

Original Document by **Eric Fortune** <http://goo.gl/6jM>

Meet the future. The future doesn't need you.

[Oxford Professors: Robots And Computers Could Take Half Our Jobs Within The Next 20 Years](#)

[Meet the Robot Telemarketer Who Denies She's A Robot](#)

Google Wants To Build A Robot Army For The Manufacturing Sector

<http://www.businessinsider.com/google-robot-technology-2013-12>

Motor Authority Nissan Nissan Leaf Self-Driving Car

A Self-Driving Nissan Has Successfully Navigated Public Roads In Japan

<http://www.businessinsider.com/a-self-driving-nissan-has-successfully-na...>

Doctor Robot Will See You Shortly <https://www.tmzilla.com/poezd/rasp-n-177.html>

<http://www.bloomberg.com/news/2013-09-26/doctor-robot-will-see-you-short...>

The World's Largest Miner Wants To Replace Its Overpaid Train Drivers With Robots

<http://www.businessinsider.com/rio-tinto-replaces-drivers-with-robots-20...>

The Less Obvious Dangers Of The Robot Economy

<http://www.businessinsider.com/dangers-of-the-robot-economy-2013-9>

Robots help counter soaring labor costs

[http://www.chinadaily.com.cn/china/2013-11/14/content\\_17103496.htm](http://www.chinadaily.com.cn/china/2013-11/14/content_17103496.htm)

Foxconn Planning To Hire 1 Million Robots

<http://techcrunch.com/2011/08/01/foxconn-planning-to-hire-1-million-robots/>

Darpa PetMan Robot - Complete info

<http://www.youtube.com/watch?v=5S4ZPvr6ry4>

SCHAFT robot wins DARPA Robotics Challenge Trials

<http://www.youtube.com/watch?v=Rs8m3czkes4>

<http://www.businessinsider.com/3d-printer-builds-house-in-24-hours-2014-1>

Meet "Smart Restaurant": The Minimum-Wage-Crushing, Burger-Flipping Robot

<http://www.zerohedge.com/news/2014-01-12/meet-smart-restaurant-minimum-w...>

BANK OF AMERICA: 'Long Robots, Short Human Beings'

<http://www.businessinsider.com/bofa-long-robots-short-human-beings-2014-1>

Patented Book Writing System Creates, Sells Hundreds Of Thousands Of Books On Amazon

<http://singularityhub.com/2012/12/13/patented-book-writing-system-lets-o...>

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**Please add to, organize, or otherwise improve this document!**

## **ESSAYS & ARTICLES**

The Law of Accelerating Returns

<http://www.kurzweilai.net/the-law-of-accelerating-returns>

Economic Possibilities For Our Grandchildren

<http://www.marxists.org/reference/subject/economics/keynes/1930/our-grandchildren.htm>

Robots Will Steal Your Job But That's Okay

<http://io9.com/5885512/robots-will-steal-your-job-but-thats-okay-how-to-survive-the-coming-economic-collapse>

w

Robotic Nation

<http://marshallbrain.com/robotic-nation.htm>

Race Against the Machine in the Economist

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A Detailed Critique of Race Against the Machine

<http://declineofscarcity.com/?p=1037>

<https://plus.google.com/u/0/104401121686781166984/posts/JK231RDFFzK> a short blog post with some links

[http://en.wikipedia.org/wiki/Technological\\_unemployment](http://en.wikipedia.org/wiki/Technological_unemployment) Wikipedia

## VIDEO

Marshall Brain at the 2008 Singularity Summit

<http://www.youtube.com/watch?v=W0Z8TR4ToNs>

<http://www.youtube.com/watch?v=QfMGyCk3XTw> Race against the machine 15 minutes

<http://www.youtube.com/watch?v=GPaf9YGz6Es> Race against the machine 90 minutes

The Coming War on General Computation

<http://www.youtube.com/watch?v=HUEvRyemKSg>

## PODCASTS

Singularity 1 on 1 Federico Pistono

<http://www.youtube.com/watch?v=Rc9FVsJlaos>

## FICTION

<http://www.youtube.com/watch?v=768h3Tz4Qik> They Took Our Jobs!! SouthPark

<http://marshallbrain.com/manna1.htm> A short story exploring technological unemployment

Spoilers: happy ending

## QUOTES

"Ultimate automation...will make our modern industry as primitive and outdated as the stone age man looks to us today." ~Albert Einstein

"Scientists never seem to grasp the enormous potential of machines to free people from arduous and repetitive labor." ~ Carl Sagan, Ep 13 Cosmos

"We are being afflicted with a new disease, of which some readers may not yet have heard

the name, but of which they will hear a great deal in the years to come--namely, technological unemployment.

