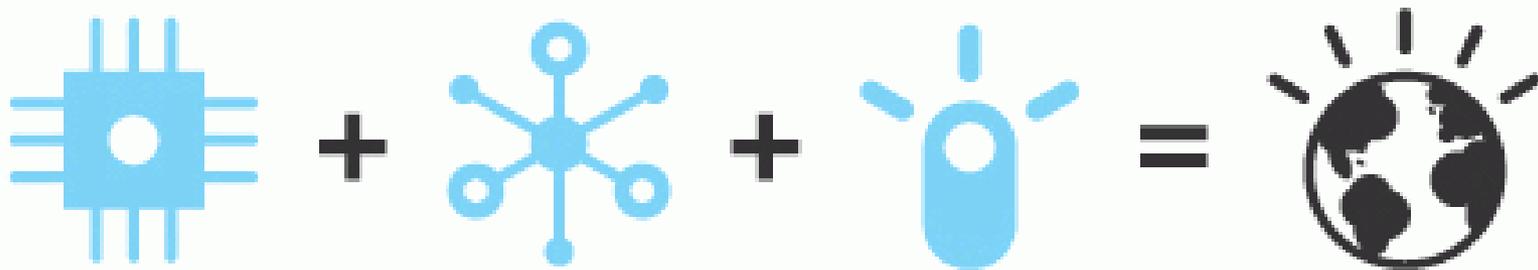


Innovation through collaboration



Working Together to Build a Smarter Planet

 *Для добавления текста щелкните мышью*

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University Relations Coordinator
IBM Central & Eastern Europe, Middle
East, Africa
June 12, 2013



IBMers Value



Dedication to every client's success.
 Innovation that matters—for our company and for the world.
 Trust and personal responsibility in all relationships.

IBM has 434,246 employees worldwide



24% of IBM's revenue in growth market countries



IBM operates in 170 countries around the globe

2012 Financials

- Revenue - \$ 104.5B
- Net Income - \$ 16.6B
- EPS - \$ 15.25



More than 40% of IBM's workforce conducts business away from an office



The Smartest Machine On Earth

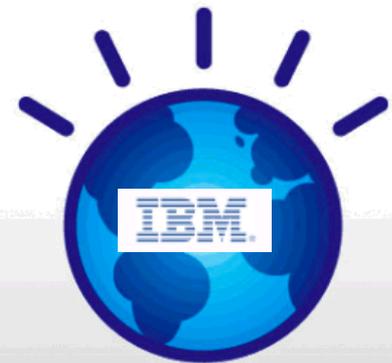
5 Nobel Laureates



Number 1 in patent generation for 20 consecutive years ; 6,478 US patents awarded in 2012



9 time winner of the President's National Medal of Technology & Innovation - latest award for Blue Gene Supercomputer



"Let's Build a Smarter Planet"



100 Years of Business & Innovation



1957: FORTRAN
 IBM contributed significantly with the introduction of FORTRAN (Formula Translator), which was the first high-level programming language for scientific analysis and calculation.



1964: System/360
 IBM introduced the System/360, an expanding 360-bit computer architecture that allowed for a wide range of computing capabilities, from mainframe to personal computers.



1962: SABRE
 The IBM SABRE system was the backbone of the IBM's reservation system for American Airlines, allowing for real-time reservations and ticketing.



1969: Apollo—Man on the Moon
 IBM provided all computer-aided 360-bit processing for the Apollo program, including the flight data for the Apollo 11 mission.



IBM Research: The World is Our Lab



Almaden



Dublin



Zurich



China

Austin

Watson

Haifa

India

Tokyo

Kenya

Brazil



Melbourne



A legacy of world-class research



- 2011
- 2008
- 2007
- 2006
- 2004
- 2003
- 1998
- 1997
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- 1997
- 1994
- 1994
- 1990
- 1987
- 1986
- 1980
- 1971
- 1970
- 1967
- 1966
- 1957
- 1956
- 1948
- 1944

