

DATAWALLET USE CASE

AI & Data Science for Traveler Experience Improvement



“

“We highly value the opportunity to support the government of Dubai in its project to build a 100% digital society combining AI, Cloud Computing, Blockchain and Distributed Databases in a vertically integrated cloud base solution. The Decentralised Data Exchange.

We collectively commit ourselves to deliver the best solution and provide the highest level of expertise. We are looking forward to support Dubai in the realization of this cornerstone project. ”

Kazé A. ONGUENE
Chief Executive Officer
Big Data Architecture Design

Value Proposition

Braincities builds a new data management paradigm with individually managed distributed databases for each citizen, each agent, each institution



INDIVIDUAL DATA PROTECTION

- Individually track, store and protect data
- Easy to identify specific dataset location
- Instant & ubiquitous data access, deletion, modification, portability



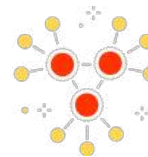
DATA PROCESSING OPTIMIZATION

- Uniformize intra and extra data structuration
- Standardize intra and extra data processing
- Reduce all procedure times & processes
- Reduce IT investments & Data management costs



ADVANCED DIGITAL SERVICES

- Digital administration services & procedures
- Enable wide range of new services from 3rd parties
- Bank/Insurance-ready data
- ID authentication



TRANSPARENCY

- Historization of the operations executed on each type of data (Who, when, what, why?).

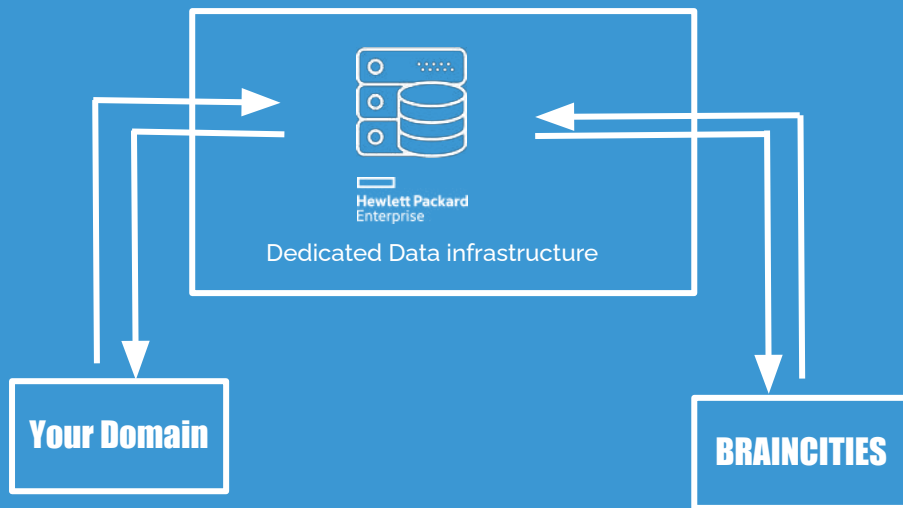
- Notarization and historization of the recommendations made by our artificial intelligence on distributed databases integrated ledger enabling the auditability and explainability of AI based decisions.

Our Solution

BRAINCITIES provides a Data Analytics Infrastructure to secure, structure and safely access critical' data within specific context.

Services relying on ID authentication can verify service consumer' ID to process critical analysis in few seconds by accessing to the data contained in distributed DBs (Datawallets). The transactions are notarized on a distributed ledger hosted in the client domain. This is the foundation for advanced digital services, for personalized services and 360° data protection.

"We enable a frictionless circulation of information."



A New Paradigm

Enabling a frictionless circulation of information.

Our distributed data analytics infrastructure facilitates peer-to-peer solutions implementation, allowing to secure, structure and safely exchange heterogeneous data between individuals, private and public entities (businesses, administrations, associations...).