This means unemployment due to our discovery of means of economising the use of labour outrunning the pace at which we can find new uses for labour. " ~John Maynard Keynes

fr pg 3 of <http://www.econ.yale.edu/smith/econ116a/keynes1.pdf>

"The first major automated robot, the Unimate from Unimation Inc., had a work envelope of 350

cubic feet. It occupied 20 square feet of floor space. The Unimate was deployed for the first time in

1961 at the General Motors Corporation plant in Trenton, New Jersey, where it unloaded a die casting machine. Six years later, GM was using the Unimate for spot welding and attaching clips to

seat frames. In 1970, the automaker built the first automated spot welding line, consisting of 28 robots. Those who were in the business of making these machines knew exactly what the implications were. In 1962, John Snyder, the president of U. S. Industries, Inc., a manufacturer of automated equipment, set up the "Foundation on Automation and Employment" to try to "develop ways to ease automation's impact on displaced workers." He once stated:" I want to sell the automation machines that my company makes, but if our economy turns sour, if the unemployment problem is not solved, I will have difficulty selling them and no reason to make them. To my way of

thinking, all businessmen should share this view--that the unemployment problem and the automation problem are as serious for business as for labor."

For more on Industry and labor see "Zeitgeist Observations and Responses"

"While all other sciences have advanced, that of government is at a standstill - little better understood, little better practiced now than three or four thousand years ago." ~ John Adams

"The tremendous and still accelerating development of science and technology has not been accompanied by an equal development in social, economic, and political patterns...It is safe to predict that...such social inventions as modern-type Capitalism, Fascism, and Communism will be regarded as primitive experiments directed toward the adjustment of modern society to modern methods" ~ Dr. Ralph Linton

"We have Not matched the progress in the private sector of technology and science with the ability to govern ourselves in a proper fashion." ~ Senator Mike Gravel

"The popular idea, fostered by comic strips and the cheaper forms of science fiction, that intelligent machines must be malevolent entities hostile to man, is so absurd that it is hardly

worth wasting energy to refute it. Those who picture machines as active enemies are merely projecting their own aggressiveness. The higher the intelligence, the greater the degree of co-cooperativeness. If there is ever a war between men and machines, it is easy to guess who will start it." ~ Arthur C. Clarke

-1992 Gallop Poll - 50% American Adults volunteered time with no pay for social causes at an average of 4.2 hours a week for a total of 20.5 billion hours a year

## TECHNOLOGICAL UNEMPLOYMENT

### Docs

-doc "Awakening" Full

[http://www.youtube.com/watch?v=nOO\\_AVwfZ9Q&feature=related](http://www.youtube.com/watch?v=nOO_AVwfZ9Q&feature=related)

-doc "Our Technical Reality" Full

<http://www.youtube.com/watch?v=rqv0Y1t1bNw&feature=related> technology for abundance, efficiency, and precision etc

-doc Automation is Here [http://www.youtube.com/watch?v=6AM6dX\\_dwYk](http://www.youtube.com/watch?v=6AM6dX_dwYk) examples of automation

-doc "I LOST MY JOB" <http://www.youtube.com/watch?v=1wI2WxR2D5M>

**Lectures** -TED Talk "Andrew McAfee: Are droids taking our jobs?"

[http://www.ted.com/talks/andrew\\_mcafee\\_are\\_droids\\_taking\\_our\\_jobs.html](http://www.ted.com/talks/andrew_mcafee_are_droids_taking_our_jobs.html) -TED Talk

"Federico Pistono- Robots Will Steal Your Job, But That's OK"

[http://www.youtube.com/watch?feature=player\\_embedded&v=kYIfcZcXA9U#!](http://www.youtube.com/watch?feature=player_embedded&v=kYIfcZcXA9U#!)

-Singularity Summit "Marshall Brain on Robotics and Employment"

<https://www.youtube.com/watch?v=DxxL0EcpvdQ>

-lecture "Andrew McAfee: Race against the machines"

<http://www.youtube.com/watch?v=GPaf9YGz6Es>

-lecture Ray Kurzweil Tech and Exponential Growth

<http://www.youtube.com/watch?v=43zo82W7aPI> -lecture Ray Kurzweil Singularity Summit "From Eliza to Watson"

[http://www.youtube.com/watch?v=WPqjYrLhDnk&feature=player\\_embedded#!](http://www.youtube.com/watch?v=WPqjYrLhDnk&feature=player_embedded#!)

