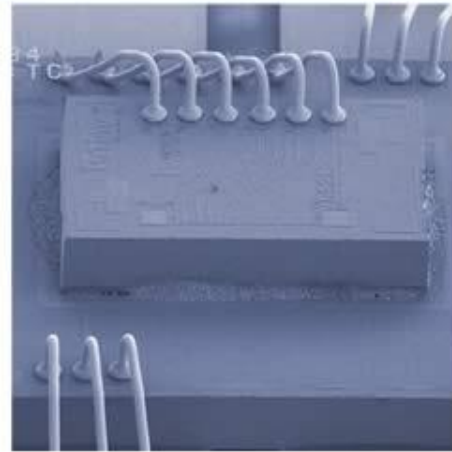
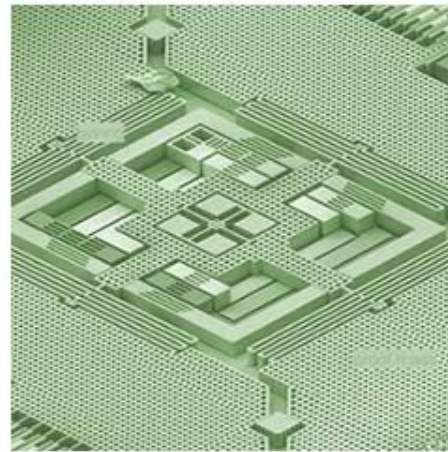
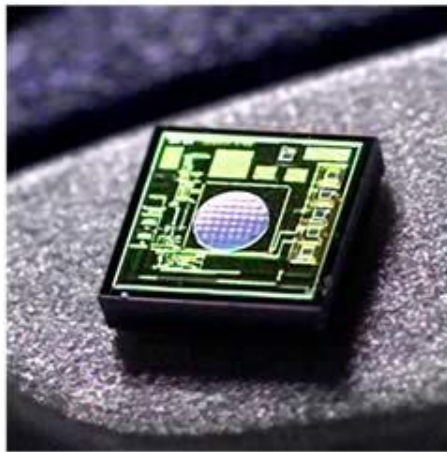
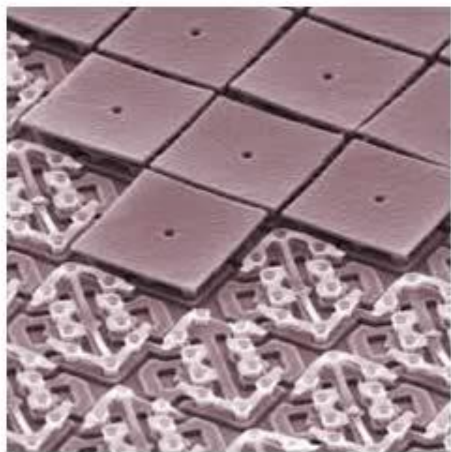
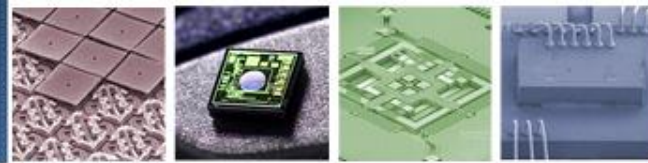


