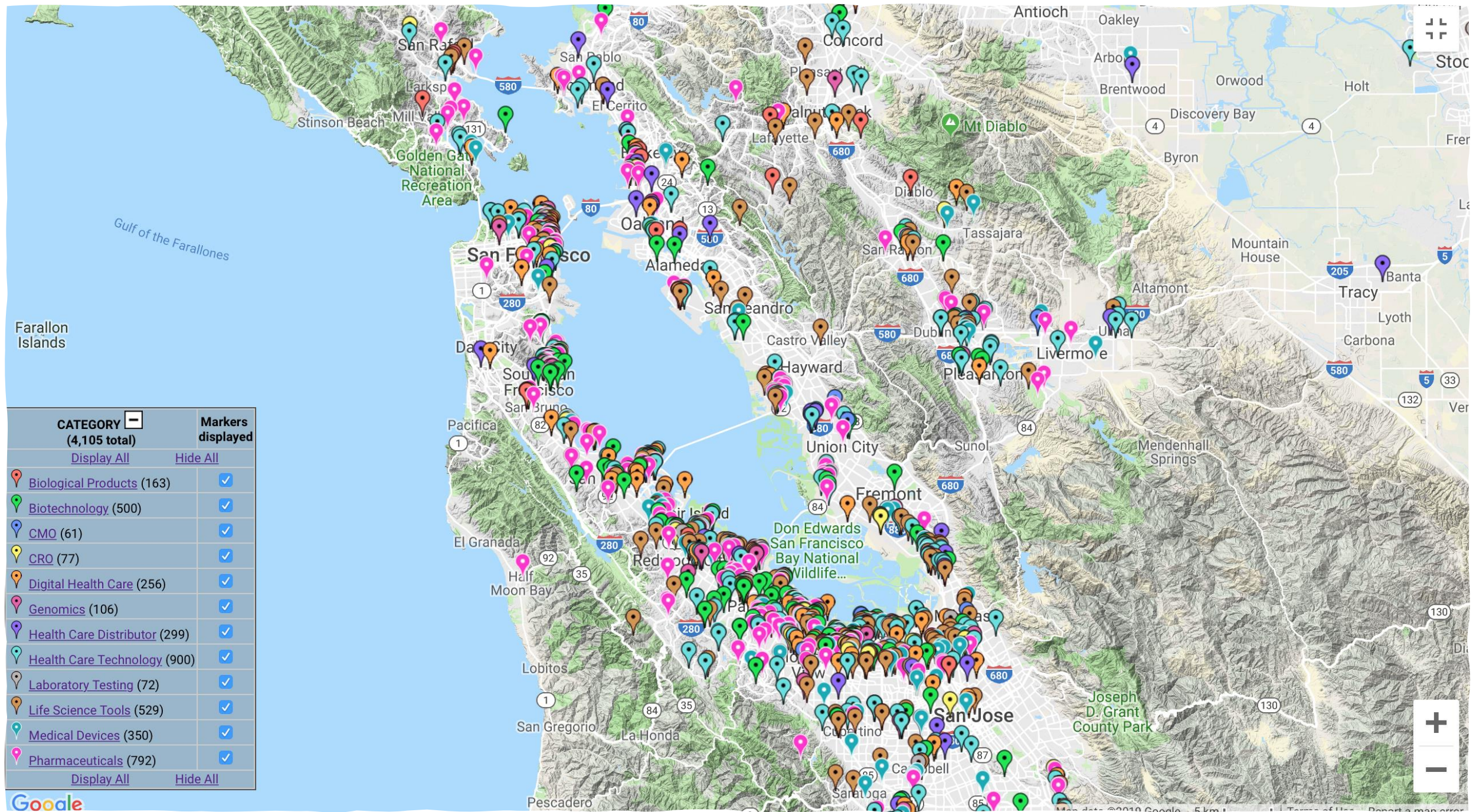


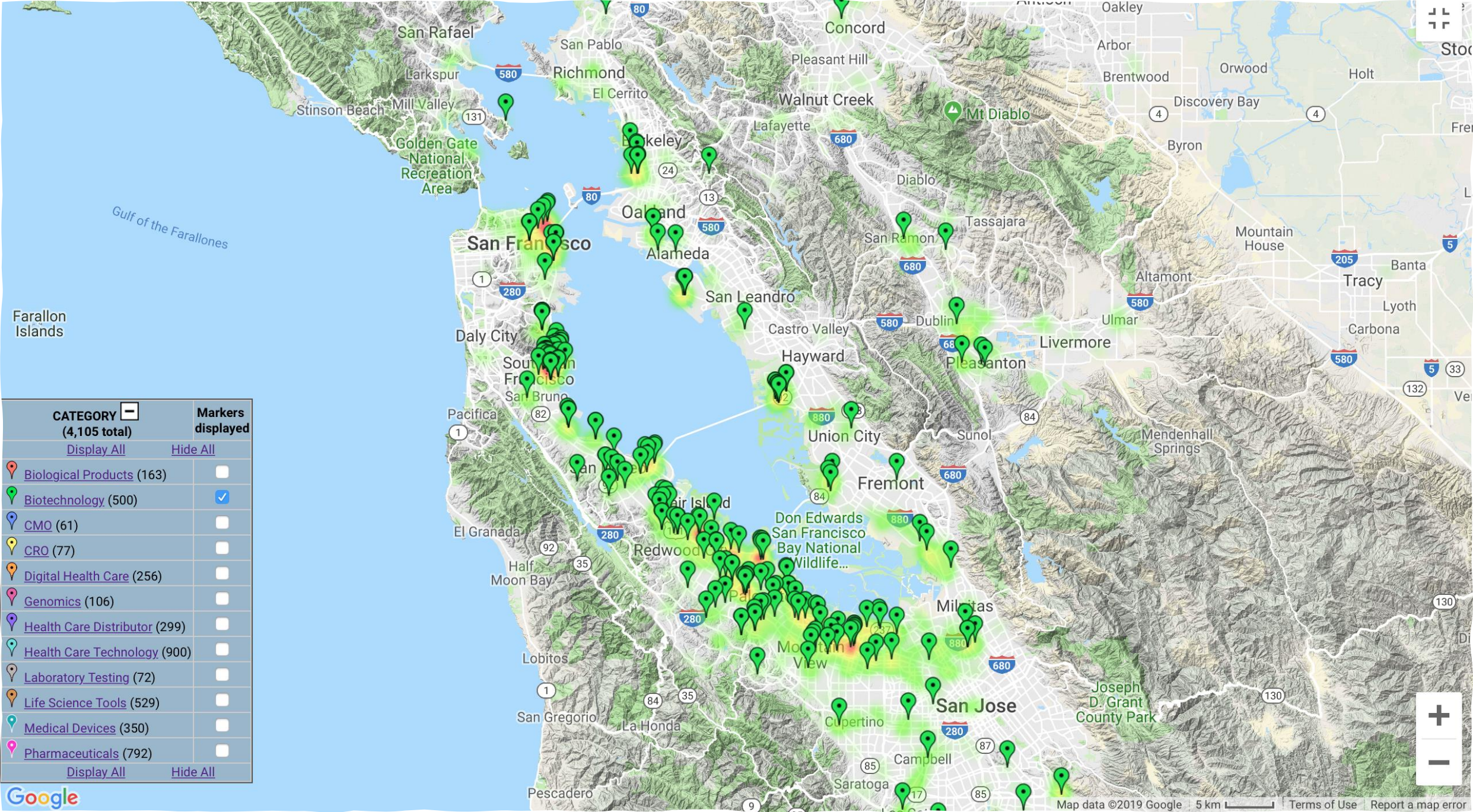
San Francisco Bay Area Biomedical Industry

Gregory Theyel, Ph.D.
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gregory.theyel@biomedmfg.org

