## **Idea Seeds Need Sowing**

An entrepreneur warns of the fallout from an "innovation deficit."

By Claire Cain Miller

The New York Times

MENLO PARK, CALIF.>> Judy Estrin, 53, has spent her entire career in Silicon Valley, a region that thrives on constant innovation. Estrin, the former chief technology officer of Cisco Systems, has founded four technology companies.

Yet she is deeply worried that Silicon Valley and the United States as a whole no longer foster the kind of innovation necessary to develop groundbreaking technologies and sustain economic growth.

"I am generally not an alarmist, but I have become more and more concerned about the state of our country and its innovation," she said last week, explaining why she wrote her book, "Closing the Innovation Gap," which arrives in bookstores today. "We have a national innovation deficit."

Estrin's book is the latest call to action during the past several years by scientists, technologists and political leaders worried about the country's future competitiveness in technology.



Judy Estrin says technologies at the root of new products such as the iPod were developed decades ago.

Noah Berger, The New York Times

She argues that short-term thinking and a reluctance to take risks are causing a noticeable lag in innovation. She cites a variety of contributing factors, among them a decline in federal and university financing for research, which has dried up new ideas,

When research does produce new technologies, entrepreneurs and the venture capitalists who back them have been too cautious to make big bets. Estrin's suggestions for bolstering innovation range from the vague, such as advising venture capitalists and entrepreneurs to take more risks, to the specific, such as mandating that schools pay teachers higher salaries.

Some who track innovation in the United State say the alarm bells are unnecessary and sound like a repeat of similar fears in past decades that turned out to be unfounded.

A June study from the RAND Corp. found that 40 percent of the world's spending on scientific research and development comes from the United States. The country employs 70 per cent of the world's Nobel Prize winners and is home to 75 percent of the top 40 universities.

But Estrin said that the technologies at the root of new products such as Apple's iPod or the Facebook social-networking service were actually developed several decades ago. If a new round 'of fundamental innovation isn't seeded now, the country will suffer in the next decade.

She compared the situation to a tree that appears to be growing well but whose roots are rotting underground.