

Tapping Your Inner Futurist

The Art & Science of Looking at the Future



Garry Golden
futurethink
INNOVATION SIMPLIFIED



Foresight Session: September 29, 2016

Start

End



***Warm up
Foresight 101***



Drivers of Change



***Learning More
Foresight Culture***



More or Less Change Ahead?

**Last
ten years**



2006 - 2016



**Next
ten years**



2017-2027



Things that **will not go away**: Human Creativity; Face-to-Face; Children + Story time; *Things* (e.g. Printed Books); Unplugging



Also, Batman shirts will still be big in 2116

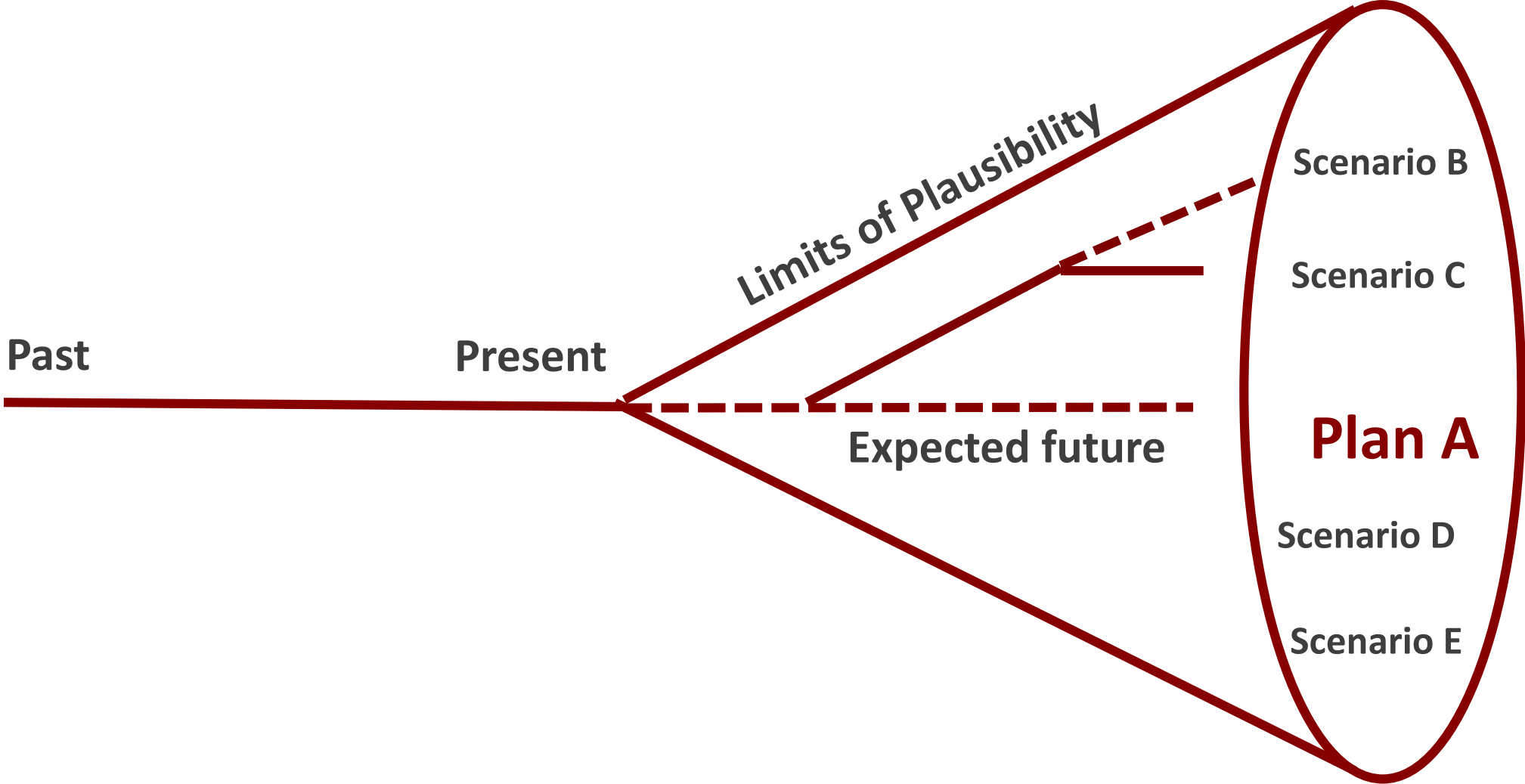



Tapping My Inner “Futurist”?



Foresight 101: Cone of Plausibility

Multiple Outcomes, Multiple Time Horizons



A close-up photograph of a person's hand holding a small, rectangular white slip of paper. The paper is held between the thumb and index finger, with the rest of the hand visible in the lower-left corner. The background is a solid, dark black. The text on the paper is printed in a clean, black, sans-serif font and is slightly tilted upwards to the right. The lighting is soft, highlighting the texture of the skin and the edges of the paper.

You will have regulatory
certainty for years to come.

IF YOU HIT THIS SIGN
YOU WILL HIT THAT BRIDGE





WAIT FOR IT

.....Wait for it.....

**Every day I make an effort to move toward
what I do not understand.**

- Cellist, Yo-Yo Ma

Four Futures Thinking

?

**Continued
Growth**



**Disciplined
- Constrained**



Transformed



**Decline
- Collapse**

Could we write the Four Futures of Microsoft?



**Continued
Growth**



**Disciplined
- Constrained**



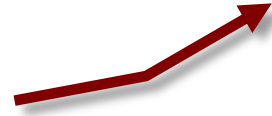
Transformed



**Decline
- Collapse**

Foresight: Three Mechanisms of Change

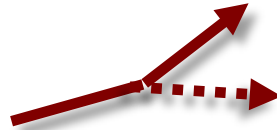
Trends
(Continuities)



Plausible
Future

Forecasts

Events
(Discontinuities)



Possible
Futures

Scenarios

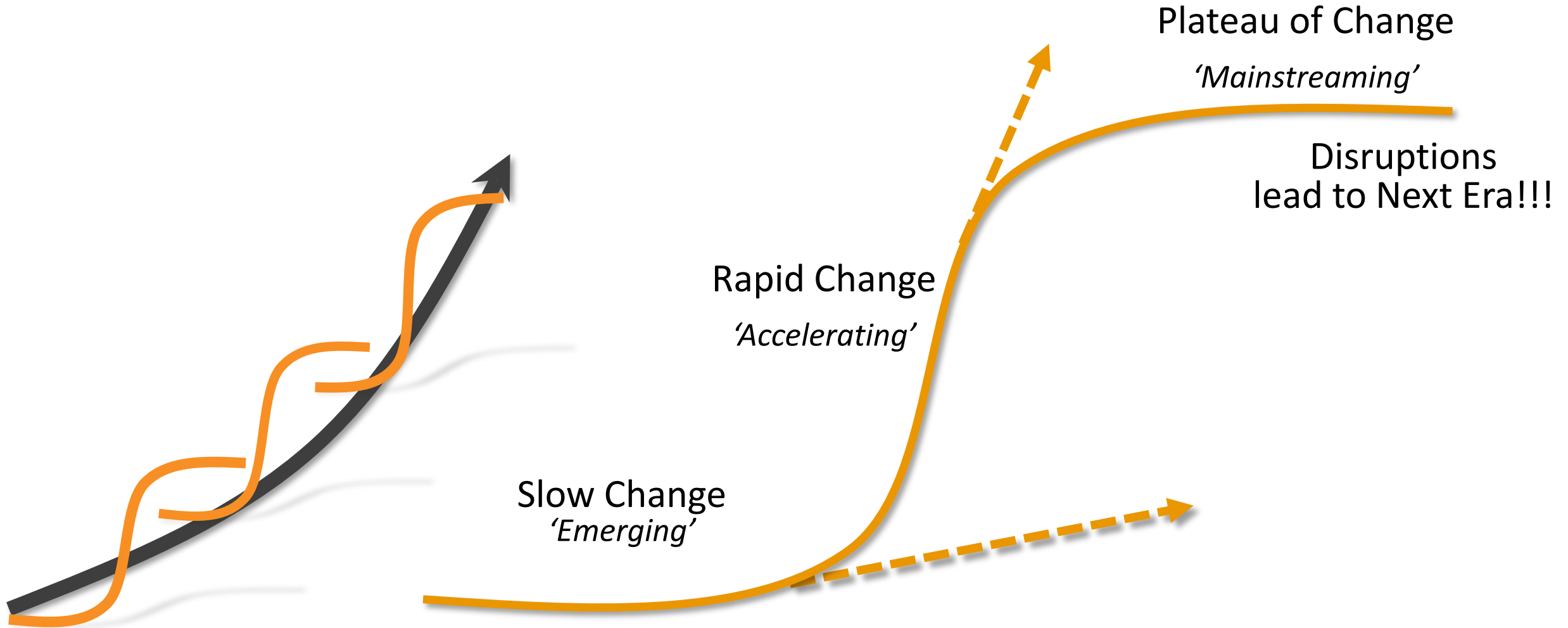
Choices
(Discontinuities)



