



AMTech IoT Activity Monitoring **How it works**

AMTech is an **Internet of Things (IoT)** platform and technology company, that empowers enterprises of any size, by turning data into real-time actionable intelligence, thus providing an unparalleled competitive advantage.





A **Thing** is a physical object or even a piece of data, with a unique identifier and a group of properties like: location, temperature, speed, acceleration, altitude, weight, volume, pressure, value or any other variable that can be measured.

For example:

- A **Truck** with a cargo area
- A **Thermostat** installed in the cargo area
- A **RFID Reader** installed at the cargo door
- A **Mobile Phone** assigned to the driver
- **Product** with RFID tags



In order to achieve an **efficient operation** with the least **human intervention** possible, the ideal scenario would be, for example:

1. The **RFID Reader** reads the **Product** tag and gets its information and required temperature, and could share it with the **Thermostat**
2. The **Thermostat**, knowing that information, could automatically adjust the cargo area temperature
3. The **Mobile Phone** could send the location, speed and direction of the **Truck**

The Result = Monitoring location, temperature and product unloading in real-time, and taking immediate action if the truck/product are outside parameters.

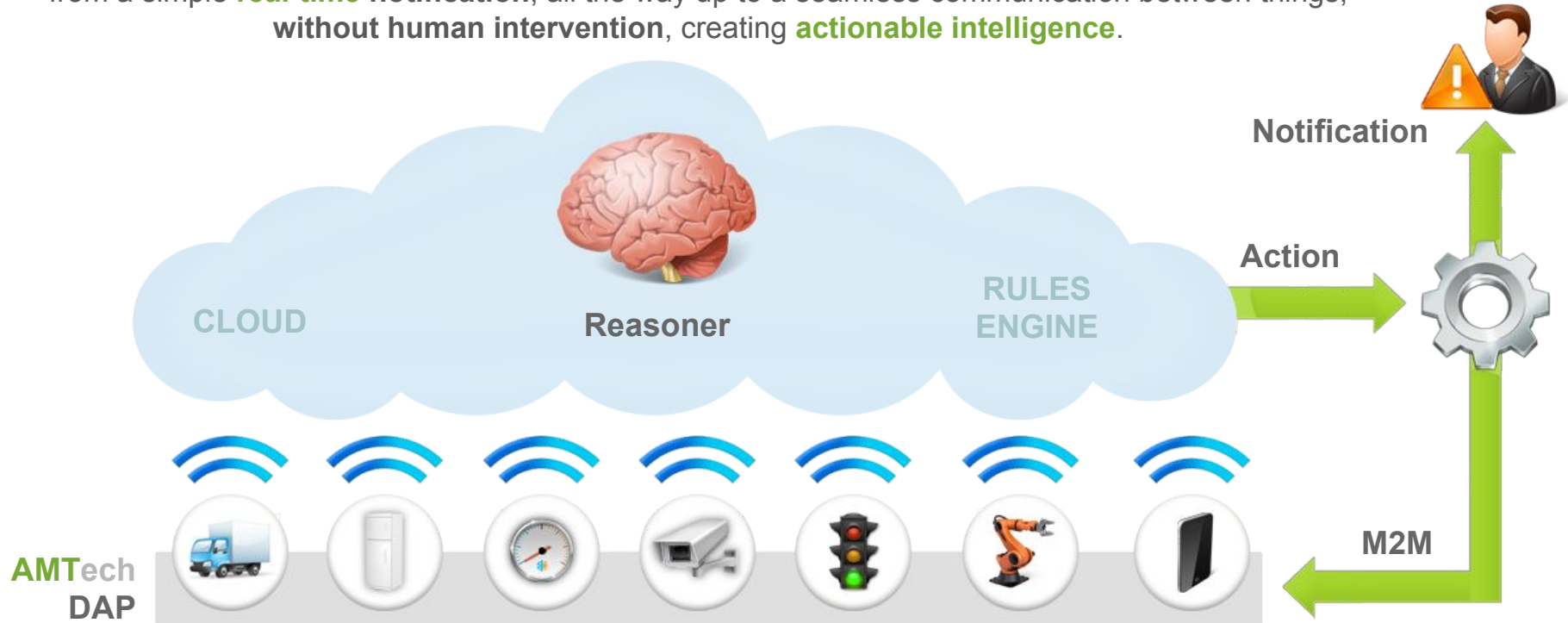


The problem is that all **Things speak different languages**. Necessary integration efforts to overcome this obstacle, following today's paradigm, makes this challenge **economically unfeasible**.

