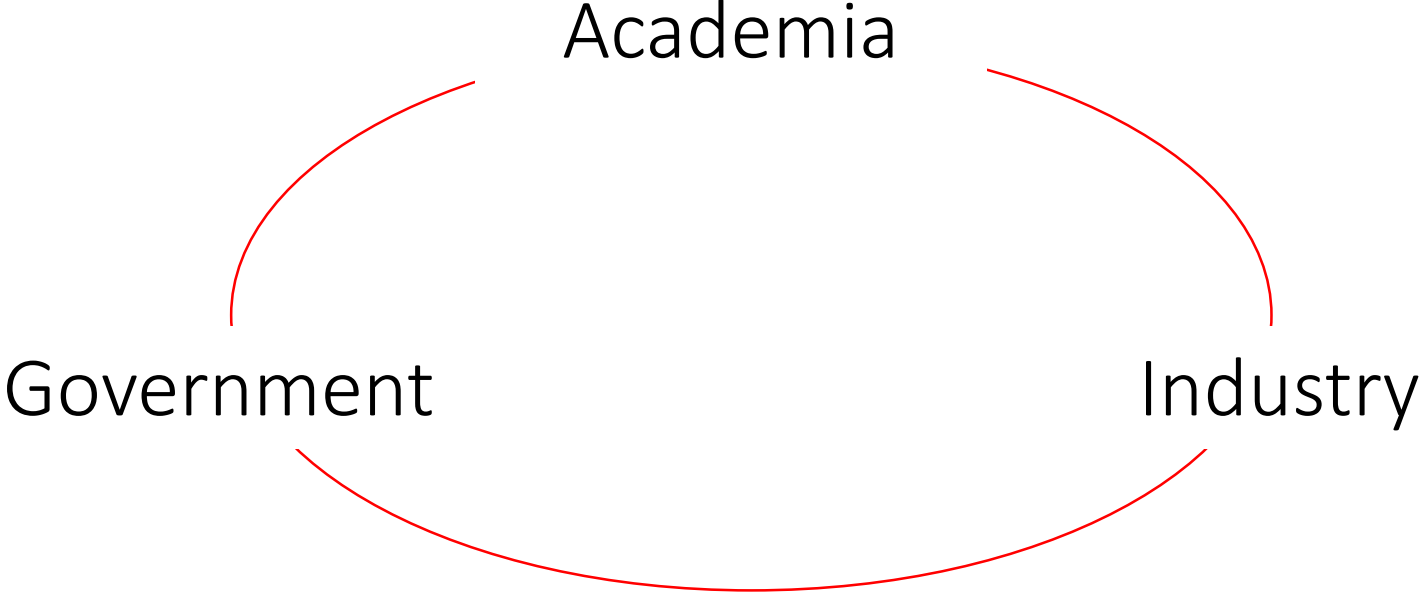


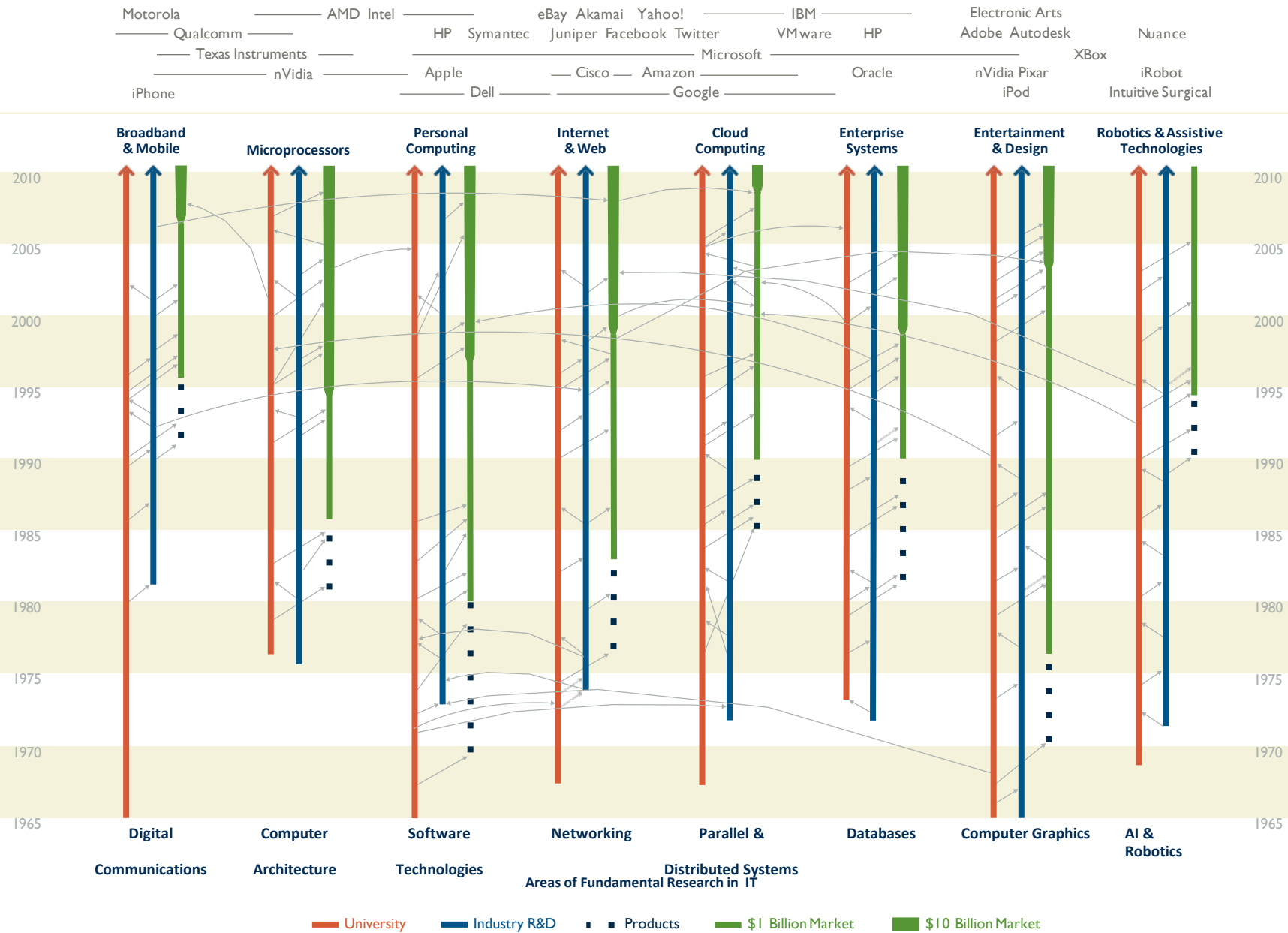
The Academia-Industry-Government Innovation Cycle

