

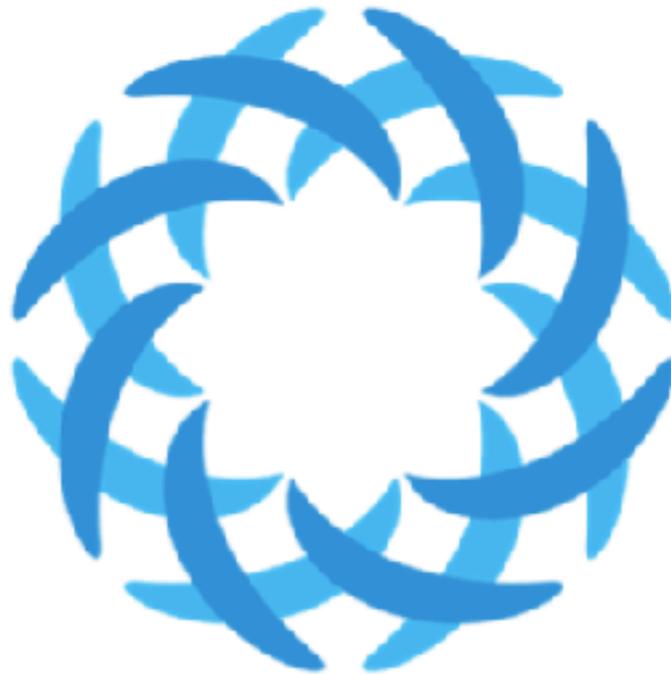
---

US Senate Committee on Commerce, Science, and Transportation

**Automation in the Workforce**

St. John's Preparatory School • Danvers, Massachusetts • 9 December 2017

---



**SJPMUN XII**

building a better tomorrow

---

## Letter From the Chair

Dear Delegates,

Greetings! My name is Carlos Campos, and I am a senior at St. John's Prep. I will be serving as your chair for the Senate committee on automation. As an aspiring engineer, I took heavy interest into a topic about machinery and innovation. So having combined two things I really enjoy, I feel incredibly enthusiastic to simulate a US Senate committee addressing a major technological issue our nation faces. Between the time you receive this briefing paper and the day of the conference, I urge every one of you to understand the economic and technological aspects of automation in the workforce involved, and look at some theories on the impact. In this document, you will find some gathered information about the problem, but this information is limited. I wish you the best in preparing for this conference and I hope you learn something new! If you have any questions, please do not hesitate to contact me. Good luck!

Regards,

Carlos Campos 18'

[ccampos18@stjohnsprep.org](mailto:ccampos18@stjohnsprep.org)

Chair, Senate Committee on Automation, SJPMUN XII

---

## Description of the Committee

Called to confront a massive debate over the role of technology in the modern day United States, the US Senate Committee on Commerce, Science, and Transportation will discuss the possible impacts and effects of automation in the workforce and vote on a resolution.

The Senate committee will replicate parliamentary procedure and will be based loosely off the United States Senate Committee on Commerce, Science, and Transportation with added positions. The committee holds legislative oversight of the Coast Guard and Merchant Marine, interstate commerce, communications, rail, shipping, transportation security, oceans, fisheries, nonmilitary aeronautical and space sciences, consumer issues, economic development, technology, competitiveness, product safety, insurance, and standards and measurement. However, the main focus will be automation, as such, keep in mind which themes of it the session will control. As it stands, the Republican party dominates the full US Senate with the following demographic, however, not all states will have seats in the Committee:

Republicans: 52 Seats          Democrats: 46 Seats          Independents: 2 Seats

**Republican States:** Alabama, Alaska, Arizona, Arkansas, Georgia Idaho, Iowa, Kansas, Kentucky, Louisiana, Mississippi, Nebraska, North Carolina, Oklahoma, South Carolina, South Dakota, Tennessee, Texas, Utah, Wyoming.

---

**Democratic States:** California, Connecticut, Delaware, Hawaii, Illinois, Maryland, Massachusetts, Michigan, Minnesota, New Hampshire, New Jersey, New Mexico, New York, Oregon, Rhode Island, Virginia, Washington.

**Split States (1 Rep, 1 Dem):** Colorado, Florida, Indiana, Missouri, Montana, Nevada, North Dakota, Ohio, Pennsylvania, West Virginia, Wisconsin.

**Split States (1 Rep/Dem, 1 Independent):** Maine (R), Vermont (D).

### **Statement of the Problem**

The United States continues to develop new technologies at an extremely high rate, along with the rest of the world. From the iPhone to the development of some of the world's most advanced Artificial Intelligence (AI), the United States profits heavily from such advancements in technology. Most recently, major tech companies have attempted to maximize profits by reducing the costs of production through automation in the workforce.