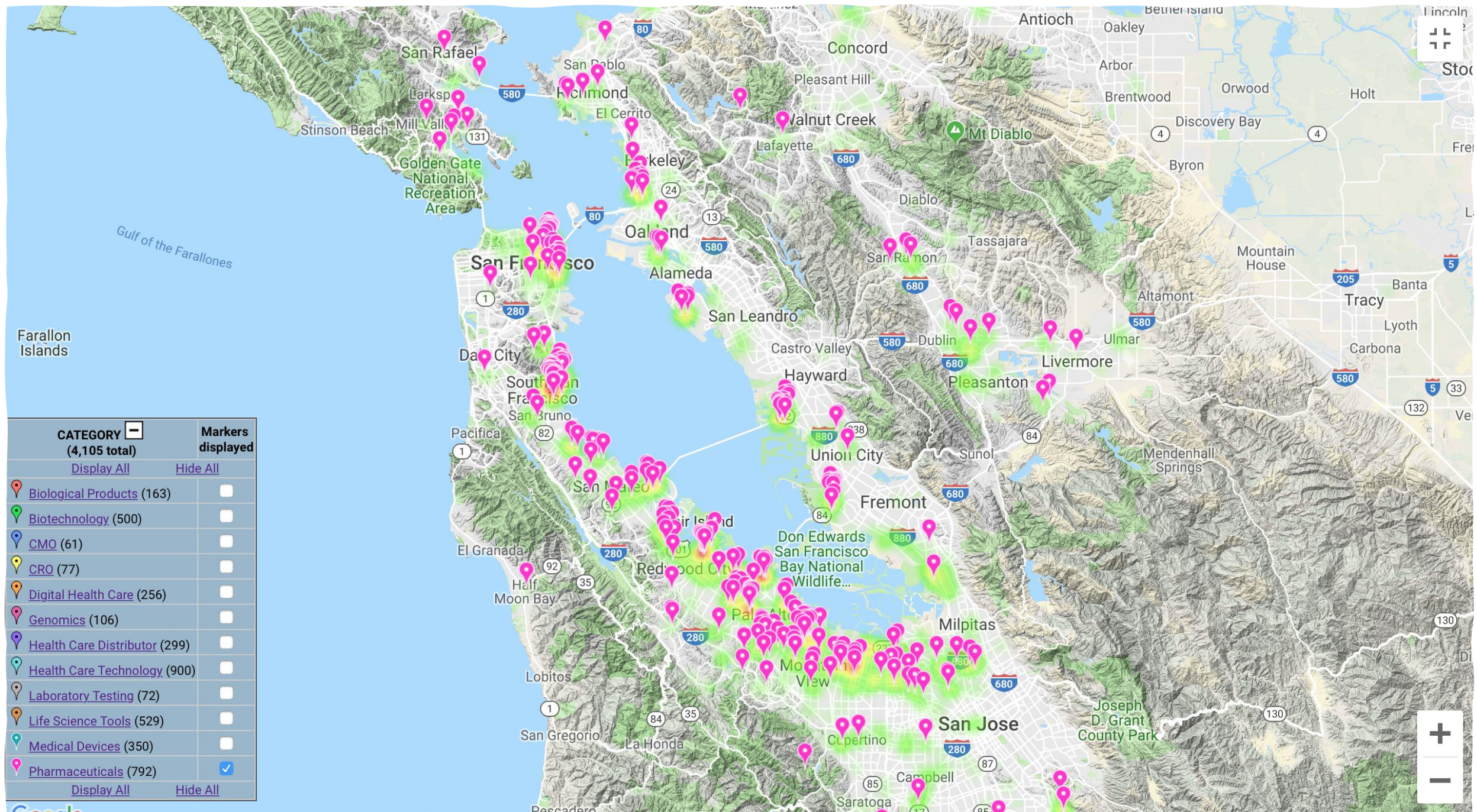


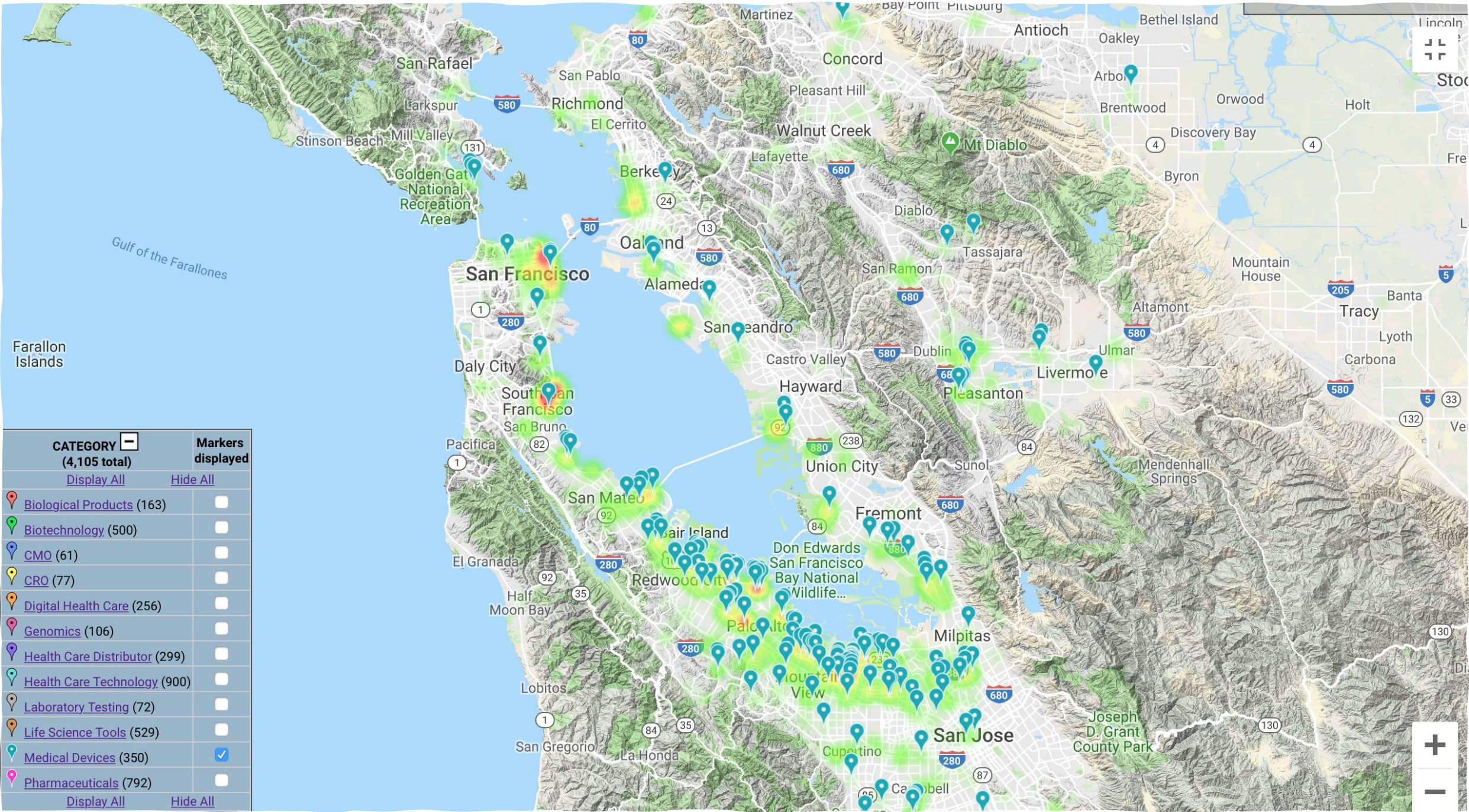
BIOMEDICAL
MANUFACTURING
NETWORK



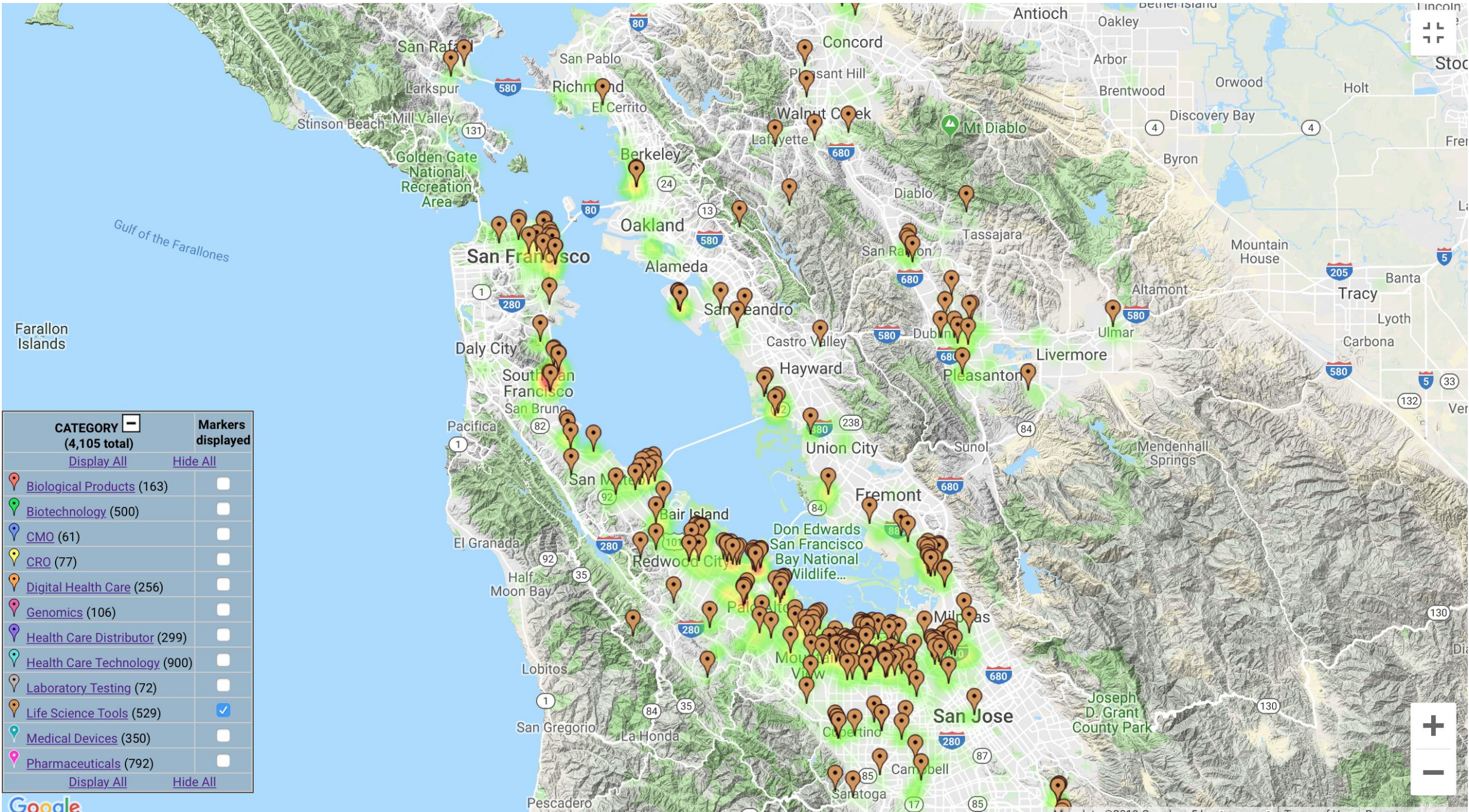


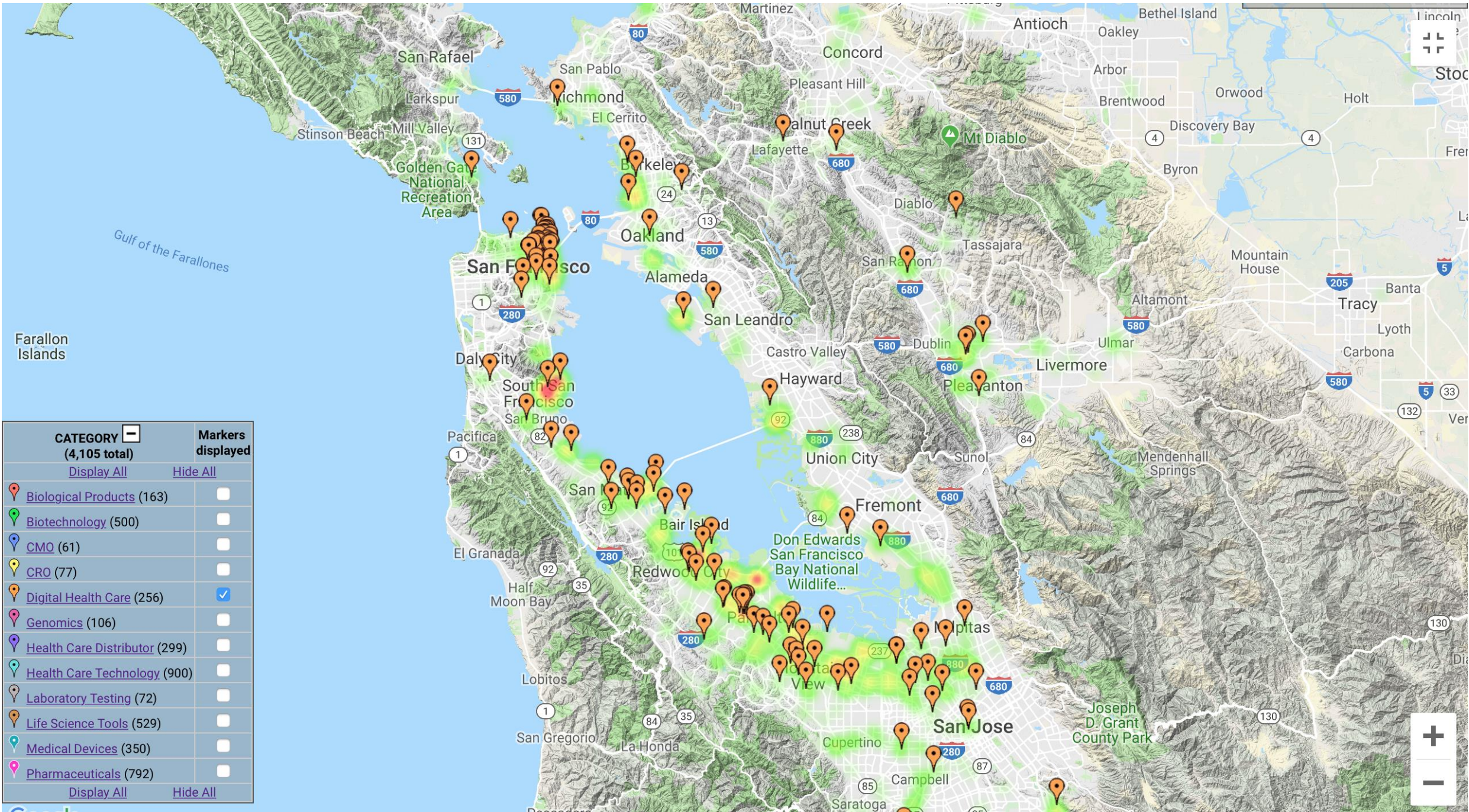
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CMO (61)	<input type="checkbox"/>	
CRO (77)	<input type="checkbox"/>	
Digital Health Care (256)	<input type="checkbox"/>	
