



Creating High-value Business Opportunities from Advanced Research

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Business Model

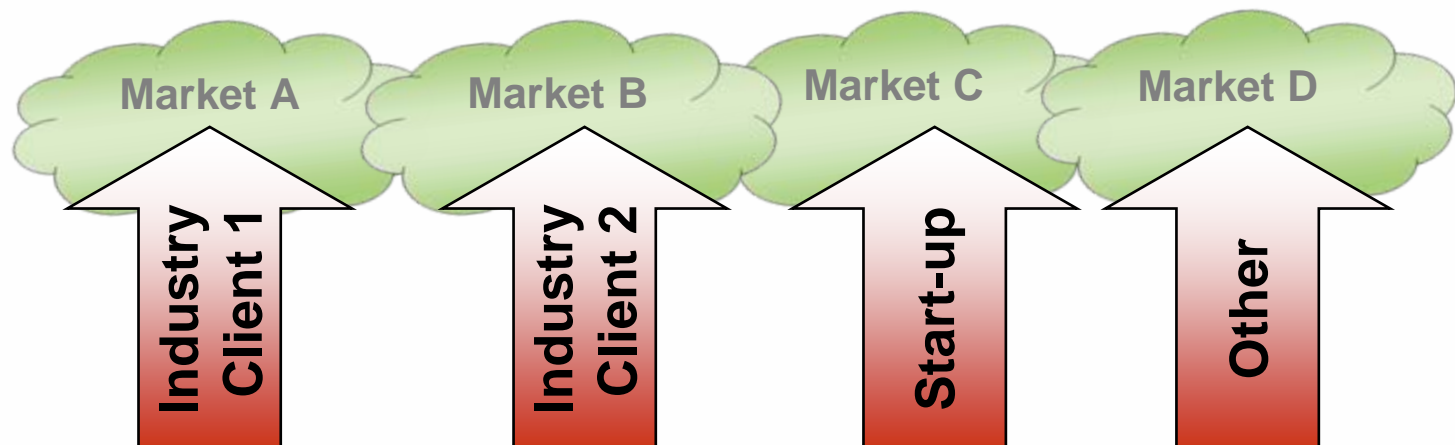


Invest in the foundational work

- Create new capabilities, demonstrate proof-of-concept, and shape for commercial opportunities

Develop complimentary applications with industry clients

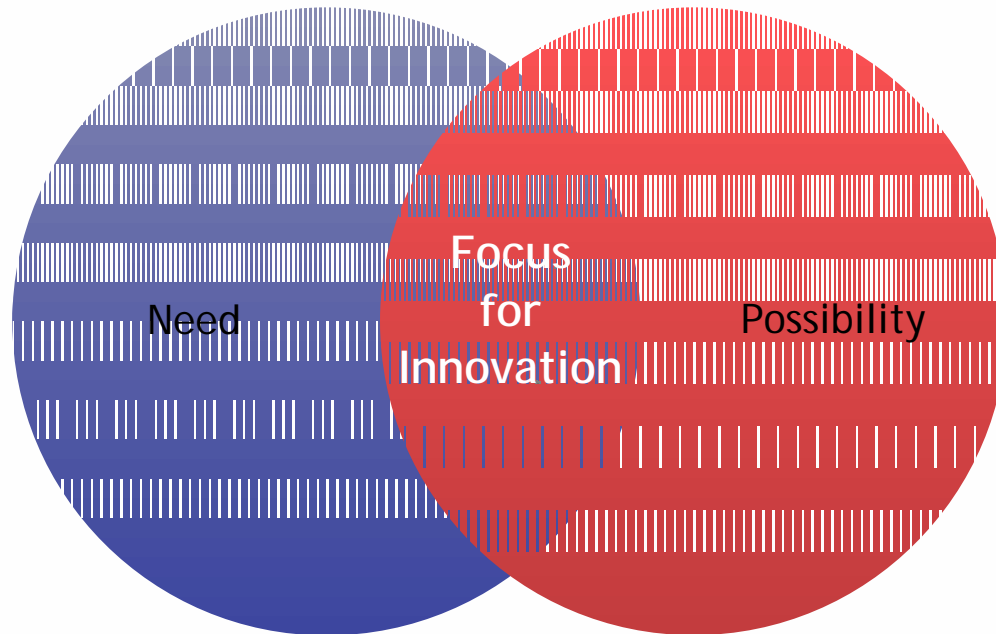
- Applications identified by PARC, by client or jointly
- Often involve novel designs for specific application



