

# MOBILITY SOLUTIONS

# FUTURE-PROOF MOBILITY SERVICES

LIBERATING DATA EMPOWERING DRIVERS





## **COMPANY SNAPSHOT**

ESTABLISHED IN 2016, FIRST TRIALS IN 2011: SERVING FOUR INDUSTRY SEGMENTS TODAY.

#### **MAJORITY HELD BY FOUNDERS:**

- TOM FÜRSTNER (FOUNDER & CTO) EXPERT IN CRYPTOGRAPHY AND TOKENOMICS
- ALEXANDER KOPPEL (CEO) EXPERT IN MARKETING & PRODUCT DEVELOPMENT

FIRST COMPANY TO BUILD BLOCKCHAIN-DEDICATED HARDWARE.

VARIOUS INTERNATIONAL AWARDS TOTAL NUMBER OF STAFF: 40 HEADQUARTER: VIENNA, AUSTRIA

#### **FINTECH**



#### **ENERGY**











#### **MATERIALS**







#### **MOBILITY**











## **OUR BLOCKCHAIN TECH PLATFORM**

# SECURELY ASSETS

RIDDLE&CODE offers a comprehensive and banking-grade end-to-end infrastructure. It provides unmatched versatility and security for the emerging digital asset space. Digital assets do include both data coming from trusted data sources as well as tokens / coins for value transactions.

As a cloud-based platform with hardware-rooted security, it manages all aspects of key generation and management, digital asset custody, full regulatory compliance and full token lifecycles — all using a best-of-breed technical platform that is both interoperable and offers a cost and energy-efficient state-of-the-art solution.

Our platform also provides the necessary tools to enable all types of business logic and confidential data handling.



# **SECURING CRITICAL INFRASTRUCTURES**

For the finance sector, we have developed our highly secure backend platform, based on sophisticated key management.

In combination with dedicated crypto hardware solutions we design (Car Wallets, Trusted Gateways, Crypto Tags), we create interfaces between the physical & the digital worlds.

This stack is already live with energy, banking and materials customers, enabling decentralized settlement and tokenization layers for supply chains, P2P energy trading, circular economies or mobility data marketplaces.

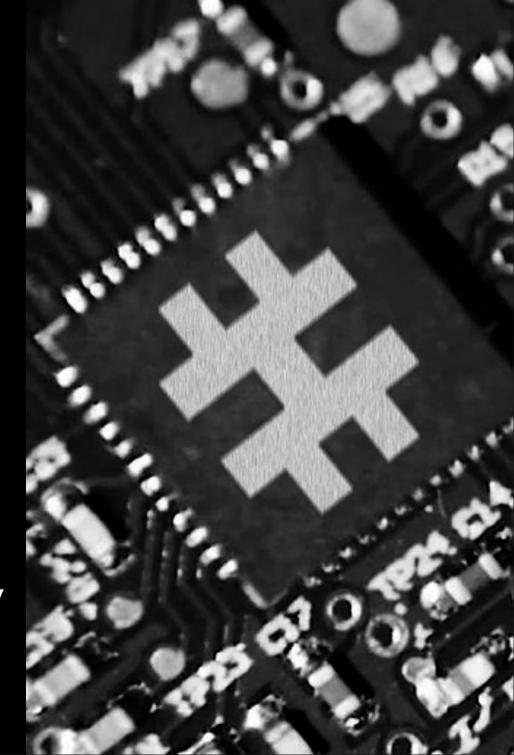
Together with partners from the chip and telco industries, we're thus paving the way for M2M and Token2X networks in the mobility sector on the infrastructure level.





