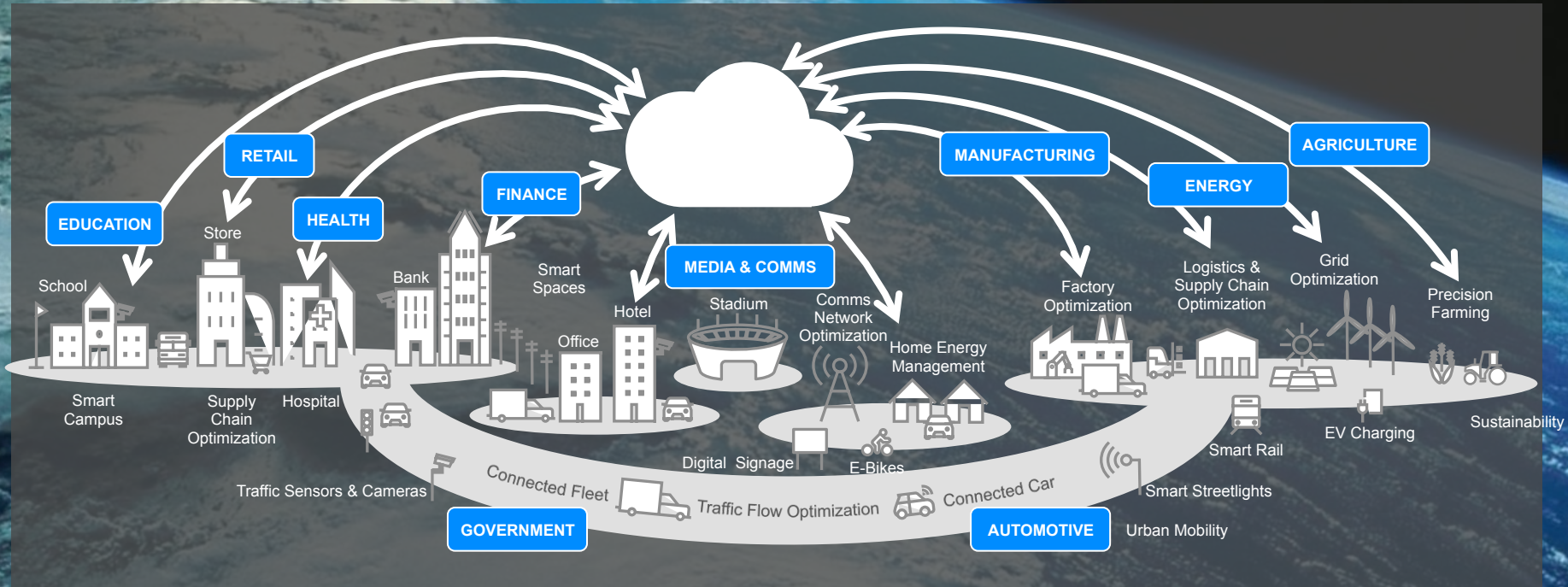


# Trade Finance without Boundaries: Blockchain, Data Collaboration and AI

Thavash Govender  
Data and AI Specialist

# Collaboration is the ultimate value flywheel



Across all industries, customers achieving maturity in their digital transformation journey are signaling a **need for collaboration**

# Cloud Blockchain Overview

# Develop confidently with a rich portfolio from Microsoft



Azure Blockchain Service

Deploy, manage and scale permissioned blockchain networks with a fully-managed service



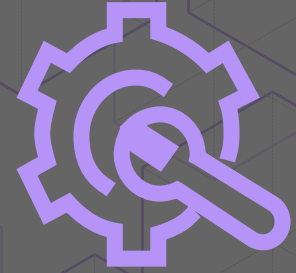
Blockchain Data Manager

Integrate with the data sources and applications you already use to manage multi-party workflows



