

Think Like a Futurist: **5 Steps to Future-Proof** Your Strategic Technology Plan

Dr. Cori Zuppo, SHRM-SCP, SPHR, GPHR
College of Technology, Architecture & Applied Engineering
Bowling Green State University

<http://www.corizuppo.com>

“ If I can get it right, then I can meaningfully touch the lives of almost everybody on the planet. ”

**~ Brian David Johnson,
Chief Futurist for Intel**

Everyone
is a technologist.

Everyone
must take risks to learn.

Everything
is applied.

Moore's Law

1 The accelerating pace of change ...



2 ... and exponential growth in computing power ...

Computer technology, shown here climbing dramatically by powers of 10, is now progressing more each hour than it did in its entire first 90 years

COMPUTER RANKINGS

By calculations per second per \$1,000



Analytical engine
Never fully built, Charles Babbage's invention was designed to solve computational and logical problems



Colossus
The electronic computer, with 1,500 vacuum tubes, helped the British crack German codes during WW II



UNIVAC I
The first commercially marketed computer, used to tabulate the U.S. Census, occupied 943 cu. ft.

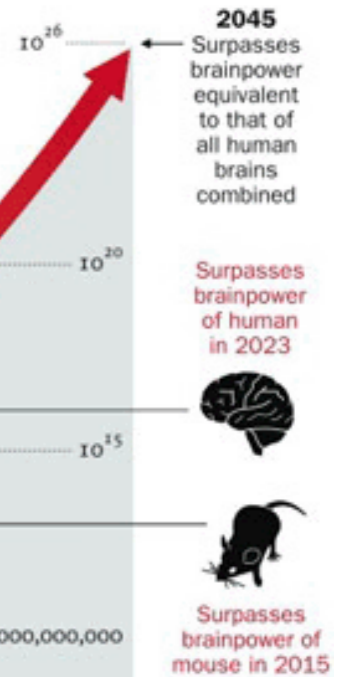


Apple II
At a price of \$1,298, the compact machine was one of the first massively popular personal computers



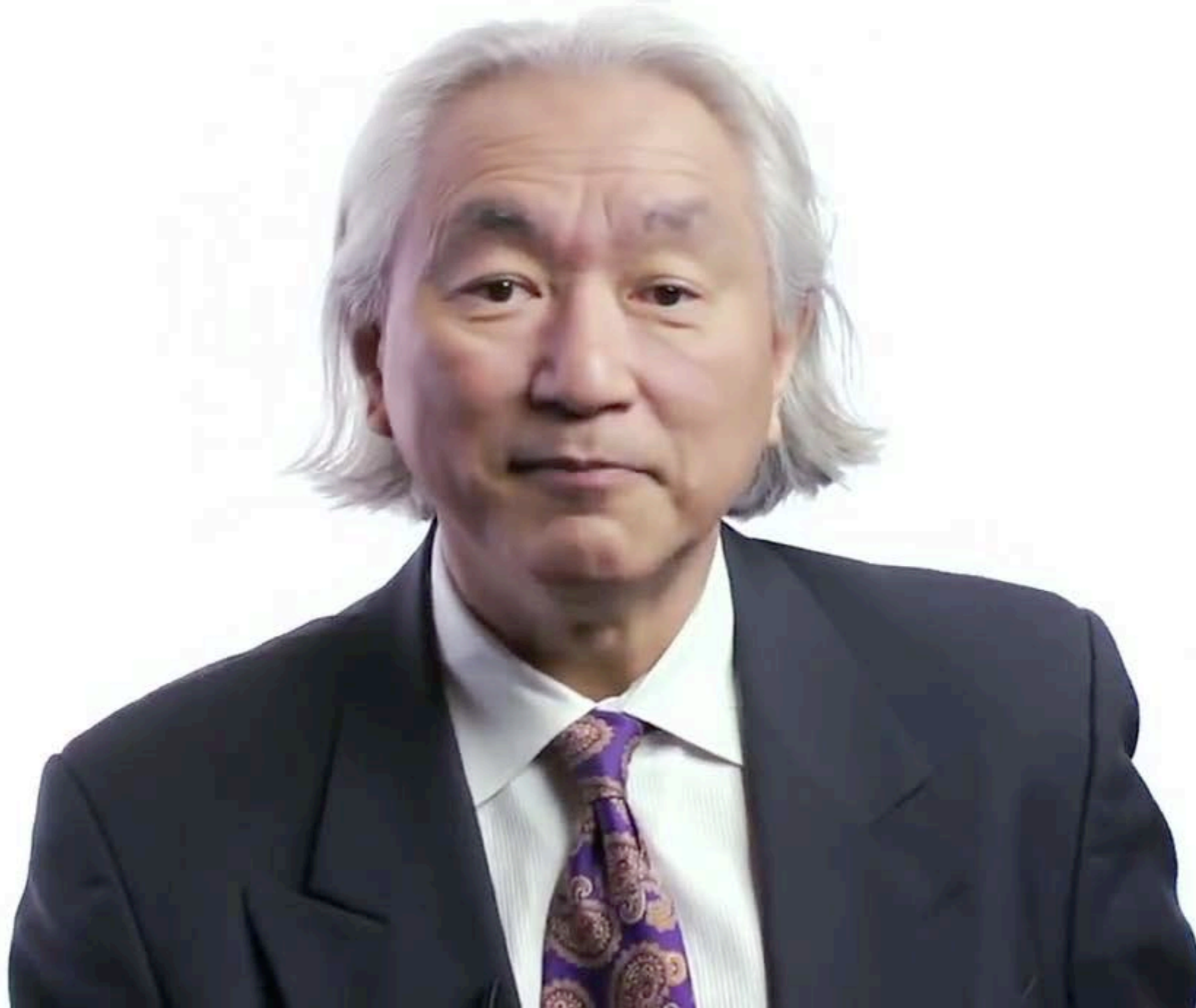
Power Mac G4
The first personal computer to deliver more than 1 billion floating-point operations per second