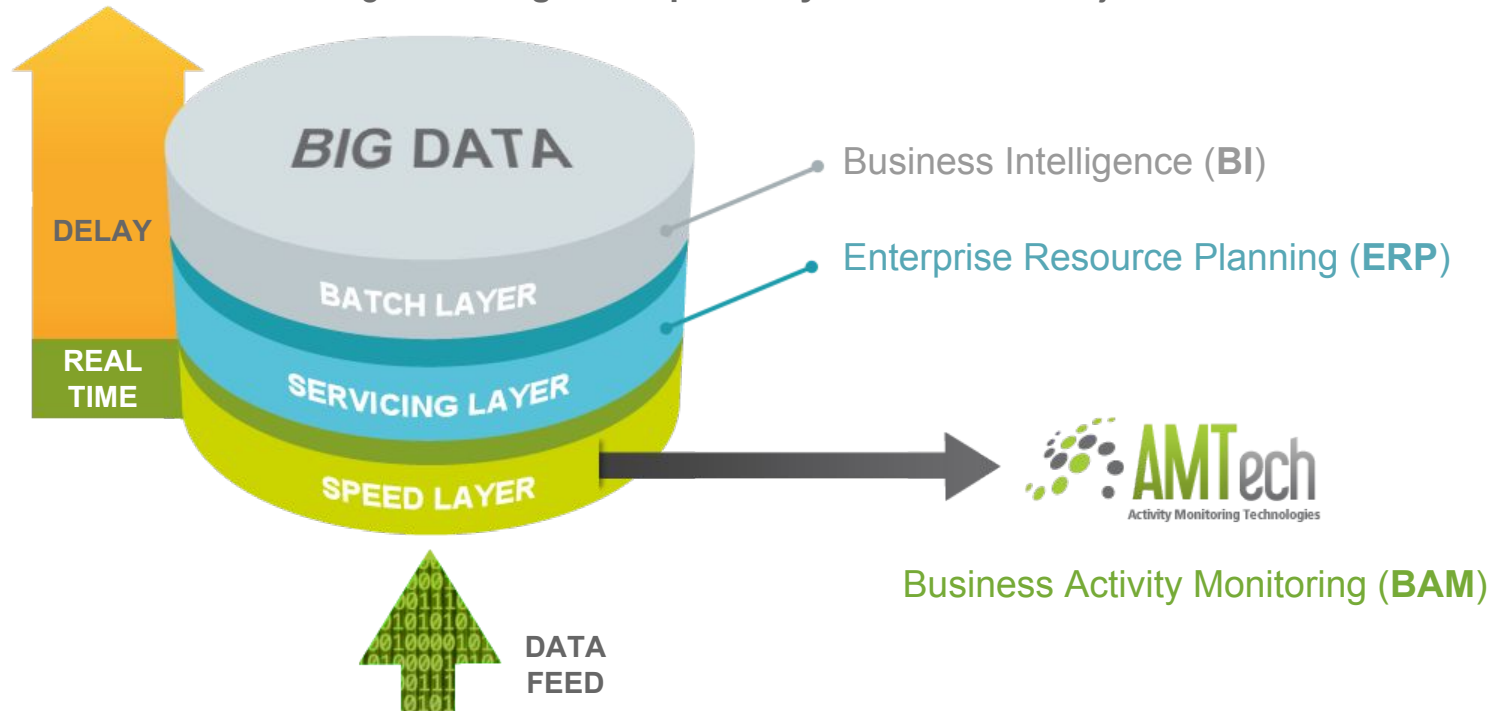


AMTech platform defines a **protocol (DAP)** with a semantic that allows things to **speak the same language**, achieving **M2M (Machine to Machine)** interaction.

AMTech Reasoner receives and analyzes the data generated by **things**; it process it using a configurable **Rules Engine** that triggers the defined **actions** if conditions are all met... from a simple **real-time notification**, all the way up to a seamless communication between things, **without human intervention**, creating **actionable intelligence**.



Real-Time is a flexible term that is often abused. Most of the times, real-time just means “as fast as I can get it done”. For **AMTech**, real-time is reacting to events at the **same time as they unfold**. Being on the **Big Data Speed Layer** allows us to do just that.