Instead of paying manual workers for their labor, some companies such as Amazon, Tesla, and DHL have decided to build robots and machines to replace the workers. Amazon, for example, just recently proposed AirPrime, a delivery service where Amazon drones will drop off packages on people's doorsteps rather than have workers from companies FedEx do it (Toor). Not only would a powerful company like Amazon, who ships millions of packages a day, gain potentially \$5-\$10 more revenue

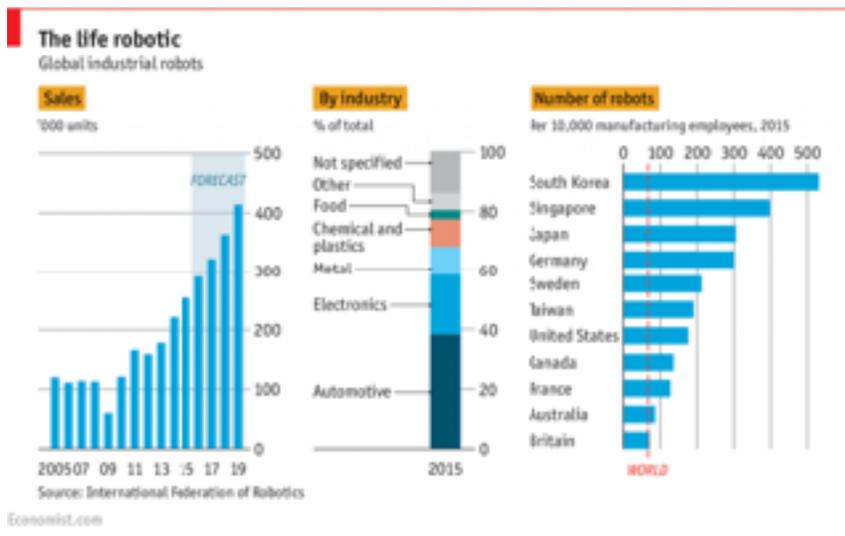
---

per shipment, but they would also run shipping companies that hire human workers out of business because that shipping company would lose all revenue from Amazon shipments. These business tactics would in fact increase both profits and total production due to the lower opportunity cost of delivering a product. In this capitalist society, where the country's economy runs on the fact that its citizens produce and buy, having more products available at cheaper costs would stimulate the economy and benefit both producers and consumers. Additionally, some businesses like Adidas have gone further as to guarantee better quality knowing that with effective robot engineering they could "make shoes designed for individuals in the same way the company designs pairs for famous athletes" (Moor).

However, despite predictions of overall economic prosperity from automation, it has the potential for catastrophic consequences. Certain science fiction authors have predicted horrible futures due to AI and robots taking over jobs and later humanity, while other writers such as Andrew McAfee and Erik Brynjolfsson dismiss this idea as one unlikely extreme. McAfee and Brynjolfsson describe how the nature of machines and manual labor as complements and how their relationship as economic substitutes is objectively good (*The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies*). Businesses naturally do risk cutting manual jobs when undergoing automation, but such a move would open an entirely new field of jobs for humans to fix and build machines. In turn, businesses like RobotWorx argue that they can make more profit, increase wages for the quality

of work from their skilled workers, and remain at the competitive level expected in the modern economy (RobotWorx [here](#)). For another example, a chart from *The Economist* below shows numbers of robots per manufacturing workers in a variety of countries, showing perhaps a direction in which the United States could move. Gene Zaino of the *Forbes* Human Resources council fully supports the idea of automation because it would in fact “bring labor and production” back to the United States and also does expect American investment in industrial robots to grow over 10% by 2025 (Zaino). Naturally, such statements beg the question whether the American economy would not crash because it would naturally adapt and shift as it has previously done when inventions such as the assembly line and textile mills came to fruition.