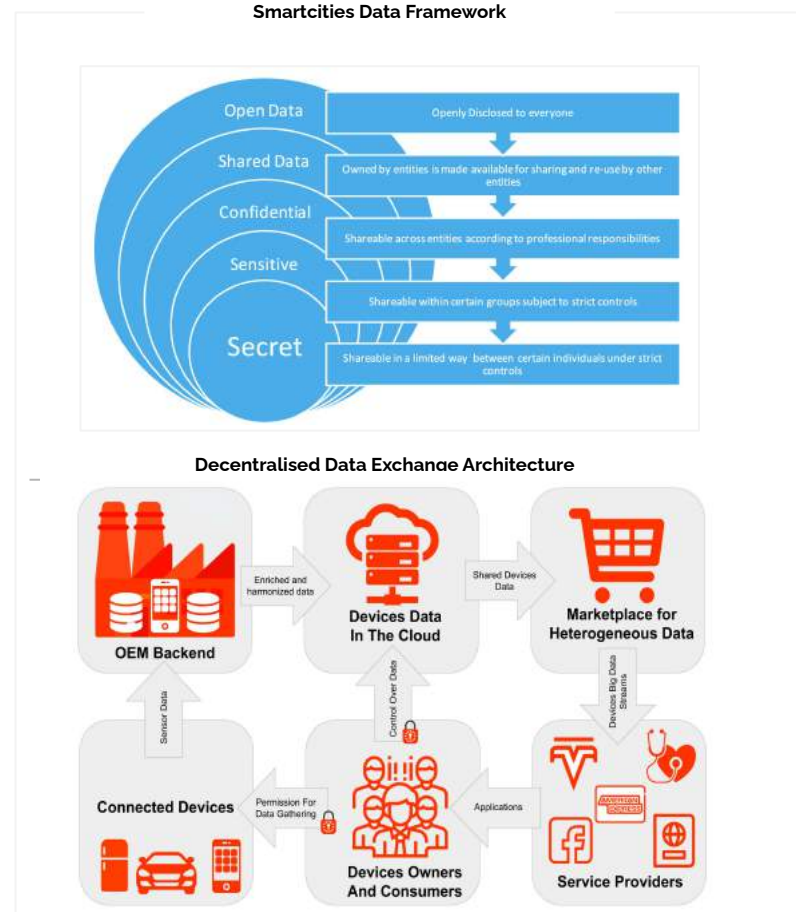
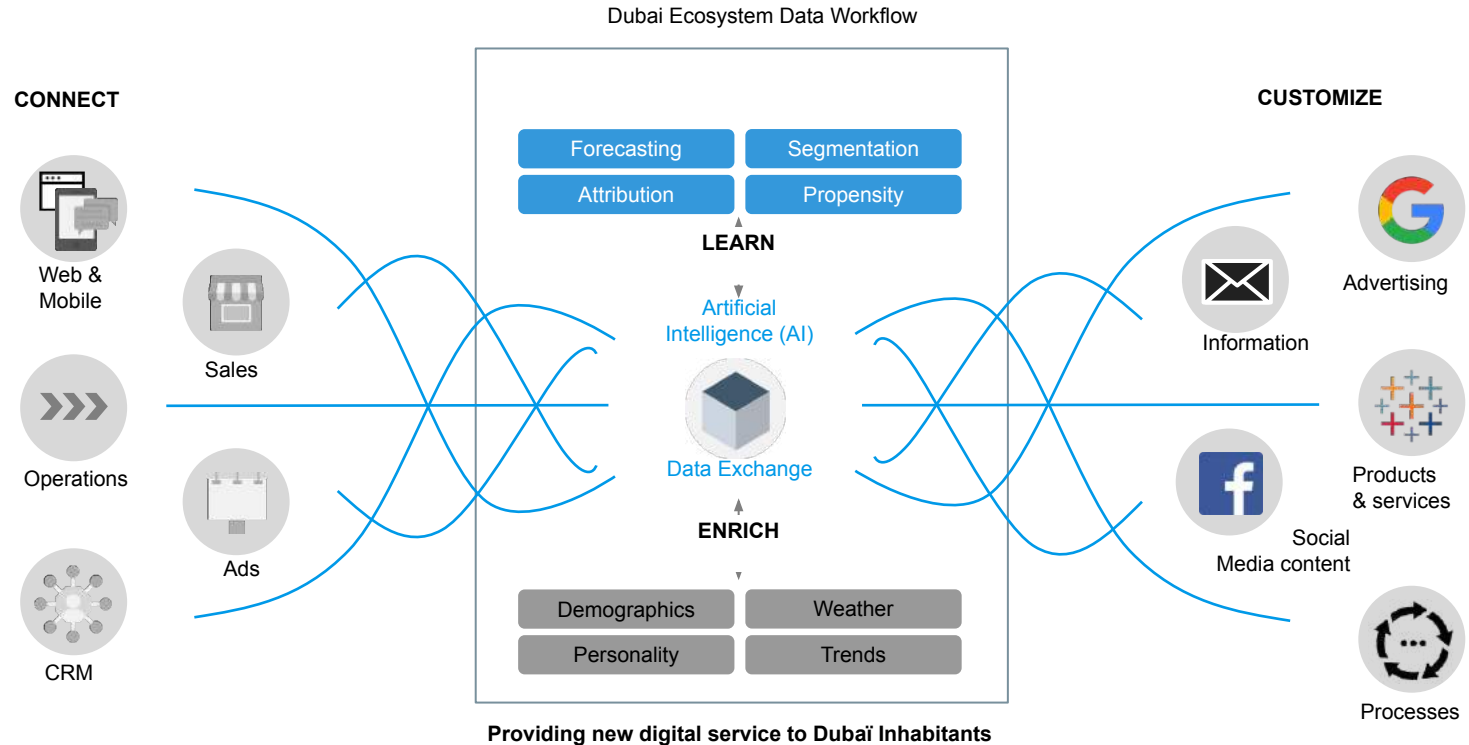