Azure Blockchain Tokens

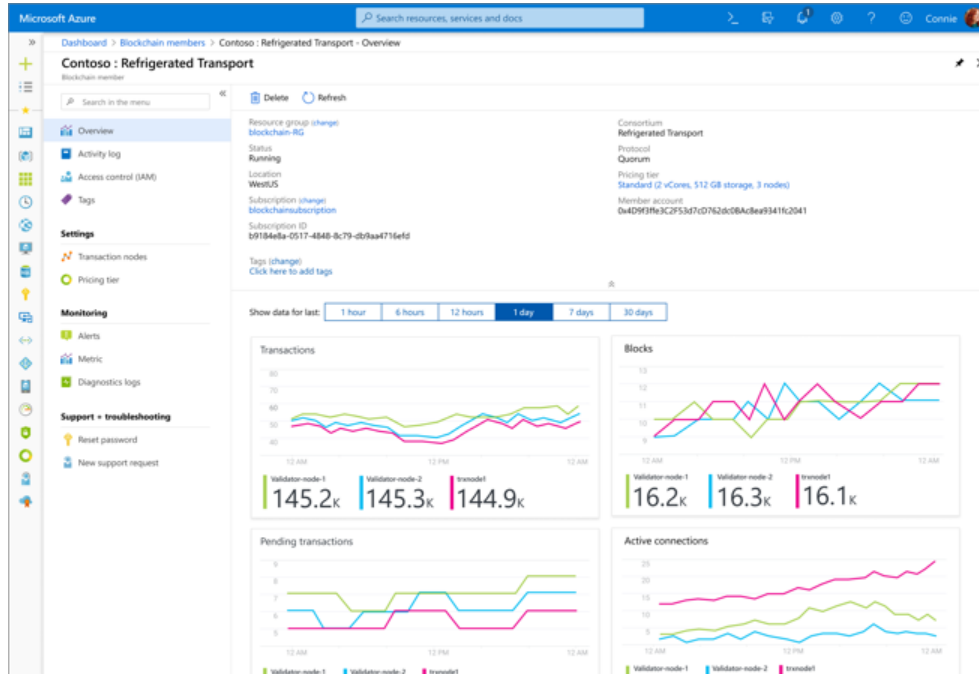
Create, deploy and manage TTI-compliant tokens with a fully-managed service



Azure Blockchain Development Kit

Integrated IDE experience using the Ethereum tools you already know and love

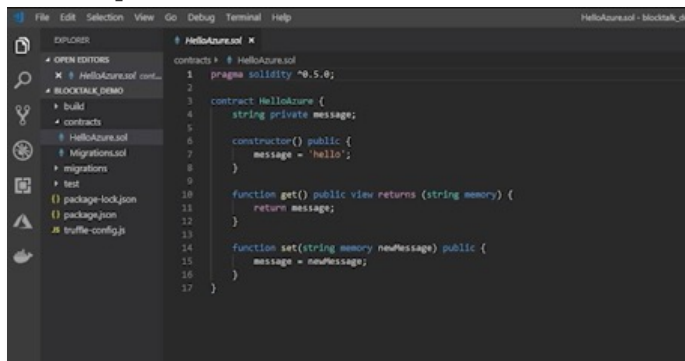
# Start with a robust foundation that makes it easy to build and manage your network



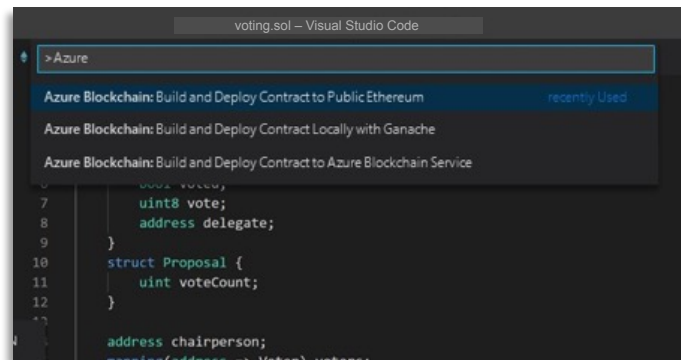
Set up a flexible network  
Build a network in minutes and rest easy knowing you can fully customize your configuration and resources anytime

Offload network operations  
Take the ops out of DevOps and benefit from full node management, health and performance monitoring, and more on a PaaS

