Demystifying the Future!
Who We Are

Avanza Innovations is the latest venture of Avanza Group of Companies – an 18 year old technology power house that has 300 customers across 45 countries, and processes 12 million transaction every day.

Avanza Innovations was established in July 2017 to focus on nascent technologies such as Blockchain, Artificial Intelligence, Robotic Process Automation and Smart City Projects.

Within a few months of its incorporation, Avanza Innovations has achieved major successes by winning city wide projects in blockchain, AI across verticals such as Smart City, Payments, Health Care, Education etc.

Avanza Innovations is viewed as a thought-leader in nascent technologies across the region. Thus winning the admiration and confidence of not just customers but also of industry partners such as Microsoft, Gartner, regulators and government entities.

Led by industry experts and Software Specialists in their respective fields, a truly international team has been recruited in this new venture to aggressively pursue Avanza Innovations’ growth and market share.

In addition to numerous customer and project engagements, Avanza Innovations is also currently in the process of launching assets for ICO.
What We Do

Blockchain
Implementation & Consultancy

Artificial Intelligence
Implementation & Consultancy

Robotic Process Automation
Implementation & Consultancy

Smart Cities Enablement
Building Cities of Tomorrow

Customer Engagement
Customer Engagement
Cipher is a blockchain agnostic orchestration layer that helps organizations adopt blockchain technology and implement use cases without going through the hassle of directly integrating their existing ERPs and core systems with underlying blockchain platforms.

Cipher comes readily integrated with Hyperledger Fabric, Ethereum, Quorum and Ripple. Connectors for other prevailing blockchain platforms are constantly being developed.

Avanza realizes that over the next few years organizations will become part of different consortia and will host different blockchain platform nodes for different use cases. Tight-coupling between core systems and underlying blockchain platforms will result in a messy and cumbersome organizational e-infrastructure. Therefore Cipher will play a vital role in acting as an orchestration layer.

Cipher comes pre-packaged with numerous micro-services that are used for writing smart contracts, integrations and implementation of business logic across multiple verticals and use cases.

Cipher is co-sell ready with Microsoft Azure and as part of Avanza’s collaboration with MS, MS sales teams are actively positioning Cipher as the only Azure-ready blockchain business solution.
Case Study

Dubai’s first city-wide Blockchain project led by Smart Dubai Office (SDO) aligning its technology drive and evolution with Dubai’s 2020 Blockchain vision. Avanza’s Blockchain platform Cipher is implemented by Smart Dubai Government (SDG) to help Department of Finance (DOF) for reconciliation & settlement between gov. funds across 40+ gov. entities and 15+ banks.

Current State

- Reconciliation and settlements collected by SDO through payment gateway DubaiPay is currently done by a legacy file based manual approach
- Existing process takes 45 days for DOF to settle funds with its 40 partner entities
- 3 private entities are doing direct reconciliation and settlement with banks due to extremely delayed settlement process
- DOF, partner entities and acquirers have no single view of their funds, collections and transactions.

Solution

- Avanza equips SDG with smart contracts to move reconciliation, settlements, disputes and refunds to blockchain enable real time and instant reconciliation and settlement solution between DOF, entities and financial institution through Cipher
- Cipher abstracts SDG from the physical caveats of the blockchain underlying infrastructure and speeds up the implementation reducing the overall implementation time and dependencies of the new version releases of underlying platform Hyperledger Fabric

Result

- Real time reconciliation and settlements within SDO and DOF’s core business operations
- SDO, DOF, partner entities and financial institutions will be able to view in real time their respective financial transactions and their settlement details through a one-view platform, thereby giving them exact details and stats of their revenue that is currently in the “system”
- Disputes and mismatches at any stage will be highlighted, flagged and addressed in real time across all stake holders
- On-boarding of additional partners and entities on to the platform will become extremely regimented, structured and robust
- DubaiPay can be opened up as a blockchain based commercial payment hub and gateway for non-government entities, in a commercial revenue generating model – such as instant and real time payments, overlay services for different vertical and industries as well as a national infrastructure for all bills and P2P payments
Case Study