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Health Care Technology (900)	<input type="checkbox"/>	
Laboratory Testing (72)	<input type="checkbox"/>	
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Pharmaceuticals (792)	<input type="checkbox"/>	
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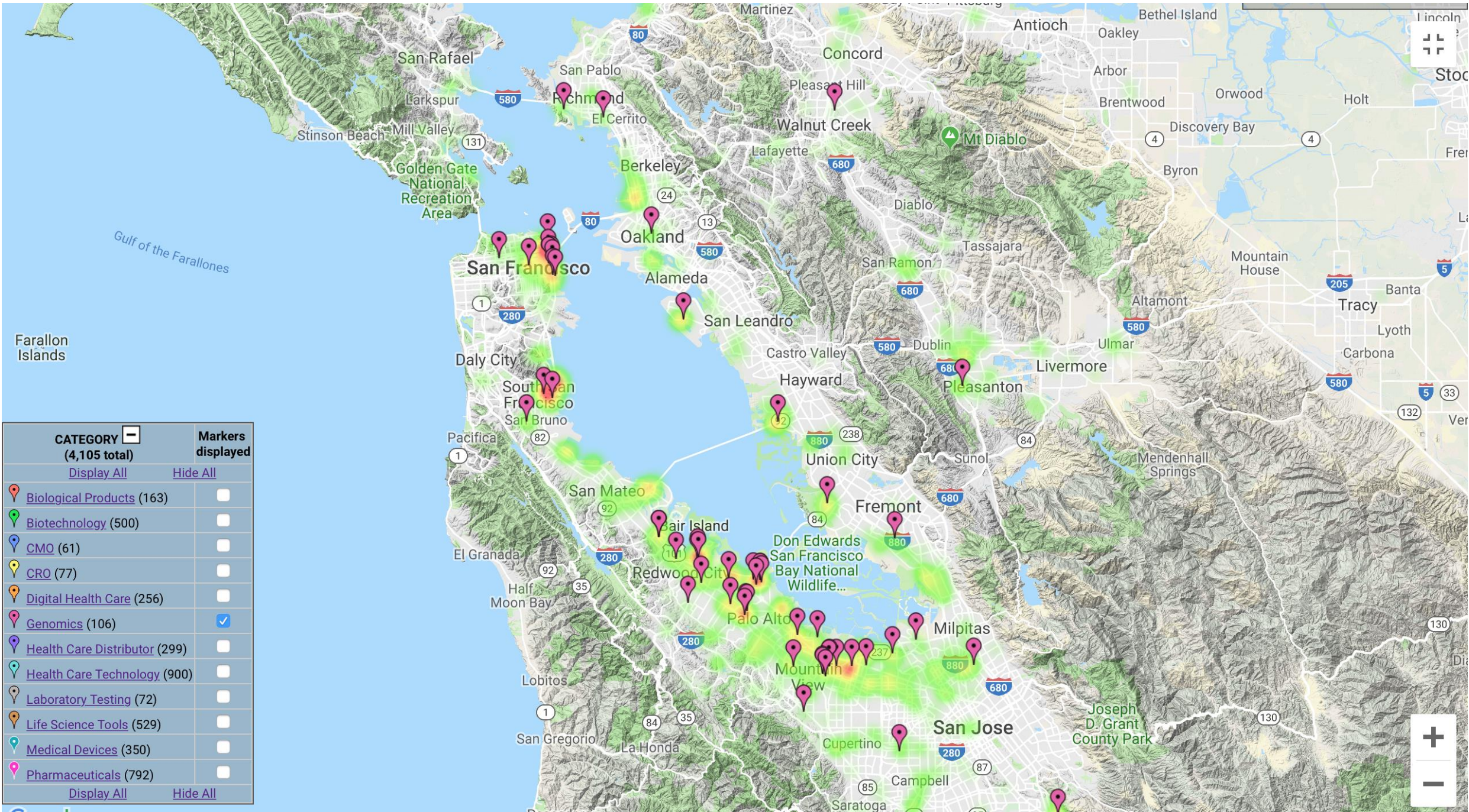