Build expertise, shape commercial concepts

(Internal R&D, government contracts)

Cornerstone for high-value innovation



Get close to the market as early as possible



Examples at PARC

- Field studies
- Visiting Technologists
- Working with entrepreneurs
- Entrepreneurs-in-residence
- Industry interviews
- Speaker series and reading groups
- Consultants
- Experiences with clients

Not just Business Development's job

- Researchers involved in, often driving, the discovery processes

Getting close to the market



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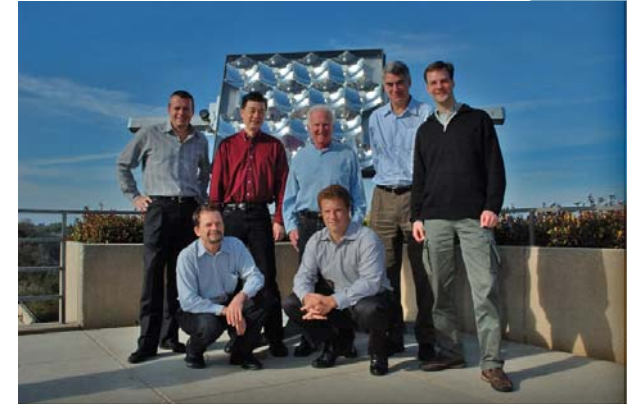
SolFocus Relationship

SolFocus
Innovation Inspired by Nature



A new model for business engagement

- Partner with strong entrepreneurs
- Understand business/technical problem
- Invent & file patents
- License technology for equity and royalties
- Incubate the new company inside PARC
- Ongoing research in return for additional equity



Pat Maeda, Mike Weisberg, Scott Elrod, Dave Fork

A range of benefits to the PARC community

- Excitement of a fast-moving, growing business (2 to 60 employees)
- Access to VCs through participation on SolFocus Board of Directors
- Opportunity to engage partners of SolFocus for other projects



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Rapidly Increase Domain Knowledge...



Visiting Solar Energy Technologist

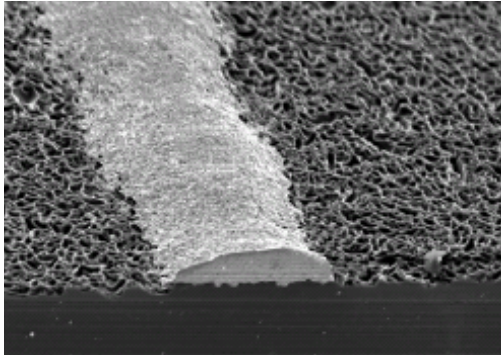
*Steve Shea
Previously Director of R&D
at BP Solar*



