

## Study Tour 2014

Silicon Valley – Disruptive Innovations,  
Disrupting Industries

January 2015

San Francisco



A map of the San Francisco Bay Area and Silicon Valley region. The map is overlaid with a grid and features several location pins. The pins are labeled with company names: Highway 1, Fastly, Neo, Pivotal, Palantir, Adallom, Guardtime, Formation Data Systems, Cloudera, and Apigee. The map shows the coastline of the bay and the surrounding landmasses.

Neo

Highway 1

Fastly

Pivotal

Palantir

Adallom

Guardtime

Formation  
Data Systems

Cloudera

Apigee

Silicon Valley has long been famous for its unmatched ability to create important new technologies. Some of these innovations have been highly disruptive to the existing technology order – the PC, for example, and now the cloud. As we look ahead, we can see a different sort of disruption emerging. Increasingly, the entrepreneurs in ‘the valley’ view your firm not just as their customer, but also as their lunch.



What we see in ‘the valley’ is a three-pronged attack on established industries and firms:

- **New technologies.** The technology arms race continues – big data, cloud, open source, SaaS, DevOps, sensors, mobility, biometrics and social media are just a few examples of transformative new technologies that can leave conservative firms behind.
- **Recombination.** Core technologies are being recombined into novel higher order systems that create entirely new types of value. Examples include wearable technologies, cryptocurrencies, consumerized healthcare devices, machine translation, and many more.
- **Industry disruption.** Capabilities and components are being organized into surprising new businesses that aim to disrupt traditional industry structures, potentially creating a new generation of market leaders. For example, who would have expected that Tesla cars, designed and built in Silicon Valley, would successfully attack the auto industry?

The 2014 study tour was designed to help participants anticipate emerging technological capabilities, develop a first-hand feel for the next generation of disruptive innovations, and – most importantly – learn how to be a player, not someone else’s lunch.

The companies we visited are listed in the panel overleaf, with a brief summary of their main area of activity. All were chosen as leaders in their field, to help participants in the tour understand the disruptions ahead.

In the course of the tour, five key themes emerged:

- **Software is eating the world.** This famous line from a *Wall Street Journal* article by Marc Andreessen (Netscape’s founder), making the point that all companies are already dependent on software, was reinforced by comments we heard from Amazon Web Services, Battery Ventures, OnBeep (now Orion Labs) and Palantir. Silicon Valley has proved that it can quickly move into new areas and challenge traditional industry leaders. There is undoubtedly something unique in its culture, energy and sheer hubris that make this possible. There is also a concentration of talent, availability of investment, openness to collaboration and an exchange of ideas unlike anywhere else in the world.
- **Experimentation is key.** The need to learn through experimentation was highlighted at Apigee, Canonical and Pivotal. All agreed that innovation goes up if the penalty for failure goes down. The valley’s best companies understand the value of experimentation: of being able to try many avenues, back off, learn, adjust and iterate. One reason Google is feared in the marketplace is because it has learnt how to learn. Its first forays into a new vertical form such as self-driving cars may have initially seemed like science fiction to the incumbents, but Google has the ability – and money – to refine and improve.
- **Platform beats product.** Historically, firms have developed a product, launched it and built it up over time. By contrast, Amazon Web Services, Apigee and Pivotal are bringing to market platforms that can support multiple products – their own and others. Viewing systems and business processes as modular services that are accessible by other parts of the business or

external players is a recurring theme in Silicon Valley. Establishing internal APIs (the software interfaces that make creating new systems faster) boosts developer efficiency by removing the need to recreate functionality; making information and operational dependencies explicit; and providing a set of building blocks that can be used throughout the organization.

- **Talent matters.** The range of capability of IT staff is huge – the difference in productivity between an ‘average’ developer and a ‘rock star’ could easily be 10 to 1, or more. Firms that explicitly talked about this included Neo, Battery Ventures, Formation Data Systems, OnBeep, Palantir and Pivotal. It’s significant because thanks to the increasing democratization of computing infrastructure, the influence of the developer community on decision making is stronger than ever. Your organization’s technology choices should be governed by what makes your developers more productive, for it is their work that differentiates you and moves your business forward. And given the current shortage of skilled people, if your best developers aren’t accommodated, they will simply move elsewhere.
- **Innovation is required.** Innovation is important to all firms, and game-changing technology innovation today is unlikely to come from enterprise IT. The consumerization of technology affects much more than employee devices – it changes the whole palette of technology options from which your firm can create new products and services. Those who can spot new capabilities emerging outside enterprise IT are more likely to identify innovation opportunities. Adallom, Amazon Web Services, Apigee, Cloudera, Formation Data Systems, Neo and OnBeep all spoke to us about innovation issues.

## Our insights from the tour

The 2014 study tour enabled us to pinpoint the characteristics of hungry Silicon Valley firms. They learn, adapt, and closely tie their IT strategies to the goals of the business. Embracing failure as an opportunity to learn, they have no time for political favourites, and iterate to find the winning approach. Silicon Valley firms understand that there is little advantage in software alone, but in the co-creative ecosystems and partnerships they develop and lever, and the data that results. Not content with being dealers of software to industry, they are flexing their greenfield advantage and challenging traditional industries in other fields as well.