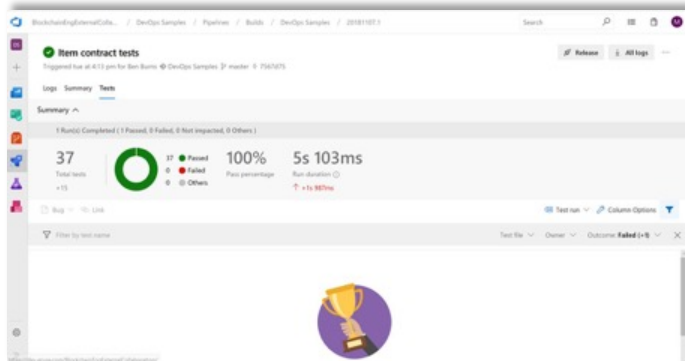
# We haven't forgotten about the developers !



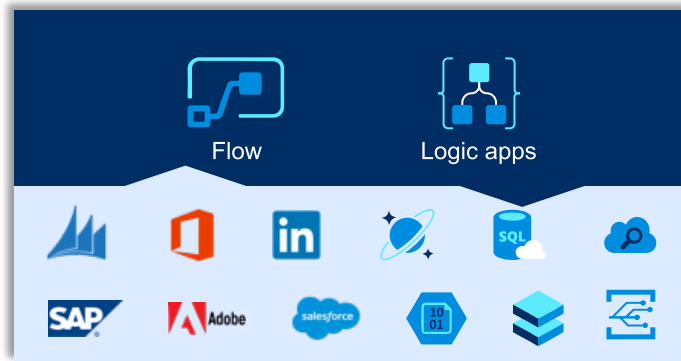
**BUILD**



**DEPLOY**



**TEST**



**INTEGRATE**

# Scenarios

# Interswitch | Seamless supply chain financing

## Challenge

- To bridge the gap between the existing corporate-based financing infrastructure in Nigeria and a growing number of small to mid-size enterprises in need of capital.
- Supply chain financing involves multiple counter-parties who lack end-to-end visibility, exposing lenders to risk, delaying financing, and jeopardizing projects.

## Solution

- Interswitch partnered with Microsoft to develop a blockchain-based supply chain financing service that brings together major financial institutions from different countries to seamlessly manage trade finance.

## Results

- Banks reduce their exposure to loss or fraud and streamline financing decisions, giving more people access to more funding, while lenders can deliver more value.
- Borrowers now secure financing in three weeks or less, so they can take on more work in less time.
- Project contractors and suppliers can better predict requirements, accelerate turnaround, and increase sales cycles and volumes.



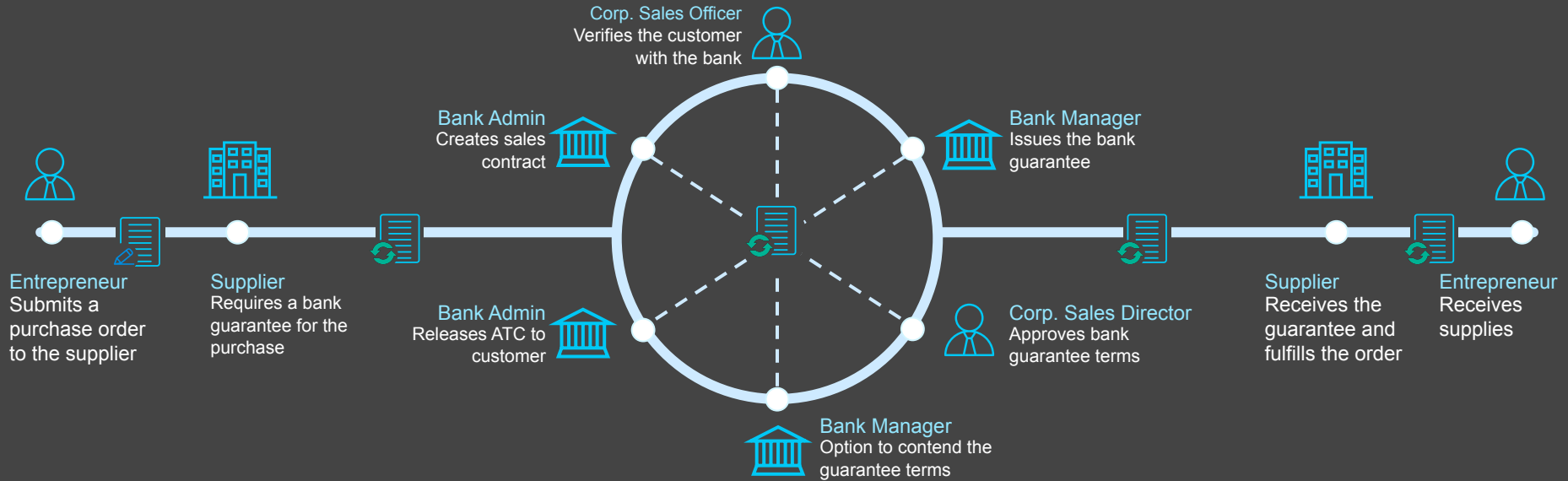
“ Armed with a single version of the truth across the supply chain, Nigerian lenders and suppliers can identify and build relationships with high performing entrepreneurs. That will help empower people to create more jobs, more wealth, and a more prosperous Africa. ”

