# WELCOME TO "THE NEW NORMAL" A MACRO-CONTEXT FOR MINITRENDS

presented by

# DAVID PEARCE SNYDER, Consulting Futurist SUCCEEDING IN A NEW NORMAL WORLD

A Pre-Conference Master Course ~ WORLD FUTURE 2013

Chicago, Illinois

July 19, 2013

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# THE FUTURIST MINDSET

"Futurists think constantly and by preference of things to come, and of present things mainly in relation to the results that must arise from them."

H.G.Wells
"The Discovery of the Future"
address to the Royal Society
January 24, 1902

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# THE MACROTRENDS MINDSET

Understanding the "knowable future" - the inertial realities of the present - and of "the results that must arise from them," to serve as a context for assessing the future potential of all new things, including Minitrends.

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# THE MINITREND MINDSET

"Applying the minitrends concept is not a step-by-step process, but rather the adoption of a mindset that encompasses all of the elements of the concept."

John Vanston Minitrends (p. 1815) Technology Futures, Inc. 2010

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# What does *THE NEW NORMAL* have to do with the future?

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Something that is "new" has only been in existence for a short time.

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Something that has become "normal" is likely to stay that way for a while.

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The phrase "New Normal" implies that we have recently crossed a threshold in time, and entered a future that will be distinctly different from our recent past.

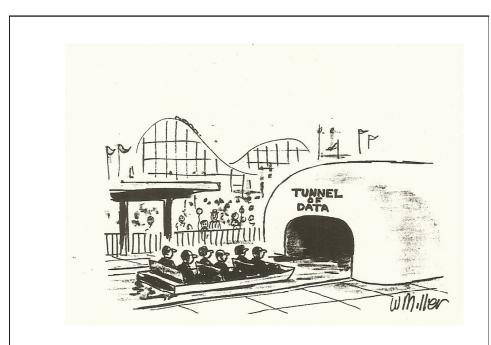
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#### **INERTIAL REALITIES OF "THE NEW NORMAL"**

- **DEMOGRAPHIC FORECASTS** The future size and make-up of the U.S. adult population including our labor pool and our consumer markets can be accurately forecast **fifteen years out.**
- *ECONOMETRIC FORECASTS* The future size and make-up of the U.S. economy and workforce can be accurately forecast **ten years out.**
- **TECHNOLOGIC FORECASTS** Mass-market applications of new technology can be accurately forecast **seven to eight years out.**

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# FASTEN SEAT BELTS!

Rates of social, economic and technologic change will accelerate throughout *The New Normal.* 

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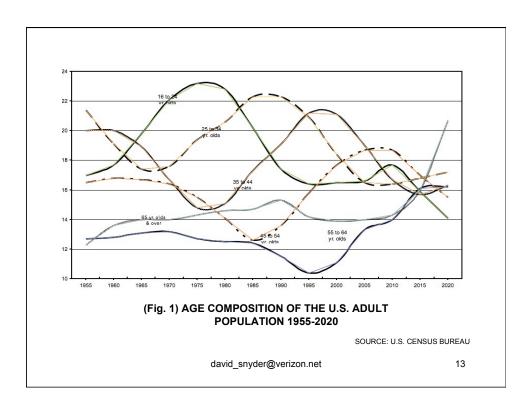
Now entering

"THE NEW NORMAL"

**BE PREPARED FOR:** 

an older society

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## **WANTED! DIGITAL NATIVES!**

#### US LABOR FORCE - 2010 TO 2020 (PROJECTED)

AGE COHO	RT 2010 (1000's)	2020 (1000's)	Change (1000's)	Change % Rate	Distrib 2010	ution 2020
16 to 24	20,934	18,330	- 2,604	- 12.4%	13.6%	11.2%
25 to 54	102,940	104,619	+ 1,679	+1.6%	66.9%	63.7%
55 & over	30,014	41,411	+ 11,397	+ 38.0%	19.5%	25.2%
TOTALS	153,889	164,360	11,306	6.8%	100%	100%

# MEANWHILE, THE BABY BOOM IS STILL OUR BIGGEST GENERATION

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# AMERICA'S BIGGEST GENERATION FINALLY MATURES WHAT'S NEXT FOR THE BABY BOOMERS?