Things are configured by assigning a **value** to each of its **properties** and defining the **observations** that each thing sends and receives. Then, they are related to each other using criteria such as **where, when and how**. This is known as **BUSINESS RULES**. Finally, the **exceptions** are configured, as well as the **actions** to be triggered.

I read, write and delete
RFID tags

RFID READER



PROPERTIES

- Reading
- Frequency

ACTIONS

- Read
- Write
- Delete

Date of expiry 08/22/2016
Required temperature of 45°F
Produced by Mexifood

PRODUCT



PROPERTIES

- Expiry date
- Required temperature
- Manufacturer

I read and adjust
temperature

THERMOSTAT



PROPERTIES

- Temperature
- Units

ACTIONS

- Rise temperature
- Lower temperature

I notify changes in
temperature and
product location

MOBILE

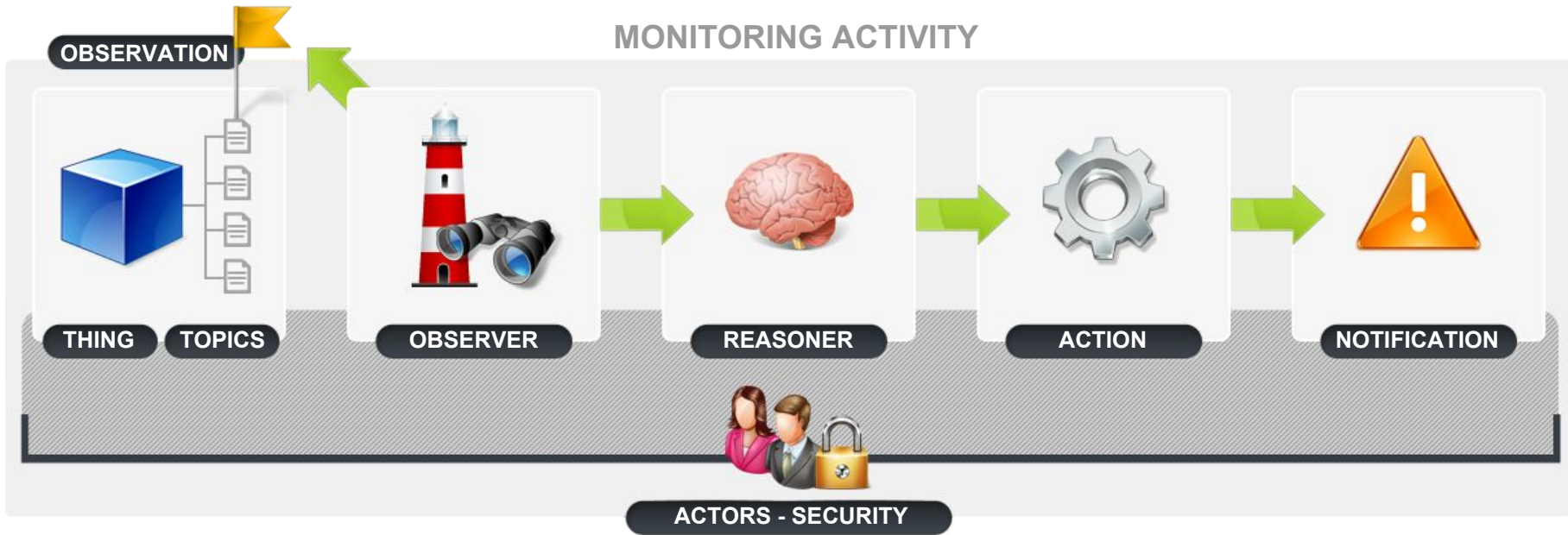


PROPERTIES

- Longitude & Latitude
- Speed
- Direction in degrees

ACTIONS

- Turn on
- Turn off



Things generate Observations. The Observer takes the Observations that meet the conditions configured in the Business Rules and sends them to the Reasoner, who executes the configured Actions in real-time; as for example a Notification. Security policies are set by configuring Actors (Users). Grouping all these resources is called a MONITORING ACTIVITY.

The **configuration** is done through a user-friendly experience, completely oriented towards **Business Analysts**, not Programmers.