# RIDDLE&CODE'S STACK

LINKING THE PHYSICAL WORLD WITH FINANCIAL SYSTEMS IN A TRUSTED & SECURE WAY



# Riddle & Gode THREE PILLARS OF RIDDLE&CODE SOLUTIONS



Crypto chip creates / secures key pair and attests it on DLT

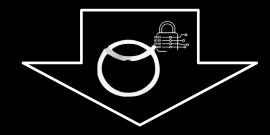
# **ADDRESSABILITY**

Public key makes any physical object addressable

# **TRANSACTIONS**

Wallet functionality allows execution of transactions for M2M

#### **Chip & Connectivity**



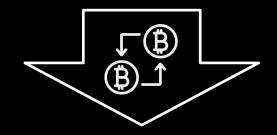
**AUTHENTICITY OWNERSHIP PROVENANCE** 

#### **Public Key & Ledger**



**COMMUNICATION** INTEGRITY **DATA** 

#### **Conditions & Execution**



TRANSACTION MARKET PLACE **BIZ MODELS** 



# Riddle & Code A DIGITAL, IDENTITY-CENTRIC APPROACH





**VEHICLE ID** 



**AUTHENTICITY OWNERSHIP** LOYALTY SCHEMES



**PROVENANCE** TRUSTED SOURCE M2M MARKETPLACE



**ACCESS TRANSACTIONS NEW BIZ MODELS** 



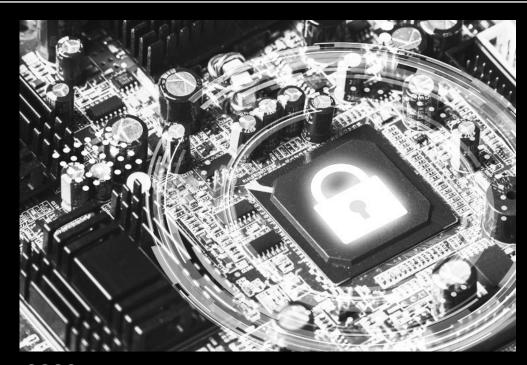
# ESTABLISHING TRUSTED DATA SOURCES

#### **NORMAL DATA AGGREGATION**



FROM ANY DATA REPOSITORY AGGREGATED IN DLT SYSTEMS

#### TRUSTED DATA AGGREGATION



**DEVICES WITH EMBEDDED CRYPTO CHIPS** TRUSTED DATA DELIVERY NOTARY-PROOF DATA RECORDS



# PROCESS TRANSFER ACROSS INDUSTRIES

THE APPROACH ADOPTED BY RIDDLE&CODE ALLOWS TO TRANSFER REGULATORY-COMPLIANT PROCESSES AND TECHNICAL MODULES PROVEN AND CERTIFIED IN THE FINANCE INDUSTRY TO OTHER SECTORS. SOME EXAMPLES INCLUDE:

- Hardware-based Machine Identity
- Based on highly Secure Key Management
- Audit Trail covering each TX & Notary Services, e.g. for Supply Chains
- Car / Machine Wallet Capabilities (HW + SW Combination)
- **Device (Network) Integrity Checks**
- Flexible Sensor and Radio Connectivity
- DLT as Interoperability Layer
- **Limiting Access to entitled Personnel**



It's done!

This is not a hardware wallet.

It is a cyber-physical object to orchestrate cyberphysical systems.

It gives identiy to physical objects by enhancing them with application logic.

It connects objects to each other and to the cloud. Autonomous objects.



8:53 PM · Nov 16, 2020 · Twitter Web App





# WHAT WE DO TODAY





# ENERGY SOLUTIONS

**CONNECTING PHYSICAL ASSETS TO BLOCKCHAINS:** 

**DEVICE REGISTRY & DATA NOTARY SERVICES** TOKENIZATION OF PHYSICAL ASSETS AND ENERGY PRODUCED.

RESULTS: SECURE E2E DATA AND VALUE TRANSFER.

THIS MEANS: ENABLING FINANCIAL SYSTEMS FOR THE PHYSICAL INTERNET OF VALUE.







