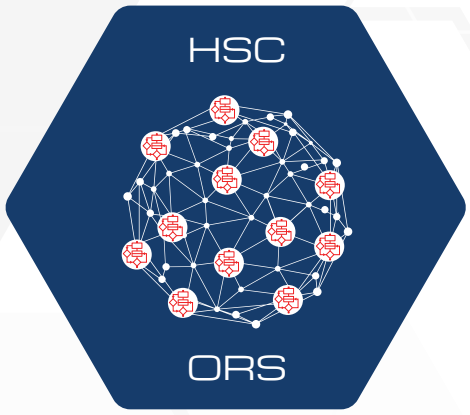
ORS HYPERSMART CONTRACTS
CONNECTING A.I. & BLOCKCHAIN



ORSGROUP
TURNING A.I. & BLOCKCHAIN INTO CASH

www.orsgroup.io

EXECUTIVE SUMMARY

Connecting Artificial Intelligence and and Blockchain for value chain optimisation

(opening up over 1,000 A.I. algorithms to the Crypto Community)

Business value chains are witnessing an inescapable shift towards fully digital transactions. The multitude of data available in real-time (Big Data) will increasingly be used to optimize these value chains by harnessing artificial intelligence and robotics.

Any value chain (B2B, B2C, etc.) is basically composed of three major "flows": (i) the flow of goods and services; (ii) the flow of information; (iii) the flow of payments. Efficiency is the name of the game, i.e. optimizing all three flows means reaching maximum efficiency ("efficiency singularity") in terms of optimal (faster, cheaper, better) distribution of goods/services within the value chain – from suppliers to customers, which in turn requires efficient sharing and transfer of information and payments among the participants of a given value chain.

Value chains with centralized organizations can theoretically reach such efficiency singularity, while value chains with (partially) decentralized, independent organizations are very often not able to optimally work together (in sharing goods/services, information and payments), mainly because of lack of trust. As a consequence, trillions in value get lost every year due to inefficiencies in the mentioned flows.

While A.I. algorithms can already optimize the flow of goods and services within value chains which include decentralized organizations ("Mixed Value Chains"), so far no groundbreaking technology was available to solve the issue of trustless participants not sharing information and payments in the most efficient way. Blockchain is such a technology and connecting it with Artificial Intelligence is the key to enabling the achievement of (quasi) maximum efficiency in such Mixed Value Chains.

ORS Group has developed the concept of Hypersmart Contracts, i.e. intelligent connectors (smart daemons with an associated Ethereum account) which (i) activate A.I. algorithms (off-chain) to solve complex efficiency/optimization problems utilizing data stored on-chain by independent, decentralized organizations; and (ii) can release instant crypto payments. Thanks to Hypersmart Contracts ("HSC"), the power of A.I. can be applied to reach the highest possible level of efficiency (and, therefore, of profitability) in the flows of goods/services, information and payments within any value chain.

ORS GROUP is a pioneer in this area: for more than twenty years our AI-based software solutions have helped Fortune 2000 customers from various fields to automatically optimize trillions of digital transactions daily. What makes such achievements possible are so-called Hypersmart Algorithms, i.e. combinable modules of sophisticated algorithms. They are the building blocks for more than a hundred proprietary software solutions (the "ORS Hypersmart Solutions") sold to global organizations (see www.ORS.ai).

Following our aforementioned business and technology trajectory, and harnessing our long experience providing innovative software solutions, more than a hundred leading algo-scientists and IT developers at ORS are currently working on connecting Hypersmart Algorithms with the decentralized information logic of distributed ledgers (aka blockchain) and the use of cryptocurrencies for instant payments.

The development of the ORS Platform & Marketplace (open to third parties) for buying and selling Algorithms and Hypersmart Contracts will enable both established businesses and new blockchain projects from the Crypto Community to dramatically enhance their own business models and gain higher profitability and competitive advantage.

Hypersmart Contracts, Algorithms and other digital assets developed by both ORS SA as well as by third parties shall be freely tradeable on the Platform & Marketplace through ORS' own utility token, the "ORST".