The **main advantages** are:

- **Configuring** just by clicking, no coding necessary
- **Reusing** the things and observations in multiple use cases
- **Scaling** business operating needs, effortlessly and in record time
- **Immediately increasing** the volume of information to be processed
- **Simplifying** the creation and maintenance of activities that improve business operations





PRODUCT

Product being unloaded, produces an **observation** indicating time, location, quantity and type of product



CLIENT

The **observation** is then compared in **real-time** against the authorized delivery location for that product

The **reasoner** processes the data and triggers the action configured in the defined **Business Rules**



REASONER



ACTION



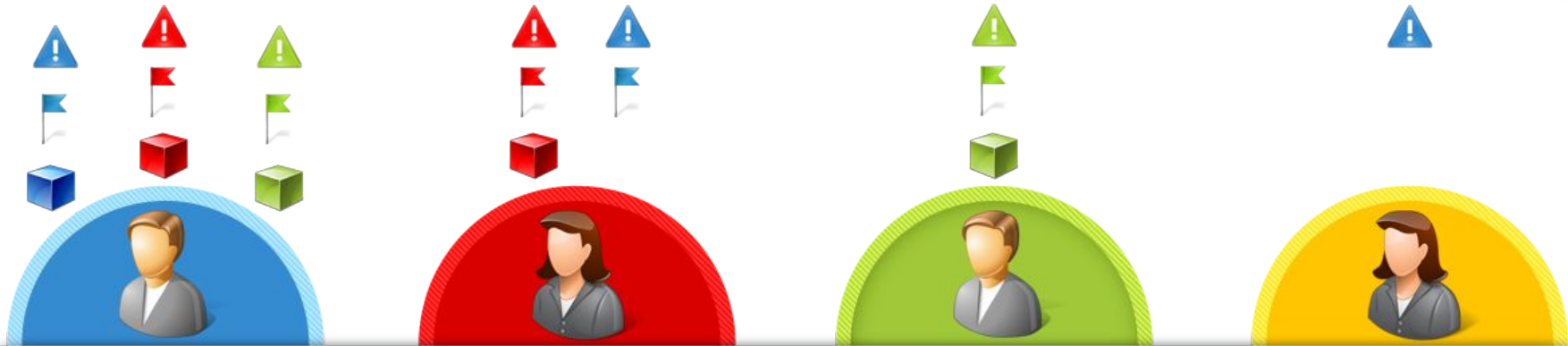
NOTIFICATION

The **action** sends a real-time **Notification**

The appropriate **Actor**, receives the **notification** through a private channel



ACTOR



ACTORS - SECURITY

Security policies are set by configuring **Actors**, that control access to **Things**, **Observations** and **Notifications**.

Access control is **Multi-tenant** and **Multi-user**; with 4 access roles: **Tenant**, **Guest tenant**, **User** and **Guest user**.

For example:

In a supply chain, the **Client** can grant individual access to each **Supplier** so they can monitor their products across the sales process, generating real-time actionable intelligence to empower a Just-in-Time system.



PaaS / Cloud

AMTech is an IoT **PaaS** (Platform as a Service) that powers the connected enterprise by allowing the configuration of unlimited business monitoring activities with **zero programming**.

It's **not an API**, it's not a web service or SDK, it is a **real** platform for the IoT.

This makes it superior to any other solution in the market.



User friendly

AMTech IoT is User friendly **not Developer friendly**, meaning that it's aimed at Business Analysts that know the problem and can solve it without a developer's help. Think about it.

AMTech **single page** user experience allows the configuration of monitoring activities just by clicking.

Click, click, click.



Flexible

Future-proof your IoT strategy without having to worry about evolving protocol standards or hardware barriers.

Adding new things and monitoring activities is so simple that it will allow you to **quickly innovate** without the concerns of mounting capital expenses, complexities and delays.

Be agile and focused on your core business by removing barriers to IoT adoption.



Easy to integrate

IoT is about **software**, not hardware.

Bring your IoT solutions to market quickly, **integrating seamlessly** with any actual or future hardware and software, and even **data feeds** no matter where they originate from.

With our **unique technology** approach, you can literally go from ideation to production in **hours instead of months**.

Yes, you read right... hours.



Scalable

AMTech IoT handles any scale, including the largest IoT implementations; automatically flexing in size based on system load, handling massive transaction volume (by the billions) and millions of connected things per deployment.

