

Silicon Valley's Competition Creating a Technopolis

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Silicon Hills, Austin, TX

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- Over 1,200 software companies
- More than 100,000 high-tech jobs
- “Keep Austin Weird”

Biggest Success Story:

DELL™ Computer

- Founded 1984 by Michael Dell with only \$ 1000





Silicon Hills - Employers

Biggest Employers today:

- Dell
- IBM
- Motorola
- Freescale Semiconductor
- AMD
- Samsung
- Sematech
- 3M
- Tokyo Electron
- Applied Materials





Top 10 VC Investment Cities in 2010 - 4th Austin, Texas

Top 10 VC Investment Cities in Q1'10

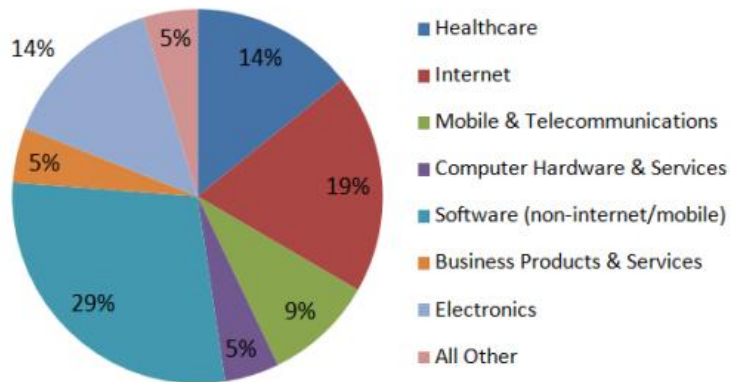
<u>City</u>	<u># Deals</u>	<u>\$ Investment</u>
San Francisco	63	\$478
New York	45	\$263
San Diego	23	\$199
Austin	21	\$144
Palo Alto	18	\$455
Seattle	17	\$41
Sunnyvale	14	\$138
Irvine	13	\$242
Cambridge	13	\$163
San Jose	12	\$107

Austin, Texas-
One city that
consistently
appears on the top
10 cities of venture
capital

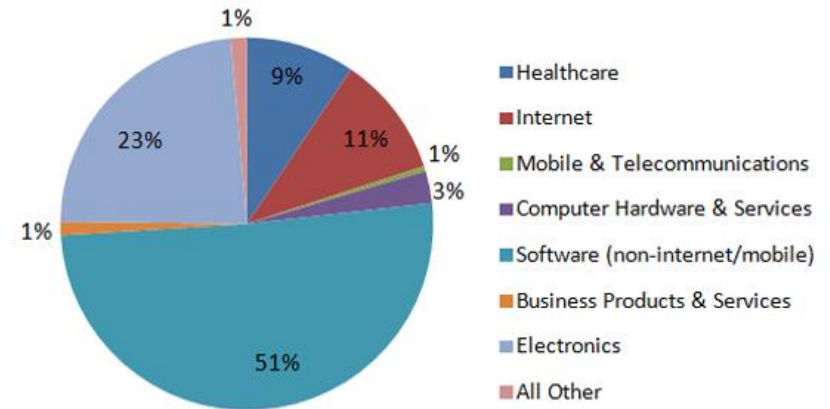


Silicon Hills- Top VC Investment City

VC Deal Volume (#) in Austin by Sector, Q1'10



VC Investment (\$) in Austin by Sector, Q1'10





Silicon Hills - Success Factors

Structure Change Plan

- Creation and fortification of partnerships between industry, government and education (University of Texas)
- Promotion of start-ups and spin-offs; Rise of venture capital
- Promotion of IT companies
- Concentration of universities to industry-oriented education

University of Texas (fulltime enrollment: about 56,000)

- Dean George Kozmetsky enforced entrepreneurship in education after 1977
- Systematic creation of critical mass for hightech cluster



Lessons Learned – Silicon Hills

- Charismatic personalities with clear sense of purpose can stimulate the entire regions
- Systematic development of technopolis with clear payoffs for the region
- Scientific approach to entrepreneurship and technology transfer pays off
- Focus is important (electronics and SW)
- Buildup of a strong university
- Interweaving of government-industry-university is a key



Route 128, Boston, MA

Route 128, Boston, MA

- MIT and Harvard University
- 32% of employments in educational sector
- Graduates and professors have started over 4,000 companies with 1,1 million employees and annual sales exceeding \$232 B





Lessons Learned – Route 128

- Developing science and education base in the science-driven society
(78 institutions of higher learning)
- College and universities have a significant effect on the regional economy, with students contributing an estimated \$4.8 billion annually to the cities economy
- Back to Basics: Conservative, quality-based business models lead to return on investment for both customers and company
- Use of networking effects