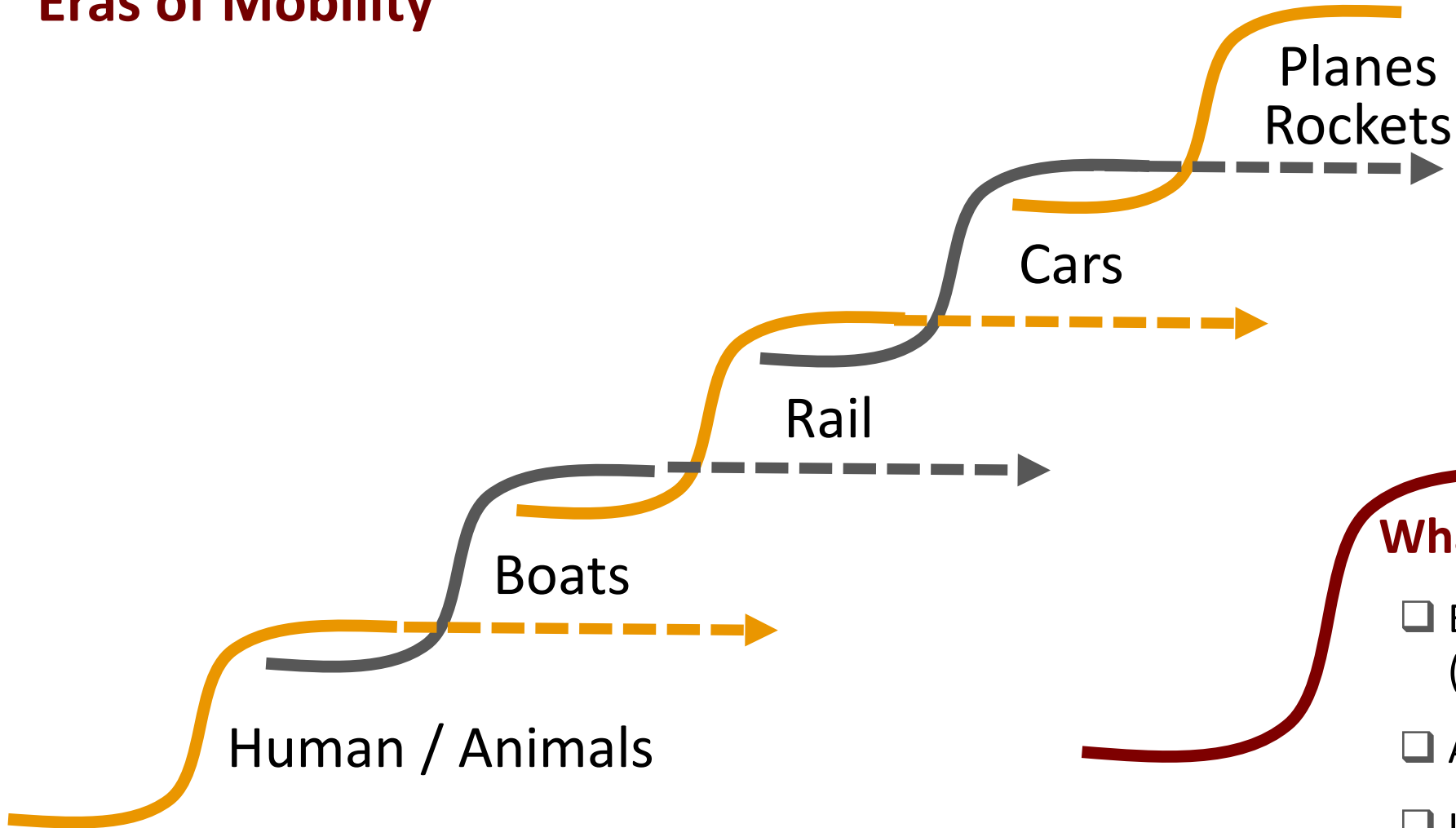
Preferred
Future

Visions

Foresight 101: Era-based Look at Industries + Market Transitions



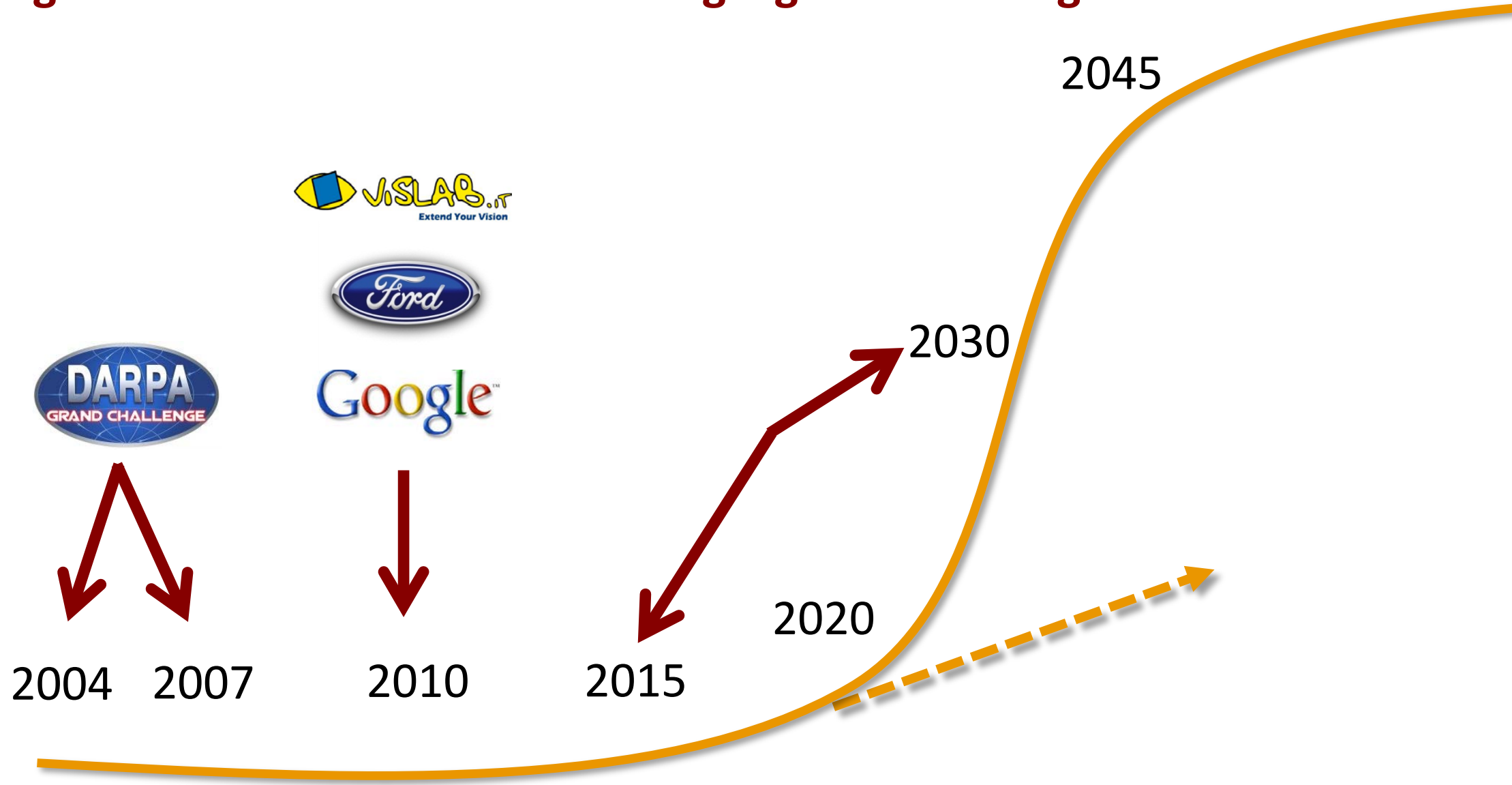
Eras of Mobility



What is next?

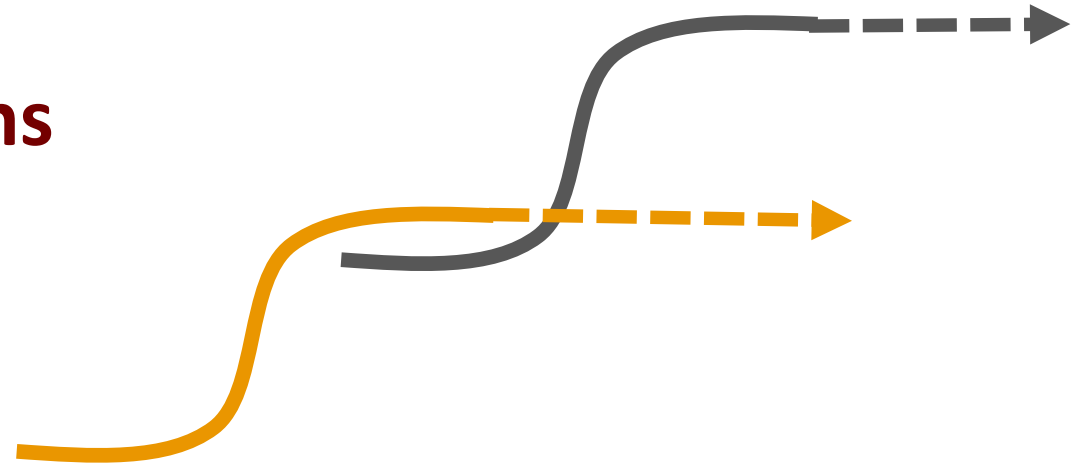
- Electric Vehicles
(Battery + Fuel cell)
- Assistive + Autonomous
- Low-Volume Production
- Sub-orbital Space

Tapping Your Inner Futurist: Monitoring Signals of Change



New Era of Digital Search & Cognitive Solutions

**What assumptions do we keep?
What assumptions do we challenge?**



End



Foresight 101

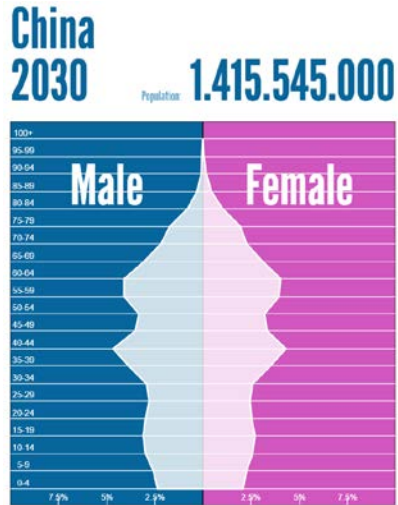


Drivers of Change



***Learning More
Foresight Culture***

The Front End of Innovation: Foresight on Emerging Trends + Issues



Demographic Transitions



Experience Graph



Decentralization: Blockchain DApps



In the News

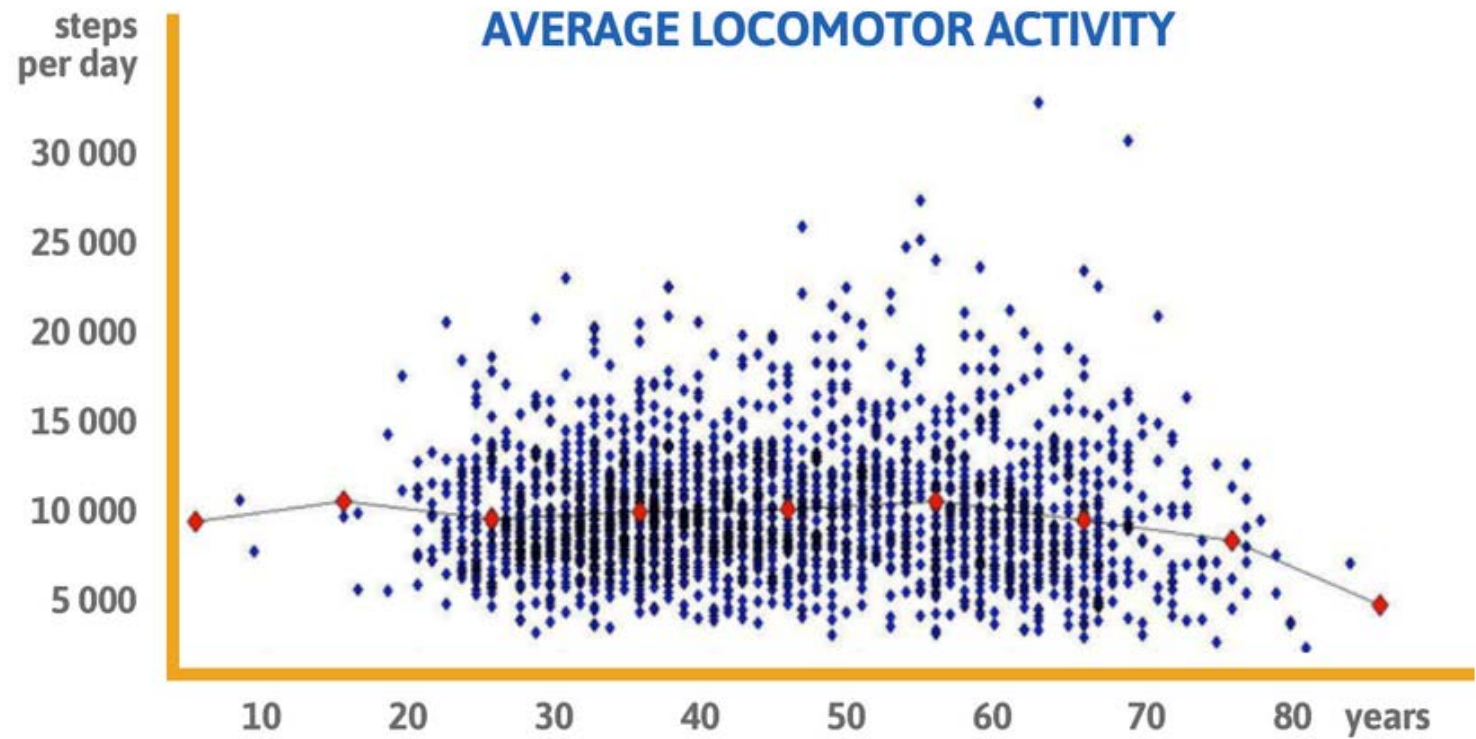
In 2018, all senior residents in the Japanese city of Nara will be required to have wearable devices that connect to the city's secured data feed used by families and local health & service agencies.



True

False

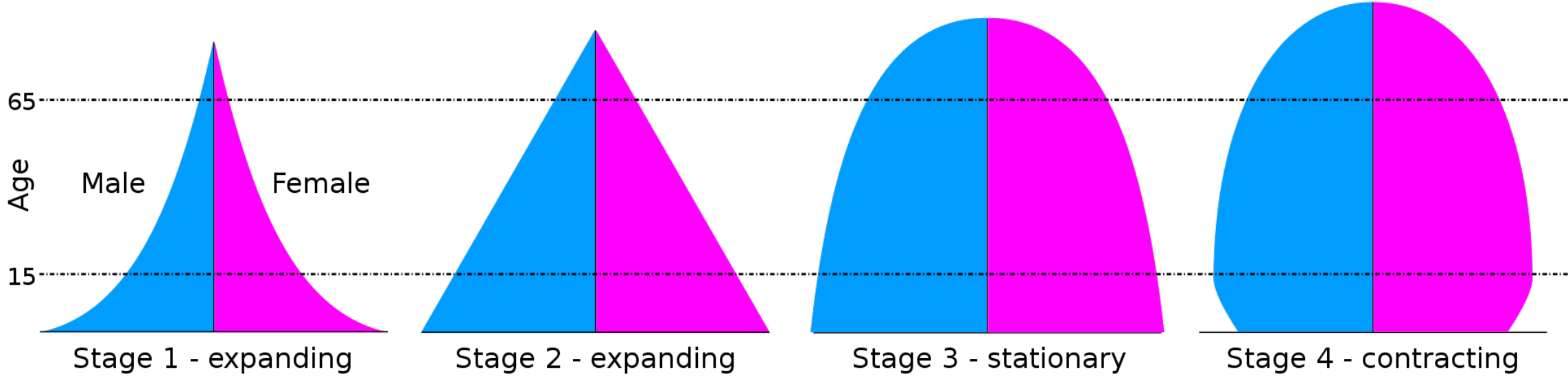
Assumption: Radical Solutions Ahead for *Aging Populations*