- Watson
- First Petaflop Supercomputer
- Web-scale mining
- Services Science (SSME)
- Blue Gene/L
- Carbon Nanotubes
- Silicon-on-Insulator
- Copper Interconnect Wiring
- Secure Internet Communication
- Deep Blue
- Design Patterns
- Silicon Germanium (SiGe)
- Statistical Machine Translation
- High-Temperature Superconductivity
- Scanning Tunneling Microscope
- RISC
- Speech Recognition
- Relational Database
- Fractals
- One-Device Memory Cell
- FORTRAN
- RAMAC
- SSEC
- Mark 1

Eras of Computing

Tabulating Systems Era



Programmable Systems Era



Cognitive Systems Era



Spent \$19B in R&D and ~\$12B for 35 acquisitions closed / announced since beginning of 2010

Servers,
Networking &
Storage
Optimization

Complements
Organic Assets
IBM Hardware Portfolio

Cloud

IBM Hardware Portfolio
WebSphere
GTS Service Delivery

Smarter
Planet

Industry Solutions
Frameworks
WebSphere Commerce

GBS Offerings

Business
Intelligence &
Data Analytics

IBM
Information Management
Tivoli software
Rational software

Governance, Risk,
Compliance &
Security

GBS BAO Service Line
8 Analytics Solution Centers



IBM Research: *Leading in Key Technologies for Big Data*

Context and Learning

1



Visual Analytics and Interaction

2



Software Defined Environments

3



Data-centric Systems

4



Atomic and Nano-scale

5





Entering a cognitive computing era



http://www.youtube.com/watch?v=WFR3IOm_xhE



Capabilities of Cognitive Systems

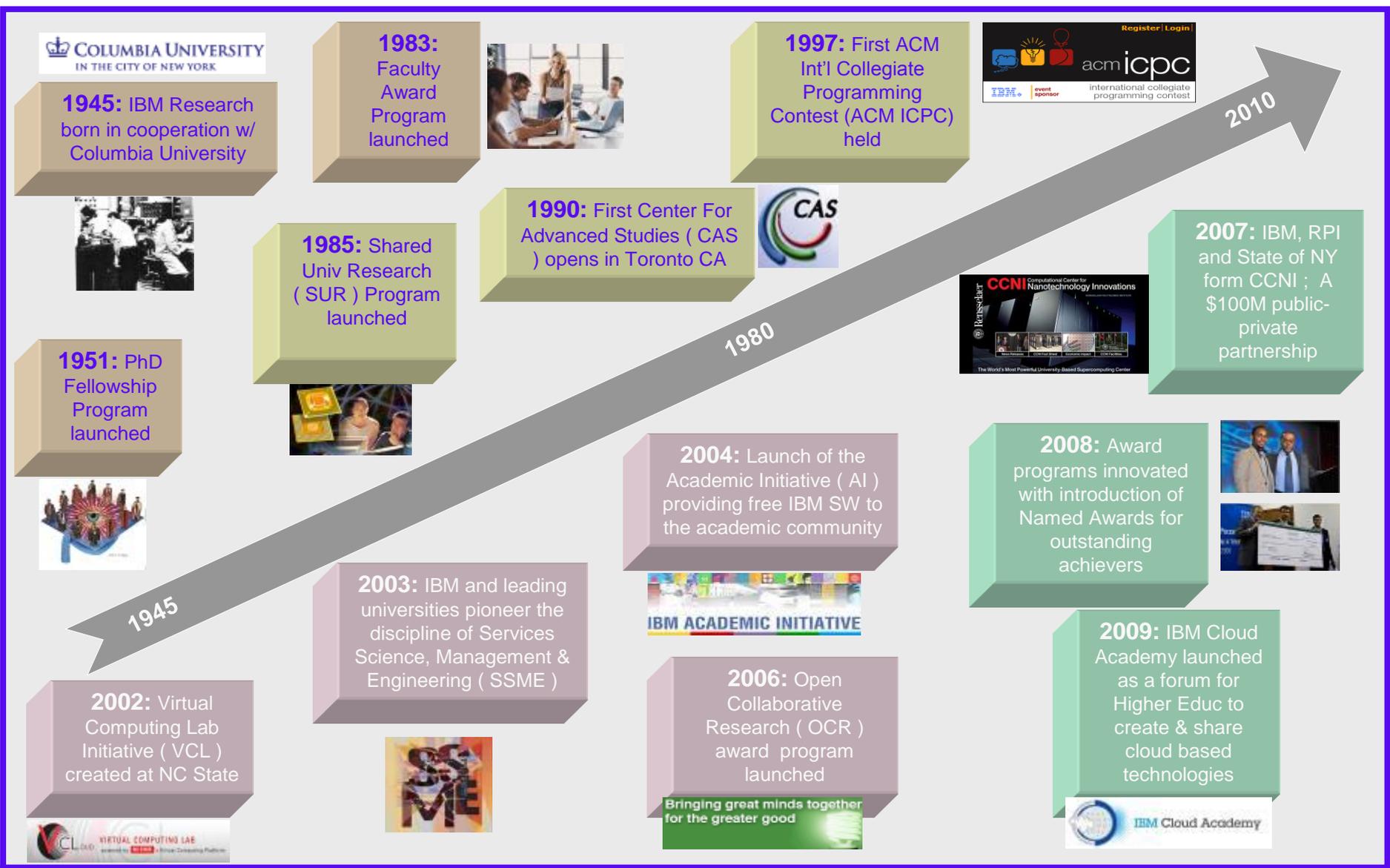
Cognitive Systems Era



	Watson 1.0	Watson 2.0	Watson 3.0
Memory	✓	✓	✓
Learning	✓	✓	✓
Judgment	✓	✓	✓
Perception	✓	✓	✓
Multi-modal		✓	✓
Reasoning		✓	✓



Over 65 Years of Collaborations with Universities





IBM University Programs Summary

Focus	Programs & Initiatives
<p>Research <i>Collaboration in areas of mutual interest & value with top universities & top researchers</i></p>	<ul style="list-style-type: none"> <input type="checkbox"/> Shared University Research Awards (SUR) <input type="checkbox"/> Faculty Awards <input type="checkbox"/> Open Collaborative Research Awards (OCR) <input type="checkbox"/> Centers for Advanced Study (CAS)