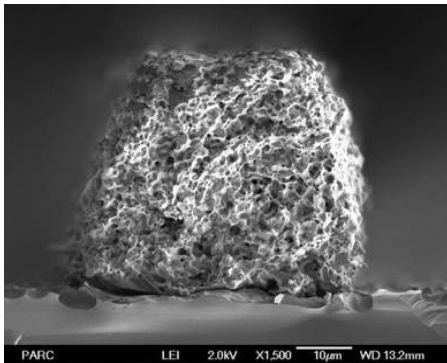
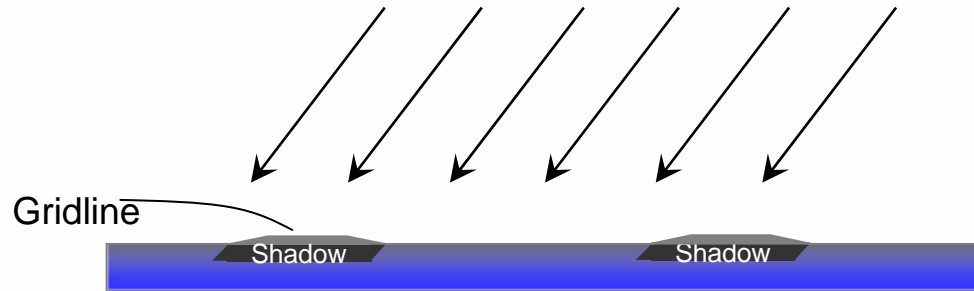
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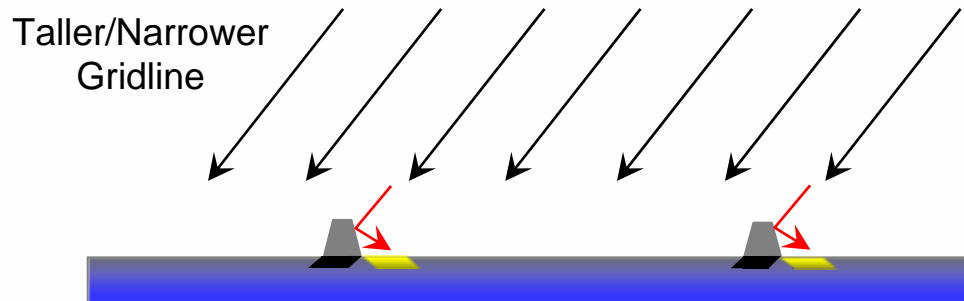
PARC Innovation for Silicon PV Front Gridline



Existing Screen-Printed Gridlines
Fired Aspect Ratio = 1:10



PARC Gridlines
~50 μm x ~50 μm
Fired Aspect Ratio = 1:1



Opportunity: Net Efficiency Increase of 6% Relative at Similar Manufacturing Cost

New Business Creation



- DOE Solar America Initiative Funding with BP Solar
- Developing a commercial tool and optimized materials
- Planning to spin out a PARC company to commercialize

The drive to openness



Working with large corporations

- An emerging market with its own set of challenges

Growth targets demand accelerating innovation

- And the proof sources for Open Innovation are too strong to ignore

More companies focused on bringing the outside in

- Acquisitions – work with venture community
- In-licensing – other companies, independent labs, universities
- Co-development – small businesses, independent labs
- Joint research – suppliers, customers, competitors, ...
- And more ...

Shifting focus – from looking for technology to looking for business opportunities

Moving a company up-market



Client

- Japanese semiconductor materials company

Need

- Wanted to move up-market into device business

Technology Platform

- Device engineering capability plus technology portfolio

Output

- Transfer of specs and setup of all device manufacturing equipment, operating devices, technology transfer to R and D, business unit, engineers resident at PARC for 3 months

Next Step

- Working on novel device configurations

Value Creation

- Company acquires platform for entering new market

Enabling a new platform



Client

- Leading computer server manufacturer

Need

- Specialized multichip packaging technology platform for next generation servers

Starting point

- Two month feasibility study of novel compliant packaging system
- Moved on to advanced development and prototyping

Output

- Closely coordinated phases leading rapidly to manufacturing.

Next Step

- Transfer to third-party manufacturing partner

Opportunities and challenge



Companies are demanding

- It's a business decision
- Need more than just the idea
- Organizational dynamics always come into play

Models are still emerging for how to engage

- Shopping lists and catalogs
- vs. strong collaborative engagements

Why do it? Best opportunity for significant impact.

