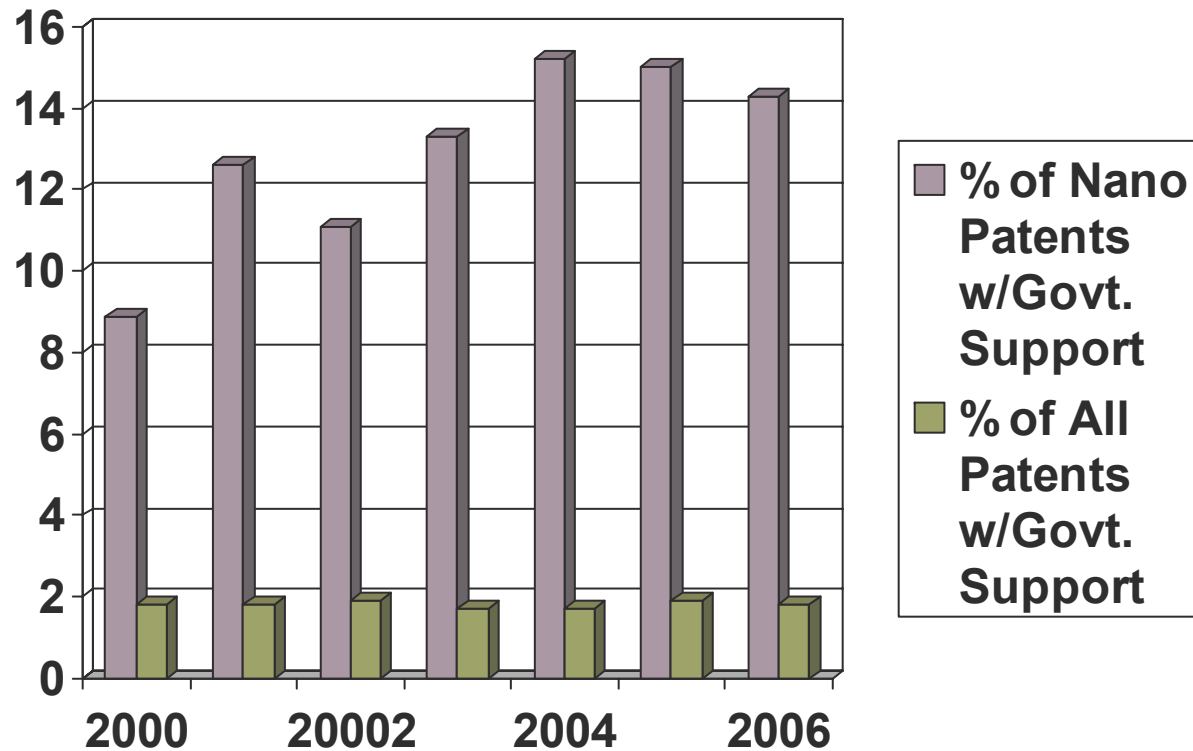
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PREPARATION OF III-V SEMICONDUCTOR NANOCRYSTALS