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1. The premise leading to the merging of A.I. with Blockchain and the Hypersmart Contracts

The following global trends in business & technology lead to our vision of **merging Artificial Intelligence** ("A.I.") and Blockchain ("BC"):

(a) More and more transactions occur digitally;

(b) Blockchain based smart contracts can automatically handle and transfer assets between buyers and sellers, without the need of an external trusted authority;

(c) A.I., Machine Learning and Big Data Analytics algorithms, altogether here defined as **Hypersmart Algorithms** or simply **A.I. Algorithms,** are increasingly being applied to make transactions very smart and able to deal with complex sets of conditions and constraints, of stochastic nature.

We therefore foresee an imminent future in which most business transactions in any value chain are decided and executed by **Hypersmart Contracts,** a new concept for connecting A.I. Algorithms with the decentralized information logic of Blockchain and the release of cryptocurrency payments. At ORS SA we are developing a unique **Platform & Marketplace (together, the "Platform"),** which shall allow the selling and purchasing of both proprietary and third parties' A.I. Algorithms and Hypersmart Contracts through the newly issued **ORS Token.** In addition, business users of Hypersmart Contracts will be enabled to adopt cryptocurrencies within their own **value chains** to improve overall efficiency and to reduce time-to-market.

Our **established international customer base**, already using hundreds of AI-based software solutions, will facilitate early adoption, fast growth and cash flow positive use of the Hypersmart Contract sold by ORS SA over its Platform.

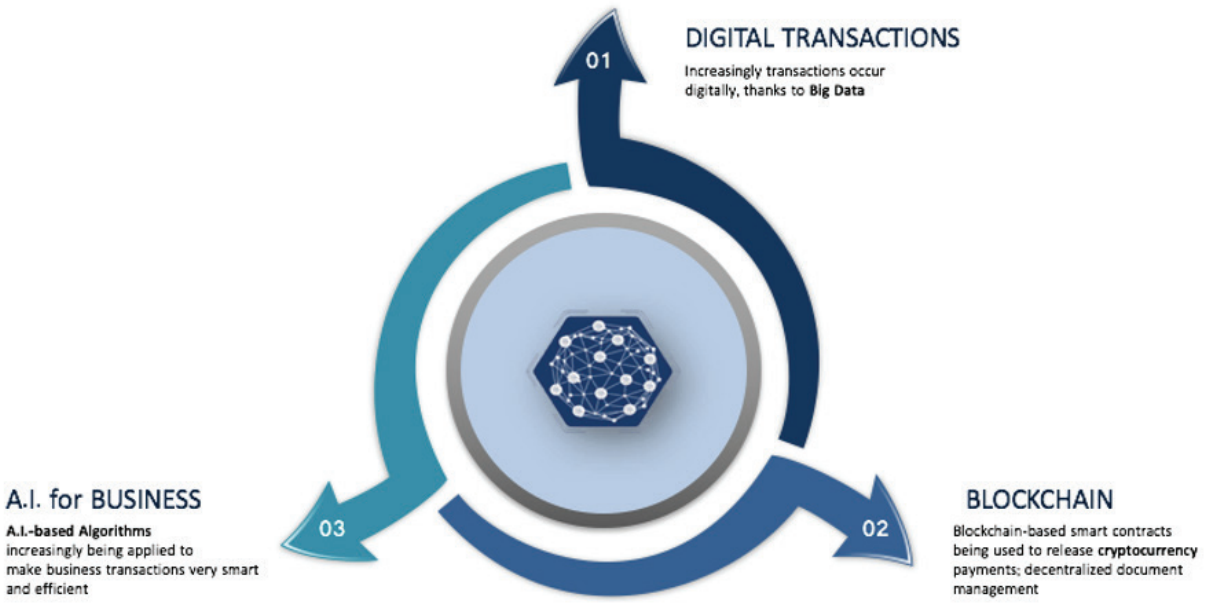


Figure 1. Three global trends leading to the adoption of Hypersmart Contracts

2. Current limitations of smart contracts vs Hypersmart Contracts

The notion of 'smart contracts' became a generic term as a result of the notoriety gained by the Ethereum blockchain and the increased traction on distributed ledger technologies. However, the idea has been around for a long time. Nick Szabo, the cryptographer known for his research on digital currencies, wrote an article about smart contracts as early as 1996. Mr. Szabo defined the term smart contract as 'a set of promises, specified in digital form, including protocols within which the parties perform on these promises'.