3 ... will lead to the Singularity



—— Dr. Michio Kaku ——

big
think



———— Kurzweil's Singularity ————



big
think

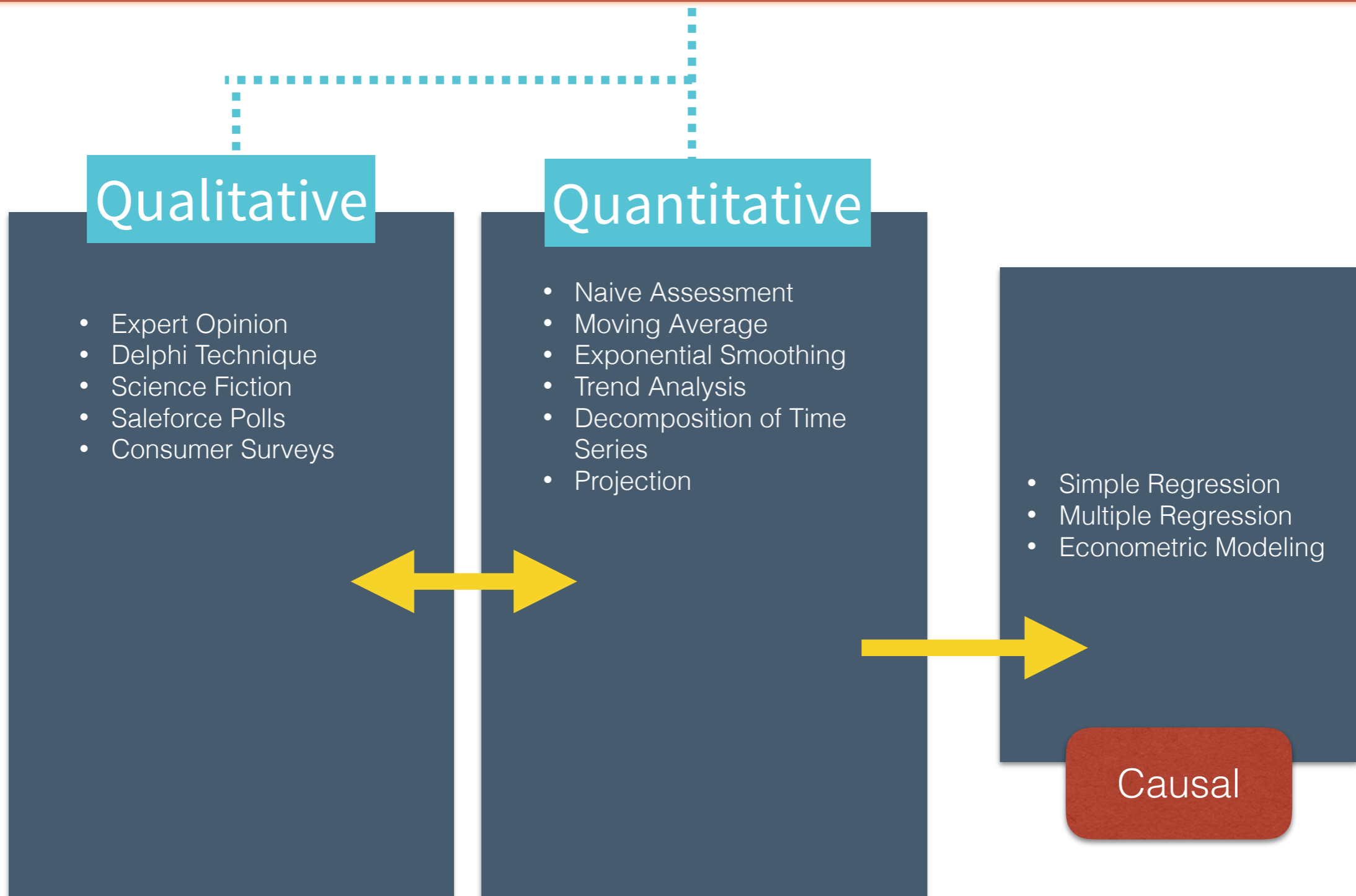


**CONGRATULATIONS.
YOU HAVE ARRIVED.**



Forecasting Methods

Categories



Factors

Historical ↔ Predictive

The rate of technological change

necessitates

increased usage of forward looking methods

Cost/
Benefit

Complexity

Error
Tolerance

Data
Availability

Short vs.
Long Term

Accuracy



Assumptions





1

Past = Future causal relationships



2

Allow for errors & the unexpected



3

**Time series & accuracy are
negatively correlated**

4

Forecasts for groups are more robust