<p>Readiness <i>Building the skills pipeline</i></p>	<ul style="list-style-type: none"> <input type="checkbox"/> Academic Initiative Program <input type="checkbox"/> Smarter Planet/SSME/Cloud Computing/Analytics, etc. <input type="checkbox"/> Student Contests / Competitions (e.g., ACM) <input type="checkbox"/> Innovation Centers and Developer Relations
<p>Recruiting <i>Target audience - top talents</i></p>	<ul style="list-style-type: none"> <input type="checkbox"/> PhD Fellowship Program <input type="checkbox"/> Various internships programs run by countries <input type="checkbox"/> Extreme Blue Internship Program <input type="checkbox"/> Great minds research internship
<p>Projects <i>Value creation</i></p>	<ul style="list-style-type: none"> <input type="checkbox"/> Partnership Executive Program (PEP) <input type="checkbox"/> Public Private Partnerships/Emerging & Growth Markets <input type="checkbox"/> Industry-Academic IP Collaboration <input type="checkbox"/> Corporate Citizenship and Corporate Affairs



IBM Academic Initiative

Our mission

- Partner with academic institutions to better educate millions of students for a smarter planet and more competitive IT workforce

Our offerings

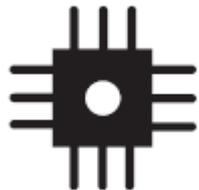
- No-charge access to IBM technology & tools (thousands of software titles)
- No-charge access to course materials and curriculum (hundreds of modules)
- Skills enhancement supported by a worldwide community of IBM volunteers



www.ibm.com/academicinitiative

Our Mission: What is Smarter Planet?

Harmonized “service systems” waste less, innovate more



INSTRUMENTED

We now have the ability to measure, sense and see the exact condition of practically everything.



INTERCONNECTED

People, systems and objects can communicate and interact with each other in entirely new ways.



INTELLIGENT

We can respond to changes quickly and accurately, and get better results by predicting and optimizing for future events.