Avanza awarded first City-wide Blockchain Project

Avanza’s Blockchain platform is implemented by Smart Dubai Government for Reconciliation & Settlement of gov. funds across 40+ gov. entities and 15+ banks
SDG/DOF City-wide Blockchain Project – Media Coverage

GULF NEWS

INTelligent CIO

Avanza Solutions showcases blockchain-based projects at GITEX

DUBAI Government signs deal with Avanza
To implement a city-wide blockchain-based payments platform

Avanza Solutions has signed a memorandum of understanding with Smart Dubai Office to implement a city-wide blockchain-based payments platform.

Avanza Solutions is a leading provider of blockchain-based solutions for governments and businesses worldwide. This partnership will enable Dubai to become the first city in the world to execute all applicable transactions on the blockchain by 2020.

Avanza blockchain platform Cipher was selected to deliver a pilot project that will enable Dubai to execute all applicable transactions on the blockchain by 2020. The pilot project builds on a platform that was created as part of the Dubai Future accelerate programme, which used blockchain to create an asset management and settlement platform.

The project was developed in collaboration with Dubai Smart Government and Emirati firm, which is responsible for implementing and testing the blockchain system. The project is expected to be completed by the end of 2020.
Product

Microsoft Cognitive Services

Impulse

Caching Engine
Rich Media
Security Management
Orchestration Layer

REST API

Other Adapters
Wit.ai
Microsoft Cognitive Services Adaptor
Admin & Reporting
Dashboards

Microsoft Azure

Customers

Back office
Dashboard KPIs
Performance Stats
Impulse rides on underlying Artificial Intelligence (AI) engines (cloud and on-prem) to deliver AI based solutions to organizations across a host of areas such as NLP, Machine Learning and Deep Learning.

Following are the key advantages that organizations see in Impulse when implementing an AI based solutions:

- In-built cache that has the capability to respond to customers’ interactions without going back to the cloud AI platform. This results in huge cost saving for organizations adopting MS Cognitive Services.
- Rich media support enables organizations to respond to customer queries not through just text but also through other media formats such as videos, images and PDF documents etc. Existing AI engines lack this ability.
- Abandonment rates and insights provided by Impulse exactly pinpoint where AI based interactions have failed with a customer and human involvement was required. This gives organizations clear insights on where and how to re-train the engine through a knowledge base.

Sentiment analysis from unstructured data is another areas where Impulse helps organization derive customer sentiment through Email and Chat Interactions as well as through Social Media posts and blogs.

Avanza works closely with Microsoft jointly in our go-to-market and joint product development. Impulse rides on AI platforms provided by these organizations to deliver customer-ready AI solutions.
Welcome to Avanza bot. Tell me how can I help you?

Avanza has products in the area of alternate delivery channel, customer relationship management, financial middleware, loyalty points, sms banking and other areas and recently started work in cognitive computing and blockchain.

What is avanza?

Let me play you a video
Avanza’s Medical Emergency Management System makes cities disaster-ready and gives real time visibility to regulators around demand vs supply of emergency cases vs emergency facilities & equipment.
Reconciliation & Settlement
DubaiPay – Recon & Settlement
Dubai Government signs deal with Avanza to implement a citywide blockchain-based payments platform

Avanza Solutions has signed a memorandum of understanding with Smart Dubai Office to implement a citywide blockchain-based payments platform.

The MoU was signed by Dr Aasha Bint Butti Bin Bishri, director general of Smart Dubai, and Waqas Mirza, managing director and chief marketing officer, Avanza Solutions, to transform Dubai into the first in the world to execute all applicable transactions on the blockchain by 2020.

Avanza’s blockchain platform Cyafer was selected to deliver a pilot project to transform, at no initial incurrence, and settlement platform for the government and its financial sector partners of Smart Dubai.

The project builds on a pilot which was created as part of the Dubai Future Accelerators program, which used Cyafer to create an instant reconciliation and settlement platform. The pilot was developed in collaboration with Dubai Smart Government and Emirates NBD.