However, multiple other theorists and some economists have argued against this transition to automation, citing the inaccuracies in the business logic. An *Economist* article ti-



tled “Automation and Anxiety” outlines some economic implications regarding automation. By cutting jobs through automation, unemployment rates would skyrocket, and unemployed workers would not

## Catalogue of fears

Probability of computerisation of different occupations, 2013  
(1 = certain)

Job	Probability
Recreational therapists	0.003
Dentists	0.004
Athletic trainers	0.007
Clergy	0.008
Chemical engineers	0.02
Editors	0.06
Firefighters	0.17
Actors	0.37
Health technologists	0.40
Economists	0.43
Commercial pilots	0.55
Machinists	0.65
Word processors and typists	0.81
Real-estate sales agents	0.86
Technical writers	0.89
Retail salespeople	0.92
Accountants and auditors	0.94
Telemarketers	0.99

Source: "The Future of Employment: How Susceptible are Jobs to Computerisation?", by C. Frey and M. Osborne (2013)

economist.com

have money to afford products (“Automation and Anxiety”). Because the modern American economy runs on consumerism, if businesses cannot sell their products and they lose their liquid value, overproduction happens. After losing liquid value, businesses lay off more workers, further decreasing demand for their products, and perpetuating a downward economic spiral, creating a recession. A major gap between the poor and the rich would also develop, and the economy would not function because of economic inequality, leading to a major crash. The article further provide this chart of possible

jobs that could be “computerized” in the near future.

Writers such as Martin Ford (author of *Rise of the Robots: Technology and the Threat of a Jobless Future*) do not blame the development of working AI and possible job takeover on the technology, but rather on businesses and capitalism seeking to make a quick buck. Ford argues that the true enemy in the case of naturally developing technology in the workforce becomes businesses that control the technology into things like automation. In turn, some other writers such as Carl Benedikt Frey and

---

Michael Osborne have examined a possible macro level effect on things like the reduction of immigration, large wage inequality, and educational attainment, and how over 47% of US jobs are at risk due to automation (“The Future”).

Furthermore, states have responded differently to this issue because factors such as political beliefs, worker demographic, and state technological demand. For example, some very free enterprise oriented states like New York would favor automation to help their businesses grow and allow more opportunity for skilled workers. However, states like California, with such a large unskilled immigrant population, would oppose automation.

### **History of the Problem**

Since the dawn of time, humans have worked side by side with their technology from their very first stone weapons to the latest iPhone. During the early 1800’s in the United States, Samuel L. Slater developed the first cotton mill in the United States after having exported the design from England. Slater would become the “Father of the American Industrial Revolution” as the time period after the War of 1812 would mark a shift from American manual labor to technical and machine based manufacturing. For example, Francis Cabot Lowell would also become famous for his textiles companies specializing in use of the spinning jenny and water frame. Due to the expansion of the United States, the

---

demand for resources increased, and with all the necessary materials, roads, and machines, this wave of industrialism spread to the United States (Industrial Revolution).

The First Industrial Revolution would set the stage economically and technologically for the Second Industrial Revolution in the late 19th and early 20th century. This revolution, based off steam power, the railroad, and the electric motor, would become more substantial than the last revolution and have even more economic and political effects. The United States would go on to make advancements in agriculture, electrification, chemical manufacturing, railroads, steel based products, maritime technology, and telecommunications (Hull).

However, the period known as the Gilded Age saw the rise of big business controlling most of the new technology developed and establishing monopolies and trusts. All the major sectors of the US economy, oil, steel, banking, and meat packing, belonged to a small number of large corporations whose unmatched production ran other competition out of business. They minimized production costs by destroying unions, enforcing obedience, and paying workers measly wages. Although economic productivity soared, these corporations later received accusations of corruption, abuse of workers, and making of unsafe products such as contaminated meat as accused by Upton Sinclair's *The Jungle*. Even though the US government through Theodore Roosevelt, William Howard Taft, and Woodrow Wilson would step in to monitor the companies and "bust trusts" such as Standard Oil, economic pow-

---

er continued to consolidate into the hands of a select group. Antitrust acts such as Sherman Antitrust Act would play a major role in the Federal regulation of American business (Ignatius).

The United States in the 1920's saw over a 20% rise wages for labor workers in production due to the assembly line, and an increased American standard of living. Ford's Model T, for example, cost almost \$1,000 when it was first introduced in 1908. Thereafter, the Model T's cost of production fell every steadily, so that by 1927—the year Model A replaced it—it cost less than \$300. Ford sold over than 15 million Model T's, so many that the question of car ownership became part of the census (Malone). Although American labor rose for this time period, the Great Depression would crash the economy. The United States would come out of the Depression when World War II and the high demand for jobs came. In order to supply their military forces, American industries and productivity soared, and as such the United States would develop technologies to keep up with their rivals. The climax of this competitive technological production came during the Cold War, when the United States technological-ly advanced further in order to keep up with the Soviet Union and began to gain more global influence, emerging as an economic superpower. As the United States gained more global influence, many American corporations followed its example, outsourcing jobs to developing nations with more lenient worker protection laws such as China, Vietnam, and Thailand in order to reduce production costs. On

---

the domestic level, the rise of illegal immigrants to make products as overseen by big businesses also became prevalent (Dhonota).