- They're delaying retirement by about 5 years!
- The warranty has begun to **EXPIRE** on their parts!

Boomers are not as healthy as their parents were at the same age;

2/3 are overweight and 1/3 are obese!

(And 1/4 are going deaf!)

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#### THE CHANGING AMERICAN ECONOMY

15 U.S. Industries with Largest Employment Growth - 2010 and 2020 (projected)

INDUSTRY DIVISION	EMPLOYMENT 2010	(IN 1000s) 2020	CH/ (1,000s)	NGE %
1. Construction	5,526	7,365	+1,839	+33.3%
2. Retail trade	14,414	16,182	+1,768	+12.3%
3. Health practitioners' offices	3,818	5,209	+ 1,391	+36.4%
4. Hospitals	4,685	5,564	+ 879	+ 18.8%
5. Home healthcare services	1,081	1,952	+ 871	+ 80.1%
6. Eating & drinking places	9,352	10,212	+ 860	+ 9.2%
7. Individual & family services	1,251	2,066	+ 851	+ 70.0%
8. Nursing & residential care facilities	3,129	3,951	+ 822	+ 26.3%
9. Wholesale trade	5,456	6,200	+ 744	+ 13.6%
10. Local government education services	8,010	8,751	+ 741	+ 9.3%
11. Computer system design services	1,442	2,113	+ 671	+ 46.5%
12. Employment services	2,717	3,348	+ 631	+ 23.2%
13. Professional, scientific & technical consulting services	991	1,567	+ 576	+ 58.1%
14. Post-secondary education	1,694	2,171	+ 477	+28.2%
15. Outpatient, laboratory & other ambulatory care services	1,077	1,471	+ 394	+36.6%

http://www.bls.govf

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#### HEALTH CARE - 2010 TO 2020

#### AMERICA'S BIGGEST INDUSTRY GETS BIGGER!

- Over-65-year-olds who consume 2/3 of all medical services – will become the biggest age cohort in the U.S. population by 2015.
- Healthcare now 17% of GDP, projected to rise to 20% by 2020; 25% by 2025! (CBO)
- Healthcare employs 1/8 of U.S. workers today, and creates 1/4 of all new jobs; 1 out of 5 U.S. jobs will be in health or medicine by 2020!
- National & regional "chains" dominate U.S. healthcare, operating hundreds of "Urgent Care" clinics; Medical Malls.

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#### THE CHANGING AMERICAN ECONOMY

#### U.S. Employment by Major Industry Division - 2010 & 2020 (projected)

INDUSTRY DIVISION	EMPL OVME	NT (IN 1,000s)	CHANGE		
INDUSTRI DIVISION	2010	2020	(1,000s)	(%)	
TOTAL - ALL INDUSTRIES	143,068	163,537	+20,469	+14.3%	
GOODS PRODUCING (non-agriculture)	17,706	19,497	+1,791	+10.1 %	
Construction	5,526	7,365	+1,839	+33.3%	
Manufacturing & mining	12,180	12,131	- 49	- 0.0%	
ALL SERVICE PROVIDING	112,731	130,680	+17,950	+15.9%	
Retail Trade	14,414	16,182	+1,768	+12.3%	
Financial Activities	7,630	8,411	+781	+ 10.2%	
Professional, scientific, technical					
& business services (non-Med/Ed)	16,688	20,497	+3,809	+ 22.8%	
Education, Training & Libraries	9,194	10,597	+1,403	+ 15.3%	
Health care & social assistance	16,415	22,054	+5,639	+ 34.4%	
Leisure and hospitality	13,020	14,362	+1,343	+ 10.3%	
Federal, state & local government					
(non-ed & non-med)	16,437	17,123	+686	+ 4.2%	
Other services	12,039	13,567	+1,528	+12.7%	
AGRICULTURE	2,136	2,005	- 131	- 6.1%	
SELF-EMPLOYED	10,386	11,242	+856	+8.2%	

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#### THE U.S. JOB CREATION RATE IS FALLING!