The MoU was signed by Dr Aasha Bint Butti Bin Bishri, director general, Smart Dubai and Waqas Mirza, managing director and chief marketing officer, Avanza Solutions. It is in line with His Highness Sheikh Hamdan bin Mohammed bin Rashid Al Maktoum’s vision to transform Dubai into the first Government in the world to execute all applicable transactions on the blockchain by 2020.
DubaiPay – Recon & Settlement

DubaiPay

Pay  Recon  Settle

Consumer pays the bill online

Exchange of Files

Funds Movement

Service Provider

Settlement Account

Financial Institution
Payment Leg

**STEP 1**
Consumer goes to top up his SALIK

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**DubaiPay STEP 2**
Dubai Pay provides options for payments

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**STEP 3**
Consumer selects which account to pay from

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Payment Done – Easy & Simple
Tedious Recon & Settlement

- Bank Collections
- Settlement Account
- File exchange Matching files Manually
- Department of Finance
- Reporting to Service Provider
- upto 45 DAYS
No Availability of Dashboard on Revenue Information
DubaiPay – Recon & Settlement

Consumer pays the bill online

Exchange of Files

Funds Movement

Service Provider

Settlement Account

Financial Institution
Blockchain Enablement

Instant Reconciliation

Cipher

Smart Contact

40 Service Providers

DubaiPay

Dapp for All Parties

Faster & Automatic Settlements

Banks
The Recon Leg

40+ Service Providers

Instant Reconciliation / Exception Identification
Settlements

- **Future State**
  - Recon
  - Fully Automatic RTA, bill# XYZ, 500 AED, 38748279378789yxy, Status=initiated

- **Receive Auth**
- **Auth2**
- **Reconciled**

- **All reconciled transactions auto grouped via a smart contract**
- **Auto disbursal of Funds Via GRP / Other**
- **Batch for DoF requesting internal Approval Exceptions, Reconciled Transactions, Past Processed Refunds**

- **Auto disbursal of Commissions**

- **40+ Service Providers**

- **Cipher**

- **Department of Finance**
Sneak Preview of the System

- Real time view of Funds
- Exception Management
- Automation and Real time visibility of Settlements
- Refund & Dispute Management
Current Progress

Recon & Settlement on Blockchain

42+ Entities
13+ Payment Processors

Department of Finance

KHDA
DEWA
SDG

Stamping transactions live

Business Transactions: 706,810
Chain Height: 2 M+
Dubai Pay – Future State

**NOW**

45 days for settlements, Reconciliation d-1
New Participant on-boarding time consuming
Manual or semi-automated recon & Settlements

**Future State**

Blockchain

Immediate Recon
Visibility of Funds
Happy Customers

Advantages

**Current Issues**

Govt Entities

Smart Contact

Banks

**DubaiPay**

Pay
Recon
Settle

Real time dashboards
Solution Components

- **Instant Recon** on Blockchain
- **Settle** using smart contracts
- **Exception Management**
- **Commission/Fees Management**
- **Refunds Management**
- **Dispute Management**
- **Admin**
- **Reports & Dashboards**
- **Integrations with Existing systems**
- **Blockchain Viewer**
Dubai will be the 1st government in the world to execute all applicable transactions on the Blockchain by 2020.

His Highness Sheikh Hamdan bin Mohammed Al Maktoum
On the launch of the Dubai Blockchain Strategy, October 5, 2016
Dubai’s Blockchain Journey
Dubai Payments - Vision 2020

Approach - Recon & Settlements

Demo → Pilot → Rollout

April 2017
Integrated on blockchain
With ENBD & Dubai Pay

+5 Months
Anchor Govt Entity & Banks

+6 Months

Payments on blockchain

Payments VISION
Payments are easy like What's app
Nation Wide
Secure & Robust
Immediate Reconciliation & Settlements
Extensible Framework on which Applications can be plumbed
No need of crypto currencies
Dubai Knowledge Blockchain
Mortgage Types – Retail [6 cases]

