

TiEcon 2016: Entrepreneurship Inspiring the World

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1. Introduction

[TiEcon 2016](#) was, as all other previous TiEcon annual events going back to 1994 were, another excellent conference attended by almost 4,800 entrepreneurs, VCs, dignitaries, and visionaries from 22 countries around the world. This year's speakers included the CEOs of Adobe and Infosys, a Nobel Prize winner from India, well-known technologists from Facebook, GE, Google, IBM, VMware, and numerous startups.

2. About TiE

From its [website](#), The Indus Entrepreneurs (TiE), was founded in 1992 in Silicon Valley by a group of successful entrepreneurs, corporate executives, and senior professionals with roots in the Indus region. There are currently 13,000 members, including over 2,500 charter members in 61 chapters across 18 countries. TiE's mission is to foster entrepreneurship globally through mentoring, networking, education, incubating, and funding.

3. About TiEcon

An annual event held in over 145 cities worldwide, it's considered the largest entrepreneurial forum and attracts leading engineers, scientists, politicians, authors, and philanthropists. TiE has helped boost the economies of the communities in which it operates and the economic wealth it has created is estimated at \$200 billion. Past speakers and invited guests include Jack Welch, Arnold Schwarzenegger, Ted Turner, Tim Draper, Tom Friedman, Robert Reich, Satya Nadella, Salman Khan, Vinod Khosla, Marissa Meyer, and Guy Kawasaki, to mention a few.

4. Keynote and Noteworthy Presentations

[Shantanu Narayen](#), President and CEO, [Adobe Systems](#), discussed how digital disruption forced his company to drastically change its strategy. The economic downturn in 2008 inspired the company's leadership to move all its applications to the cloud and offer a pure subscription model. Enterprises have gone through three waves of disruption:



1. Back-office Wave – ERP, MRP, HR...
2. Front-office Wave – Salesforce, Workday...
3. Business-Wave – digital transformation leading to Chief Digital/Experience Officer.

Disruptions are inevitable and companies that don't change are in the danger of becoming irrelevant. Anti-bodies in organizations resist changes and leaders need to over-communicate, but one doesn't need 20 PowerPoint or PDF slides to get messages across. Great things were achieved by people who were tired of the status quo.

Adobe grew by *inorganic acquisitions* and *organic innovations* and was driven by *mobile only vis-à-vis mobile first*. Despite all the hype and fears about automation, robots will not replace human entirely anytime soon since robots can't do marketing and lack human intuition. Is there a dot-com bust on the horizon? Probably not, but valuations are definitely frothy.

[Dr. Vishal Sikka](#), CEO, [Infosys](#), spoke about the Services industry, that being the mainstay of his 200,000-plus-employee, Bangalore-based company whose market cap is \$42 billion. His goal is to automate the Services industry and he foresees a human revolution enabled by artificial intelligence (AI) with the following attributes:



1. Viability and usability: Augmented Reality (AR) and Virtual Reality (VR) will change dramatically in the coming years, with VR eventually subsuming AR with chat, bot, and immersive interfaces.
2. Pervasive end-user centricity
3. Intelligent systems and infrastructure

AI today is being used for useless stuff like tracking a cat and posting it on YouTube. This is not what [Marvin Minsky](#) envisioned in the 1960s. To put AI to real use, Infosys has launched [Mana](#) (rhymes with SAP HANA), a knowledge-based AI platform, combining machine learning with the deep knowledge of an organization to drive automation and innovation.

To date in 2016, cloud computing vendors have bought more servers than enterprises have. Cloud computing will lead to yet-unheard-of innovations.

On Friday, May 6, of Infosys' 200,000-plus employees, 9,512 were 'on the bench', meaning waiting for their next assignment. The company uses this time to train these employees learn new skills either online or in person at the Infosys University in Mysore, India—the world's largest corporate university. His goal is 'Zero Bench'.



Infosys University, Mysore, India

5. Interviews

5.1 [Harel Kodesh](#), CTO, GE Software



GE Digital group is focused on creating value from industrial products—really large machines, such as a \$20 million steam turbine.

For GE industrial IoT is one huge asset revenue potential opportunity. How can we ensure uptime for machines so you maximize the revenue from machines?

Consider an aircraft. GE collects 320 GB of data per trip (flight segment) from GE engines on a typical jumbo-jet flight. This data is downloaded via a high-bandwidth ingestion pipe and subjected to machine learning and anomaly detection in the Predix cloud for quick maintenance issues.

Interestingly, you do not need a large team of data scientists to predict failures in machines. GE has two parallel approaches; one is a physics-driven modeling approach that builds machine operating models, using joint teams of engineering and operations folks; and the other is unsupervised machine learning led by software groups. Think of this as a data vs. domain dogfight.

Their goal is to create an artifact (software, prediction, method, etc.) that can be directly consumed by a factory manager or an operations manager.

Privacy of data from machines is not an issue. Unless you live in a cave, everybody gives data to Google today and receives some benefit such as search results in return. Similarly, factories will share data on their equipment as long as they get benefits of higher uptime.