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IT Sectors With Large Economic Impact



Source: *Continuing Innovation in Information Technology*. © 2012, The National Academies Press
 Download the full report at nap.edu/c?13427

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Example of Effective Partnerships

Government leadership

- DARPAnet → NSFnet → Internet
- Cloud Computing
- Big Data

Example of Effective Partnerships

Industry leadership

- Intel Lablets
- Internships, fellowships, sabbaticals, grants/gifts, centers

Example of Effective Partnerships

Academia leadership

- Astronomy, for instruments
- HPC, for supercomputing
- Computing Community Consortium
 - Robotics, Big Data, the Brain, Nano

Recommendations to Academia for More Effective Relationships

Academic leadership needs to understand that working with industry means working on what industry cares about

- What is the value industry gets out of investing in academia?
- Industry money is not like government money
- Academia needs to listen to what industry wants

Recommendations for More Effective Relationships

Academic leadership needs to help government make the case for research

- Need to tell stories that a staffer can understand: what impact does this research have on the economy, jobs, business, society, or national security?
- Google story

Journal Publications

Please see <http://www-diglib.stanford.edu> for a list of publications., "Please see <http://www-diglib.stanford.edu> for a list of publications.",
Please see <http://www-diglib.stanford.edu> for a list of publications. p. 0, vol. (1998). Published,

The Google search engine was developed as
part of the project.
It is now a company (www.google.com)

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URL(s):

<http://www-diglib.stanford.edu>

Description:

Other Specific Products

Product Type:

Data or databases

Product Description:

The Google search engine was developed as part of the project.
It is now a company (www.google.com)

Sharing Information:

The CSIL overview publicly available



Sergey Brin

Co-Founder & President, Technology

Sergey Brin, a native of Moscow, received a bachelor of science degree with honors in mathematics and computer science from the University of Maryland at College Park. He is currently on leave from the Ph.D. program in computer science at Stanford University, where he received his master's degree. Sergey is a recipient of a **National Science Foundation Graduate Fellowship** as well as an honorary MBA from Instituto de Empresa. It was at Stanford where he met Larry Page and worked on the project that became Google. Together they founded Google Inc. in 1998, and Sergey continues to share responsibility for day-to-day operations with Larry Page and Eric Schmidt.

- Sergey's research interests include search engines, information extraction from unstructured sources, and data mining of large text collections and scientific data. He has published more than a dozen academic papers, including *Extracting Patterns and Relations from the World Wide Web*; *Dynamic Data Mining: A New Architecture for Data with High Dimensionality*, which he published with Larry Page; *Scalable Techniques for Mining Casual Structures*; *Dynamic Itemset Counting and Implication Rules for Market Basket Data*; and *Beyond Market Baskets: Generalizing Association Rules to Correlations*.
- Sergey has been a featured speaker at several international academic, business and technology forums, including the World Economic Forum and the Technology, Entertainment and Design Conference. He has shared his views on the technology industry and the future of search on the *Charlie Rose Show*, CNBC, and CNNfn. In 2004, he and Larry Page were named "Persons of the Week" by ABC World News Tonight.

More Recommendations

For both industry and government, don't just take the money.

- Explain the research results and why they are important to the funder
- Always acknowledge the funder

Thank You

