

### Learner to Earner:

## World in Upheaval-2025 Re-Imagining the Future

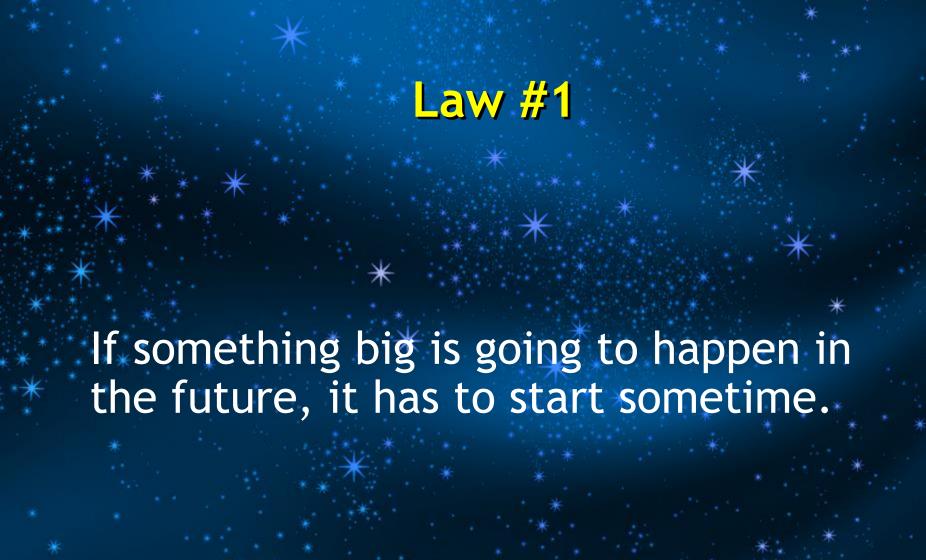
**JUNE 13, 2017** 

Mary O'Hara-Devereaux, Ph.D., President, Global Foresight











# Eight Big Questions 2025





### By 2025 Urbanization will Create...



"One Billion New Middle Class Consumers"

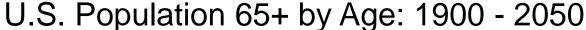
90% will be in emerging markets-most in Asia.

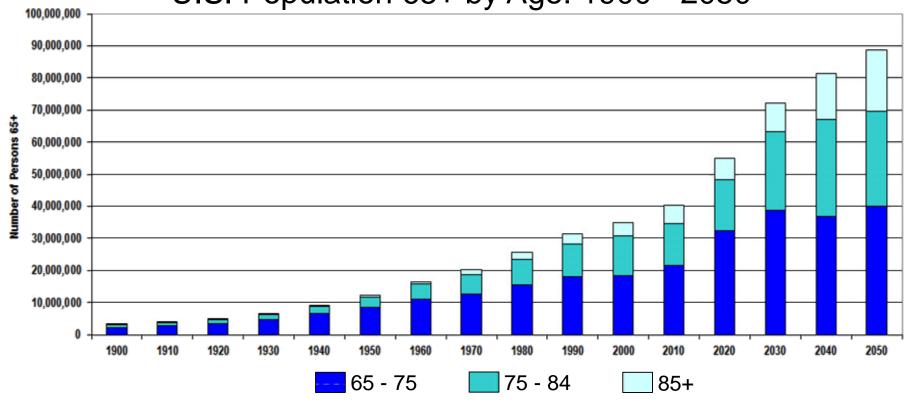






### Escalating Longevity! Fastest Growing Group 85+













### Rise of Generation Z Ages 4-21 today



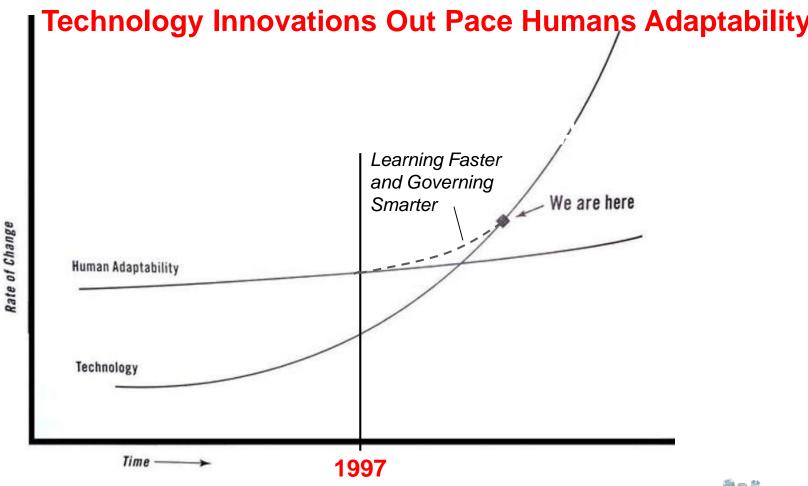








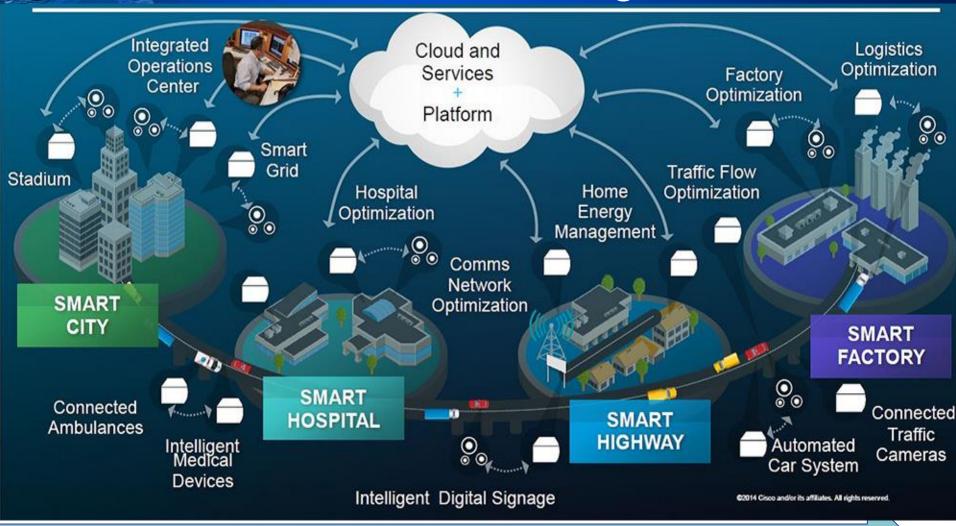
## By 2040 this age of acceleration matures...and another begins...



Source: "Thank You For Being Late – An Optimist's Guide to Thriving in the Age of Acceleration" by Thomas L. Friedman (2016)



### The Internet of Things-IoT



People



**Technology** 

### Internet of Things

- Everyday objects have network connectivity,
- Allowing them to send and receive data
- Without human involvement.