In Harel's view, Industrial IoT is different from other IoT applications due to the need to reduce false positives (false signals indicating that something is wrong). In industrial systems, the cost of false positives is very high. Imagine shutting down an entire factory or a bridge due to a false positive.

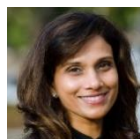
To reduce this risk, GE employs multiple machine learning and prediction algorithms to improve its accuracy. Think of this a poll of polls vs. a single poll that can be biased or wrong.

Another challenge impeding growth of Industrial Internet is lack of access to industrial machine data. GE Predix will make simulated data available, so developers can glean the insights from data and design new and innovative applications.

Cybersecurity is another show stopper for industrial IoT. According to Harel, Predix solves for cybersecurity in a novel way. Predix is a paranoid system. Every layer asks other layer of software for authentication before providing access. Up to 40% of compute nodes for each process may be dedicated to security. So, though the developers only pay for compute capacity on Predix, they get security as an essential add-on.

Harel believes that in spite of the high cost of these engineered and secure systems, it's possible to find use cases and applications in Industrial IoT that have high probability of quick and large returns. So, developers should not fear the complexity and challenges of programming for industrial systems.

5.2 [Sridevi Koneru Rao](#), Senior Director, Business Development, Cisco Digitization Office



Reporting to the Chief Digitization Officer, Sridevi encourages Cisco install base customers to digitize their operations. Her group is also involved in the Smart Cities initiative with Cisco providing the necessary infrastructure.

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Digitization is nothing new; the world has been digitizing ever since the invention of the first digital computer in the 1930s by John Atanasoff at Iowa State College (now Iowa State University) and it has been accelerating with the explosive growth of minicomputers, servers, PCs, tablets, smartphones, and phablets over the past few decades.

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5.3 [Hon. Sam Liccardo](#), Mayor of San José, CA



Q. What are your biggest problems and how are you tackling them?

A. The biggest problems our city [the nation's 10th largest] is facing are housing, education, and transportation.

We are building affordable housing so we won't lose our working class to far-away locations resulting in even longer commutes. Housing may include pre-built, pre-fab houses that stack up on each other, resulting in denser population, but reduced commuting times—especially for teachers, law enforcement, and fire department personnel.

Education is a challenge for us: 40% of adults in San José are foreign-born and we are 'officially' tri-lingual—English, Spanish, and Vietnamese. Should we soon add Chinese?

Transportation needs a compromise between adding lanes to already-congested highways and improving public transportation—both needing infrastructure spending.

5.4 [Rashmy Chatterjee](#), Vice President, Marketing, Communications, and Citizenship, IBM



IBM, like all IT vendors, is emphasizing digitization. It's also focusing on IBM Bluemix, IoT, cloud, computing (SoftLayer), DevOps, and cognitive computing where Watson will play a major role. Having gone through 16 consecutive quarters of declining revenue, the company realizes it needs to make significant and strategic changes, as the last two CEOs did, turning the company into focusing on Software and Services. We believe the company's going beyond the cloud war and focusing on cognitive computing AI, and quantum computing is a good move, although it may not be monetizing on these initiatives anytime soon.

6. Breakthrough Thinkers



Stanford's [Dr. Huggy Rao](#) in his speech titled "Scaling Up without Screwing Up", based on a book he co-authored, [Scaling Up Excellence: Getting to More Without Settling for Less](#), emphasized scaling up blindly results in clusterfug (*fug*, Norman Mailer's euphemism in his 1948 novel *The Naked and the Dead* because he couldn't use the more-familiar four-letter word). He feared many organizations are led by illusion, incompetence, and impatience. Before you embark on any new project, do a pre-mortem, as envisioned

by Kierkegaard.



University of California, Santa Cruz's [Dr. Nirvikar Singh](#) has done extensive research on the Indian diaspora in the U. S. and gave a preview of his co-authored forthcoming book [The Other One Percent: Indians in America](#). Indo-American population in the U. S. is only 1 percent—about 3 million. They are the most educated and highest income earners among all immigrants. He also provided detailed statistics of the languages spoken by Indo-Americans and other interesting demographics.



[Kailash Satyarthi](#), 2014 Nobel Peace Prize Laureate, discussed how he left his engineering career and turned to addressing children's education and welfare and child labor and trafficking issues in the world. He has acted to protect the rights of more than 83,000 children from 144 countries. The unfortunate thing is that there are still [168 million children worldwide trapped in child labor](#), accounting for almost 11 percent of the overall child population: 100 million boys and 68 million girls. Around half are engaged in hazardous work.

7. Conclusions

Overall, this was a great conference with good content and great speakers—the entire event run by volunteers numbering over 300.

We only wish the organizers:

- stop using IST (Indian Starting Time)—none of the events started on time, one evening event was almost two hours late—and respect the time of the hundreds of attendees that showed up on time,
- streamline the registration process, and
- ensure the event doesn't run out of food while attendees are still standing in long lunch lines!