REFERENCE TO GOVERNMENT SUPPORT

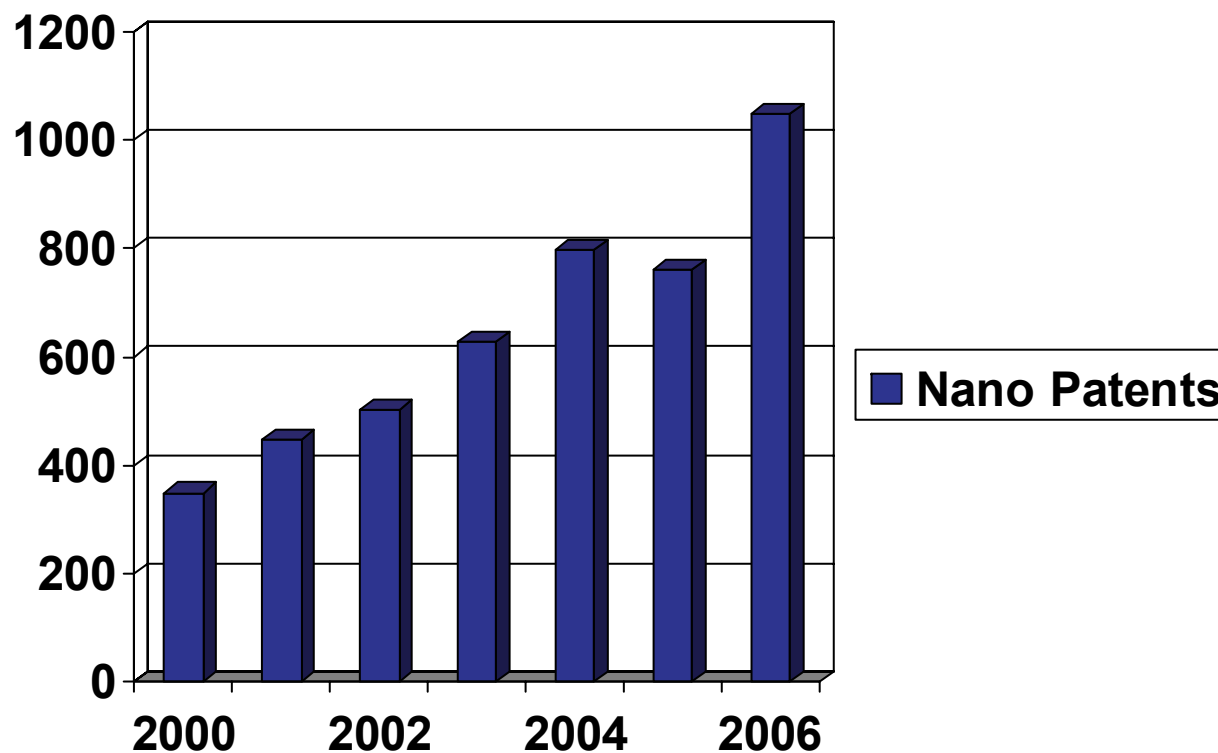
This invention was made with Government support under Contract No. DE-AC04-76SF00008 between the United States Department of Energy and the University of California for the operation of Lawrence Berkeley Laboratory. The Government has rights in this invention.