Fig. 2. Proposed Big Data Marketplace Architecture and Data Flow

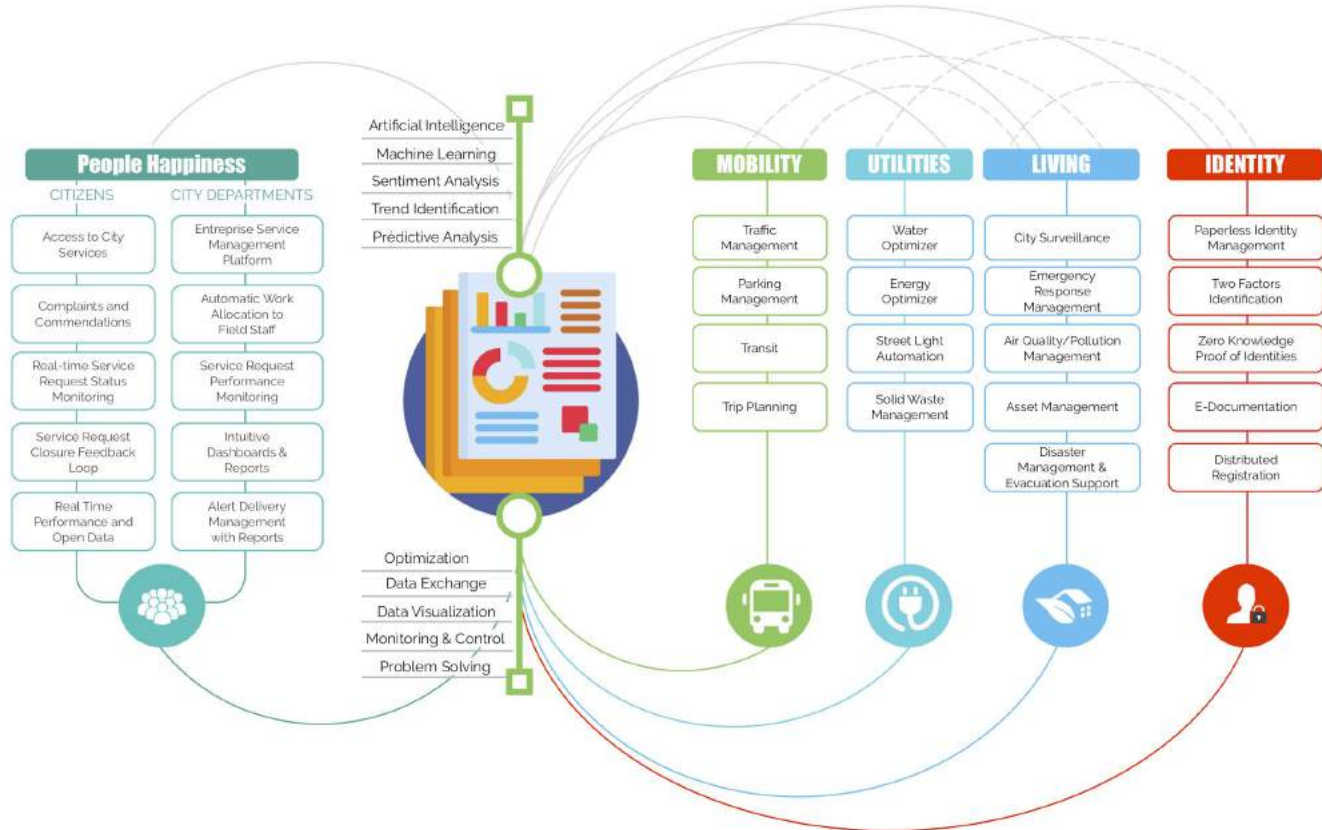
Opportunity

The set-up of a Decentralised Data exchange will enable better data management and governance at the scale of the whole emirate while giving customers access to unlimited digital services.



Flawless Holistic

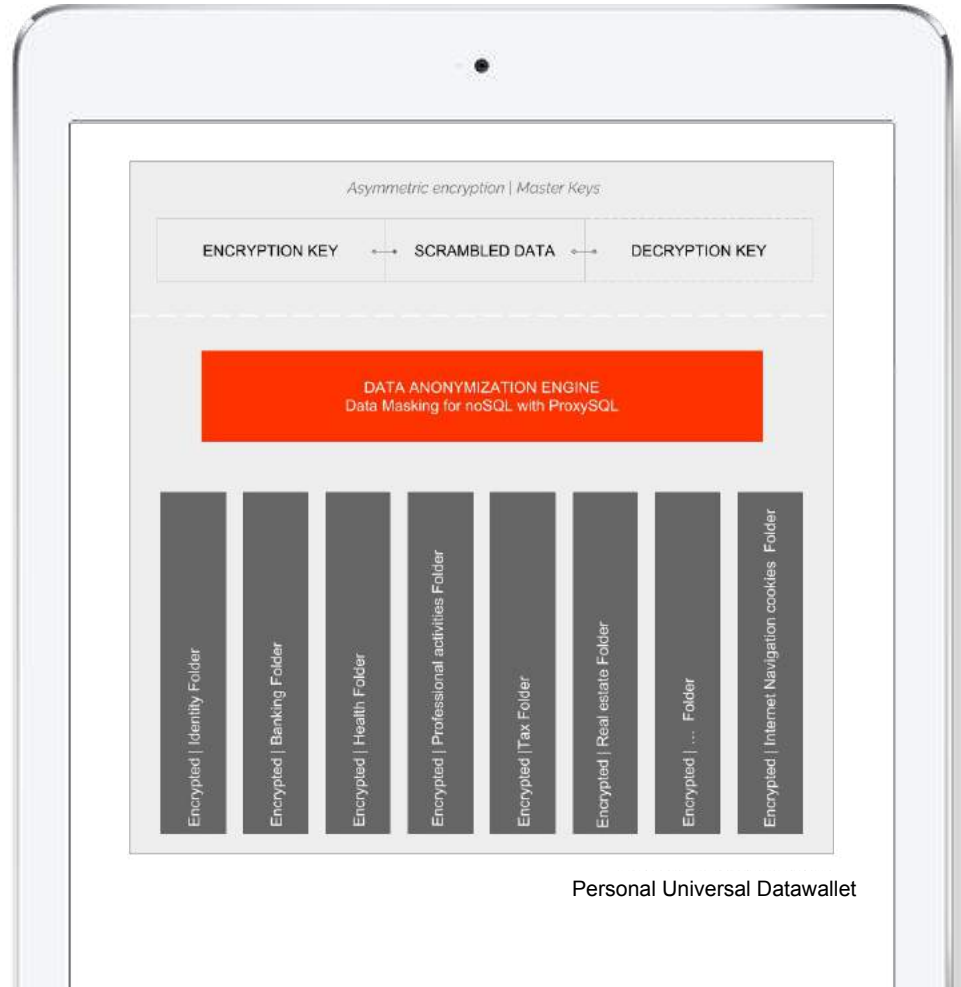
Our customizable solution is based on a new holistic which reflects over 2,5 years of R&S and 5 years of experimentation sustained by profound analysis of the consequence of big data threats (data forgery, data breach) & autonomisation impact on people daily life (mainly human Disruption in the workplace).



