



# Intel Labs' Open Collaborative Research Model

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# Semiconductor Industry Intellectual Property Context

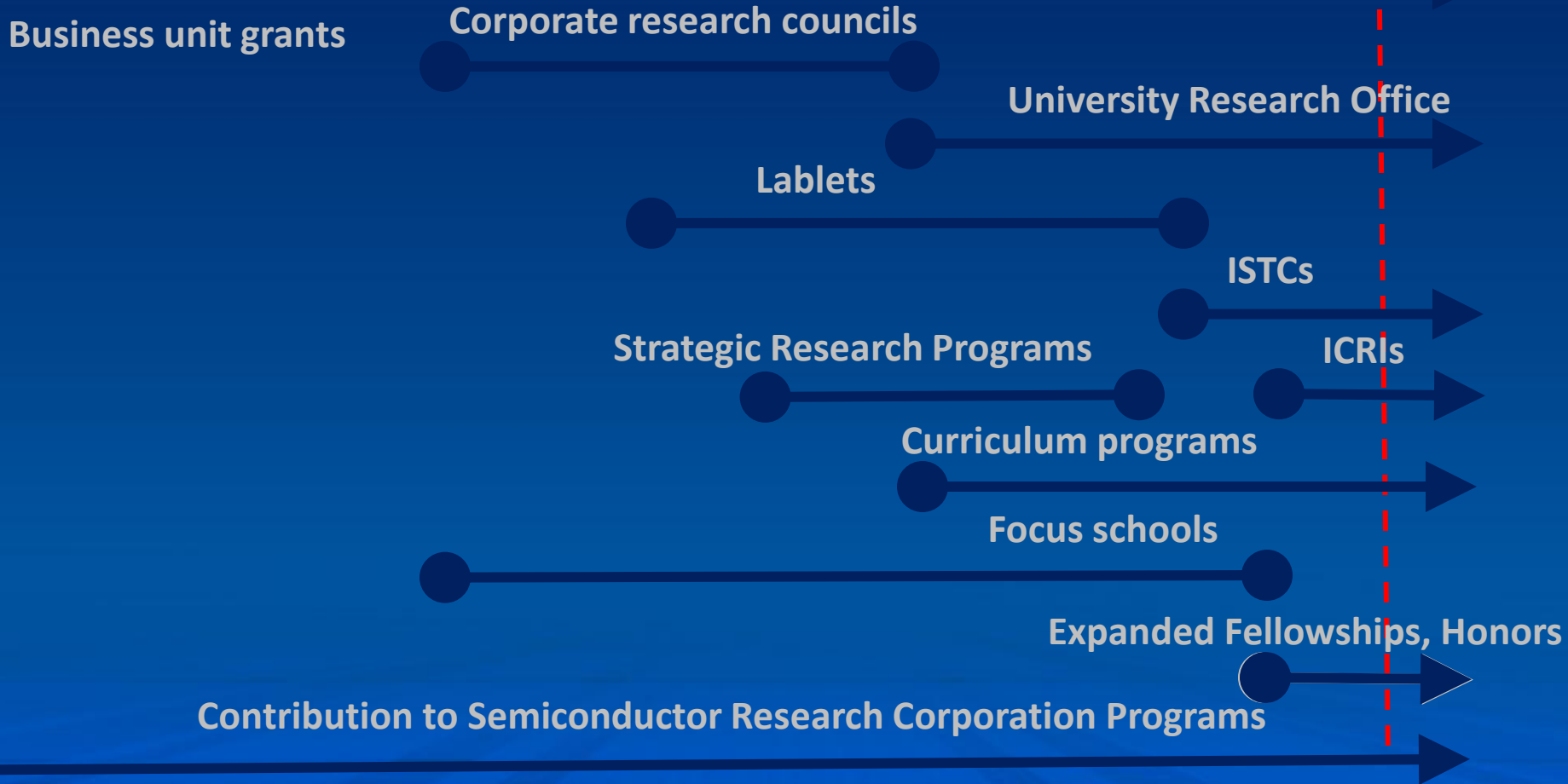
- Rapid technological change: Moore's "Law"
  - Prolific innovation:  $10^3$  or  $10^4$  patents/product
  - Inexpensive products
  - Increasing cost of manufacturing
  - Cross-licensing
- 
- Collaborative research investment (e.g. Semiconductor Research Corporation)
  - Industry roadmaps as coordinating representation (e.g. ITRS)
  - Competing on implementation, not IP