- **TOPUP**
  - Buyer Has mortgage already from Bank
  - Buyer wants to mortgage against property under ownership

- **BUYOUT**
  - Buyer buys non mortgage property from seller without existing mortgage

- **RESALE**
  - Seller Has mortgage from other bank

- **NEW SALE**
  - Buyer has mortgage with other bank

- **EQUITY RELEASE**
  - Bank

**Diagram Notes:**
- Developer
- Other Bank
Current State

Pre-Approval & Approval
- NOCs, Bank Statement, Title Deed

Registration
- Bank

Disbursal
- Bank

Buyer

Seller

Bank

Pay outs

Trustee office

Other Bank

Developer

Dubai Land Dept

Owner Association

Management Company

Broker

Credit Bureau
Central Bank
CBRR – Cheque Bounce
Blacklist
Third party valuation Report

1- Submit Documents
2- Buyer, Seller & Bank go together and transfer deed
Current State

3 Weeks Process

INPUTs:
- First Degree Mortgage
- Original Title Deed
- Transaction Fees
- NOCs
- Pay Order

Non Digital Document
Physical Presence of Buyer/Seller/Bank

OUTPUTs:
- Reprinted Title Deed with Mortgage By = Bank
- Stamped First Degree Mortgage

Non Digital Document

Bank

Other Bank
Developer
Dubai Land Dept
Owner Association
Management Company
Trustee office

Dubai Land Dept
Other Bank
Dubai Land Dept
Owner Association
Management Company
Trustee office

Dubai Land Department
Broker
RERA
Management Company
Owner Association

3 Weeks Process
The Mortgage Chain

Dubai Land Department

Developers

Banks

Identity authority

Broker

Insurance

Owner Association

Management Company

Regulatory Bodies

Credit Bureau
Objectives

- Increased efficiency for Banking sector
- Increased efficiency for Dubai Land Department
- Increased Mortgage volumes in UAE
- Increased customer happiness with instant digital process
- In line with Dubai 2020 vision
- Robust 360 regulatory oversight
- Interbank efficiencies are increased
Tokenization of Loyalty Points
As-is loyalty points ecosystem

100 AED

Customer Point Balance
- 100
- 500
- 600

Merchant Catalog & Offers

Sync Catalog
- Offers
- Inventory
- Products
- Terms & Conditions

Settlements

With Merchants

With Partners

Allocate Points

Allocating entity

Co-Brand Partners

Merchants
Co-Brand Partners

Allocate Points

1) Not Real Time

Settlements

Customer Point Balance

100

500

600

Merchant Catalog & Offers

1) In-efficient & Slow

With Partners

with Partners

With Merchants

1) In-efficient & Slow

1) Not Real Time

Sync Catalog

1) Not Real Time

2) In-Efficient

3) Difficult to on-board new merchant

4) Sync Accuracy

Allocating entity

with merchants

Merchants

100 AED
Enable Blockchain

Efficient Settlements with Merchants
Real time visibility for how much points worth Merchant sold

Near Real Time Sync of Catalogs & Inventory
Sell iPhone for 100K points

Dashboard On-boarding Merchant catalog

Real Time Updated Offers for the Customers

Customer Points Balance
100
0
0
100

Merchant X
Push/Pull

Listener

Legacy System / ERP

Merchants

Sharaf DG

iPhone 9

Buy for

100 K points

BUY
Advantages

For Merchants

• Ability to update Catalog and Inventory on Blockchain
  Push Mechanism
  Pull using ERP Adaptors
  A Dapp (Portal) to update Catalog & Inventory
• Real Time view of which Products are being purchased / viewed more
• Real Time visibility of pending Settlements
• Ability to define own rules e.g. Product X = 100 POINTS

For Entity

• Scale out Merchants eco-system with ease.
  FAST on-boarding
  Efficient & auto settlements
• Near Real time catalog update with TRUST.
• Which merchants are more profitable?
• Customer Accessing new offers without house keeping
  from ENTITY (but with Governance control)
Completing the Eco-system

