



SAP  
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Awards 2019



# SAP Innovation Awards 2019 Entry Pitch Deck

Intelligent Supply Chain on the Blockchain

BLOCNETS

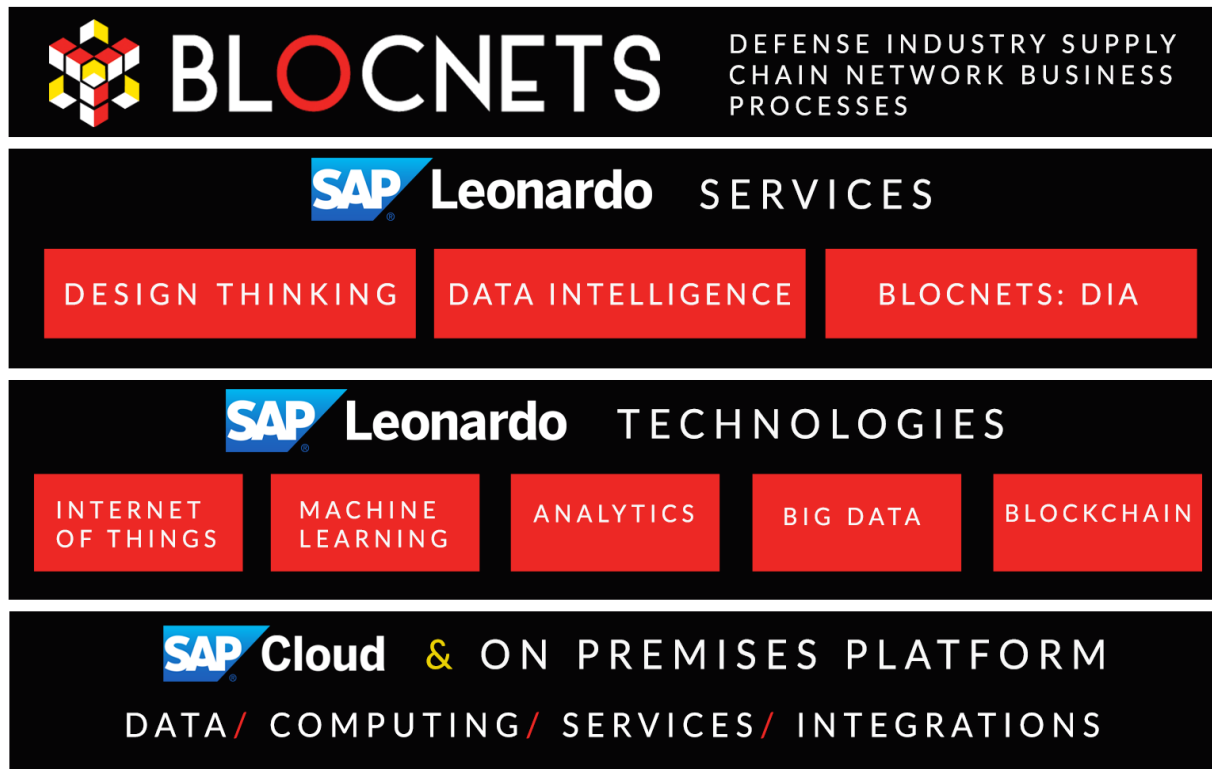
THE BEST RUN





<https://www.youtube.com/watch?v=pTE2UjNCdvM>

## Intelligent Supply Chain on the Blockchain



# Intelligent Supply Chain on the Blockchain

## BLOCNETS



### “Quote”

“While it might seem like we have already reached the apex of new technologies, the truth is we are only at the onset of this modernization.”

- Robert Betts, CEO  
BLOCNETS Inc.

### Challenge

Many industrial supply chains are ultra complex with hundreds or even thousands of suppliers. This complexity creates a lack of visibility with tier 1 suppliers rarely being able to see two or three layers down their supply chain. This lack of visibility makes it difficult to manage inventory, foresee delays and prevent counterfeits.

### Solution

Provide an economical method of integrating the small and medium business into a secured, multi-point network and provide applications that support Supply Chain based value realization by the small and medium businesses, and enable the network originator with the data and visibility required to improve Supply Chain performance.

### Outcome

Leveraging the BLOCNETS applications, small and medium businesses are now securely and economically integrated into the Supply Chain network. This enables the companies to meet the information requirements of their customers, ensure that all materials set to the customers meet “as designed” specifications, and directly link all products in production or produced to specific customer deliverables.