— Eghosa Ojo

Designer Thinker and Head of Innovation at Interswitch



# Interswitch | Seamless supply chain financing



## SHARED LEDGER



**Smart contract created**

- Entrepreneur submits a purchase order to a supplier



**Contract updated**

- Supplier requests a bank guarantee



**Contract updated**

- Bank and the supplier agree on guarantee terms



**Contract updated**

- The supplier receives the guarantee and fulfills the purchase



**Contract updated**

- Entrepreneur receives the supplies

# Maersk | Parametric marine insurance

## Challenge

Maersk wanted to improve efficiency, transparency, and data accuracy with the plethora of parties involved in marine insurance—all while maintaining security and compliance

## Strategy

Maersk partnered with EY, Guardtime, and Microsoft to develop a blockchain-based platform that could manage the various exchanges required for marine insurance



## Results

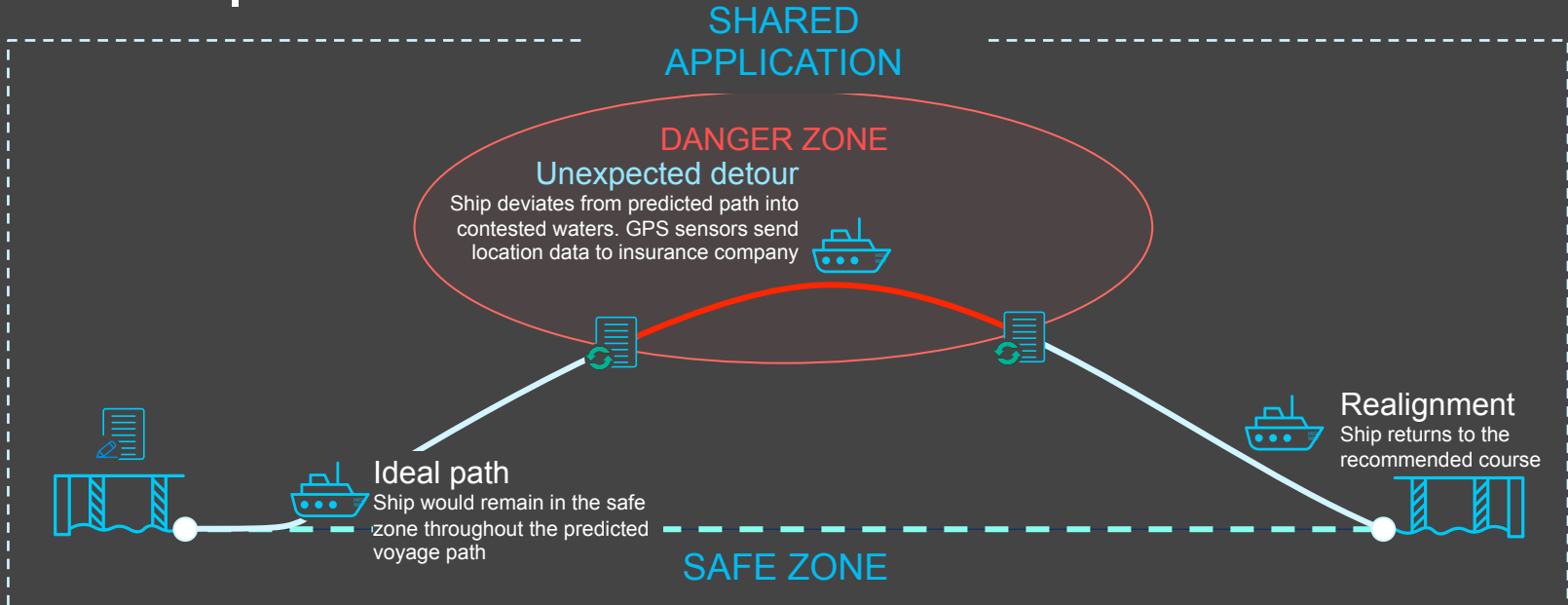
- Provided **real-time visibility** into in-transit assets to establish **accurate, dynamic, and fair** underwriting and pricing
- Helped ensure regulatory reporting and compliance through an audit trail provided by **accurate and transparent data sharing** across the blockchain network
- Streamlined claims and settlement processes while **reducing errors**