Yet we also learned that there is no secret to their success. The best developers are often hired from traditional businesses and move to ‘the valley’. Talent is more a matter of management and environment than of hiring uniquely skilled individuals. Silicon Valley firms ‘open source’ much of their enabling infrastructure, so many other companies can engage and benefit. APIs provide the means of creating a platform and ecosystem and building a world in which organizations as varied as Walgreens, Pearson and AT&T are able to transform into digital business platforms on which other firms can innovate. And even the difficult matter of innovation and experimentation can be embraced and accelerated, if championed and understood by management.

If the 2014 study tour revealed a gulf between valley companies and mainstream firms, it also uncovered ways in which firms can borrow, learn, partner and grow in a world that is being eaten by software. But perhaps the biggest takeaway from the tour was cultural – the valley’s comfort with uncertainty and willingness to dive in and learn. In the words of one of the tour attendees, “these people know how to say ‘yes!’”

This tour showed the benefits of empowering software developers to move quickly and autonomously in the service of the business. Over the next year, we will see the same trend in the broader workforce, as collaboration and communication tools enable decentralization and interconnectivity, and self-service access to IT resources becomes the norm.

# The 2014 LEF Study Tour destinations:



Adallom uses technology developed by the Israeli military to keep data safe in the cloud. Its cloud access security platform delivers visibility, governance and protection for your data

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Amazon is the leader in web service implementation and is relentlessly driving down the price of computing

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Apigee provides the API enablement platform and predictive big data analysis technology that businesses utilize to become digital successes

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Battery Ventures invests in cutting-edge business ventures in markets including software and services, web infrastructure, digital media, ecommerce and industrial technologies

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Canonical drives the usage and adoption of the Ubuntu operating system to all of the world's cloud computing platforms. Canonical is now looking to do the same with the internet of things

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Cloudera is the leading provider of value-added services on the open source Hadoop big data platform

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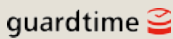
Fastly is changing the way the world experiences the internet. It is the only content delivery network that gives businesses complete control over how they serve content

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Formation Data Systems has developed the world's first converged data platform for the enterprise data centre

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Guardtime invented keyless signature infrastructure, a security technology designed for real time detection and mitigation of cyberattacks

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Highway1, a division of PCH International, is a hardware startup accelerator. It helps fund, design and manufacture new products at scale

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Neo helps build digital businesses, through frameworks that help firms evaluate which of several innovation opportunities they should pursue

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OnBeep (now called Orion Labs) has created a new wearable communications device that unites groups and allows people to easily collaborate worldwide in real time

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Palantir is a big data company that aims to augment human intelligence, not replace it. It pairs good data with the right technology, focusing particularly on user interfaces

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Pivotal is a company at the intersection of big data, Platform-as-a-Service and agile development whose aim is to help transform companies into great software companies

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Wavesine is a tiny startup that fuses virtual and physical worlds. David Clement demonstrated how even today's technology can convince the brain that virtual experiences are real, and is researching how future systems will be developed in the virtual world

## Plans for the 2015 LEF Study Tour

The 2014 study tour showed us that co-creation, enabled by commodity systems coupled with simple interfaces (APIs), has the potential to produce exciting new systems. A large majority of companies have grown up with an inside-out culture, where IT decision-making came top-down from enterprise IT. Building customer co-creation into this operating model can be difficult.

What we saw and had the chance to try out on the 2014 study tour led us to the conclusion that we need to retool to avoid being overtaken – or eaten for lunch. To make sure we get this right, we need new ‘laboratory’ capabilities where we can experiment with the myriad of new and emergent technologies that are appearing – such as the wide variety of internet of things devices, sensors, and augmented and virtual reality equipment. Because most of these technologies are not part of people’s day jobs, many clients do not have sufficient exposure to emerging co-creation capabilities. Yet many of them are inexpensive and lend themselves to hands-on learning within a safe, sandbox-style environment.

In contrast to the ‘reengineering lab’ of the 1990s, the new ‘Xperience Lab’ needs to be portable so that the co-creation experience can be taken to where the stakeholders are. The XLab and its co-creation experimentation capability will affect the entire business and will require the support of key gatekeepers such as legal, HR, security and compliance.

The 2015 LEF Study Tour will be held on 20-25 September in the San Francisco Bay area. It will show you not only the latest equipment that you can use to populate your Xperience Lab, but also how the companies we visit are changing the way they work and the way they are co-creating the future with their stakeholders. The face-to-face visits of the tour provide a level of insight that cannot be obtained just by reading or attending web conferences.

To take advantage of this opportunity and for more information about the 2015 study tour, contact Jane Kingston: [jkingsto@csc.com](mailto:jkingsto@csc.com)

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*For more than 50 years, clients in industries and governments worldwide have trusted CSC with their business process and information systems outsourcing, systems integration and consulting needs.*

*The company trades on the New York Stock Exchange under the symbol "CSC".*

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## About the Leading Edge Forum

*CSC's Leading Edge Forum (LEF) is a global research and thought-leadership community dedicated to helping large organizations identify and adopt Next Practices at the growing intersection between business and information technology. We believe that as IT becomes consumerized and pervasive throughout society, new information uses will have profound implications for virtually every aspect of the modern firm.*

*Through an annual membership programme of research, events, onsite workshops and advisory services, we support Chief Information Officers and other senior Business/IT leaders in areas such as visioning, strategy, organizational change, executive education, staff development and the future of the Central IT function. Members enjoy personalized, on-demand access to our global network of thought leaders, clients and leading practitioners.*

*For more information, please visit [lef.csc.com](http://lef.csc.com).*