MANUFACTURING

IT

CUSTOMERS

WORKFORCE

SUPPLY CHAIN

TRANSPORTATION

FACILITIES

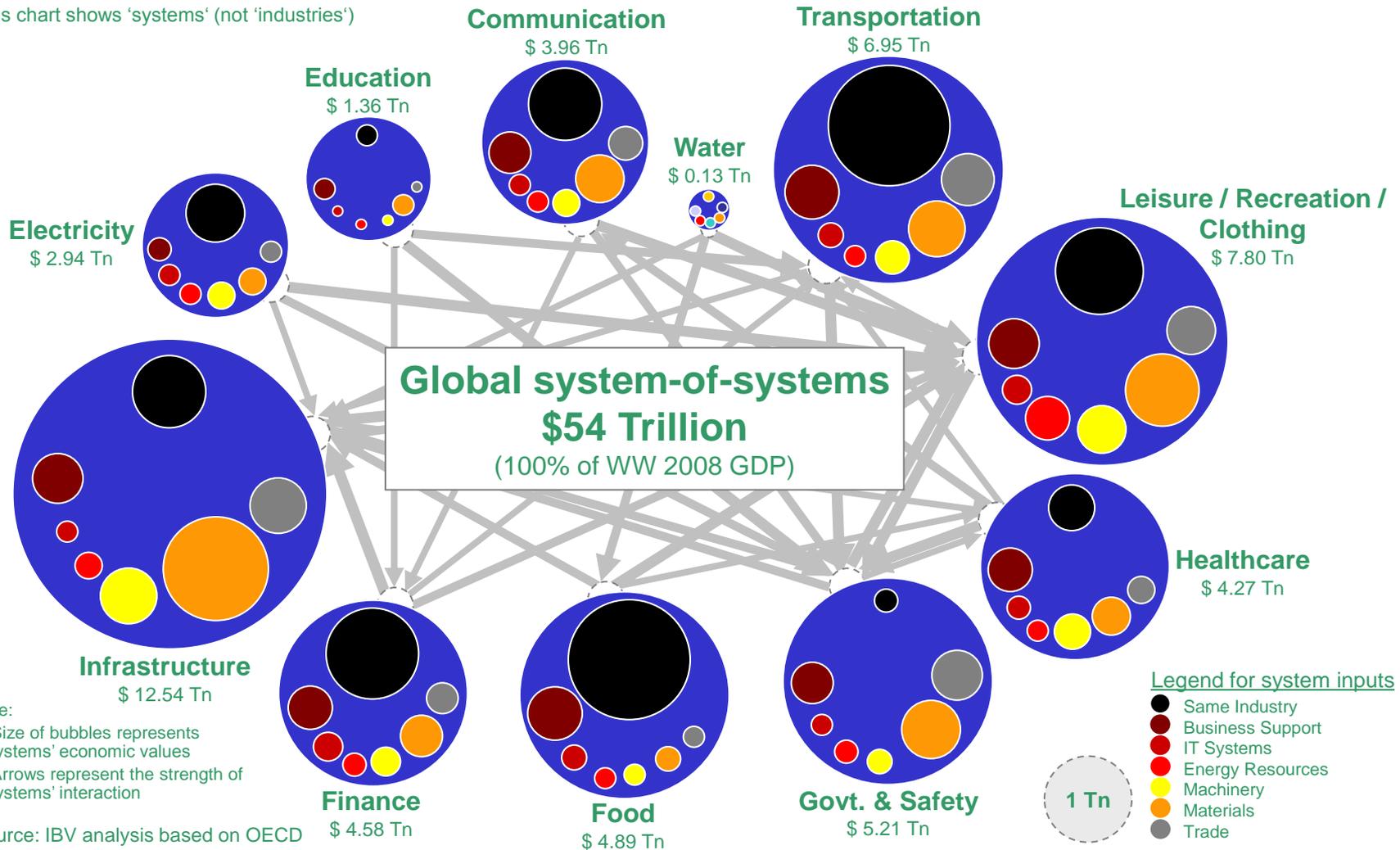




→ Our planet is a complex system-of-systems

Our planet is a complex, dynamic, highly interconnected \$54 Trillion system-of-systems (OECD-based analysis)

