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### 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 vs. the lack of personal privacy IoT propagates. [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 3 contentions

## Contention 1: Gas Prices

#### Claim:The Internet of things stabilizes gas prices

Evidence:

Dimitrov 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:** {Slaughter & 2, 2016} [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:** Monitoring oil output will be cheaper with IoT because sensors in the ground will indicate the quantity of oil extracted, which then leads stabilized gas prices because the time it takes from sensor to sensor is significantly less than the current process in the status quo.

**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: Carbon Emissions

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digital technologies might help save 7.6 Gigatons carbon emissions by 2030, a finding that is based on the #SMARTer2030 study by the Global e-Sustainability Initiative (GeSI) and Accenture Strategy. The research uncovered that we can maintain worldwide carbon emissions to 2015 levels – but only through the intelligent use of technology. Based on GeSI’s findings, we concluded that six major industries – utilities, transportation and logistics, manufacturing, retail and consumer products, agriculture and food production, and construction – could cut 63% of 12.1 Gigatons in carbon emissions.

Carbon emmsions will be monitored by IOT devices constantly. This will make sure companies are actually cutting down their emmisions and abiding the limit put in place by the government. This strategy being implemented will yield a 63% decrease in carbon emissions.

This could decrease the rate of climate change and prevent human extinction. Climate change is a big problem today and IOT is allowing our species to fight that battle and possibly get one step closer to stopping climate change. Also, preventing companies to pollute indefinitely will cause companies to switch to renewable energy sources which is helpful for the atmosphere and the company because they do not have to limit their energy consumption with clean energy.

## Contention 3: Water Usage

Iot will reduce water usage

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“The case study showed water usage reduction by 75 percent, but the usage will climb as the trees get bigger. The goal is to reach a 50 percent reduction of water usage when fully grown. By keeping the salts in check along with keeping nutrients supplied, stress on the trees is reduced and they are able to have better crop production,”

IOT devices will be able to monitor the water consumption needed of a specific crop based on soil status. There are sensors on the bottom of the plants roots that will notify the farmer to stop watering when the amount of water is suitable to the plant. This will allow farmers to pour just the right amount of water in order to sustain a healthy crop.

With IOT we can see more crops yielded from less water consumption. This means food will be more affordable to the low income population because there will be more supply of food leading to a lower price. Also farmers will be able to earn more profit due to the cut in water usage. This is important because farming is a dying occupation. In fact by 2020: 19,100 farmers will be forced to stop their job. However, with the new profit and less labor, farming will become feasible career again.

For an improvement in worldwide economy and extinction provention we urge an aff ballot.