-lecture "Singularity Summit at Stanford"

<http://www.youtube.com/user/rolandrp#g/c/71D86FAF47EE6D78>

-discussion "Automation Nation: Will Robots take our jobs?" Martin Ford

<http://www.ideasinactiontv.com/episodes/2011/10/automation-nation-will-robots-take-our-jobs.html>

-discussion "Will Robots Steal Your Job?"

<http://www.youtube.com/watch?v=KOoHRircmhM>

-lecture "The Zeitgeist Movement - Futurists, Technology and Cultural Lag" by Ben McLeish

<http://vimeo.com/10747794>

-discussion "Federico Pistono interviewed by Z Radio"

<http://www.youtube.com/watch?v=7wIkSjpU0kk>

-discussion "Andrew McAfee on Digital Innovation, Employment, and Productivity"

<http://surprisinglyfree.com/2012/01/10/andrew-mcafee/>

-discussion "Should we blame technology for high unemployment?" on "To the Point"  
[http://www.kcrw.com/media-player/mediaPlayer2.html?type=audio&id=tp111026should\\_we\\_blame\\_tech](http://www.kcrw.com/media-player/mediaPlayer2.html?type=audio&id=tp111026should_we_blame_tech)

-NPR "On Point" Tom Ashbrook "When Machines Do The Work"  
<http://onpoint.wbur.org/2011/11/02/when-machines-do-the-work>

-NPR "Talk of the Nation" "Look out! There are robots all around"  
<http://www.npr.org/2012/04/04/150001560/robots-creeping-into-every-corner-of-life>

-discussion "Andrew McAfee: The Machines are Coming"  
[http://www.youtube.com/watch?v=-0g8DDsv1MM&feature=player\\_embedded#!](http://www.youtube.com/watch?v=-0g8DDsv1MM&feature=player_embedded#!)

-discussion "Reworking the World of Work"  
[http://www.youtube.com/watch?v=BuZTxWj8FYM&feature=player\\_embedded#!](http://www.youtube.com/watch?v=BuZTxWj8FYM&feature=player_embedded#!)

-discussion Joe Rogan & Jason Silva <http://vimeo.com/36529150> Joe Rogan: "How are we gonna pay for things?"  
 Jason Silva: "Post-Scarcity Age, you don't pay for things. Abundance."

-NPR "All Sides with Ann Fisher" It's me!!! at 28:20  
<http://beta.wosu.org/allsides/tech-tuesday-social-media-and-crime-cameras-and-gadgets/>

## Books

-ebook "The Lights in the Tunnel" by Martin Ford on Technological Unemployment  
<http://www.thelightsinthetunnel.com/LIGHTSTUNNEL.PDF>

-ebook "The End of Work" by Jeremy Rifkin  
[http://www.thevenusprojectdesign.org/index.php?option=com\\_content&view=article&id=259&Itemid=158](http://www.thevenusprojectdesign.org/index.php?option=com_content&view=article&id=259&Itemid=158)

-ebook "The End of Work"  
<http://www.scribd.com/doc/102379474/The-End-of-Work-Jeremy-Rifkin>

-ebook Post Scarcity Princeton  
<http://www.pdferrnout.net/reading-between-the-lines.html>

-literature "Beyond a Jobless Recovery"  
<http://knol.google.com/k/beyond-a-jobless-recovery#>

-book "Race Against the Machine" site <http://raceagainstmachine.com/>

-book "Abundance the Book" <http://www.abundancethebook.com/>

## Articles

-article "The End of Work" by Jeremy Rifkin on Technological Unemployment  
<http://www.foet.org/press/interviews/Spiegel-%20August%203%202005.pdf>  
 author the Book "The End of Work"

-article "Robot Nation" by Marshall Brain <http://marshallbrain.com/robotic-nation.htm>

-article Robots Are Stealing American Jobs, According to MIT Economist  
<http://www.popsoci.com/technology/article/2010-10/robots-are-stealing-american-jobs-economists-say>

-article Foxconn displaces workers with 1 Million robots  
[http://news.xinhuanet.com/english2010/china/2011-07/30/c\\_131018764.htm](http://news.xinhuanet.com/english2010/china/2011-07/30/c_131018764.htm)

-article Foxconn gears up to build industrial robots - world industrial robot population to double  
<http://www.gizmag.com/foxconn-gears-up-to-build-industrial-robots/20389/>

-article "Foxconn employees are being replaced by robot workers"  
<http://gizmodo.com/5826346/foxconn-employees-are-being-replaced-by-robot-workers>

-article "The Death of Money: Emergence and Economics"  
<http://opinion.ebsarver.com/2011/01/22/the-death-of-money/>