This chart shows 'systems' (not 'industries')



Note:
 1. Size of bubbles represents systems' economic values
 2. Arrows represent the strength of systems' interaction

Source: IBV analysis based on OECD

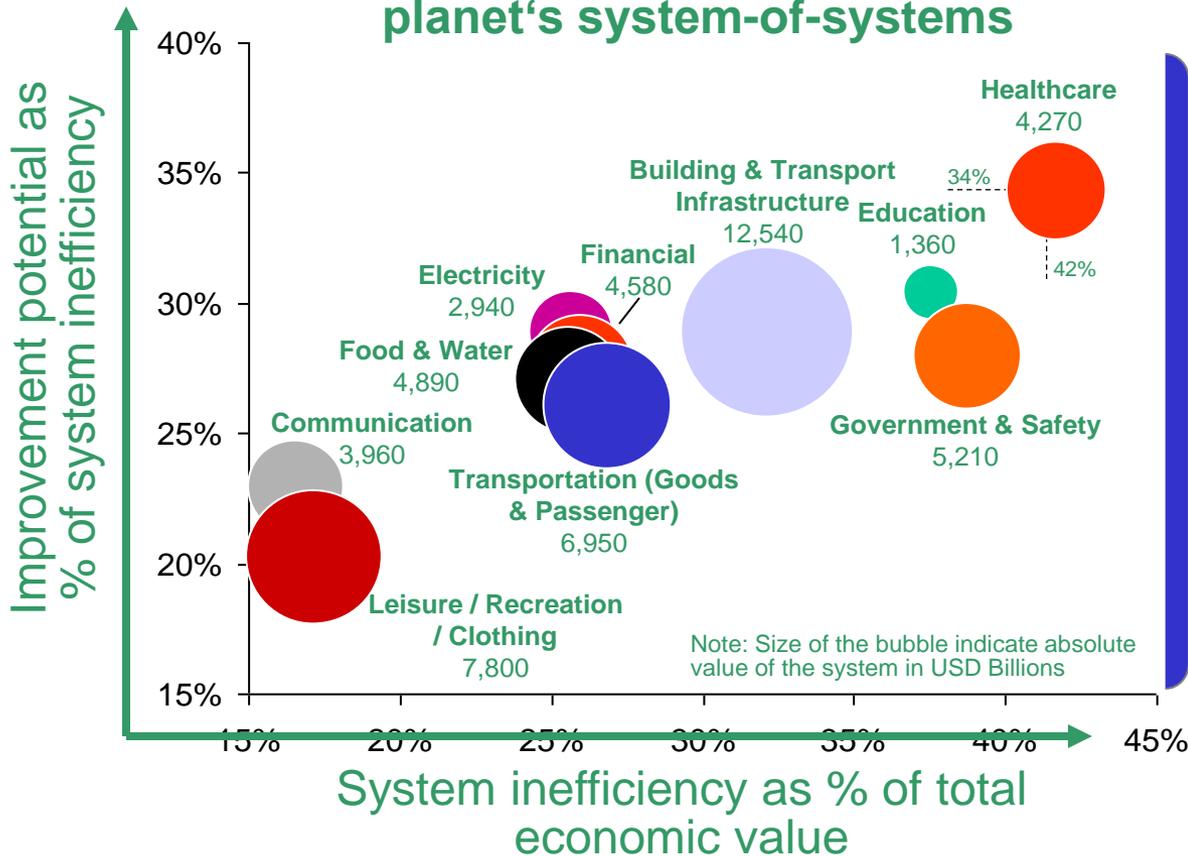


→ We now have the capabilities to manage a system-of-systems planet

Economists estimate, that all systems carry inefficiencies of up to \$15 Tn, of which \$4 Tn could be eliminated

This chart shows 'systems' (not 'industries')