In his 1996 article, Szabo predicted that the digital revolution would drastically change the way we currently construct contracts. Szabo saw early on that computers were making it possible to run algorithms that used to be too costly, and believed algorithms eventually would be developed for what he termed 'smart contracts'. The blockchain-based smart contracts, or self-executing contracts, were developed to automatically and securely execute obligations and release cryptocurrency payments on the basis of very simple and rigid set of conditions (like for example, an option agreement with a triggering event or an escrow agreement) and without the need for intermediaries. Although several business opportunities arise from the use of the smart contracts, **important limitations** ought to be carefully taken into consideration.

Firstly, the current implementation of smart contracts on the Ethereum platform is not fully secured. The consequences of unsafe and short-sighted design choices on the programming languages can be fatal for many businesses. We have witnessed this in the unfortunate epilogue of the DAO. Since then, many other vulnerabilities of smart contracts have been reported (N. Atzei, 2017).

Secondly, in contrast with contracts concluded in form of action, speech or writing, a smart contract is 'just' a computer program built on code: it is still unclear whether it can be considered a contract from the legal point of view, whether it has parties or it is merely a matter of decentralized computer programming (Lauslahti, Mattila, & Seppälä, 2017). In addition, smart contracts are very '"rigid' because terms & conditions are coded immutably and not subject to real-life variability and construability – demanding adjustments that only humans can decide upon.

http://www.fon.hum.uva.nl/rob/Courses/InformationInSpeech/CDROM/Literature/LOTwinterschool2006/szabo.best.vwh.net/smart_contracts_2.html
https://www.wired.com/2016/06/50-million-hack-just-showed-dao-human/

Yet another major issue is that like any other piece of code, a smart contract can be prone to defects. However, unlike any other piece of code, a smart contract is not patchable: hence, once it is deployed, if it contains a serious defect, the smart contract could be very harmful to any dependent system .

Additional limitation is related to the impossibility, by design, of changing the behavior of a smart contract in response to some external event (every change of state on a blockchain must be completely deterministic): this is in contrast with the fact that modern value chains are highly complex (think of the iPhone suppliers network worldwide) and require more and more A.I., Machine Learning and Big Data Analytics algorithms (here defined as 'Hypersmart Algorithms' or simply A.I. Algorithms) for stochastic and dynamic automatic optimization and execution of trillions of process-related transactions.

Indeed, **'transactions' instead of 'contracts'** would be a more appropriate term for describing smart contracts. Smart contracts are supposed to automate not only decentralized organizations but also existing centralized or distributed business models. However, although value chains can already be optimally and automatically run by algorithms in terms of flow of goods ("which product should be delivered from where, to whom and by what route"), the **exchange of information** (including documents) and **money** (payments) within such value chains is still suboptimal due to the lack of trust among independent participants and due to procedural constrains. As a result, the flow of goods is slower than what would be possible with A.I. Algorithms, which are so to speak 'constrained' by the cumbersomeness of the administrative and payments cycles.

The solution to this issue, which is unnecessary costly is the connection of A.I. Algorithms with Blockchain technology, creating the new concept of **Hypersmart Contracts.** Hypersmart Contracts optimize and automate complex business transactions, including the decentralized management of information and documents, and the instant release of cryptocurrency payments by successful execution.

As matter of fact, on November, 06 2017 an unidentified person deleted a smart contract upon which Parity multi-signature wallets' functionality relied, causing more than $300 million worth of ether being locked. See: http://read.bi/2hHcDiK (last visited 18 Dec 2017). Pertinent to mention, Parity fixed a previous bug in July, which allowed $32 million in Ether to be stolen.

3. The concept of Hypersmart Contracts

Hypersmart Contracts ('HSC') are ORS SA's innovative concept of integrating A.I. Algorithms with the decentralized storage and the computing power of blockchain contracts (e.g., Ethereum smart contracts or Hyperledger Chain codes) for **optimizing business processes** (the flow of goods and of information/documents) and automatically **releasing payments** for executing complex transactions – for example in supply chains.

