Annual Conference, Industry Affiliates Program
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US-Asia Technology Management Center: Current Status and Strategic Direction

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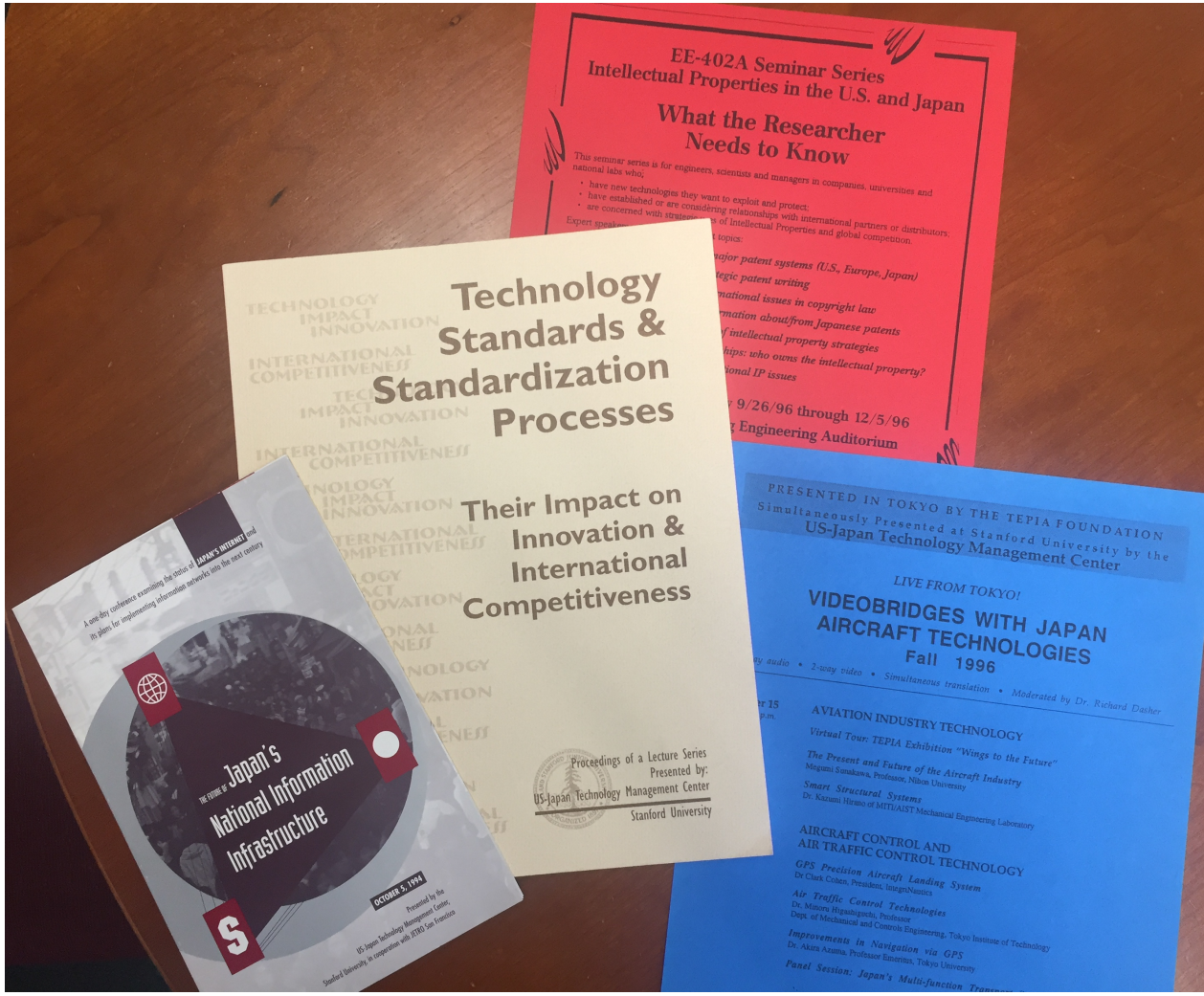
US-ATMC history – externally funded Research, education, outreach

- **Established 1992: U.S. government grant** (one of twelve centers in the U.S. – Japan Industry and Technology Management Training Program – through 1999)
- **Industry support** (gifts and "unrestricted support for research") from the beginning
- **Expanded from US-Japan to US-Asia** in 2000
- **Organizationally in School of Engineering** until 2017