Can generate a secure blockchain network within days, versus weeks or months

Enable all participating companies to secure their data on the Blockchain, yet enable the required data to be securely distributed using BLOCNETS applications

Enable data and documents to be posted to the Blockchain, then searched using a Google like search utility



## Partner Information

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**Micro Craft, Inc.**

**Kenneth W. Sullivan, Ph.D., P.E. President and CEO**



"BLOCNETS has an intuitive, user friendly interface. We are currently working with a key vendor to incorporate this tool to securely exchange contractual and technical data, and are experiencing an increased level of collaboration and communication with this vendor as a result."





## Business Challenge & Objectives

The aerospace and defense industry is made up of integrated, global networks of suppliers that manufacture specific products including commercial aircraft, military weapons, and systems. Today, a growing concern is counterfeit products entering the supply chain. Indeed, the U.S. Department of Defense identified upwards of a million counterfeit components in the military supply chain in 2011 and 2012 alone. In addition more than 60% of the companies participating in these networks are small- or medium-size businesses, many of which don't have the staffs or IT infrastructure to participate in a connected supply chain. These small suppliers hold the majority of inventory, perform the majority of the manufacturing, and experience the biggest supply chain bullwhip effect. They also often lack a secure way of exchanging data and documents with other members across the supply chain.

BLOCNETS gives aerospace and defense companies the ability to affordably integrate all participants in the network down to the smallest suppliers, improving the flow of information across the extended supply chain. With the quality and origin of materials automatically validated both upon shipment and receipt, companies can prevent bad parts and counterfeits from entering the supply chain. And with every transaction securely recorded on the blockchain, they can easily track the location of all materials, while securing their intellectual property both as it's distributed and stored. BLOCNETS is the only blockchain solution on the market that's compliant with the U.S. government cloud, providing aerospace and defense companies with the secure platform they need for their blockchain implementation.



## Project / Use Case Details

In an industry that experiences many economic ups and downs, manufacturers are under constant pressure to increase efficiency, lower product lead times, and accommodate shifting global demand for their products. What's more, as the business of counterfeits has become a \$1.2 trillion industry, manufacturers have become increasingly susceptible to counterfeit electronic components, mechanical parts, and industrial fasteners entering the supply chain. Protecting the manufacturing process from substandard parts absorbs time and money, taking time away from initiatives to increase productivity. BLOCNETS gives manufacturers the detailed visibility they need into the supply chain to precisely track inventory and order status from their suppliers. With heightened transparency into the movement of materials and parts, production processes, and shipping activities, manufacturing companies can reduce product lead times and better adjust to fluctuating demand for their products. Moreover, when manufacturers use BLOCNETS, the origin of all materials is 100% validated upon receipt, reducing the risk of substandard or counterfeit parts and the costly rework procedures that this creates. BLOCNETS uses this data to conduct intelligent analytics which help alert manufacturers and customers about product delays. These analytics will help ensure manufacturers get their product to market just in time if using a pull strategy and also help meet anticipated demand if using a push strategy in their supply chain. With BLOCNETS, any authorized participant in a large supply chain network can economically add their customers and suppliers to their network using the BLOCNETS Onboarding Assistant. This enables each company to control their relationships and what information is shared with other network participants, thereby establishing their community of users. All of this is done without the need of consultants or IT staff.



# Benefits and Outcomes

## Business / Social

Enables small-medium sized businesses to participate in the digital supply chain thereby improving their supply chain management capabilities and overall efficiency.

BLOCNETS' product eliminates the need for expensive IT infrastructure and consultant teams. With BLOCNETS, businesses need only internet access and a barcode scanner, then to complete an online onboarding process and are up and running within minutes after completion.

## IT

Provides flexibility for IT departments because BLOCNETS software can function with or without a conventional ERP system.

BLOCNETS' non-relational blockchain system eliminates the need for a conventional storage database. Most small- and medium-size businesses that make up the supply chain do not have extensive IT staffs to address database needs on their own.