Hypersmart Contracts are **smart daemons with an associated Ethereum account** and can be considered a design concept connecting AI-based software (both on cloud hosting and on dedicated servers) with some key functionalities of Blockchain (smart contracts releasing crypto payments; decentralized document management). In simple terms, by **connecting *on-chain*** and ***off-chain*** 'worlds', developers and entrepreneurs – especially from the ***Crypto Community*** - can create **compelling business models** and software solutions. HSCs help to optimally decide and automatically steer business transactions across value chains and industries (including very innovative B2C business models). Hypersmart Contracts can be used to overcome current limitations of smart contracts, as explained above in previous section.
The **reasons** behind such integration of A.I.-based software and Blockchain are as follows:

- A.I. Algorithms are increasingly being adopted for automatic steering and optimizing of complex business processes in real time under stochastic conditions ('digitalization'; 'Industry 4.0'; etc.) As per the **PWC report**, A.I. could contribute up to $15.7 trillion USD to the global economy in 2030, more than the current output of China and India combined. Of this, $6.6 trillion is likely to come from increased productivity and $9.1 trillion is likely to come from consumption side effects.

- Blockchain technologies permit the avoidance of useless (and costly) **intermediaries,** performance of operations in untrusted environments and obtaining certified transactions of data and - more generally – of digital assets.

- The use of **cryptocurrencies** can dramatically shorten payments cycles, allowing immediate transfer of money (upon fulfillment of conditions written in smart contracts).

- In an **accelerating digital economy,** global value chains - which often involve untrusted parties – require faster and more optimized flows of goods, of information/data and of payments.

- Existing **smart contracts are unsuitable** for automatically executing and optimizing complex business transactions, as the language only features some basic arithmetic, logical, and crypto operations (M. Bartoletti, 2017).

https://www.pwc.com/gx/en/issues/analytics/assets/pwc-ai-analysis-sizing-the-prize-report.pdf

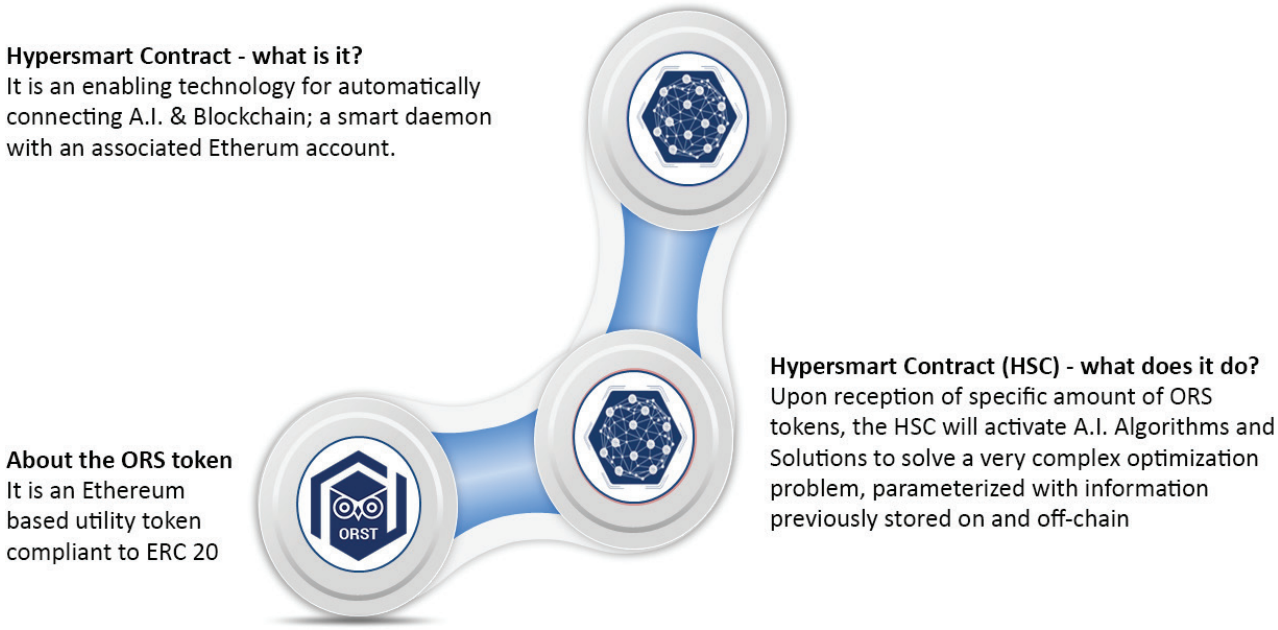


Figure 2. ORS Hypersmart contracts in a nutshell

From the technological point of view, the ORS Hypersmart Contract is a software program hosted on the ORS Platform and with an associated Ethereum account. Upon receipt of a specified amount of ORS tokens, the HSC can activate an A.I. algorithms-based software solution to solve complex optimization problems, which are parameterized with information previously stored by third parties on a blockchain (different HSC can interact with different blockchain types). The **UML sequence diagram** in Figure 3 shows more in details the general working mechanism of the Hypersmart Contracts. On the left, two different actors are represented: Master and Participants. The **Master** is an entity (an organization, a person, a software system), that needs to solve a complex optimization problem (both B2B and B2C); the problem can be solved by a specific ORS' or certified third party's AI-based software solution (the **'Hypersmart Solution(s)'**) available on the Platform.