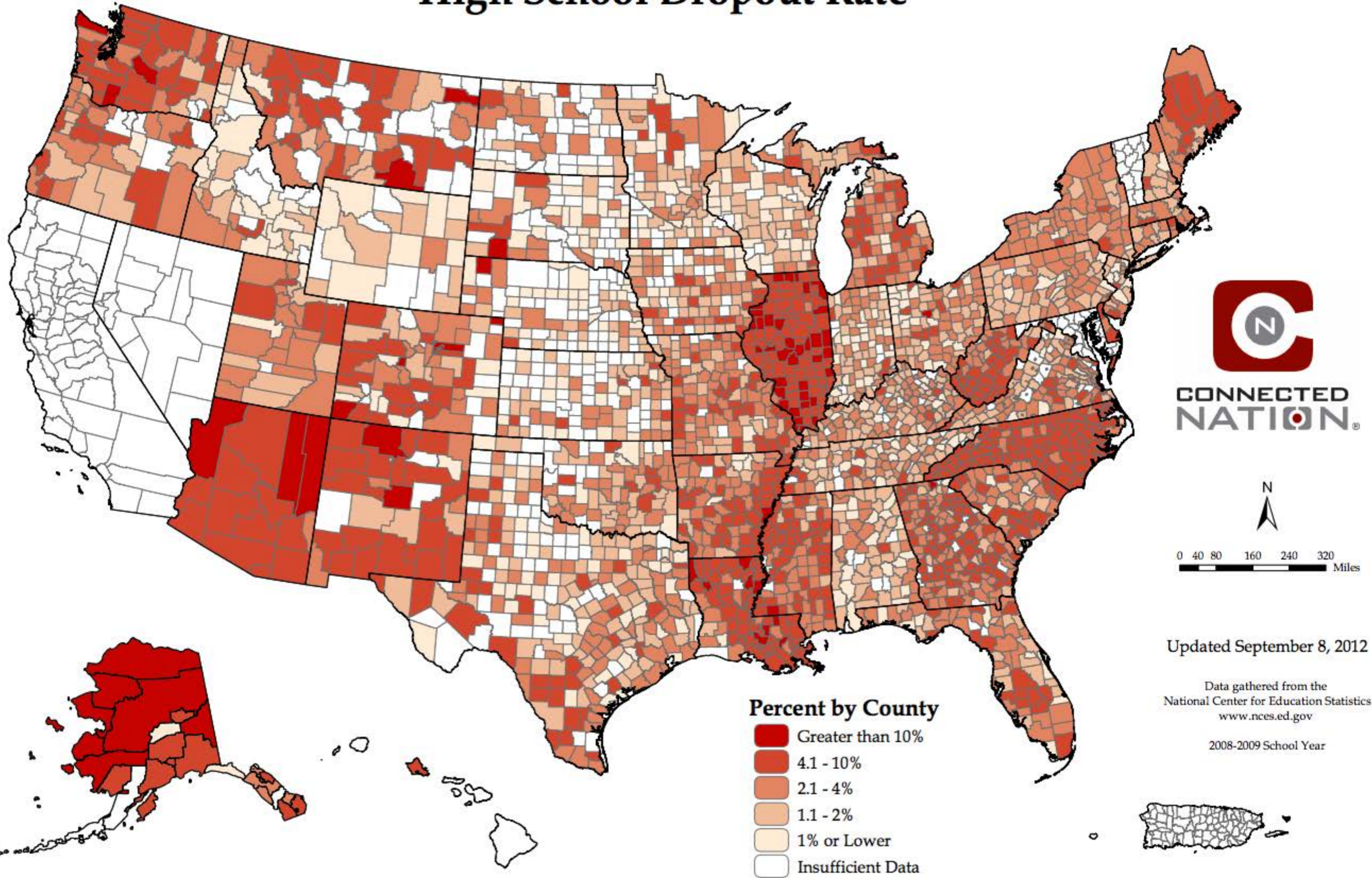
<http://www.corizuppo.com>

**What does the
research say?**

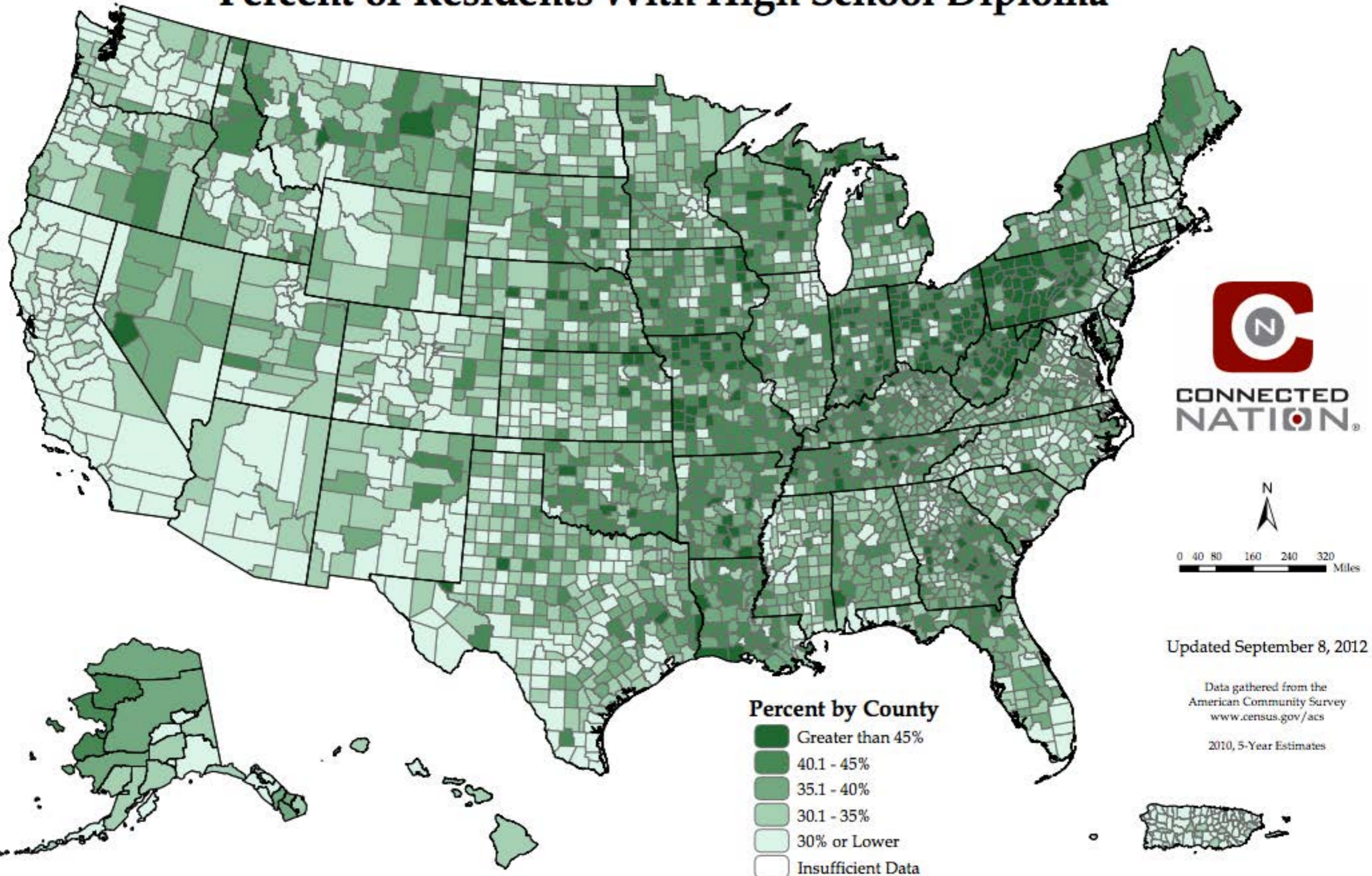


Inductive

High School Dropout Rate

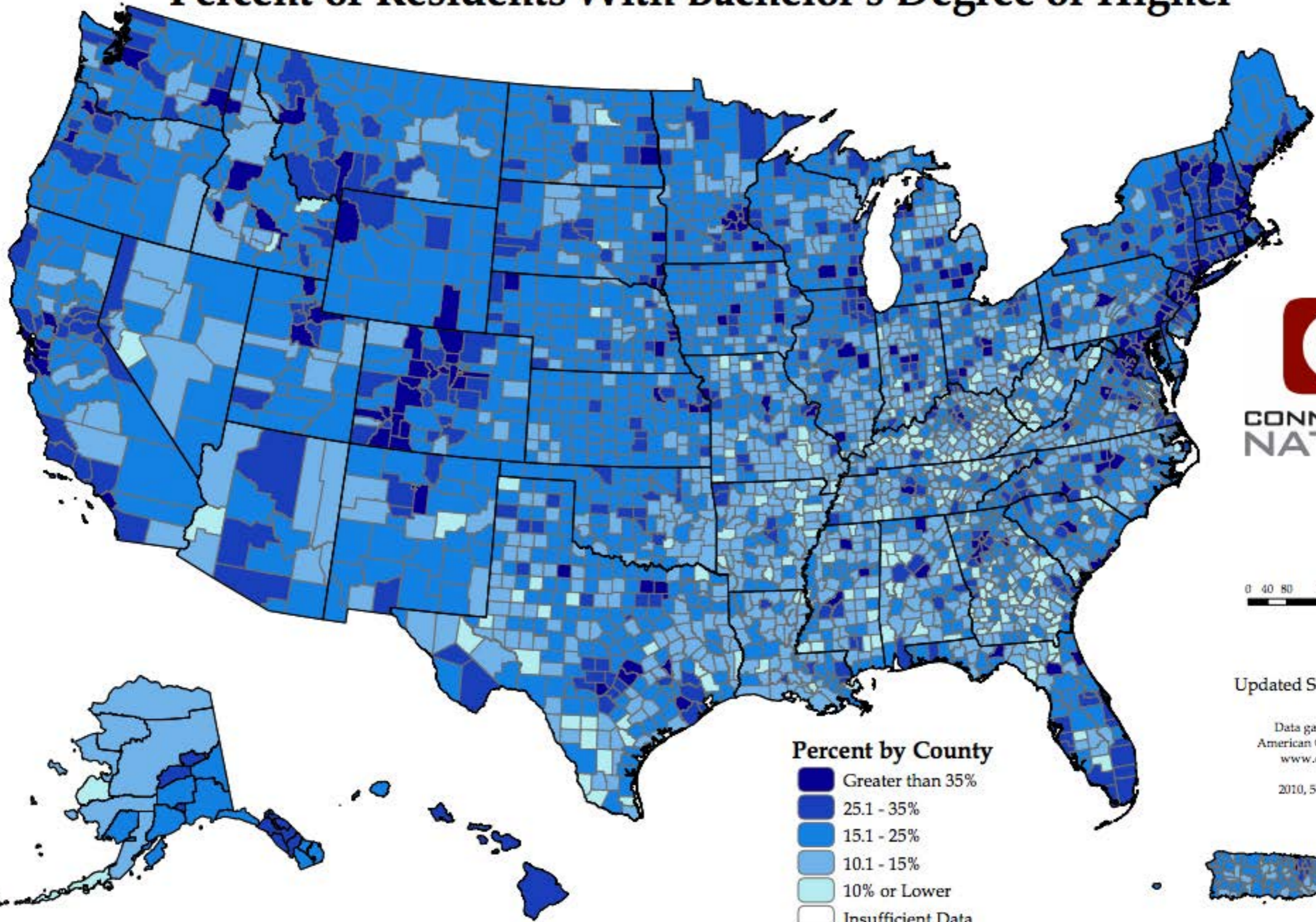


Percent of Residents With High School Diploma



All Rights Reserved. © Copyright 2012, Connected Nation, Washington, D.C. 20010

Percent of Residents With Bachelor's Degree or Higher



CONNECTED
NATION®



0 40 80 160 240 320
Miles

Updated September 8, 2012

Data gathered from the
American Community Survey
www.census.gov/acs

2010, 5-Year Estimates

Percent by County

- Greater than 35%
- 25.1 - 35%
- 15.1 - 25%
- 10.1 - 15%
- 10% or Lower
- Insufficient Data

