# 1AC

### We affirm the resolution. Resolved: On balance, the benefits of the Internet of Things outweigh the harms of decreased personal privacy.

Definitions: Oxford Dictionary defines Internet of things as: The interconnection via the Internet of computing devices embedded in everyday objects, enabling them to send and receive data.

Observation:  The negation holds the burden of having all their impacts only pertain to decreased personal privacy. Because this resolution only weighs the benefits of IOT and the decreased personal privacy output of IOT. [purely a comparison between IOT and privacy, no other factors][skip if not enough time just make it apparent in first crossfire]

Now moving on to our 2 contentions:

## Contention 1: Economic Benefits.

In order to justify the affirmations following sub points we must identify the key economic benefits. These include Creating Opportunity, Limiting Consumption, Promoting Community and, increasing stabilization.

### Subpoint A: Small Business Creation

Claim: The Internet of Things is able to facilitate the rise of new small businesses and provide innovative business ideas which provides a valuable business resource.

Evidence: {Porter and Heppelmann 14}(Harvard Business review)[NB] : Companies may find that the data they accumulate from smart connected products is valuable to entities besides traditional customers. This may lead to new services or even new businesses.

***Link:***Judge, with the data being collected by IOT Devices, people may find trends within this data that could spark new business ideas that eventually leads to new small businesses.

**Impact:** It is apparent that small-medium sized businesses make up over 95% of enterprises and account for 60-70% of jobs in most countries. Therefore job security will increase. As the number of small businesses increase job security will increase linearly as a result. IOT is increasing the number of small businesses, which will produce more supply output from each country, increasing the GDP of the country.

[Small businesses increase – numbers of jobs increase –job security increases – hand to hand with gdp increase]

### Subpoint B: Increase in Connectivity and Productivity

***Claim*:** The Internet of things increases connectivity, which in turn increases productivity.

http://www.cnbc.com/2016/09/29/artificial-intelligence-will-boost-us-productivity-says-report.html

**Evidence:** {Roy 16}(CNBC news reporter)[NB] a new study reports that artificial intelligence could dramatically boost economic growth and productivity. The Accenture report looked at 12 countries and found that AI — or technology that senses the environment, comprehends what's happening and takes action — could increase productivity by up to 40 percent in 2035.

*Evidence:* Heidelberg 3; eCall introduced in 2008, takes smart, connected services to the next level by sending automatic notifications to the printer in case of a problem. The printer can then request service. An automated pre-analysis tool transmits the fault details to the responsible worker. A Heidelberg service expert can then immediately get started on solving the problem.

*Link:* The Internet of things is able to connect all devices on a common grid. By raising connectivity, workers are able to work as a team and share ideas effortlessly. In the case of the printers, workers did not have to check each individual printer but instead the printer checked itself so the workers could focus on more equitable jobs which will raise productivity.

**impact:**This in turn will increase the work output because workers can work on jobs that takes their full attention while also addressing part time jobs such as checking the condition of an object ,this in turn will increase the supply of products from the countries the workers reside from.

This new supply surplus increases the GDP in the country produced and will provide more money to be in citizen’s pockets. The benefit possibilities are endless and they provide another reason to vote aff in this debate.

[More work done – Higher supply in business – higher GDP and better economy]

### Subpoint C: Gas Prices

#### Claim:The Internet of things stabilizes gas prices and allows for cheaper outcomes of trade barriers, which in turn leads to a better economy for countries while increasing their gross *GDP in the process.*

Evidence:

PYMNT 16 (Report of shell gas output and monitoring crude oil pumps across the world)[NB]

