



EDUCAUSE
ANNUAL CONFERENCE **2015**

Collaborative Innovation Communities: Bringing the Best Together

Florence D. Hudson
Senior Vice President & Chief Innovation Officer, Internet2

Meeting Objectives

- Learn how to build a collaborative innovation community and culture
- Gather learnings from collaborative innovation efforts
- Learn how to start local and go global with collaborative innovation
- Questions & Answers



Internet2 Community Overview: Enabling the Future

Internet2 is a **community** of U.S. and international leaders in **research, academia, industry and government** who create and collaborate via innovative technologies...

to **develop and deliver new innovations** around the internet.

Together, we **accelerate research discovery, advance national and global education**, and improve the delivery of public services.

Our community touches nearly every major innovation that defines our modern digital lives—and **continues to define “what’s next.”**

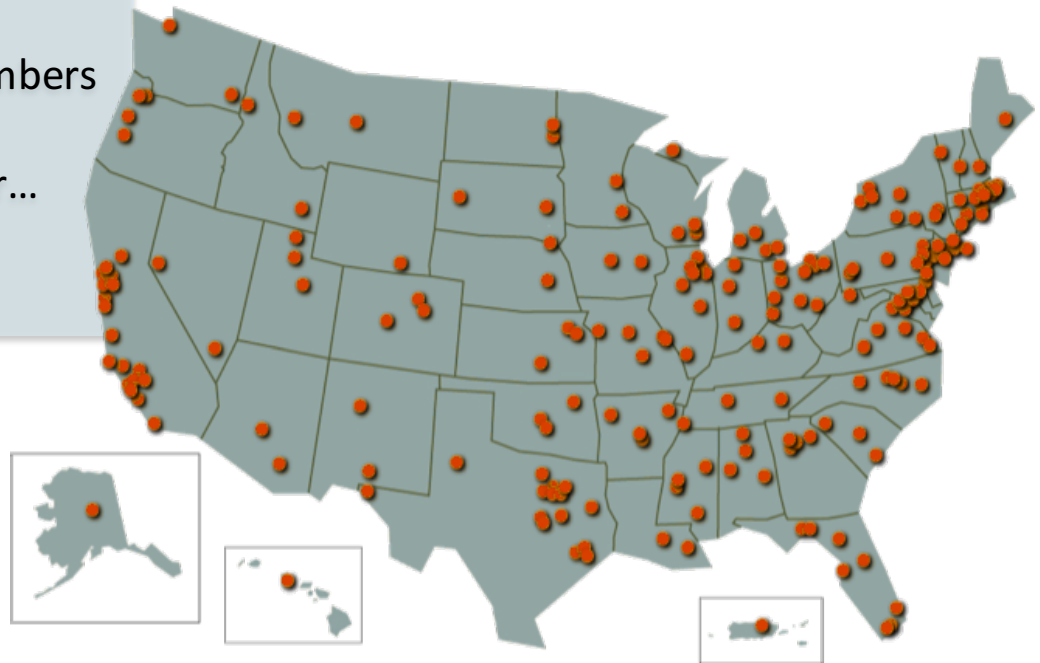


Internet2 includes over 500 Members and Partners

“The idea of being able to collaborate with anybody, anywhere, without constraint...”

—Jim Bottum, CIO, Clemson University

- 301** Higher Education members
- 65+** Affiliate members
- 42** Research & Education Network members
- 80+** Industry members
- 65+** International partners reaching over...
- 100** Nations
- 93K+** Community anchor institutions



Internet2 provides enabling services & collaboration

Through its four Divisions...

- **Network Services** – 100Gb network for research collaboration
- **NET+ Services** – suite of services from industry partners for universities
- **Community Engagement** – events and membership services
- **Chief Innovation Office** – define and enable collaborative development of new innovations

...Internet2 engages its members in...

- *Common* problem and solution focused initiatives
- Facilitating a test bed for innovation



INTERNET[®]



POWERED BY COMMUNITY

BOUNDLESS COLLABORATION.

CONNECTED RESEARCH.

ACCELERATED DISCOVERY.



