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## 1. Program

### 1.1. Timetable

#### **Tuesday, September 26**

- 07h15 Appointment at Swissair desk, Geneva Airport Cointrin (for participants leaving from GVA)
- 08h25 Departure from Geneva to Zurich (flight SR 927)
- 09h00 Appointment at Swissair desk, Zurich Airport Kloten (for participants leaving from ZRH)
- 10h00 Departure from Zurich to Los Angeles International Airport LAX, (flight SR 106)
- 13h00 Arrival Los Angeles International Airport LAX
- 14h00 Transfer to Santa Monica
- 15h00 Arrival and Check-in at Hotel Radisson Huntley, time for a walk
- 17h00 Happy Hour in the Hotel Restaurant 'Toppers', followed by an early dinner

#### **Wednesday, September 27**

- 09h00 Departure from Hotel for visits
- 09h30 Visit to SCANZ Communications, Santa Monica
- 11h30 Visit to KADC Radio Station, Santa Monica, combined with lunch break
- 14h30 Visit to University of California LA (UCLA)
- 16h30 Tour of the UCLA campus (digital related activities)
- 18h00 Welcome dinner in a local restaurant with guest from UCLA

#### **Thursday, September 28**

- 09h00 Departure from Hotel to 'Silicon Freeway'
- 10h00 Visit to Troika Networks Inc., Westlake Village
- 12h00 BBQ lunch at the home of the Vilkelis' family
- 15h00 Visit to Netzero, Westlake Village
- 18h00 Visit to the Paul Getty Museum
- 20h00 Drive on Sunset Blvd and dinner in a Hollywood restaurant

#### **Friday, September 29**

- 09h00 Departure from Hotel
- 09h30 Visit to ec2, Business Incubator, Los Angeles
- 12h00 Lunch on the USC Campus (University of Southern California)
- 13h00 Visit to USC IMSC, Los Angeles
- 15h00 Further exploration of USC
- 18h00 Happy Hour in Los Angeles, where we stay for dinner

#### **Saturday, September 30**

- 09h00 Departure from Hotel to Santa Barbara
- 11h00 Visit to Commission Junction, Santa Barbara
- 12h30 Lunch in downtown Santa Barbara
- 14h00 Drive from Santa Barbara to Morro Bay via San Luis Obispo on Highway 1
- 17h00 Approximate arrival time in Morro Bay, Check-in at Hotel Ascot Suites, time for a bath in the whirlpool; Sunset & Wine Reception
- 19h00 Dinner in one of the many local restaurants

**Sunday, October 1**

- 09h30 Departure from Morro Bay
- 10h30 Visit of the famous Hearst Castle, San Simeon
- 12h30 Lunch in San Simeon
- 13h30 Drive on Highway 1 to Monterey via Big Sur, and then on 101 to San Jose
- 18h00 Approximate arrival time in Palo Alto, Check-in at the Stanford Terrace Inn, Evening free, time for a walk to California Avenue and a light dinner

**Monday, October 2**

- 08h00 Departure from hotel
- 09h30 Visit to Obvious Technologies, San Francisco
- 11h30 Visit to Macromedia, San Francisco
- 14h00 Visit to Audiosoft, San Francisco
- 17h00 Dinner with Swiss entrepreneurs in Silicon Valley, San Francisco

**Tuesday, October 3**

- 08h30 Departure from Hotel (Check-out)
- 09h00 Visit to Apple Computer, Cupertino  
Lunch offered by Apple
- 14h00 Visit to Harmonic, Sunnyvale
- 16h30 Departure for San Francisco, we will stop in Woodside for a drink in Rick's Café
- 19h00 San Francisco International Airport, Check-in
- 21h25 Departure from San Francisco (flight SR 109)

**Wednesday, October 4**

- 17h25 Arrival Zurich
- 18h55 Arrival Geneva

## 2. Hotels

### 2.1. Radisson Huntley Hotel, Santa Monica CA

#### 2.1.1. General Information

...All in a day's work at the **Radisson Huntley Hotel** in Santa Monica.

Uncompromising service is a way of life at the Radisson. After a busy day of sightseeing or business meetings, you are welcomed to a warm, friendly environment, where each guest is made to feel special.

Located in one of the Los Angeles area's most desirable beach cities, the 18-story Radisson offers superb views of the Pacific Ocean and is just a brief stroll from Santa Monica's famous golden sand beaches and the historical Santa Monica Pier.



#### 2.1.2. Services and Amenities

##### SERVICES WITH "YES I CAN" ATTITUDE

Guests staying at The Radisson Huntley Hotel can enjoy the accessibility of a gift shop located in the lobby.

Should you require anything for business or for pleasure, the concierge is at your service. Twenty-four hour, on-site valet parking is available for your convenience.

We are proud to offer guests a workout in our new Fitness Center which comprises state-of-the-art equipments such as; Chest Press, Arm Curl, Lat-Row, Shoulder Press, Leg Extension, Treadmill, Recumbent Bike and Life step.

Room service is available from 6:00 am - 11:00 pm offering a variety of food and beverages.



#### 2.1.3. Food and Beverage

Whisk skyward in an exterior glass elevator to Toppers Restaurant and Cantina located on the top floor of the 18-story Radisson Huntley Hotel in the heart of Santa Monica. With it's spectacular view of the Southern California coastline from Malibu to Palos Verdes and the Santa Monica and San Gabriel Mountains, Toppers offers a special ambiance that tourists and locals enjoy.

Toppers South-of- the-border menu offers such traditional dishes as, Stuffed Poblano Chiles and Tacos Al Carbon and the delectable Sonoma Shrimp Salad with Walnuts, Sun dried Tomatoes and Gorgonzola Cheese tossed in a Dijon Vinaigrette Dressing.

The Grilled Eggplant Sandwich with roasted Pimentos, Arugula, and fresh Buffalo Mozzarella is a true gourmet treat. Chef's Daily Specials add to the variety with tempting selections like, Italian Cioppino and Peruvian Ceviche.



Toppers Restaurant and Cantina is also home to Santa Monica's longest running and continuously scheduled Happy Hour. Seven days a week 4:00 pm - 7:00 pm. Guests come from miles around to enjoy our complimentary happy hour buffet, our second to none Margaritas and our awe inspiring view of LA and the beaches. Also scheduled every evening after the world famous happy hour is a variety of live entertainment. Toppers Restaurant and Cantina offers a complete dining and entertainment experience.

**Breakfast**

6:00 am-10:30 am Daily/Buffer  
6:00 am - 11:30 am Daily/ Regular Menu

**Dining**

6:00 am - 11:00 pm Sunday - Thursday  
6:00 am - 12:00 am Friday and Saturday

**Area****Lunch**

11:30am-400pm

**Bar**

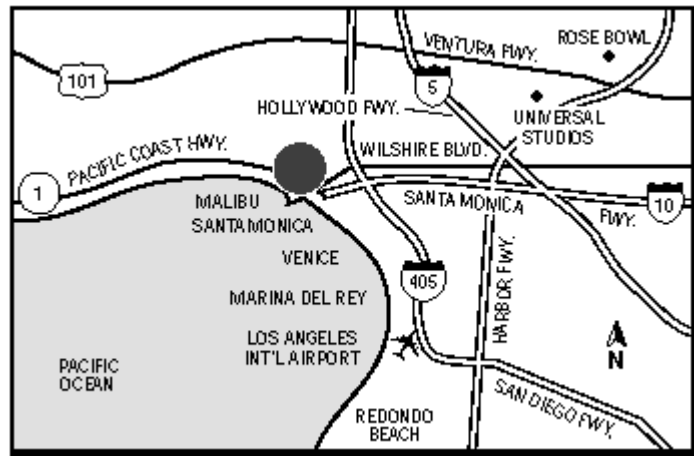
11:00 am - 12:30 am Sunday - Thursday  
9:00 pm - 1:30 am Friday and Saturday

**2.1.4. Location**

The Radisson Huntley Hotel is conveniently situated just North of Wilshire Boulevard, only two blocks from the beach and the world famous "Third Street Promenade", known for shopping, dining and as a center for the arts.

Santa Monica has the warm, familiar feel of an old California beach community, mixed in with the vitality of Los Angeles at its best! The eclectic architecture combining red brick buildings and gleaming high rises, exemplifying the diversity of activities and attractions the city has to offer.

Santa Monica is fast becoming the latter day "Hollywood", as many of the music and movie industry's "movers and shakers" gravitate to Santa Monica to enjoy business at the beach!

**2.1.5. Contacting us**

Radisson Huntley Hotel  
1111 Second Street  
Santa Monica 90402  
California, USA

☎ Phone: +1 310 394 5454  
☎ Fax: +1 310 458 9776  
✉ Email: [radissonsm@aol.com](mailto:radissonsm@aol.com)

## 2.2. Ascot Suites, Morro Bay CA

### 2.2.1. General Information

Ascot features two separate properties. For a luxuriously pampered, romantic getaway Ascot Suites welcomes you. Unique to Morro Bay, this new deluxe, all suite tudor style property, offers romantic fireplaces, whirlpool bathtubs and private balconies.

Traditional elegance and gracious hospitality boast an atmosphere that showcases luxury in a setting uniquely appointed in a collection of rich English country fabrics complimented by lavish wall coverings, combined with the fine craftsmanship of oversized armoires, sleigh and canopy beds promising a refreshing memorable experience.



### 2.2.2. Services and Amenities

Most of our suites feature views to the ocean, Morro Rock and Morro Bay as well as private whirlpool bathtubs. All suites include a nightly turn down service with our signature 'Ascot Chocolates', romantic fireplaces and fine parlour amenities as well as safes, air conditioning, video cassette players, hairdryers, data ports and mini bars.

We at Ascot Suites believe our guests deserve to bask in the lap of luxury. This is why we offer a fitness facility and rooftop sundeck with panoramic views of the city and the sea. A full deluxe continental breakfast and hosted evening wine and cheese reception have all been included in the room rate.



### 2.2.3. Location

The Ascot Suites are located on Moro Bay Blvd, only two streets away from the Embarcadero, the City's focal point. Moro Rock, which rises like a turban at Morro Bay's harbor mouth, was charted in 1542 when explorer Juan Rodriquez Cabrillo sailed past in search of riches and the Northwest Passage.