“It is a priority for us to leverage technology to streamline and automate our interaction with the insurance market. Insurance transactions are currently far too tedious and frictional. The distance between risk and capital is simply too far”

— *Lars Henneberg, VP, Head of Risk and Insurance of A.P. Moller-Maersk*

# Maersk | Parametric marine insurance



## SHARED LEDGER



### Contract created

- Path: A → B
- Risk: Low
- Insurance premium: \$

\$\$



### Contract updated

- Path A → C → B
- Risk: High
- Insurance premium: \$\$

\$



### Contract updated

- Path: A → B
- Risk: Low
- Insurance premium: \$\$

\$

# XBOX | Blockchain for royalty payments

## Challenge

Microsoft wanted to replace the complicated, manual royalty calculation process used to pay XBOX publishers with a faster, more efficient approach

## Strategy

Microsoft developed a blockchain-based solution that automated processes to offer XBOX royalty information in near real time while maximizing security and transparency



## Results

- Improved trust by making the royalty payment calculation process **more transparent** for publishers
- Gave publishers **actionable business insights**, enabling them to proactively respond to customer demand
- Reduced XBOX process efforts by two thirds and **saved publishers time** by eliminating the need for manual audits



“We are developing an ecosystem within the gaming industry that connects developers and publishers to game performance. Providing near real-time access to data greatly improves the process’ effectiveness and insights that lead to a more enriching experience for the partners.”

— *Tim Stuart, Chief Financial Officer of Xbox*

# Trade Finance Challenges

# Collaboration allows companies to come together and build **ecosystems**



Food Safety



Industrial Supply Chain



Trade Finance

# Collaborative patterns in industry ecosystems



## Transactional

Ordering, identities, execution w/replay  
Smaller payloads, frequent state changes

### Examples

Supply chain workflows  
Trade execution and reconciliation



## Analytical

Batch processing, larger data sets  
Data veracity, lineage, consistency

### Examples

Data aggregation  
Data quality evaluation  
Recommendations

# Data collaboration technologies



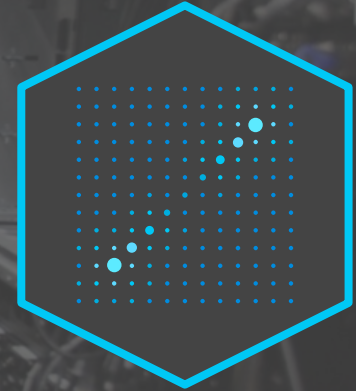
## Data Sharing

An organization shares big data with another organization making sure access is compliant with its policies



## Blockchain Consortia

An operator provides network members with distributed infrastructure that provides immutable proof of execution



## Data Collaboratives

A custodian provides a repository where members can securely read, contribute, and unlock data analytical insights