Accounts
- Customer A: 100
- Customer B: 100
- Customer C: 100
- Merchant A: 100
- Merchant B: 100

Merchant Catalog & Offers

Allocate Points
Partners
Allocating Entity

Settlements

Selling Terms

P2P Point Transfer

Customers
Merchants
Movement of Cargo between Port & Freezones
Current Process

Exporter

- Export Declaration filed online
- Guarantee, bond or deposit for Re-exports

Customs

- Informs Port for Re-export
- Payment from shipping lines others

Port Authority

- Enters port
- Exported
- Exit Stamp

Show paper with exit stamp to release deposits

Other Port

Internal process
Blockchain Enabled to-be Process

**Smart Contract**

- Import Doc#: 11111
- Exporter Name: ABC Company
- Weight: 1 MT
- Value: $1,000,000
- Custom Value: $0
- Document Type: Cash
- Status: Refund deposit

Current Preparer: Custom

1. Initiated
2. Approved
3. Exit Port
4. Enter Port
5. Exported
6. Completed

**Demo App**
- Custom Legacy/ERP system
- Port Legacy/ERP system
- Port authority Legacy/ERP system

**Demo App**
Evolution – Trusted Information Backbone

- National and GCC Custom Authorities
- Port Authorities
- Operated Ports
- Local, GCC and International Ports
- Smart Contracts
- Cipher
- Regulators
- Logistics Companies/shipping lines
- Banks & Insurance
- Multinationals
- National and GCC Custom Authorities
Efficient & Transparent Port Operations

Freight Forwarders

Carrier Declaration

Bill of lading

Freight Info

Vessel Permit

Unload Container
Gate out
Gate In

Smart Contracts
Payment Terms
Demurrage
Events for container movement

Certificates
Oversight

Payments

Inspection
Clearance
Load (Export)

IoT based
container tracking
data

Receive
Deliver

Customs Authority

Banks

Logistics
Companies

Freight Forwarders

Cargo Agent

Clearing Agent

Shipping Line

PORT Authority
Dutch port of Rotterdam – to investigate blockchain’s potential in organising port logistics and cargo flows more efficiently.

Port of Antwerp – a secure system for collecting containers in the port by the drivers on blockchain.

Singapore Port Pilot – The goal of the trial is to automate the flow of documents between trading partners, providing transparency along the way.
Blockchain Adoption by Banks Globally

- **R3 Corda**, headquartered in New York, US includes more than 80 of the world’s largest FSIs.
- **Digital Trade Chain called as “WE.TRADE”**. Entity created in Republic of Ireland, jointly owned by 7 leading banks.
- **Ripple Labs**, headquartered at San Francisco, California, is a blockchain based payment/settlement network.
- **Bankchain** (community of banks across India led by SBI) is a country-wide consortium formed in February 2017, with 33 member banks globally.
- **Russia’s largest consumer electronic retail chain, M.Video** created an open consortium in cooperation with Sberbank Factoring and Alfa-Bank.
- **Nexledger consortium**, headquartered at Seoul, is formed by Korean Banks backed by Samsung SDS.
- **South African Financial Blockchain Consortium (SAFBC.CO.ZA)** is a 40+ member bank consortium.
Banking Use Cases

1. **Asset creation and transfer**
   - Assets can be created or represented on a blockchain, and securely transferred between parties.
   - Trade Finance
     - Bank Guarantee
     - Letter of Credit
     - Credit Cheques
   - Mortgages
     - Asset-Liability management
     - Securitization
   - Trading
   - Securities & Commodities transfer
   - Payments

2. **Data reconciliation**
   - Because parties to a transaction share an entry on the blockchain, transaction records are automatically reconciled up front.
   - Reconciliations & Settlement
   - Interbank Payments
   - Dispute management
   - Post trade netting
   - Master data management

3. **Unique identification**
   - Each participant in the network is assigned a public-facing address & a private key unique to the participant.
   - Know your customer (KYC)
   - Customer On-boarding
   - Contract Management
   - Audit Enablers
   - Compliance management