### 2.2.4. Contacting us

Ascot Suites  
260 Moro Bay Blvd  
Morro Bay 93442  
California, USA

Phone: +1 800 887 6454

Fax: +1 805 772 8860

Email: [info@ascotin.com](mailto:info@ascotin.com)



### 2.3. Stanford Terrace Inn, Palo Alto CA

#### 2.3.1. General Information

Located on the San Francisco Peninsula, halfway between The Silicon Valley and San Francisco, the Stanford Terrace Inn provides affordable luxury in a secluded, quiet garden setting. Our gracious helpful staff will anticipate your needs and assist in any way they can to make your stay comfortable. Our spacious, well appointed rooms are designed to make you stay a "home away from home".

At the Stanford Terrace Inn we pride ourselves on being on the cutting edge, whether it is with regard to our clients needs or staff needs. We think of our hotel as the best place to work or stay. We listen and are "Streets Ahead" of our competition. Hospitality is not a lost art at the Stanford Terrace Inn but the standard we work by. We are continually improving our hotel and welcome ideas from all our guests.

#### 2.3.2. Services and Amenities

Stanford Terrace Inn offers King and Queen Rooms. All rooms offer Bathtub/Shower, Bathrobe, Hair Dryer, Clock Radio, Cable TV/HBO, Iron and Ironing Board, Minibar, Coffee making facilities and Microwave.

Breakfast is served in our newly renovated Lobby. To start a successful day, our pool invites you for a refreshing morning swim. For the sportier amongst you, our workout room is equipped with bike, treadmill and steps. Our wooden deck is the perfect location for a relaxing siesta or a last drink in the evening.

#### 2.3.3. Location

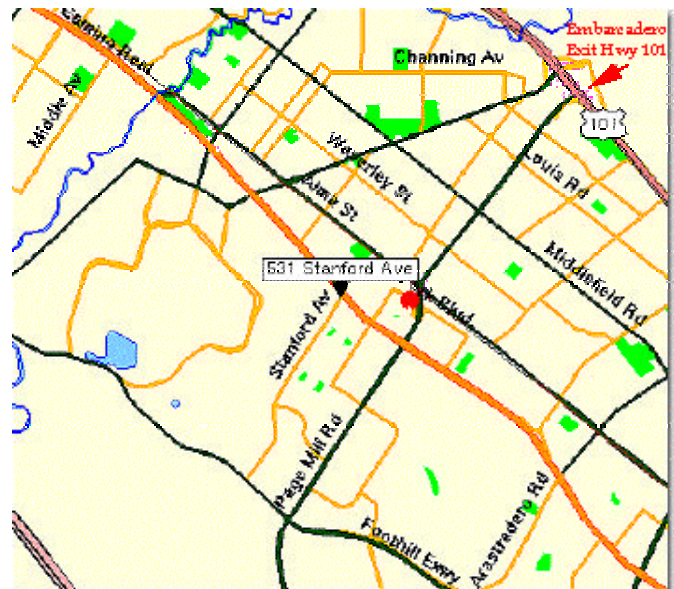
The Stanford Terrace Inn is located in Palo Alto on Stanford Avenue, right across the Stanford University Campus. The name *Palo Alto*, which is Spanish for "tall tree" or "tall pole", was the name given to a huge twin redwood tree that was found growing on the banks of San Francisquito Creek by Captain Gaspar de Portola in November 1769. A proper Spanish description of this unusual twin-trunked tree would have been *Los Palos Altos*. It is fortunate that the plural name was not used, because a fierce winter storm in the late 1880's blew down one of the twin trunks.

#### 2.3.4. Contacting us

Stanford Terrace Inn  
531 Stanford Avenue  
Palo Alto 94306  
California, USA

☎ Phone: +1 800 729 0332

✉ Email: [terraceinn@att.net](mailto:terraceinn@att.net)



### 3. Visits

#### 3.1. ScanZ

ScanZ Communications has brought to the *information appliance* world, the development of wireless, real time digital video and audio that possesses portable, handheld technology with Internet capabilities and multiple business-to-business applications.



Among its products is the ScanZ Scannor. It was created by a dynamic group of visionaries who collectively have countless years of successful experience in a vast array of diversified industries.

The ScanZ Scannor (patent pending) is a smart, handheld electronic device that can store and play back the digital video and digital audio data that it receives. The Scannor features a unique ability to receive real-time video and audio information as it plays it back, all in a portable, handheld wireless unit, with internet access capabilities. The Scannor offers multiple Business-to-Business applications.

##### The ScanZ Scannor:

- Plays Back Video and Audio While It Continues To Receive Transmissions
- Is Lightweight, Handheld, Wireless, Portable
- Receives a signal from a TV Feed, Closed Circuit Security System or Accessing Live Content.
- Stores and Plays Back Any Video and Audio Signal
- Multifunctional Controls: Has Fast Forward, Rewind, Slo-Motion, Freeze, Zoom Capabilities
- The Scannor Offers Multiple Business to Business Applications, such as Sports Officiating, Security, Film & Television Production, Healthcare And As A Consumer Product to Access Scannor.com, the Company's Premium Content Engine



🌐 Web site: <http://www.scanz.com>

#### 3.2. KACD

KACD begins a history-making experiment early this week. As far as anyone in the radio



industry can determine, the station is the first to pick up and move everything - deejays, music, and commercials - from an over-the-air frequency to the Internet. KACD-FM will transform into [www.worldclassrock.com](http://www.worldclassrock.com). Which means: The days are over when KACD relied on a weak signal that doesn't even reach north over the mountains to the populous San Fernando Valley. Now, worldclassrock.com can be picked up in any time zone by anyone with a computer, a phone line and enough patience to navigate the emergent thicket that is Internet radio. This could be a seminal moment in radio history - or it could be another dot-com disaster.

"If this works, it could open the floodgates," says Nicole Sandler, 40, KACD program director and afternoon deejay. If it doesn't, [worldclassrock.com](http://www.worldclassrock.com) will be just one more cybercorpse in the dot-com dead pool. The trick is getting listeners to follow the station from the airwaves to the computer. It's a gamble, and the game is too new to lay odds.

The Channel will soon have different five streaming-media players available. Most sites operate with only one or two. Meanwhile, the station has found a unique way to bypass any Internet-only RIAA licensing issues by obtaining a terrestrial home on KBET-AM (owned by Clear Channel), which has been simulcasting KXTA-AM (XTRA Sports 1150). The 850 AM daytime-only signal can be heard in Thousand Oaks, Calabassas and parts of Malibu. What will we call the station henceforth? Channel 103.1 is now outdated. Worldclassrock.com is more appropriate.

🌐 Web site: <http://www.worldclassrock.com>



### 3.3. University of California LA, Los Angeles

What began in 1919 as the southern branch of the University of California is today one of the leading universities in the world-renowned for education, community service and innovation.



We are a youthful prodigy among the nation's academic elite. In fewer than 80 years, our determined pursuit of excellence and innovation has propelled UCLA into the ranks of the nation's top 10 research universities.

UCLA began as the Los Angeles State Normal School, a teachers college that became the southern branch of the University of California on May 23, 1919. The College of Letters and Science awarded the first Bachelor of Arts degrees in June 1925, to 100 women and 24 men. We moved from Vermont Avenue to a rural outpost called Westwood Village in 1929.

Today, one in every 170 Californians holds a UCLA degree. The bucolic barley fields that surrounded the infant Westwood Village campus have given way to the burgeoning metropolis of Los Angeles. And, as part of the international cultural and economic community known as the Pacific Rim, we are building on an already renowned reputation for education, innovation and community service. Take a look at the facts:

With an enrolment topping 34,000 undergraduate and graduate students, UCLA attracts the best and the brightest by offering one of the widest selections of study areas among major American universities. Our students can choose from more than 100 major fields and design their own interdisciplinary majors. The diversity of our academic programs draws strength from a student body that mirrors the cultural and ethnic vibrancy of Los Angeles.

Our lofty standing among the nation's research universities helped attract \$403.6 million for research and \$190.8 million in private philanthropy in 1995-'96, both UCLA records. Those millions help support research inventing the technologies of tomorrow and discovering new insights about our changing world.

 Web site: <http://www.ucla.edu>

### 3.4. Troika Networks Inc., Westlake Village

TROIKA brings new dimensions to Storage Networks by adding server cluster and IP communications to storage-protocol-only SANs. This multi-dimensional network is the foundation of a highly available, scalable and reliable IT infrastructure for critical e-business applications. TROIKA's products are based on open standard Fiber Channel technology and provide Quality of Service and Manageability features that align business requirements with IT asset utilization.



The Internet and eServices are placing tremendous demands on Information Technology systems to support enormous growth in users and information without sacrificing reliability. The traditional LAN-based IT systems are file-server centric, which are characterized by the difficult scaling of users and data, complex storage management (backup over the LAN) and minimal opportunity to cluster for high-availability.

Emerging SAN (Storage Area Network) based information systems, using Fiber Channel, are data-storage centric, characterized by flexible and independent scalability of storage and servers, excellent data protection and storage management, and support for multi-server high-availability clustering. TROIKA's networking products create new markets for Fiber Channel, leveraging the technology beyond conventional storage connectivity. Applications that benefit from TROIKA products include business intelligence (databases, ERP and decision support), web hosting and e-commerce.

TROIKA expands on the storage-centric SAN by adding IP networking and clustering functions (called the System Area Network, another type of SAN) to Fiber Channel. This enables a "single-wire", fully open-standard network infrastructure for building reliable, scalable and manageable IT systems. This multi-dimensional network has become the best foundation for building server/storage clustering systems to support the Internet, eServices and business-critical applications.

 Web site: <http://www.troikanetworks.com>



### 3.5. NetZero, Westlake Village

Launched in October 1998, NetZero is the largest free Internet service provider in the world with over five million registered users. NetZero provides completely free, high-quality Internet service and offers one-to-one marketing unavailable in any other medium. NetZero members enjoy unlimited, direct access to everywhere on the Internet as well as all the online features they've come to rely on. There are no catches, no contracts and no commitments. There are no monthly bills or fees of any kind.