Personal Universal Datawallet

Key Component For A New Data Management paradigm

The Datawallet is a distributed database, developed and maintained by BRAINCITIES LAB, enabling development and the deployment of BtB decentralized apps on top of its decentralized infrastructure: the DATACHAIN. The Datawallet enables private and public organizations to provide digital services relying on critical data like identity. End-users can subscribe to digital service requiring access to their critical data on iOS and Android smartphone, and desktop. The Datachain through the Datawallet powers entire ecosystems like cities or airport with trustable data fueling actionable AI and individualized digital services.



Personal Universal Datawallet

Sample Use Case: Passenger Wallet

Measure the Return On Investment per traveler with high accuracy.

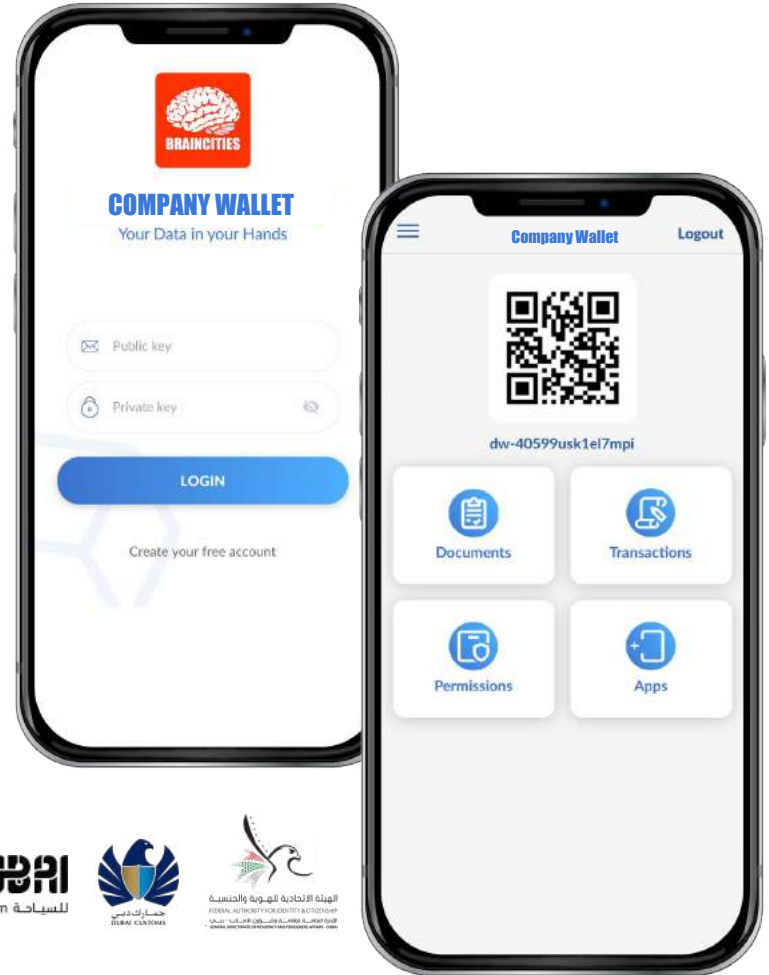
Structuring & securing critical & individual data

The Passenger Datawallet is a groundbreaking digital hinge between the city and its visitors offering frictionless and tailored experience. It acts as a critical information protection vault for visitors, from which we can build infinite numbers of personalized digital services and recommendations: From airplane tickets and hotel booking, the Passenger Wallet helps the traveller discover the city, attend entertainment, sport event and conferences without losing time in administrative tasks, or paper nor queuing.

It provides a direct communication channel to passengers, residents, and visitors easing the issuance and securitization of official documentations, now stamped on the blockchain.

The DATAWALLET enables

- Data Anonymization
- Instant access sharing or revoking
- Data management transparency
- Zero Knowledge proof protocol



Design For

دبي
Tourism السياحة





Braincities Business Transformation Platform Leverages Enriched Data And Artificial Intelligence Models To Support Corporate Organizations To Develop New Business And Prepare Their Next Moves.

Use Braincities Lab As a Pivoting platform For Your Business.

Julien Brichard
Sales Director

Opportunity

Leveraging DLT connected Distributed Database containing the digital twin of real world entities or trends to provide accurate and reliable digital services.



Insurer



Borders & customs



Smartcities & E-administration



HR Data & People analytics

Data Analytics As A Service

Data & AI Algorithms Layer

Anchored In The Blockchain

Components

Vertically integrated data management: point-to-point data processing enabled from data collection to data valorisation with contextualized AI-based recommendations.



DATA REFINERY

Builds specialized knowledge-bases using heterogeneous data sources

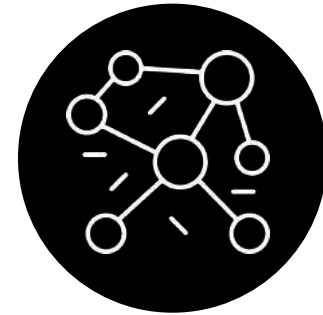
STORING & STRUCTURING
DISTRIBUTED DB



INDIVIDUAL DATAWALLET

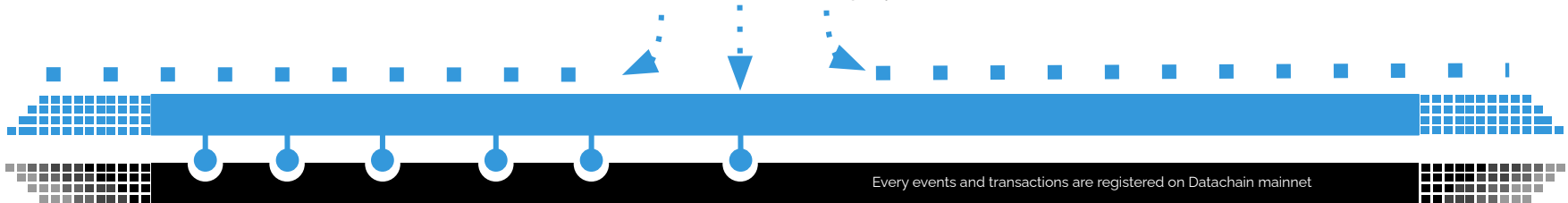
Individual data vault: secure P2P data sharing and storage solution to prevent data breaches and data forgery

APPLYING CURATED AI
ON RELIABLE DATABASES



ACTIONABLE AI

A library for Crowd-curated AI.
A simple and secure way to apply bias-free AI on top of reliable data.