Wearables + Early Warning Signals = Interventions



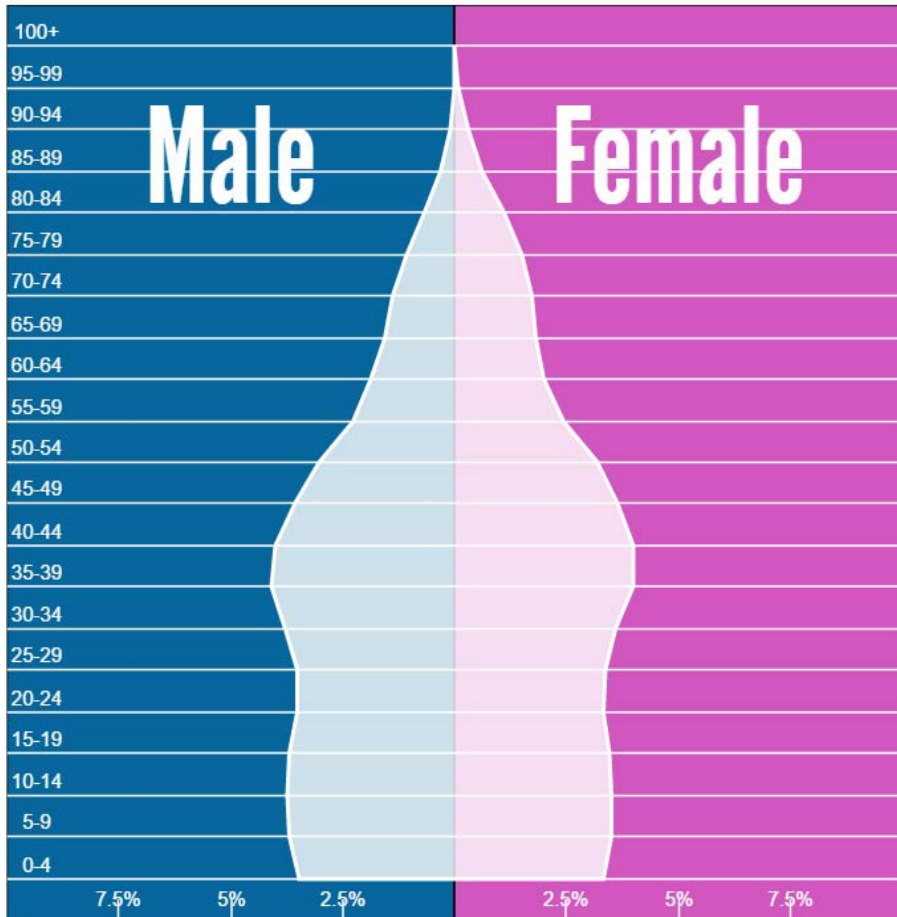
Globalization Reshaped by Demographic Transitions