To get the problem solved, the first thing the Master ought to do is to describe it following the given specification syntax and to write such information on the blockchain (the Hypersmart Contracts are **blockchain-agnostic**, i.e., depending on the business case, different HSC can use different blockchains). Subsequently, and depending on the business case, other entities – the **Participants** - (an organization, a person, a software system) can in the problem-solving framework by declaring their contribution (typically, information such as quantity of goods, effort, etc.) on the same blockchain. It is important to notice that both Master and Participants rely on the mining process of the underlying blockchain, that guarantees **integrity of the data.**

Public key cryptography can ensure secrecy and authenticity of communications. After a certain amount of time, the Master will activate a specific HSC by transferring a well-defined amount of **ORS tokens** (again, each HSC will make its terms of use publicly available). When the transfer of cryptocurrency occurs, the HSC reads from the blockchain all the data related to that problem-solving request and 'calls' the relevant Hypersmart Solution available on the Platform. After the computation, the resulting information is written back on the blockchain and is available to both the Master and the Participants. Further steps may involve the same HSC with a different parameterization and problem request or may rely on an additional HSC.

"UML The Unified Modeling Language (UML) is a general-purpose, developmental, modeling language in the field of software engineering, that is intended to provide a standard way to visualize the design of a system" (source: https://en.wikipedia.org/wiki/Unified_Modeling_Language)

By acting as a liaison between the **on-chain and the off-chain worlds,** Hypersmart Contracts are set to deliver major improvements against current limitations of smart contracts and will help to achieve the following **major benefits** for users (both established businesses and **innovative blockchain projects** from the Crypto Community):

- The flexible architecture of the ORS Platform will allow **dynamic usage of Big Data** (both from businesses ERP systems and from external/public databases).

- Managing properly the **stochastic conditions** under which almost all B2B and B2C transac tions occur.

- Allowing the **fast and powerful computation** required by the modern complexity of value chains and by the use of A.I. algorithms.

- **Open source and API-based coding** shall enable third parties' certified offering of innovative Hypersmart Contracts and solutions.

- Near-instant value chains ('productivity/efficiency **singularity**').

- De facto elimination of '**last mile' inefficiencies** in business transactions, due to cumbersome management of information and documents, and slow traditional processing of bookkeeping and payment procedures.