Every events and transactions are registered on Datachain mainnet

Measuring The Return On Investment Per Traveler With High Accuracy.

TECHNOLOGY APPLICATION FOR TRAVELER EXPERIENCE IMPROVEMENT

A frictionless environment to generate cross industry collaboration and enable the creation of a seamless but personalized tourism experience.

Digitizing a virtuous ecosystem involving:

 Travel Agency  Transport  Hospitality  Retail  Entertainment

Search, Inspire, Book Online

Travel To Destination

Experience And Explore

Return



INSPIRE

Promote Datawallet enabled services on internet using the same website Dubai is already using to promote Itself.

1

1'

Dubai Fast Track Pass

Register in Emirates Airline Office

1 Selection your transportation mode

- Plane
- Boat

2 Book Your Trip

- Buy your transport tickets
- Book your hostel

3 Digital Identity Generation

- Visa Registration
- Passport Scanning
- Visa Scanning
- Fingerprint scan
- Face Scanning
- Retina Scanning
- Voice Scanning



3

TRANSPORTATION

1 Selection your transportation mode

- Plane
- Boat

2 Book Your Transportation

- Buy your tickets

3 Share Identity Details

- Passport number
- Nationality
- Country of Insurance
- Country of Residence
- Passport Photo (Temporary)

----- Traveller need a visa -----

- 1 Generate a visa request
- 2 Send visa request to visa office

----- Visa Demand Is Validated -----

- Yes Add Visa in Identity folder
- No Send a rejection message

4



ONBOARDING

- 1 Register Passenger
- 2 Register Passenger Baggages

Send passenger in_plane_presence
Confirmation to custom industry:

flightNumberPassengerDw_IdPassengerBaggageDw_Id



5

CUSTOM / BORDER

- 1 Identity and Visa Checking
 - Passport Scanning
 - Visa Scanning
- 2 Fingerprint scan
- 3 Face Scanning
- 4 Retina Scanning
- 5 Voice Scanning

Id Token Generation

o

Datawallet Activation

o

Digital Id Card Generation

o

Id Token Propagated Among

o

1 Ecosystems

2 Administrations

3 Service Providers



AIRPORT SERVICES

- 1 Sim Card (Pre_ordered)
Delivered at the custom?

- 2 Pre_ordered taxi notification



7

ACCESS TO MAINLAND SERVICES PROVIDERS

- Hostel Checking

- Doctor booking Connecting / matching traveler with local practitioner

- Hospital
- Maid Booking
- Housekeeper etc.



9

VOUCHER AND ROYALTIES

- Shopping list
- Shopping preference
- Personalized gifts

8



PERSON-FOODING CULTURE FIT

- Menu composition
- Restaurant recommendations



10

RECREATION

- Access management
- Personalized Experience



11

ACTIVITIES

- Access management
- Personalized Experience



13

Return

14



Share



12

Experience

Recommendation



CREATE PROFILE

Gather Information about potential travelers

1 Identity

- Name, Surname
- Birthdate, nationality

2 Periodicity

- Date of arrival (Temporary)
- Date of return (Temporary)

3 Budget Traveller type

- Backpacker (\$xxx to \$xxx per day)
- Spring Break (\$xxx to \$xxx per day)
- Adventurer (\$xxx to \$x xxx per day)
- Avenue Montaigne (\$x xxx to \$xx xxx per day)
- Rooftop (Starting \$xx xxx per day)

4 Preferences

- Hostels connect to www.booking.com API to:
- Show hostels categories
- Get Hostels proposals
- Proceed to Hostels reservation

- Environment (Travelers need to select images)
- Purposes (Travelers need to select images)
- Activities (Travelers need to select images)
- Restaurants (Travelers need to select images)

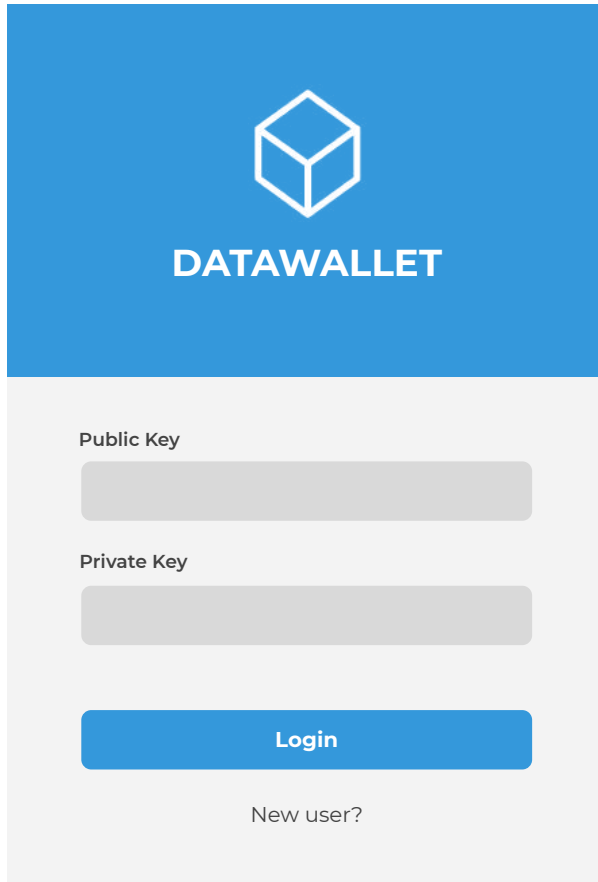
DATAWALLET ARCHITECTURE

Introduction

The Datawallet System mainly deals with storage and security of data. It uses Minio for the storage services and custom NodeJS scripts for automations like user management, file transfers, auto deployments, payment integrations, managing share permissions etc.