MEMS Start-up Environment in the US



Kurt Petersen, PhD
Band of Angels
Silicon Valley



Three ENORMOUS IoE Initiatives

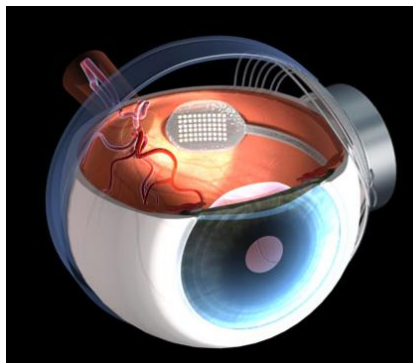
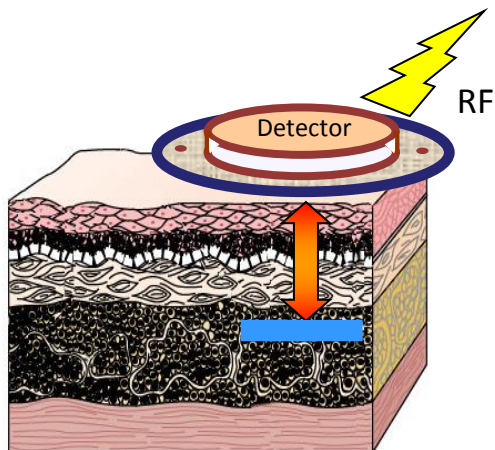
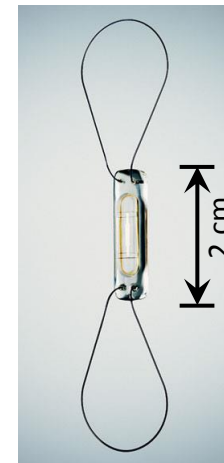
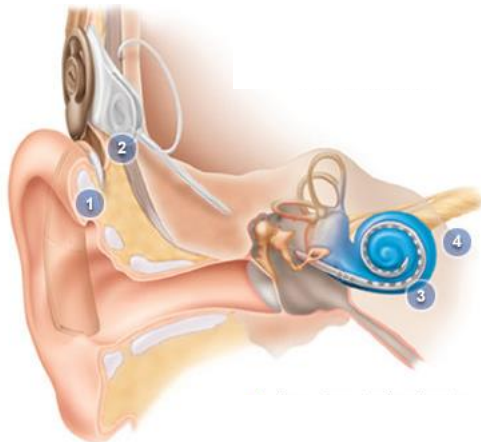
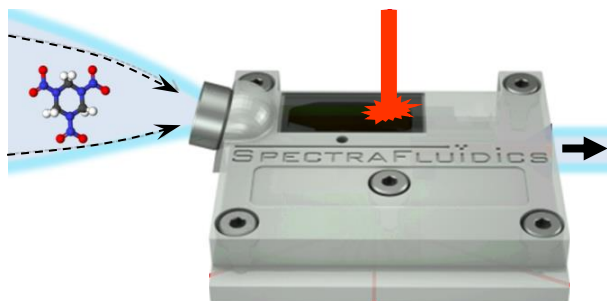
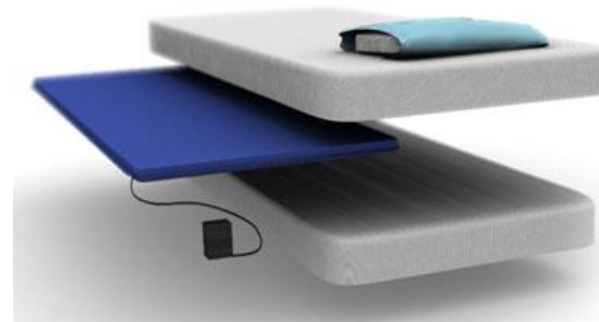
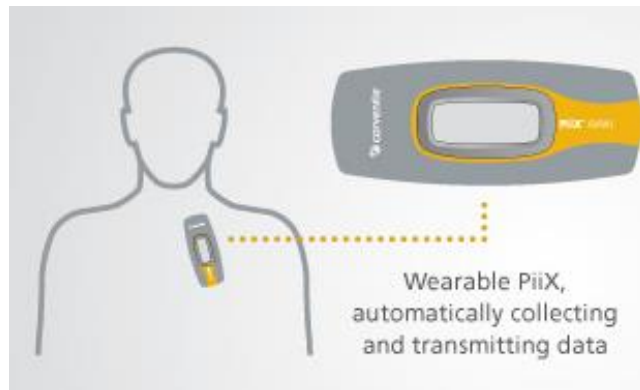
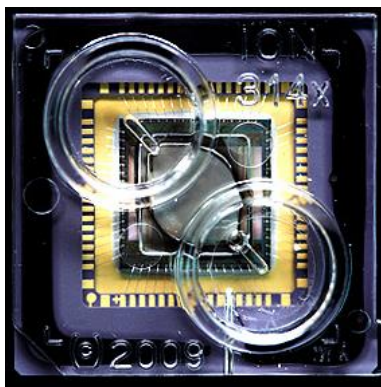
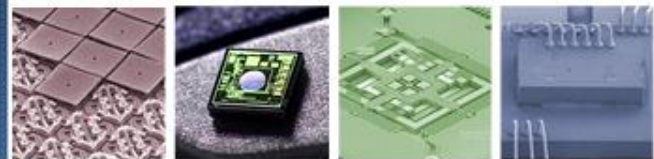
QUALCOMM
TRICORDER X PRIZE

Trillion Sensor Roadmap !!