### Artificial Intelligence in Robots









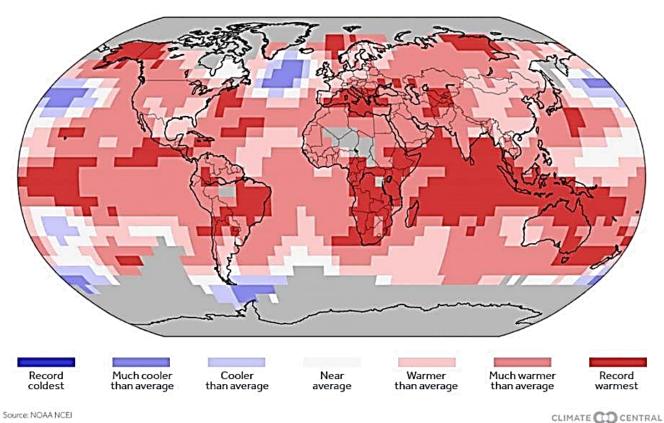
### Who will have comparative advantage?



### Climate Change

#### 2016: Hottest Year so far

Land and ocean temperature percentiles Jan-Apr 2016

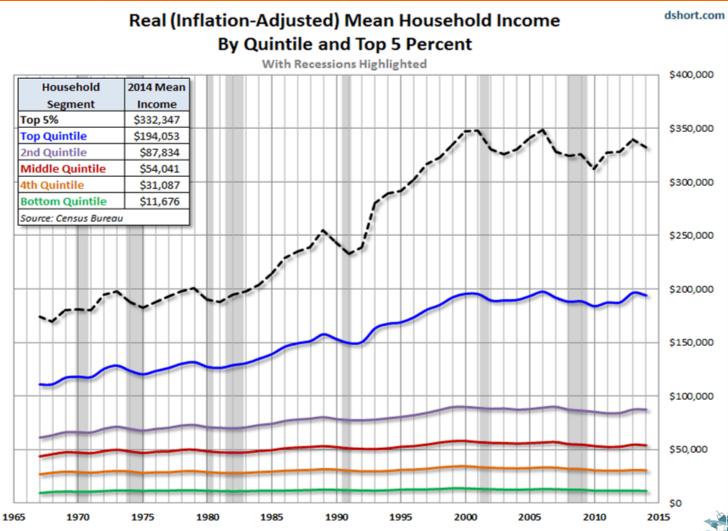


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### U.S. Household Incomes A 47-year Perspective



Source: U.S. Census Bureau, data 1967 to 2014

Advisor Perspectives (<a href="http://www.advisorperspectives.com/dshort/">http://www.advisorperspectives.com/dshort/</a>)

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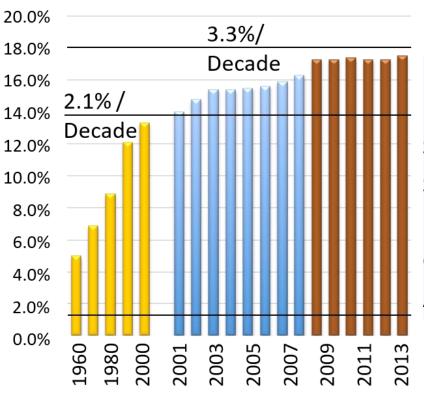
## 2016 - U.S. has Highest After-Tax & Transfer Level of Income Inequality





### The Healthcare Costs Slow but still a Crisis

#### **National Health Spending % GDP**



### Per Capita Healthcare Spending 2015, PPP Adjusted

USA	\$9,402	France	\$5,428
Norway	\$7,832	Canada	\$5,421
Switzerland	\$7,300	Belgium	\$5,340
Sweden	\$6,285	Australia	\$4,873
Netherlands	\$6,209	Finland	\$4,467
Germany	\$6,204		\$4,255
Austria	\$6,143	UK	\$3,717

Source: Beacon Economics — The Economic Outlook Jan 2017



### ...and it gets worse

- Over next 20 years we add 50M people
- Over next next 10 years 31 million more people over 65
- 76 million people on Medicare
- Quit re-arranging the deck chairs on the titanic...
- Expensive System with low cost benefit...Time for BIG Change

IT IS UNSUSTAINABLE & IT WILL END.....OVER THE NEXT 10 YEARS

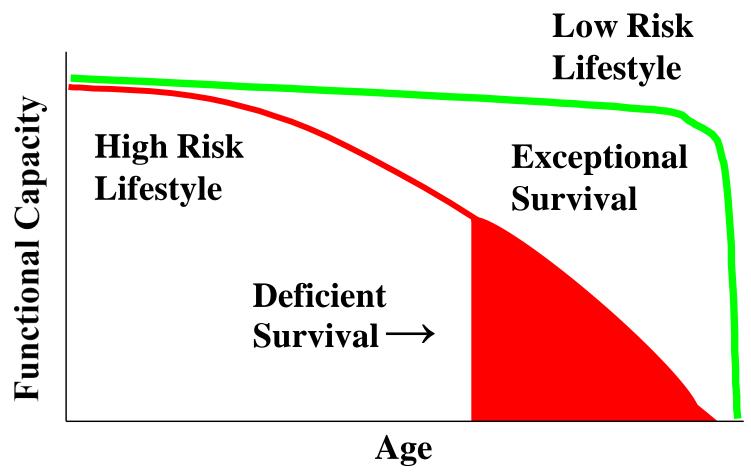




If something is unsustainable it will end.

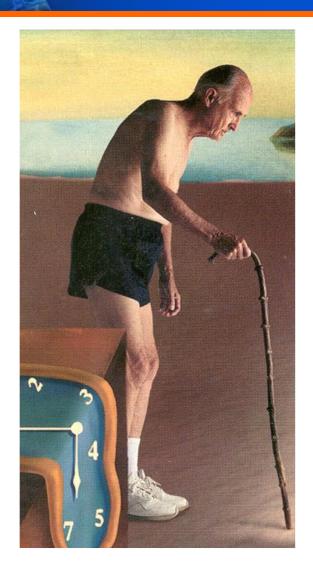
Health care is unsustainable-It will end over the next 10 years

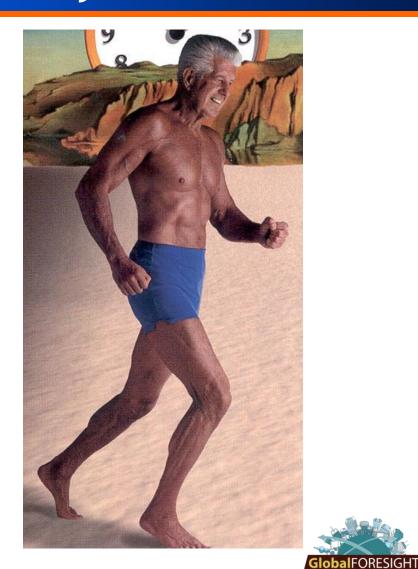
### How will you live?





### How will you die? A little at a time to 75 OR Fast at 100 after 99 years of health?





### What's Preventable?

- 80% of CVD and diabetes
- •60% of cancers
- •90% of obesity

**74**%

of all healthcare costs are confined to these four conditions!





"Any history of physical activity in your family?"

David Jacobson, The New Yorker, 2012



#7- How will we create a health care system that is matched to the issues & needs of the times.

