

Successful Technology Commercialization

John Todd Langdon

VP Marketing

HelioVolt Corporation



Successful Commercialization:

Five Equal and Necessary Factors

- Technology
- Marketing
- Networking
- Financing
- Management



Technology

- IP protection
- Problem solving technology
- Solution looking for problem
- Stage of development
- Matching characteristics of the technology to market needs
- Competing solutions



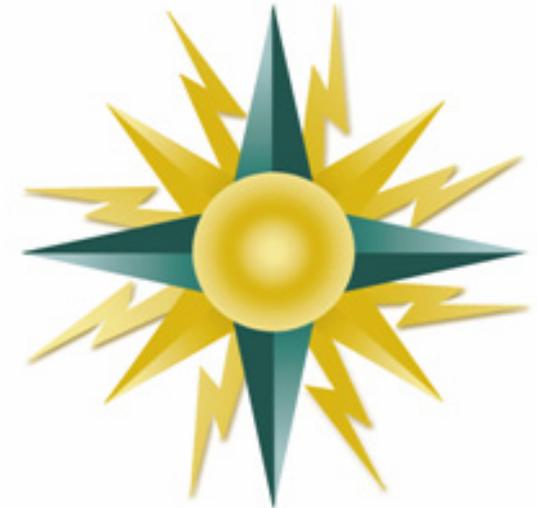
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HelioVolt Example: Technology Protection

- Seven USPTO applications:
 - Product
 - Process
 - Equipment
- First patent issued 12/31/02
- Claims allowed for two other applications
- PCT applications (six) to EPO completed