-article "The Next 9 Jobs that will be Replaced by Robots"  
<http://www.businessinsider.com/9-jobs-that-are-already-being-replaced-by-robots-2011-3#watch-out-pharmacists-robots-have-filled-350000-prescriptions-without-error-at-two-hospitals-1>

-article "9 Jobs that Humans may lose to Robots"  
<http://www.msnbc.msn.com/id/42183592/ns/business-careers#.TtLvI8NFu30>

-article Frida robot will take your job  
<http://singularityhub.com/2011/04/23/look-out-humans-this-frida-robot-from-abb-will-take-your-factory-job/>

-article Flexpicker robot  
<http://singularityhub.com/2009/07/09/the-flexpicker-industrial-robot-built-for-speed-video/>

-article "Automation Insurance: Robots are replacing middle class jobs"  
<http://www.good.is/post/automation-insurance-robots-are-replacing-middle-class-jobs/>

-article "Are Jobs obsolete?"  
<http://www.cnn.com/2011/OPINION/09/07/rushkoff.jobs.obsolete/index.html>

-article "Robotic Labor taking over the World? You Bet. Here are the details"  
<http://singularityhub.com/2011/09/12/robotic-labor-taking-over-the-world-you-bet-here-are-the-details/>

-article "More Jobs predicted for Machines not People" NY Times  
[http://www.nytimes.com/2011/10/24/technology/economists-see-more-jobs-for-machines-not-people.html?\\_r=3](http://www.nytimes.com/2011/10/24/technology/economists-see-more-jobs-for-machines-not-people.html?_r=3)

-article "Are Jobs as we know them becoming obsolete?" PT  
<http://www.psychologytoday.com/blog/wired-success/201109/are-jobs-we-know-them-becoming-obsolete>

-article "To the Jobless Economy"  
<http://www.project-syndicate.org/commentary/mford1/English>

-article "Retail jobs are disappearing as shoppers adjust to self-service"  
<http://articles.latimes.com/2011/mar/04/business/la-fi-robot-retail-20110304>

-article "Job Automation: Is a future Unemployment crisis looming"  
[http://www.huffingtonpost.com/martin-ford/job-automation-is-a-future\\_b\\_832146.html](http://www.huffingtonpost.com/martin-ford/job-automation-is-a-future_b_832146.html)

-article "Will Robots Steal Your Job?"  
[http://www.slate.com/articles/technology/robot\\_invasion/2011/09/will\\_robots\\_steal\\_your\\_job.html](http://www.slate.com/articles/technology/robot_invasion/2011/09/will_robots_steal_your_job.html)

-article "No Humans, Just Robots- Amazing Videos of the Modern Factory"  
<http://singularityhub.com/2010/02/11/no-humans-just-robots-amazing-videos-of-the-modern-factory/>

-article "The Robot Revolution: Your Job may be next"  
<http://www.thefiscaltimes.com/Articles/2011/07/12/The-Robot-Revolution-Your-Job-May-Be-Next#page1>

-article "Could Fast Food Robots Steal McJobs?"  
<http://www.thefiscaltimes.com/Articles/2011/06/06/Could-Fast-Food-Robots-Steal-McJobs#page1>

-article "Here come the Robots. And there go the Jobs"  
<http://www.thefiscaltimes.com/Articles/2010/10/06/The-Robot-Economy-The%20Next-Frontier#page1>

-article "How technology is Eliminating Higher-Skill Jobs"

<http://www.npr.org/2011/11/03/141949820/how-technology-is-eliminating-higher-skill-jobs>  
-article "How Robots will Steal Your Job"  
<http://www.wired.com/techbiz/media/news/2003/08/59882>  
-article "Technological Unemployment" <http://thefuturist.co/technological-unemployment>  
-article "The Robotic Nation" <http://marshallbrain.com/robotic-nation.htm>  
-article "Return to capitalism "red in tooth and claw" spells economic madness  
<http://www.guardian.co.uk/business/economics-blog/2012/jun/21/capitalism-red-tooth-claw-keynes?commentpage=2&fb=ative#post-area>