Types of groups

Each group has its own private server meaning every group has its own instance of the infrastructure running on a dedicated server. Every group have their own members and these members have a space inside the particular server. This space is called the Datawallet. So the terms Users and Datawallets can be used interchangeably. So the network as a whole is called the Datawallet System or the Datawallet Network, the groups inside this network represents 1 institution and every group has its own users/members/datawallets.



The image shows a login form for Datawallet. It features a blue header with the Datawallet logo and name. Below the header, there are two input fields for 'Public Key' and 'Private Key'. A blue 'Login' button is positioned below the input fields. At the bottom, there is a link for 'New user?'.

← New user

First name

Last name

Email ID

Password

Purpose (Optional)

Register

Introduction of BC Identity App

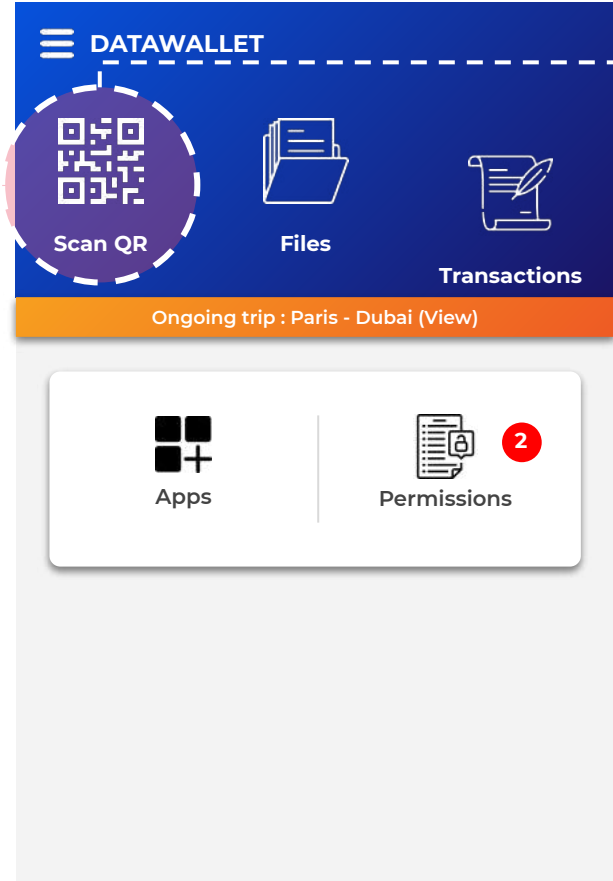
1. Improves trust and security
2. Datawallet Identity App will be a separate app only for Identity Management.
3. This app will store the private key of the Datawallets needed for signing a transaction. This private key will not be stored on any of the Datawallet servers.
4. This app can store multiple Datawallets and also sign transactions for them.
5. Datawallet generation diagram link: [Datawallet Identity App-Page-1.png](#)

PURPOSE:

- Travel
- Business
- Other

Selecting “Travel” will enable “Plan a trip” app automatically for the user on first login. This will allow for more intuitive feel.

Event 1 : Security check at Dubai Airport



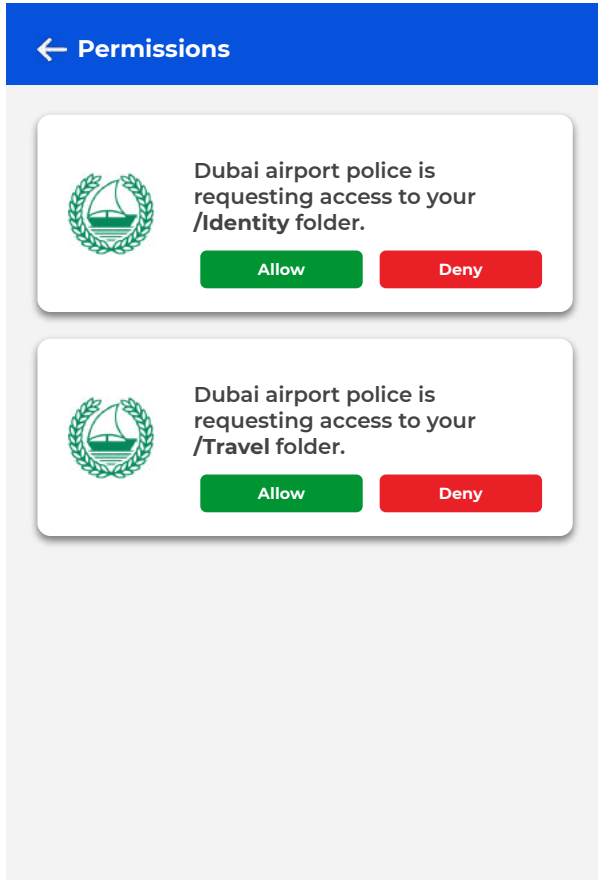
AIRPORT SECURITY:



User scans the airport security QR code using his device's camera and the following folder access requests are sent to the user from Dubai Airport Security Federation:

- Permission to access / **Identity**
- Permission to access / **Travel**

Event 1 : Security check at Dubai Airport (cont...)