The ZeroPort, our members' personal "Speed Dial for the Web", sits conveniently above the browser or at the bottom of the screen, and is always visible regardless of where a member travels on the Web. This enables advertisers to display targeted banners or messages the entire time the member is online.

NetZero members provide basic demographic and geographic information along with data on their hobbies and interests. Based upon this NetZero Profile, advertisers are able to precisely target the exact consumers they want to reach. This win-win situation enables both our members and our advertisers to benefit from ads that have been designed with the members' specific interests in mind.

The ZeroPort is your personal, easy-to-use navigational tool for the Web. It sits conveniently above the browser or at the bottom of your screen. It lets you search, browse, and check e-mail without having to launch your browser - and you can have customized news, sports, and stocks information delivered right to your desktop!

Advertisements tailored to your interests display in the Banner Ad Window, and when you see an ad that interests you, you can click on the banner and go straight to the advertiser's Web site. The ZeroPort also offers you direct access to great online shopping sites and useful online services, as well as technical support and an online tutorial.

🌐 Web site: <http://www.netzero.com>



### 3.6. ec2, Los Angeles

EC<sup>2</sup>'s occupant companies are involved in new media content and content-enabling technology. EC<sup>2</sup> offers its occupants a complete support system for up to three years to enhance the odds of entrepreneurial success.

EC<sup>2</sup>'s Occupancy Program incubates companies working in a variety of media and technologies.

EC<sup>2</sup>'s unique combination of facilities, services, and expertise produces an environment where new companies can control costs by reducing production, communications, operations, real estate and consulting expenses.

EC<sup>2</sup> provides Occupants with access to business facilities, multimedia production equipment, Internet service, network computing, and professional support services. Production facilities are available to occupants 24 hours a day, 7 days a week.

EC<sup>2</sup>'s Occupant program provides office space, production facilities, technical support, and networking opportunities for companies developing new media content or communications technology.

🌐 Web site: <http://www.ec2.edu>



### 3.7. IMSC.USC, Los Angeles

The explosion of integrated media over the last decade has transformed virtually every arena of human activity associated with communication and information. The power and importance of this revolution are demonstrated in the focus of the Integrated Media Systems Center (IMSC), a leader in the rapidly growing and ever-changing field of multimedia. IMSC is developing a computer-based environment that supports the creation, sharing, distribution and effective communication of the multimodal information across the boundaries of space and time.



IMSC, a National Science Foundation Engineering Research Center, is taking integrated media to a new level of technological sophistication by fostering innovative, cross-disciplinary programs of research, education, outreach, and industry collaboration. Defining "Integrated Media Systems" is simple: Advanced computer-based interactive media technologies via images, video, audio, text, animation and graphics- all in real time.

Through continued innovations of integrated media systems, IMSC is further developing multimedia options that are dramatically transforming the way we work, communicate, teach, learn, entertain and play.

Located on the campus of the [University of Southern California](#) near the heart of Los Angeles, the Integrated Media Systems Center is a premier research facility in USC's School of Engineering, one of the top engineering schools in the nation. IMSC faculty investigators represent the broad spectrum of disciplines necessary for a truly cross-disciplinary program including electrical engineering and computer science as well as physics, education, journalism, cinema-television, communication, art, museum studies and psychology. Two premier educational research organizations, TERC and the Center of Technologies in Learning (CTL) of SRI International have partnered with the Center to round the research effort. Complementing the Center's distinguished faculty are a dedicated and professional staff and talented, motivated and enthusiastic students.

🌐 Web site: <http://www.imsc.usc.edu>

### 3.8. Commission Junction, Santa Barbara

Founded in November 1998, Commission Junction is the business-to-business Web-based affiliate marketing network that matches online merchants' products and services to online content at the consumer's point-of-interest. Handling all aspects of the network for an unlimited number of online merchants and content providers, Commission Junction audits e-commerce activity, manages all relationships and collects and pays commissions on sales generated, all at a cost that is lower than traditional online performance marketing or advertising programs.



Commission Junction provides a Web-based application services solution that tracks e-commerce activity in real-time and pays online content providers a single, aggregate check each month. Commission Junction pays online content sites when a customer takes a measurable action (request for information, subscription or purchase). By signing on with Commission Junction, merchants and content providers work with an experienced team who will design, manage and monitor the performance of the program.

CJ International is taking Commission Junction's widely successful network of online merchants and affiliate content sites into international markets. CJ International currently pays content sites in 28 currencies, delivers CJ.com in 11 languages, as well as expands Commission Junction's unparalleled customer service and fraud prevention to a growing list of international clients. CJ International provides a targeted e-commerce solution to dozens of International hubs through several regional centers in Europe and Asia.

Commission Junction comprises the world's largest network of high-traffic online content providers, including Roadrunner (NYSE: TWX), Merrill Lynch (NYSE: MER), and InfoSpace (NASDAQ: INSP), as well as high-profile online merchants, including Fingerhut (NYSE: FD), and Nextcard (NASDAQ: NXCD). Commission Junction has over 150 employees and is headquartered in Santa Barbara, CA.

🌐 Web site: <http://www.commissionjunction.com>



### 3.9. Obvious Technologies, San Francisco

The widespread adoption of the Internet combined with the increase in consumer bandwidth has fuelled the expansion of digital video as a practical and effective means of mass communication. Obvious offers a scalable solution that enables any company to incorporate digital video with other multimedia information to create searchable interactive presentations that captivate end-users.

Obvious' mission is to become the de-facto standard for the creation, publication, indexation and distribution of interactive digital video of networks and the Internet. Obvious' solutions let content owners and distributors:

- Streamline production
- Reach new markets
- Develop new revenue streams
- Enrich the learning experience
- Enhance communications
- Incorporate e-commerce engines seamlessly with digital video
- Repurpose video assets

The company is characterized by its devotion to fully developing its technology before releasing it to the market. Obvious is also characterized by the "universality" of its employees, who come from diverse backgrounds, disciplines and nationalities. They bring a worldly and multidisciplinary approach to their work, which makes Obvious an ideal place for the development of fresh ideas and innovative technology.

Incorporated in 1997, the company is headquartered in San Francisco, California, with research and development offices in Phoenix, Arizona; Paris, France; and Casablanca, Morocco.

🌐 Web site: <http://www.obvioustech.com>

### 3.10. Macromedia, San Francisco

Macromedia enables professional Web developers to create



engaging and effective next-generation Web sites. Professional Web developers, enterprises, and dotcom companies turn to Macromedia for comprehensive, integrated solutions that manage the Web Content Lifecycle from content authoring, management, delivery, and display to personalization and analysis.

Professional Web developers and designers use and integrate Macromedia Director, Dreamweaver, Fireworks, Flash, FreeHand, Generator, and Shockwave to build high-impact, automated, interactive sites that deliver motion, sound, graphics, and rich media.

Enterprises capitalize upon Macromedia Web solutions that build sites, manage content, engage customers, personalize experiences, and analyze data. With a smartly engineered e-business, companies can deploy and upgrade sites faster and generate greater return on Web investment.

Macromedia Dreamweaver operates as a corporate platform for enterprises. Macromedia Aria and LikeMinds deliver robust analysis and personalization, respectively, to mission-critical Web sites. And Macromedia Flash and Shockwave display the power of the Web to hundreds of millions of consumers, by desktop, laptop, and even hand-held wireless devices.

- The Macromedia Flash Player has 222 million users and 1.4 million downloads daily, allowing 90% of all Web users to view Flash content. (Source: Flash Penetration: NPD Research)
- The Macromedia Flash Player, the Macromedia Shockwave Player, or both, are distributed by Macromedia partners AOL, Apple, Microsoft, RealNetworks, and WebTV
- Macromedia provides solutions for eBranding, eCommerce, eLearning, eMarketing, eMerchandising, news and information publishing, entertainment, and online

 Web site: <http://www.macromedia.com>



### 3.11. Audiosoft, San Francisco



Founded in 1996, AudioSoft has developed the first business-to-business online system for managing digital copyrights that tracks downloads, previews and webcasts by country of consumption, reporting the relevant information to the appropriate rights owners and their representatives.

With its corporate headquarters in San Francisco and its European headquarters in Geneva, Switzerland, AudioSoft is a respected international leader in worldwide digital copyright management.

The Mission of AudioSoft is to be the leading technology and service provider in the field of worldwide digital copyright management for music on the Internet, serving labels, copyright collection societies, e-retailers and webcasters.

The [AudioSoft Copyright & Data Reporting System](#) is a sophisticated music usage monitoring system for the Internet. The system captures, organizes and delivers information from consumer applications and refines it into usable databases for music industry professionals. Tracking both performing rights and mechanical rights, it provides rights owners with detailed and customisable reports on music consumption by territory.

The AudioSoft architecture is designed to be audio file format agnostic and to be integrated with popular audio platforms. The AudioSoft Copyright & Data Reporting System supports the Secure Digital Music Initiative (SDMI) and other industry standards.

🌐 Web site: <http://www.audiosoft.com>

### 3.12. Dinner with Swiss Entrepreneurs in Silicon Valley, San Francisco

#### Richard Alan Horning, TAZZ

Tomlinson Zisko Morosoli & Maser LLP is a leading Silicon



Valley law firm addressing the legal service needs of domestic and international business. [Strategically located](#) at the beginning of Silicon Valley's "power corridor" -- Palo Alto's Page Mill Road -- the firm is known for its particular expertise on legal issues involving emerging technologies. [Clients include Fortune 500 firms, promising new start-ups and established companies](#) in California and around the world. TZMM focuses on partnering with each and every client, and has a practical, results-oriented approach to problem solving.

🌐 Web site: <http://www.tzzm.com>

#### Fritz A. Eisenhart, Vertical\*i

In the fragmented world of innovation, Vertical\*i brings together Suppliers, Buyers and Contributors to leverage the promise of the Internet and create a more efficient and effective way of developing, managing and transacting innovative technologies, their intellectual assets and entrepreneurial ventures.