US-ATMC at present

- **Officially recognized as an "industry affiliates program" from 2017**
  - **Primary source of support**: membership fees and additional research support by member companies("affiliates)
  - Organizationally under the **Center for East Asian Studies** in the Stanford Global Studies Division
  - Oversight by **faculty board**: School of Humanities and Sciences, School of Engineering, Freeman Spogli Institute for International Studies
- **Additional support: fees for ½ and 1-day seminars and lectures to outside groups** (more than 23 given in calendar 2018)
  - **EMBA groups** from top Chinese universities, **industry delegations** from China (inc. Hong Kong, Taiwan), Brazil, Indonesia, Japan, S. Korea
- **Joint public programs with external partners (costs reimbursed)**
  - Examples: **Japan – U.S. Innovation Awards**, **VLAB** (programs on crypto-currencies, autonomous vehicles, space businesses, etc.), **AccessAlts Asia** (angel investors), **SEA Connect**, **Bright Internet Conference**

US-ATMC member companies

Six during 2018 – 19

- **Five sent visiting scholars** to US-ATMC
- Support for **two graduate student researchers** from one member
- Plus, **visiting professor** from **Ritsumeikan University 2018 – 19**

Now processing two new members for 2019 – 2020

- Plus, will host **visiting professor** from **Kobe University 2019 – 20**
- Several others considering membership

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US-ATMC member benefits

- **Regular analyses of news and trends in our focus areas**
  - Emails to member representatives, copies of reports and publications
- **Briefings at member companies**
  - Including visits and lectures while Dasher on travel
- **The opportunity to send a visiting scholar to Stanford**
- **The opportunity to support Stanford research in an area of mutual interest**
  - Typically exploratory, with focus on regular knowledge exchange during the term of the support
  - Unlike “Sponsored Research,” no line-item budget or formal statement of deliverables – but also not charged Stanford’s full overhead rate
- **Introductions and facilitated access to Stanford and Silicon Valley resources in our network**
- **Recognition at our public programs**

US-ATMC areas of focus match our strengths with member interests

- **Innovation systems and processes**
  - **Open innovation** management
- **New trends in Asia knowledge-intensive industries**
  - **Entrepreneurship ecosystems**
  - VC investment patterns
  - Silicon Valley as reference point
- **The impact of selected new technologies** on industry structure and dynamics
- **Building bridges** between Asia and Silicon Valley tech businesses

- **Some current domains**
  - Mobility
  - Applications of artificial intelligence and blockchain
  - IOT systems
  - Digital economy policies (security, privacy, trade)
  - Business models for socially-driven innovation
  - Tech solutions for sustainability
  - Biotech: Medical, AgTech applications
  - Emergence of tech industries in SE Asia

During this past year, our public programs have addressed ...

- **AI in smart physical systems (especially, activities in Asia)**
  - Including nine weekly seminars = Stanford course EASTASN 402A
- **"Bright Internet"** – architecture, governance, policies
  - Co-produced international conference in San Francisco
- **Silicon Valley innovation system**
  - Large firm – startup company interactions
- **Artificial intelligence** as a key to the Fourth Industrial Revolution
  - Value creation through analysis, automation
  - Special case studies in FinTech, media industries
- **Asia innovation** (flow of people, capital, knowledge)
  - Including nine weekly seminars = Stanford course EASTASN 402T
  - Japan – U.S. Innovation Awards (co-produced with Japan Society)
  - Growth of VC in China and VC megadeals
  - Emergence of SE Asia markets as new drivers of economic growth