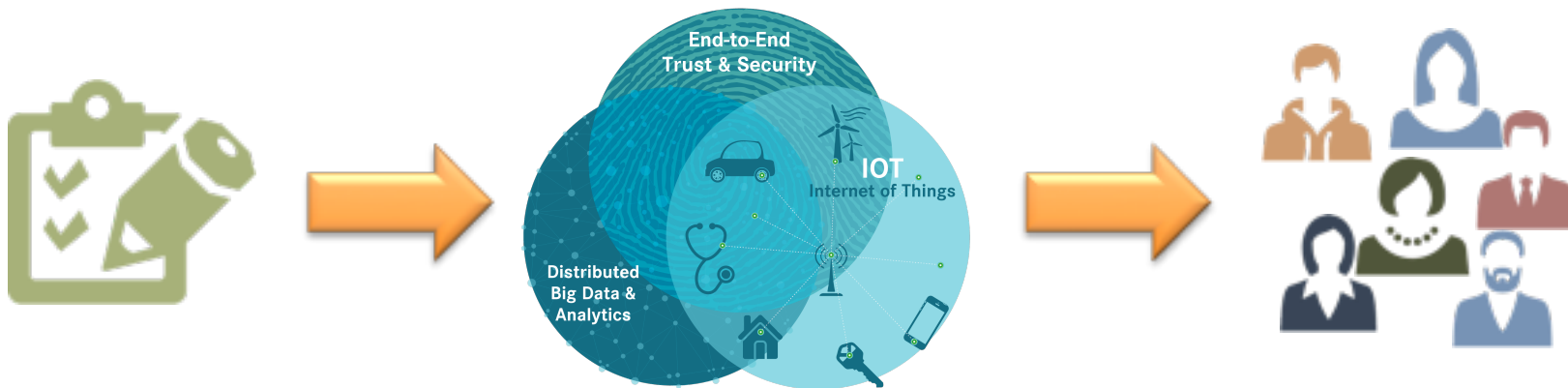
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Collaborative Innovation Program

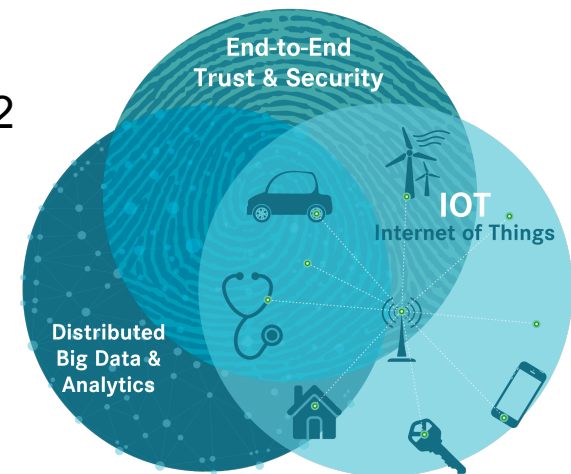


**Three new Internet2 Collaborative Innovation Working Groups Created in May 2015
Based on March 2015 Member Survey**



Innovation Working Groups Complement Other Internet2 Activities

- **Each making specific recommendations for innovation initiatives, including scope, value, use cases, actions**
 - Bring tactical and strategic value to members
 - Positively impact a significant segment of Internet2 membership
- **Led by member representatives**
 - Three university co-chairs of each working group
 - Leverage member programs and facilities
 - Participation encouraged for all Internet2 members – universities, industry, agencies, labs, international partners, regional networks
- **Working groups operate within a broader Internet2 Collaborative Innovation Community with representatives from all types of member organizations**



Innovation Working Groups include University, Industry, Affiliate Members and Partners

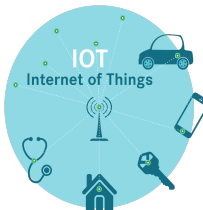


Representative sample. As of October 1, 2015.

Innovation Working Groups Have Defined Missions



- Develop an advanced architectural roadmap and recommended implementation approach to enable future “End-to-End Trust & Security” innovations for the Research & Education community
- Leverage existing resources & capabilities including TIER and InCommon
- Address trust, identity, privacy, security, compliance, etc.



- The IOT will incorporate many physical devices, sensors and facilities into a variety of public and private networks. This possibility presents many opportunities and challenges for our members and the world.