## Vids

-vid "The Richest Man in the World"  
<http://www.youtube.com/watch?v=p14bAe6AzhA&feature=share>  
-vid "Is technology killing jobs?" <http://www.youtube.com/watch?v=JIIZdW-GYMQ>  
-vid "Replacing Humans with Robots...Good or Bad for Economy"  
<http://www.youtube.com/watch?v=qXJNH1nJLDY>  
-vid "Zeitgeist Moving Forward: Technological Unemployment"  
<http://www.youtube.com/watch?v=joWD5vQvkfk>  
-vid "Technological Unemployment" by Chet Gaines  
<http://postscarcityorbust.tumblr.com/post/9976859244/technologicalunemployment>  
-vid TEDx Talk Joe Tankersly "Imagine of World of Sustainable Abundance"  
<http://www.youtube.com/watch?v=ot5RSdgENwg&feature=share>  
-vid TED Talk Peter Diamandis "Abundance is our future"  
<http://www.youtube.com/watch?v=BlRufe5kkI>  
-vid TEDx Talk Prof Franz Hormann- "Society 2.0 Entering a World Without Money"  
<http://www.youtube.com/watch?v=fvjSHG38dfc>  
-vid Cisco Commercial <http://www.youtube.com/watch?v=WoCxz-6g9IY>  
-vid "Tech's next feats?" PBS  
[http://www.pbs.org/newshour/bb/business/jan-june12/makingsense\\_04-20.html](http://www.pbs.org/newshour/bb/business/jan-june12/makingsense_04-20.html)  
-vid "Man vs Machine" Will Human Workers Become Obsolete PBS  
[http://www.youtube.com/watch?v=wb2cI\\_gJUok](http://www.youtube.com/watch?v=wb2cI_gJUok)  
-vid "60 Minutes, Are Robots hurting growth?"  
<http://www.cbsnews.com/video/watch/?id=50138922n>

## Research

-Research Papers by MIT Economist David Autor  
<http://econ-www.mit.edu/faculty/dautor/papers>

## ABUNDANCE

### Examples of Automation and Technologies for Abundance

-doc "Automation is Here" [http://www.youtube.com/watch?v=6AM6dX\\_dwYk](http://www.youtube.com/watch?v=6AM6dX_dwYk) examples of automation  
-doc "The Cleantech Future" [https://www.youtube.com/watch?v=9noGsz\\_HVcI](https://www.youtube.com/watch?v=9noGsz_HVcI)

quotes:

- "Can we come up with a socioeconomic model where by we create wealth for the billions of people who want to live like us, an economy in which growth means more than just manufacturing just more stuff?"

- "We've always had to fight over scarce resources. But if we get the clean tech revolution right we won't be fighting for those resources anymore."

- 23:20- "We have to kind of shift to an era of Abundance. And so my vision is one where we figure out the technological systems, whether it's nano technology or solar technology or whatever that enables us to provide the basic things we need as humans: water, food, and energy. So that liberates us to go and do the other things that we care about."

### **Energy Abundance**

-lecture Jeremy Rifkin "The Empathetic Civilization" distributed, decentralized energy abundance and smart grid tech <http://www.youtube.com/watch?v=1-7BjeHepbA>

-lecture Jeremy Rifkin "German Conference at Harvard 2012"

<http://www.youtube.com/watch?v=48Id5CToOkE>

-doc "Here Comes the Sun"

[http://www.youtube.com/watch?feature=player\\_embedded&v=mLHBFyfV8A](http://www.youtube.com/watch?feature=player_embedded&v=mLHBFyfV8A)

-doc "Our Technical Reality" full

<http://www.youtube.com/watch?v=rqv0Y1t1bNw&feature=related>

-vid solar roads <http://www.wimp.com/solarhighways/>

-article affordable solar panels that work in the dark

<http://www.greenwala.com/community/blogs/all/13103-Scientists-Develop-Affordable-Solar-Panels-That-Work-In-The-Dark>

-article "German Village Produces 321% More Energy than it needs"

<http://www.zeitnews.org/energy/german-village-produces-321-more-energy-than-it-needs.html>

-article "Solar City produces 4x the Energy it Consumes"

<http://www.zeitnews.org/energy/sonnenschiff-solar-city-produces-4x-the-energy-it-consumes.html>

-article "Last Weekend, Half of Germany was running on Solar Power"

<http://www.treehugger.com/energy-policy/half-germany-was-powered-solar.html>

-doc "Power Play - Germany" [https://www.youtube.com/watch?v=Ec\\_D0\\_YwH8A](https://www.youtube.com/watch?v=Ec_D0_YwH8A)

-article Tidal Energy "Ocean Energy flows to the US grid for the first time"

<http://www.tgdaily.com/sustainability-features/66171-ocean-energy-flows-to-us-grid-for-first-time>

-site <http://www.zeitnews.org/>

-site Institute for Energy and Environmental Research IEER (free ebook "Carbon Free and Nuclear Free") <http://www.ieer.org/>

-article "The world can be powered by alternative energy, using today's technology, in 20-40 years, says Stanford researcher Mark Z. Jacobson"

<http://news.stanford.edu/news/2011/january/jacobson-world-energy-012611.html> -article

"Enough Wind to power Global Energy Demand: New Research examines limits, climate consequences" <http://www.sciencedaily.com/releases/2012/09/120909150446.htm>