U.S. = Aging Boomers + Fading *Demographic Dividend*

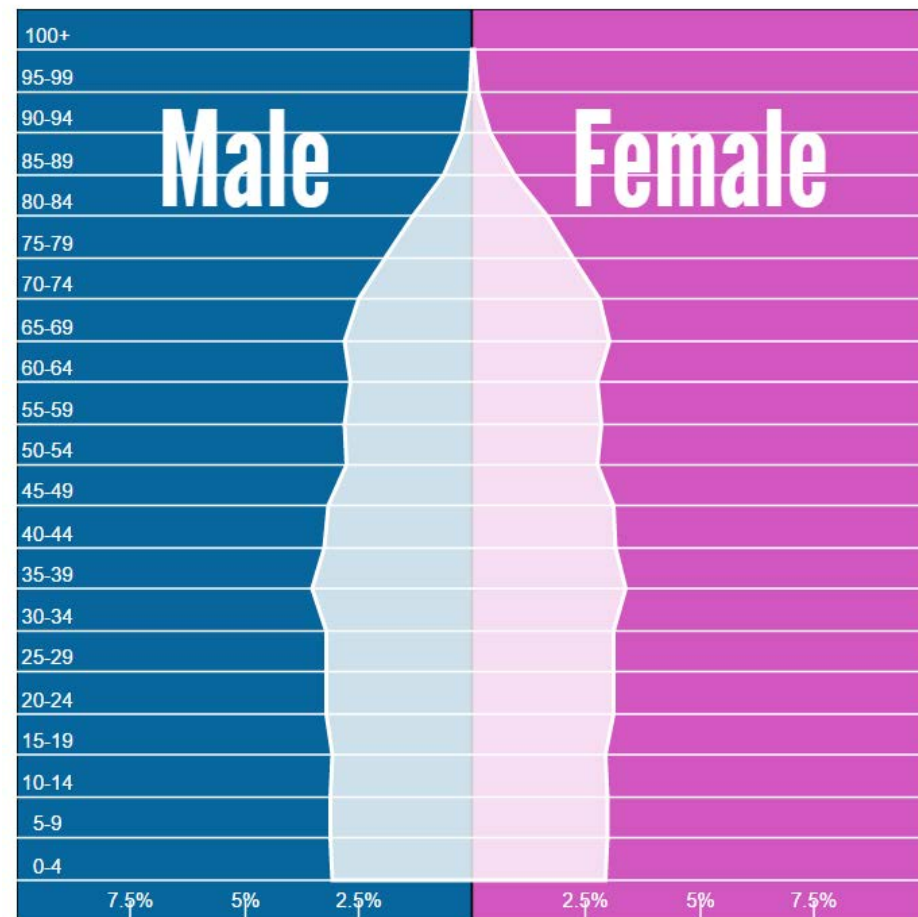
United States of America 2000

Population: **282.895.000**



United States of America 2030

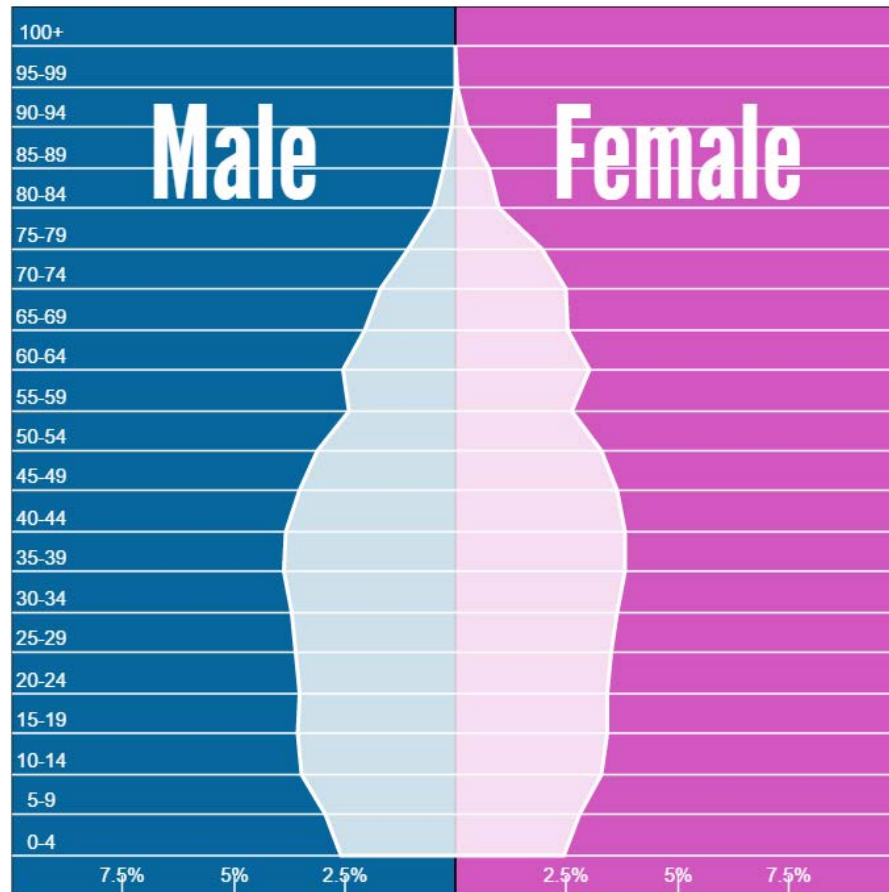
Population: **355.764.000**



Europe's Aging Boomers and Dynamics of Immigration

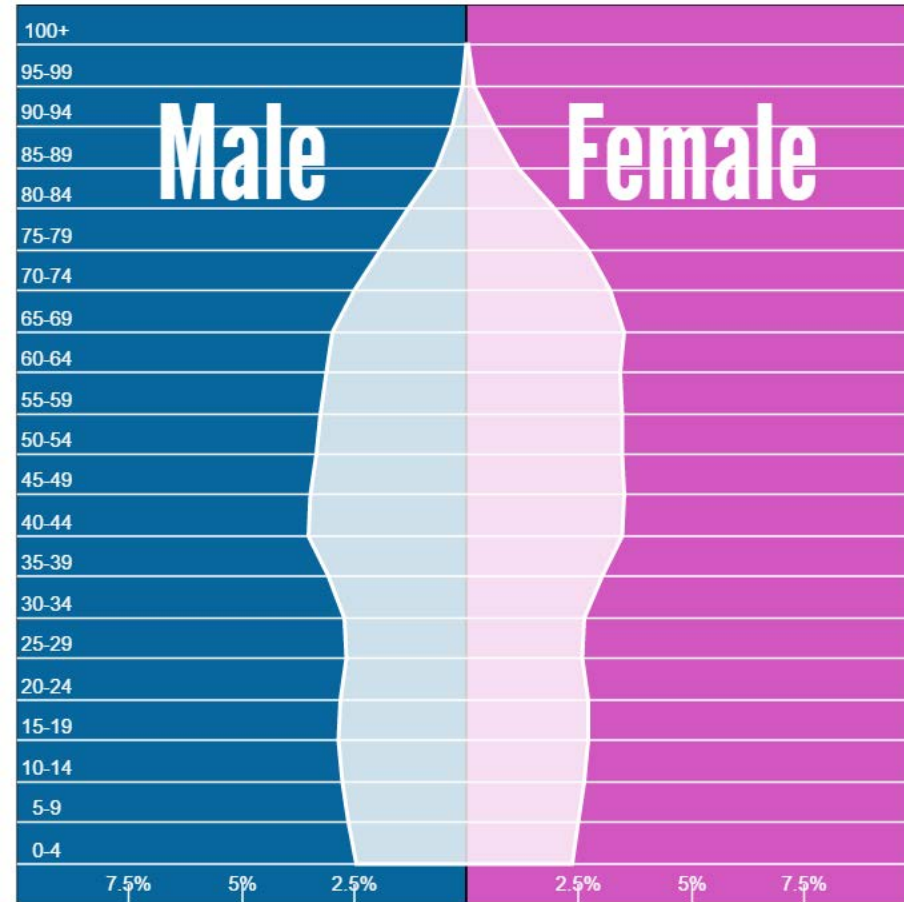
**EUROPE
2000**

Population: **726.407.000**



**EUROPE
2030**

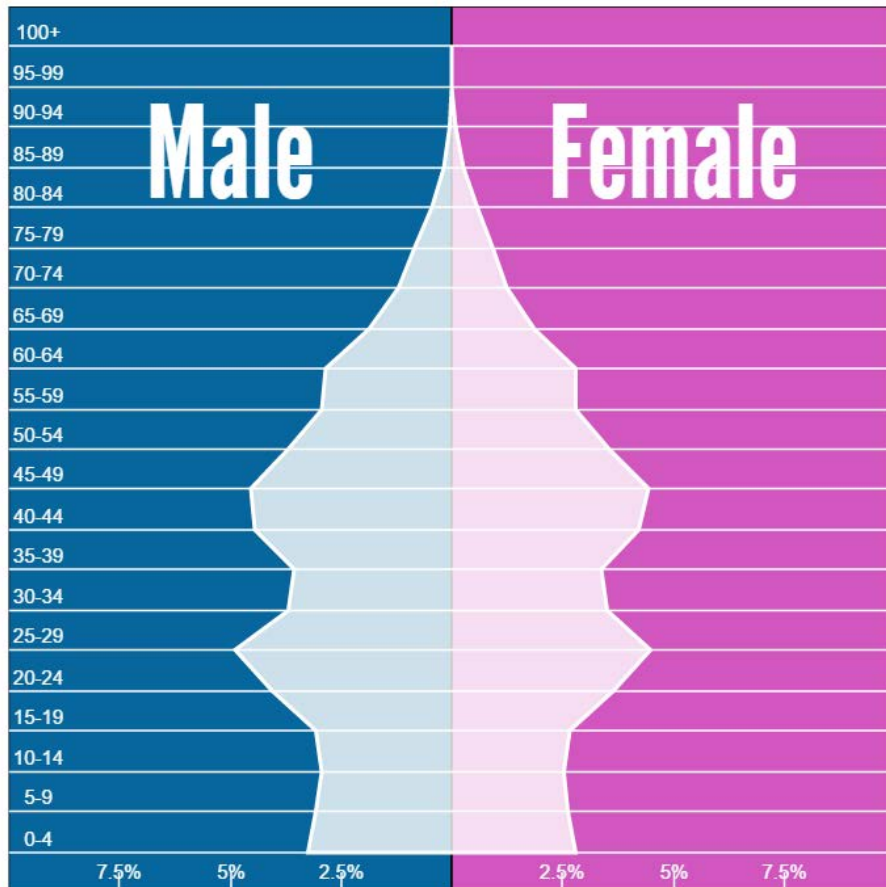
Population: **733.929.000**



China: Aging Workforce + Delayed Shift to Consumer Spending

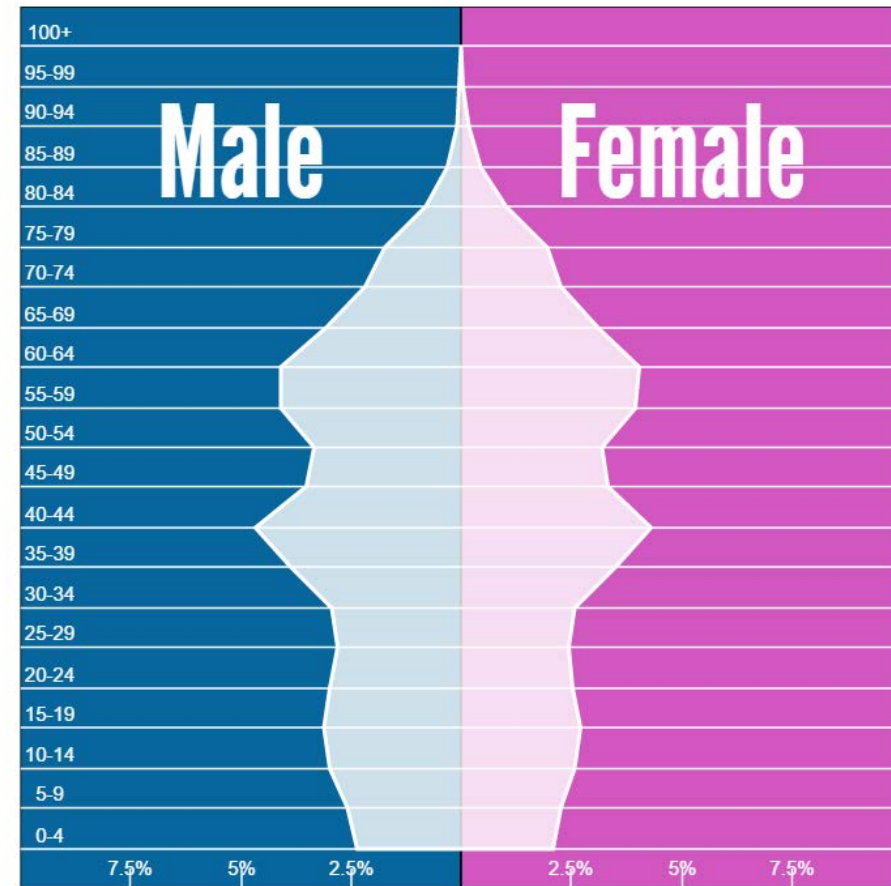
**China
2015**

Population: **1.376.048.000**



**China
2030**

Population: **1.415.545.000**



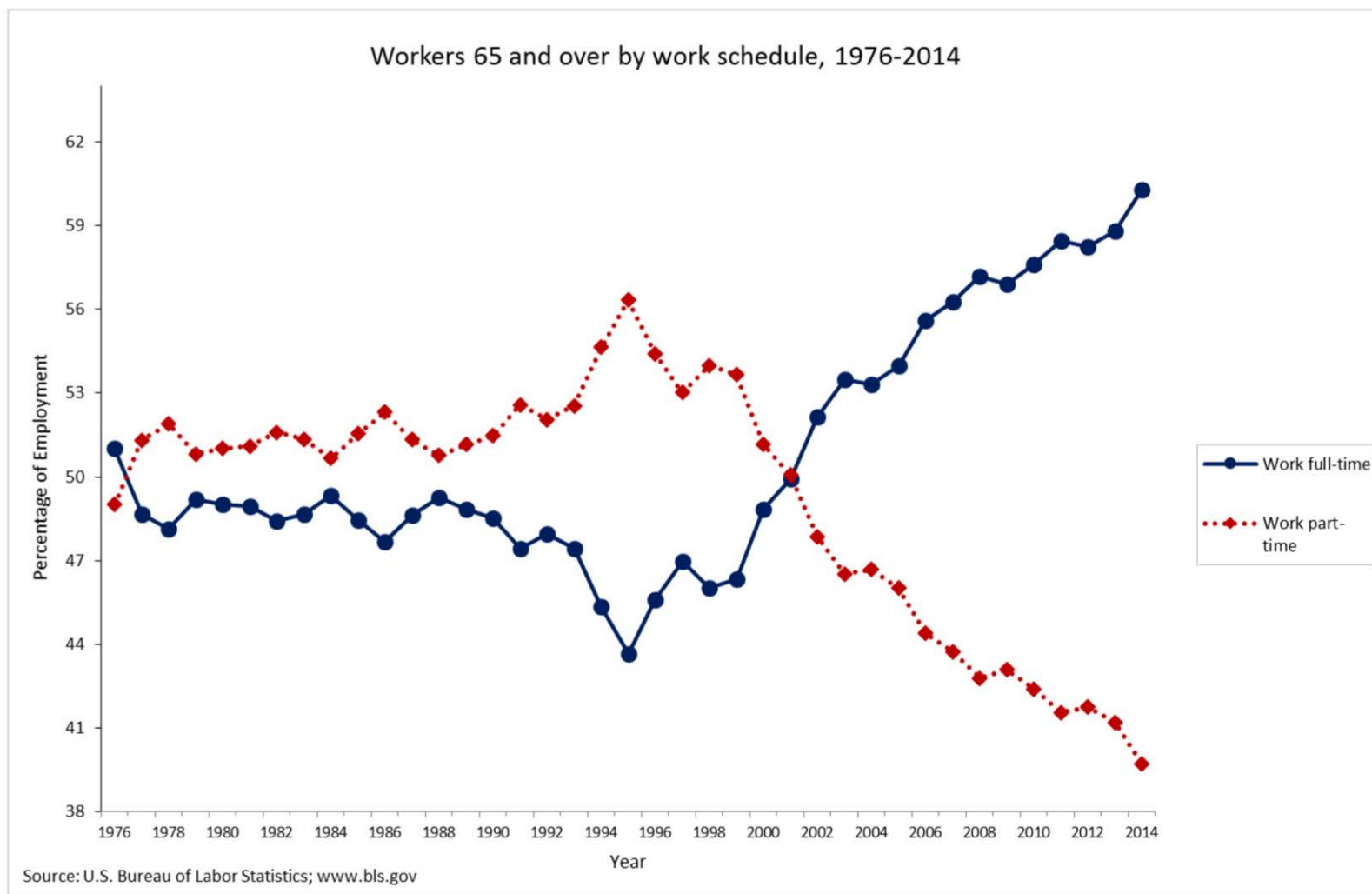


Imperative of Full-time Work



Hi, I'm Cortana.

**Cognitive Solutions
for 65+ Workforce**



Source: Gartner (October 2014)

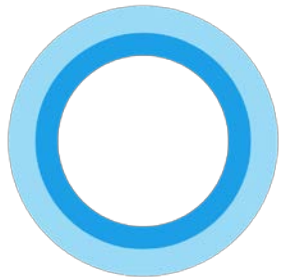


Aging-in-Place

- Home Systems:***
NLP to Automation
- Social Search for Seniors***
Friends & Family
- Integration of Experience***
Search to Home Delivery
- Protection from Fraud***
Trusted Brokers

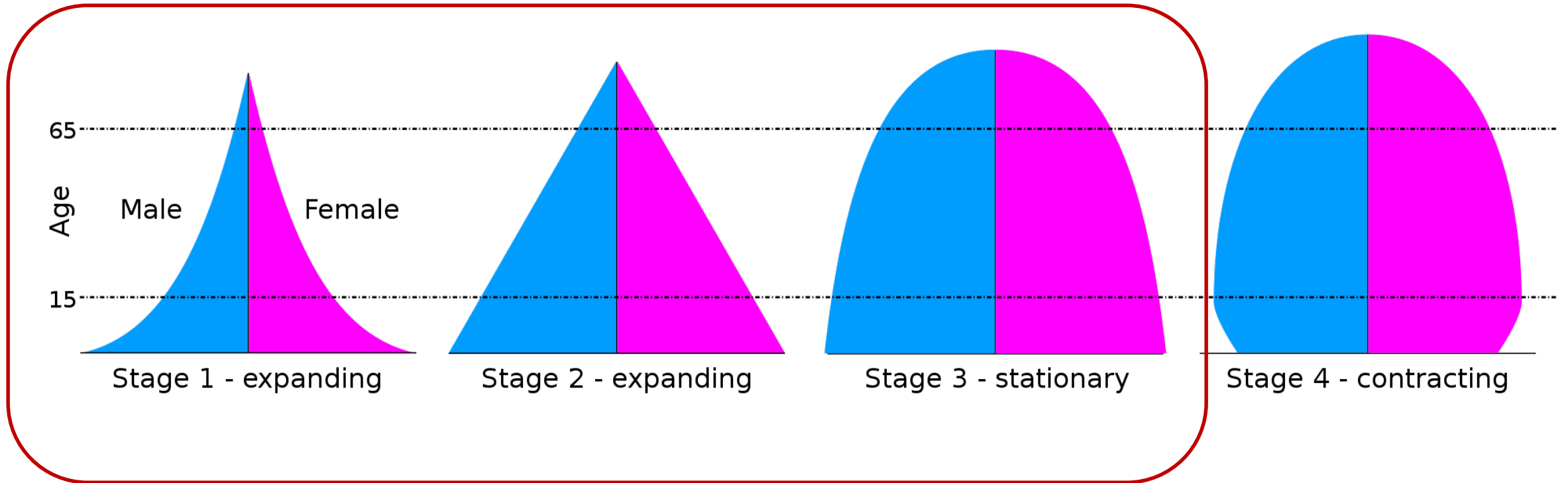
Active Aging

- Search + Share***
Personal Wellness Data
Food + Nutrition
- Outcomes-focused***
Products + Services
- Active Mobility Routes***
Walk + Ride





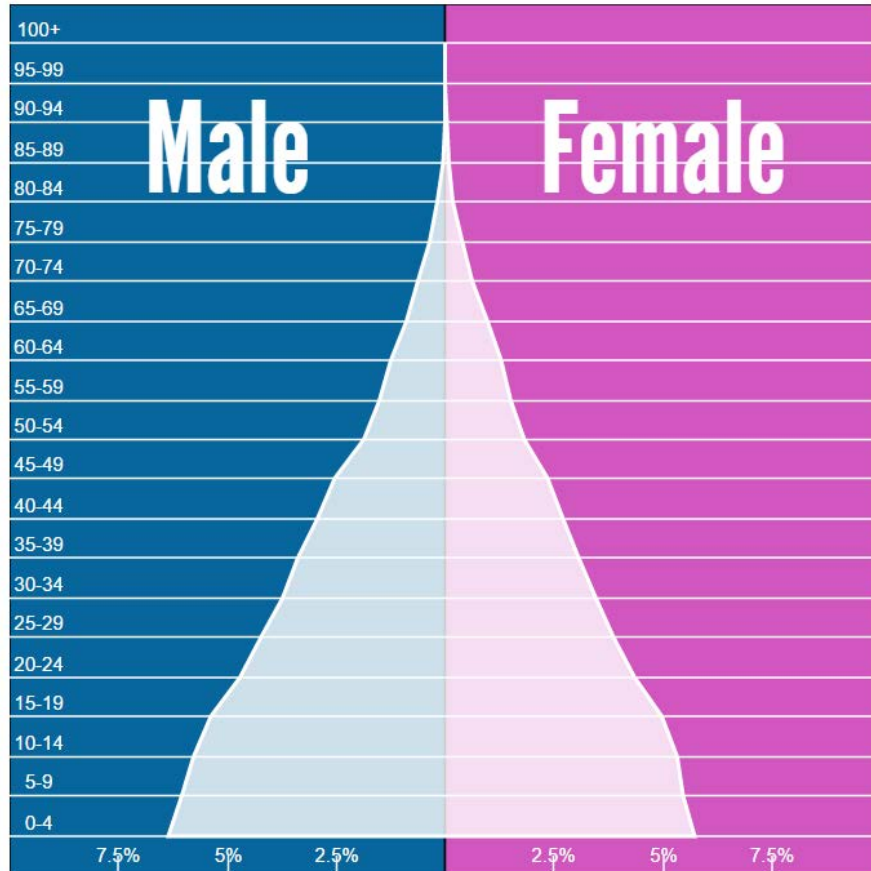
Fate of Globalization Rests on Ability to Capture Demographic Dividends