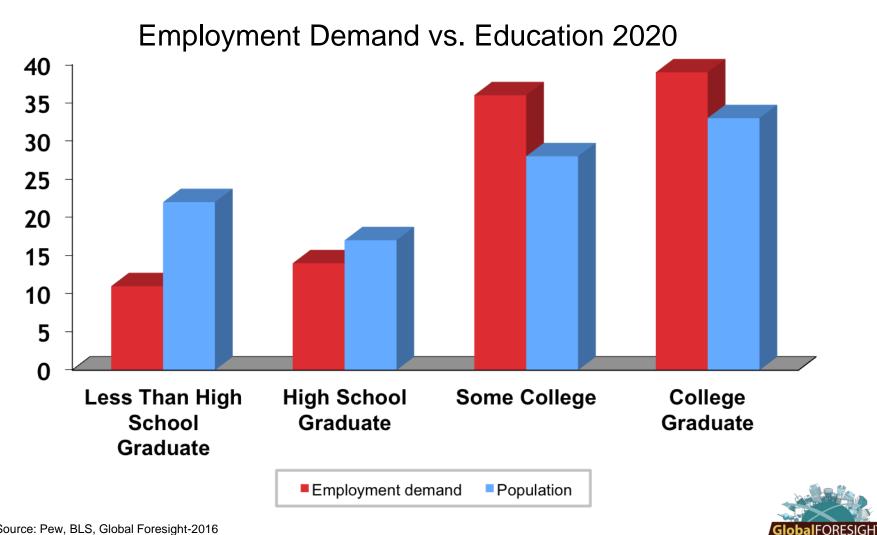
### **Job Creation Forecast**

- 55 million new jobs by 2022
- 65% require some college-37 million
- Need to increase Baccalaureate degree from 32% to 46%
- Degree yes—in whatever—knowledge and skills STEM.
- Job and Education mismatch

#### WE ARE UNDERPRODUCING EDUCATED PEOPLE!



### We are Not Producing Sufficient Highly Educated Workers







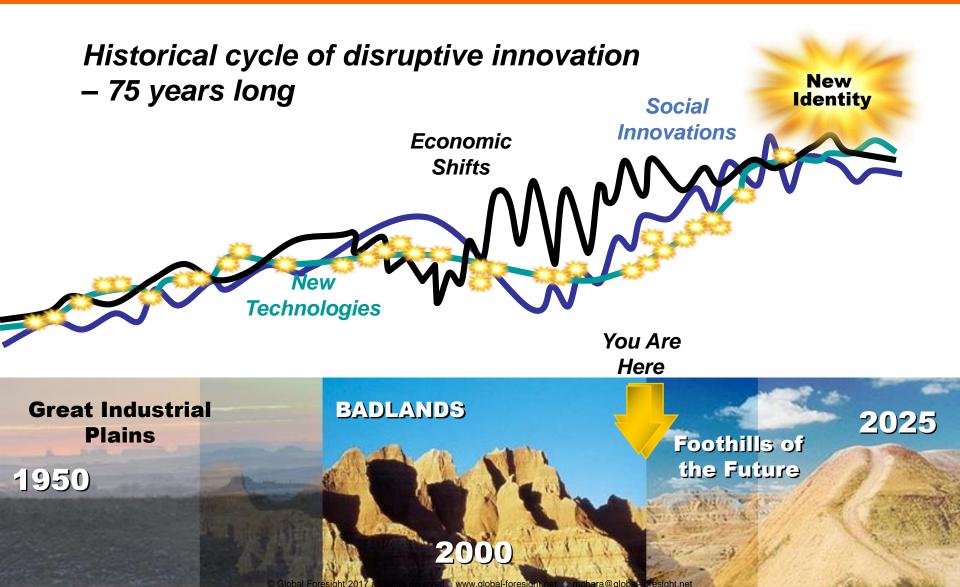








### The Badlands: Transition Zone Between Eras





### Social Systems Fragment & Fail

















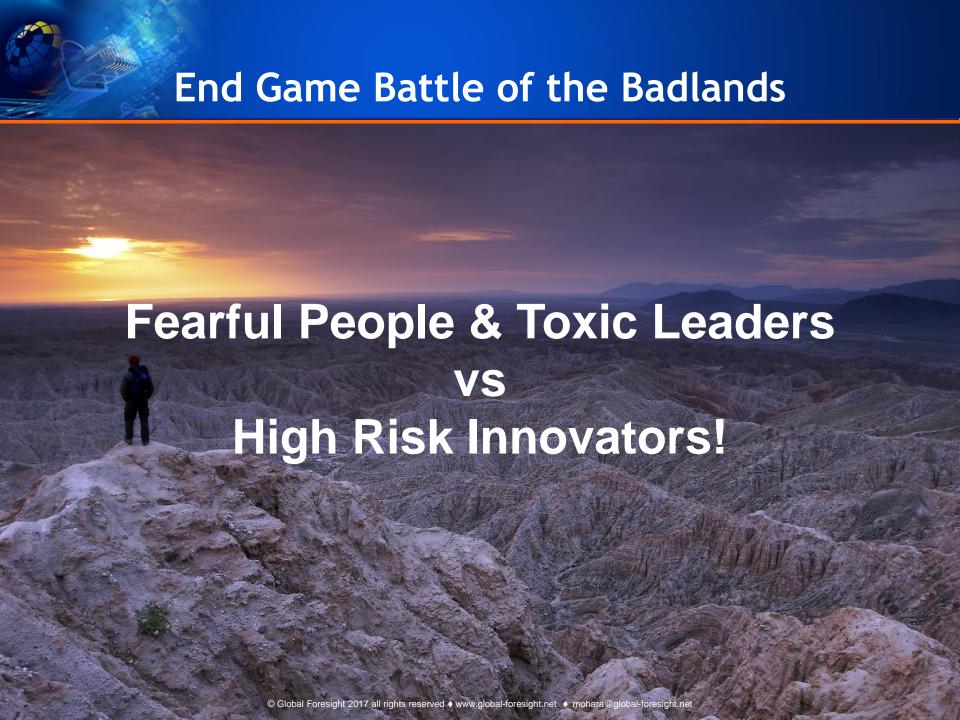
### Rise of Toxic Leaders



### Toxic Leaders Rise to Power

- Lead by illusion not vision –
- Calm our fears not fulfill our dreams
- The 'Allure' promise of safety & security –
- "Stick with me" -
  - "I will take care of you"
- Illusion of rewards for belonging to the 'right' group
- Fearful people collude with toxic leaders
- Mismatched to the issues/needs of the time
- Leave us worse off than before





The major advances in civilization are processes which all but wreck the societies in which they occur."