In a culture that glorifies and relies so heavily upon the personal automobile, it shouldn’t be so surprising that gas prices are employed by pundits, alternatively, as scapegoats for low retail sales or as a bellwether for impending upturns. Just about every update on monthly retail sales will include a comment on the general state of the cost of a barrel of crude, and the recent months-long slide in the cost of gasoline might as well have been a holiday among the poor journalists covering that beat.But for all the stories focused on the rising and falling nature of oil markets, almost no attention is paid to the companies that are trying to stabilize those prices, and Shell may have made a breakthrough with the Internet of Things and its oilfields in rural Nigeria. RCR Wireless News spoke to several people involved in a Royal Dutch Shell project to install IoT sensors over its 80 oilfields in the western African nation that produce upwards of 600,000 barrels of oil per day, or 21 percent of the country’s oil-bearing capacity. In a perfect world, it would be ideal for Shell to be able to remotely monitor the output and performance of each individual well, but most of these sites are located in the Niger Delta, which is not impassable by modern means but can slow down maintenance and drilling crews during transit. Moreover, spotty network infrastructure in the area, combined with the rough terrain’s effect on weak signals, pushed Shell and its partner organization, Upland Consulting, to choose a low-power, long-range IoT network solution put out by San Diego-based Ingenu, known as random phase multiple access (RPMA), to bridge the many gaps. “The key criteria for selecting a solution were the technology’s ability to cover difficult terrain, power performance and long-range transmission, as well as network scalability, two-way communications and secure data transmission,” Upland Consulting CEO Bola Awobamise told RCR Wireless. “Ingenu’s RPMA offered all of these attributes.” While oil production may be a multi-billion dollar enterprise, Shell’s investment in Ingenu’s RPMA sensors was anything but. Each sensor can project and receive signals in a 450-square-mile area, and their small sizes — no larger than shoeboxes and attachable to existing infrastructure — meant that Shell only had to spend $87,000 to monitor its entire oil production capacity in Nigeria. No small feat, said Ingenu CEO John Horn. “Where we would put one tower, cellular companies would put about 30 towers,” Horn told RCR Wireless. “It took three months to build this network in the Nigerian Delta … [for] cellular companies, it would have taken them a couple years to try to figure it out and develop it, and they still wouldn’t have built it because it costs so much money and there are not people there to support it.”

Not having people on site to support these sensors seems entirely the point. Indeed, Shell saw immediate results after installing the eight modules and collecting near-constant data on well production rates. RCR reports a return of $1 million on the $87,000 is spent buying and installing the IoT system in rural Nigeria. While IoT sensors can help oil producers when things are running smoothly, they’re also proving to be valuable tools when things go wrong in the field. Drillers off the coast of Alaska have been working with IoT sensors for years to monitor when systems go down, and Mark McKinley of Hilcorp Energy Company explained that real-time notifications aren’t always the primary benefit of onsite IoT sensors in oil drilling. Sometimes, the data on exactly what’s gone wrong from the machines themselves is the more important part. “The last time we had a well trip offline, within five minutes, we had a phone call telling us what broke, what to look at and how to test it,” McKinley said in an interview with Microsoft. “It saved six hours of troubleshooting or more, and we got right back online. The staff is ecstatic, because they get support before they have to break out manuals and figure it out on their own.” It’s enough to get environmentalists and Big Oil on the same side.

**Evidence 2:** {Andrew Slaughter & 2} [VD]: After years of high and rising oil prices led to a longstanding oil price of more than $100 per barrel, **new extraction technologies have opened up** fresh sources of supply that suggest **a new price equilibrium of $20 to $30 less per barrel.**[1](https://dupress.deloitte.com/dup-us-en/focus/internet-of-things/iot-in-oil-and-gas-industry.html#endnote-1),[2](https://dupress.deloitte.com/dup-us-en/focus/internet-of-things/iot-in-oil-and-gas-industry.html#endnote-2) This new normal of lower oil prices not only will lay bare inefficient oil and gas (O&G) companies but will push even the efficient ones to find ways to preserve their top and bottom lines. Luckily for the O&G industry, **[additionally] a new suite of technologies promises to help companies tackle potential challenges**. The oil and gas industry, promise of IoT applications lies not with managing existing assets, supply chains, or customer relationships but in creating new value in information about these. “An integrated deployment strategy is key for companies looking to find value in IoT, which basically integrates sensing, communications, and analytics capabilities.” As the core enabling technologies have improved to the point that its widespread adoption seems likely.” Iot’s promise lies with tying all aspects of a business together. https://dupress.deloitte.com/dup-us-en/focus/internet-of-things/iot-in-oil-and-gas-industry.html

**Link:** Integrating IoT manages the totality of businesses making it easier to communicate with businesses nationally but more so internationally.