GOVERNMENT SUPPORT IN NANOTECH V. ALL US PATENTS



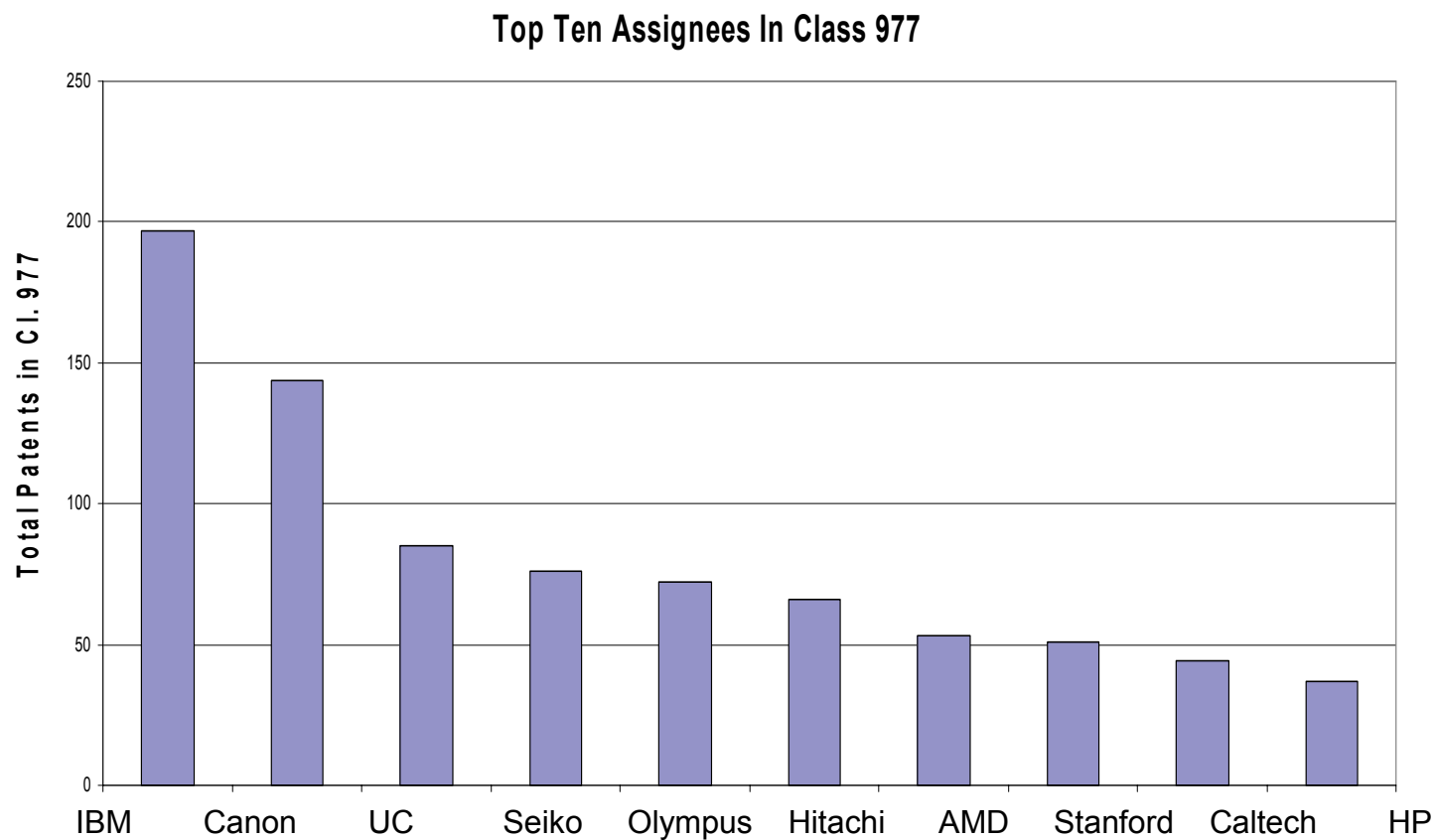
Source: prepared by Steve Maebius using USPTO patent database