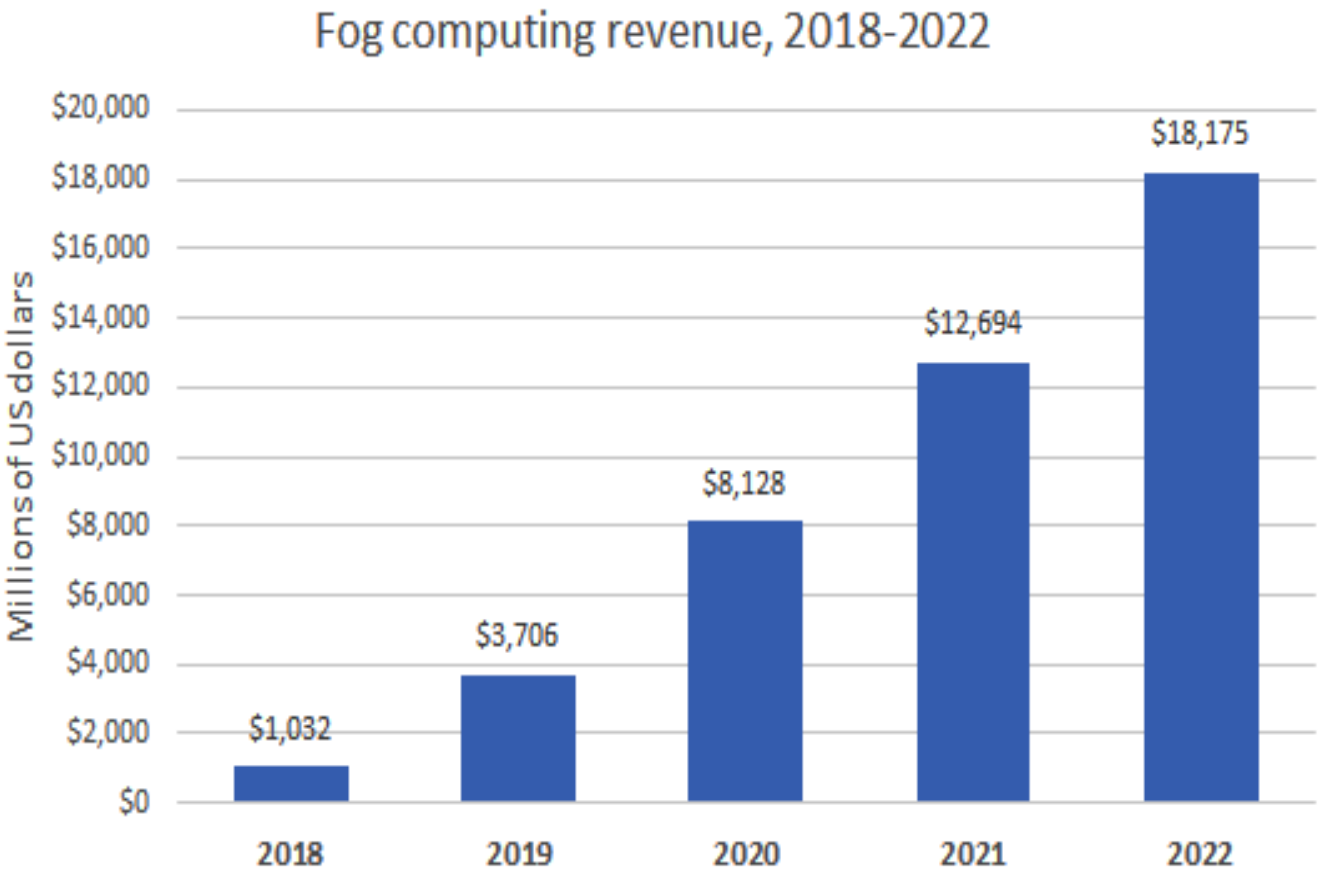
Looking ahead

- **Continue research, education, outreach** in our (continually evolving) areas of focus
- **Some topics** we think will be interesting over the next year
  - **Edge computing** – planned for autumn 2019 seminars
    - See next slide
  - **Impact of U.S. – China friction on innovation systems everywhere**
  - **Continued evolution of funding ecosystem for innovation**
    - **Recent shift in VC to later stage; gap between seed and VC**
    - **Mega-deals & unicorns** as a disruption of public stockmarkets (e.g. the impact of Softbank Vision Fund)
    - Comparison of **exit patterns** in different economies
  - **AI and industry evolution**: new business models
  - **Needs, demands, and emerging approaches to regulatory infrastructure** for international digital economy

Edge computing

- **Planned topic for 2019 autumn seminars**
- **IOT systems will probably follow a similar evolutionary path to previous generation of networked computing**
  - Mainframe / terminal > client / server > cloud computing
  - IOT: **Cloud / simple cients (sensors)** > new network architecture to handle **intelligent clients** > ubiqitous **(pervasive) intelligence** in the background
- **Big topics**
  - **5G network integration**
  - **Edge servers** for real-time IOT applications (drones, autonomous vehicles, networked smart robots, etc.) – "fog computing"
  - Look for **real use cases**: e.g. medical IOT with smart clients (e.g. for diabetes management), return of intelligent transportation systems (?)
  - **Security and privacy** issues
  - Potential for still-developing economies to **leapfrog** current infrastructure