COMPARATIVE 10-YEAR PROJECTIONS FOR U.S. POPULATION AND JOB GROWTH

2000 to 2010 - 2002 to 2012 - 2004 to 2014 - 2006 to 2016 - 2008 to 2018

	Projected Population Growth		Projected Job Growth		Job Creation
Years	Numbers	%	Numbers	%	Rate
2000 to 2010	28.1 million	10%	22.2 million	15.2%	100:79
2002 to 2012	28.8 million	10%	21.3 million	14.8%	100:74
2004 to 2014	29.4 million	10%	18.9 million	13.0%	100:64
2006 to 2016	30.2 million	10%	15.6 million	10.4%	100:52
2008 to 2018	30.8 million	10%	15.3 million	10.1%	100:49

SOURCE: U.S. Bureau of Labor Statistics (BLS)

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# **BLAME IT ON THE WEB!**

THE BROADBAND INTERNET HAS ACCELERATED TWO LONG-STANDING WORKPLACE TRENDS:

- GLOBAL ECONOMIC INTEGRATION (Y2K)
- INFORMATION AUTOMATION ("INFOMATION")

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Because their productivity can't be increased by technology, most consumer service workers get less pay than do their blue-collar counterparts!

#### VANISHING MIDDLE INCOME JOBS

"Rapidly-growing Service Sector employment requires higher average skills, but pays lower average wages and benefits than do our shrinking capital-intensive manufacturing and primary industries." As a result . . . .

#### Median U.S. income is falling!

Source: Economic Policy Institute, 2005

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This all begins to sound pretty

**GLOOMA!** 

WHAT ABOUT THE "HIGH-TECH BOOM" PEOPLE KEEP TALKING ABOUT?

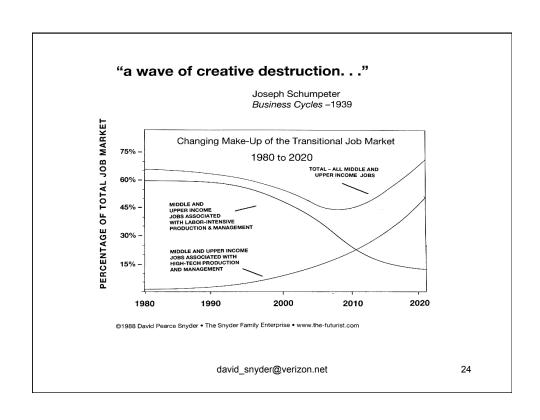
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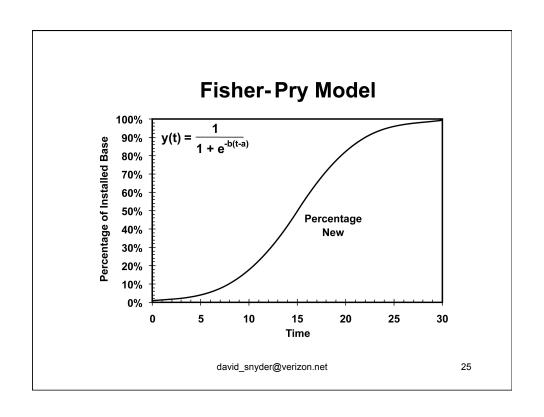
# THE BUST BEFORE THE BOOM

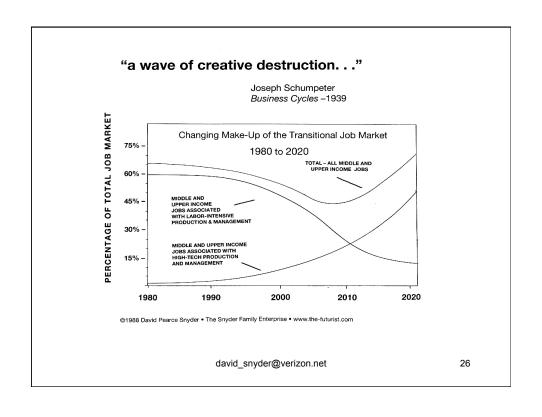
Historically, rising tides of technology-based productivity improvement that "lift all boats" have been preceded by what economist Joseph Schumpeter once described as:

## "waves of creative destruction!"

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#### We are literally in the middle of the

#### **INFORMATION REVOLUTION!\***

\* Politicians never use the "R" word, because it would suggest that historic circumstances were beyond our control —which no politician would ever admit, even if it were true.