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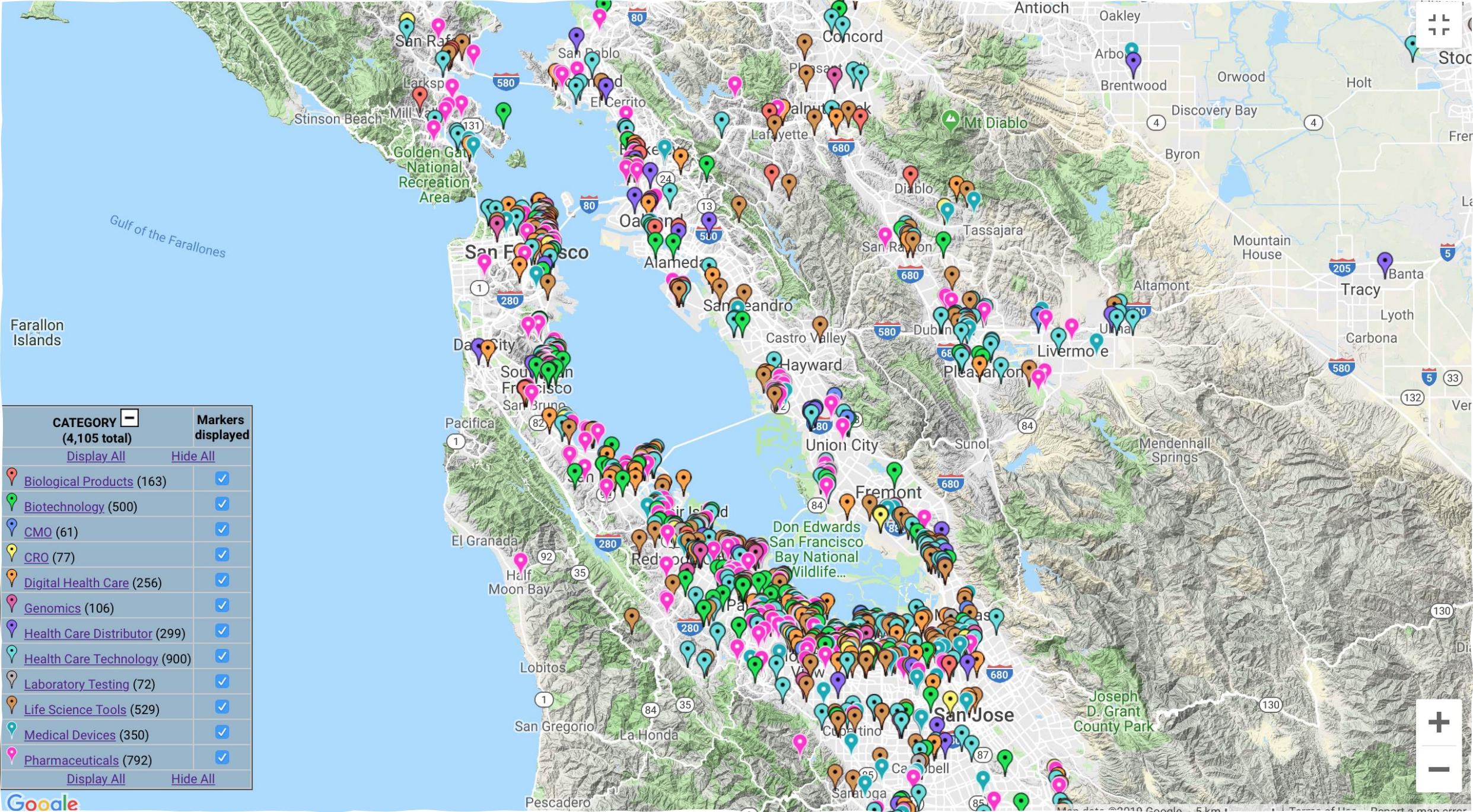