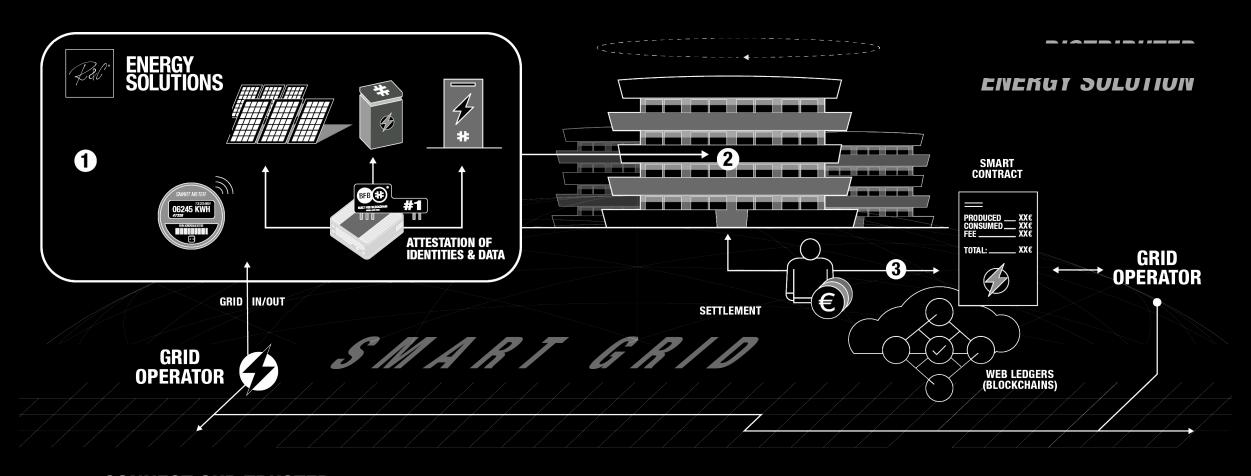
# TOKENIZING THE ENERGY INDUSTRY

- 1. Create a trusted ecosystem of data sources by introducing tamper-proof machine ID solutions
- 2. Add highly secure hardware wallet capabilities to enable M2M transactions & financial energy markets
- 3. Audit-proof records of data or value transfers to ensure regulatory compatibility
- 4. Using tokenization to incentivize desired behaviour or finance assets differently
- 5. Connect the energy sector with other industries and use cases, e.g. around EV charging





# PROJECT OVERVIEW



CONNECT OUR TRUSTED
GATEWAYS TO SOLAR
ENERGY SYSTEMS

INSTALL GATWAYS
WITHIN RESIDENTIAL
LOCATIONS

ENABLE SETTLEMENTS BETWEEN ENERGY PROSUMERS ON DLT NETWORKS

# **MYPOWER PROJECT VIDEO**





### THE STACK'S FEATURE OVERVIEW

**Human ID solutions** 

Machine & Vehicle ID solutions

not done by RIDDLE & CODE

Corporate ID solutions

covered by RIDDLE & CODE

enabled by RIDDLE & CODE

#### **WALLET MANAGMENT**

- Secure key generation & management
  - Unlimited SW wallets + IoT wallets

#### SIGNING TRANSACTIONS

- · Various signature schemes
- · Confidential Computing

#### **BUSINESS MANAGEMENT**

• The policy layer allows customizable (business) rules orchestration

#### **ASSET MANAGEMENT**

- Token issuance\*
- Reconciliation









#### **CONFIDENTIAL DATA SHARING**

Fully GDPR compliant // preserving sensitive industry secrets // Secure cloud-based enclaves // Data Provenance by signatures from IoT wallets

#### SECURE KEY MANAGEMENT & ENABLING THE SETTLEMENT LAYER

Confidential computing // Disaster management & key recovery // Operating on Trusted Execution Environments // Integration with legacy IT