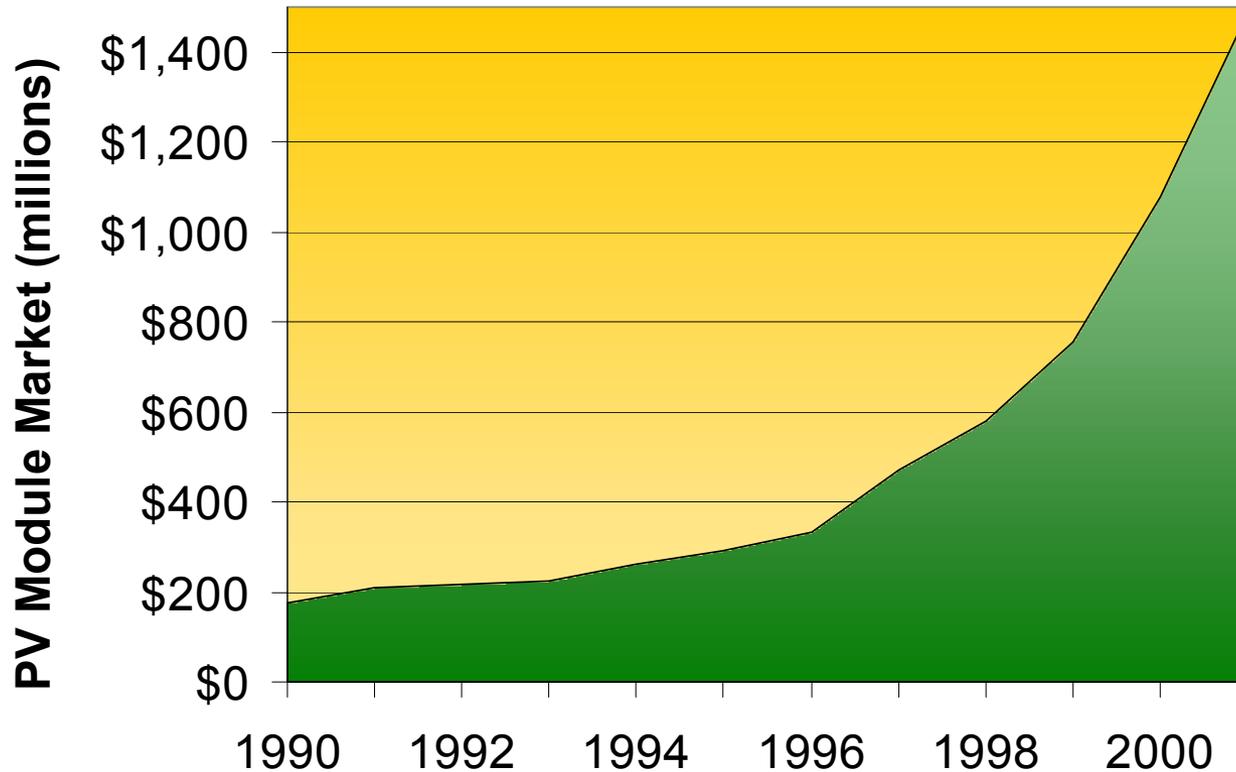


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PV Market Opportunity



- Further penetration limited by PV module cost: *The Problem*



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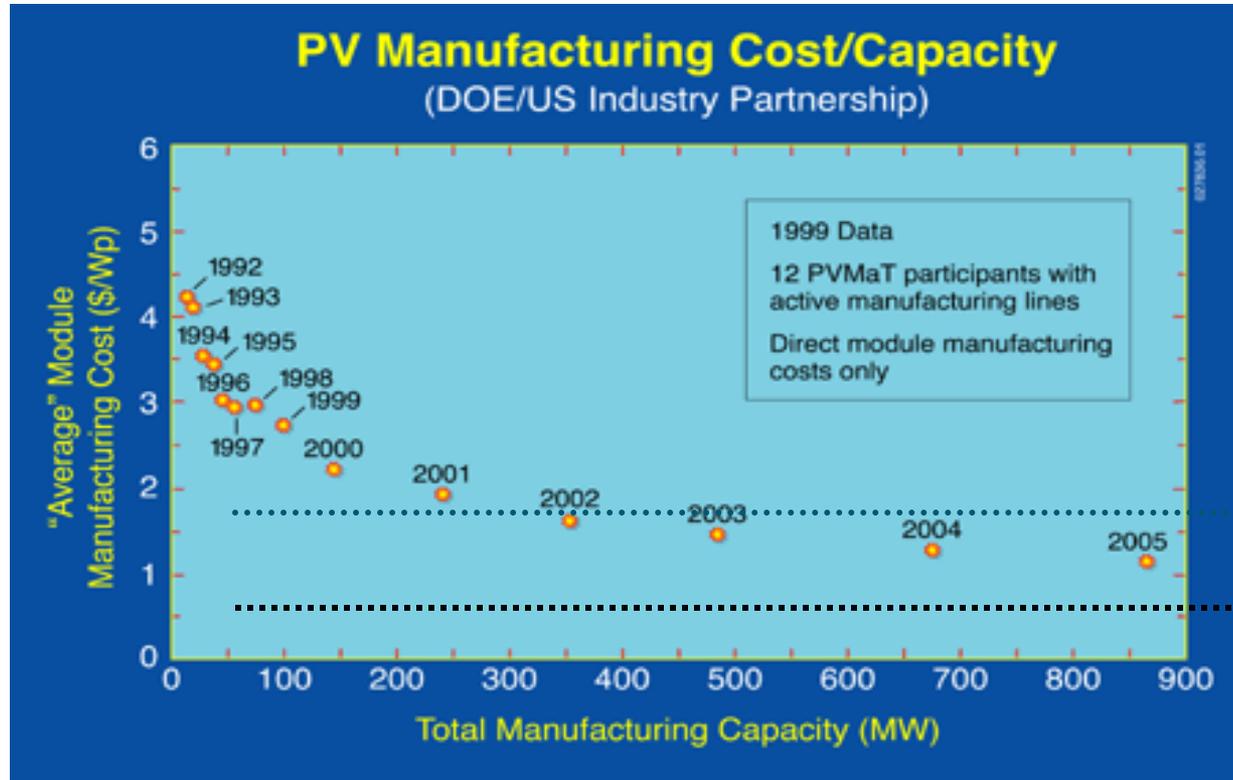