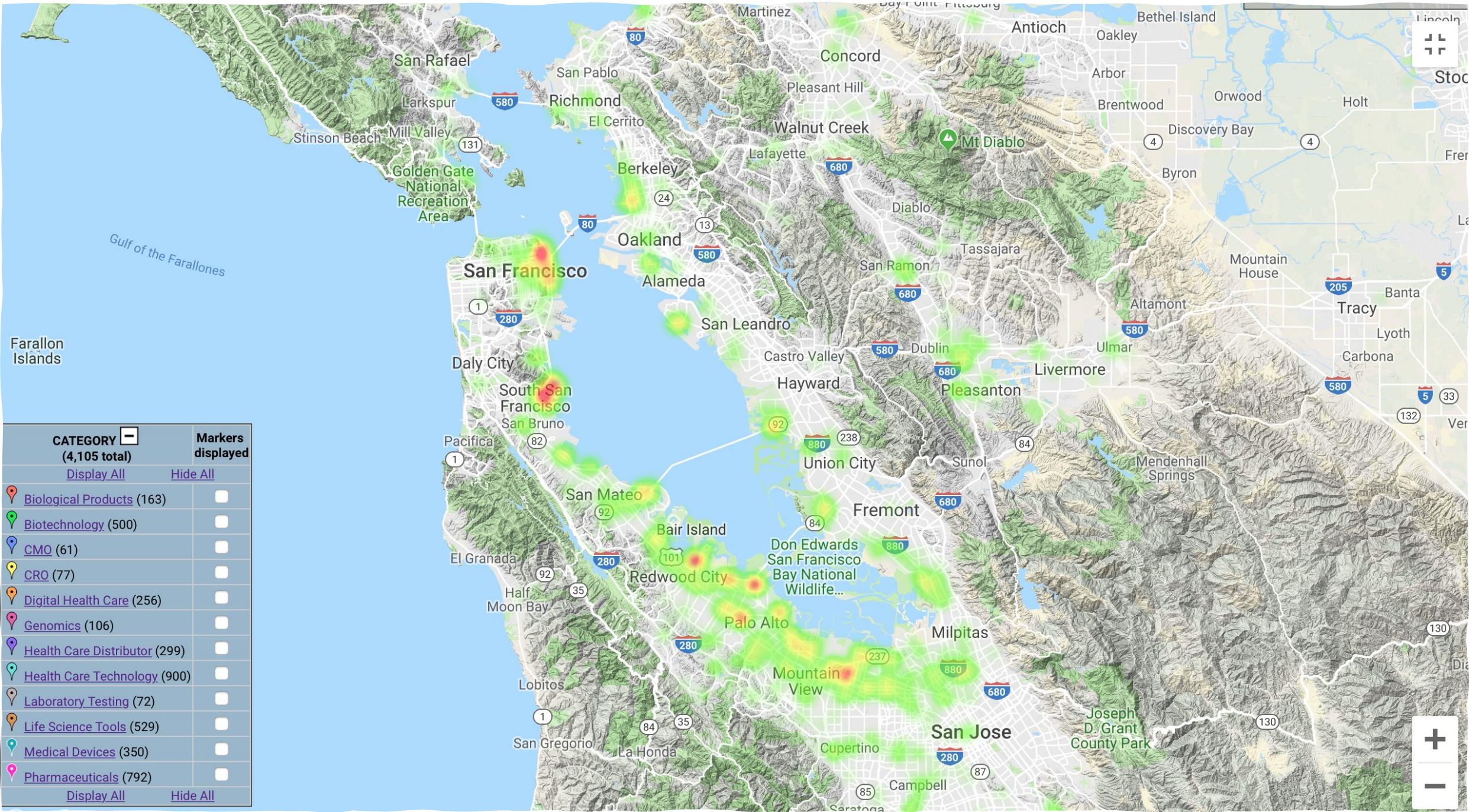
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Display All	Hide All	

Calculating Location Quotients

Fremont



Fremont : # of medical equipment
companies/total # of companies
 $68/18,784 = 0.36\%$

State of California: # of medical
equipment companies/total # of
companies $900/908,120 = 0.099\%$

Fremont medical equipment location
quotient: $0.36\%/0.099\% = 3.64$

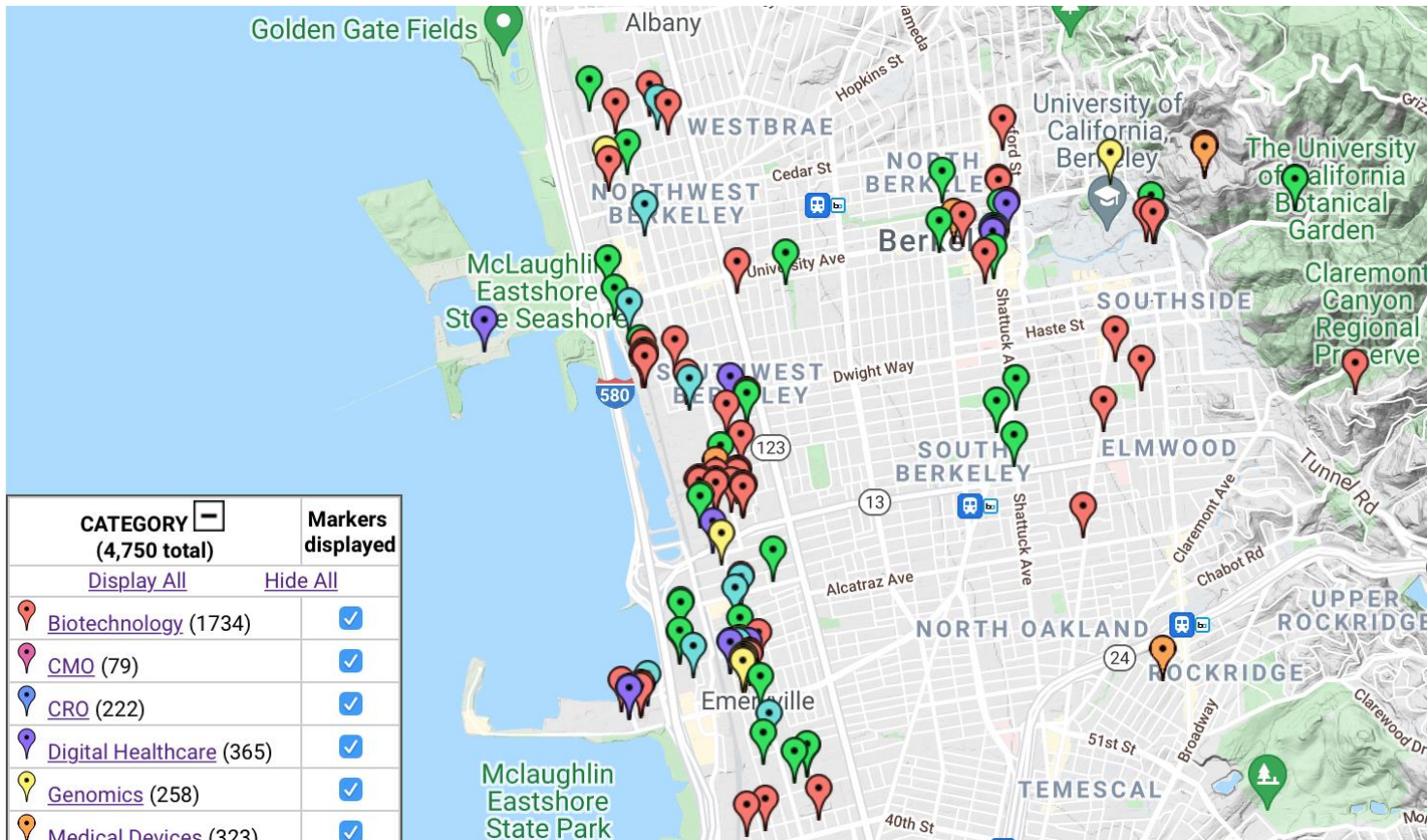
San Francisco Bay Area “Microclimates” of Biomedical Innovation & Entrepreneurship



San Francisco Bay Area “Microclimates” of Biomedical Innovation & Entrepreneurship



Research Commercialization: Berkeley-Emeryville



Firms

- 180+ biomedical companies in Berkeley-Emeryville (biotechnology & medical devices); Most very small with Bayer, Grifols and Novartis as exceptions
- Over half with roots to UC Berkeley and/or LBNL

Talent

- 85%+ have at least a Bachelors degree, 60% have a Masters or higher; many people have doctorates