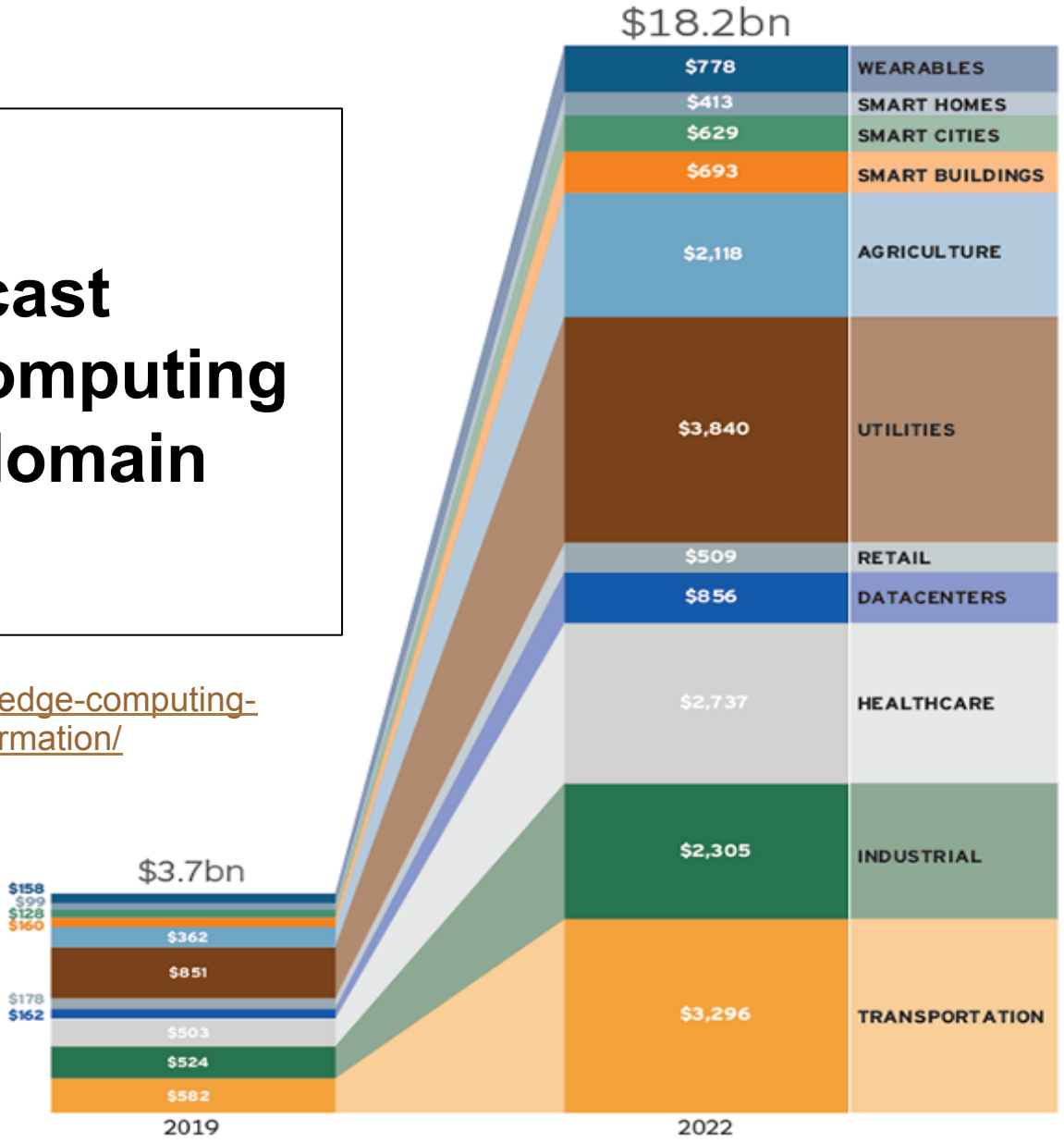
Sample market forecast for edge computing



Data: 451 Research & OpenFog Consortium / Chart: ZDNet
https://www.zdnet.com/article/edge-computing-the-state-of-the-next-it-transformation/, accessed 2019.05.09

Forecast for edge computing by use domain

https://www.zdnet.com/article/edge-computing-the-state-of-the-next-it-transformation/



Today's program from now

- **Questions for me – discussion**
- **Research-in-progress presentations by current US-ATMC visiting scholars**
  - **Ms. Christiana Xu**, Kawasaki Heavy Industries
  - **Ms. Aki Takahashi**, Brilliant Hope, Inc.
  - **Mr. Kohei Hibi**, Mitsubishi Research Institute
  - **Mr. Hitoshi Yasui**, Bridgestone Corporation