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Industry Production Costs

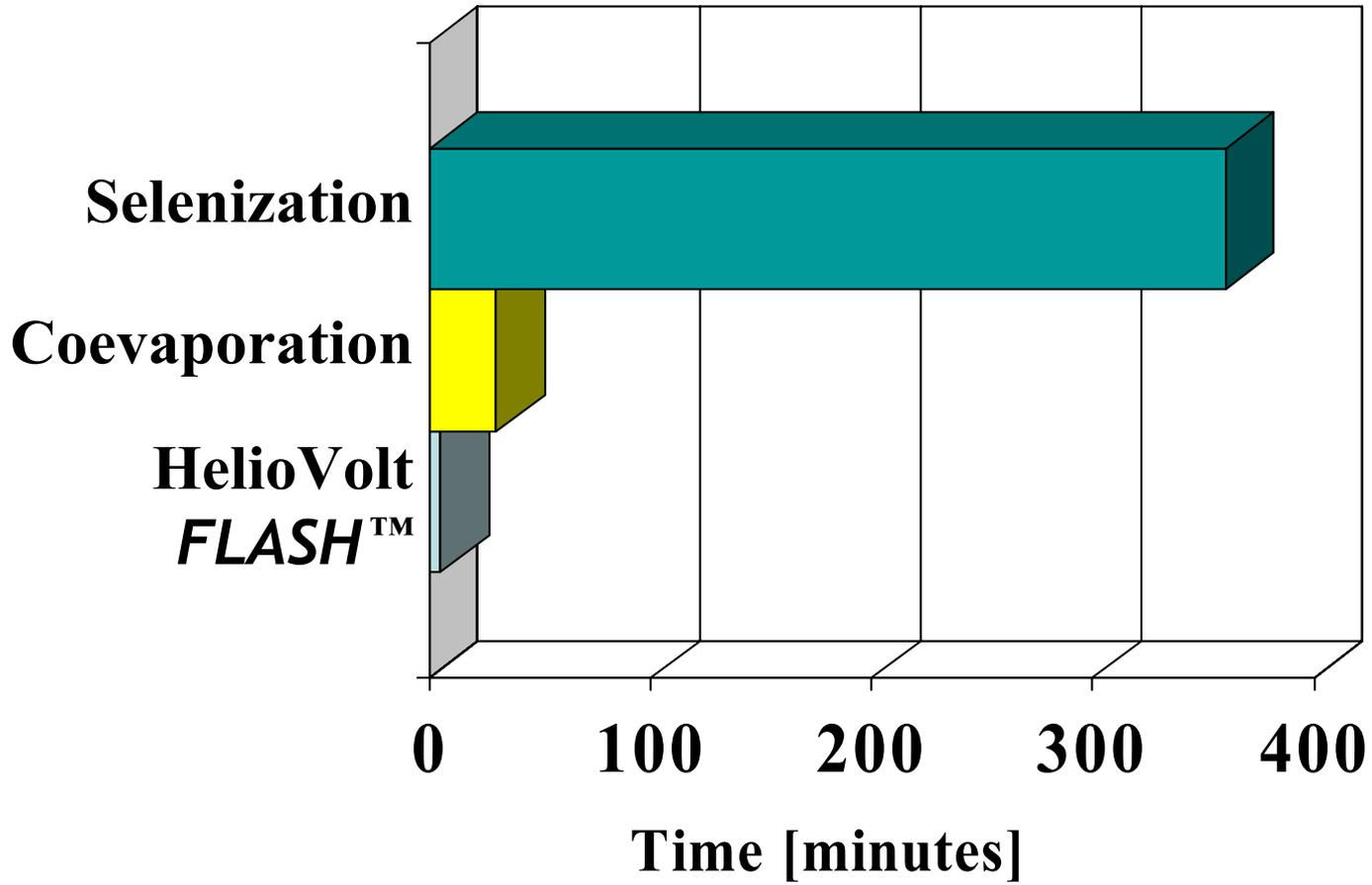


\$1.78 best