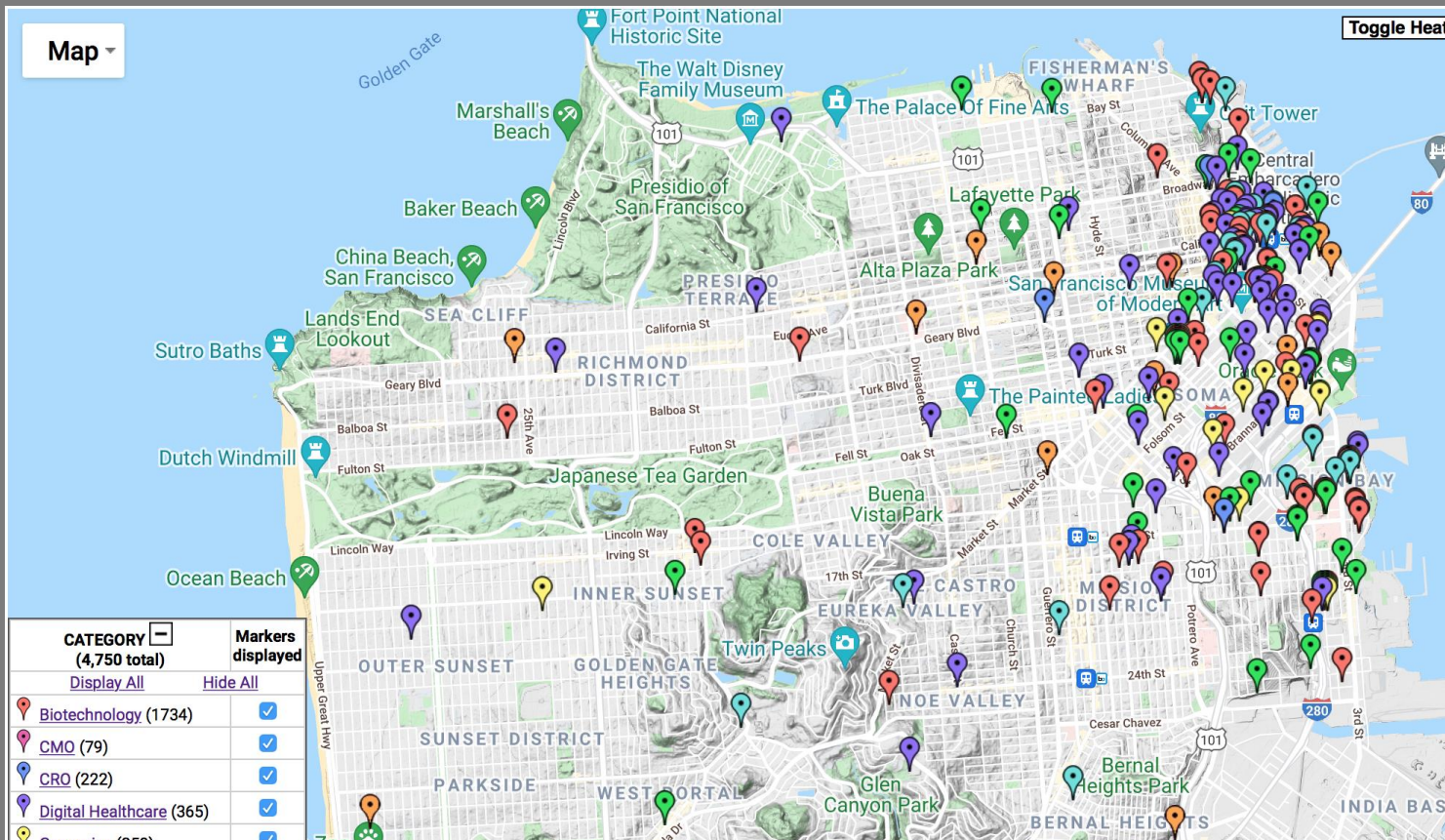
Investment

- Most are early stage with SBIR funding; limited venture funding; highest rate of business failure

Infrastructure

- UC Berkeley; 10 incubators; Wareham facilities; concentration of software and engineering

Technology Emergence: San Francisco



Firms

- 300+ companies, high digital health care or genomics focus; SoMa & Mission Bay
- High location quotients for software and engineering services

Talent

- 80%+ have at least a Bachelors degree, 40% have a Masters or higher (Comp Sci, Eng.); access and competition for talent

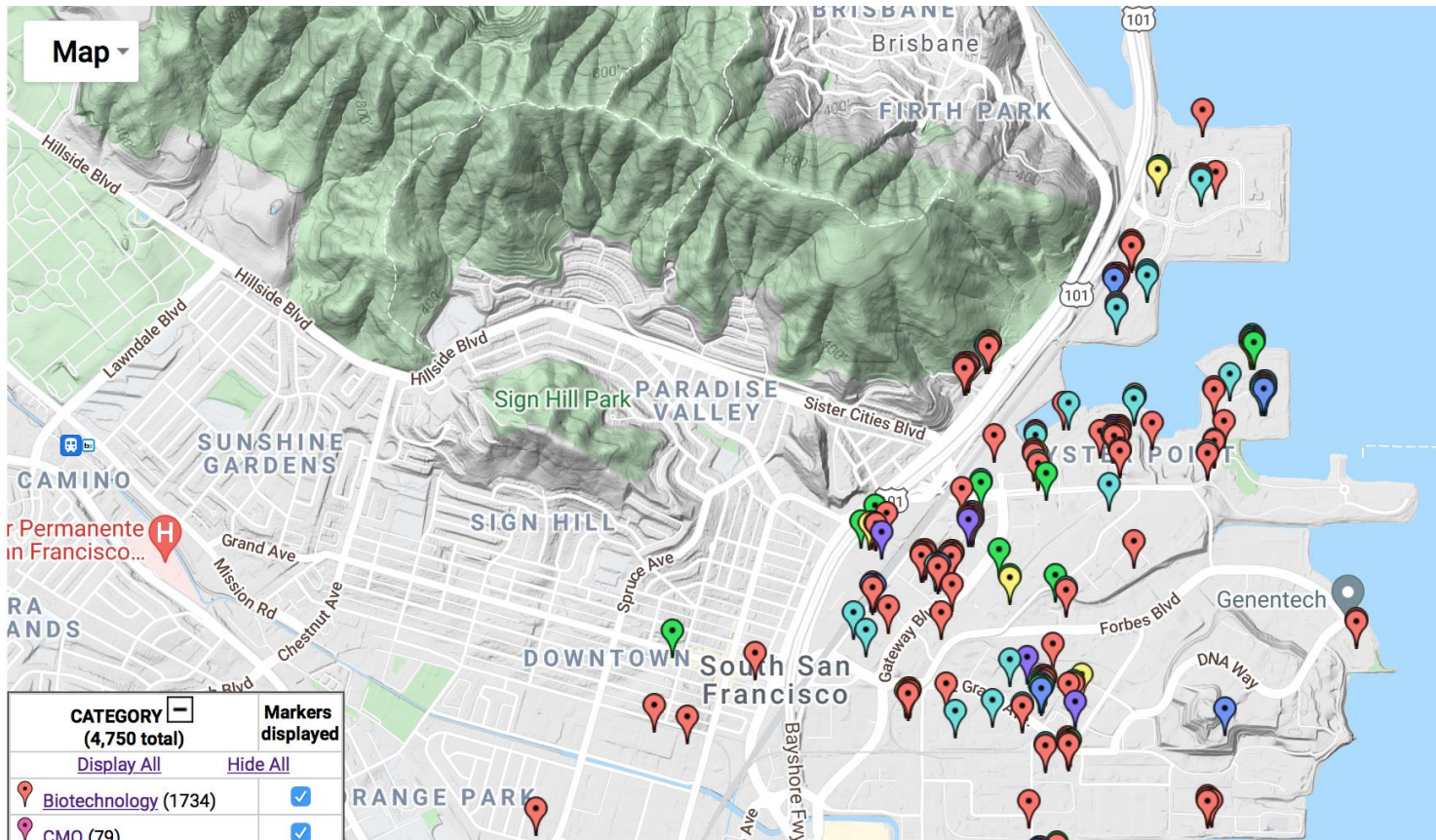
Investment

- Strong VC community, spin offs, shorter startup exits; fastest growing sector

Infrastructure

- 10+ incubators and accelerators; Rock Health; QB3; UCSF; access to consulting and law firms

Proximity Pipeline: South San Francisco



Firms

- 250+ biopharmaceutical companies in SSF – 150 biotechnology and 90 pharmaceuticals
- Only 50 companies with more than 20 employees

Talent

- 85%+ have at least a Bachelors degree, 60% have a Masters or higher; few middle skill jobs