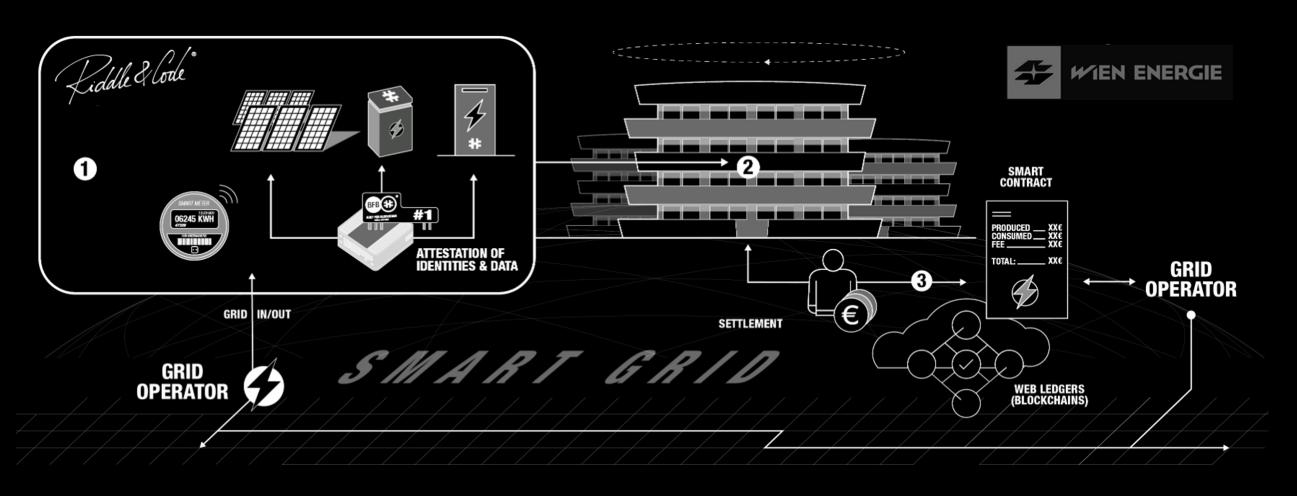
#### DATA NOTARY SERVICES – FULLY GDPR COMPLIANT

Full node service // Enables ledger interoperability // BigchainDB as metadata & notarisation ledger





### DISTRIBUTED ENERGY SOLUTION



CONNECT TRUSTED ENERGY EXTENSION TO SOLAR SYSTEMS

INSTALL EXTENSIONS WITHIN RESIDENTIAL LOCATIONS

ENABLE SETTLEMENTS
BETWEEN ENERGY
PROSUMERS ON THE
LEDGER

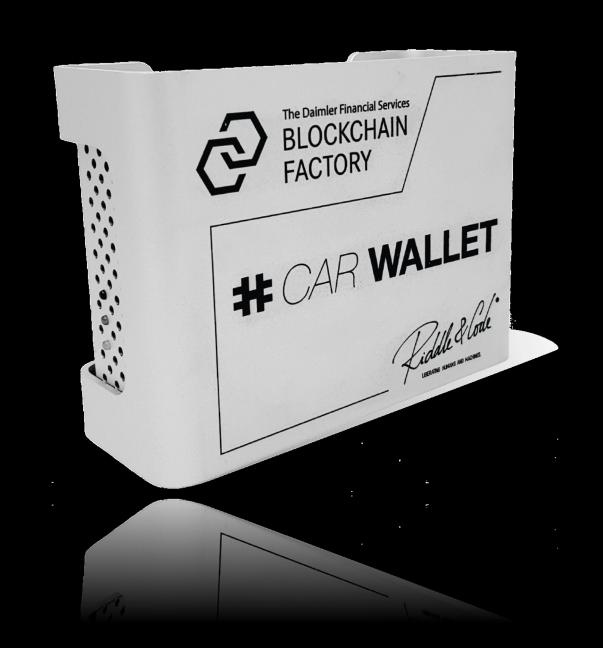


### **CAR WALLET SOLUTION**

In 2019, RIDDLE&CODE partnered with Daimler Mobility and the Mobility Blockchain Platform consortium to develop a car wallet built around a secure crypto chip.

Once connected, the wallet gives a tamper-proof identity to vehicles, performs value transactions and settlements and transforms vehicles into self-sovereign business entities and trusted data platforms.

Then we decided to take it to the next level...





### **MOBILITY IS ABOUT DATA**

Cars have become mobile hubs of data, generating and processing unforeseeable amounts of information.

Consumers are demanding new experiences through new services and business models, requesting customised mobility options.

In this evolving ecosystem, participants in the mobility network have to become highly data-driven and software-centric.



# THE NEW IS UNAVOIDABLE.