Because of this, most people — including many political and business leaders — do not comprehend the permanent structural nature of the changes that are happening to the economy.

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#### **PAVED WITH GOOD INTENTIONS**

- (2001) To assist the beleaguered middle class, Congress (and most states) reduce income and capital gains taxes.
- (2001 →) To stimulate economic growth, the Federal Reserve lowers the discount rate, further reducing the cost of credit.
- MEANWHILE (1995 →) Computer risk analysis permits the financial services sector to create new forms of investment – derivatives, securitized debt obligations – that increase the supply of capital and drive down interest rates for both commercial and consumer credit.

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#### EASY CREDIT FOR UNCLE SAM

- (2000 →) China & Japan invest over \$3 trillion of their trade surpluses in U.S. sovereign debt acquired as a result of cutting Federal taxes while fighting 2 wars and expanding Medicare drug benefits
- (2000 →) Because China & Japan purchase most U.S. sovereign debt, Federal borrowing does not have to compete in the financial marketplace, which keeps the supply of capital high and the cost of commercial/consumer credit low.

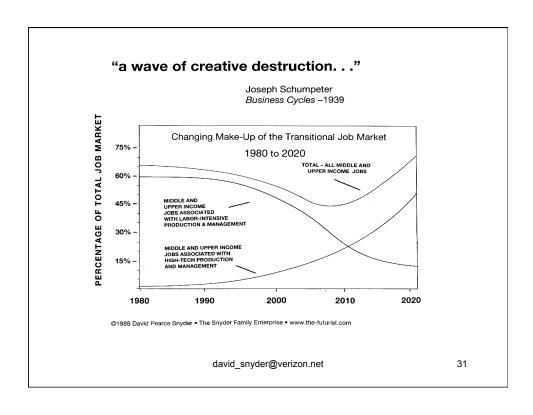
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#### DOIN' WHAT COMES NATURALLY

- (2000 2007) Buoyed by cheap credit and low taxes, American consumers become the driving force behind U.S. economic growth, using borrowed money.
- (2000 2007) HOME EQUITY LINES-OF-CREDIT ALONE ADD \$1 TRILLION PER YEAR TO U.S. CONSUMER SPENDING, which rises from 67% to 72% of U.S. GDP in spite of falling household income!
- (2000 2007) 1/4 of Boomers purchase 2<sup>nd</sup> homes.
- (2006) The share of U.S. households in owner-occupied homes briefly reaches 69%.

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#### ING! WARNING! WARNING! WA

(1999/2001) "REGULATE SDOs!" Brooksley Born, CFTC
 (2005 →) Economists caution that U.S. households are "living beyond their means," and that:

- "U.S. household savings rate has gone negative!" (- 2.7%, April, 2005)
- "There is a huge and growing commercial and consumer debt overhang,"
- "The housing 'bubble' is unsustainable!"
- "75% of all capital is now invested in high risk, non-regulated securities!"

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# Remember the

# ANDREA GAIL

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# WHAT BLOWS UP ....

#### Sure enough, the economists were right!

- (2007) Housing bubble bursts; Recession begins!
- (2008 2009) A notional \$60 trillion "evaporates" from the global capital supply; U.S. housing and stock values fall by more than \$13 trillion!
- (2007 →) 8+ million jobs vanish.
- (2007-10) Median U.S. household net worth falls 39% from \$126K to \$77K.
- (2007-2011) Over \$2 trillion in "scared money" flees equities into depository accounts & CDs.

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Now entering a

"NEW NORMAL"

#### **BE PREPARED FOR:**

- an older society
- an austere economy

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#### **DEBT, DELEVERAGING & AUSTERITY**

Credit Bubbles and Their Economic Consequences

A 2010 McKinsey Global Institute analysis of 45 historic episodes during which 10 developed nations and 4 developing nations significantly reduced their total debt-to-GDP ratios since 1930, found:

- long periods of deleveraging nearly always follow major financial crises;
- deleveraging lasts 6 or 7 years, on average, during which
- public & private sector debt are typically reduced by 1/3, while employment contracts & stagnates.

http://www.mckinsey.com/mgi/publications/debt\_and\_deleveraging

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#### **PUBLIC SECTOR DELEVERAGING AHEAD!**