-fb meme "Scotland 100% by 2020"

<https://www.facebook.com/photo.php?fbid=545988675416482&set=a.218054651543221.67437.118133928201961&type=1&theater>

-article "Scotland ups Green Energy Ante"

[http://www.upi.com/Business\\_News/Energy-Resources/2012/10/31/Scotland-ups-green-energy-ante/UPI-41401351681499/](http://www.upi.com/Business_News/Energy-Resources/2012/10/31/Scotland-ups-green-energy-ante/UPI-41401351681499/)

-article "Denmark Hits Solar Energy Goal 8 years early"

<http://www.ecogeek.org/solar-power/3818-denmark-hits-solar-energy-goal-8-years-early>

-NPR interview "Within 50 miles of the Gulf of Maine there's about 150 Gigawatts of offshore wind capacity. That's about 150 nuclear power plants worth of wind. The state of Maine only uses about 2.4 Gigawatts at the peak summer period."

~Habib Dagher

Director, The Advanced Structures and Composites Center

University of Maine Speaking on Science Friday

<http://www.sciencefriday.com/program/archives/201201206>

-lecture TEDx Talk Habib Dagher <http://www.youtube.com/watch?v=agS-IMsiV-g>

"There's enough off shore wind within 50 nautical miles to power the country four times over."

-lecture "Wind, Water, Sunlight" Mark Z. Jacobson, Stanford

<http://www.youtube.com/watch?v=qcaSNAukYIY>

36min 45sec

"Global end-use power demand 2010 12.5 TW

Global end-use power demand 2030 16.9 TW

All wind worldwide: 1700 TW,

All wind over land in high-wind areas outside Antarctica~ 70-170 TW

All Solar worldwide: 6500TW

All solar over land in high-solar locations~ 340 TW"

~ Mark Z Jacobson Professor of Civil and Environmental Engineering Standford

## Energy Storage

-TED Talk- Donald Sadoway "The missing link to renewable energy"

<http://www.youtube.com/watch?v=Sddb0Khx0yA> -article "Stanford's New Grid-Scale

Batteries can last for 1,000 Charge Cycles Without Degrading"

<http://inhabitat.com/stanfords-new-grid-scale-battery-can-last-for-1000-charge-cycles-without-degrading/>

## Manufacturing, 3D Printers

-vid Modern Marvels Season 15 Episode 6 "KIA Start to Finish"

<http://www.youtube.com/watch?v=Qbu5jRyCpoY>

-vid "123D Printer"

<http://ebongeek.com/2011/10/23/123d-and-the-new-industrial-revolution/>

-article "3D Printed Guitar"

[http://www.pcworld.com/article/243262/3dprinted\\_guitar\\_impresses\\_geeks\\_musicians\\_alike.html#tk.hp\\_new](http://www.pcworld.com/article/243262/3dprinted_guitar_impresses_geeks_musicians_alike.html#tk.hp_new)

-TEDx "3D Printing: The Century's most disruptive technology?!" David Flanders

[http://www.youtube.com/watch?v=ChKwIUhx\\_ic](http://www.youtube.com/watch?v=ChKwIUhx_ic)

-vid Forbes Technology 3D Printing

<http://video.forbes.com/fvn/future-tech/autodesk-on-3d-printing> -vid "Will Minecraft and Makerbot usher in the Post-Scarcity Economy" Idea Channel PBS

<http://www.youtube.com/watch?v=klQ7bb8bBsQ>

## **Building Construction**

-vid Future of Construction Process

<http://www.youtube.com/watch?v=EfbhdZKPHro&feature=related>

-vid Contour Crafting Dr. Behrokh Khoshnevis

<http://www.youtube.com/watch?v=-yv-IWdSdns&NR=1>

-lecture Dr. Behrokh Khoshnevis

<http://video.google.com/videoplay?docid=7046439772940782262>

-article/vid "D-Shape 3D printer can print full-sized houses"

<http://www.zeitnews.org/applied-sciences/d-shape-3d-printer-can-print-full-sized-houses.html>

## **Mining**

-article "Now even Miners are getting robots"

<http://singularityhub.com/2012/11/10/and-now-even-miners-are-getting-robots/>

-vid "Rail-veyor Material Haulage"

[http://www.youtube.com/watch?v=RooUyLdSGdU&feature=player\\_embedded](http://www.youtube.com/watch?v=RooUyLdSGdU&feature=player_embedded)

## **Water**

-vid Inventor Dean Kamen's "SlingShot"

<http://www.youtube.com/watch?v=VOQbVD7F1f4>

-vid TED Talk "Michael Pritchard makes filthy water drinkable"

