

Strategy and Technology have no business being in the same title.... Or do they?

M. W. Ganz

11/10/2020

*Answer: It depends.

Who am I ?



- Boeing
 - President Germany & N. Europe
 - VP European Tech Strategy
 - VP & GM – Boeing Research and Technology
 - President – Phantom Works
- HRL (former Hughes Research Lab)
 - President and CEO
- Northrop Grumman Integrated Systems
 - Sector VP – Technology and Strategy
- Navigator Technology Ventures
 - Managing Director
- Draper Laboratory
 - VP Programs and VP Technology
- DARPA
 - Director, Sensor Technology office
- MIT Lincoln Lab
 - Assoc Group Leader
- Johns Hopkins University – Applied Physics Lab
- THE Ohio State University – PhD Elec Eng
- Several AF and DoD Advisory Committees



(Potential) Topics for Today

- Career options for researchers
- Innovation and Value Creation
- R&D Planning/Roadmapping (and related career planning)
 - Process and cultural Issues
- Lessons learned

Options for the Graduating Engineer

- Academia
- Industry
- R&D Lab
- Start-up Company

**For each of these options, remember:
“Culture eats strategy for lunch”**

Academia

- Examples:
 - Universities
- Pros:
 - Academic freedom
 - Joy of teaching
 - Intellectual technical challenges
 - Work environment / schedule
- Cons:
 - University bureaucracy
 - Student churn
 - Continuity of funding
 - Stress/rewards of tenure process

Industry

- Examples:
 - Boeing, Proctor & Gamble, Apple, John Deere, Google
- Pros:
 - Important work (close to the “critical path”)
 - Financial rewards – pay for performance
 - Lean and efficient decision making
- Cons:
 - Driven by economics
 - Often requires travel and/or relocation
 - Slow and inefficient decision making

R&D Lab

- Examples:
 - MIT Lincoln Lab, JPL,
- Pros:
 - Very high quality tech staff
 - Rich technical problems
 - Job stability
- Cons:
 - Relatively conservative pay scales and incentives
 - Often must hand results to other entity to complete the job
 - Often become government consultants
 - Watching vs. doing

Start-up Company

- Examples:
 - (Many)
- Pros:
 - Very fast moving
 - Wear lots of hats – broad exposure
- Cons:
 - High personal risk
 - Low pay now with small statistical chance of big payoff
 - Poor benefits

Random Parting Advice

- Your personal integrity/ethics above all, be vigilant and protect it!
- Work for a good boss!
 - Your job is to do his/her job (at least your part of it)
 - Change jobs if you've got a bad boss
- Seek challenges and feedback
- NEVER BLUFF – ask questions
- Understand the business that you are in.
 - Businesses (even universities) are driven by \$\$\$\$\$.
 - Understand your company's value proposition and your value to the company
- Watch your peers. Help them be successful. Don't steal credit. Your contributions will be obvious.
- Don't be afraid to move around!!
 - Breadth is as important as depth
- Make career decisions with the aid of a spreadsheet
 - Map the criteria and importance with the computer
 - Decide with your gut

Don't Forget to Have Fun!

Good Technology + Good Business = FUN!

"Your work is going to fill a large part of your life, and the only way to be truly satisfied is to do what you believe is great work. And the only way to do great work is to love what you do. If you haven't found it yet, keep looking. Don't settle. As with all matters of the heart, you'll know when you find it." – Steve Jobs