One of the most rapidly expanding sectors of the global economy is in the production and maintenance of technology. Products such as the Personal Computer, the iPhone, and Artificial Intelligence impact the global market and create a variety of jobs and functions. Currently, the problems of worker exploitation of the past have been replicated and magnified, as businesses have yet again come up with an idea to reduce production costs: Automation in the workforce. The human race is entering a Second Age of Machines (first having been the Industrial Revolutions), and have a chance to use technology to benefit everyone, not just a select few, or major unforeseen problems could develop between man and machine.

---

## Questions to Consider

- What factors led to both industrial revolutions in the United States?
- Is there a new technological revolution happening in the modern day?
- What benefits and disadvantages does automation in the workforce bring?
- What should be the role of the government in regulating big business and their tactics?
- Who would support automation in the workforce, and who would not?
- If the US does automate, what will happen economically, domestically, and to the global market?
- If the US decides not to automate, what will they do with already existing technology?
- Finally, can computers, AI, and machines truly take over human jobs? Or is that idea just a hysteria created by science fiction and pop culture films?

---

## **Bloc Positions**

These positions will vary by demographics, political basis, technological demand, and personal belief, hence most states are swing states. I encourage you to research more about your state in general to better understand if automation would benefit them.

Support: Alaska, Georgia, Hawaii, Idaho, Illinois, Maryland, Massachusetts, Michigan, Minnesota, Nevada, New Hampshire, New York, Pennsylvania, Utah, Virginia

Swing: Alabama, Arkansas, Colorado, Connecticut, Delaware, Indiana, Iowa, Louisiana, Maine, Montana, Nebraska, New Jersey, North Dakota, Ohio, Oklahoma, Rhode Island, South Dakota, Vermont, Wisconsin, Wyoming

Disagree: Arizona, California, Florida, Kansas, Kentucky, Mississippi, Missouri, New Mexico, North Carolina, Oregon, South Carolina, Tennessee, Texas, Washington, West Virginia

---

## Works Cited + Additional Sources

- Aquino, Judith. "Nine Jobs That Humans May Lose to Robots." *NBCNews.com*. NBCUniversal News Group, 22 Mar. 2011. Web. 14 June 2017. <<http://www.nbcnews.com/id/42183592/ns/business-careers/t/nine-jobs-humans-may-lose-robots/#.WUFiJXeZNmA>>.
- "Automation and Anxiety." *The Economist*. The Economist Newspaper, 25 June 2016. Web. 14 June 2017. <<http://www.economist.com/news/special-report/21700758-will-smarter-machines-cause-mass-unemployment-automation-and-anxiety>>.
- Brynjolfsson, Erik, and Andrew McAfee. *The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies*. W.W. Norton & Company, Inc., 2016.
- Dhonota, Raj. "AI In The Workplace: Why Robots Won't Replace Humans." *HuffPost UK*. The Huffington Post, 28 Apr. 2017. Web. 14 June 2017. <[http://www.huffingtonpost.co.uk/raj-dhonota/ai-in-the-workplace-why-r\\_b\\_16288254.html](http://www.huffingtonpost.co.uk/raj-dhonota/ai-in-the-workplace-why-r_b_16288254.html)>.
- Ford, Martin. *Rise of the Robots: Technology and the Threat of a Jobless Future*. Basic Books, 2016.
- Hull, James, "The Second Industrial Revolution: The History of a Concept", *Storia Della Storiografia*, 1999, Issue 36, pp 81–90
- Ignatius, David. "The Brave New World of Robots and Lost Jobs." *The Washington Post*. WP Company, 11 Aug. 2016. Web. 14 June 2017. <<https://www.washingtonpost.com/opinions/the-brave->

---

new-world-of-robots-and-lost-jobs/2016/08/11/e66a4914-5fff-11e6-af8e-54aa2e849447\_story.html?utm\_term=.83f80e0252ba>.

"The Impact of Robots Replacing Humans in the Workplace." *Carrier Management*. N.p., 27 Aug.

2015. Web. 14 June 2017. <<http://www.carriermanagement.com/features/2015/08/27/144510.htm>>.

"The Industrial Revolution in the United States" - Primary Source Set. Library of Congress. *www.loc.gov*.

Malone, William H. Davidow Michael S. "What Happens to Society When Robots Replace Workers?"

*Harvard Business Review*. N.p., 10 Dec. 2014. Web. 14 June 2017. <<https://hbr.org/2014/12/what-happens-to-society-when-robots-replace-workers>>.