Alfred North Whitehead





### **Strategic Imperative**

# Navigate Out the Badlands - Creativity & Imagination.



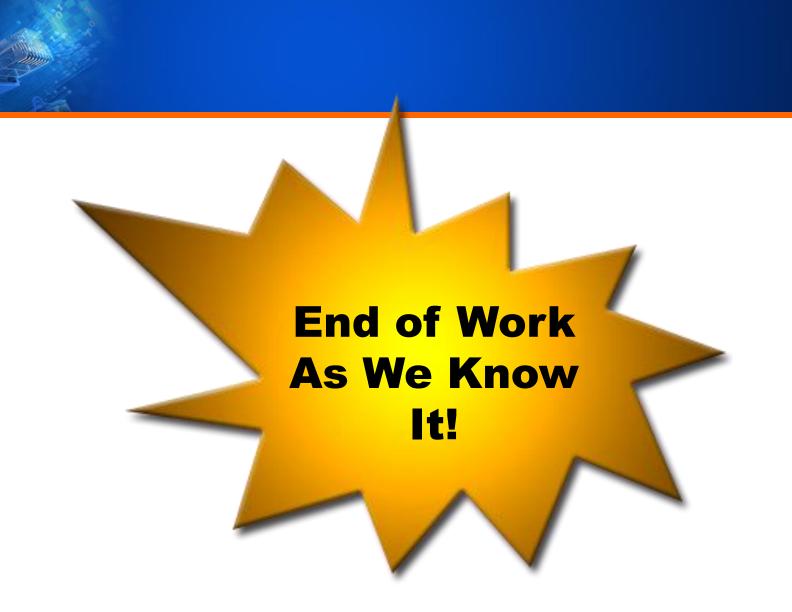
### **GAME ON!**

"Talent hits a target no one else can hit ... Genius hits a target that no one else can see."

Arthur Schopenhauer



# The Future of Management of the Contract of th





### **Most Pressing Social Issue of this Century:**

Re-defining opportunities & responsibilities for millions of people in a society where jobs are declining

### How far can they fall?

Middle Class Jobs = 27%

**Down from 62%....!!!** 



### **BIG CHANGES**

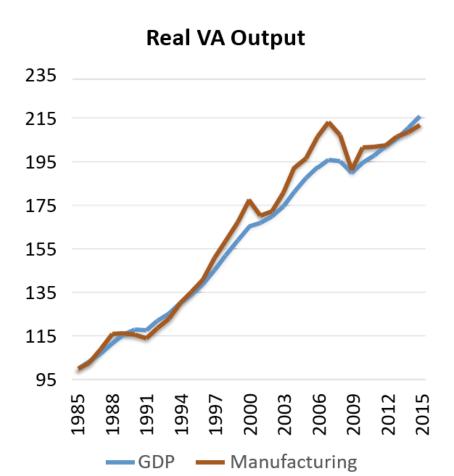
- 2/3's of Households incomes have stagnated in all advanced economies
- First decline since 1970's
- Decline in wage share of workers
- Decline is wage workers of national income
- Big increase in digitably enabled independent workers-30%
- De coupling of wages and productivity
- Rising capital returns to technology investments.
- Lower returns to labor from increased trade

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Source- McKinsey 2017



# Manufacturing & Technology Not People

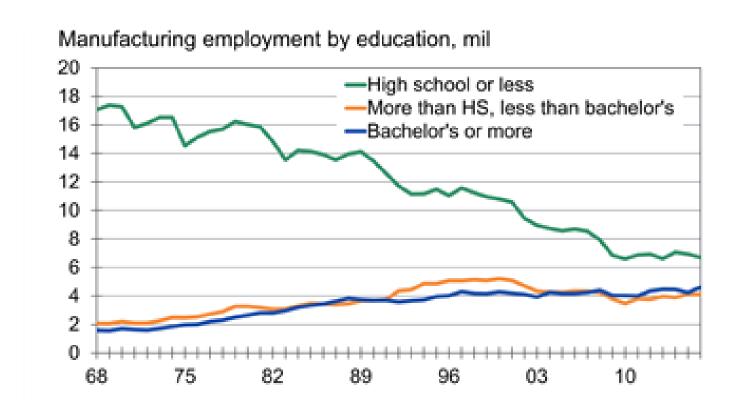


Growth in Real Output	75-95	95-15	Jobs	Prod
TOTAL	90.8%	56.5%	-5018	61%
Computer	1651.4%	1277.6%	-761	548%
Petroleum Prod	773.6%	126.0%	-9	40%
Motor vehicles	61.2%	78.5%	-353	85%
Primary metals	34.0%	43.9%	-240	61%
Other transportation	8.7%	33.6%	-111	33%
Chemical products	84.2%	28.1%	-160	37%
Plastics	133.6%	3.1%	-248	12%
Electrical eq	55.9%	3.1%	-205	44%
Fabricated metal	54.3%	3.7%	-287	8%
Printing	73.4%	5.6%	-372	41%
Nonmetallic mineral	21.5%	7.4%	-131	7%
Food and beverage	63.7%	9.3%	40	5%
Wood products	24.1%	9.8%	-240	30%
Furniture	70.0%	19.9%	-271	9%
Paper	52.2%	28.1%	-258	10%
Textile mills	100.0%	46.4%	-396	14%
Apparel	13.3%	62.6%	-527	15%

Source: Beacon Economics — The Economic Outlook: Focus on Contra Costa County, Jan 2017



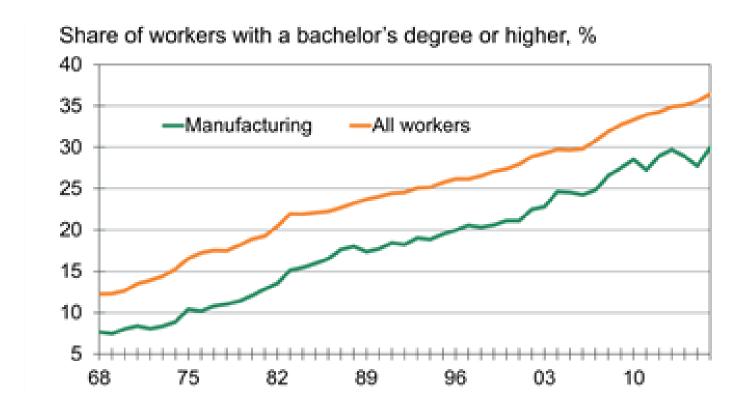
### Manufacturing Losses for the Low-Skilled







# The Shift to Advanced Skills in Manufacturing





# Many of Today's Jobs will be Automated by 2025

- Today only 5% of jobs could be fully automated.
- But TODAY 60% of jobs have 30% of activities that could be automated with today's technologies....
- Automation today could affect
  - -50% of the world economy
  - 1.2 Billion workers
  - 14.6 Trillion in wages
  - Autonmation will impact every job category from scientist, physician, lawayer to lower skilled jobs.
  - Robots will do surgeries, agents will prepare legal briefs,
  - The combination of big data and artificial intelligence allows much to done better and faster that a human.