Analysis of inefficiencies in the planet's system-of-systems



Global economic value of

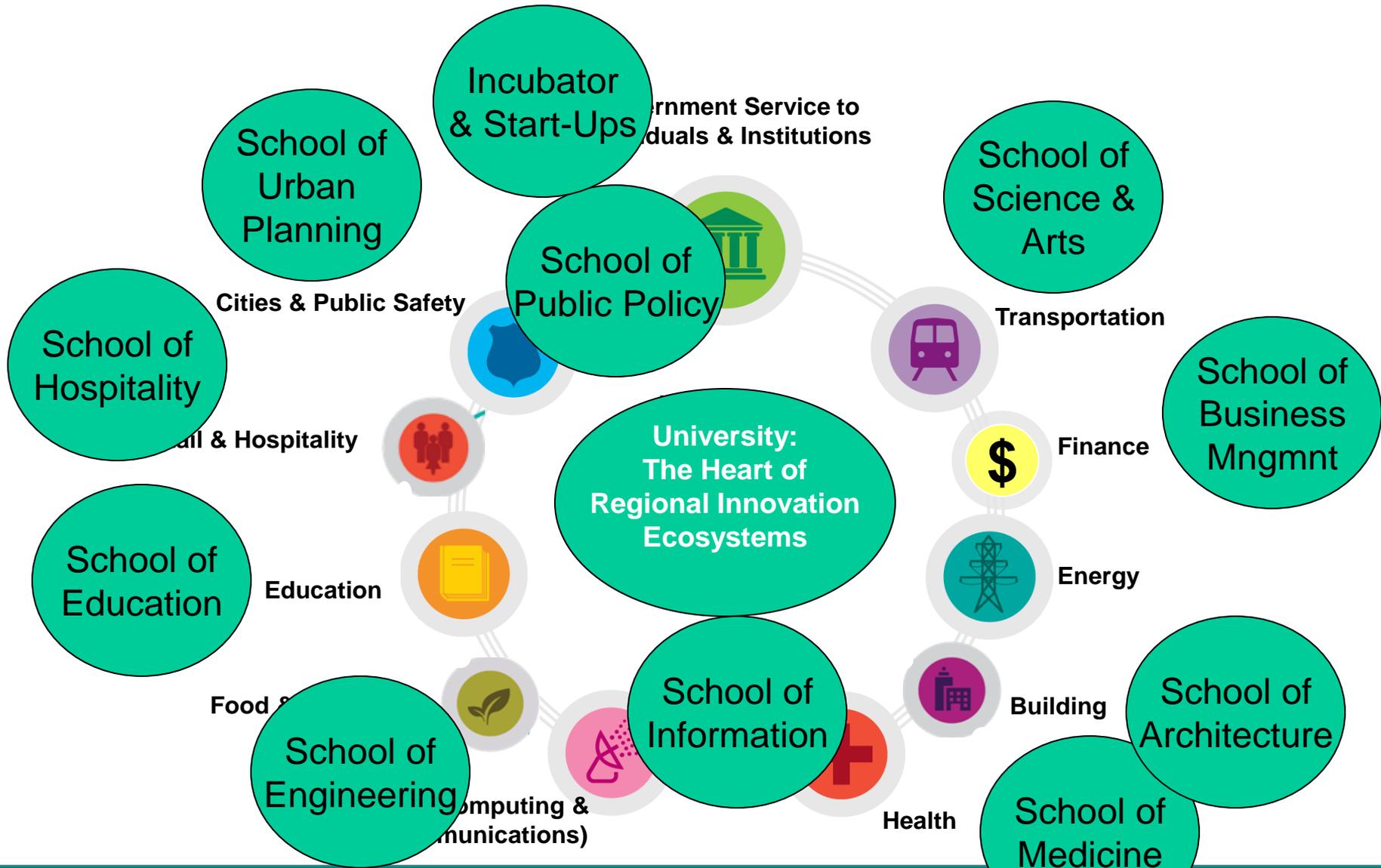
System-of-systems	\$54 Trillion 100% of WW 2008 GDP
Inefficiencies	\$15 Trillion 28% of WW 2008 GDP
Improvement potential	\$4 Trillion 7% of WW 2008 GDP

How to read the chart:

For example, the Healthcare system's value is \$4,270B. It carries an estimated inefficiency of 42%. From that level of 42% inefficiency, economists estimate that ~34% can be eliminated (= 34% x 42%).