All Rights Reserved. © Copyright 2012, Connected Nation, Washington, D.C. 20010

JAN
2016

GLOBAL DIGITAL SNAPSHOT

A SNAPSHOT OF THE WORLD'S KEY DIGITAL STATISTICAL INDICATORS



TOTAL
POPULATION



we
are
social

7.395
BILLION

URBANISATION: 54%

FIGURE REPRESENTS TOTAL GLOBAL POPULATION, INCLUDING CHILDREN

INTERNET
USERS



we
are
social

3.419
BILLION

PENETRATION: 46%

FIGURE INCLUDES ACCESS VIA FIRED AND MOBILE CONNECTIONS

ACTIVE SOCIAL
MEDIA USERS



we
are
social

2.307
BILLION

PENETRATION: 31%

FIGURE BASED ON ACTIVE USER ACCOUNTS, NOT UNIQUE INDIVIDUALS

UNIQUE
MOBILE USERS



we
are
social

3.790
BILLION

PENETRATION: 51%

FIGURE REPRESENTS UNIQUE MOBILE PHONE USERS

ACTIVE MOBILE
SOCIAL USERS



we
are
social

1.968
BILLION

PENETRATION: 27%

FIGURE BASED ON ACTIVE USER ACCOUNTS, NOT UNIQUE INDIVIDUALS

JAN
2016

ANNUAL GROWTH

YEAR-ON-YEAR GROWTH TRENDS FOR KEY DIGITAL STATISTICAL INDICATORS



GROWTH IN THE
NUMBER OF ACTIVE
INTERNET USERS



we
are
social

+10%

SINCE JAN 2015

+332 MILLION

GROWTH IN THE
NUMBER OF ACTIVE
SOCIAL MEDIA USERS



we
are
social

+10%

SINCE JAN 2015

+219 MILLION

GROWTH IN THE
NUMBER OF UNIQUE
MOBILE USERS



we
are
social

+4%

SINCE JAN 2015

+141 MILLION

GROWTH IN THE
NUMBER OF ACTIVE
MOBILE SOCIAL USERS



+17%

SINCE JAN 2015

+283 MILLION

**JAN
2016**

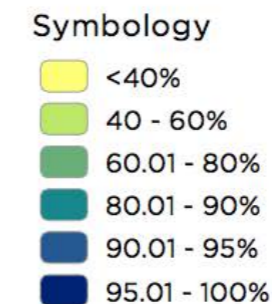
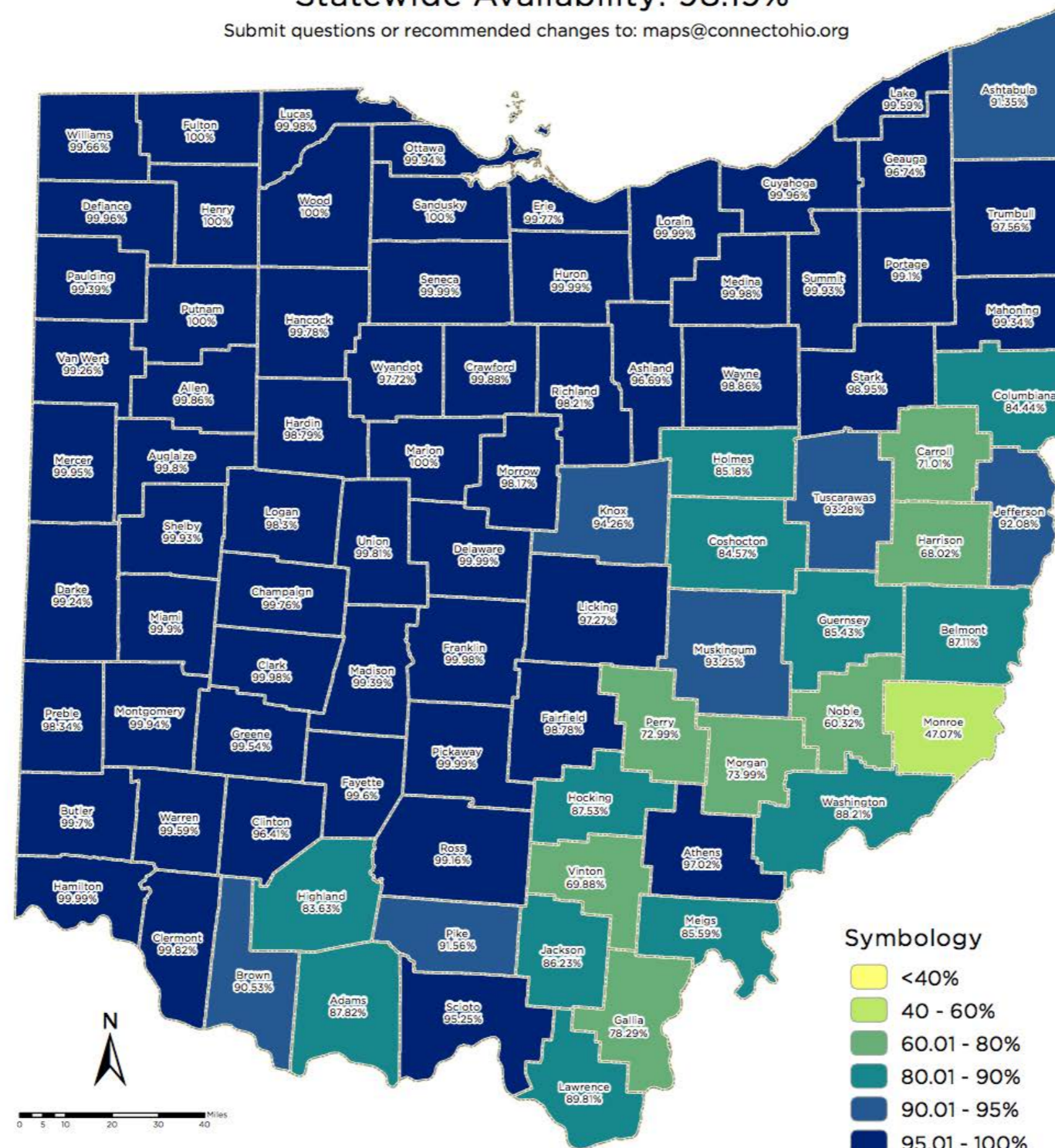
SHARE OF GLOBAL USERS



Broadband Availability in the State of Ohio Percentage of Households Served by Terrestrial, Non-Mobile Broadband Service