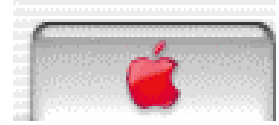
"Within 5 years, Vertical\*i aims to have led the reduction of innovation costs and time by 50 %"

🌐 Web site: <http://www.verticali.com>



### 3.13. Apple Computer

Apple's history has been a rocky one, and there have been many ups and downs since the company started in Steve Jobs' bedroom (and later garage). But there is an underlying theme in the history of Apple: innovation. Apple computer has had more industry firsts than any other personal computer company in the world, and it is this innovation that has always set Apple apart from the norm.



Will Apple ever dominate the entire personal computer market? Probably not. That battle is lost, and has been over for a long time. But Apple can continue to challenge the market, to innovate where the larger companies can't. Because it has control of both hardware and software, Apple can do a lot more than any other hardware or software company. Apple still has a truly impressive market-share in the graphics and content-creation community, and is gaining ground with consumers. More importantly, Apple is invested in turning itself into "a really cool consumer company," moving "beyond the box" and into emerging markets.

#### Latest news about Apple

Presenting the Power Mac G4 Cube: a supercomputer miraculously engineered into an eight-inch cube, suspended in a stunning crystal-clear enclosure.

Though it's less than one quarter the size of most PCs, the G4 Cube delivers far greater performance. With its built-in Velocity Engine, the G4 processor reaches speeds of over one billion calculations per second. Humbling even the fastest Pentium III.



Web site: <http://www.apple.com>

### 3.14. Harmonic, Sunnyvale

Harmonic is a leading developer of innovative broadband solutions and technologies that enable communications providers around the world to deliver video, voice, and data services to their customers.



# Harmonic

Harmonic's technically advanced fiber optic, digital video, and IP data delivery systems enable network operators to provide a range of interactive and advanced digital services that include high-speed Internet access, telephony, digital video, HDTV, video and audio streaming, and video-on-demand (VOD).

Harmonic is headquartered in Sunnyvale, California, and employs approximately 925 people. Harmonic operates more than 15 R&D, Sales, and System Integration Centers globally. Harmonic is traded on the Nasdaq stock market under the symbol "HLIT."

Harmonic was founded in 1988 and quickly emerged as a fiber optics pioneer in the cable industry. Harmonic's first product, the high-power YAGLink transmitter, inaugurated a new standard of performance and capability in the transmission of broadband video services. With this innovative, high-powered solution, cable operators enjoyed substantial savings by consolidating their head ends. On the heels of the YAGLink, Harmonic introduced a complementary suite of standards-based, high performance optical transmission platforms for delivering both broadcast and two-way services.

Over the past decade, Harmonic's innovative solutions and "first-to-market" mentality reinforced its standing as a recognized leader in fiber optic transmission systems for the cable industry. In 1997, Harmonic delivered the industry's first scalable node; in 1998, the industry's first DWDM system; and in 2000, Harmonic unveiled the world's first CMTS in a node. These products and technologies underscore Harmonic's strategic objective of providing a complete set of standards-based solutions for the delivery of video, voice, and data over any network architecture. In May of 2000, Harmonic completed its acquisition of DiviCom, the leading provider of high-quality standards-based digital video systems for satellite, wireless, fiber and cable networks. By combining DiviCom's strengths in open solutions for digital video with Harmonic's strengths in optical communications, Harmonic offers its customers a standards-based product portfolio spanning from head end to deep inside the network's architecture.

 Web site: <http://www.harmonicinc.com>



#### 4. Sightseeing

##### 4.1. Paul Getty Museum, Los Angeles

The beautifully situated Getty Center is the new home of the J. Paul Getty Trust. The Getty Center is surrounded yet slightly removed from the city, evoking both urbanity and peaceful contemplation. The 110-acre campus offers panoramic views of the city, mountains, and ocean. a choice of places to dine, and tranquil gardens to stroll.



##### Special Exhibitions:

*Peter Paul Rubens and the Art of Drawing in Flanders*

August 29-October 22, 2000

Peter Paul Rubens, a major force of the Baroque era, is among the best represented artists in the Museum's drawings collection. The Getty's eight Rubens drawings span his career and exemplify his range--from book illustrations to nature and figure studies and religious scenes. The focal point of the exhibition will be the magnificent and newly acquired *The Assumption of the Virgin* (about 1624). This monumental drawing was a study for an engraving by Paulus Pontius, created to circulate Rubens' masterful works to a wider public. The exhibition also will include drawings by Rubens' predecessors and contemporary Flemish draftsmen such as Anthony van Dyck, Frans Snyders, Jan Cossiers, and Jacob Jordaens.



*The Queen of Angels*

August 14 through November 5, 2000

Taking its title from Los Angeles' historic name, El Pueblo de la Reyna de Los Angeles (The Town of the Queen of the Angels), the new Museum exhibition *The Queen of the Angels* (August 15 through November 5, 2000) presents 400 years of illuminated manuscripts focusing on the Virgin Mary.

The 19 works on view were produced in Europe during the Middle Ages and Renaissance when veneration of the Virgin was at its most intense. Dating from around 1160 to 1530, the works include prayer books, religious service books, history books, a saint's life, and a panel painting that highlights Mary's three most important roles: Virgin Mother, Queen of Heaven, and Intercessor.

The exhibition includes *The Coronation of the Virgin* (about 1420) by the Italian Renaissance painter Gentile de Fabriano, which shows Mary and Christ dressed in sumptuous robes and enthroned in heaven. Also on display is *The Assumption of the Virgin* in Stammheim Missal (about 1160) that portrays Mary gently floating up toward the Lord, who is poised to crown her.



#### 4.2. Hearst Castle, San Simeon

In the Santa Lucia Mountains of California on a hilltop overlooking the Pacific Ocean, craftsmen labored for nearly 28 years to create a magnificent estate of 165 rooms and 127 acres of gardens, terraces, pools, and walkways. Its rooms were furnished with an impressive collection of Spanish and Italian antiques and art. Art treasures are found in every room of Hearst Castle™. Antique Spanish ceilings, Greek vases dating from 500 B.C., rare oriental carpets and myriad works of art can be seen everywhere. We are used to seeing such great treasures in museum galleries. However, at Hearst Castle™, we have a rare opportunity to see these museum pieces in a setting, which reflects not only their original use but also a unique period in American history.

Its name is La Cuesta Encantada, "The Enchanted Hill"™, better known as Hearst Castle™. It was once the home of newspaper publisher William Randolph Hearst. Today it is a State Historical Monument, its richness and beauty preserved by the California State Parks.

Hearst Castle™ is located on California Highway 1, about halfway between San Francisco and Los Angeles. Driving time from either city is approximately six hours.

La Cuesta Encantada™ was William Randolph Hearst's romantic name for his palatial estate on a rocky knoll of the Santa Lucia Mountains. Five miles inland and 1,600 feet above San Simeon Bay, the Enchanted Hill's™ 127 acres of gardens, terraces, pools and guest houses provide a dramatic setting for the magnificent 137-foot-high Mediterranean Revival mansion, Casa Grande.

Working closely with Julia Morgan and an army of craftsmen and laborers, Hearst created a truly unique and impressive structure to serve as the social and architectural focus of the hilltop. Excavation for Casa Grande began in 1922 though the building was not ready for full-time occupancy until 1927. Additions to the main building continued until 1947. Eventually the 130-room building contained everything from underground storage vaults to elegant bedrooms located high in the bell towers.

The main building served as the gathering place for guests who congregated in the Assembly Room prior to the evening meal in the adjacent dining room called the Refectory.

Relying on Morgan's training at the Ecole des Beaux Arts in Paris, Hearst and Morgan combined an assemblage of historic and decorative elements primarily from southern Europe into a unified whole, at once suggestive of earlier European creations and yet constructed with the most modern materials and techniques. Much of the steel, iron, and cement arrived by tramp steamer at the port of San Simeon where materials were stored until they could be hauled by chain-driven trucks to the mountaintop site. Hearst's art treasures and architectural elements were likewise shipped by steamer and stored in warehouses alongside the bay until they could be used in the Castle's construction or decoration.

The first structures to be completed were the guest cottages, named Casa del Mar (House of the Sea), Casa del Monte (House of the Mountain), and Casa del Sol (House of the Sun). Created in a style reminiscent of the Italian Renaissance, the three cottages (each a mansion in its own right) exhibit a harmony of design that complements one another as well as the main building.



## 5. California

### 5.1. At a glance

More than a state, California is a state of mind. Surfer, cyclist, logger, vintner, migrant, magnate, starlet and politician – each has his or her own California. Yet these make up only a small part of the kaleidoscope that is the state itself. From its varied climate and topography, “land’s end” geographical position and virtually boundless natural resources, California has developed a distinctive style that is evident in fashion, cuisine, architecture, art and business. “The Golden State” has long been a popular designation for California and was made the official State Nickname in 1968. It is particularly appropriate since California’s modern development can be traced back to the discovery of gold in 1848 and fields of golden poppies can be seen each spring throughout the state.



#### 5.1.1. Geography

California is a state of remarkable geographic diversity. The highest point in the country outside Alaska, 14,494-foot Mount Whitney, is just 85 miles from the lowest, Death Valley, at 282 feet below sea level. One might swim in the ocean and ski on fresh snow in the same day. Ribbon Falls in California’s Yosemite National Park is the continent’s highest waterfall. Within the state, giant sequoias are the largest, coastal redwoods the tallest and bristlecone pines the oldest known living trees.

Mountains parallel the entire coastline. From the northwest corner the Coast Ranges extend almost to Los Angeles. Their moderate slopes wear evergreens in the north, stately oaks mid-state and brushy shrubs known as chaparral in the south. From the northeast the Sierra Nevada forms a continuous barrier that runs half the length of the state. It is a single block of granite that rises gradually from the west, then drops abruptly on the east, where its escarpment towers nearly 10,000 feet above the valleys.

Other major ranges include the White Mountains, east of the Sierra Nevada, and the volcanic Cascades, in the northern reaches of the state. Mount Shasta and Mount Lassen, both now quiescent, are California’s biggest volcanoes. North of Los Angeles the Coast Ranges and the Sierra Nevada join to form the transverse ranges, which include the Tehachapi, San Gabriel and San Bernardino mountains. From Mount San Jacinto, a series of mountains called the peninsular range extends into Mexico.