McNeal, Marguerite. "Rise of the Machines: The Future Has Lots of Robots, Few Jobs for Humans."

*Wired*. Conde Nast, 06 Aug. 2015. Web. 14 June 2017. <<https://www.wired.com/brandlab/2015/04/rise-machines-future-lots-robots-jobs-humans/>>.

Michael Chui, James Manyika, and Mehdi Miremadi. "Where Machines Could Replace Humans--and

Where They Can't (yet)." *McKinsey & Company*. N.p., n.d. Web. 14 June 2017. <<http://www.mckinsey.com/business-functions/digital-mckinsey/our-insights/where-machines-could-replace-humans-and-where-they-cant-yet>>.

---

Moor, Mariella. "Adidas Will Finally Start Selling Shoes Made by Its Robot Factory." *Wwww.engadget.com*, 5 Oct. 2017, [www.engadget.com/2017/10/05/adidas-speedfactory-made-for-shoes/](http://www.engadget.com/2017/10/05/adidas-speedfactory-made-for-shoes/).

Rotman, David. "How Technology Is Destroying Jobs." *MIT Technology Review*. MIT Technology Review, 01 Sept. 2016. Web. 14 June 2017. <<https://www.technologyreview.com/s/515926/how-technology-is-destroying-jobs/>>.

Solon, Olivia. "Robots Will Eliminate 6% of All US Jobs by 2021, Report Says." *The Guardian*. Guardian News and Media, 13 Sept. 2016. Web. 14 June 2017. <<https://www.theguardian.com/technology/2016/sep/13/artificial-intelligence-robots-threat-jobs-forrester-report>>.

Shmoop Editorial Team. "Economy in The 1920s." *Shmoop*. Shmoop University, Inc., 11 Nov. 2008. Web. 19 Nov. 2017.

Teuber, Bill. "The Coming of the Second Machine Age." *The Huffington Post*. TheHuffingtonPost.com, 22 Jan. 2014. Web. 14 June 2017. <[http://www.huffingtonpost.com/bill-teuber/the-coming-of-the-second-machine-age\\_b\\_4648207.html](http://www.huffingtonpost.com/bill-teuber/the-coming-of-the-second-machine-age_b_4648207.html)>.

Thirty-eight Percent of Jobs in the U.S. Are at High Risk of Being Replaced Robots, and Artificial Intelligence over the next 15 Years. "U.S. Workers Face Higher Risk of Being Replaced by Robots. Here's Why." *CNNMoney*. Cable News Network, n.d. Web. 14 June 2017. <<http://money.cnn.com/2017/03/24/technology/robots-jobs-us-workers-uk/index.html>>.

---

“The Future of Employment: How Susceptible Are Jobs to Computerisation? | Publications.” *Oxford Martin School*, [www.oxfordmartin.ox.ac.uk/publications/view/1314](http://www.oxfordmartin.ox.ac.uk/publications/view/1314).

Toor, Amar. “Amazon Patents a Parachute Shipping Label for Drone Deliveries.” *The Verge*, The Verge, 31 May 2017, [www.theverge.com/2017/5/31/15717432/amazon-patent-drone-parachute-label-prime-air-delivery](http://www.theverge.com/2017/5/31/15717432/amazon-patent-drone-parachute-label-prime-air-delivery).

Tufekci, Zeynep. "The Machines Are Coming." *The New York Times*. The New York Times, 18 Apr. 2015. Web. 14 June 2017. <[https://www.nytimes.com/2015/04/19/opinion/sunday/the-machines-are-coming.html?\\_r=0](https://www.nytimes.com/2015/04/19/opinion/sunday/the-machines-are-coming.html?_r=0)>.

West, Darrell M. "What Happens If Robots Take the Jobs? The Impact of Emerging Technologies on Employment and Public Policy." *What Happens If Robots Take the Jobs? The Impact of Emerging Technologies on Employment and Public Policy* (n.d.): n. pag. <https://www.brookings.edu>. Web. 14 June 2017. <<https://www.brookings.edu/wp-content/uploads/2016/06/robot-work.pdf>>.

Zaino, Gene. “The Impact Of Automation On The Independent Workforce.” *Forbes*, Forbes Magazine, 28 Aug. 2017, [www.forbes.com/sites/forbeshumanresourcescouncil/2017/05/02/the-impact-of-automation-on-the-independent-workforce/#22965c9875c5](http://www.forbes.com/sites/forbeshumanresourcescouncil/2017/05/02/the-impact-of-automation-on-the-independent-workforce/#22965c9875c5).