# Sharing Patterns

Three basic sharing patterns or topologies



## One to One

One party shares data with another party



## One to Many

One party shares the same data set with multiple parties



## Collaborative

Parties contribute data to a collaborative project

# Collaborative scenarios in industry ecosystems



## Risk Assessment

Participants pool data to receive feedback or train models that can assess the likelihood of a particular outcome

E.g. Clinical trials, Autonomous Driving

## Recommendations

Custodian creates data pools to generate recommendations and offers  
E.g. Retail in-store offers, Product Configurators

## Feedback

Participants get feedback on their data from an analysis run in the pool  
E.g. Credit Score, Simulation

## Reconciliation

Participants combine data sets to reconcile processes and transactions  
E.g. Trade Tariffs Calculation, Mercantile Exchange

## Track & Trace

Participants want to track goods across a supply chain  
E.g. Food safety/quality certification, Sustainability

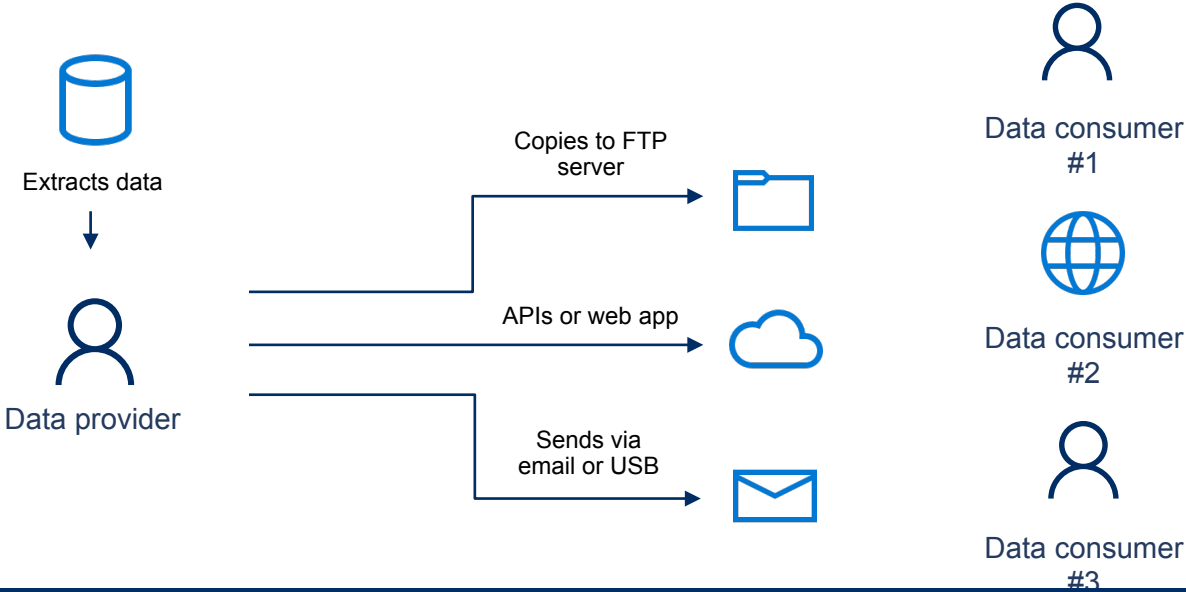
## Value Transfer

Participants transfer ownership of assets across a network without a centralized repository  
E.g. Trading, Carbon Certificates

# Data Sharing



# How data is shared today



Difficult to manage, track, and not suitable for big data

Home &gt; contosomarketplace - Sent Shares



## contosomarketplace - Sent Shares

Data Share

Search (Ctrl+I)

Sent Shares &gt; hanselmangadgets

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Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Settings