Between the Coast Ranges and the Sierra Nevada is the great Central Valley, about 400 miles long and 40 to 50 miles wide. The northern half is called the Sacramento Valley; the southern part, San Joaquin Valley. The Owens Valley lies between California’s two highest mountain ranges, the Sierra Nevada and White Mountains. Elevations exceed 14,000 feet, and 10,000-foot high walls rise on either side. Death Valley is an independent basin sloping southward

### 5.1.2. Total Area

- 163707 square miles, of which 155973 square miles land and 7734 square miles water
- 840 miles Coastline and 3,427 miles of Shoreline

### 5.1.3. Population

Approximately 34 million people live in the state of California, representing just over 12 percent of the entire United States population. Although the state's growth rate has slowed some since 1990 due to a general decline in birth rates, California's population is projected to increase by 30 percent, to nearly 41 million people, as it approaches the year 2010. Los Angeles, with an estimated population of 9.5 million, accounts for nearly one-third of all Californians, and had a population greater than all but seven states in the United States. By the year 2020, Los Angeles is expected to have a population of nearly 13 million.

- Ethnic breakdown: 69.1 percent White, 7.4 percent Black, 9.6 percent Asian, 0.8 percent American Indian, 13.1 percent Other, 25.4 percent Hispanic Origin; 11 percent 65 years and over.
- Median age: 33.6 years
- Households: 52.7 percent married couple families; 26.9 percent married couple families with children; 53.9 percent college educated; median household income: \$35,798; per capita income: \$16,409; 55.6 percent owner occupied housing; median house value: \$195,500; median monthly rent: \$561. 5.2 percent unemployment.

## 5.2. Los Angeles

The city is grotesquely shaped, like a charred scrap of paper, with independent municipalities such as Beverly Hills and Culver City as well as unincorporated county land lying within its boundaries. Elevation averages about 275 feet (84 meters), ranging from sea level to 5,082 feet (1,549 meters) at Mt. Lukens (also called Sister Elsie Peak). The Santa Monica Mountains, covering an area of 92 square miles and reaching heights of 3,000 feet, bisect the city, separating Hollywood, Beverly Hills, and Pacific Palisades from the southern boundary of the San Fernando Valley, a 220-square-mile area with such suburban communities as Burbank, Glendale, North Hollywood, Studio City, Sherman Oaks, Encino, Tarzana, Woodland Hills, and the mission city of San Fernando.

The valley's principal east-west artery, Ventura Boulevard, is a 17-mile bazaar of specialty shops, ethnic restaurants, banks, medical buildings, shopping malls, automobile agencies, and realtors' offices. The French writer-diplomat Romain Gary pronounced it "one of the most remarkable streets in the world." In the 1920s it was a dirt road. The post-World War II boom turned it into the main street of what would now be one of the country's largest cities if the valley were an independent entity.

Once the sanctuary for middle-class white families fleeing the city's congestion and racial tensions, the valley is now breaking up its rural estates to make room for condominiums and shopping centers. Walnut orchards and truck gardens have given way to housing for blacks, Hispanics, and Asians who have gone to work in new plants ranging from basic industry to high technology. Burbank, long the butt of television comedians ("Burbank has a low suicide rate, because living in Burbank makes suicide redundant"), now proclaims itself the country's entertainment center. It is home for recording companies, the National Broadcasting Company, and three major motion-picture studios (Walt Disney Productions, Warner Bros., Inc., and Columbia Pictures Television Division).

Hollywood, eight miles northwest of the central city, was laid out in 1887 by Horace Wilcox, a Prohibitionist, who intended his subdivision to be a sober, God-fearing community. In 1910, when its water supply ran low, Hollywood was gobbled up by Los Angeles. The following year Blondeau Tavern, at the intersection of Sunset Boulevard and Gower Street, was turned into Hollywood's first motion-picture studio--to be abandoned 60 years later when Columbia Pictures moved to Burbank. By then the stars had long since left Hollywood, many of them moving into secluded hillside mansions above Beverly Hills, the most famous of which was Pickfair, built by Douglas Fairbanks for Mary Pickford in 1919. (After Pickford's death in 1979 it was sold to a sports entrepreneur.)

### 5.2.1. Climate

Coastal mountain ranges to the north and east act as buffers against extremes of summer heat and winter cold. Even in the hottest months, the humidity tends to be mercifully low and the nights cool. "Night and morning low clouds" is the most common summer forecast, with the sun breaking through in the afternoon. Pronounced climatic differences occur in different sections of the city. The San Fernando Valley is generally several degrees cooler in winter and warmer in summer than communities on the opposite side of the Santa Monica Mountains. The city's mean temperature is about 64° F (18° C). The record high was 110° F (43° C) on September 1, 1955, the record low 27.9° F (-2.3° C) on January 4, 1949. The average annual rainfall is 14 inches (356 millimeters), with most of it falling in the winter months.

## 5.3. San Francisco and the Bay Area

Hilly, roughly square, and about 46 square miles (120 square kilometers) in area, San Francisco occupies the northern tip of a peninsula. To its south are the bedroom suburbs of San Mateo County; to the east and northeast is the bay; to the west and northwest lies the Pacific Ocean.

The most prominent of San Francisco's hills are Twin Peaks, Mt. Davidson, and Mt. Sutro, all more than 900 feet (270 meters) in height. The best known are Nob Hill, where the wealthy "nobs" built extravagant mansions in the 1870s, and [Telegraph Hill](#) (see [photograph](#)), which once looked down on the Barbary Coast, a neighborhood alive with gaudy wickedness. Thanks to the pioneer planners' prejudice in favor of a squared-off grid, the downtown streets march intrepidly up precipitous slopes, terrifying newly arrived drivers, making the [cable cars](#) more than sentimental anachronisms, and providing splendid views of the bay.

[San Francisco Bay](#) is a drowned river valley, submerged during the melting of the last glacial ice sheet. Enthusiastic and profitable filling of the tidelands has reduced its area at mean high tide from about 700 square miles in 1880 to a mere 435 square miles. More than half of the bay is still fillable, but in 1965 the state legislature created the Bay Conservation and Development Commission to control further landfill projects. At its widest point the bay measures 13 miles (21 kilometers) and at its deepest, in the Golden Gate channel, 357 feet. The maximum daily flow of water through the Golden Gate into the Pacific is seven times the flow of the Mississippi River at its mouth.

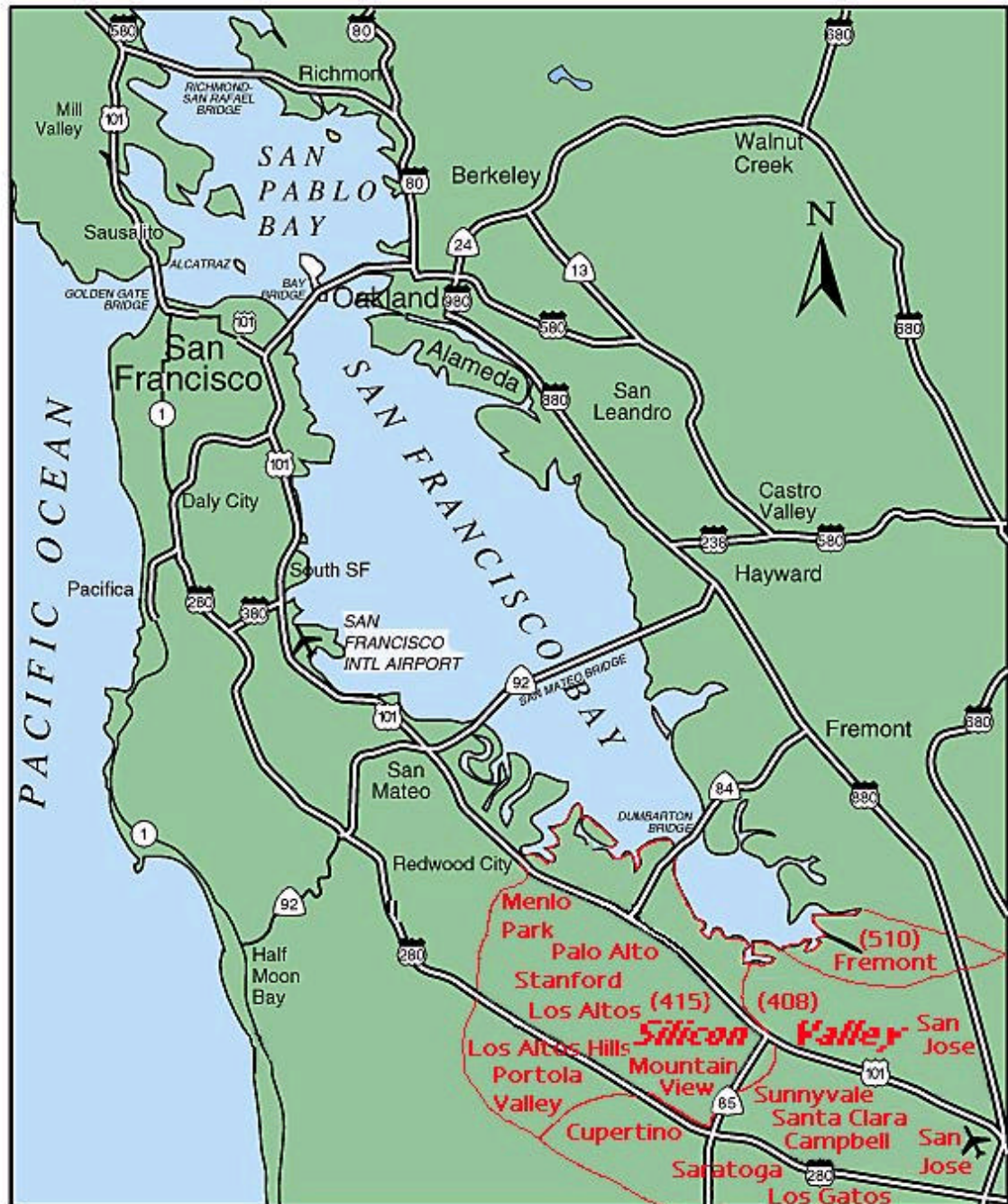
Within the portion of San Francisco Bay lying inside the city limits are the natural islands of [Alcatraz](#) and [Yerba Buena](#) and man-made Treasure Island, created for a world's fair in 1939 and later turned into a naval base (1941-93). Alcatraz (Spanish: "Pelican") was from 1934 to 1963 the most notorious maximum-security, "escape-proof" prison in the United States. In 1969, after the decaying cell blocks had been given up by the Federal Bureau of Prisons, a multi-tribal group of American Indians invaded the island and asserted their rights to abandoned federal property, but they were forcibly evicted in 1971. The island became part of the Golden Gate National Recreation area in 1972.