Watching and Waiting for Global Demographic Dividends

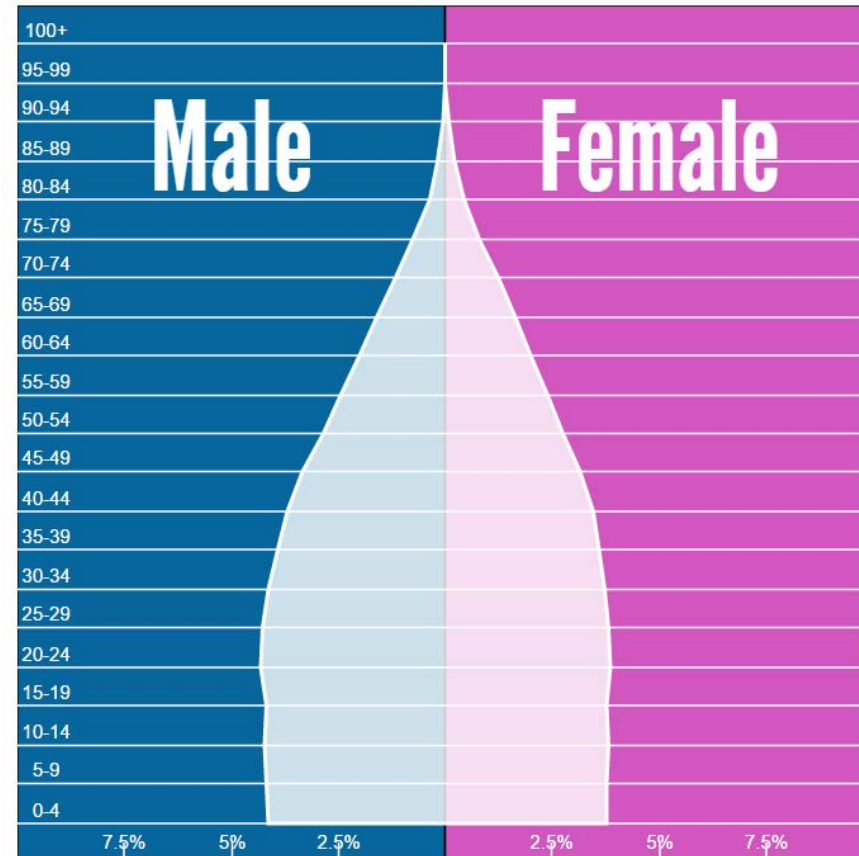
**India
2000**

Population: **1.053.481.000**



**India
2030**

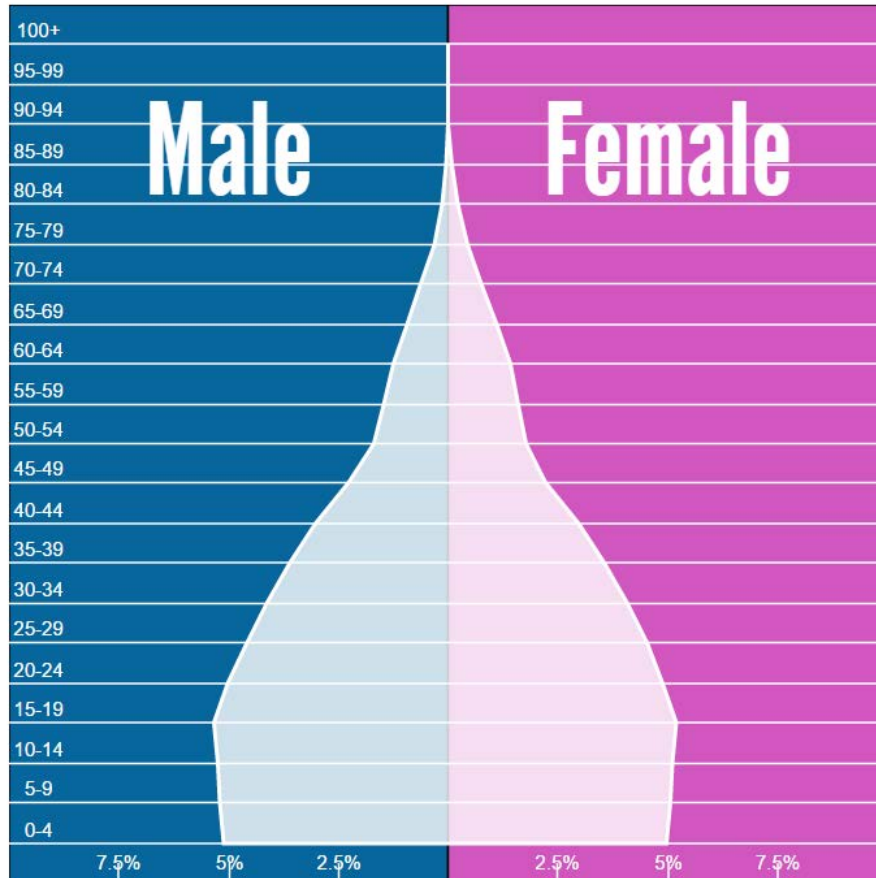
Population: **1.527.657.000**



Watching and Waiting for Global Demographic Dividends

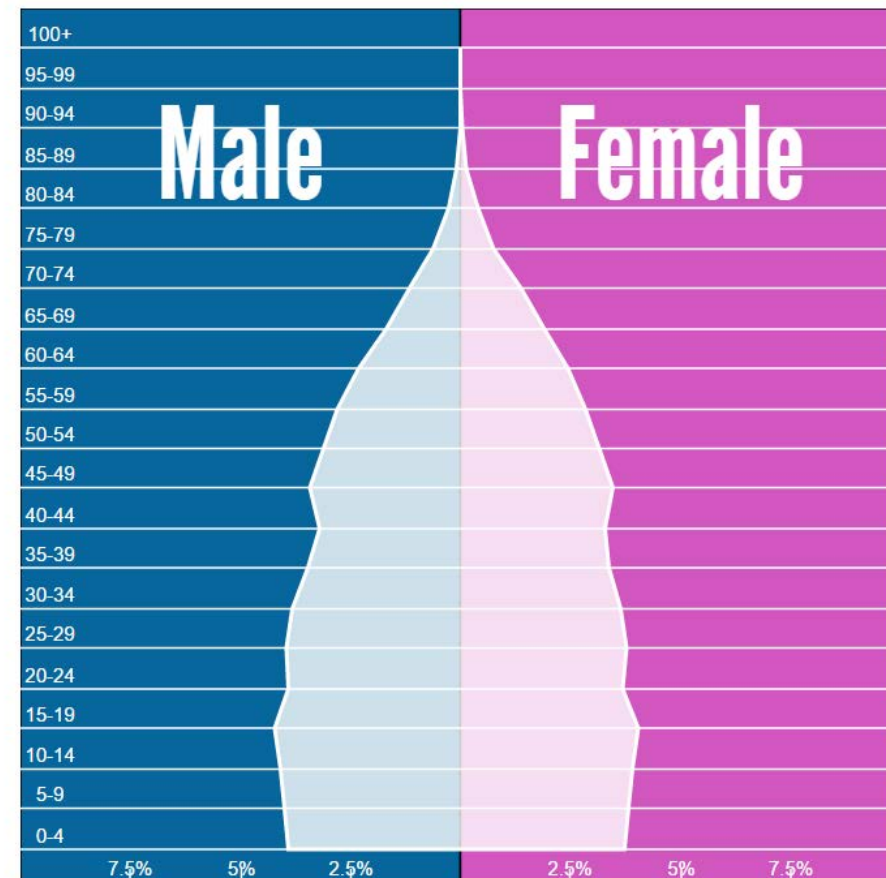
Indonesia
2000

Population: **211.540.000**



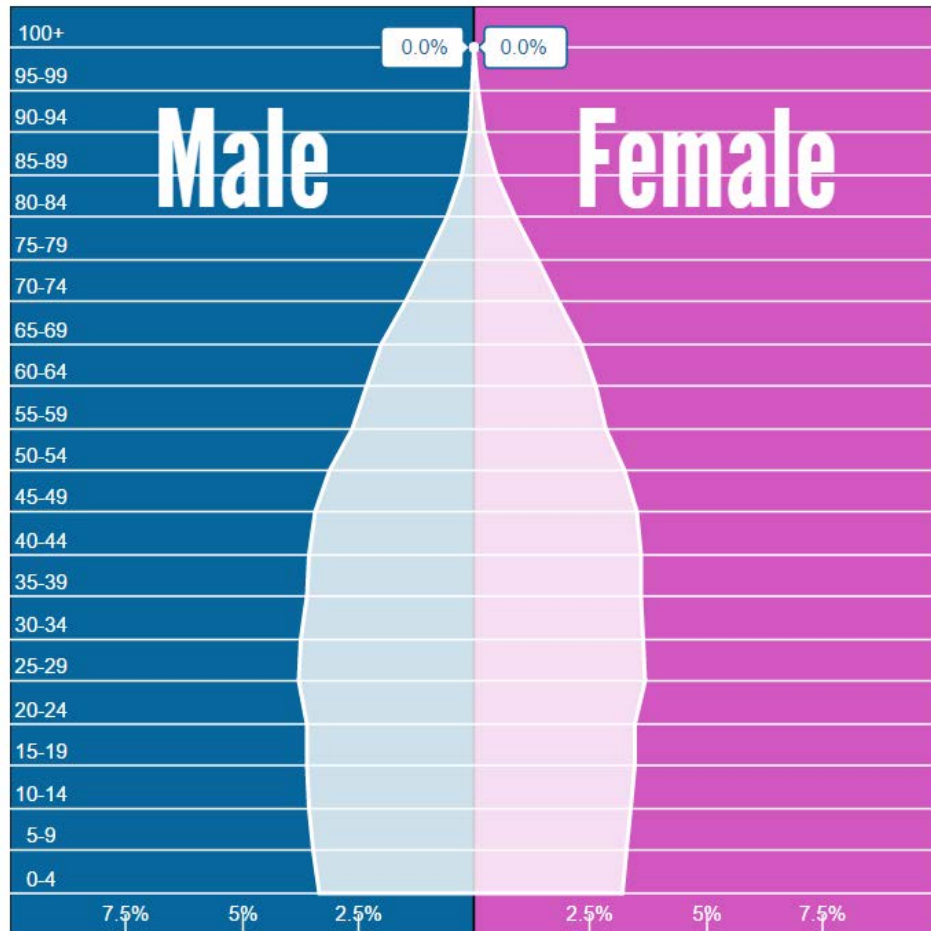
Indonesia
2030

Population: **295.481.000**



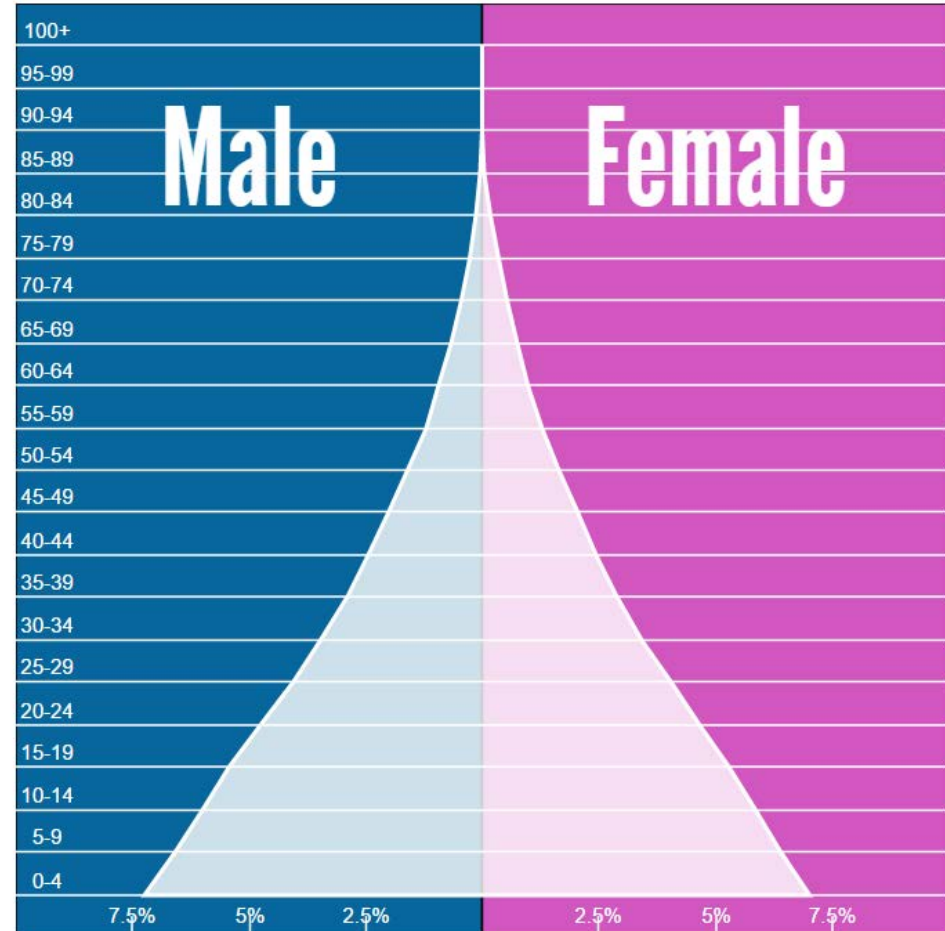
South America 2030

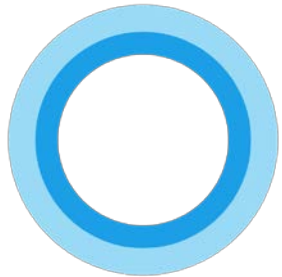
Population: **470.965.000**



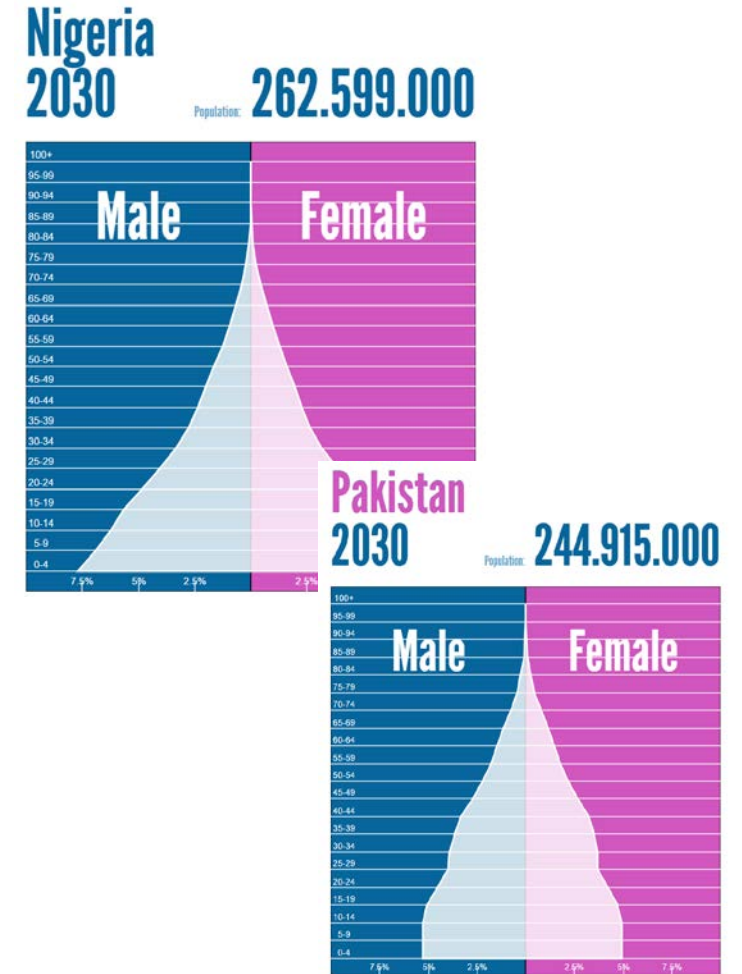
Sub-Saharan Africa 2030

Population: **1.396.853.000**





- ❑ ***Rural to Urban Migration***
Search Dynamics in Mega-Cities
City-based Public Connection Points
- ❑ ***UX for Spectrum of Literacies***
Potential for New Devices
- ❑ ***Budget + Aspirational***
Results for Middle Class
- ❑ ***Cortana: Culture of Learning***
Unemployed but Engaged