Silicon Alley *(as seen before 9/11/01)*

- **Silicon Alley: New York, NY**

- From Connecticut to New Jersey
- Centre is South Manhattan
- Around 5,000 mainly smaller high-tech companies
- Customers: Mainly media, advertising, TV, telecommunication and multimedia technology
- NYC: "Media city of the world"
- Main focus: Facilities of media (including new products, not only branches)
- 9/11/01: Negative impact





Lessons Learned – Silicon Alley

- Big cities remain attractive and encourage creativity
- Closeness to customers (media giants) is important
- The key to internet is not technology but applications and contents

• (*Find out why entrepreneurs love New York [here](#)*).

<http://www.businessinsider.com/sa100-2010#>



Silicon Fen/Cambridge (UK)

Silicon Fen/Cambridge (UK)

- Most successful technology park in the UK
- More than 1,200 companies
- Estimated overall sales more than €4.5 B
- Consisting of many new high-tech and IT companies (more than 30,000 employees in high-tech sector)
- “The Cambridge Phenomenon” many of these companies started as Cambridge University spin-offs, started by its graduated and academic staff, also Silicon Fen couldn't have happened without the presence of Cambridge University
- It is now the second largest capital market in the world, after Silicon Valley
- 2006 there were around 250 active start-ups directly linked to the university, valued by around US\$ 6 billion





Lessons Learned – Silicon Fen

- Building a center around a top university in an attractive place attracts innovative company
- Invest in “brains” instead of “bricks” – hire best people
- Systematic development of technology park concentrated around an outstanding university significantly increases chances for success



Hsinchu – High-tech metropolis in Taiwan

- Most successful technology park in south-east Asia
- More than 100,000 highly-qualified employees
- More than 360 companies
- Overall sales around \$30 B (slightly affected by the global financial crises as sales revenue shrank by 12.4% to US\$ 27.6 billion in 2009 from US\$ 33.75 billion in 2008)
- Highest income level in Taiwan





Lessons Learned - Hsinchu

- Strong focus is the key (IT-Hardware)
- Manufacturing is an attractive option for expansion in high-tech industry
- Use of government as a broker for entrepreneurial activities may pay off
- Re-emigrants may bring capital and experience and do “wonders”
- Hsinchu holds a decisive position in the economic development in Taiwan, with international acclaim



Bangalore - India

Bangalore – India

- More than 1,000 high-tech companies with more than 100,000 employees
- Success story: Infosys (16,000 employees, \$20 B value)
- Foreign investors
- Industry giants (IBM, HP, Motorola) established software development factories and research centers
- IT industry is divided into three main clusters — Software Technology Parks of India (STPI); International Tech Park, Bangalore (ITPB); Electronics City
- fourth largest IT clusters or Global Hub of Technological Innovation in the world (more than 1,900 IT companies)
- Negative impact of the 2001/2002 slump on the software industry





Lessons Learned - Bangalore

- Interesting ambiente, pleasant climate, many green areas; attractive locations are always an asset
- Relatively inexpensive and highly-qualified workforce means higher profits and improved competitiveness and higher chances for success
- Foreign investments accelerate the development and contribute to regional infrastructure
- Motivation makes a difference
- Fast economic growth (average 7.0% per year)



Berlin – 21st Century Technopolis?



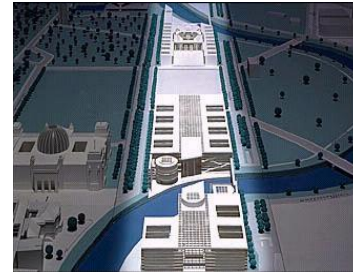
- Tradition
 - Konrad Zuse, John v. Neumann, Siemens, AEG
- Three universities with computer science department
- Highly-qualified and reliable workforce

→ **Electropolis?**





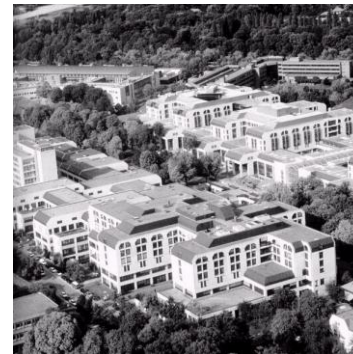
- Seat of government (e-government potential)
- Lively, cosmopolitan culture
- Europe's largest medical center: Charité-Virchow



