

## With a Leaner Model, Start-Ups Reach Further Afield

By STEVE LOHR, for The New York Times

Published: December 5, 2011



**IN THE LAB** From left, Fred Ford, Jorge Heraud and Lee Redden worked on the prototype of a farming robot.

SUNNYVALE, Calif. — Lee Redden, 26, a Ph.D. student in engineering at Stanford, recently (...) help found a start-up company. His skills lie in a couple of red-hot niches of artificial intelligence, computer vision and machine learning. Yet he is not applying his talents to Internet search, online commerce or intelligence surveillance.

Mr. Redden's ambitions are further afield — in farm fields, actually. His company, Blue River Technology, is developing a robotic weed (1) killer for organic farms, which shun chemical pesticides. The new venture, he said, is “a great way to bring this technology to green agriculture.”

The start-up here points to the latest stage of evolution in Silicon Valley, the world's epicenter of innovation. (...)

The newer model for starting businesses relies on hypothesis, experiment and testing in the marketplace, from the day a company is founded. That is a sharp break with the traditional approach of drawing up a business plan, setting financial targets, building a finished product and then rolling out the business and hoping to succeed. It was time-consuming and costly.

The preferred formula today is often called the “lean start-up.” (...)

The approach emphasizes quickly developing “minimum viable products,” low-cost versions that are shown to customers for reaction, and then improved. Flexibility is the other hallmark. (...)

However most start-ups fail. [...]

(1): a wild plant growing where it is not wanted and in competition with cultivated plants.