Properties

Locks

Data Share

Sent Shares

Received Shares

Feedback

Monitoring

Alerts

Metrics

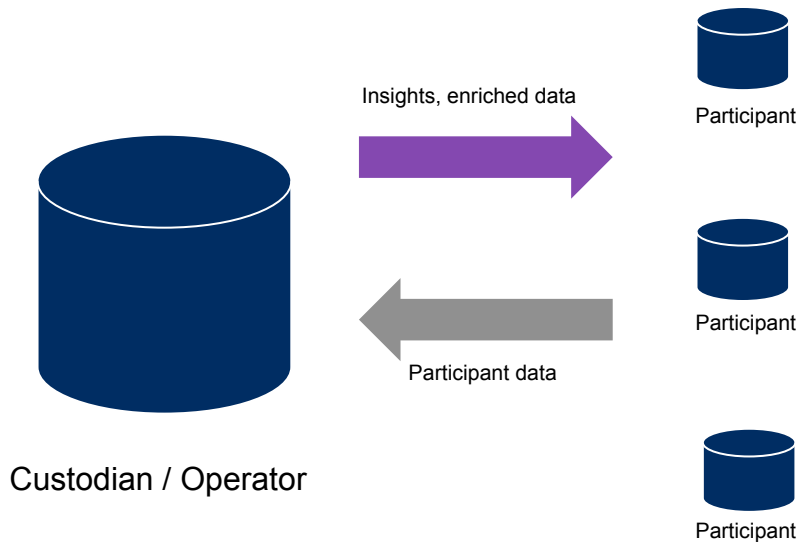


# Collaborative Services

MICROSOFT NDA

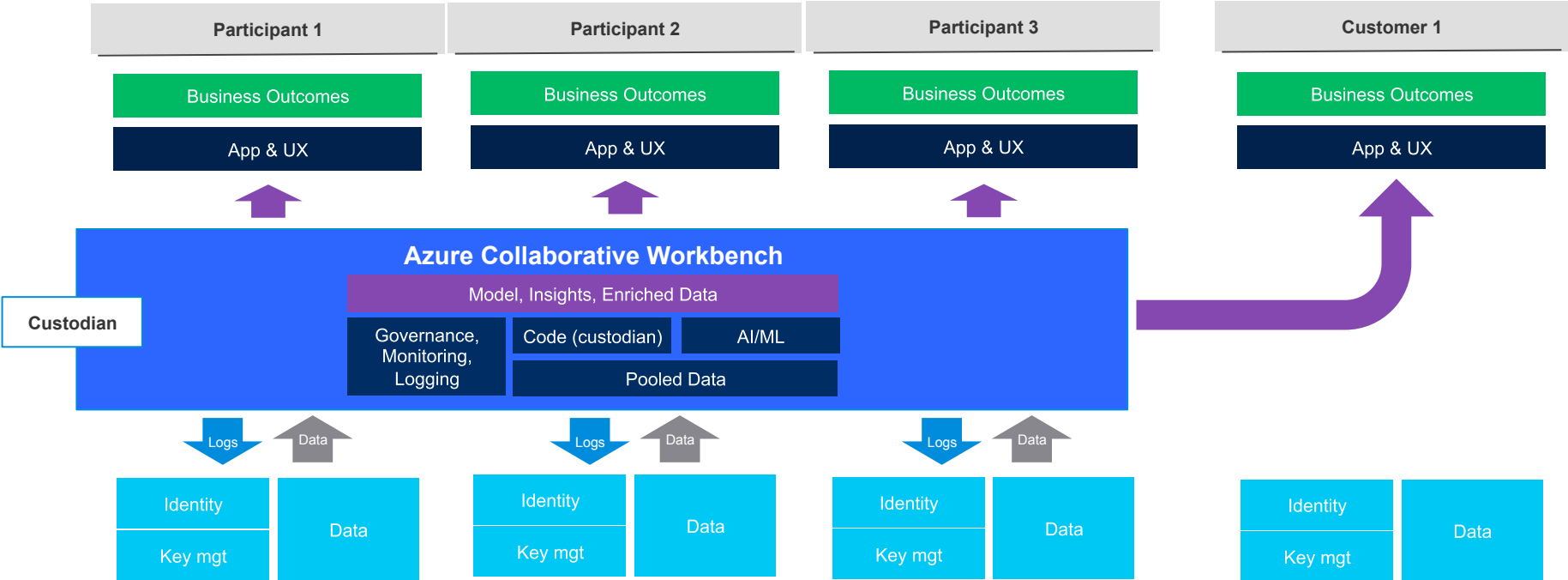
# Multiparty Scenario Pattern

A Custodian provides a secure pool that meets requirements for confidentiality and compliance.