Government HQ's



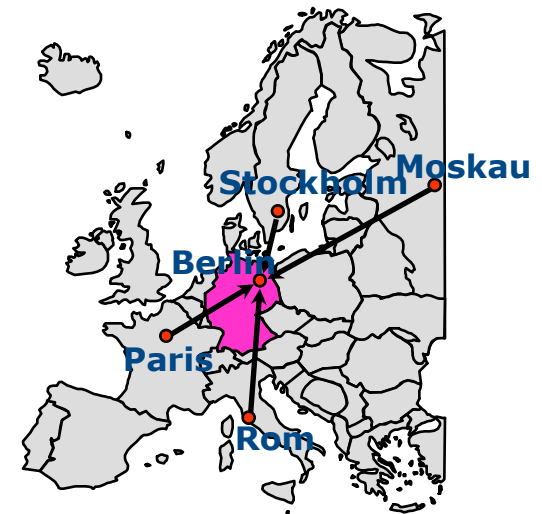
Carnival of Cultures





Berlin – 21st Century Technopolis?

- Concentration of critical mass in politics, business, science, entertainment and culture
- Central European and a gateway to the East (East meets West)





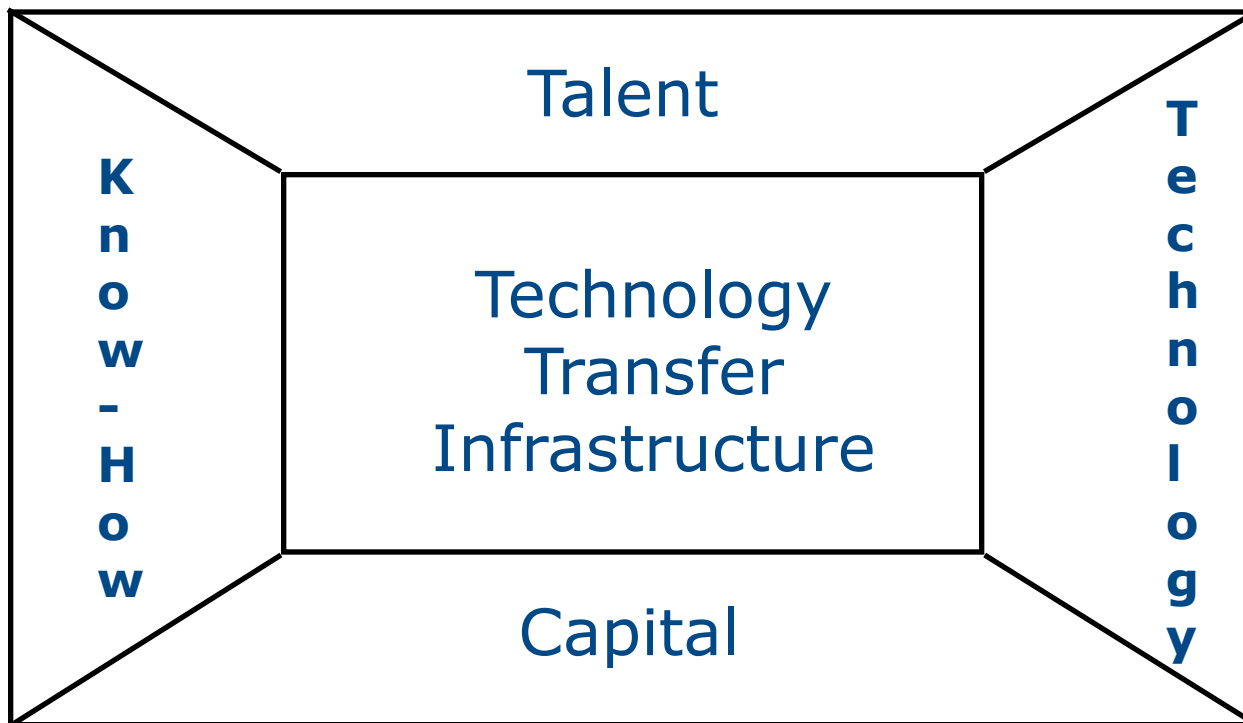
Ticino Region

- Good climate and excellent location
- Highly-qualified workforce
- Good connectivity
- Italian-Swiss or Swiss-Italian - a definite asset
- Need for leadership, drive and focus
- Excellent conditions to start building an ambiente for entrepreneurship