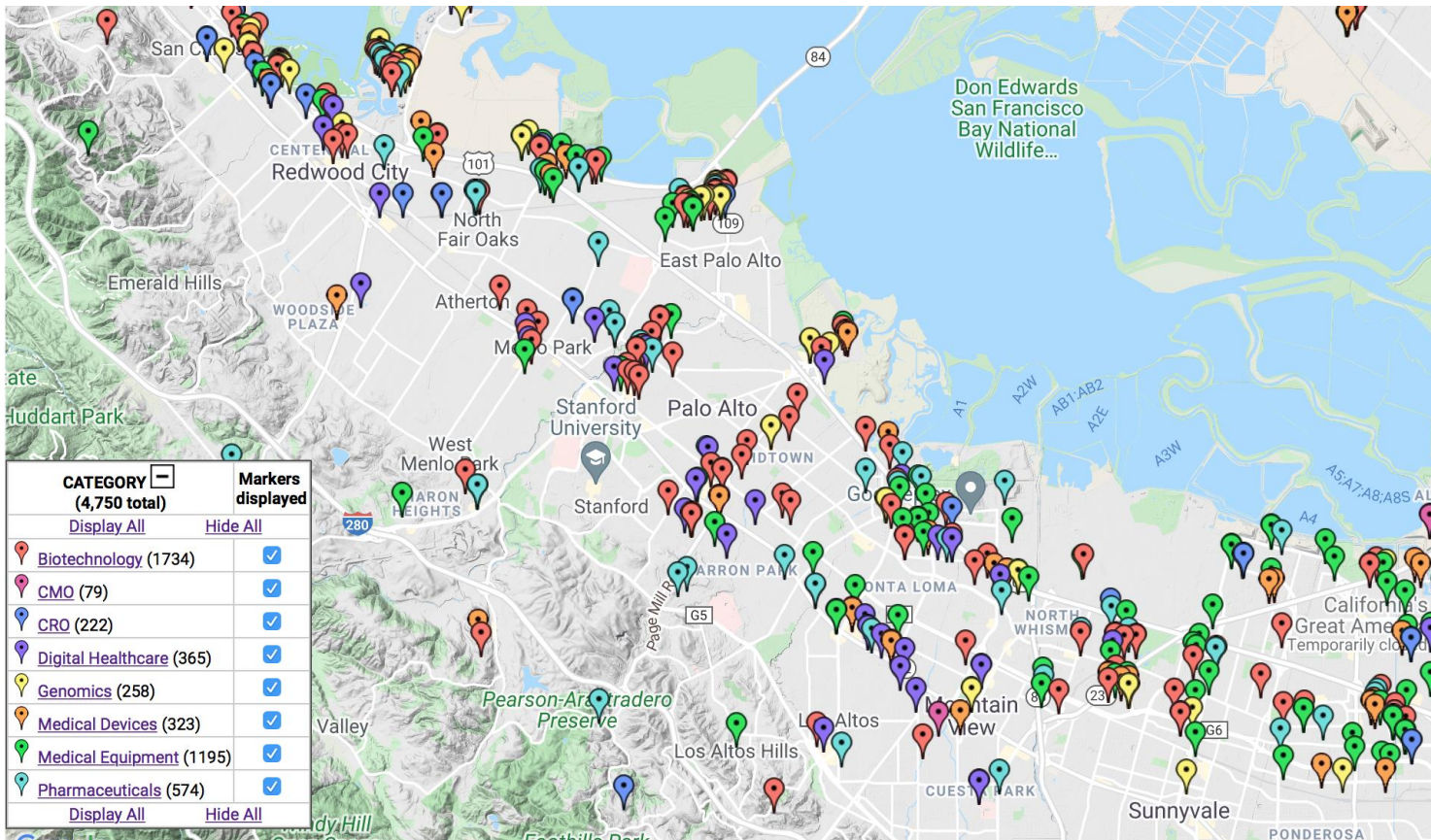
Investment

- Corporate venture funding (J&J, Thermo, Roche, Google); VC funding for start-ups

Infrastructure

- Density and proximity to support resources; MAJOR housing and transport challenges

Integrated Products: Silicon Valley



Firms

- 300+ companies; Palo Alto, Menlo Park, Sunnyvale, Mountain View
- High location quotients for venture capital, software, semiconductors, engineering

Talent

- 80%+ have at least a Bachelors degree, 50% have a Masters or higher; some middle skill jobs in manufacturing; high cost of living

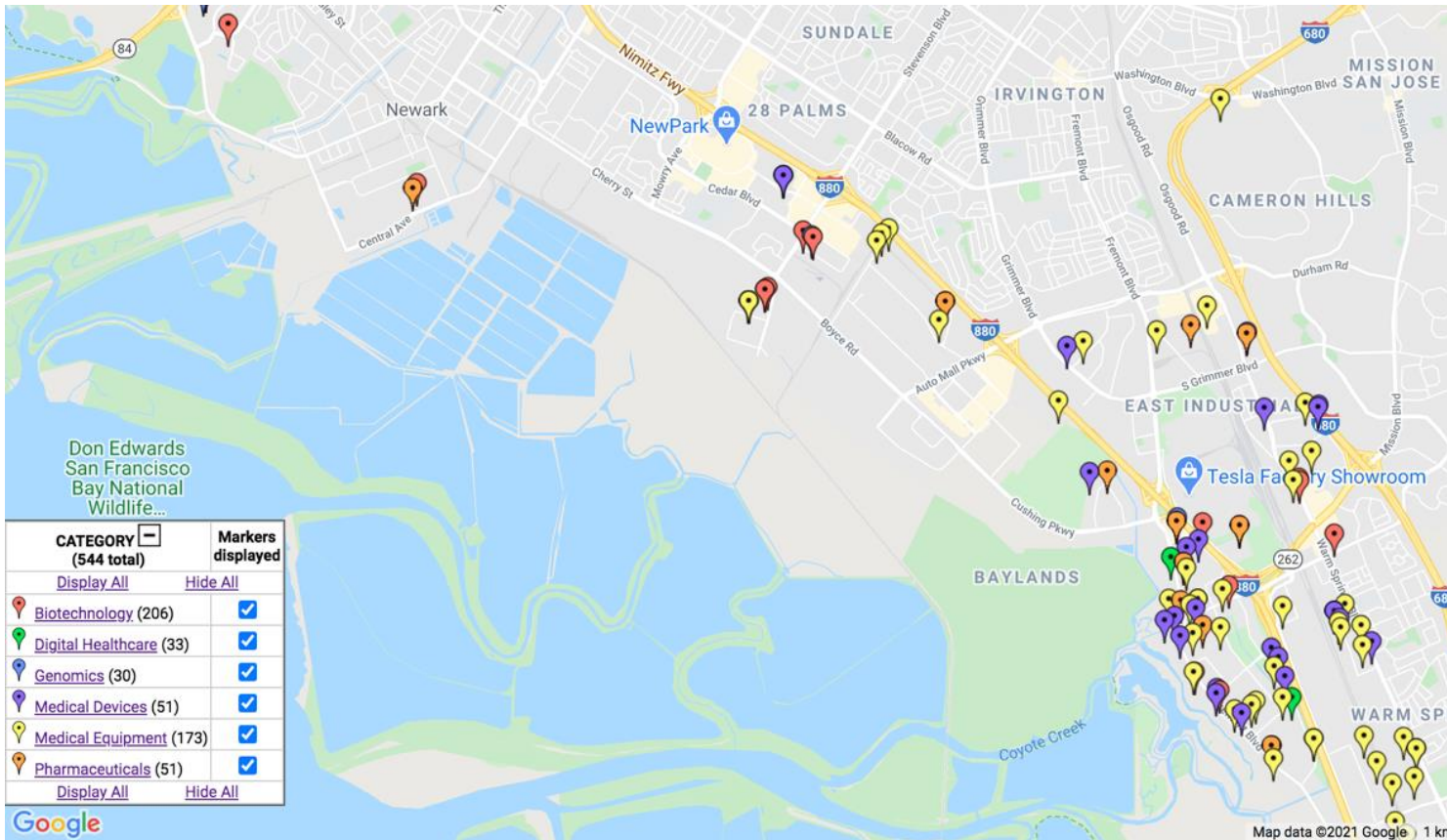
Investment

- Best location for venture capital; tech money, SV Bank

Infrastructure

- Stanford University, SLAC, Stanford Research Park; Spin-outs from tech companies; law firms; climate of entrepreneurship

Scale-Up: Fremont-Hayward-Newark



Firms

- 200+ biomedical companies in Fremont. Businesses double headcount of regional average; **strong focus on manufacturing; highest business survival rate**

Talent

- >50% jobs require only HS or 2-year degree (middle-skill); access to lower cost housing in East Bay; resident engineering talent