- Forced by circumstances to reduce public sector debt, all levels of U.S. government will have to cut services and raise taxes, fees, tolls, etc. (\$trillions in play!!)
- To preserve Social Security, retirement age will be raised to 69 or 70.
- To broaden the public sector tax base, undocumented aliens may be permitted to "earn" U.S. citizenship through college/community/military service. (WILD CARD!)
- Congressional Deficit Reduction: (MAJOR FEDERAL SPENDING CUTS? PERSONAL/CORPORATE TAX REFORM? NATIONAL VALUE-ADDED TAX vs. "BUFFET RULE"?)

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#### OTHER DEBT TO DEAL WITH!

- Town-grading \$trillions in mortgage-backed securities
- Tover 400 banks fail (2009-2012) M&As eliminate over 1,000 banks between 2009 and 2013)
- · Plus, more potential big defaults ahead:
  - ♣ Under-funded pensions (2/3 public)
     ♣ Commercial real estate loans
     ♣ SallieMae (School loan "Bubble"?)
     ♣ 1.4 trillion +
     ♣ 1.0 trillion +

♦ Consumer debt

0.9 trillion +

Corporate debt

0.9 trillion +

0.7 trillion +

TOTAL \$8.1 trillion +

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# "Deleveraging" Life

- U.S. birth rates down 9% from 2007!
- U.S. marriage rates down 7% from 2007!
- SUZE ORMAN SAYS: "SAVE! DON'T SPEND!"
- "Now that people are moving back to cities and renting rather than buying homes, that will free them up to spend money on things other than mortgages, cars and gas – like experiential goods, new technologies and saving for retirement."

(Richard Florida, The Great Reset, 2010)

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#### **OUR ECONOMY HAS SHIFTED GEARS**

- The ongoing "jobs recession" reflects a long-term "down-shifting" of the consumer engine that has driven U.S. economic growth since 2000.
- Increased saving, tightened credit and higher taxes will reduce the discretionary expenditures of most U.S. households, keeping consumer spending 5% to 10% below pre-Recession levels for at least five years, as Americans are forced to "live within their means."
- Until the U.S. and European debt overhang is reduce by 1/3 from their 2008 highs, DELEVERAGING WILL DRAG ON ECONOMIC GROWTH.

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So . . . .

How long will it take the economy to fully recover from the recession and "get back to normal?"

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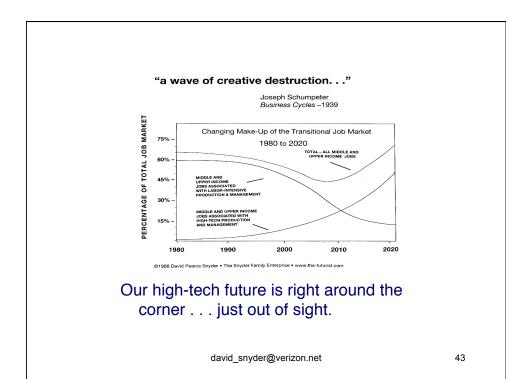
WE'RE IN A REVOLUTION,

NOT A BUSINESS CYCLE,

AND THINGS WILL NEVER

GET BACK TO [OLD] NORMAL!

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Now entering a

"NEW NORMAL"

#### **BE PREPARED FOR:**

- an older society
- an austere economy
- PERVASIVE technology

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#### **U.S. JOB CREATION RATE IS NOW RISING!**

COMPARATIVE 10-YEAR PROJECTIONS FOR U.S. POPULATION AND JOB GROWTH

2002 to 2012 - 2004 to 2014 - 2006 to 2016 - 2008 to 2018 - 2010 to 2020

	Projected Population Growth		Projected Job Growth		Job Creation
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2006 to 2016	30.2 million	10%	15.6 million	10.4%	100:52
2008 to 2018	30.8 million	10%	15.3 million	10.1%	100:49
2010 to 2020	34.2 million	10%	20.5 million	14.3%	100:60

SOURCE: U.S. Bureau of Labor Statistics (BLS)

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# SOME COMMON VISIONS OF THE U.S. ECONOMY AT THE END OF THE INFORMATION REVOLUTION (2020)

- High Tech Manufacturing (bio-tech, robotics, nano-tech, etc.)
- Green Industrial Economy (wind turbine, electric cars, fuel cells)
- Professional, Scientific & Technical Services Economy
- Micro-businesses, Info-preneurships, eCreativity

What we do know for certain is that our "rendezvous with austerity" is about to be followed by ....