Building a Technopolis

Key Factors in the Development of a Technology Transfer Infrastructure

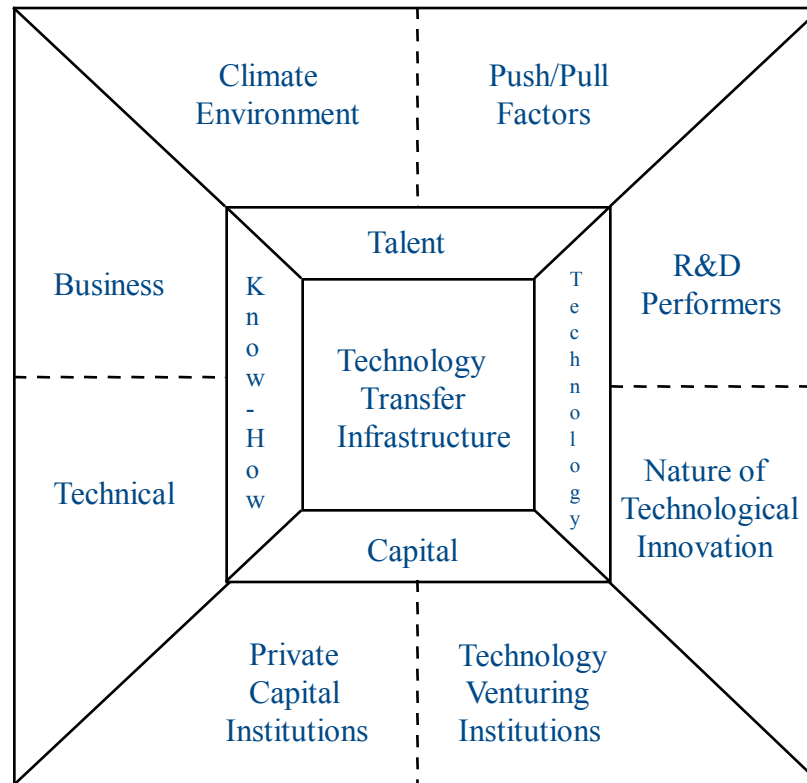


(from G. Kozmetsky, Austin, Texas)



Building a Technopolis

Environmental Conditions

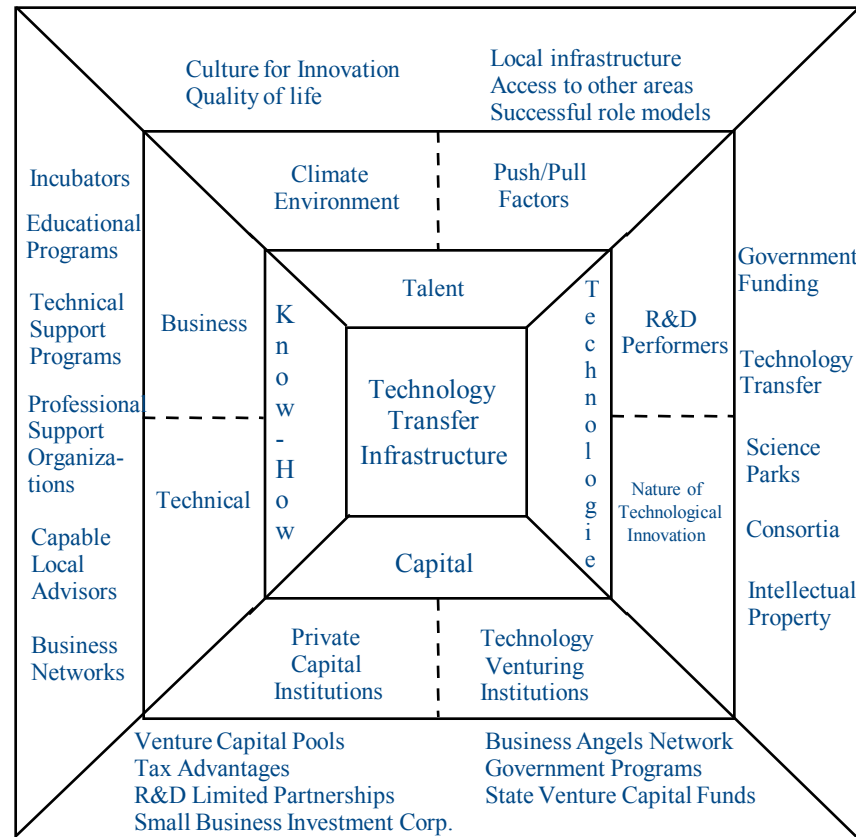


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Building a Technopolis

Policy Implications



(from G. Kozmetsky, Austin, Texas)



Conclusions

- Regional match of stakeholders and customized prescription for a “Spirit of Entrepreneurship” are a must
- Support for innovators and entrepreneurs is also a must
- Legal and tax incentives help
 - Prosperity is not for ever and it always has to be earned
- The future belongs to knowledge intensive industries