### 5.3.1. Climate

Winter in San Francisco is rainy and mild, the spring sunny and mild, the summer foggy and cool, and the autumn sunny and warm. The average minimum temperature is 51° F (11° C), the average maximum, 63° F (17° C). The mean rainfall, almost all of which occurs between November and April, is about 21 inches (533 millimeters). The sun shines during two-thirds of the possible daylight hours. The most characteristic feature of the weather, however, is the summer fog, which lies low over the city until midday, creating consternation among shivering tourists. This fog is a phenomenon of temperature contrasts created when warm, moist ocean air comes in contact with cold water welling up from the ocean bottom along the coast.

#### 5.4. Silicon Valley

Silicon Valley is an industrial conurbation in west-central California, U.S., in the southern part of the San Francisco Bay Area to be more precise. It stretches for about 25 miles (40 km) from San Jose in the southeast to Palo Alto in the northwest. Silicon Valley occupies the San Jose and Santa Clara valleys and also includes the communities of Sunnyvale, Santa Clara, Los Altos, and also Mountain View. It derived its name from the dense concentration of electronics and computer corporations and their factories that sprang up there in the 1970s and '80s (silicon is the basic material of the semiconductor elements in computer circuits). By the early 1990s the economic emphasis in Silicon Valley had partly switched from computer manufacturing to research, development, and marketing of computer products and software.



## 5.5. History of Silicon Valley

Silicon Valley, located on the San Francisco, California, peninsula, radiates outward from Stanford University. It is made up by the San Francisco Bay on the east, the Santa Cruz Mountains on the west, and the Coast Range to the southeast. At the turn of the century, when fruit orchards predominated, the area was known as the Valley of Heart's Delight. Today, semiconductor chips, made of silicon, are the principal product of the local high-tech industries. It has been said that an institution is but the lengthened shadow of one great man. Inasmuch as Silicon Valley is an institution, Fred Terman was such a man.

In the 1930's, Professor Frederick Emmons Terman of Stanford University's Department of Electrical Engineering was concerned by the lack of good employment opportunities in the area for Stanford engineering graduates. It troubled him that his best graduates had to go to the East Coast to find employment, especially in the field of radio engineering. His solution was to establish the then-new radio technology locally.

One of his first steps was to bring together two of his former students, William Hewlett and David Packard, founders of the Hewlett-Packard Company. After World War II, when Terman was dean of the School of Engineering, he was successful in attracting research support from a number of sources. This amount eventually became very large, especially when compared with pre-war experiences. Terman was thus able to attract bright new faculty and students. In addition, he continued to encourage his graduates to start their own companies. Faculty members soon joined in consulting, investing, and, in some instances, founding new companies.

Fred Terman became a legend in his own time. Newspapers and a recently published book have perpetuated a myth regarding his activities: in fact, Terman did not loan William Hewlett and David Packard money to start their company.

### 5.5.1. The Early Days

Bill Hewlett and Dave Packard hung around the lean Stanford electronics laboratory talking about "someday" having their own company. Upon graduation in 1934, however, Packard took a job at General Electric in New York, while Hewlett stayed on for a year of graduate study with Terman before leaving for MIT, where he received a master's degree. Hewlett returned to Stanford in 1936 to work on an electrical engineering degree.

"I did a number of little things then to help get their business started," Terman said. "A new idea in electronics (the so-called 'resistance-tuned oscillator') turned up. I told Bill, 'It looks to me as if you could use this to make an instrument. It would be a lot simpler and cheaper than anything on the market. But you'll have to solve a couple of problems to make it function.' Bill came up with an absolutely perfect solution. He designed and built an audio oscillator, a device that generates signals of varying frequencies. "To remove serious instability, Hewlett took advantage of the non-linear resistance-temperature characteristic of a small light bulb. The addition of one standard and inexpensive component turned a balky laboratory curiosity into a reliable, marketable instrument.

Money was a problem, but by great effort and a bit of luck, Terman was able to get some money together for the project, including a \$1,000 grant from Sperry Gyroscope. "We spent \$500 for materials and \$500 for Packard's salary. You didn't just get on a plane in those days to hop across the country. In the autumn of 1938, Packard took a leave of absence from his job at GE (which paid \$110 a month) to come back here (for \$55 a month)."

Packard and his wife rented the lower floor of a duplex, and the two young entrepreneurs went to work in the small garage behind the house. Hewlett moved into a backyard cottage at the same address. Packard later said that after he'd been back three or four weeks, he knew Hewlett was right and that he'd never return to the East. Terman could always tell how the new young firm was doing: "If the car was in the garage, there was no backlog, but if the car was parked in the driveway, business was good." Their first large order was from Walt Disney Productions. It was for four oscillators to be used in making the motion picture *Fantasia*.

That modest garage shop housed the beginnings of the Hewlett-Packard Company, which was incorporated in January 1939. Today, Hewlett-Packard is one of the world's largest producers of computers and electronic measuring devices and equipment. It currently employs more than 80,000 people worldwide (22,000 in Santa Clara County) and has sales of

### 5.5.2. A Fighter From the Start

Born at the turn of the century, Terman was 10 years old when he moved to Stanford with his parents. The rolling foothills of the Santa Cruz mountains were his playground, and he spent his early teens roaming the hills near Stanford University hunting rabbits and looking for butterflies, turtles and skunks. He fished for bass in Felt Lake and learned to swim in Lake Lagunita (on the Stanford campus). Even as a youngster, Terman had an entrepreneurial instinct; during the holidays, he would collect mistletoe in the hills and sell it to Stanford faculty wives, who were deterred by poison oak.

If Terman had not contracted tuberculosis, he probably never would have joined the faculty at Stanford. The stage was set: a young man received his A.B. in chemical engineering and an Engineer Degree in electrical engineering from Stanford. He then headed East to MIT. In those days, Terman recalled, "a serious young engineer had to go back east to put spit and polish on his education." He earned a Ph.D. in 1924 at MIT under the tutelage of Professor Vannevar Bush.

At the age of 24, doctorate in hand, he returned home to the Stanford campus to spend the summer. He planned to join the faculty at MIT in the fall as a new assistant professor. Instead, tragedy struck; he developed a serious case of military tuberculosis.

Terman spent the next year in bed, with sandbags on his chest. There was no specific treatment for tuberculosis, and sandbags were used to immobilize his chest.

Two doctors abandoned his case at one point, declaring it hopeless, but two other physicians fought to save him. His appendix ruptured in the spring, and he developed eye trouble that was to bother him for several years thereafter.

During his illness, Terman became engrossed once more in radio. As a teenager, he had been a radio "ham" and enjoyed experimenting with the fascinating new "wireless." By age 16 he had his own transmitter, which he used to contact other amateurs as far away as Texas. Lying in bed he had the opportunity to read Morecroft's *Principles of Radio Communication* from cover to cover. He realized he could improve on Morecroft and set about to do so. While still in bed, he began drafting his first book, *Radio Engineering*, which was published in 1932. One of his important contributions was the development of "universal" curves for representing the selectivity of radio circuits. This technique made possible a great savings in time, and the approach was adopted in the textbooks that followed.

Terman's former advisor, Professor Harris J. Ryan, the head of electrical engineering at Stanford, offered Terman a half-time teaching job at the university beginning in the fall quarter of 1925. Terman gratefully accepted. He spent most of the year in bed, however, getting up only about two hours a day to go to class.

While convalescing, Terman had to learn to conserve his energy; he developed strong work habits and an exceptional ability to concentrate. His friends noted that he could turn his attention on and off at will. A friend once said of him: "If there are 10 minutes to work on a manuscript, Terman is able to make nine minutes and 50 seconds of it count."

Professor Oswald (Mike) Villard of the Stanford School of Engineering, a former student and protégé of Terman's, once recalled: "Along with enormous energy, Terman always had a clear idea of what he wanted to do and what to do to meet his objectives. He was phenomenal in his self-discipline. After spending a full day at the university, he would go home and work on his books." When asked if he ever pursued a day without working, Terman replied, "why no, how could you ask that question?" Joseph M. Pettit, one of Terman's best students, and currently president of Georgia Technological Institute, once said: "Terman never took a year off to write a book. Instead, he used to say that if he wrote only a page per day, he would have a 365-page book by the end of the year." Terman worked seven days a week and felt no need for vacations. "Why bother," he once remarked, "when your work is more fun?"

Terman's health gradually improved, and in 1927 he was appointed assistant professor of electrical engineering. In 1930 he was promoted to associate professor, and in 1937, at the age of 37, he became professor and executive head (now known as chair) of the Electrical Engineering Department. Beating the Odds.

While reminiscing about the early days in electrical engineering, Terman said: "The Depression years were more difficult than you can imagine. We had nothing, literally nothing, to work with. An accident that burned out a few vacuum tubes or damaged a meter would produce a crisis in the laboratory budget for a month. As an economy measure, I insisted that the laboratory meters be protected by an elaborate system of fuses. Students often chafed at this, because the fuses frequently got blown and it was always difficult to find a replacement of the right size. But the meters survived!" The prewar electronics laboratory was in an attic under the eaves, over the electrical machinery laboratory. The roof of the attic leaked, and at times these leaks became quite bad. There was no money to repair the roofs, so they built big wooden trays and lined them with tarpaper and tar. As the trays filled, we walked around them. Our morale didn't suffer. One winter Bill Hewlett added a homey touch by stocking the trays with goldfish."