- Enable Internet2 members to better manage distributed big data and analytics through partnerships, collaborations, shared services and leveraging of Internet2 capabilities in advanced networking, cloud services, and federated identity.

Innovation Working Groups Have Defined Operations

- Each working group **co-led by member representatives** with support from the Internet2 staff
- **Regular touch points:** monthly meetings with teleconference capabilities – held in various locations
- Make maximum **feasible use of available prior related work**
- Working group participants **develop draft recommendations for community review**, coordinated by the Internet2 CINO team
- Operating principles – **open membership, open meetings, open source results**



Collaborative Innovation Program

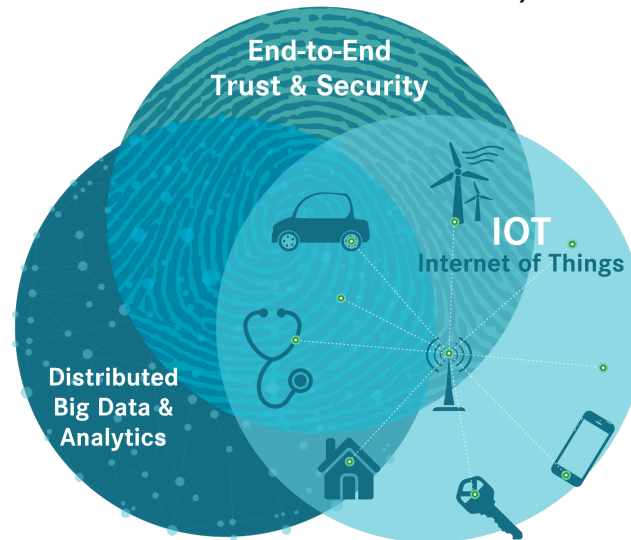
Current Focus Areas

E2E Trust & Security:

- End to End Trust and Security for IOT
- TIPS – Trust, Identity, Privacy & Security
- SDP (Software Defined Perimeter), Network Segmentation

Distributed Big Data & Analytics:

- Genomics
- Smarter Cities / Smarter Campuses
- Digital Humanities



Internet of Things:

- IOT Sandbox
- Smarter Cities / Smarter Campuses
- Smart Grid Testbed

Creating Collaborative Innovation Program and Working Groups



- Considerations for collaborative innovation programs
 - *What could we do that is not being addressed elsewhere?*
 - *Why is the Internet2 community the right place for this activity?*
 - *What resources would be required and how might we get them?*

- Recommendations may include establishing a team to create software and/or services, e.g.,
 - *End to end platform/architecture with community-acceptable capabilities for trust, identify, privacy, security*
 - *Platform for distributed cyber-physical systems research*

Innovation Working Group Timeline

2015 – Startup year

1Q

- Member survey on open collaborative innovation ideas



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2Q

- Announce working groups based on member survey
- Attract co-chairs and members
- Working Groups Startup
- Monthly meetings
- Gather use cases

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- Cross-working group discussions
- Develop plans: tactical & strategic

Tactical outcomes

- E2ET&S SDP Webinar
- IOT Sandbox

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Tactical outcomes

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4Q

- TechEx in-person meetings to discuss recommendations
- Gather new input

Strategic Plans

- Smart grid testbed
- E2ET&S for IOT
- Healthcare/Life Sciences

Innovation Working Group Timeline

2016 – We evolve and grow

1H

- E2ET&S for IOT workshop(s)
- Smart Grid testbed planning
- Smart Campus focus group
- Expand IOT Sandbox
- Develop Healthcare/Life Sciences (HCLS) strategy with DBDA
- Develop DBDA Digital Humanities/Humanists strategy
- Increase researcher engagement
- Continue education & awareness for new innovation opportunities



