Finally, the first ever

Bill of Rights

for

Industrial Operators

FREEWAVE

A bit of U.S. history. While James Madison authored the Bill of Rights, he first thought the amendments pointless – until anti-federalists began rewriting the Constitution. He promptly grabbed his quill, sat down and drafted 19 amendments that, as all good writers know, then faced critical editing. Ten amendments later, the Bill of Rights is one of the most famous historical documents ever inked. Here's our spin on it relative to data.

July marks the month that the United States celebrates its founding freedom, and at FreeWave we're exploring another set of equally important rights. While not around in the late 1700s, data flow has become part of our lives – and those of industrial operators. The time is now to give it close attention.

For more than 30 years, we have believed in the power of data. Data impacts decisions, business value, and, most importantly, the very future and safety of real people and our planet. Henceforth (to borrow from our Founding Fathers' lingo), we've taken the liberty to create the first-ever industrial internet of things (IIoT) Bill of Rights.

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Amendment 1: Data Governance

Industrial operators own their data. IIoT data flow, network infrastructure, and IoT devices shall not be held hostage by any provider. Industrial operators own access to their data, the decision-making insight from their data, and the ability to set forth data policies from edge (the source of the data) to decision-maker.

Amendment 2: Data Democratization

Data is to be seen and acted upon. Visualization of accurate, available, and protected data is not for the few, but the many within an organization so people in different roles have the ability, with permission, to make better decisions and act on them in a timely fashion, increase productivity and efficiency, and prevent critical equipment failures easily and safely. This means more people within an organization may perform their jobs better. From knowing equipment status to lowering insurance premiums by increasing safety to checking daily production, people see the data important to them. That data makes their jobs easier while empowering them with the information where and when they need it.

Amendment 3: Global Reach

Place does not dictate connectivity. There shall be no shackles around the location of a decision-maker relative to their data. Global reach via satellite is readily available and affordable. Teams may see their remote IIoT network from anywhere in the world, to any permissioned device that is connected to the cloud.

Amendment 4: The Right to a Secure Cloud by way of Certificate Authority

A secure cloud computing methodology allows data to remain safe and secure, yet accessible. Certificate Authority (CA) with public and private keys protects data in a public environment and private environment where trusted entities live. FreeWave uses certificates for authenticating devices and services on our cloud and hardware, thus providing peace of mind in the ever-evolving landscape of data flow.

Amendment 5: Zero Trust Security

A Zero Trust Security framework is a right of industrial operators. A Zero Trust Security framework is when all network devices and users and data are ignored from any source until the sender provides verifiable proof of identity. Unlike Virtual Private Networks (VPNs) and other conventional security models that control access to a trusted perimeter, Zero Trust Security requires multiple layers of authentication and authorization as part of a continuous process.

Amendment 6: Unlimited, High-Speed, Affordable Satellite Connectivity for all

Lack of internet connectivity shall not prohibit data access, storage, or transport. In the far reaches of the world where harsh, remote environments and treacherous terrain prevail – or even in the hard-to-reach flatlands – industrial operators shall have access to FreeWave's satellite-connected IoT network so they can easily unlock valuable insights without undue stress on their people or bottom line.

Amendment 7: Easy, Plug-and-Play Deployment

IIoT deployment should be effortless. An industrial operator is not required to do anything except: Open Box. Power On. Get Data. There are no engineering resources necessary for an IIoT solution to be deployed. An IIoT solution (like we deliver at FreeWave) provides the engineering, on-SAT application, on-portal visualization and alarming, SCADA-ready protocols, and solutions support – ending the need for multiple platforms, portals, and proprietary data transfer. (All from a single provider, like FreeWave.)

Amendment 8: Fast Deployment

Uptime is to be honored. No industrial operator shall wait more than a matter of days to deploy an IIoT solution. Technology solutions do not have to be complicated, hard, or require long lead-times, on-staff resources, or reliance on third-party technical resources.

Amendment 9: Cross-Translation of Protocols

Remote industrial companies can transform existing SCADA networks into data racetracks that carry more data, faster. This demands the ability to cross-translate so that different edge or SCADA protocols on the edge, SCADA, and even devices that speak different protocols are able to communicate so the full power of an IIoT network infrastructure is realized.

Amendment 10: AI Readiness

Those who own their data will win the AI race. AI should readily support enhancement of the data based on trends to apply that learning to the data set, making the data actionable with valuable insights. No industrial operator should be concerned about their data being AI ready.

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Join us. Free the Data.

Every day, industrial operators live in the land of the free and the home of the rugged. Their vision for a better future relies on the data out there, at the edge. Data they can see. Data that provides alerts, alarms, trend reporting, and machine-to-machine commands help operators:

- Detect critical variations like temperature, pressure, air, flooding, and tank levels
- Detect equipment status for things like battery health and machinery malfunction
- Meet regulatory and monitoring requirements
- Reduce emergent truck rolls, resource overload, and expenses

We believe rights, not privileges, prevail for data. When industries like oil and gas, agriculture, mining, utilities, and manufacturing use efficiency and automation to create leaner operations, more easily and thoroughly meet regulatory compliance, and prevent revenue leakage due to unreliable information or connectivity, then they have more opportunities to succeed. Freeing the data empowers real people to make better decisions and transform

business value at scale. We believe these IIoT data solutions should not be complicated or costly.

Working with our expert technical staff and experienced channel partners to solve wireless and edge computing challenges, customers leverage a full solution for IoT connectivity that includes the FreeWave Insights™ data platform-as-a-service, satellite service connectivity as a Connectivity Wholesale Partner in Viasat's ELEVATE program, our portfolio of rugged connected devices, and satellite-connected devices as a Global Authorized Reseller of ORBCOMM.

If you're passionate about bringing meaningful technology solutions to remote industrial companies with remote operations, join us as a channel partner in leading the evolution of IIoT. If you're a remote operator looking to get more business value from your IIoT data, contact us here.

Because industrial operators have rights when it comes to their data. These rights are part of a future where data serves industrial operators in measurable and positive ways.

This is the world we see.