Investment

- Corporate and institutional investment; organic business growth

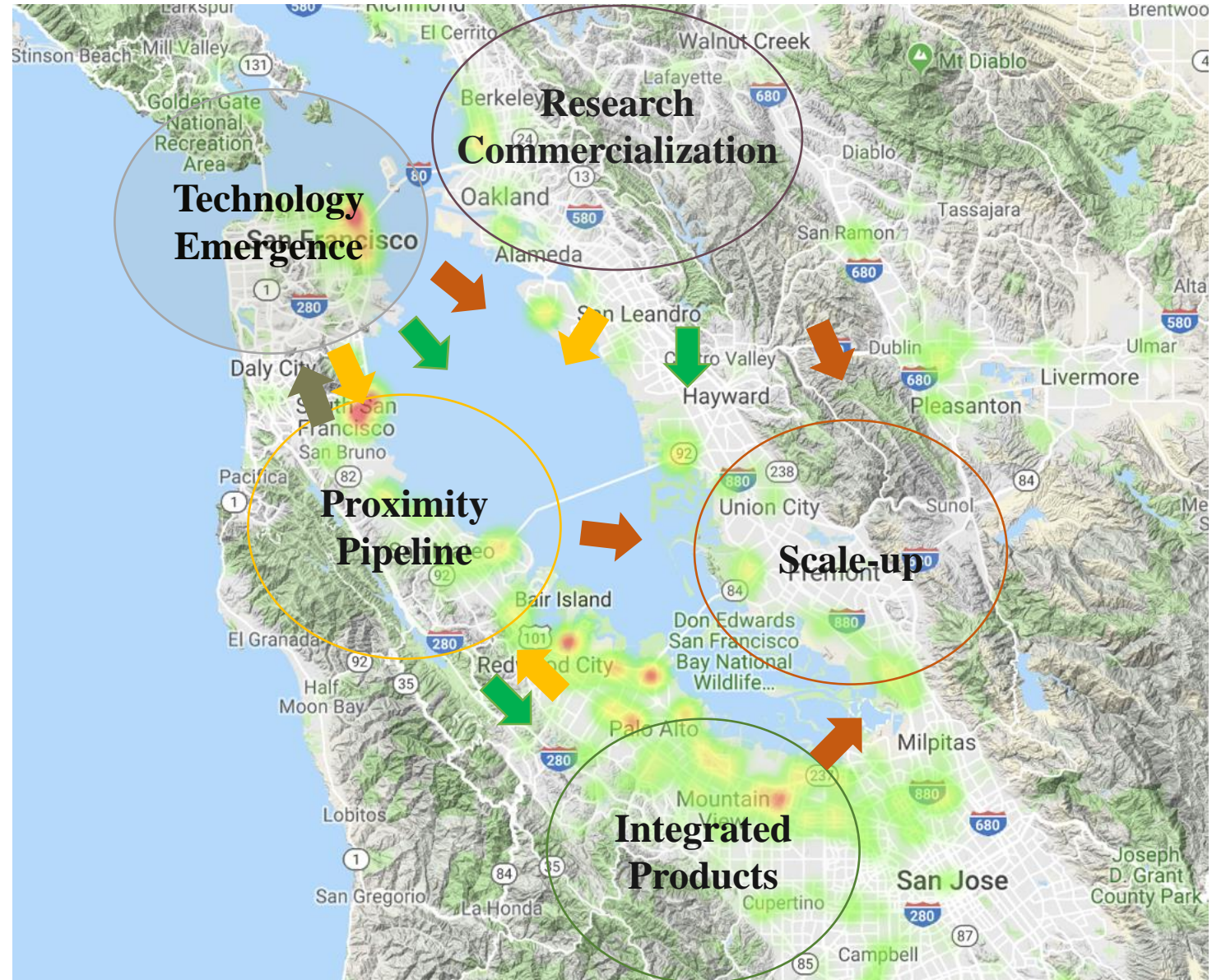
Infrastructure

- Legacy semiconductor & EME expertise; robust supply chain; contract manufacturers; larger format industrial facilities w/ supportive zoning; City expertise in supporting sector

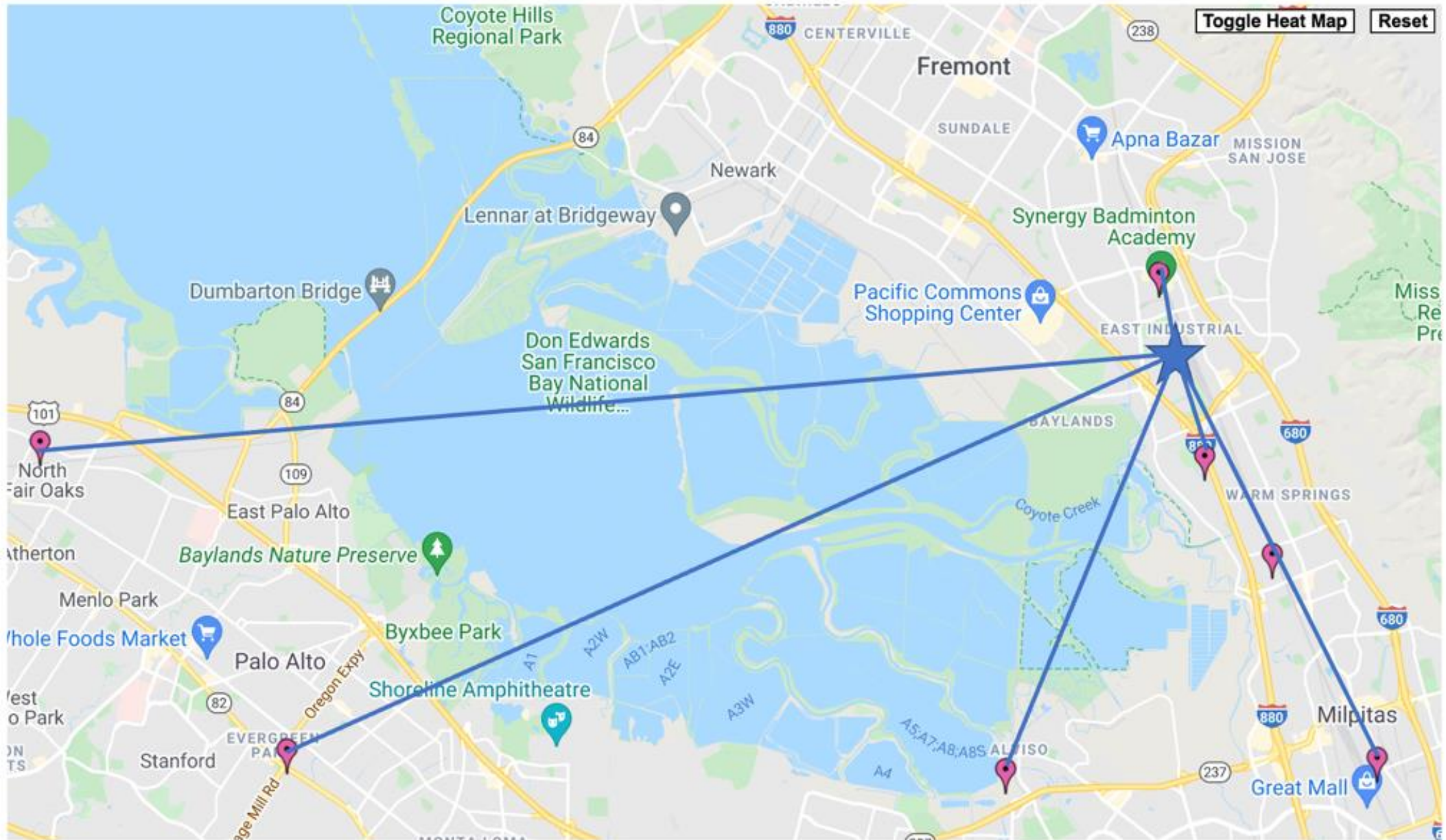
Case Study: Biomedical Company Movement Between Microclimates, 2014-2024

From/To	Berkeley-Emeryville	Fremont	Silicon Valley	South SF	San Francisco	Out-of-State	Total
Berkeley-Emeryville	-	7	5	5	4	9	30
Fremont	0	-	0	0	0	6	6
Silicon Valley	0	9	-	5	4	10	28
South SF	0	5	3	-	2	8	18
San Francisco	0	2	2	2	-	12	18
Out-of-State	0	0	0	0	0	0	0
Total	0	23	10	12	10	45	100

San Francisco Bay Area “Microclimates” of Biomedical Innovation & Entrepreneurship



Medical Equipment Company - Local Supply Network



San Francisco Bay Area Biomedical Industry

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NETWORK