for silicon

\$0.70 for
HelioVolt



CIGS Film Process Time

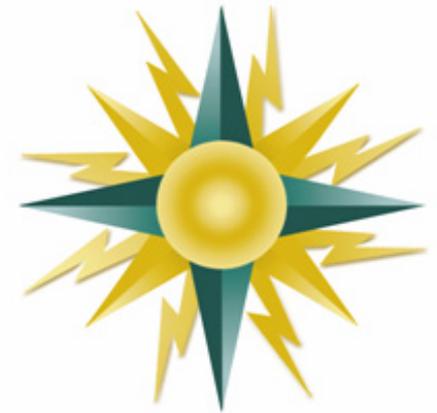
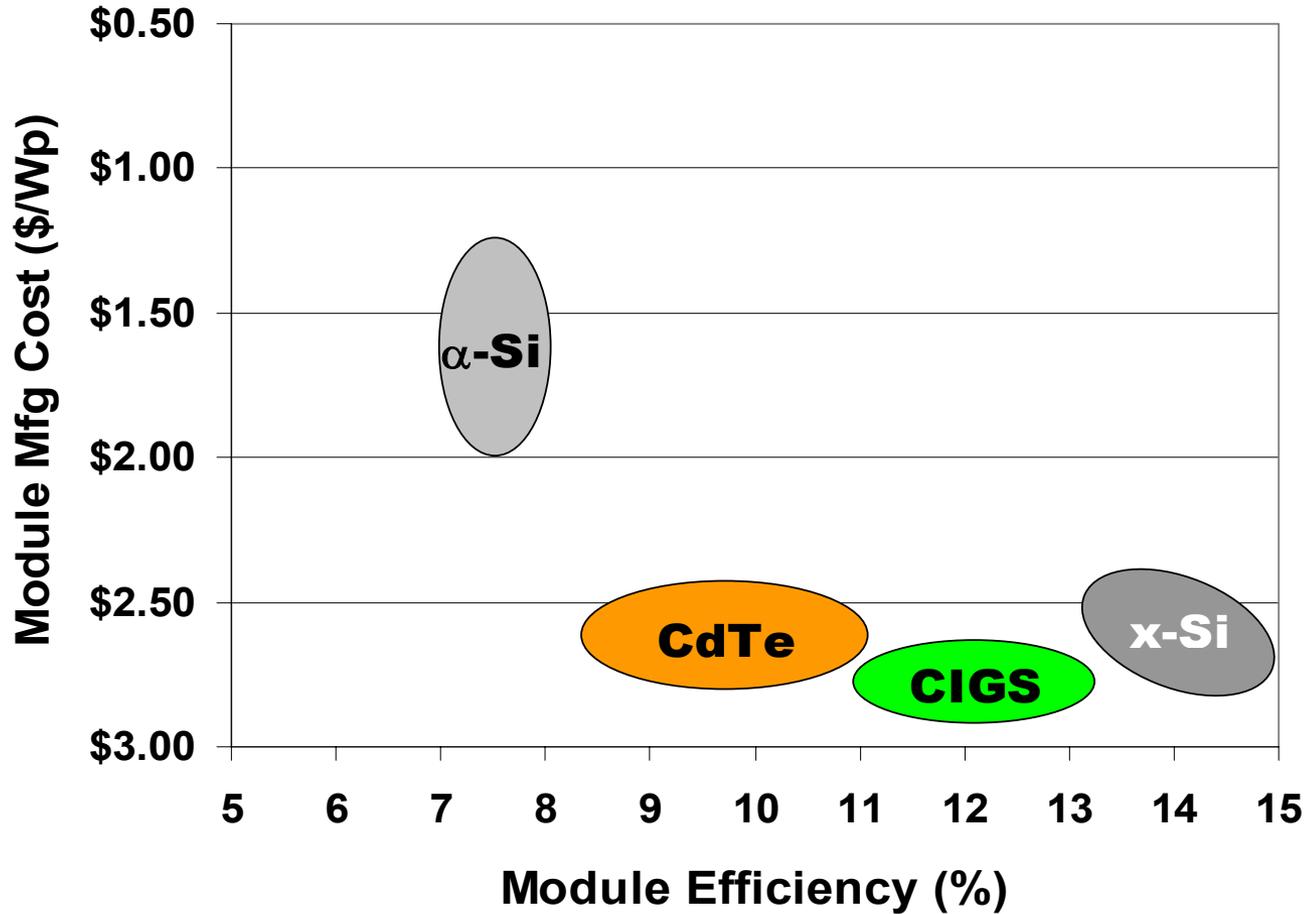