At Least 3 Mbps Download/768 Kbps Upload Speeds
Statewide Availability: 98.19%

Submit questions or recommended changes to: maps@connectohio.org



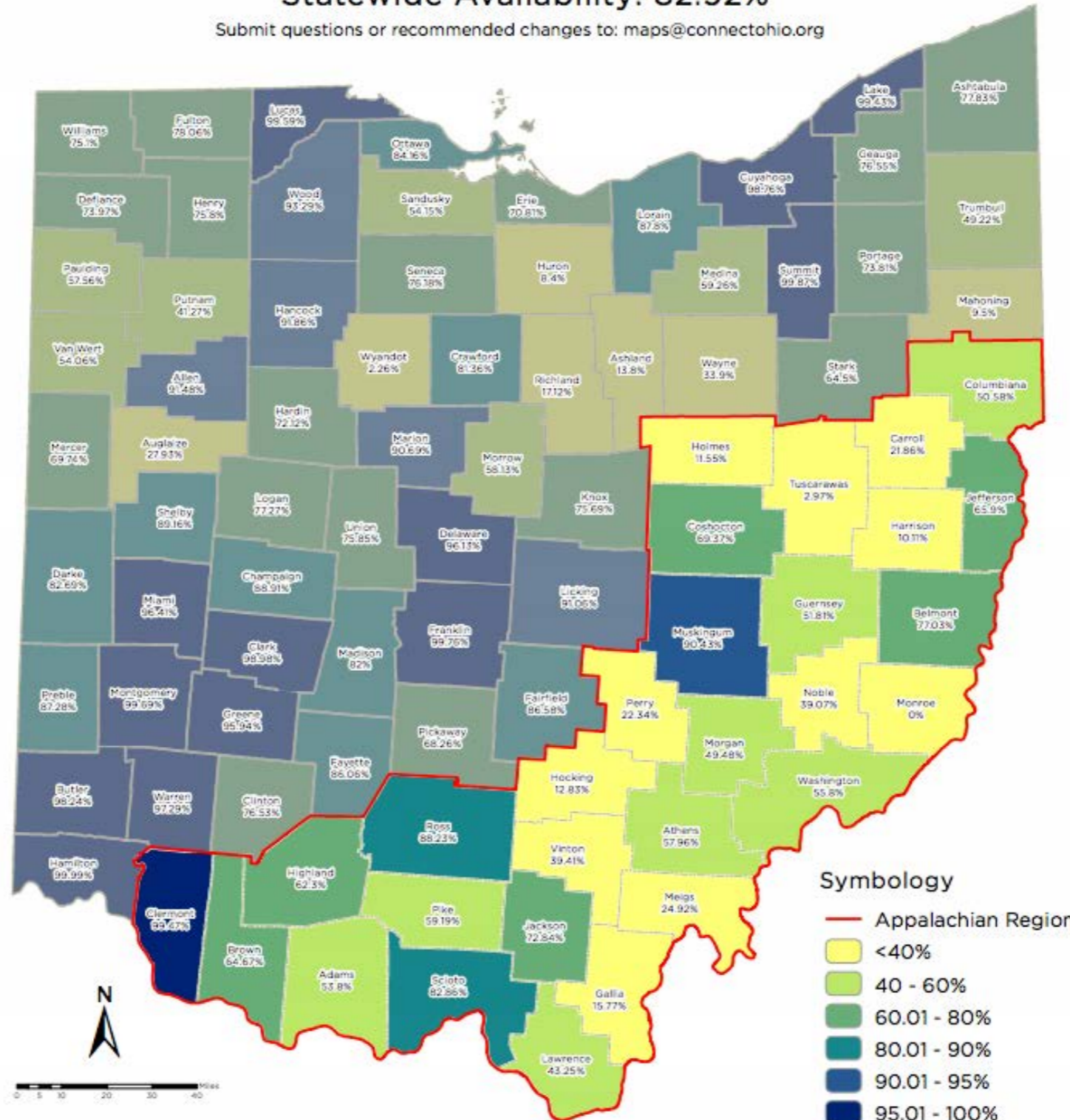
Published June 12, 2015

Broadband Availability in the State of Ohio

Percentage of Households Served by Terrestrial, Non-Mobile Broadband Service

At Least 25 Mbps Download/3 Mbps Upload Speeds
 Statewide Availability: 82.92%

Submit questions or recommended changes to: maps@connectohio.org



Symbology

- Appalachian Region
- <40%
- 40 - 60%
- 60.01 - 80%
- 80.01 - 90%
- 90.01 - 95%
- 95.01 - 100%

Published June 12, 2015





2016
Technology Trends
for Industry

— According to Gartner —

The Digital Mesh

Mobile devices, wearable, consumer and home electronic devices, automotive devices and environmental devices (e.g. sensors in IoT)

3D-printing shipments

will grow

64.1%

through 2019

3D Printing Materials

Device Mesh

Ambient User Experience

Smart Machines

Smart machines will enable
more robust
analytics & predictive
modeling systems

Machine learning gives rise to a spectrum of smart machine implementations including robots, autonomous vehicles, virtual personal assistants (VPAs) and smart advisors and will act as autonomous agents

**Anonymous
Agents & Things**

**Advanced
Machine
Learning**

**Information of
Everything**

The New IT

Mobile devices, wearable, consumer and home electronic devices, automotive devices and environmental devices (e.g. sensors in IoT)

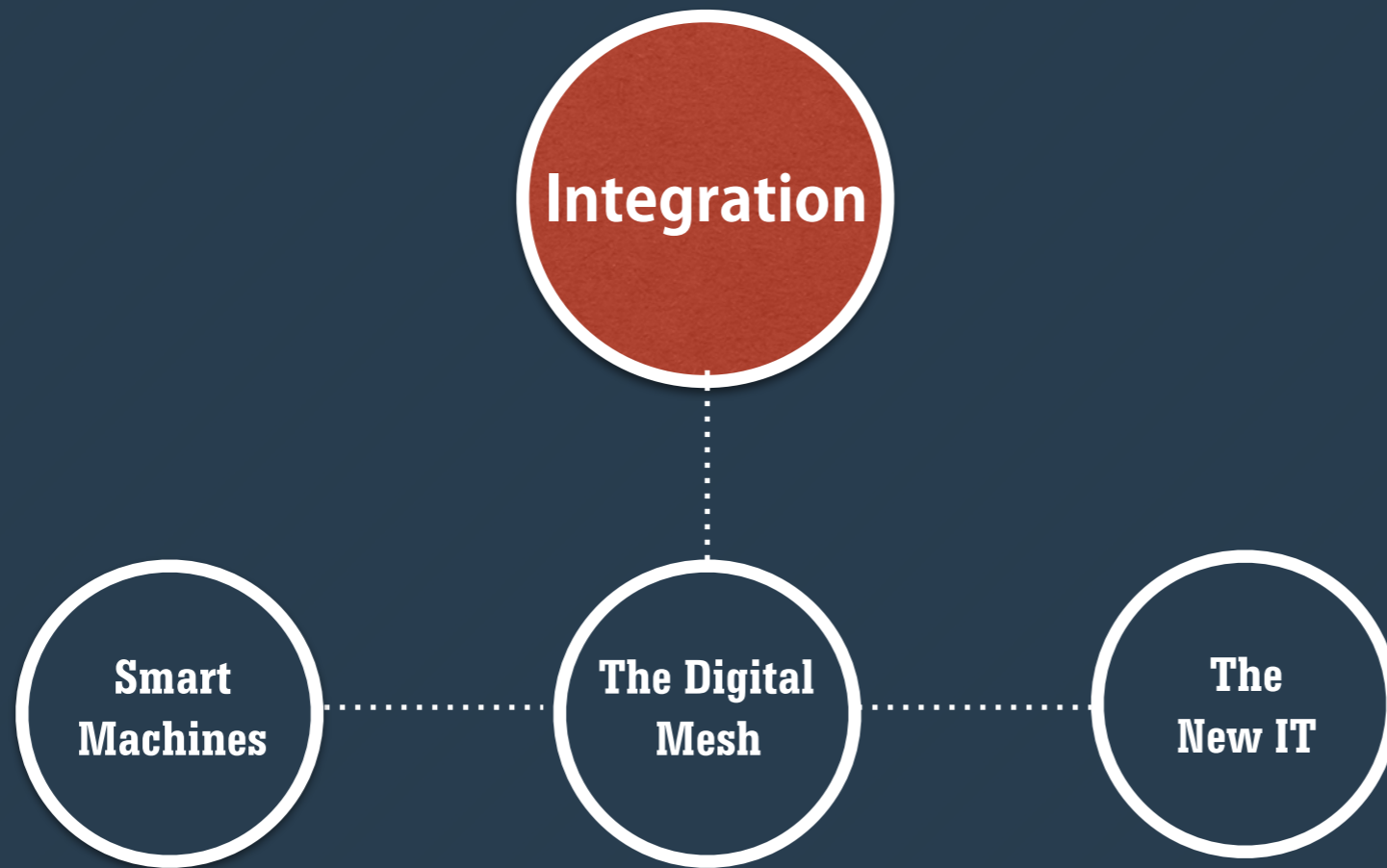
Threats will be significantly increased
due to
digital business, hackers, & algorithms