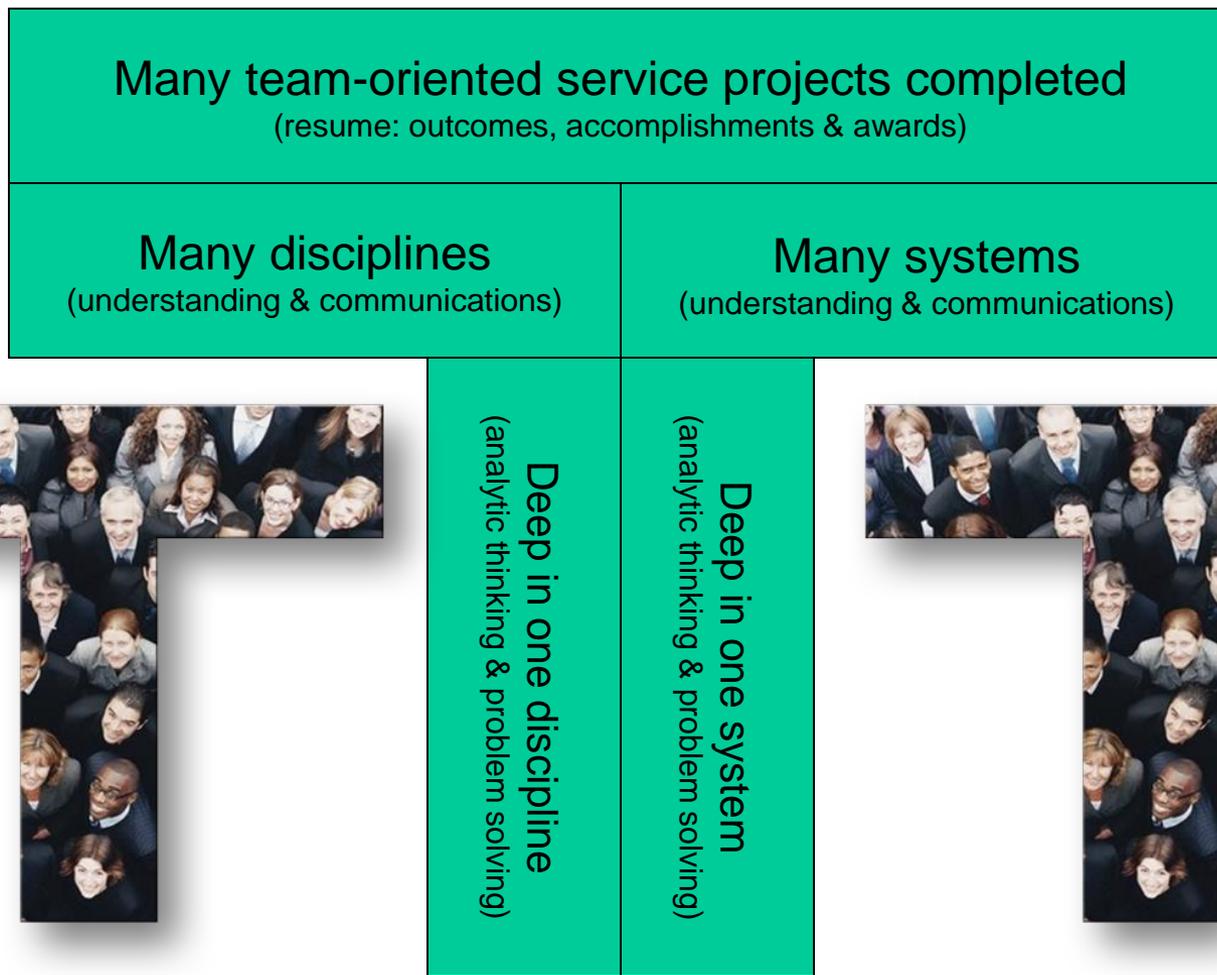
Source: IBM economists survey 2009; n= 480

University: The Heart of Regional Innovation Ecosystems





Skills for 21st Century: T-Shaped Innovators



SSME = Service Science Management Engineering (and Design)



Thank
You