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# A "MASH-UP" with TECHNOLOGY

# By 2020 . . . .

- the U.S. stream of commerce will be cashless and paperless
- smartphones will be our eWallets / ID / Drivers Lic / Med-Info
- Web 5.0/cloud computing streamlines Internet (Server Centers!)
- Electronic Medical Record Systems (EMRS) will reduce costs and improve the quality of U.S. healthcare
- Personal Mobile Technologies will replace school textbooks
- We'll all be "chatting" with our technology! "Personologies!"
- eEntertainment users/revenues including games surpass those for all live sports, concerts, movies, plays, etc.
- 3D printing fosters "mom & pop" manufacturing"

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# THE "NEXT BIG THINGS" IN WORKPLACE TECHNOLOGY

- Mobile connectivity Consumerization of workplace IT (BYOD/CYOD) (+ 7 additional work hours/week!)
- Social Networking Fosters teamwork, customer/supplier collaboration, learning platforms, "communities of practice"
- "Cloud computing" Information services as a utility 40% to 70% cost savings security issues • private & public clouds, blended systems (Cheap super-computing!)
- BIG DATA Data-intensive research Pattern recognition & Granger analysis, Hadoop, Zoomdata.com

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#### "NETWORKED: THE NEW SOCIAL OPERATING SYSTEM"

A long-term study by Pew Research recently found that:

- As people mature, they join, leave & create a continuously evolving portfolio of personal networks, reflecting the changing important components of their lives: e.g. pop culture, work, health, hobbies, education, faith, finance, family, etc.
- Individuals use the "collective wisdom" of their networks (6 or 7, on average) to help them interpret and validate the surfeit of information available on the internet.
- There is a positive correlation between personal and financial success and the numbers of networks to which individuals belong.

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# THE "NEXT BIG THINGS" IN WORKPLACE TECHNOLOGY

- Mobile connectivity Consumerization of workplace IT (BYOD/CYOD) (+ 7 additional work hours/week!)
- Social Networking Fosters teamwork, customer/supplier collaboration, learning platforms, "communities of practice"
- "Cloud computing" Information services as a utility 40% to 70% cost savings • private & public clouds, (70% consumer use/30% commercial) • Cheap super-computing!
- BIG DATA Data-intensive research Pattern recognition & Granger analysis, Hadoop, Zoomdata.com

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# Clouds and "BIG DATA"

 "The march of quantification, made possible by cloud computing and enormous new sources of data, will sweep through academia, business and government; no area will be left untouched."

Gary King, Inst. for Quantitative Social Science, Harvard

- "Data is a new class of asset, like currency or gold."
   World Economic Forum, Davos, January, 2012
- "Companies that adopt data-directed decision-making enjoy a 5% to 6% boost in productivity."
   Eric Brynjolfsson, Sloan School of Management, MIT

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# CLOUD SERVER CENTERS WILL BE THE FACTORIES OF THE INFORMATION ECONOMY!

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## **MEANWHILE, CROWDS GO WILD!!**

- Crowd Sourcing Major firms increasingly solicit ideas for new products and solutions to problems from the general public. (P&G has announced that 1/2 of their new products will be generated by crowd sourcing.)
- Crowd Funding Rapidly growing numbers of inventors and entrepreneurs solicit direct investments on-line, and, after January 2013, the 2012 Jobs Act authorizes startups to sell stock directly to the public.

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At last: a low-cost, professional-grade light-based 3D printer | KurzweilA

10/13/12 1:14 PM

#### KurzweilAI | Accelerating Intelligence. News

#### At last: a low-cost, professional-grade light-based 3D printer

September 27, 2012

Formlabs' new Form 1 3D printer could bring professional-grade 3-D prints to the home workshop.

Desktop 3-D printing has largely been the domain of extrusion-based machines like MakerBot's

These lag behind the capabilities of pricier, professional stereolithography devices, where UV light cures incredibly thin layers of resin to create objects on par with manufactured goods.