AIRPORT SECURITY:

- Upon allowing the following permissions, Dubai Airport Police will have read & write access to the user's /Identity and /Travel folder.
- Dubai Airport Police can then verify the passport, visa and other documents from his folder.
- Police can also cross check the uploaded passport photo with the original passport and mark the online version as verified. This will allow the next agent to know that the passport present in the user's Datawallet has been verified by Dubai Airport Police.

Project Organization

Steering Committee

SMART DUBAI OFFICE

BRAINCITIES LAB

tba.

Kazé A. ONGUENE (BRAINCITIES LAB)
Stephan Haller (Horvath Partners)
Lorenzo Gonzales (HPE)

Project Lead

SMART DUBAI OFFICE

BRAINCITIES LAB

tba.

Daniel S. COVACICH (BRAINCITIES LAB)
Morad Outqut (HPE)
Adnan Nawab (Horvath Partners)

Project Key People

SMART DUBAI OFFICE

BRAINCITIES LAB

tba.

Antoine Bruel (BRAINCITIES LAB)
Rishav ANAND (BRAINCITIES LAB)
Luca Carlig (BRAINCITIES LAB)
Anas Naim (HPE)

Project Role

1. Decision-making
2. Acceptance of developed project results
3. Provision of specific know-how

-
1. Assurance of delivery in quality, time and budget
 2. Provide guidance for the development of the indices and implementation

-
1. Operative project delivery and implementation
 2. Preparation of meetings, workshop and documentation
 3. Project documentation
 4. Subject Matter Experts for specific tasks on demand

Key benefits

The **clear project organization** with a dedicated **project lead** ensures **efficiency, high quality results** and **consistency**

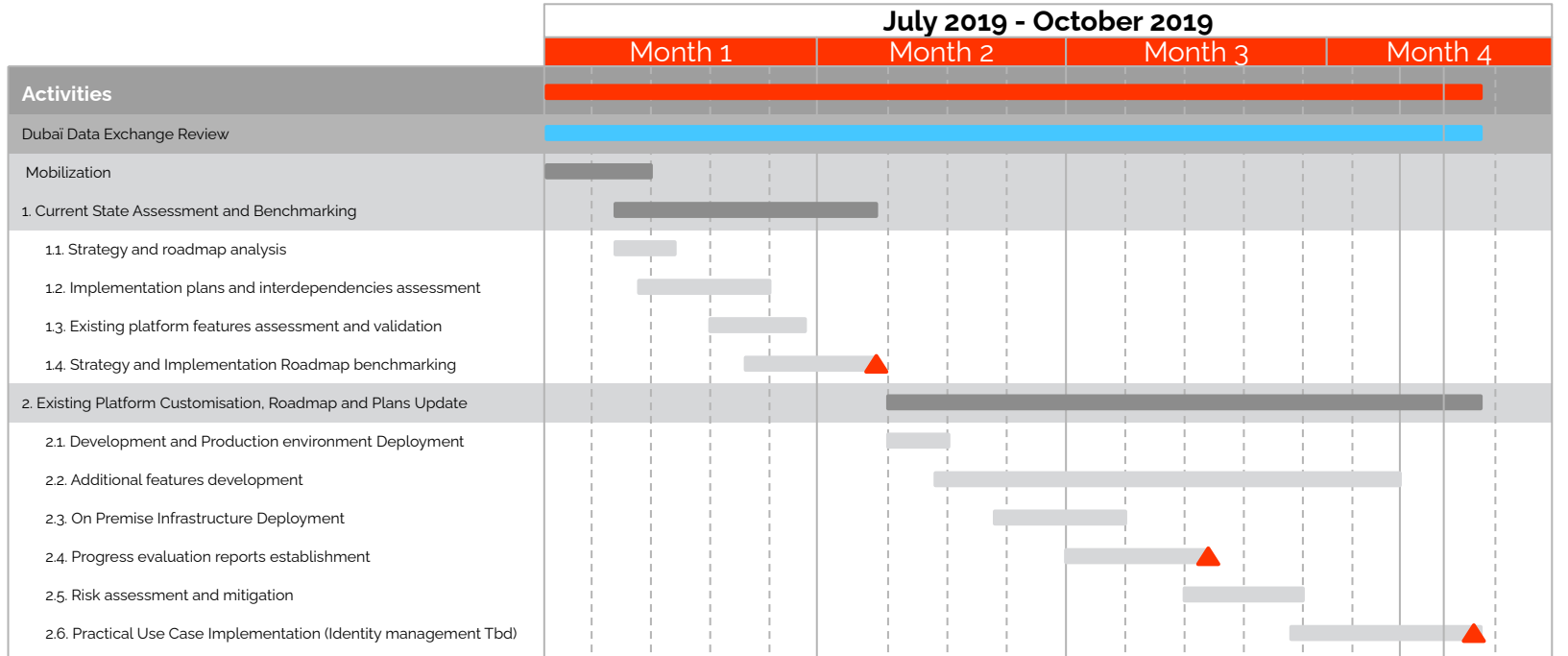
The team structure ensures the **right mix of competencies, experience and seniority level both from BRAINCITIES LAB and its Partners: Horvath Partners and HPE**

Focused discussions and cross-challenging within the team in general **improves project results**

Project Approach and Organization

The project will be delivered within a 16 week timeline

Framework timeline*



▲ Results assessment

*Indicative timeline

Project Team

We offer a project team that is highly experienced in the field of Data Management and Project Management