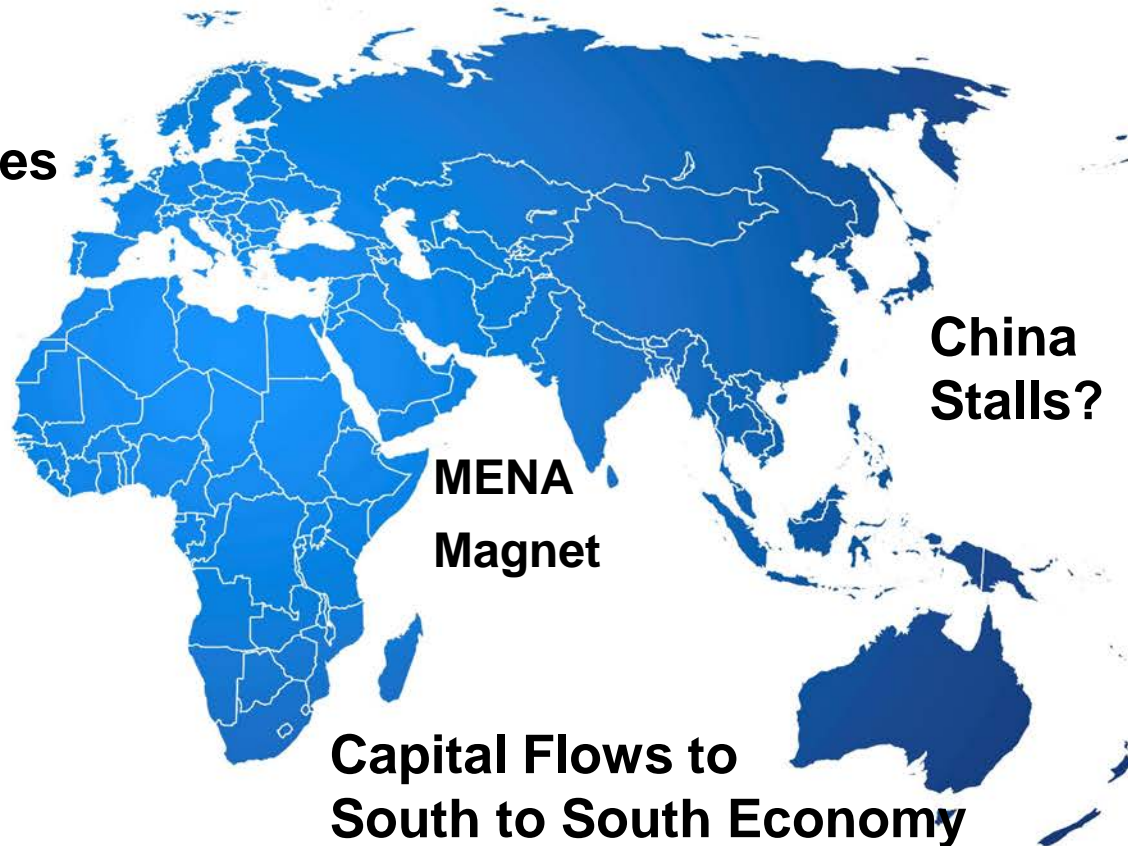


Tipping Points Ahead for Global Events?

Ageing Populations + Hope for Demographic Dividends



**EU
Dissolves**



**MENA
Magnet**

**Capital Flows to
South to South Economy**

**China
Stalls?**

**Aspiring
Americas**

**US Expands
Social Safety Net**



Learn More



Connect the Dots

- Demographic Transition Model Concepts**
(+market formation; +technology adoption)

- Garry's Diigo Tags**
diigo.com/user/garrygolden/aging
diigo.com/user/garrygolden/demographics

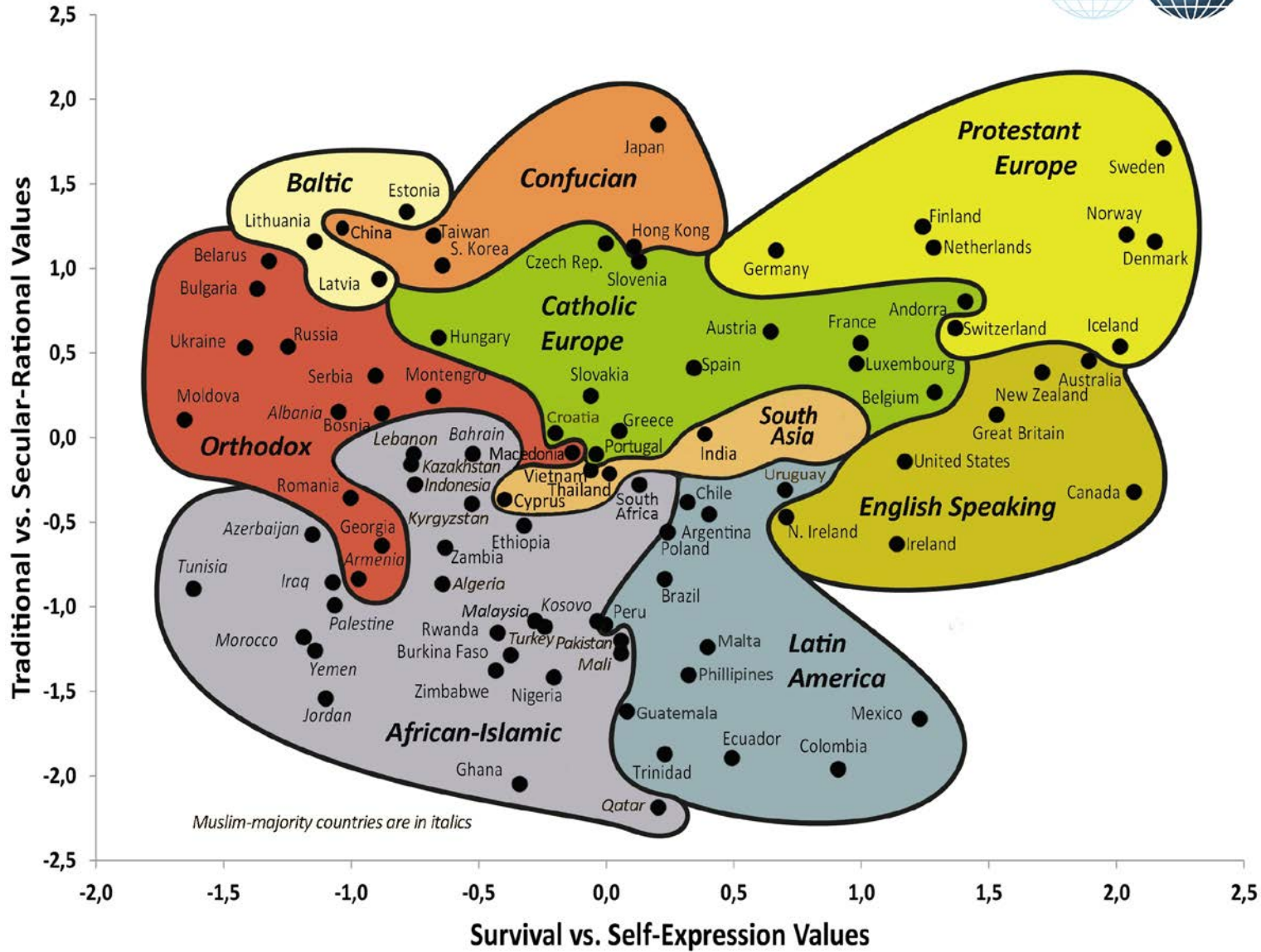
- Spiral Dynamics Integral (SDi)**
Bio-Psycho-Social Development Model

- World Values Survey (University of Michigan)**

Demographic Meets Values Systems

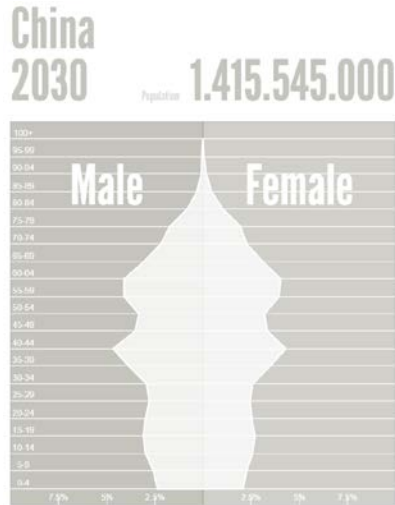
Inglehart–Welzel Cultural Map

Foresight + Designing Thinking
Bing and Cognitive Solution Experiences
for Social Norms + Cultural Interpretations





The Front End of Innovation: Foresight on Emerging Trends + Issues



Demographic Transitions

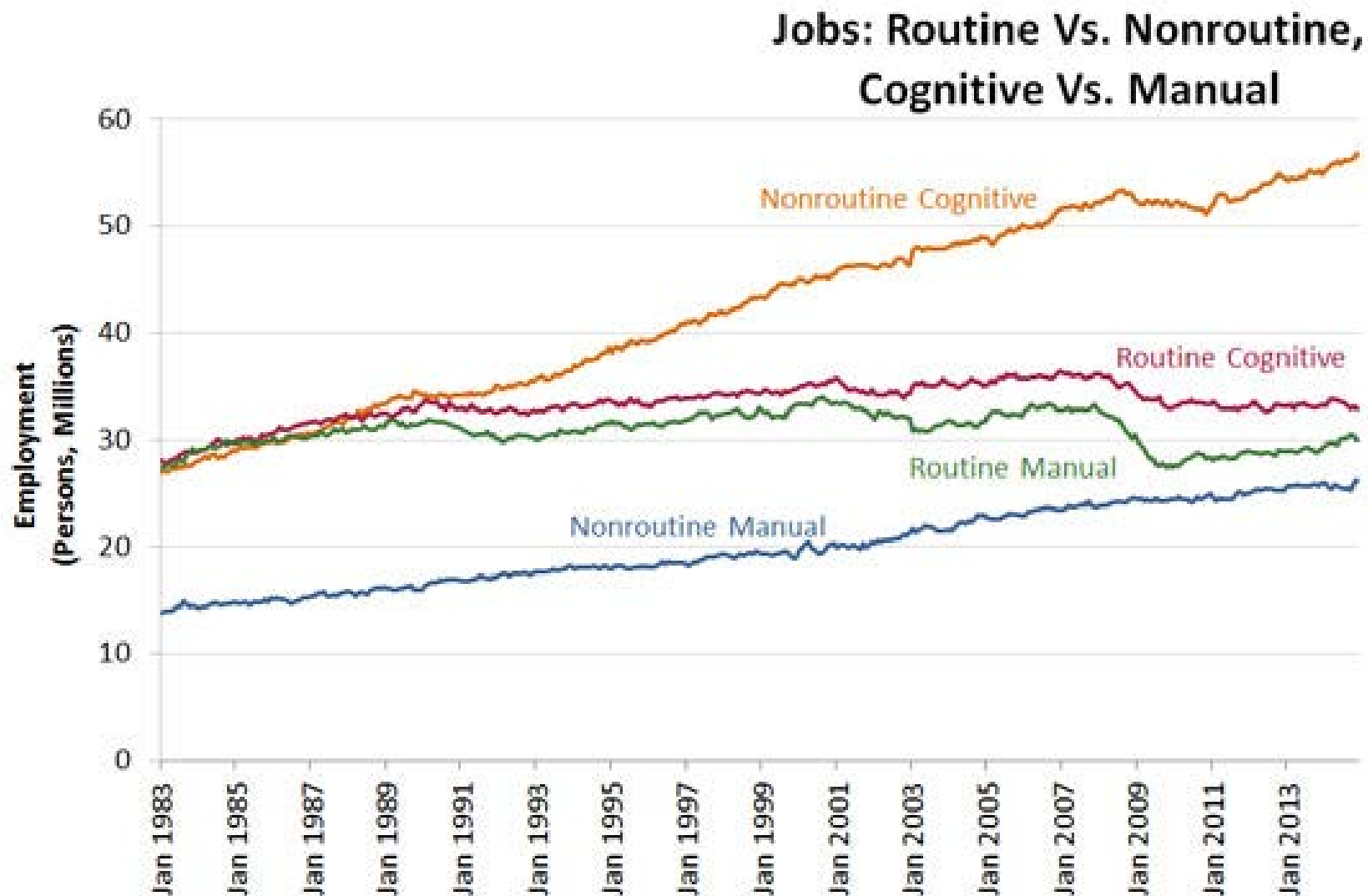


Experience Graph



Blockchain DApps

Talent Trend = Growth in Cognitive Jobs



SOURCE: Current Population Survey and author's calculations.