By 2040 most jobs will be dramatically transformed

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# What's the Future of the American Dream \*\*



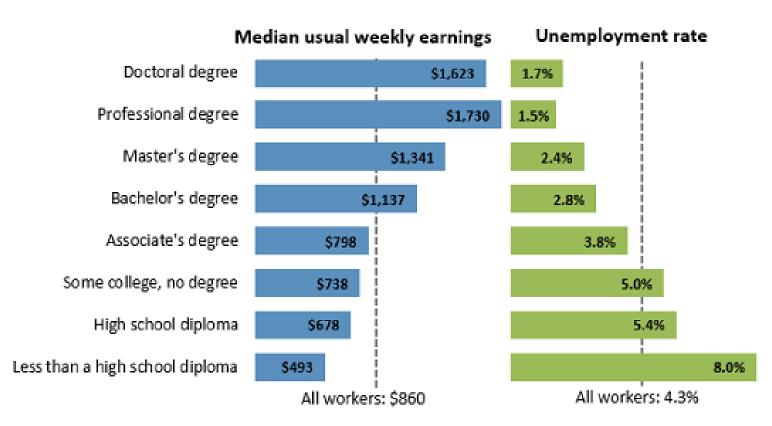
# You Need the Right Skills to Live the Dream!

- Read/write native language
- English language competency
- Understand math and science
- Computer literacy

- Facile with information
- Share/create knowledge
- Business basics
- Group work skills
- Cross cultural competency

# Earnings and Unemployment Rates by Educational Attainment

### 2015



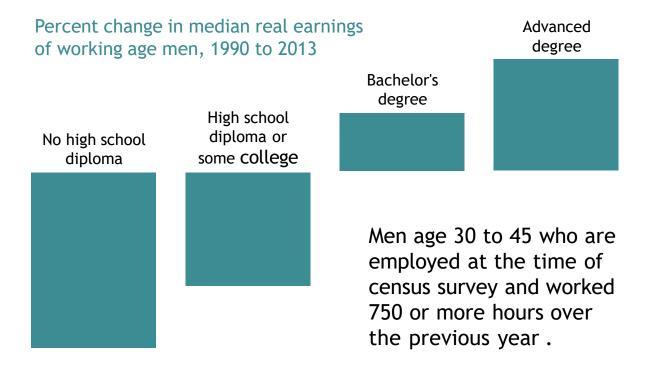
Note: Data are for persons age 25 and over. Earnings are for full-time wage and salary workers.

Source: U.S. Bureau of Labor Statistics, Current Population Survey https://www.bls.gov/emp/ep\_chart\_001.htm



## Earnings Have Fallen for Workers with Little Education

In the last generation, the earning power of less-educated American men in their prime working years has fallen.