<https://www.youtube.com/watch?v=rXepkIWPhFQ>

-article "Solar-powered oven makes fresh water"

<http://www.gizmag.com/eliodomestico/24058/>

-wiki Desalination Plants [http://en.wikipedia.org/wiki/Desalination\\_plants](http://en.wikipedia.org/wiki/Desalination_plants)

## **Food Prep**

-vid "Nagoya Robot Ramen" <http://www.youtube.com/watch?v=5sVOSIUn7e0>

-vid "ABC Robotic Restaurant, Nuremberg Germany"

<http://www.youtube.com/watch?v=b79pwb6Wlsc>

-vid "Pizza Vending Machine"

<http://www.youtube.com/watch?v=JKJ5LPLi1K8&feature=youtu.be>

## **Agricultural**

-vid TED Talk "Vertical Farming" Dickson Despommier

<http://www.youtube.com/watch?v=XIdP00u2KRA> -vid "BIG IDEAS: Dickson Despommier's Vertical garden" animated

[http://www.youtube.com/watch?feature=player\\_embedded&v=1clRcxZS52s](http://www.youtube.com/watch?feature=player_embedded&v=1clRcxZS52s)

-article "Robots could transform the agricultural industry"

<http://nextbigfuture.com/2011/12/robots-could-transform-agriculture.html>

-vid "harvest automation inc"

[http://www.youtube.com/watch?v=w5qhUDfvEAU&feature=player\\_embedded#!](http://www.youtube.com/watch?v=w5qhUDfvEAU&feature=player_embedded#!)

-vid "strawberry harvesting robot"

<http://www.youtube.com/watch?v=RCBQqEGp8Go&feature=related>

-vid "Hydroponic Lettuce Automation"

<http://www.youtube.com/watch?v=nyHxG4EVCS0&feature=share>

-vid "A Meatpacking Plant Transformed into a Vertical Farm"

<http://www.fastcoexist.com/1679765/a-meatpacking-plant-transformed-into-a-vertical-farm>

-vid "A Vertical Garden that actually lives up to the term"

<http://www.zeitnews.org/applied-sciences/agriculture/vertical-garden-actually-lives-term>

-article "First Commercial Vertical Farm Opens in Singapore"

<http://www.channelnewsasia.com/stories/singaporelocalnews/view/1233261/1/.html>

## **Transportation**

-vid ET3 Evacuated Tube Technology <http://www.youtube.com/watch?v=03kVU2FYI6U>

-vid Ultra transport system <http://www.youtube.com/watch?v=B7hgipbHBK8>

-vid Masdar Transit [http://www.youtube.com/watch?v=PB\\_5TBZQNRY&feature=related](http://www.youtube.com/watch?v=PB_5TBZQNRY&feature=related)

-vid Google Autonomous car <http://www.youtube.com/watch?v=jD1IkIa2fno>

-article "Tesla Motors Launches Revolutionary Supercharger Enabling Convenient Long Distance Driving"

<http://www.teslamotors.com/about/press/releases/tesla-motors-launches-revolutionary-supercharger-enabling-convenient-long-distance-driving>

## **Warehouse**

-vid Automated Warehouse

<http://www.youtube.com/watch?v=mnUmtbRqSc4&feature=related>

-vid Warehouse robot <http://www.youtube.com/watch?v=lWsMdN7HMuA>

-vid Self Guiding Vehicles

<http://www.youtube.com/watch?v=cLNz6SU4eJk&feature=related>

## **Education**

-article

<http://www.federicopistono.org/blog/how-the-internet-is-revolutionizing-education-infographic>

-site <http://www.khanacademy.org/>

-site <http://academicearth.org/>

-site <http://openstudy.com/>

## **Medical**

- Ted Talk "Anthony Atala: Printing a human kidney"  
[http://www.youtube.com/watch?feature=player\\_embedded&v=9RMx31GnNXY](http://www.youtube.com/watch?feature=player_embedded&v=9RMx31GnNXY)
- Ted Talk "George Whitesides: A Lab the size of a Postage Stamp"  
<http://www.youtube.com/watch?v=-ew0bn8mGAA>
- article 3D printer "The 'Chemputer' that could print out any drug"  
<http://www.guardian.co.uk/science/2012/jul/21/chemputer-that-prints-out-drugs>
- vid "3D printed Magic Arms"  
[http://www.youtube.com/watch?v=WoZ2BgPVtA0&feature=player\\_embedded](http://www.youtube.com/watch?v=WoZ2BgPVtA0&feature=player_embedded)
- vid "Claudia Mitchell operates a bionic arm with her brain"  
<http://www.youtube.com/watch?v=X1OBzc9QfIs&feature=youtu.be>
- article "Technology will replace about 80% of what doctors do"  
<http://tech.fortune.cnn.com/2012/12/04/technology-doctors-khosla/>
- article "Doc-in-a-box" <http://biodesign.asu.edu/research/projects/doc-in-a-box>