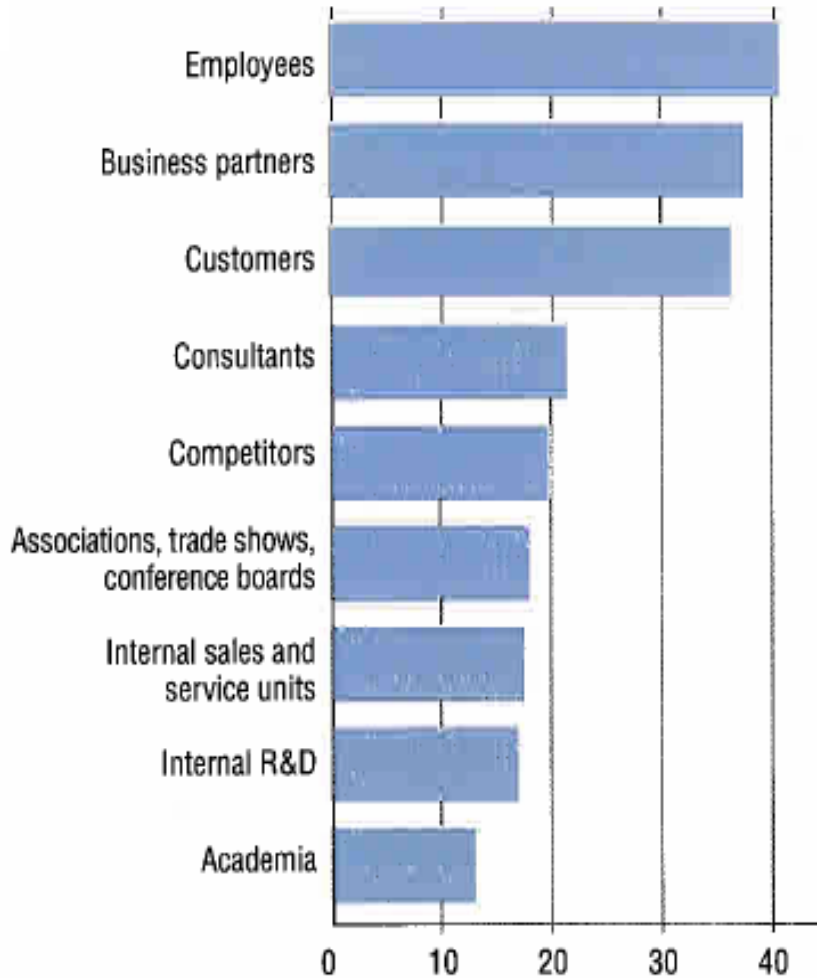
Excuse the bad news...



*Internal (and external) technologists
have a bad reputation in Open
Innovation*

CEO's Most Significant Sources of Innovative Ideas

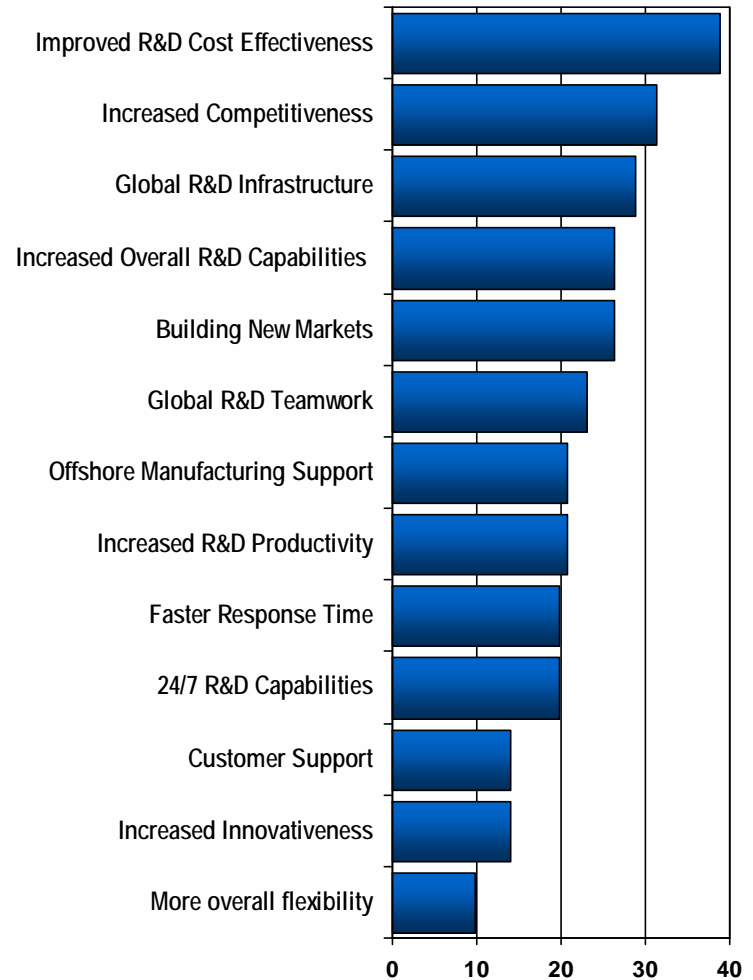
IBM 2006 Global CEO Survey



Note: Respondents could select up to three choices.