Source: Hamilton Project analysis of Census data, 2014

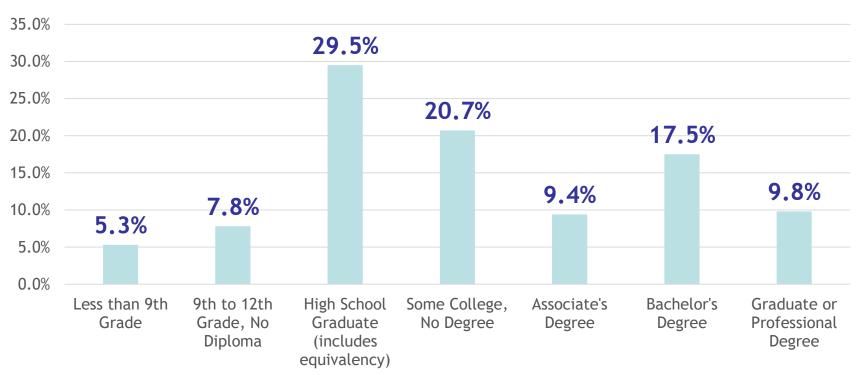






# Florida Educational Attainment Ages 25 & Over





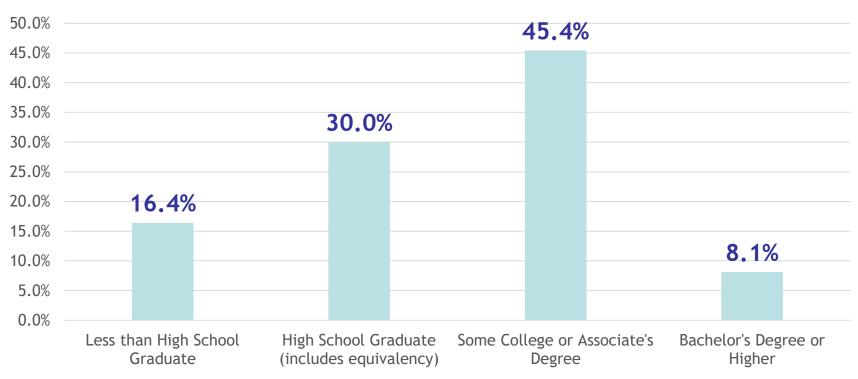
Total Population Age 25+: 13,824,205





# Florida Educational Attainment Ages 18 to 24





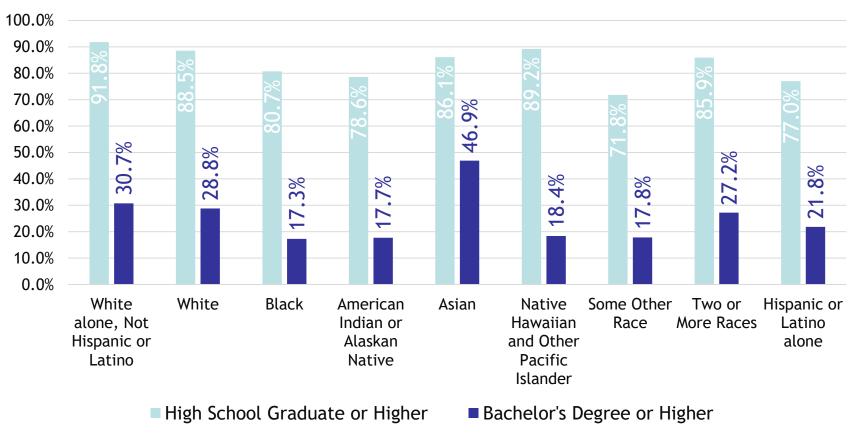
Total Population Age 18-24: 1,780,444



## Flor

# Florida Educational Attainment by Race & Hispanic or Latino Origin

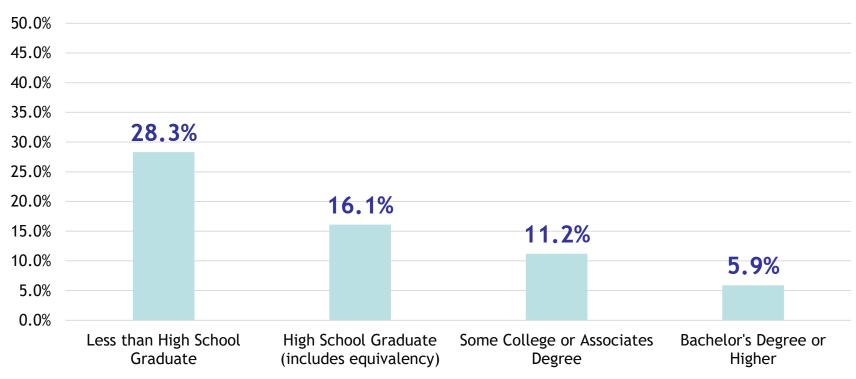






# Florida Poverty Rate by Educational Attainment Ages 25 and Over





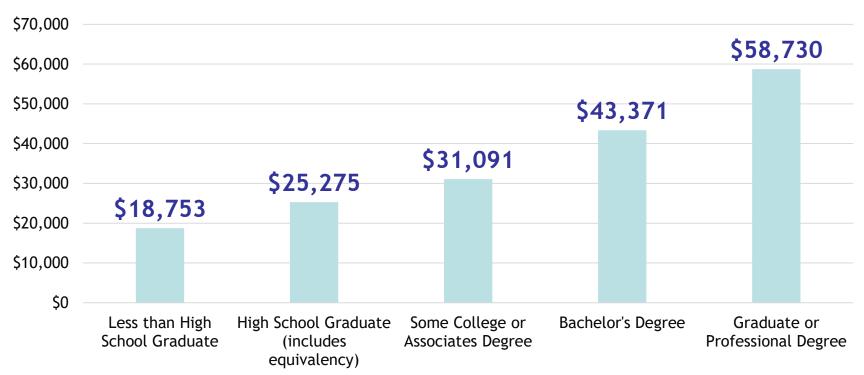
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# Florida Median Earnings by Educational Attainment Ages 25 and Over



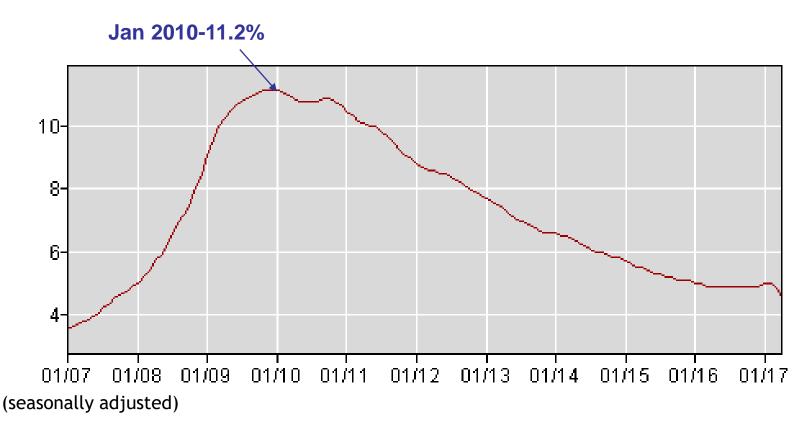


Total Population Age 25+: 13,824,205



# Florida Unemployment Rate 4.5% But what kind of jobs?

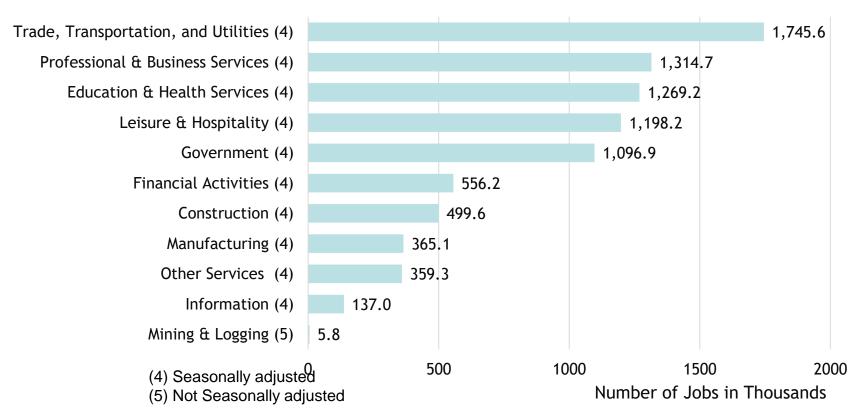
Rate of Unemployment as of April 2017 is 4.5%



Source: US Department of Labor, Bureau of Labor Statistics

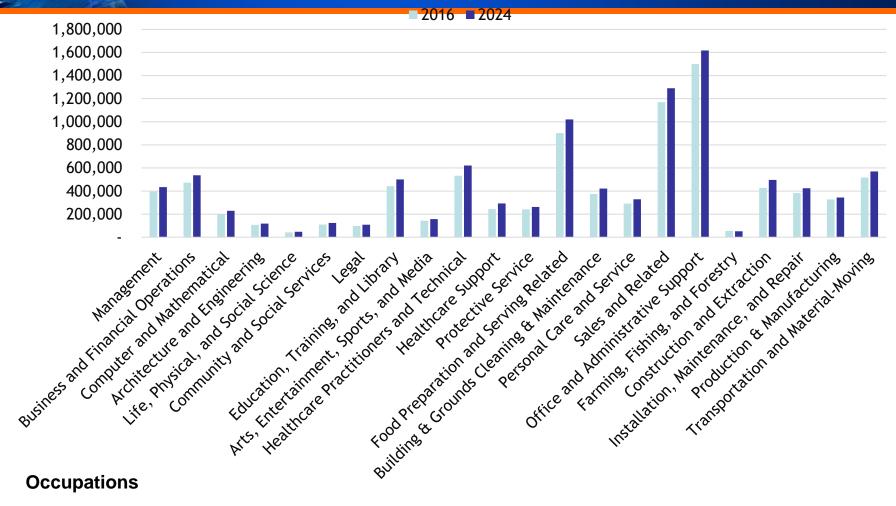
# Not a lot of innovation Industries Non-Farm Employment by Industry

### March 2017



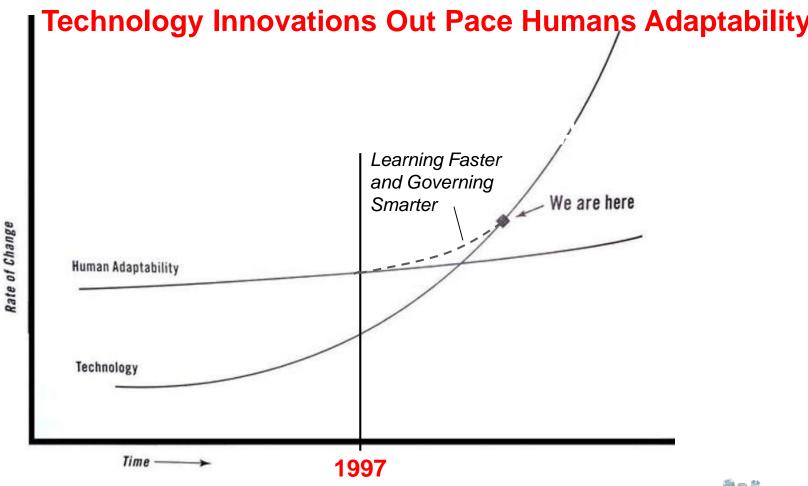
Source: US Department of Labor, Bureau of Labor Statistics