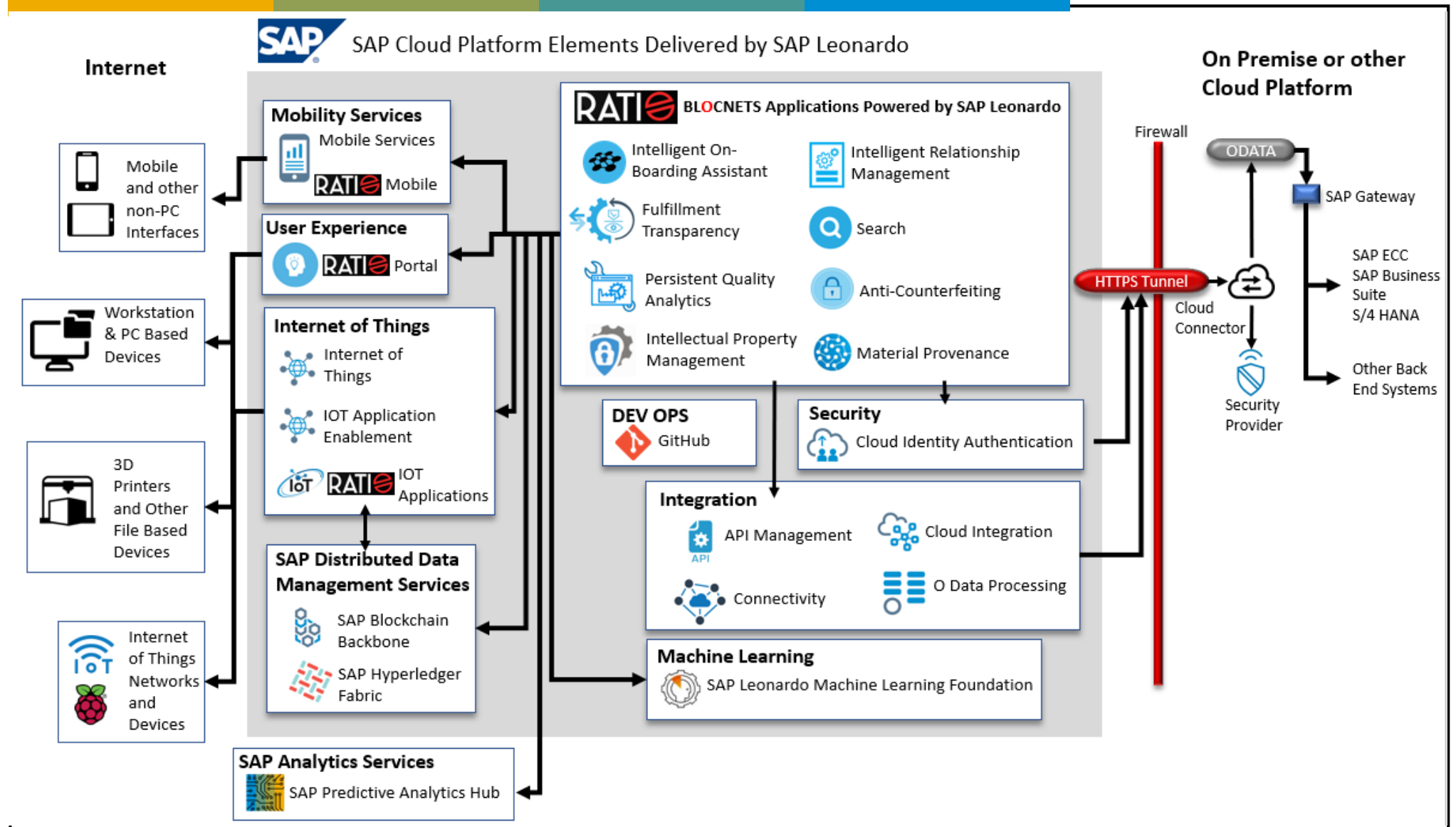
## Human Empowerment

Every block in the blockchain can be quickly searched for specific data including material numbers, serial numbers, shipping numbers, production order numbers, and other information.

Users can quickly ascertain the location, count, and status of any material or part in the network, obtaining the transparency needed to quickly, accurately, and cost-effectively fulfill orders.



# Architecture





## Deployment

Date of Deployment or POC: March 22, 2018

Number of live users: 30

### **SAP Technologies Used:**

SAP Leonardo	Live
S/4 HANA	Live
Multi-Cloud Starter Pack	Live
Multichain	Live
SAP CP backbone	Live
SAP HLF	Live
SAP IoT Application Enablement	Live

Server Processor: Unknown, chosen by cloud service provider.

Linux Distribution: Ubuntu



# Emerging Technologies and Use Cases

The following Emerging Technologies and use-cases are part of the project and describe the contribution

	Technology or Use Case	Yes/No	Contribution to Project
1.	Machine Learning / Artificial Intelligence	Yes	Analytics and smart contracts used to enhance supply chain efficiency.
2.	IoT	Yes	IOT tracking devices post data to the blockchain.
3.	3D printing	Yes	Embedded quality
4.	Blockchain	Yes	Provenance
5.	API Economy / Integrate the Intelligent Enterprise	Yes	Service Orientated Architecture
6.	Cloud Native / Event Based Architectures	Yes	SCP Centric, Events Generated from the results of Persistent Analytics within each network node.
7.	Extending the digital core with SAP CP / ABAP in SAP CP	Yes	Material Availability Check, Available to Promise, MD 04 Material Visibility, BOM Drill Down
8.	SAP Leonardo Application ( extending SAP application, using Industry Innovation Kits or result of Design Thinking workshop)	Yes	Extended Network Management Embedded Quality Fulfilment Transparency