At a testimonial dinner for Terman, Edward Ginzton told about his own arrival at Stanford during the depths of the Depression. Ginzton had graduated in electrical engineering from the University of California at Berkeley in 1936. He estimated that out of about 10,000 students who graduated that year, two or three had found jobs. Ginzton had unsuccessfully interviewed with 10 big companies, after which he tried the utility companies. He then started walking the streets of San Francisco, where he was living, trying to find any job, but with no luck. "Finally, the fall came, and I was pretty desperate. I heard that Professor Joseph Carroll at Stanford was looking for an assistant in high-voltage engineering. I came to see him, and he talked to me for a few minutes and realized that even though he had some positions available, I wasn't the right person for his needs." Carroll sent him to Terman. "I'll never forget the conversation I had with Fred. I was discouraged about life, after walking the streets of San Francisco, and in one hour's time Fred transformed my life from a hopeless, dismal experience to one of excitement and anticipation and looking forward to what might happen in the future. He offered me a research assistantship at \$135 per quarter. That made it possible for me to come to Stanford, and I did. People complain that faculty members don't have much time for their students, that they are always traveling, looking for contract support, or whatever, but Fred spent endless hours with us, his students."

Ginzton continued, "Working for Fred was an unforgettable experience. He taught us a lot, directly and indirectly. He had meager resources within the department, and only one professor, Karl Spangenberg, whom he had brought in. There wasn't enough faculty to go around, so he encouraged us to create our own seminars, to teach each other. To be working for yourself, by yourself, along with Fred Terman, arguing with him about problems, helping him write his books it was just an exciting period to be a member of his graduate courses an unforgettable experience."

Terman was instrumental in putting Ginzton in the right place. As Villard remarked, "Terman could have kept him for himself, but instead he sent him over to Professor William Hansen in physics. It proved to be a stroke of genius." Ginzton had the right combination of organizational and scientific abilities needed to manage technical projects and keep them moving forward.

In March 1939, Ginzton, while still a graduate student, became involved with Hansen and Russell and Sigurd Varian in the development of the klystron tube. He received his Ph.D. in physics in 1940 and spent the war years with the klystron group at Sperry on Long Island. In 1943, when the Varians were making plans to start their own company as soon as the war was over, they invited Ginzton to join them.

In her book, *The Inventor and the Pilot*, Dorothy Varian says: "one of the reasons for asking Ed to join the group was to have him manage the company. At that time, he had two years of experience as a project manager at Sperry and was very successful in working with the men in his department. As plans for the laboratory proceeded, his ideas on how to work with others, the kinds of business incentives that might be desirable, and procedures for organizing the company were important to the basic concepts later incorporated into company policy." She continues: "As the war neared its end in 1945, Ginzton was offered an appointment as assistant professor of physics at Stanford. He discussed this offer with other members of the group, for his proposed role as manager was a crucial one, but they urged him to accept the Stanford appointment. The laboratory was still a year or more in the future, and Ginzton agreed to serve as a consultant on both management and scientific levels."

Varian Associates was organized in 1948. For the 11 years that followed, Ginzton divided his time between teaching and researching at Stanford and consulting on the company's technical projects and serving on its board of directors. After Russell Varian's death in 1958, Ginzton became chairman of the board and chief executive officer at Varian. In 1961, he left Stanford to devote his full attention to Varian. While continuing as chairman of the board, he served as president from 1964 to 1968 and remained the chief executive officer until 1972. A Tireless Worker Terman's friends describe him as a serious man who knew what he wanted to accomplish and who attended to details with the utmost care. He dressed in conservative suits, wore old-fashioned shoes, and always drove second-hand cars. As one friend commented, "He was not a hale fellow well met," but he did have a sense of humor and an appreciation of odd turns of events. He had no hobbies other than a zestful mania for the doings of the Stanford football team. He was also noted for his keen intelligence. "He was always three or four sentences ahead of everybody else," an admirer once said. "He was always alive and thinking about problems. He would sometimes telephone late in the evening, long after I'd buried myself in a martini."

In 1965, at a dinner honoring Terman, David Packard reminisced: "As a student, I became acquainted with Professor Terman before I enrolled in his course. Among my hobbies was amateur radio and I spent a spare hour now and then in the radio shack in the attic of the Engineering Building. Professor Terman's laboratories were next door. Sometimes he would stop to chat for a minute or two. After several such brief visits, I was amazed to find that he knew a great deal about me. He knew my interests and abilities in athletics; he knew what courses I had taken and what my grades had been; and he had even looked up my high school record and my scores on the entrance examinations.

"At that time, Professor Terman had already developed a broad knowledge of and a personal acquaintance with the business and industry related to his academic discipline. He would often tell us about the corporate history, as well as the current activities, of all the important firms in this newly developing industry. Although he had been teaching only a few years, many of his former students were already making important contributions in their new jobs, and he kept in touch with them.

"The highlight of his course for me was the opportunity to visit some of the laboratories and factories in this area. Here, for the first time, I saw young entrepreneurs working on new devices in firms that they had established. One day Professor Terman remarked that many of the firms we visited, and many other firms throughout the country in this field, had been founded by men with little or no formal education. He suggested that someone with a formal engineering education, and perhaps a little business training, might be even more successful."

During the early 1940's, Terman was called upon by Vannevar Bush to head a big defense research project at Harvard University, developing radar countermeasures. The experience put him in the mainstream of government electronic research. The success of the wartime work led him to believe that the government would not allow this work to disappear completely in peacetime. He also felt that it would be appropriate for the government to support fundamental research in universities. There was a widespread feeling at the time that wartime applications had exhausted the supply of fundamental discoveries, and that it needed to be replenished. Accordingly, he set out to expand Stanford's School of Engineering after he returned to the university in 1946 as the dean of engineering. In this capacity, his government contacts helped him to attract federal funding.

As a corporate board member of new young companies and a frequent speaker at industry meetings, Terman took advantage of these opportunities to spread his message. In his words: "I encouraged our new, young faculty members to get out and get acquainted with local industry and with the people in it who were doing interesting and creative things. Likewise, I encouraged industry to know their university by getting acquainted with what was going on at Stanford as it related to their own technical interests, and to make the acquaintance of those university people who had similar interests."

### 5.5.3. Stanford Industrial Park

In the 1950's, the idea of building an industrial park arose. The university had plenty of land over 8,000 acres but money was needed to finance the University's rapid postwar growth. The original bequest of his farm by Leland Stanford prohibited the sale of this land, but there was nothing to prevent its being leased. It turned out that long-



term leases were just as attractive to industry as outright ownership; thus, the Stanford Industrial Park was founded. The goal was to create a center of high technology close to a cooperative university. It was a stroke of genius, and Terman, calling it "our secret weapon," quickly suggested that leases be limited to high technology companies that might be beneficial to Stanford. In 1951 Varian Associates signed a lease, and in 1953 the company moved into the first building in the park. Eastman Kodak, General Electric, Preformed Line Products, Admiral Corporation, Shockley Transistor Laboratory of Beckman Instruments, Lockheed, Hewlett-Packard, and others followed soon after.

In 1955, Terman became provost, and three years later he became vice president of Stanford. He transformed the university's Chemistry Department into one of the best in the country. Two outstanding chemists, William Johnson from the University of Wisconsin, and Carl Djerassi, a University of Wisconsin graduate, who had become vice president for research at Mexico-based Syntex Corporation, joined the faculty at Terman's behest. By bringing Djerassi to Stanford, Terman set in motion a whole new chain of company formations in biology and medicine. Largely at Djerassi's urging, Syntex established a U.S. subsidiary and research branch in the Stanford Industrial Park. Djerassi brought Alejandro Zaffaroni, Syntex's executive vice president, with him. Djerassi and Zaffaroni were responsible for the formation of four new companies Syva, Zococon, Alza, and Dynapol.

Professor John Linvill, former chair of electrical engineering, credits Terman with attracting him to Stanford. Linvill said, "He had a remarkable way of keeping track of people. He had contacts all over the place. He knew I had gone from MIT to Bell Laboratories to work on transistors, and he recruited me in 1954 to set up a transistor program at Stanford." Linvill started his own company with partial backing from the university in 1971. He is now co director of the Center for Integrated Systems, a research center on campus, funded primarily by corporations, that does basic research in integrated systems.

Terman encouraged William B. Shockley, co-inventor of the transistor, to return to his hometown of Palo Alto. In 1956 he established the Shockley Transistor Laboratory of Beckman Instruments where they produced Shockley four-layer diodes. Shockley, who joined the Stanford faculty as a professor of electrical engineering in 1963, said that the decision was made predominantly because of the Bay Area, the fact that there are more trees in the area than there are in Southern California, and Stanford.

However, eight of Shockley's bright young electronics specialists left in 1957 to establish Fairchild Semiconductor in Palo Alto. This was the beginning of the semiconductor industry; Fairchild became a corporate seedbed as no less than 38 new companies were started by former employees. (Intel is one of the most famous.)

Professor Dean A. Watkins was director of the electron devices laboratory and co director of the Stanford Electronic Laboratories. Terman recognized qualities in Watkins that he knew would make him a good businessman. When people from the Kern County Land Company let it be known that they wanted to invest in a military electronics enterprise based on microwave tubes, Terman told them he had just the right man and introduced Watkins to them. That was the beginning of Watkins-Johnson, which was founded in December 1957 by Watkins and H. Richard Johnson. Watkins continued on the faculty of electrical engineering as a professor until 1964, and then as a lecturer until 1970. Johnson was also a lecturer in electrical engineering from 1958 until 1968.

The atmosphere for growth became contagious; Terman continued to encourage his graduates to start their own companies, and faculty members continued to participate in the consulting, investing, and founding of new companies. The Honors Cooperative Program Early in the 1950's, at the close of the Korean conflict, the managers of several local firms asked Terman to permit their employees to continue their education on a part-time basis. In 1953, Terman decided that it was possible to accept some additional graduate students without increasing costs greatly. Companies in the area were notified that they could send qualified employees to regular daytime classes; the workers would be released from their company duties during this time. The response from industry was dramatic, and classes were quickly overloaded. Tuition covered less than half of the actual cost to educate a student. The result was overflowing classrooms and the underpayment of costs.