Adaptive Security Architecture

Advanced System Architecture

Mesh App & Service Architecture

IoT Platforms



Net effect



2016
Technology Trends
for Education

According to Campus Technology

3D Printing

**Competency
Based Education**

Virtual Reality

**Data Analytics &
Machine Learning**

Video

Accessibility

Mobile

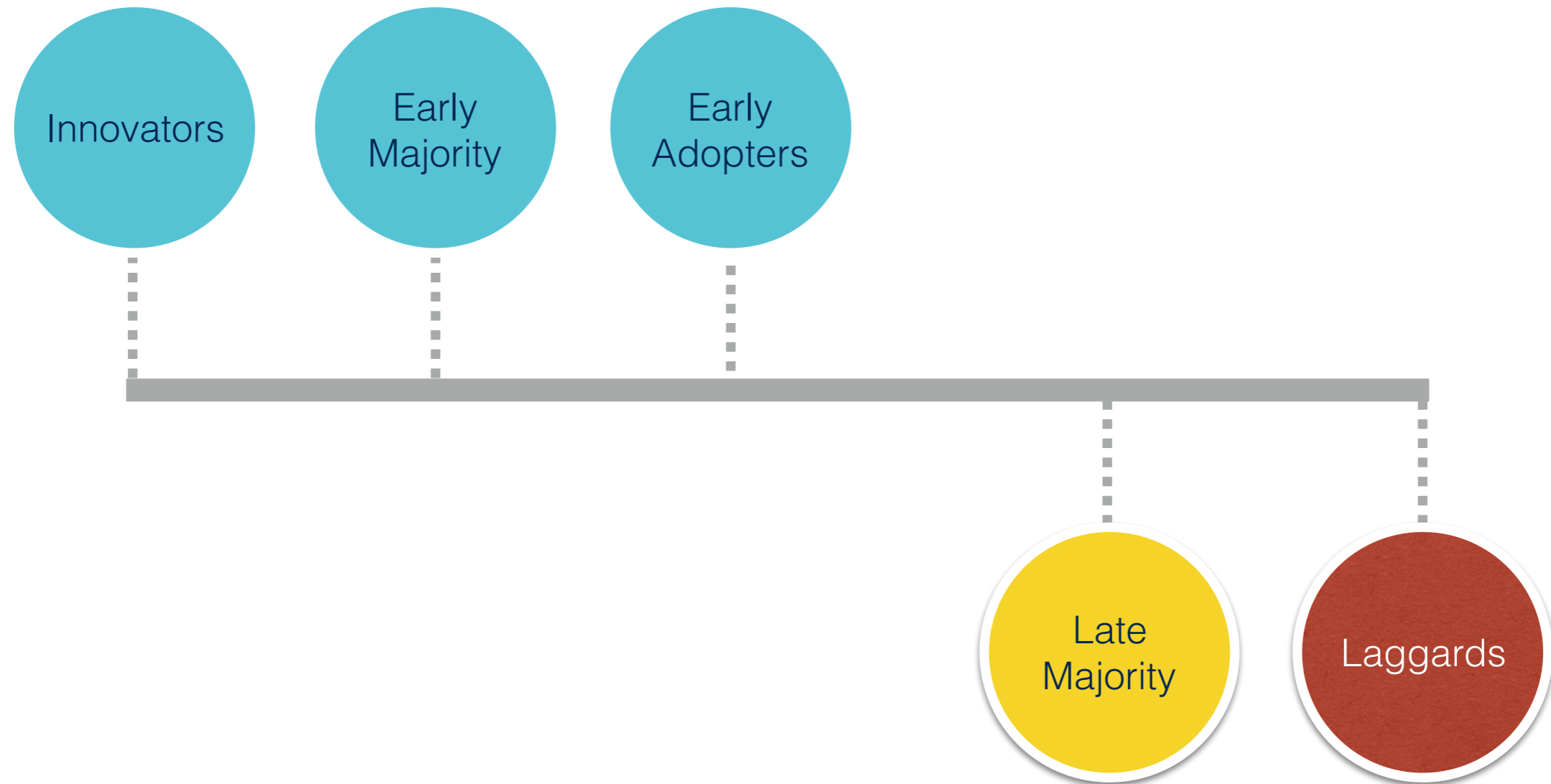
Wearables

**Wireless
Architecture**