Furthermore, you can **scale your business** without investing in new hardware, by **reusing** the data generated by any device, in multiple solutions. **You scale, we scale.**



Multi-tenant Multi-user

AMTech offers secure multi-tenancy and protected **IoT** real-time view data hosting.

Actors have access to things, observations and notifications depending on their access roles.

Resources can be shared or restricted with a **multi-tenant / multi-user** approach.



Simulate

Users are able to **model and simulate** processes more efficiently, and easily integrate new devices and data.

The resulting **actionable intelligence** will immediately be available, reducing costs and complexity of deployments of any size.

Model - Simulate - Publish

...without having to physically touch or see your devices, sensors or data feeds.



Integrated services

Forget about libraries, programming interfaces, integrating web services or writing protocols.

The platform integrates more than **15 core services** essential for **IoT deployments**: Geo-location, EPC, Device Management, M2M Bridge, App Marketplace and more...

Let your teams focus on providing **value** to the business through **accelerated innovation and reduced costs**.

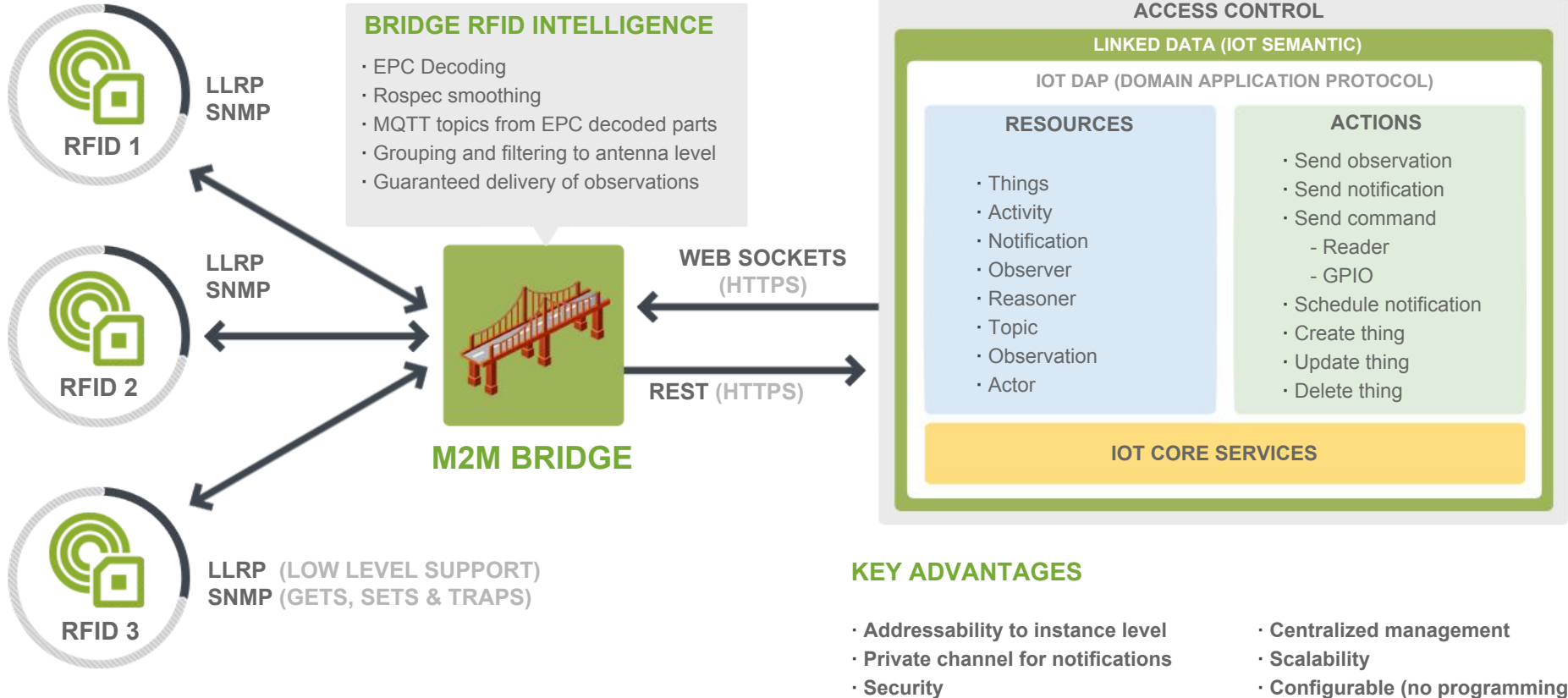


Open source

Why pay third parties for licenses?. Enjoy complete freedom with our 100% **open source** platform. You own your destiny.