To solve the problem of maintaining the quality of education, Terman then Dean of the School of Engineering originated the Honors Cooperative Program, in the autumn quarter of 1954. Under this program, four companies (Sylvania, Hewlett-Packard, SRI International, and General Electric) agreed to select a number of qualified employees for enrollment in graduate work at Stanford. The companies signed five-year agreements specifying that they would pay double tuition for each student. This arrangement essentially covered the full cost of educating the Honors Cooperative students. The matching funds were transferred to the departments in which the students were studying and were used to hire additional professors to handle the increased teaching load.

#### **5.5.4. Conclusion**

Once when fruit orchards predominated, it was called the Valley of Heart's Delight; it is now called Silicon Valley. Today semiconductor chips, made of silicon, are the principal product of the local high-tech industries. The term Silicon Valley was used occasionally mostly by easterners who would mention making a trip to Silicon Valley, until 1971 when it was popularized in a series of articles, "Silicon Valley USA," written by Don Hoefler for Electronic News. Quite likely it was the first time the term was used in print.

Silicon Valley radiates outward from Stanford University to the adjacent cities of Palo Alto and Menlo Park; northwest to Redwood City and San Carlos; southeast to Los Altos, Mountain View, Sunnyvale, Cupertino, Santa Clara, Campbell and San Jose; and is gradually expanding to Alviso, Milpitas and Morgan Hill. It is contained by the San Francisco Bay on the east, Santa Cruz Mountains on the west and the Coast Range to the southeast.

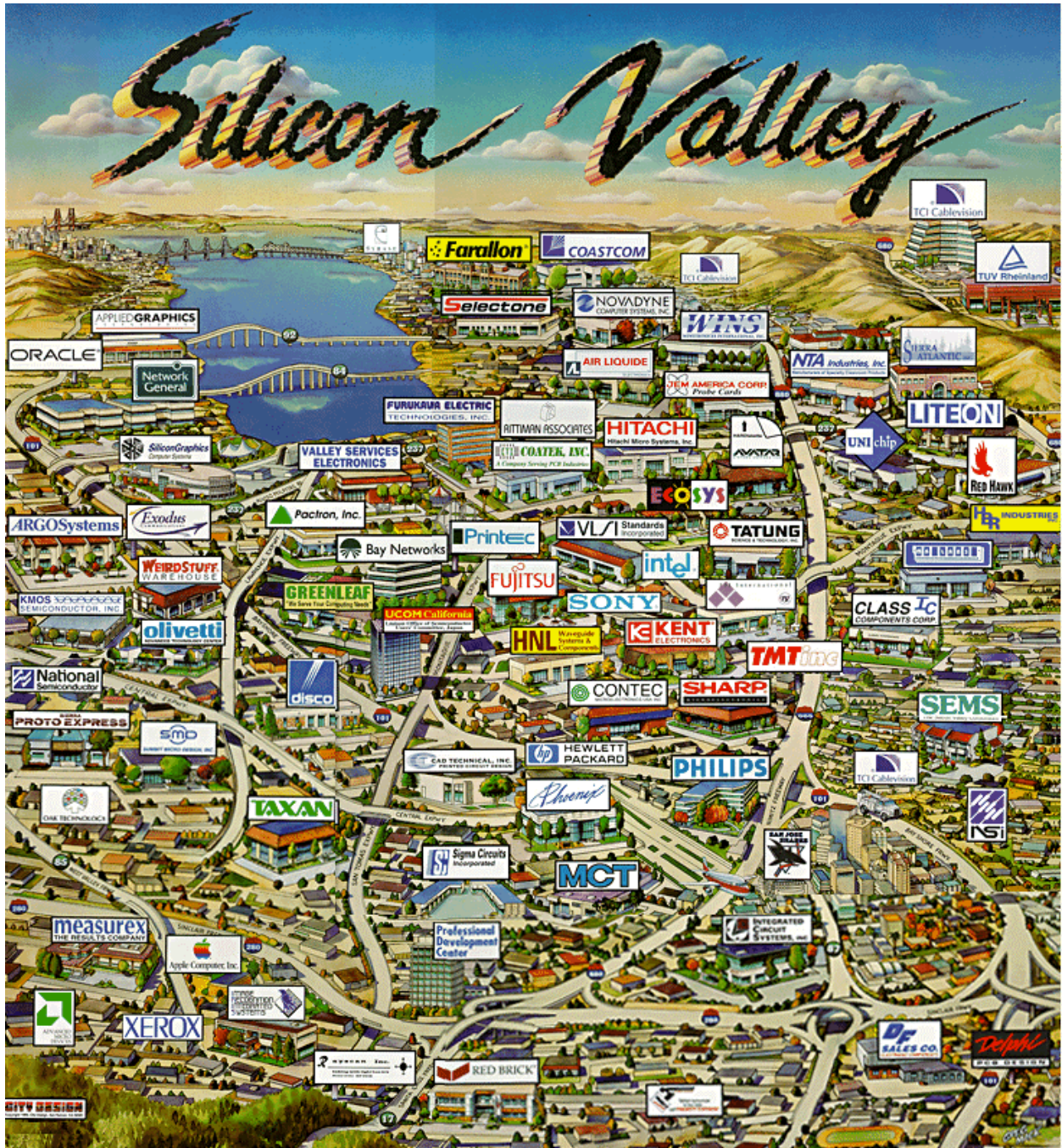
Approximately 2000 electronics and information technology companies, along with numerous service and supplier firms, are clustered in the area. The valley contains the densest concentration of innovative industry that exists anywhere in the world, including companies that are leaders in such fast-expanding fields as computers, semiconductors, lasers, fiber optics, robotics, medical instrumentation, magnetic recording, and educational and consumer electronics. Some are branches or subsidiaries of bigger corporations that felt obliged to establish research facilities in the area, even though their headquarters may be located elsewhere. Most of the new industry is home grown, however.

Terman once said, "When we set out to create a community of technical scholars in Silicon Valley, there wasn't much here and the rest of the world looked awfully big. Now a lot of the rest of the world is here." Terman had long believed that the academic community and the business community could and should work together for the benefit of both. Once Terman had attained a position of influence and power at Stanford, he practiced (and preached) a principle that he called "steeple of excellence." Its cardinal rule was to go for the best. "Academic prestige depends on high but narrow steeples of academic excellence; it is not possible to cover all the bases."

Terman, who died in 1982, never took credit for the development of Silicon Valley, but it is interesting to note in retrospect that a young man who fell ill at the age of 24, and who assumed that he would be unable to fulfill his destiny in the East, instead brought the world to his doorstep.

It has been said that an institution is the lengthened shadow of one man. Inasmuch as Silicon Valley is an institution Fred Terman is that man the Father of Silicon Valley. Organizers

5.6. The Silicon Valley Company Map



**6. Organizers**

<p><b>SLETTENHAAR Henk</b>                  Silicon Valley Association                  Managing Director                  Route de Collex 15                  1293 Bellevue</p> <p>☎ Phone: +41 22 774 02 06                  ☎ Fax: +41 22 774 02 07                  ✉ E-Mail: <a href="mailto:henk@siliconvalley.ch">henk@siliconvalley.ch</a></p> <p>📱 Mobile: +41 79 255 89 59</p>	<p><b>TOBLER Phil</b>                  Silicon Valley Association                  Assistant to the Director                  Route de Collex 15                  1293 Bellevue</p> <p>☎ Phone: +41 22 774 02 06                  ☎ Fax: +41 22 774 02 07                  ✉ E-Mail: <a href="mailto:admin@siliconvalley.ch">admin@siliconvalley.ch</a></p> <p>📱 Mobile: +41 79 633 83 62</p>
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## 7. Participants

<p><b>BONNAN Raymond, PhD</b>  Webster University  Head of Computer Science Program  Route de Collex 15  1293 Bellevue  ☎ Phone: +41 22 774 33 85  ☎ Fax: +41 22 959 80 13  ✉ E-Mail: <a href="mailto:bonnan@webster.ch">bonnan@webster.ch</a></p>	<p><b>BRUNNBERG Per</b>  Orange Communications SA  System Manager  Grand-Montfleury 2  1290 Versoix  ✉ E-Mail: <a href="mailto:per.brunnberg@orange.ch">per.brunnberg@orange.ch</a></p>
<p><b>De VITO Toni</b>  Techno-Link-Computer  General Manager  ✉ E-Mail: <a href="mailto:toni@tlc.ch">toni@tlc.ch</a></p>	<p><b>GROSSE Jerome</b>  University of Lausanne  Manager Audiovisual Center  ✉ E-Mail: <a href="mailto:jerome.grosse@cav.unil.ch">jerome.grosse@cav.unil.ch</a></p>
<p><b>KOROSEC Wolfgang, PhD</b>  Swiss Federal Institute of Technology Zurich  IT Manager User Support  ✉ E-Mail: <a href="mailto:korosec@awu.id.ethz.ch">korosec@awu.id.ethz.ch</a></p>	<p><b>KOZMA Janos</b>  Sylog Consulting SA  CEO  ✉ E-Mail: <a href="mailto:jkozma@sylog.com">jkozma@sylog.com</a></p>
<p><b>LEBERT Marie</b>  FTPresse / International Labor Office  Writer / Translator  ✉ E-Mail: <a href="mailto:lebert@ftpresse.fr">lebert@ftpresse.fr</a></p>	<p><b>MAGNENAT Pierre, PhD</b>  University of Lausanne  Computer Acquisition Manager  ✉ E-Mail: <a href="mailto:pierre.magnenat@ci.unil.ch">pierre.magnenat@ci.unil.ch</a></p>
<p><b>McKENNA Tim</b>  Webster University  Telecom Management Student  ✉ E-Mail: <a href="mailto:barabbas@philosophers.net">barabbas@philosophers.net</a></p>	<p><b>PLAN Olivier</b>  Winterthur Insurance  Investment Consultant  ✉ E-Mail: <a href="mailto:olivier.plan@winterthur.ch">olivier.plan@winterthur.ch</a></p>
<p><b>von RUETTE Richard</b>  Institute for Corporate Strategies and Quality  CEO  ✉ E-Mail: <a href="mailto:isq.rvruette@swissonline.ch">isq.rvruette@swissonline.ch</a></p>	<p><b>WOERNLE Stephane</b>  Swissedge Services  Manager  ✉ E-Mail: <a href="mailto:sw@swissedge.com">sw@swissedge.com</a></p>