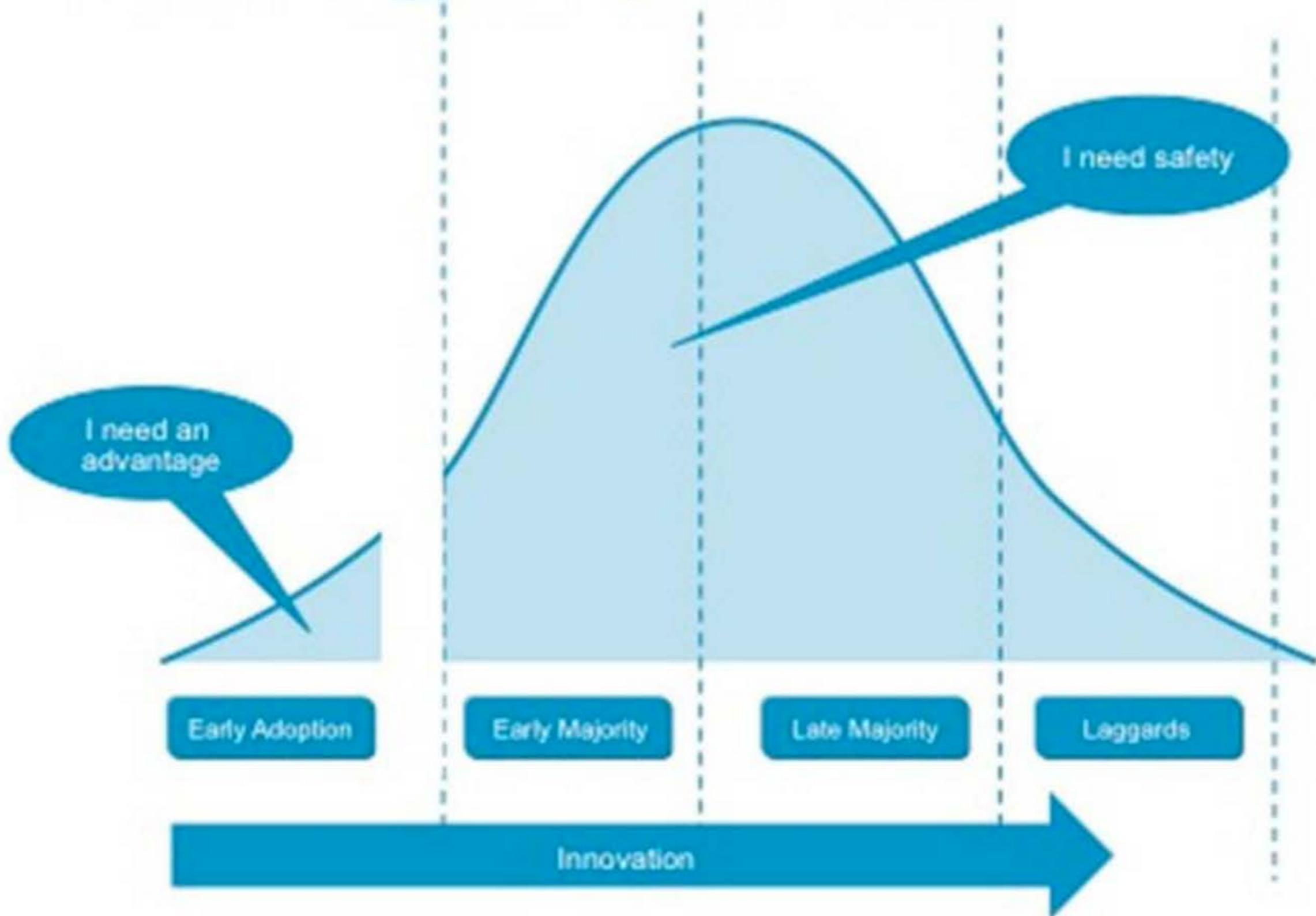
The Big Δ

Training

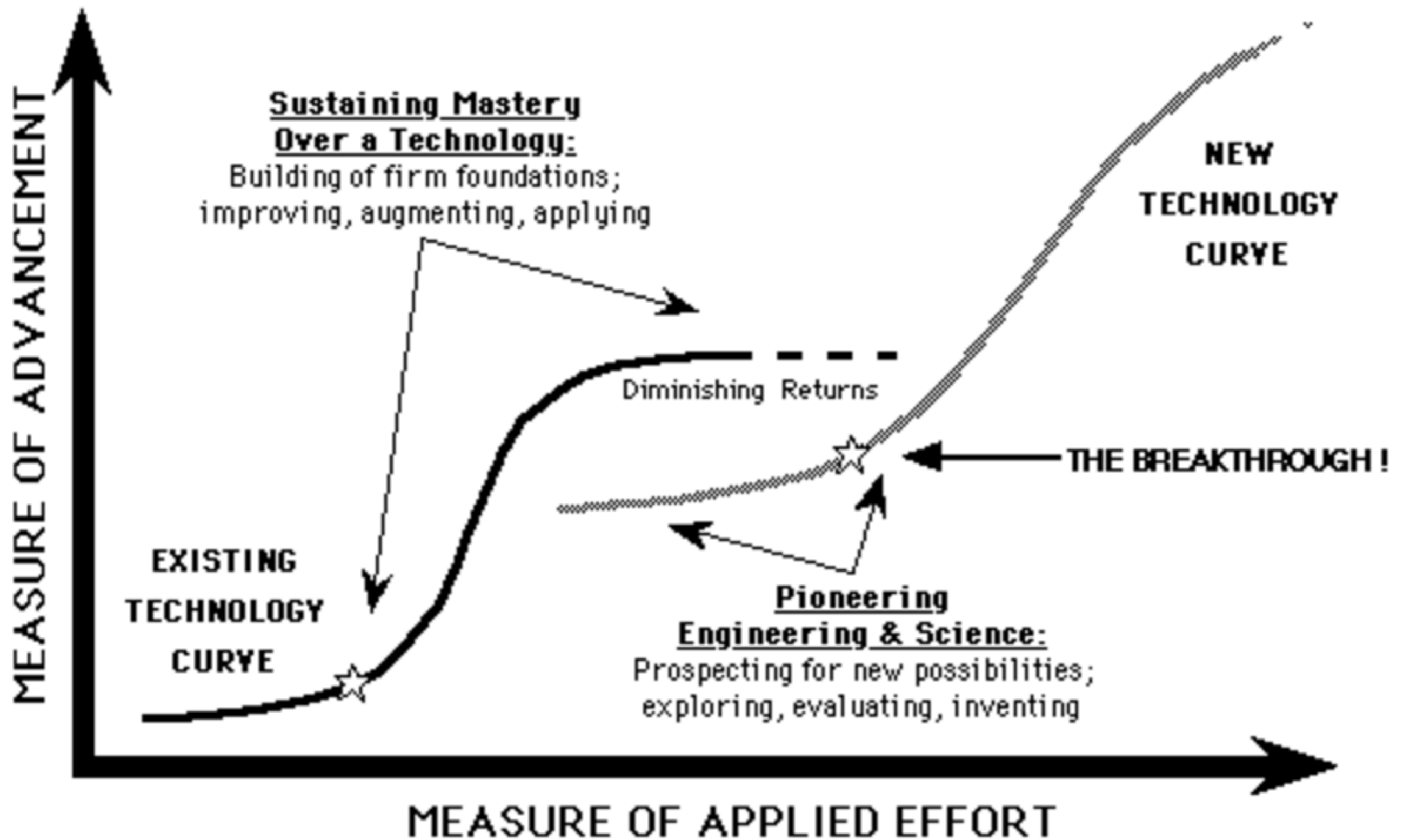
Adoption



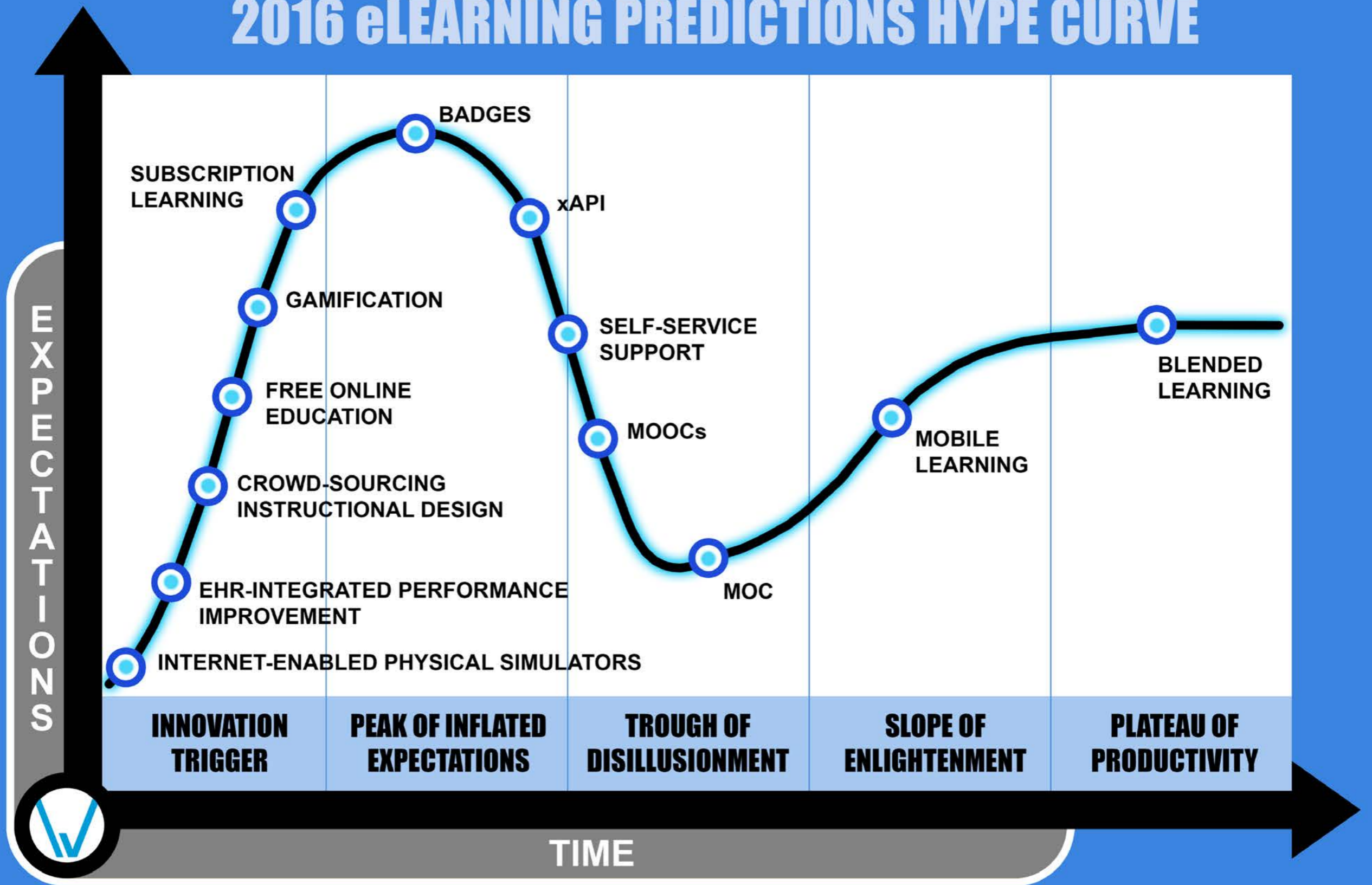
Technology Adoption Curve



TECHNOLOGY EVOLVES

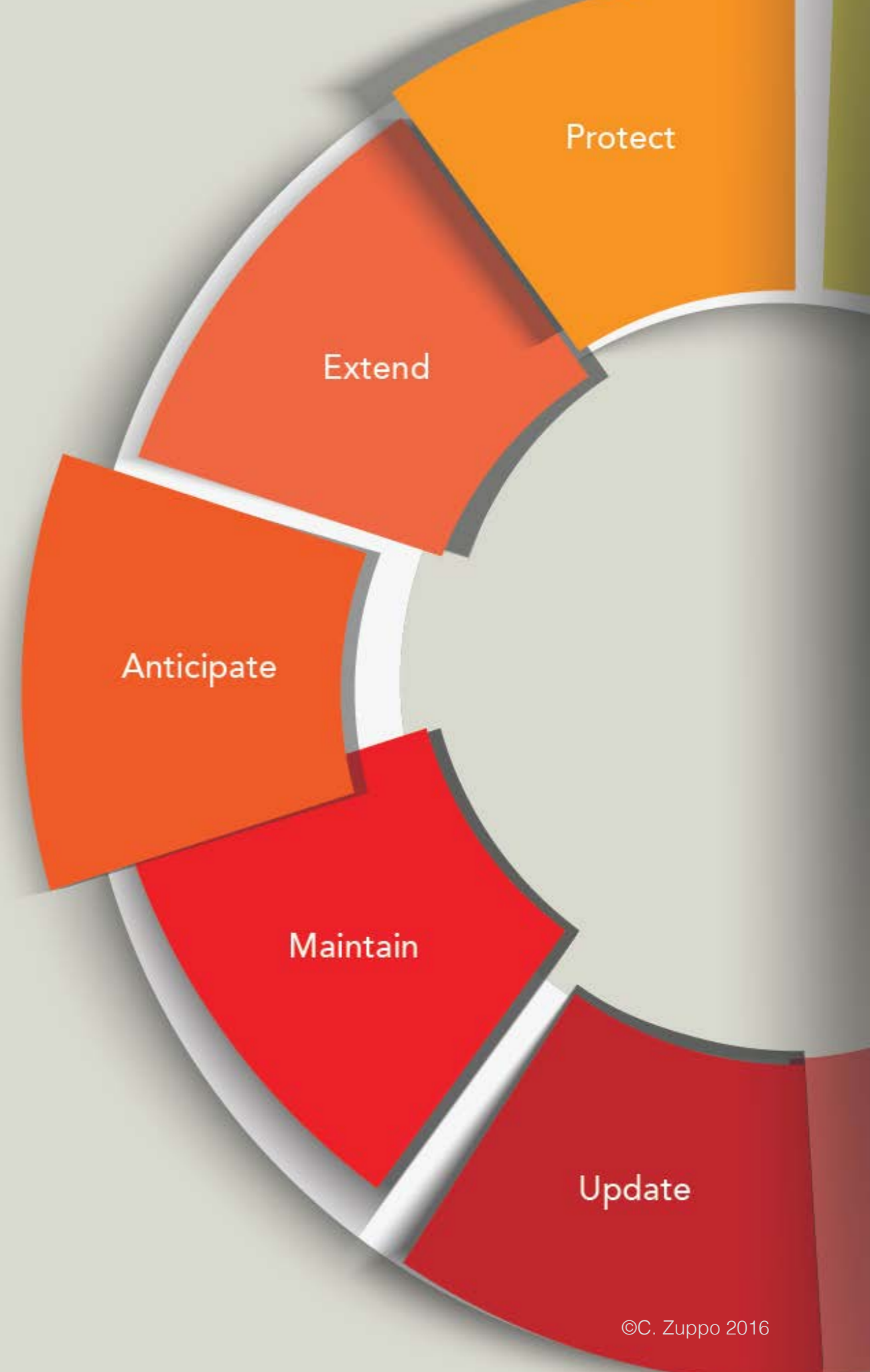


2016 eLEARNING PREDICTIONS HYPE CURVE



© 2016 Web Courseworks, Ltd. All rights reserved.

Principles of
Future Proofing



Step 1: Inventory
assets

Step 2: Perform
preventative
maintenance

Step 3: Minimize
unplanned costs

Step 4: Rely on
industry experts
for support

Step 5: Create
peace of mind
through managed
services

Five Proactive Steps to
Future Proof
Your Technology

Pulling it all together

Future Proof Your Strategy

**3D-printing
shipments**

will grow

64.1%

through 2019

**Macro/
Macro**

**Gap
Analysis**

**Needs
Analysis**

**Strategy
& Tactics**

<http://www.corizuppo.com>