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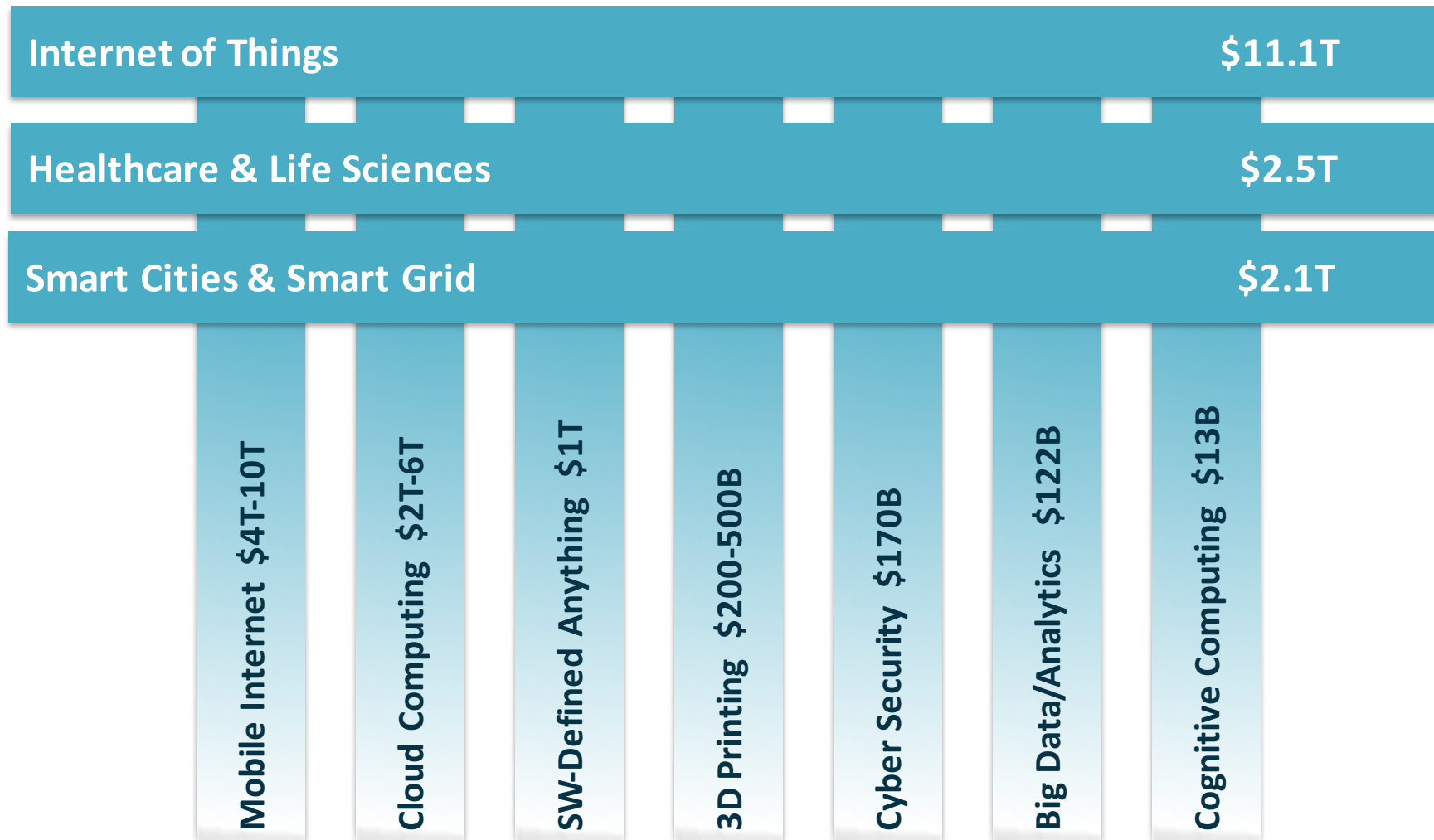
2H

- E2ET&S collaboration across extended community
- Continued IOT and DBDA strategy development
- Smart Grid & HCLS testbeds
- Smart Campus enablement
- HCLS strategy execution
- DBDA Digital Humanities strategy continuation
- Assess/extend Sandbox approach
- Constant market insight gathering
- Innovation input from community

Ongoing Community Input

Developing Market Insights to Inform Strategic Planning

IOT, Healthcare/Life Sciences and Smart Cities could represent \$15T in economic value by 2025, supported by \$8T-18T in technology enablers



**Economic value includes revenues, cost reductions & service improvements achieved*



Thank You
Questions & Answers...

CINO@Internet2.edu

@FIoInternet2



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in today's session.

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