**Impact:**This means that every car owner will benefit from the implementation of IOT due to the stabilizing gas prices. Companies will also benefit from uniform gas prices because their transportation costs will be increasingly predictable as well. Gasoline is a building block in our economy, and IOT is taking a huge step towards stabilizing gas prices and improving the economy. Therefore countries implementing IOT will undoubtedly have their living situation and economy improve drastically.

[IOT helps gas prices – Gas Prices stabilize – Small businesses can predict profits and potential revenue amounts ahead of time – trade barriers will costs less – Companies will either make more money, or more discounts would occur – more money for families.

## Contention 2: Health

### Subpoint A: Diabetes Patients

The Internet of things uplifts medical technology and can allow for more productive visits.

Jara Skarmeta Zamora 11 (Book: Personal and Ubiquitous Computing)[NB]

Jara, A.J., Zamora, M.A. & Skarmeta, A.F.G. Pers Ubiquit Comput (2011) 15: 431. doi:10.1007/s00779-010-0353-1

Recent research indicates that using diabetes self-management systems help to control glycemia and associated blood glucose levels. For this reason, software solutions [4] have been deﬁned for monitoring and modeling of blood glucose. Since these solutions have the problem that depends on a PC, different kinds of solutions closer to the user are being deﬁned such as glucometers integrated in digital photography [5] and in cellular phones, i.e. mobile Health solutions (mHealth)

Kemble 16 (IBM Blog) [NB]

cognitive computing and analytics – along with the myriad of devices and sensors that are available to manage type 1 diabetes – can not only help me make better decisions and improve my quality of life, but also prevent potentially catastrophic situations (low blood sugars). I also want to understand how I can provide data and insight to my endocrinologist so that my quarterly visits with her are more productive.

Cousin Castillo-Hi Snyder 15 (Deloitte University Press, all authors are reporters) [NB]

More than a third of Americans suffer from chronic conditions, often with no cure in sight, which can get hugely expensive. Once a patient falls prey to a chronic disease, the need for continuous health monitoring becomes more important than in prevention and wellness. A number of device makers and other players are aiming to tackle this challenge through integrating the relevant streams of data needed to accurately monitor the health of a patient with a given condition. A number of IoT-enabled devices (stationary, wearables, implantables, or ingestibles) are available to patients and providers to monitor diabetes, heart conditions, and other ailments; the devices monitor clinical data (e.g., blood glucose or heart rate), adherence data (e.g., taking medications as prescribed), and consumer health data (e.g., physical activity)

With IOT, glucometers will be able to communicate the data they collect to a patients phone or the glucometer will be specifically integrated into the patients mobile phone. Therefore the data from the glucometer will be able to be transferred to the patients phone where he or she can send it to their respective doctor.

All Patients are being positively affected by the implementation of IOT. Patients will be able to have faster and productive doctor appointments because their information is shared more frequently with their respective doctor. Also doctors will have constant monitoring of their patient. This is important especially in the example of diabetes patients because low/ high blood sugar is a very life-threatening situation.

### Subpoint B: Medical Research

The Internet of things is able to promote medical research on chronic diseases.

**PMC 16 (US National Library of Medicine National Institutes of Health, government organization)[NB]**

**The Pharma IoT concept involves digitalization of medical products and related care processes using smart connected medical devices and IT services (web, mobile, apps, etc.) during drug development, clinical trials and patient care. The outcomes of Pharma IoT in development and clinical trials can employ combinations of advanced technologies and services to create totally new kinds of disease treatment possibilities** (e.g., Treatment 2.0).

Since IOT allows everyday objects to be on a common grid, smart watches that collect data could be used to give a constant monitoring of a patient to a doctor for almost no cost to the doctor at all. This will allow patients to be able to send their data effortlessly from their heart monitors and such so that medical researchers will have access to more data

IOT is providing a major building block towards faster and more efficient medical research. Since IOT Devices collect data from everyday objects, mass data about patients with a chronic disease will be collected. The data will of course be collected with the consent of the patient according to HIPAA regulations. Although, cures can be collected faster and medical studies, which require a collection of data can be cheaper and more efficient. This basically leads to a healthier and more developed society for with IOT there is more research for less work and money.

For an improvement in worldwide economy and health, we urge an aff ballot.