### Florida Job Growth 2016 to 2024 Most Jobs will be lower wage



Source: Florida Department of Economic Opportunity

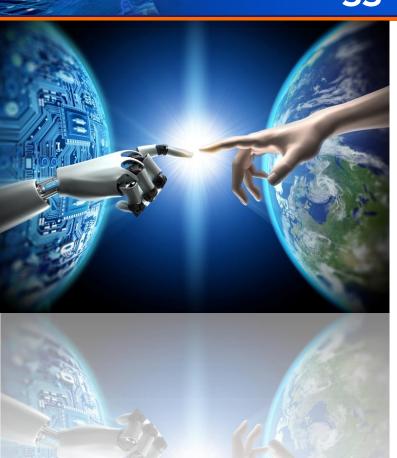
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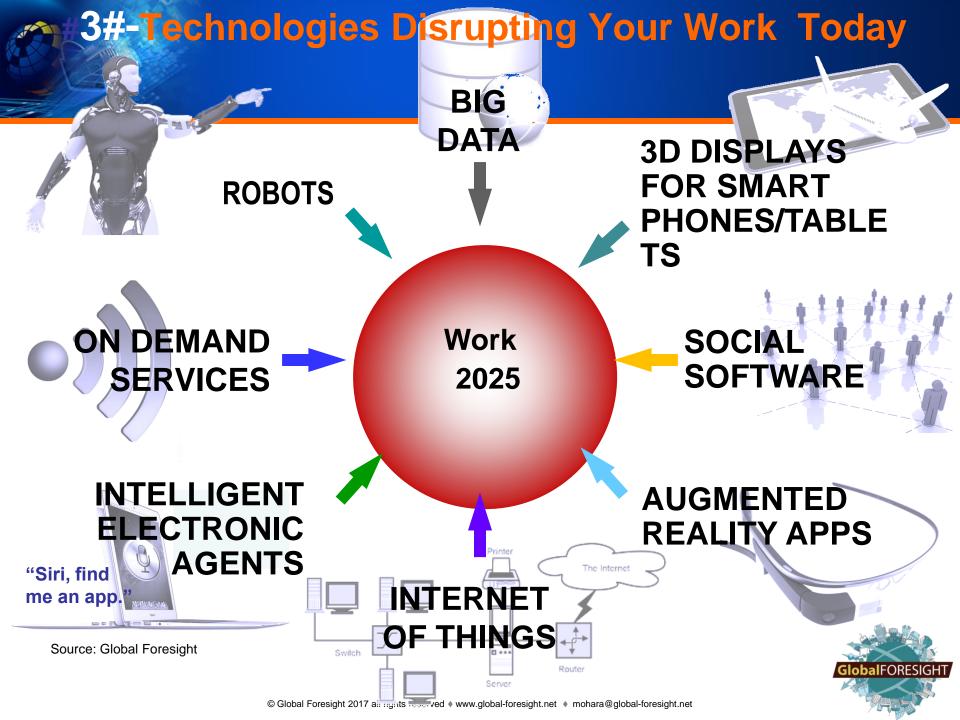


#### Disaggregation of Work

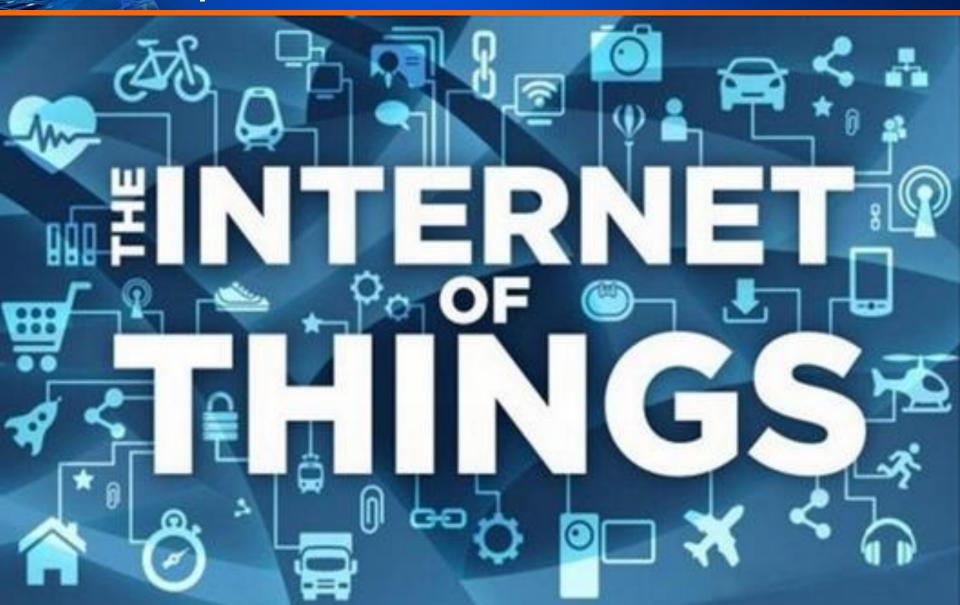


- From local to global
- From jobs to tasks
- Automation
- Rise of Smart Machines
- Critical new skills











#### Artificial Intelligence in Robots





#### Artificial Intelligence Human-Machine Collaboration



# What is human? What is our comparative advantage? © Global Foresight 2017 all rights reserved ♦ www.global-foresight.net ♦ mohara@global-foresight.net



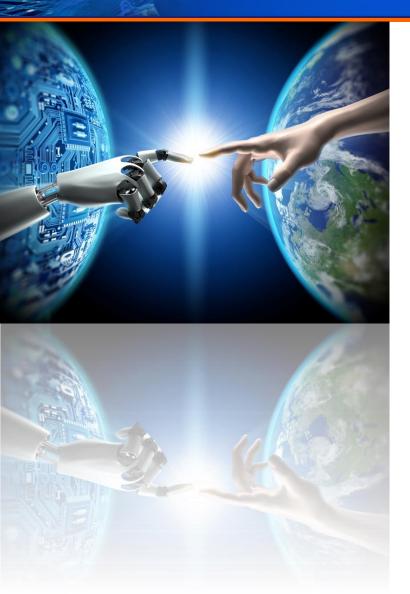
#### Define Your Human Comparative Advantage







#### What is the Future of Education?



Education today is mismatched to the issues and needs of the times.



### Tomorrow's Technology Will Make Us Either More Enlightened Or More Stupid



#### The Age of Big Data

- There is no limit to the amount of information that can be stored & accessed through the internet.
- Google is getting smarter through AI (artificial intelligence) and is able to answer increasingly complex questions. Soon almost with perfect answers.
- In the real world the you always have access to the internet. In most jobs, high end and low end, today people are using the Internet to answer their questions....
- If a student learns how to effectively learn how to use the internet to answer questions fast they will have a very important skill for work.
- It begs the question that we should try to train students to memorize so much and test them to answer quesstions from memory.
- This is a conundrum for education.



#### The Big Question?

As Al advances, will we as humans, be able to advance to a new level of learning whereby the only interesting questions to ask are those that no human has been able to answer yet?

Could we be entering a new age of questioning, a new age of enlightenment, unleasing a new hunger for knowledge leading us to push the boundaries of what we know?

Or will our reliance on computers make us fall into a new age of stupidity...





Technology doesn't drive change.

Human choices make change.