Social Norms for the Anonymous-Access Web

1993



“On the Internet, nobody knows you’re a dog.”

“On Facebook, 273 people know I’m a dog.
The rest can only see my limited profile.”

Social Norms & the Social Web

2008





Everyone knows I'm working on some personal growth issues

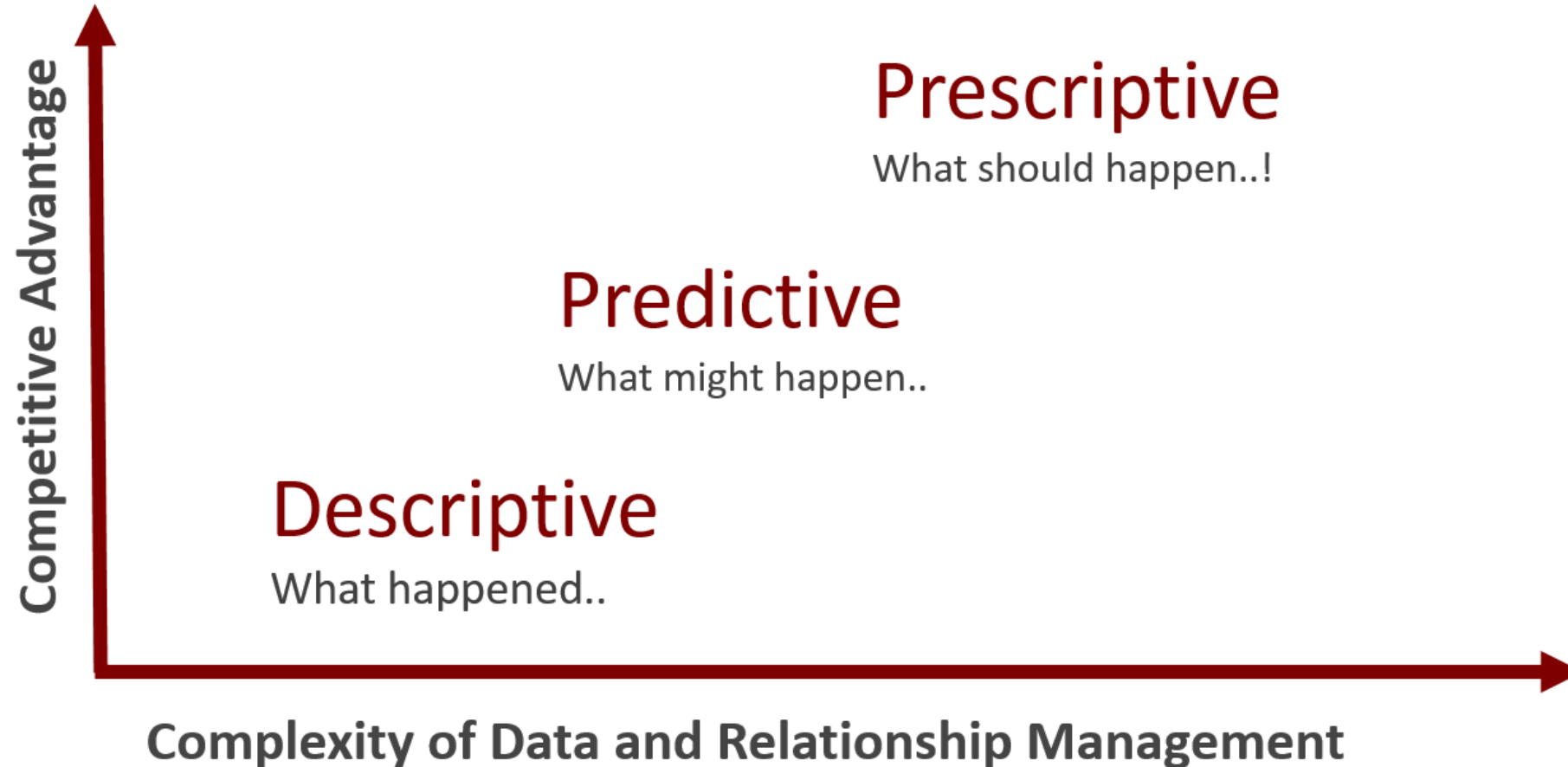
Assumption:
The web is becoming a platform for managing outcomes & personal behavior change.

BARRON'S
DOG TRAINING BIBLE

by Andrea Arden
• Master training—covering basic training and creating an effective schedule
• Socialization, handling, grooming, travel, and more
• Dog Training 101—everything you need to know to take your dog on a walk and more
• Behavior Problems—covering excessive barking, aggression, chewing, and more
BARRON'S

Outcomes-based Value Creation

AI+ Data Driven Innovation = Prescriptive Analytics

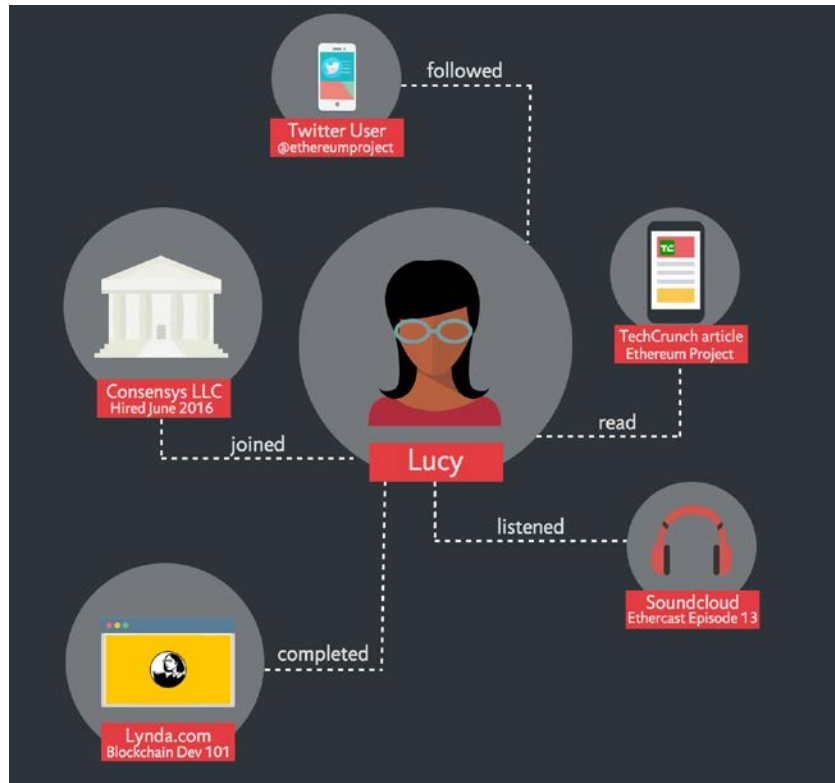




CRUNCH NETWORK

Why LinkedIn should kill the résumé and replace it with the experience graph

Posted Aug 14, 2016 by [Garry Golden \(@garrygolden\)](#)



The experience graph could become a competitive advantage for students applying to college and job-seekers eager to share real-world data with potential employers.

EXPERIENCE
API



“I did this...”

Statements

- Lucy ***read*** an article on aging populations
- Lucy ***watched*** Youtube video on Aging Boomers
- Lucy ***created*** a OneNote folder on Aging
- Lucy ***interviewed*** the Director of the Active Aging Institute
- Lucy ***attended*** and MIT workshop on Aging in Place
- Lucy ***wore*** an ‘aging suit’ at MIT Aging Lab
- Lucy ***completed*** a MOOC class on Universal Design
- Lucy ***drafted*** new aging in place product line
- Lucy ***presented*** to John on business model
- Lucy ***wrote a blog post*** on fashion ecosystem solutions
for aging populations
- Lucy ***launched*** new product line *Silver* Functional Fashion
- Lucy ***promoted*** head of Aging Solutions



Search + Accessing Intelligence

What if Experience Graph dynamics find Adoption?



Actor-Verb-Subject
“I did this...”



Learning Record Store (LRS)

- ❑ Individual Control over Access to Learning Data

2017 – 2030

- ❑ Knowledge Graphs
- ❑ Cognitive Solutions
- ❑ Battles for Control
- ❑ Digital Divides

AI led Search + Access to Intelligence



Scenario: Experience Graph Meets Knowledge Graph



Experience Streams

<Actor, Verb, Object>
"I did this"

Learning Record Store (LRS)

Individual Control over
Access to Learning Data

Knowledge Graphs

Access to Intelligence
 Pathways (Learning + Doing)

Solutions for: Businesses, Govts, Schools, Libraries & Media

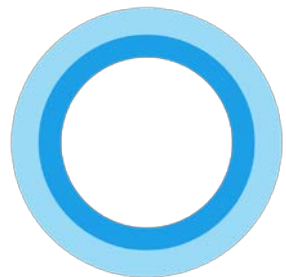
Noah is *Connecting Things on his Experience Graph*



Who might have permission to see connections of experiences?
Learner, Teachers, Parents, Libraries, Park Staff, Brands...



How might an *Experience Graph* future transform our ability to personalize search, discovery and knowledge building?



- ❑ **Experience as Data Asset Class**
xAPI as training data for AI (Cortana within Office365)
- ❑ **Experience Graph Meets Search**
Privacy + Protection + Access Solutions
- ❑ **Integration Across Productivity Tools**
xAPI for Office365, Dynamics and Beyond
- ❑ **Integration into LinkedIn Economic Graph**



Learn More



Connect the Dots

- ❑ Garry's tags: diigo.com/user/garrygolden/xapi

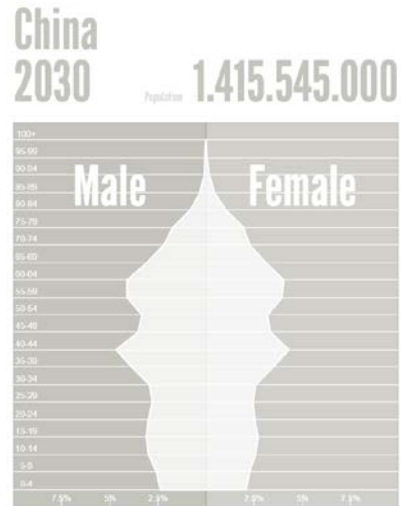
- ❑ **Organizations + Companies**
 - ❑ ADL (Specification Lead)
 - ❑ LRS: Watershed; Saltbox Wax; Learning Locker
 - ❑ Data Interoperability Standards Consortium (.org)

- ❑ **Understand hype vs hope of 'performance support'**
Search + Cognitive Solutions for HR and lifelong learning

- ❑ **Jump into xAPI Community Conversation (#xAPI)**
then help move it beyond Learning & Development (L&D) into UX Experience Design



Emerging Trends + Issues Ripe for Innovation



Demographic
Transitions



Experience Graph



Blockchain DApps

Blockchain

(I know, I hate the hype too)



Remember, It Was Hard to Explain the Internet in 1994

All descriptions failed:

- It's a billboard
- It's a massive network
- You write to it, like mail*
- Great for emergencies
- 'You don't need a phone line to operate the Internet?'



1994: "Today Show": "What is the Internet, Anyway?"

Evolution of the Web: Trust for Transactions



*Internet of Files
(Websites)*



*Internet of
Social Networks*



*Internet of
Transactions*

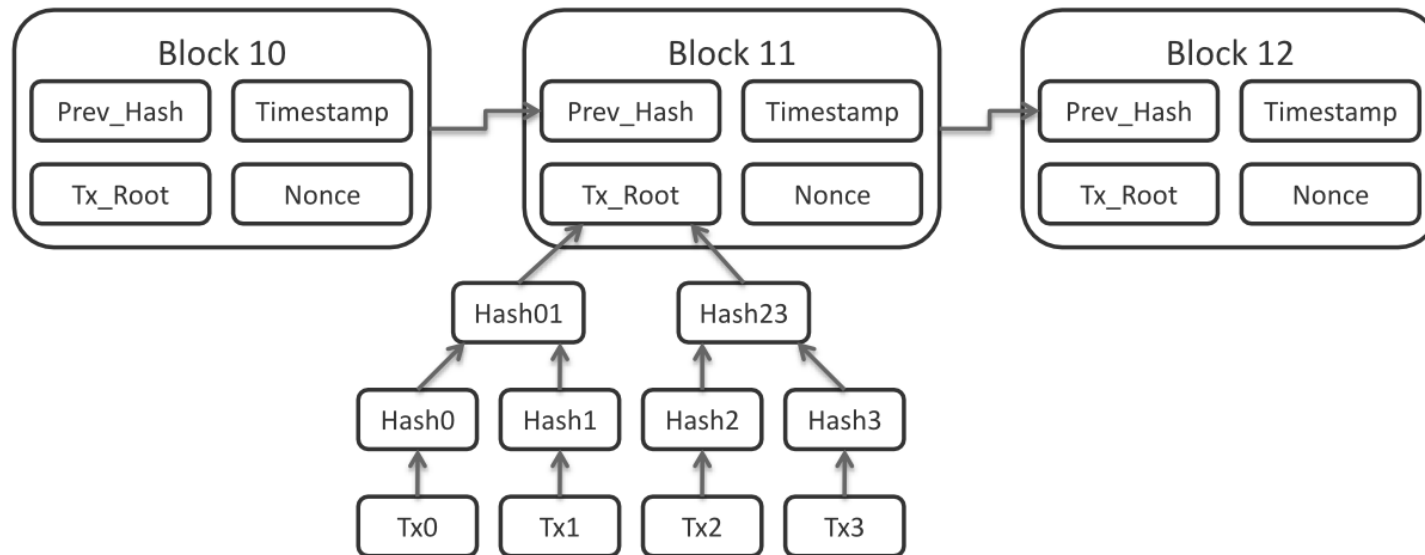
Low Cost + High Security in Low-trust Environment

It's just Decentralized Databases + Process Automation!