Project Team

Role in Project

Competences and project experience



Kazé A. ONGUENE
Chief Executive Officer
Big Data Architecture Design
BRAIN CITIES LAB

- Sponsor
- Steering committee
- Experience in IT project: > 10 years

- Responsible for dozen of dimensioned IT projects in France
- Delivered business and Data Management solutions for CAC 40 companies
- Used Know-How, technical Skills and Creativity to solve deep tech challenges



Stephan Haller
Senior Partner
Managing director Middle East
Horvath Partners

- Sponsor
- Steering committee
- Consulting experience: > 20 years

- Diverse experiences in large projects in the Middle East
- Responsible for large projects within all parts of the utility value chain
- Long time experiences of the strategic management at international utilities



Lorenzo Gonzales
Global Technology Strategist
Senior Presales
Hewlett Packard Enterprise

- Sponsor
- Steering committee
- IT Project Management exp.: > 25 years

- Diverse experience in large projects and strategic initiatives
- Driving enterprise-wide business and innovations in legacy environments
- Lead projects, programs, and practices on a variety of emerging fields

Project Team

Selected Subject Matter Experts will provide additional expertise on demand and support an outstanding project delivery

Project Team

Role in Project

Competences and project experience



Dr. Daniel S. COVACICH
Chief Data Officer
Research and AI Development
BRAINCITIES LAB

- Project Lead
- Consulting experience: > 20 years

- Diverse experiences in large projects in the Middle East
- Responsible for large projects within all parts of the utility value chain
- Long time experiences of the strategic management at international utilities



Morad Outqut
Middle East CTO
Hewlett Packard Enterprise

- Project Lead
- Consulting experience: > 20 years

- Diverse experiences in large projects in the Middle East
- Responsible for large projects within all parts of the utility value chain
- Long time experiences of the strategic management at international utilities



Adnan Nawab
Senior Consultant
Horvath Partners Middle East

- Project Lead
- Consulting experience: > 20 years

- Diverse experiences in large projects in the Middle East
- Responsible for large projects within all parts of the utility value chain
- Long time experiences of the strategic management at international utilities

Project Team

We offer a project team that is highly experienced in the field of smart grid strategy and strategic management

Project Team



Stephan Haller
Senior Partner
Managing director
Middle East

Role in Project

- Key People
- Coordination
- Business experience: > 5 years

Competences and project experience

- Diverse experiences in large projects in the Middle East
- Responsible for large projects within all parts of the utility value chain
- Long time experiences of the strategic management at international utilities



Stephan Haller
Senior Partner
Managing director
Middle East

- Key People
- Key Features Development
- Engineering experience: > 4 years

- Diverse experiences in large projects in the Middle East
- Responsible for large projects within all parts of the utility value chain
- Long time experiences of the strategic management at international utilities



Ian McRae
Senior Partner
Competence Center
Utilities Australia

- Sponsor
- Steering committee
- Consulting experience: > 20 years

- Diverse experiences in large projects in the Middle East
- Responsible for large projects within all parts of the utility value chain
- Long time experiences of the strategic management at international utilities

BRAIN CITIES LAB ²⁰¹³

TECHNOLOGY ENABLER PROVIDING AI FOR DECISION MAKING IN HUMAN CAPITAL DEVELOPMENT

We extract meaningful stories from massive unstructured data to identify trends, measure the readiness of evolving process then significantly improving decision-making processes and business performance.

People



12 Employees
+3000 Members Open Source community
10 active contributors

Competence



Dynamical Knowledge Base Generation,
NLP based Behavior & sentiment analytics,
Trends and patterns prediction,
Decentralised Infrastructure As A Service,
Data Management,
Data Analytics.

Clients



Large and medium-sized companies in :
• Automotive, Banking, Insurance
• Public institutions, Cities and regions

For : Human Capital Management, Finance
Marketing, Security[...] purposes.

Partners

Plug N Play
Insurtech Hub Munich
HP Enterprise
SAP
Paris & Co
Wavestone
Horvath Partners
Iconic Lab

International

France
Germany
Netherlands
Dubai
Spain

References



**Jobs and skills
proactive planning**

Key figures
1,400,000 inhabitants

PORSCHE

**Human Capital Management
Augmented By AI**

Key figures
29,000 employees

About BRAINCITIES

Founded in 2013

17 People

€ 1,660,000 raised

€ 20,000,000 post-money valuation

Revenue 2019: € 614 230

2019 results: € 56 820

Partners with

HP Enterprise

SAP

ABRA (DUBAI SME)

Wavestone

Startup Autobahn

Mind The Bridge

Paris & Co

NUMA NYC

International presence

France

Germany

United Arab Emirates (Dubai)

USA (New York)

References



Awards & Acknowledgements



Marie Skłodowska-Curie
Research Fellowship Programme

ABOUT BRAINCITIES LAB

BRAINCITIES LAB is a French-based software editor leveraging Semantic Analysis, Machine Learning, Deep-learning, Natural Language processing to build dynamical knowledge bases augmenting traditional HRMS like SAP SuccessFactors, Talentsoft, SAGE, Oracle Taleo with AI. PICENTRIQ is the most effective way for companies to identify promising candidates, reach their diversity hiring goals, retain top performers, identify and engage rare talents. BRAINCITIES AI-Powered Human Capital Development software enables enterprises to turn talent management into a competitive advantage. The 360° HCM has been developed by top researchers and engineers out of CERN, Geodis, France Telecom and other leading research and development institutions. With clients in 5 countries, BRAINCITIES support the transformation of industries such as automotive, banking and energy by helping organizations and cities adapt their human capital and inhabitants to the ongoing digital revolution.

For more information, visit www.braincities.com



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