The Form 1 is a desktop-sized machine that creates professional-grade, light-cured 3-D prints, Wired reports.

Their prototype units are fully functional and Formlabs will finance manufacturing via a Kickstarter campaign that broke their \$100,000 target in 2.5 hours.

Initial backers will be able to pre-order the Form 1 for \$2,299 (only 25 will be available at this price); additional units are priced at \$2499 and \$2699, based on order of contribution. Actual market pricing has not yet been released.



Form 1 (credit: Formlabs)

weilai.net/at-last-a-low-cost-professional-grade-light-base david\_ssnyder@verizon.net

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# **WANTED!**

An Energy Storage Breakthrough

# MORE EFFICIENT BATTERIES WILL BE:

- crucial for the mass-market success of electrical vehicles
- essential for the commercial success of solar & wind generated energy

THE DOLY GRAIL OF THE NEW NORMAL!

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#### **CAUTION!**

In a world of rapidly-expanding knowledge, ongoing innovation and globalization, EVERYONE must be attuned to anticipating, detecting and responding to the unintended consequences of change, since . . .

"Innovation and change occur in a world so complex that the unexpected must always be expected." ("Tenner's Law")

Edward Tenner ~ Why Things Bite Back: Technology and the Revenge of Unintended Consequences - 1996

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## So, Welcome to THE NEW NORMAL, where

- Society will be older (with fewer young adults):
- most individuals and institutions will have to live/operate within more limited means;
- technology will pervade every aspect of daily life and change how we all work and play;
- and where accelerating innovation and change will produce growing numbers of unintended consequences.

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#### MACROTRENDS + MINITRENDS

## = REVOLUTIONARY CHANGE

The New Normal will be a 10-year period of rapid techno-economic innovation and socio-economic adaptation during which a multitude of Minitrends will emerge and mature into major features of our long-term future.

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#### www.the-futurist.com

"The future evolves in an orderly fashion out of the realities of the past, filtered and shaped by the decisions of the present."

David Pearce Snyder, 1969 \*

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After 43 years, it's still true!

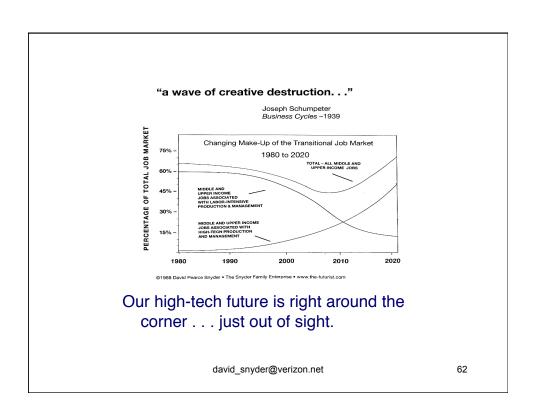
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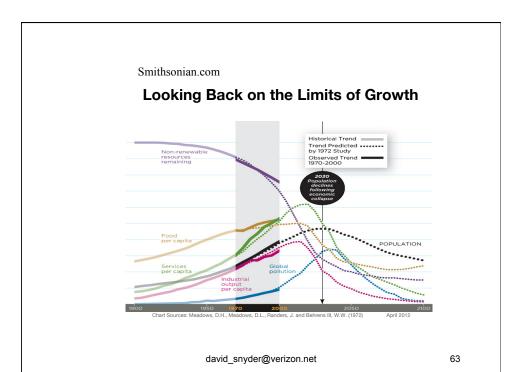
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## = REVOLUTIONARY CHANGE

The New Normal will be a 10-year period of rapid techno-economic innovation and socio-economic adaptation during which a multitude of Minitrends will emerge and mature into major features of our long-term future.

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# **CLUB OF ROME REDUX!**

- A growing body of evidence shows that the current trajectory of growth in global consumption will lead to worldwide shortages in fuel, materials, food and water by 2030 to 2040 and greater "economic nationalism."
- "These shortages and their consequences can ONLY be avoided through rapid technologic innovation and dramatic changes in public policies, business models and social expectations worldwide."

McKinsey: Sustainability & Resource Productivity Practice
November, 2011

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