TOTAL U.S. NANOTECH PATENTS



Source: prepared by Steve Maebius using USPTO patent database

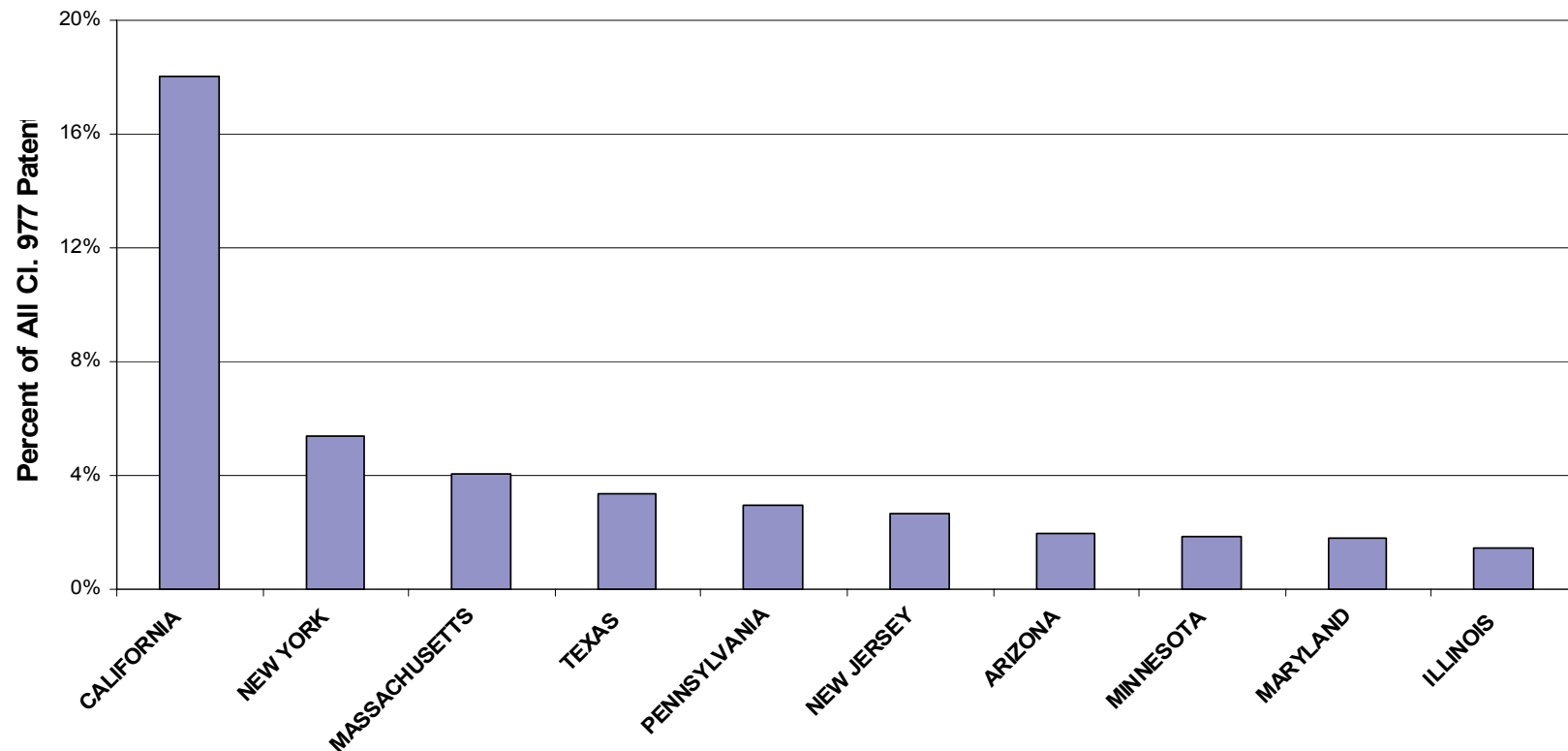
TOP 10 NANO PATENT OWNERS



Source: USPTO 2007 Nanotech Customer Meeting (data as of August 2006)

TOP US STATES FOR NANO PATENTS

Top Ten States - U.S Origin Class 977 Patents
(patent origin based on residence of first-named inventor)



Source: USPTO 2007 Nanotech Customer Meeting (data as of August 2006)

LEADING COUNTRIES IN GLOBAL NANO PATENTS

- Using the country of first-named inventor, 1986-2005, **18.7% nanotech-related to U.S. inventors (highest).**
 - Next countries: China (12.9%), Japan (9.8%), Germany (5.5%)
- Using the country of assignee or owner, 1986-2005, **18.7% nanotech-related to U.S. assignee/owner (highest).**
 - Next countries: China (14.9%), Japan (10.7%), Germany (5.1%)
- China has one year (2001) of over 900 publications which appears to be an anomaly since year before was about 15 and year after was about 60.
- Data on country of inventor in DWPI is incomplete, missing in about 40% of hits. The percent cited is of those hits with a known country of inventor.
- This evaluation only counted the **first occurring patent publication** for a single invention, since many inventions are filed in multiple countries

Source: USPTO 1/2007

MORE QUESTIONS ?

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