

DISRUPTIVE TECHNOLOGY AND DIGITAL CITIES PROGRAM

2018-2019 PROGRAM LAUNCH

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创新 *Transform* INNOVATION

STANFORD PROGRAM

TODAY'S AGENDA

Mission: transform disruptive technologies into new opportunities

- February summit sold out last year
- 26 affiliate members and five Stanford Schools participating
- Innovation caldron marshalling Stanford and Silicon Valley expertise, startups, and venture capital
- Addition of SRI International and Diamond Ventures
- Start of first research project Visual modeling platform - “what if modeling” of an entire city
- Additional initiatives in robotics, analytics, and stretchable materials IoT

MEET OUR MEMBERS

- Amazon
- Ananda
- Asahi Group
- Azcende
- Bechtel
- Booz Allen
- Carsales.com
- Cbus
- CIBC
- Cintra
- Cushman Wakefield
- Daikin
- Diamond Ventures
- Hitachi
- Idaho Forest Group
- LiteOn
- McMaster
- Microsoft
- Prologis
- QIC
- RailPen
- Royal Bank of Canada
- SRI International
- Urban Venture Labs
- Wilo
- Visa
- *City Zenith Special Sponsor*

DISRUPTIVE TECHNOLOGY

DEFINITION

- ✓ Creates or enables new value proposition
- ✓ Changes underlying economics
- ✓ Displaces or disrupts a business model
- ✓ Creates sustainable innovation
- ✓ Speed of disruption overcomes resistance

DIGITAL CITY DEFINITION

- Comprised of commercial markets, infrastructure, and expertise
- City GDP and population concentration defines market opportunity
- Enterprises transform disruptive technology into digital infrastructure
- Data becomes the underlying least common denominator
- Private investment and commercial R&D drives city development
- Higher quality of life - delivered by private and public stakeholders
- **Government role: focus on regulation, planning, security, and creating incentives for commercial investment**

URBAN COMMERCIAL MARKETS

MCKINSEY GLOBAL INSTITUTE CITY-SCOPE

- 23 megacities* contribute 10% global growth
 - Example - London generates 22% of total UK GDP with 12.5% of the population
 - 80% of U.S. population in large cities - 60% in Europe
 - 84% of U.S. GDP generated by large cities in last decade - 65% in Europe
 - Changes in economic development – reason why some cities thrive or not
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- 70% of top 5 tech companies revenue generated by city dwellers
 - Example: 85% of Apple revenues generated in cities
 - Concentration of population in cities, continuous connection, and data key to digitalization

PROGRAM FOR 2018-2019

- **Stanford Technology Lab Portfolio:** we have created the first-ever catalogue of ALL Stanford Technology Labs and projects – numbering over 4 00 labs and 4 ,000 pre-commercial projects. We will match your annual plan to the disruptive technologies being developed at Stanford. **New for 2018-2019.**
- **New Member Networking Program:** we will help members hook up with each other to do JV explorations and solve common problems. We will also open our own network to some 4,000 executives and 1200 companies globally. **New for 2018-2019.**
- **SRI International:** this world-class commercial lab and now member is famous for its Siri spin- out to Apple among other things is opening up its labs to program members as an additional resource. **New for 2018-2019.**

PROGRAM FOR 2018-2019

- **\$30M Diamond Venture Fund:** GPC affiliate, Diamond Ventures, has raised \$30M for venture investing available to our members and Stanford labs for startup funding. Two startups were launched including Meta Wave (Motus) and **One-Point-One** (Angel Investors) in 2017. **New for 2018-2019.**
- **Visual Modeling Platform:** we funded this core research program to create the world's first digital city modeling system that can do "What if" predictive analytics. We will explore how we can gain insight when real-time data crosses commercial city data layers. We expect to see fundamental new insights on consumer behavior. We have formed the research team under the leadership of Ram Rajagopal and his post-doc Herman Donner. **Expanded in 2018-2019.**
- **New Research Initiative:** December 11 Review Meeting at Stanford

EMERGING TECHNOLOGIES

SOURCES OF DISRUPTION



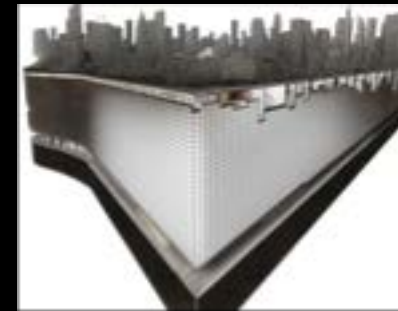
Computational Power



Robotics



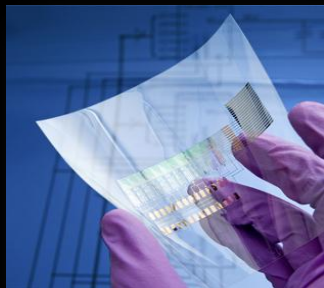
Predictive Analytics & AI



Digital Cities



Visual Modeling



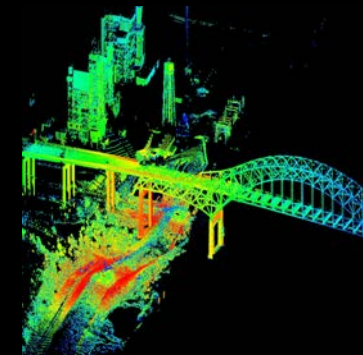
Convergence of Advanced Materials



Energy



Network Technologies



Lidar/Radar Scanning



Autonomous Vehicles



MCMMASTER STANFORD PARTNERSHIP

- McMaster in partnership with the Global Project Center at Stanford and specifically with ***the Disruptive Technology & Digital Cities Program***
- Partnership crosses multiple areas including disruptive technology for medical and other industry applications
- A specific focus on assisting with Canadian affiliate members including Royal Bank of Canada, and CIBC
- Leader in our annual digital cities conference highlighted key areas of technology and industry strength for over 275 C level executives
- New program tracks being considered to expand partnership including working with us on the Lab Portfolio and Diamond Ventures projects

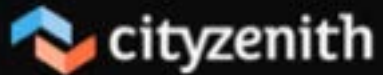
STANFORD VISUAL MODELING



Visual Modeling

- Powerful city-wide “what if” visual modeling urban markets
- Attach real-time physics and data sets that interact
- Build applications off the platform
- First application: commercial real estate development
- Long term vision to create an real-time snapshot of economic and social activity including transactions
- Next steps “predictive analytics” looking two years downstream
- **Massively scalable connected to everything**

PARTNERSHIP WITH CITY ZENITH



<https://vimeo.com/272991506>

- Open architecture platform for visual modeling
- Possible to build vertical applications on top of the platform
- Data provided by multiple partners for multiple city environments
- Company headquartered in Chicago
- Will provide Stanford with their tools
- Stanford to develop predictive analytics to look out reliably two years
- Opportunity for members to participate at ground level

DR. HERMAN DONNER

STANFORD POST-DOC



Mission:

Set the market requirements for the design of the underlying model architecture and the first vertical application – commercial real estate

- Stanford Post Doc
- Ph.D. from KTH Royal Institute of Technology in Sweden
- Economist by training
- Expert in commercial real estate modeling
- Working with the Stanford team

STANFORD FACULTY TEAM

Mission:

Faculty from computer science and civil engineering are combining resources to develop the model

- Faculty from Civil Engineering, Computer Science, and CIFE
- Professor Ram Rajagopal leading the team
- Funded by Disruptive Technology and Digital Cities membership
- In partnership with City Zenith
- Predictive analytics at core of new functionality
- Members will be able to create their own applications
- Data sets for model from multiple sources

CONTACT INFORMATION



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