# Intel's Tradition of Innovation in Academic Engagement

Time →

We are here

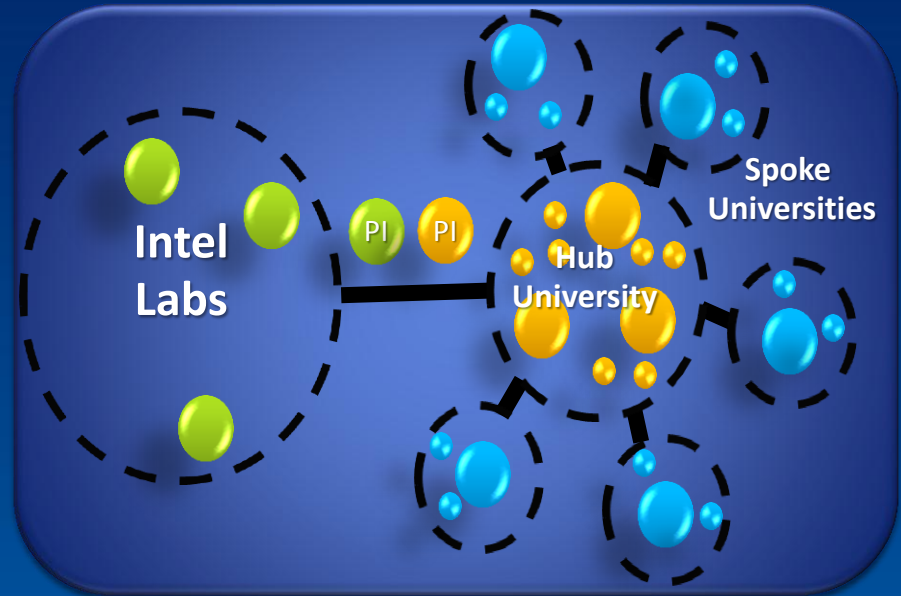


**Recent models (ISTC, ICRI) based on Open Collaboration**



# Our Newest Model for Exploratory University-Industry Research (2011)

## Intel Science and Technology Centers



### **Goal:**

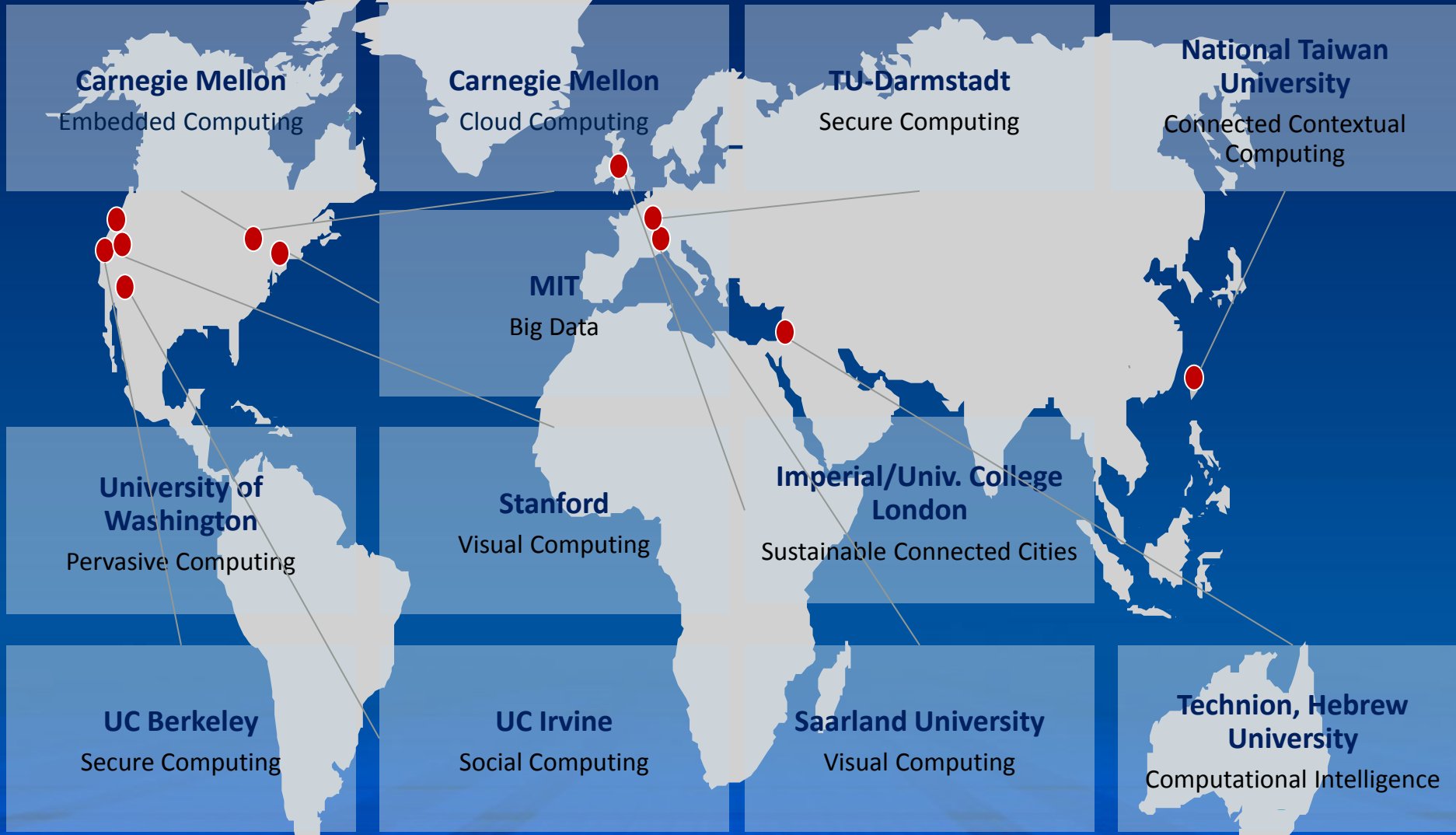
- Transformation, not incrementalism
- Mutual relevance for effective partnership
- Rich idea exchange
- Move ideas to market more quickly
- Impact beyond Intel

### **Technique:**

- Multidisciplinary; 3-5 year horizon; large scale
- University PI Intel PI co-own research agenda
- Intel researchers-in-residence; retreats
- Sponsor lab; researchers-in-residence
- Public domain IP and open source software



# UCO Research Communities Worldwide



***12 institutes, 38 universities, 5 countries, 250 faculty***

# What do we mean by “Open”?

All inventions conceived or reduced to practice by researchers while working on an ISTC will not be filed as patent applications and will be placed into the public domain through publication in a scholarly journal or through other publication means for example a website such as: <http://priorartdatabase.com/>.

In addition, ISTC researchers agree to distribute all source code that has been authored while working on an ISTC and declared as a deliverable in an ISTC research proposal under (i) a BSD license found at: <http://www.opensource.org/licenses/bsd-license.php>; (ii) MIT License found at: <http://www.opensource.org/licenses/mit-license.php>; (iii) Apache license found at <http://www.opensource.org/licenses/apache2.0.php> or other similar open source license.

ISTC researchers who develop software that has been declared as a deliverable under an ISTC Research Proposal agrees not to incorporate any third-party code into this software that would limit or restrict its ability to be distributed under an Apache, MIT or BSD open source license.



# A Recent Innovation in Contracting

## *University-Industry Research Corporation (UIRC)*

### Observations

- A single independent entity serves as intermediary between sponsors and universities for IP terms and funding
- Simplifies addition of new sponsors & universities relative to multiple bilateral or multiparty contracts
- Individual ISTCs/ICRIs define unique tiered sponsorship models