# Azure Collaborative Workbench

ACW adds a collaborative layer where customers can work with a custodian to securely pool, reason over, and enrich data in the custodian tenant. The results (enriched data, insights, models) are given back to contributors or distributed to non-contributing parties.



**MICROSOFT NDA**



# Apollo Hospitals | Cardiac risk score

## Challenge

Cardiac disease is amongst India's leading causes of mortality and morbidity, which is exacting a toll on the health and well-being of its citizens.

## Strategy

The partnership between Microsoft and Apollo will work to develop and deploy new machine learning models to predict patient risk for heart disease and assists doctors on treatment plans. The team is already working on an AI-powered Cardio API (application program interface) platform.

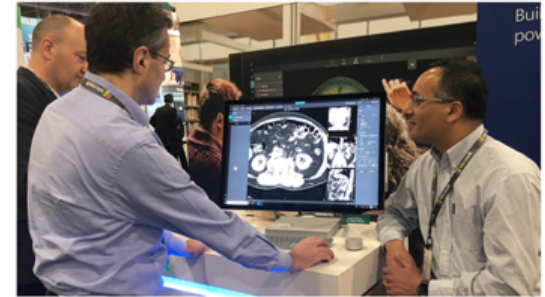
“This collaboration marks a paradigm shift for patients and the management of non-communicable diseases the world over. Cardiac disease is amongst India's leading causes of mortality and morbidity, which is exacting a toll on the health and well-being of our citizens. Given our large clinical database and significant pool of clinical talent, this partnership will help impact the global burden of cardiac disease.”

— *Sangita Reddy, Joint Managing Director, Apollo Hospitals*

Partners plan to deploy new machine learning models that predict patient risk for heart disease.

## Microsoft, Apollo Hospitals to employ AI for early detection of cardiac diseases

By [Bernie Monegain](#) | March 09, 2018 | 11:46 AM

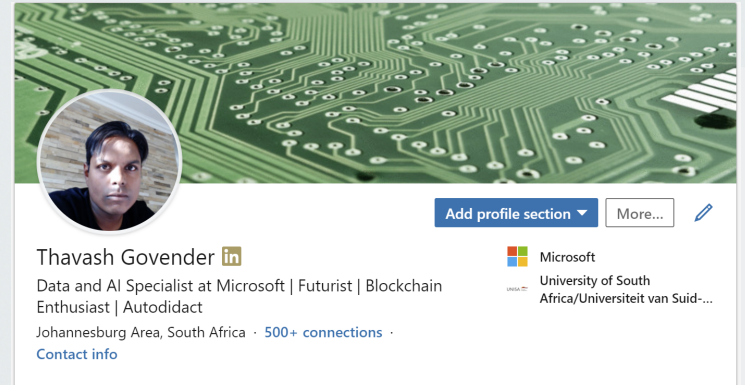


Microsoft is expanding MINE – the Microsoft Intelligent Network for Eyecare – to build an AI-focused network in cardiology in a new partnership with Apollo Hospitals.




The tech giant and Apollo, one of the largest health systems in India, announced the deal at HIMSS18 in Las Vegas. Microsoft and Apollo will work together to develop and deploy new machine learning models that predict patient risk for heart disease and helps doctors with treatment plans.



Thank YOU !  
Connect with me on  
LinkedIn !  
Thavash Govender



LinkedIn profile card for Thavash Govender. The background image is a green circuit board. The profile picture shows a man with dark hair. The card includes the following text and elements:

- Thavash Govender** 
- Data and AI Specialist at Microsoft | Futurist | Blockchain Enthusiast | Autodidact
- Johannesburg Area, South Africa · 500+ connections · [Contact info](#)
- Buttons: [Add profile section](#), [More...](#), [Edit](#)
- Company:  Microsoft
- Education:  University of South Africa/Universiteit van Suid-...