## City Systems

- article Engineered City with Computer Brain in Portugal  
<http://www.fastcompany.com/1684055/a-city-in-the-cloud-living-planit-redefines-cities-as-software>
- vid Masdar City <http://www.youtube.com/watch?v=FyghLnbp20U&feature=related>
- article Pegasus Global  
[http://www.huffingtonpost.com/2011/09/06/pegasus-global-new-mexico-ghost-town\\_n\\_951467.html](http://www.huffingtonpost.com/2011/09/06/pegasus-global-new-mexico-ghost-town_n_951467.html)
- article "Great City: China's First self sufficient, carless city"  
<http://inhabitat.com/great-city-adrian-smith-gordon-gill-unveil-plans-for-chinas-first-self-sufficient-carless-city/>
- vid "China Eco City" <http://www.youtube.com/watch?v=859qN-d4P4w>
- article "Iskander Malaysia to be a Model Sustainable and Socially Equitable City of the Future"  
<http://www.stumbleupon.com/su/2Jmqh6/inhabitat.com/iskandar-malaysia-to-be-a-model-sustainable-and-socially-equitable-city-of-the-future/>

## Crowd Sourcing

- vid "Nova ScienceNOW Foldit and Eterna"  
[https://www.youtube.com/watch?v=bTINNfQxs\\_A](https://www.youtube.com/watch?v=bTINNfQxs_A)

## Sites

- site <http://singularityhub.com/>
- site <http://www.zeitnews.org/>
- site <http://unjobs.org/tags/technological-unemployment>
- fb <http://www.facebook.com/TheAutomatedEconomy?sk=wall>
- Future Timeline <http://www.futuretimeline.net/index.htm>

## Reduced Work Hours

-site <http://www.fourhourday.org/> -facebook note  
[http://www.facebook.com/note.php?note\\_id=10150248303136351](http://www.facebook.com/note.php?note_id=10150248303136351)  
-article <http://finance.yahoo.com/news/the-case-for-a-21-hour-work-week.html>  
-report <http://www.neweconomics.org/publications/21-hours>  
-site search  
[http://www.neweconomics.org/search/apachesolr\\_search/21%20hour%20work%20week](http://www.neweconomics.org/search/apachesolr_search/21%20hour%20work%20week)  
-vid The Big Picture "Would Cutting the Work Week Put Everyone Back To Work?"  
[http://www.youtube.com/watch?v=3U3EN\\_ENi44](http://www.youtube.com/watch?v=3U3EN_ENi44)  
-vid "The four-hour work day"  
<http://www.youtube.com/watch?v=YLZMwsJUYfo&feature=share>

## Basic Income

-site  
<http://basicincome.tumblr.com/post/12904467794/what-is-basic-income-where-can-i-learn-about-basic>  
-site "Arguments for Basic Income" <http://www.scoop.it/t/arguments-for-basic-income>  
-article "Basic Income, and immediate step in the transition"  
<http://blog.thezeitgeistmovement.com/blog/dario-wurmd/basic-income-immediate-step-transition>  
-doc German Doc on Basic Income  
[http://www.youtube.com/watch?feature=player\\_embedded&v=ExRs75isitw](http://www.youtube.com/watch?feature=player_embedded&v=ExRs75isitw)  
  
- same German doc "Basic Income, A Cultural Impulse" with robot english voice  
over <http://vimeo.com/50030478>  
-vid "Settimana del reddito 2012" <https://www.youtube.com/watch?v=zxBbi3hIXkU>

## Economics

-TED Talk Yochai Benkler "Open-Sourced Economics"  
<http://www.youtube.com/watch?v=NgYE75gkzkM>  
  
-vid "Circular Economy"  
[http://www.youtube.com/watch?v=vxHHfvSMW0A&feature=player\\_embedded](http://www.youtube.com/watch?v=vxHHfvSMW0A&feature=player_embedded)  
-article "Prospects of a Keynesian Utopia"  
<http://www.aeonmagazine.com/living-together/john-quiggin-keynesian-utopiav1/>  
-article "Should Post-Scarcity be a more prominent Singularity topic?"  
<http://singularityhub.com/debate-central/post/should-post-scarcity-be-a-more-prominent-singularity-topic/> -article Albert Einstein "Why Socialism?"  
<http://monthlyreview.org/2009/05/01/why-socialism>