Technology

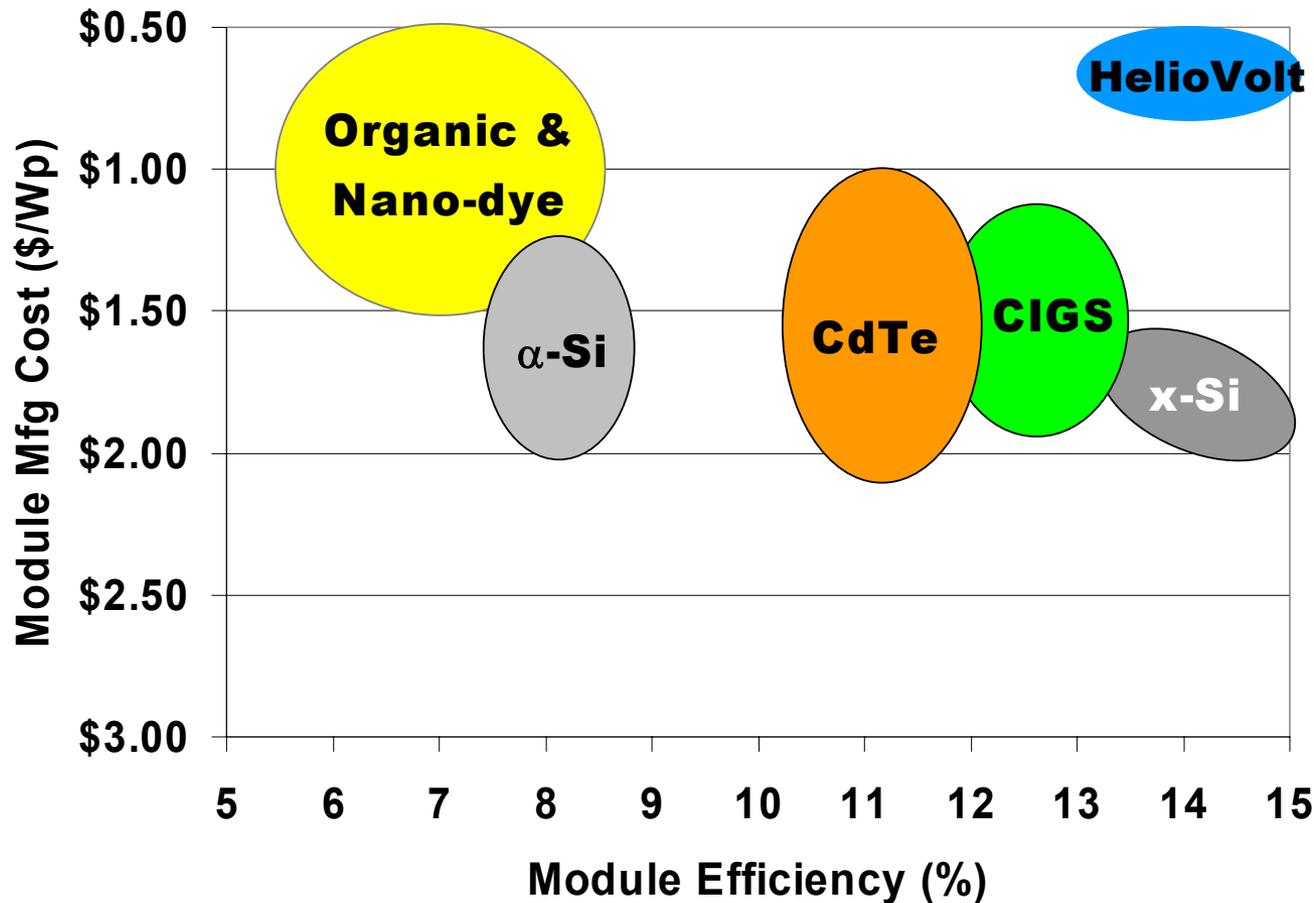
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- Problem solving technology
- Solution looking for problem
- Stage of development
- Matching characteristics of the technology to market needs
- **Competing solutions**



Current Module Products



Module Products in 5 years



Marketing

- Fit the technologies characteristics to the needs of the market
- It's easier to move the key to the lock than...
- Find the efficient path
 - Net Present Value
- Market attractiveness (Porter)



Marketing

- Adoption curve
- Target segments
- Pick your beachhead
- Document and quantify the pain
- Locate and interview potential customers



Networking

- Introductions & Alliances
- Investors
- Key Advisors: Legal, Financial, Technical
- Key Employees
- Customers
- Vendors
- Trade Groups
- Negotiation advice



Financing

- Post .com boom reality
- FFF – Angels - VC
- Strategic Investors
- Major customers
- Seed Stage Reality
- A, B, C
- Valuation
- Negotiation is the key



Management

- Urgency versus Importance
- Separate Goals, Measurement, and Pain
- Outside Directors ASAP
- Advisory Board early
- Do not let one functional area dominate

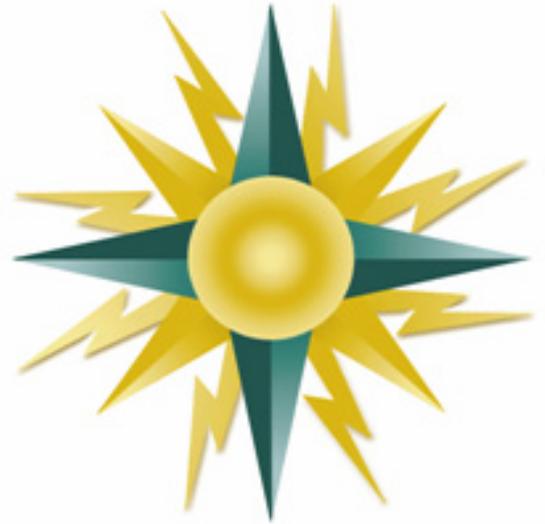


Summary

- Involve Marketing Early
- Everybody Networks, Everybody Sells
- Know the Market & the Competition
- Document the Pain
- Strategy is what you don't do – Focus!
- You will spend 40% of you time raising money – forever.



HelioVolt Corporation



***Bringing the Cost of
Solar Power Down to
Earth***