#### Teacher Role in the Future

- A tech optimized education allows students find answers easily
- The role of the teacher must be focused on inspiring & eliciting a child's innate curiosity.
- Unlock interest in how things work
- Forge a productive relationship with technology
- Have dash boards for each student to analyze learning gaps
- Customize teaching and learning using virtual tutors who will remember and learn what they know in intimate detail.
- Use virtual and augmented reality tools to immerse students in the environments they are learning about.
- Offer flexible assignments for multiple learning styles. Tests focusOn demonstrating the competency, skills & understanding through a activity the student chooses.

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#### Classroom of the Future

Layout of the classroom is different. Seating and spaces more flexitble

- -standing desks for students who can't stay focused sitting.
- Accommodations for those who need more movement
- Combination of private workstations and collaborative workstations.
- Options for combining various learning experiences to credits and credentials desired











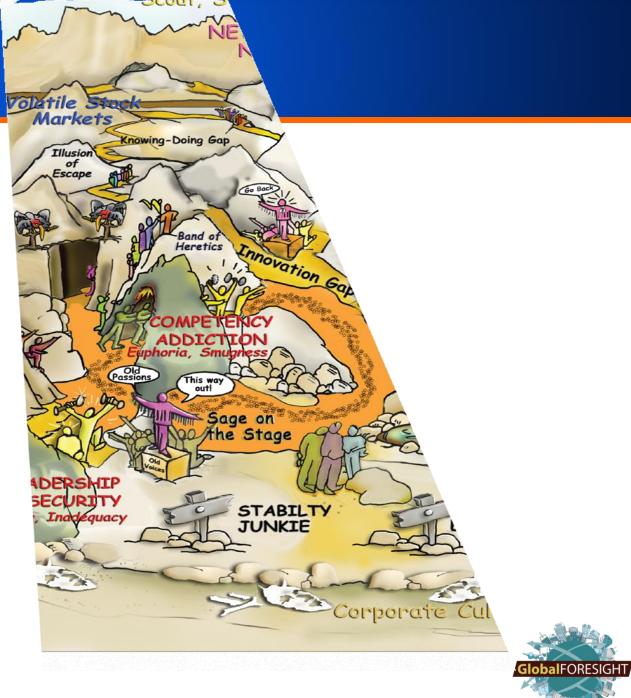


#### **Strategic Imperative**

### Don't Let the Short Term Cancel Out the Long Term



Don't Get Lost in Familiar Territory!



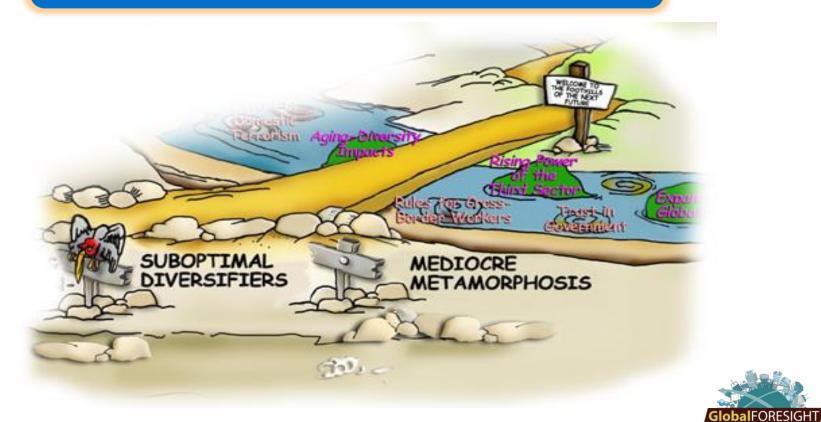


### Black Hole of the Superficial Insight





#### **Strategic Imperative**





## Failure of Imagination

Is Our Biggest Risk!







### "Talent hits a target no one else can hit... Genius hits a target that no one else can see."

Arthur Schopenhauer



#### Get to the Future Fast and First

Mary O'Hara-Devereaux President, Global Foresight LLC mohara@global-foresight.net 415 398-8816 www.global-foresight.net

#### Finding Targets No One Else Can See

A trusted and respected advisor to Chief Executives, Mary O'Hara-Devereaux has more than 25 years of global experience in 65 countries providing senior executives with long-term business forecasts, trend analysis, strategy, and innovation support.

Known for her steady-eyed forecasting, Mary's ability to analyze emerging trends and translate them into profitable business opportunities is legendary. She is known for finding targets no one else can see.

Global Foresight offers a rich suite of services designed to guide organizations through tumultuous business conditions and a chaotic world stage. Leaders cannot only survive uncertainty; they can discover the incredibly rich opportunities that are open to those with foresight and the ability to innovate strategically and aggressively. Global Foresight's team of experts, led by founder and CEO Mary O'Hara-Devereaux, provides the research, analysis, insight, and advice organizations need to meet the future with confidence and optimism.









#### Skills for the Future

Social Intelligence

**Create Unique Critical Insights** 

> Cognitive Load Management

> > Cross-cultural **Cross-Generational Empathy**

Trans-Disciplinary

> Design **Architect**

> > Engage **Networks**

**New Media** Literacy

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8 188%

#### Social Intelligence

□ Switch contexts quickly... connecting deeply to others stimulating desired responses and conversations.



- Art of the Deep Bump
- Productive velcro relationships
- Collaborate with large dispersed diverse groups to innovate & execute



#### **Trans-disciplinarity**

□ Capable of individually understanding, communicating and creating new ideas and solving problems across 2 or more disciplines.

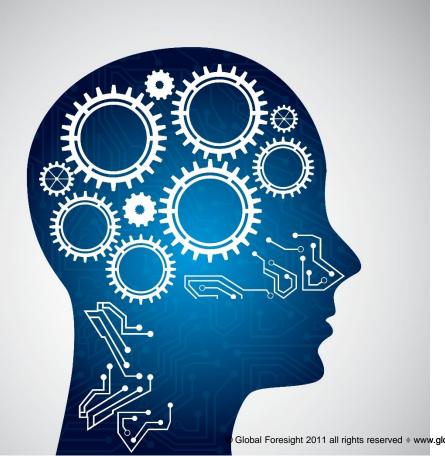


- Combinatorial worker
- Bi-discipline fluency-new literacy
- Complex multifaceted problem solution models



### **Create Critical Unique Insights**

□Ability to call higher thinking skills quickly into action specific to a critical decision that needs new fresh novel solutions in unique unexpected situations.



- Sense making
- Generative
- Adaptive



### Cross Generational/Cultural Empathy

- Put yourself in others shoes.
- The ability to build bridges of communication and productivity across the gaps between generations and cultures.
- Cultural learning.
- Third way designs
- Facilitation of collaboration













## Black Hole of the Superficial Insight







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Is Our Biggest Risk!







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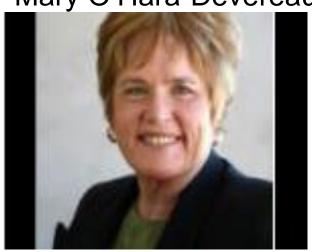
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#### Get to the Future Fast and First

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Profound, Provocative, Pragmatic

Finding Targets No One Else Can See