R&D Managers' Motivations for Outsourcing

Research & Technology Management Magazine



“Your internal researchers are absolutely, positively the last people you want evaluating external opportunities.”

» Speaker at workshop,
Technology Sourcing for Faster Innovation

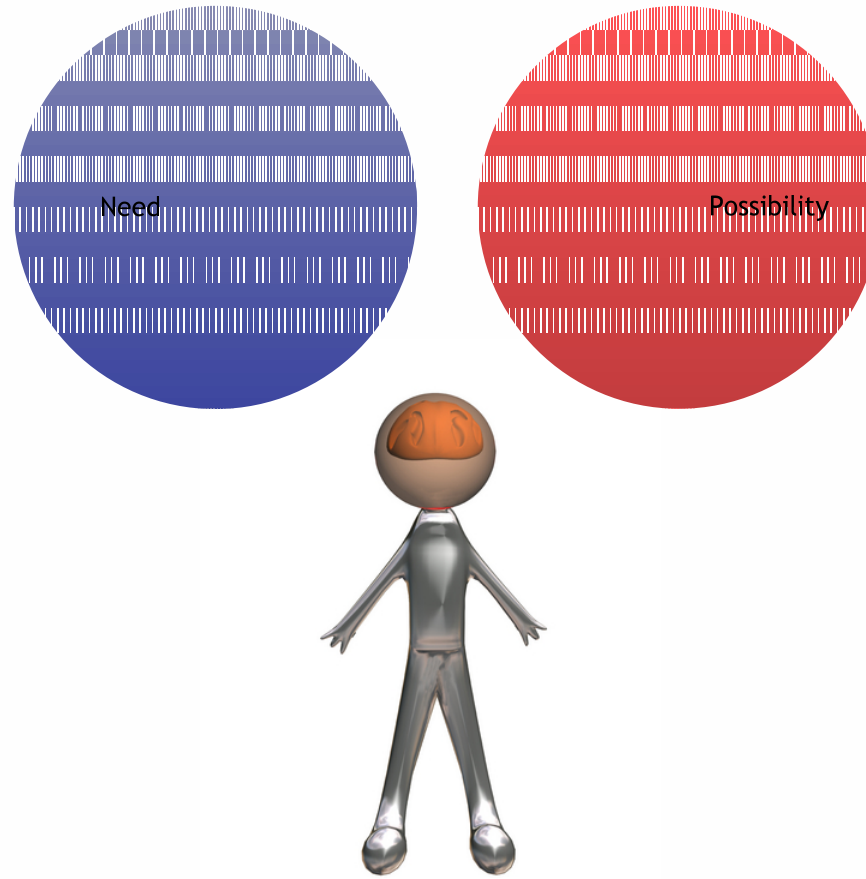
**They obviously haven't thought
about ...**

**You know, we could do the same
thing ...**

**We did something like that a few
years ago, and ...**



Profile of a missed opportunity



Connecting from the outside



Not for the faint of heart

*“Don’t bring in solutions
looking for problems to solve.”*

**Time and attention are a business person’s most
precious resources**

Must show them a credible an opportunity

From inside a company



Focus on the need to be addressed

Look for the complements

- What else will your company bring to the table?

Help create paths for success

- Can you eliminate uncertainty from what you already know?
- Help your business people make the connections

Don't go it alone

NOTE: These can be career-defining moves



**Open Innovation is a powerful accelerator –
It's not going away**

**Critical issue is finding protectable opportunities in
the intersection**

**Requires an open mindset within and across
companies**



Questions