Assets get entered onto the ledger and generate keys

Network Consensus on who did what...

Smart Contracts execute legal agreements + business processes



The Transaction is the Settlement

A sample of EtherScript

```
note: ***An Ethereum smart contract to sell website for "5000 by March"
note: First, store buyer's ethereum address:
put: 6af267736363738ghgs7726337373737 in storage slot BUYER
note: Then, store seller's ethereum address:
put: 6af267736363738ghgs7726337373737 in storage slot SELLER
note: April 1, 2014 is 13929839948 in "computer time"
put: 16365437465 in storage slot DEADLINE
note: If the agreed amount is received on time...
When: transaction value >= 50000 ether
and block timestamp <= storage slot DEADLINE
then
note: ... then designate the buyer as the new website admin and pay the seller
put storage slot BUYER in storage slot WEBSITE_ADMIN
Spend contract balance to storage slot SELLER
```



World Economic Forum Survey Projects Blockchain 'Tipping Point' by 2023

**By 2025, 10% of Global GDP will be
orchestrated by blockchain applications.**

Assumption to Explore (even if it confusing!)

By 2020, blockchain infrastructure for decentralized applications (DApps) and *smart contracts* will be used to:

- Reduce operation costs
- Ensure compliance
- Confront cybersecurity issues
- Drive network collaboration and product integration
- Transform customer experiences
- Reduce friction for economic and civic exchanges
- Totally threaten incumbent web brands with hyped alternatives***

Application Development Ecosystems: Bing + Cortana Integration

Public Blockchains



Private Blockchains

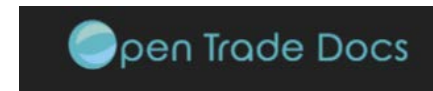


Supply Chains + Logistics

Distributed Supply Chains for efficiency, low cost, transparency and automation for origin verification, manufacturing logs, OEM assembly, shipping, fulfillment, financing, factoring, value added taxes, to retail payment settlement.



Enhance Trust. Access Capital.



Will I be able to search by verification of origin, involved players or location along supply chain?

Healthcare + Wellness Sector

Improve efficiencies, reduce fraud, and use smart contracts for programmable compliance and reward systems to scale behavior change.



Will I be able to search aggregate population health data?
Search my own records and smart contracts?

Peer to Peer Exchanges

Decentralized exchanges to disrupt* the third-party while opening up service stack for new value driven services. *Low fees may still apply.



iTunes without iTunes
Smart Contracts disperse payments



Uber without Uber
Distributed Ridesharing



ebay without ebay
Distributed Marketplace

Will I be able to search details within smart contracts? Verify identities?

DApps for Public + *Third Sector*

Government Services

- Identity
- Regtech (Compliance)
- Budget Transparency (Fraud + Corruption)
- Voting
- Land Registry
- Financial Inclusion


UK government using blockchain to track welfare spending

The UK government recently began a trial using blockchain technology to track the distribution of benefits, which has raised some privacy concerns.

By [Conner Forrest](#) | July 14, 2016, 7:22 AM PST

Blockchain-as-a-service approved for use across UK government

Whitehall departments, devolved governments, and local authorities now all have an official provider of distributed ledger technology.

 By [Danny Palmer](#) | August 3, 2016 -- 12:30 GMT (05:30 PDT) | Topic: [Government : UK](#)

U.S. Gov't Announces Blockchain Healthcare Contest

By [Jamie Redman](#) - July 9, 2016  6303  11

Will I be able to search rules, laws and regulations?



Learn More



Connect the Dots

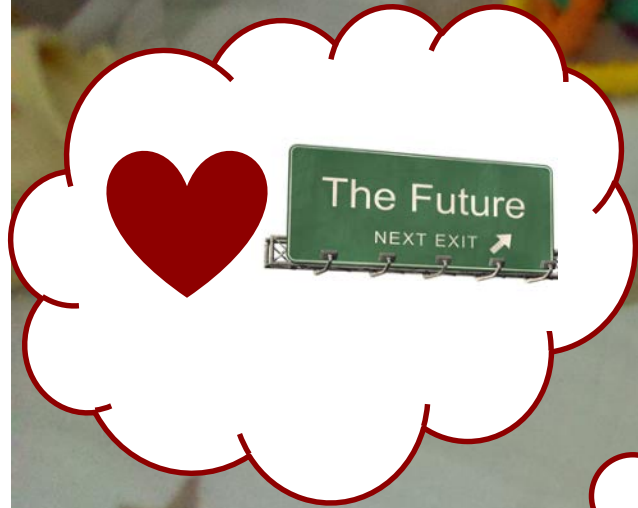
- ❑ **Understand Fundamentals vs Fanaticism**
Watch out for Tribal Thinking + Trolling on Twitter!
- ❑ **Have Coffee with Microsoft Colleagues**
Project Bletchley (Azure)
Consensys Partnership: Blockstack + uPort
- ❑ **Explore Future of Search Integration
and user experience of Dapps?**
- ❑ **Garry's tags**
[blockchain](#); [Ethereum](#); [Hyperledger](#); [Smart Contracts](#);

I don't
like the
future...



#Never_Garry_the_Futurist





Every day I make an effort to go toward
what I don't understand.

Yo-Yo Ma

End



***Learning More
Foresight Culture***



Drivers of Change



***Warm up
Foresight 101***

Foundations in Foresight as Process + Culture

Tapping Your Inner Futurist
The Art & Science of
Looking at the Future



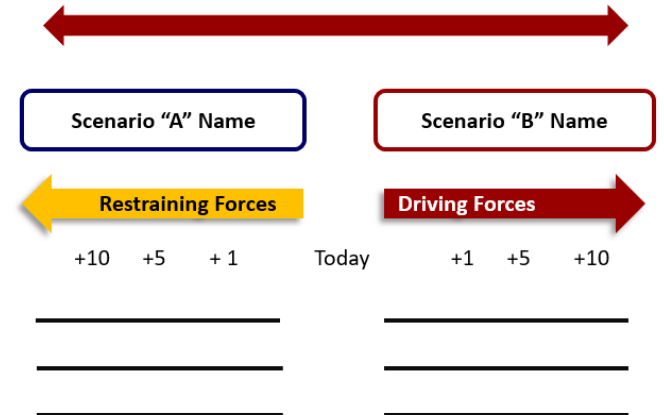
Document produced by:
Garry Golden
futurethink
INNOVATION SIMPLIFIED

Resource Guide for:

Foresight Session:
September 29, 2016

Worksheet: Era-based Analysis of Change		
	Current Era : _____	Emerging Era: _____
Vision & Mission - Who you are; Who you serve & how.		
Problems (JTBD) & Solutions - Customer jobs to be done.		
Market Dynamics - Describe types of <u>competitors</u> . - Describe types of <u>partners</u> . - Describe types of <u>acquisitions</u> . - Regulatory landscape: Constraints or protective policies?		
Product & Service Cycle - What do you sell? - How do you go to market? - How fast or slow do client demands change? - What is considered innovative?		
Minor Eras - Were there small but significant platform transitions within the company or industry?		
Disruptive Elements - What elements challenge this era, and lead to changes in the company? - Are there constraints or 'limits to growth' within this era?		

Force Field Analysis



Urgency to Get Culture Aligned Around Anticipation

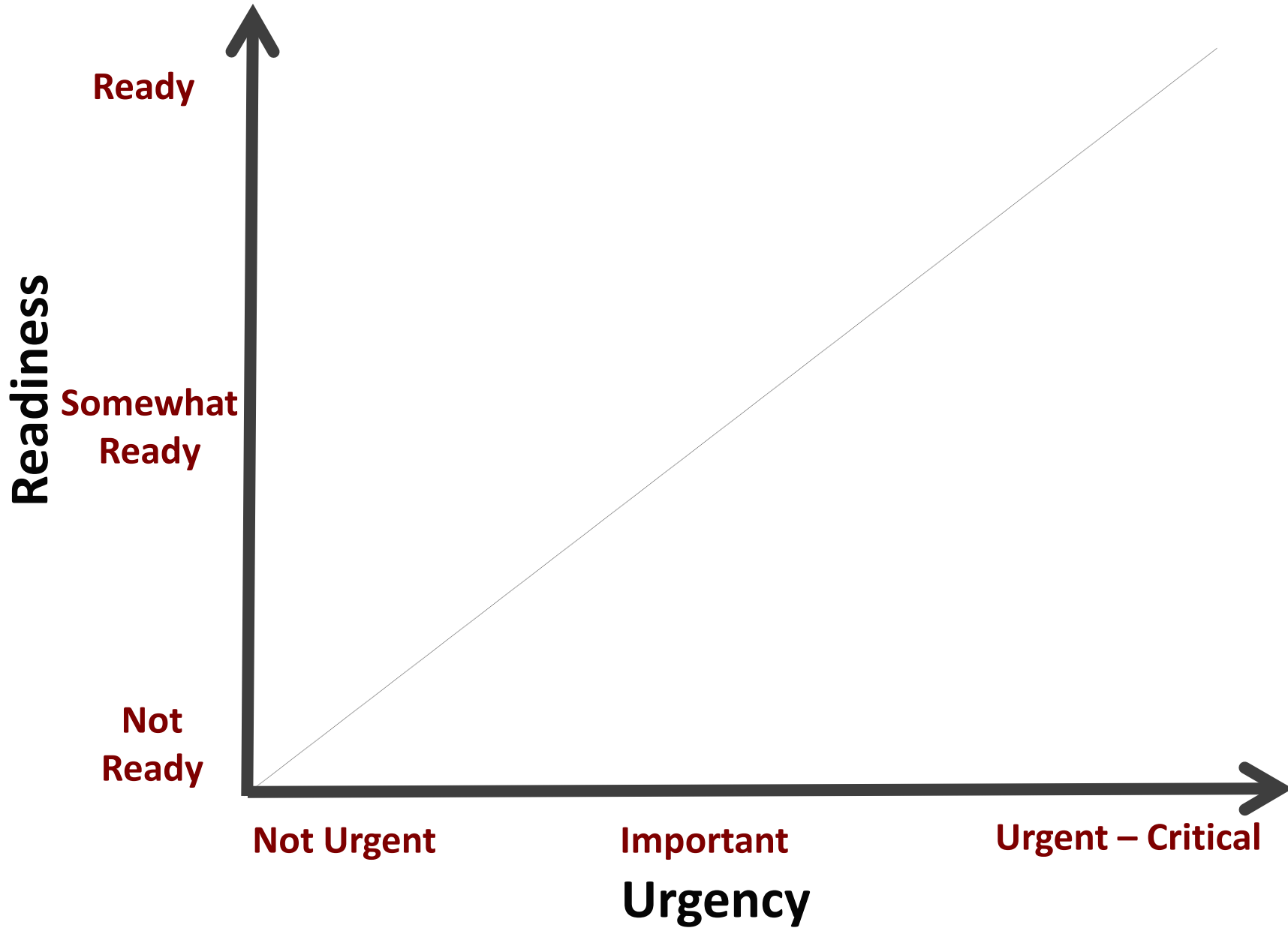
On the Plateau 'Managing the Decline'

- Incumbent mindset
- Incremental Improvement
- Fear, Uncertainty,
Doubt & Denial

Big Bets, Small Steps

- Entrepreneurial mindset
- *Prototyping*
Transformative Change
- *Failing Forward*

Survey Leadership on Emerging Trends + Opportunities



Team Session: Write out your Four Futures 2020 – 2030



**Continued
Growth**



**Disciplined
- Constrained**



Transformed



**Decline
- Collapse**

**What do we need to unlearn?
Biggest Risk...?
Biggest Opportunity...?
Bridges to future...?**



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@garrygolden (Two Rs)



Books

- ❑ ***Teaching about the Future*** (Textbook)

Thinking about the Future

By Andy Hines & Peter Bishop

- ❑ ***4 Steps to the Future***

By Richard (Kaipo) Lum

- ❑ ***The Lords of Strategy***

By Walter Kiechel

Executive Level Foresight Training

- ❑ *University of Houston Studies of Future Program*
- ❑ *Foresight Education and Research Network (FERN)*