Plus, forget about the **limitations** of third party components, for example: maps that don't scale when receiving thousands of petitions.

The IoT belongs to everyone, but just a few will harness its full potential.



CUSTOMER SEGMENTS



Enterprise Sales

Sales: Investors and Brokers, focused on a narrow set of target prospects, directly supported by product marketing and engineering resources at a deal level.

Marketing: None.

Support: High touch support (up to on site issue resolution) complemented by educational tools and training.



Transactional Sales

Sales: Inside Sales Reps supported by online content and engineering resources at a deal level.

Marketing: Marketing Rep feeds highly qualified leads to the Sales team to build pipeline and improve efficiency.

Support: Support Reps that meet a range of service level agreements, from limited pre-sale support through premium post-sale support with tools, training and metrics that enable high efficiency and many transactions per Rep, complemented by customer self-service tools and educational content.



Customer Self-Service & Developer Community

Sales: None.

Marketing: Full revenue responsibility, creating awareness, educational content and automation capable of driving business through the entire purchase process from awareness to close.

Support: Provides automation and tools for easy on-boarding, plus templates and educational content that allow customers to resolve any issues they encounter on their own. Inside high profile Support Rep for developer community.

VALUE PROPOSITIONS

Enterprise

End-User

Consultant
(Developer)

Self-Service

PaaS

SaaS

Annual fee to use platform, at deal level. Installed on customer's infrastructure or AMTech's IaaS partner.

Monthly fee to use platform, plus cost per each: Service used, Thing monitored or Exception detected (scalable pricing by volume). Runs on AMTech's IaaS partner.

Monthly fee to use platform, plus cost per each Service used, Thing monitored or Exception detected (scalable pricing by volume expressed as a percentage of sale price to end-user). The Consultant or Developer publishes applications (verticals) as SaaS, and resells to end-users. Runs on AMTech's IaaS partner.

Subscribes to service and pays monthly fee to use platform, plus cost per each Service used, Thing monitored or Exception detected.

Free number of Services/Things/Exceptions included in monthly payment and scalable pricing by volume for additional. Runs on AMTech's IaaS partner.

The virtuous circle starts with **understanding customer behavior and needs**, translating these into new functionality and delivering it to customers. In the long run, this should **increase the value** of the code base. For this strategy to be successful, it has to be executed as an integrated pipeline. The developers and the product manager are empowered to **push new features** to production. The focus of operational staff is to maintain the assets and operational fabric that allow the developers to bring new features to life.



Our **core asset** is code base and our understanding of consumer needs, processes and behavior, in order to **maintain and enhance** the platform. Therefore an integrated 'DevOps' team is of the essence.

On the physical asset side, hardware assets will be sourced from an upstream **cloud provider** of choice (IaaS).

No key partnerships on the software side since we follow an **open source** model. On the hardware side, infrastructure represents a risk more than a source of competitive advantage, thus we will rely on an **IaaS** provider, rather than owning the infrastructure.



REVENUE STREAMS

Cloud computing service models by definition are **usage based**, and have the potential to be much more closely related to the **value** that is experienced by the customers.

Our platform will **enhance the productivity and infrastructure of users**, so it is natural to charge a recurring fee (annual or monthly) to access the platform.

Transactional services such as **Things** monitored, **Exceptions** detected and **Notifications** sent are more naturally charged by the transaction, potentially on a bulk basis with scalable pricing.



COST STRUCTURE

All business model elements discussed impact the cost structure. The most significant cost elements related to software are **creating and maintaining** functionality, and in maintaining the development and delivery infrastructure. For the software development side, maintaining the **DevOps pipeline** is the most significant cost.

Most of the development cost is about supporting **future customer needs**, not current customer needs. For the software delivery side there will be costs related to **IaaS** partners. Other relevant costs are related to **Sales Reps** and expenses, **Support** team and **Management** team.



“Everything should be made as simple as possible, but not simpler.”

Albert Einstein



“Simplicity is the ultimate sophistication.”

Leonardo Da Vinci



THANK YOU