Introducing the Qualcomm Tricorder X PRIZE
A \$10 million competition to bring healthcare to the palm of your hand

Biomedical MEMS



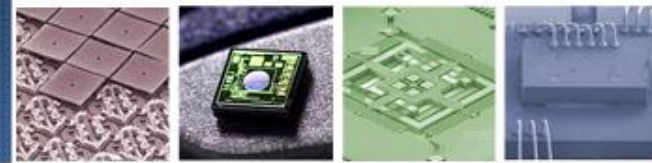
Protein Panels
Cellular Manipulation
Contact Lens Sensors
More Fluidics
Sports Monitoring
. etc



Magnitude of Upcoming Change Will be Stunning - We are Still in Spring Training

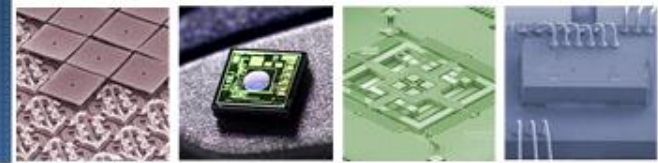
- **Nearly Ubiquitous High-Speed Wireless Access in Developed Countries**
- **Unprecedented Global Technology Innovation**
 - Ultra Competitive Markets for Mobile Operating Systems + Devices
 - Broadly Accepted 'Social Graphs' / Information Transparency
- **Fearless (& Connected) Entrepreneurs**
 - Difficult 'What Do I Have to Lose' Economic Environment for Many
- **Available (& Experienced) Capital**
- **Fearless (& Connected) Consumers**
 - **Inexpensive Devices / Access / Services (Apps)**
- **Ability to Reach Millions of New Users in Record (& Accelerating) Time**
 - 'Social Emerging as Starting Distribution Point for Content,' (Brian Norgard, Chill)
 - Aggressive (and Informed) 'On My Watch' Executives at 'Traditional' Companies
 - Unprecedented Combo of Focus on Technology AND Design
- **Nearly 'Plug & Play' Environment For Entrepreneurs – Marketplaces / Web Services / Distributed Work / Innovative Productivity Tools / Low 'Start Up' Cost**
 - Beautiful / Relevant / Personalized / Curated Content for Consumers

KPCB



Unique US Advantages which are necessary for strong entrepreneurial success

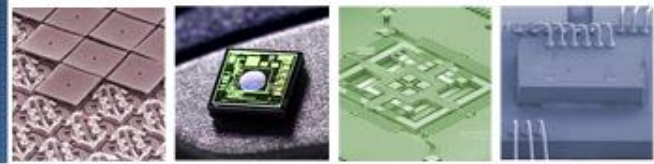
- POWERFUL entrepreneurial culture and infrastructure
 - A business culture which **EMBRACES** risk
 - In much of the US, little fear of failure and little stigmatism for failure
 - In every Starbucks in Silicon Valley, start-ups are being discussed
 - Band of Angels alone sees 60 **new** start-up companies/month
- POWERFUL entrepreneurial collaborations and partnerships between industry, university, and government
 - **MANY** US professors and students have started companies
 - Major universities have start-up “contests” for the students
- INCREDIBLY effective funding of *research and innovation* by the US government (DARPA, NSF, NIH, DOE, etc)
- Sophisticated infrastructures in major US technology cities
 - Start-up incubators, angel investors, technology and business mentors, wafer fabs, legal, technology and business consultants, Venture Capital, etc
 - More importantly, thousands of already successful entrepreneurs are excited to start, mentor, help, and invest in new start-up companies



MEMS - where do we go from here?

- Over the past 30 years, MEMS has grown at a faster rate than the semi industry, increasing from 1% to 3.5% of semi shipments
 - This increase in percentage will continue to grow
- Within only the last 3-4 years, many MEMS manufacturers have announced cumulative shipments of over 1B devices
 - Now these same manufacturers are shipping >1B/year !!
- **HUGE** new commercialization markets and opportunities for sensors and MEMS have only scratched the surface
 - *Ubiquitous* Wearables, Consumer, Mobile electronics
 - *Ubiquitous* Healthcare and medical
 - *Ubiquitous* Environmental monitoring
- The entrepreneurial environment in the US and elsewhere is experienced, dynamic, vibrant, incredibly intense, and growing
- Expect ***further*** innovation, ***further*** growth, and ***further*** successes for MEMS start-ups and for established MEMS companies

} **IoE**



Thank You