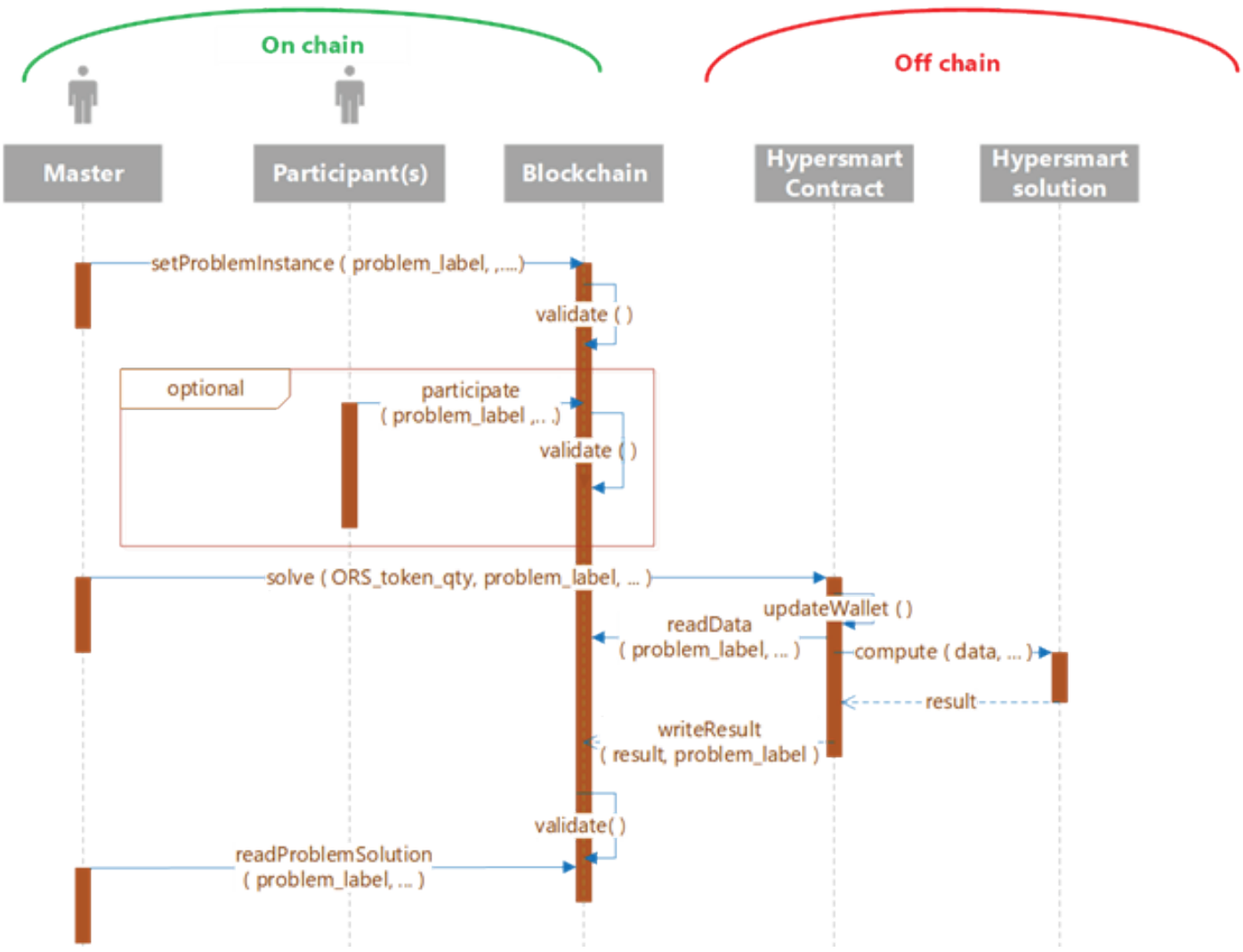


Figure 3. ORS Hypersmart Contract: the general use case

4. The starting point: ORS GROUP solutions based on Hypersmart Algorithms and the RAMS 4.0 Platform architecture

ORS SA has its registered office in Lugano, Switzerland and is one of the sister entities of the ORS GROUP software companies (the **'ORS GROUP'**). With over 20 years of software development experience, ORS GROUP is a pioneer in A.I Algorithms and provides optimization software solutions (a.k.a. Hypersmart Solutions), which model the underlying business processes and take decisions in an automated manner for Fortune 2000 companies. The solutions cover all the relevant business processes of value chains (from production and supply chain, to sales & marketing) across a host of industries. While it is not the object of this document to delve into the details of the ORS GROUP Hypersmart Solutions, the reader can see them in Figure 4 and obtain additional information from the website (https://www.ors.ai/index.php/en/).

With Hypersmart Contracts, over **1,000 proprietary A.I. Algorithms** and related software solutions, all easily pluggable, are made **available to developers and entrepreneurs** worldwide, especially from the **Blockchain/Crypto Community.** Such a modular software ecosystem, which is the core of the ORS GROUP platform (the **'RAMS 4.0'** Platform) , will constitute the base of the ORS SA Platform for Hypersmart Contracts, A.I. Algorithms and solutions and other digital assets. Figure 5 shows a high-level view of the current RAMS 4.0 architecture.

Starting from the bottom, we observe that several data acquisition modules have been developed, which allow the extraction of petabytes of data from heterogeneous sources: ERP systems, legacy frameworks, open data portals and streams, social networks; currently, **more than 50 different API-plugins** have been developed to connect with **several data sources** and feed a data lake based on **Hadoop** technology. Following the figure towards the top, the data are extracted – dynamically and on demand - from the data lake and organized on multi-dimensional structures, called cubes. The **cubes** are the data structures from which the ORS Hypersmart Contracts and Solutions will retrieve data (in the figure are represented only a few of them, which are all web-based applications).

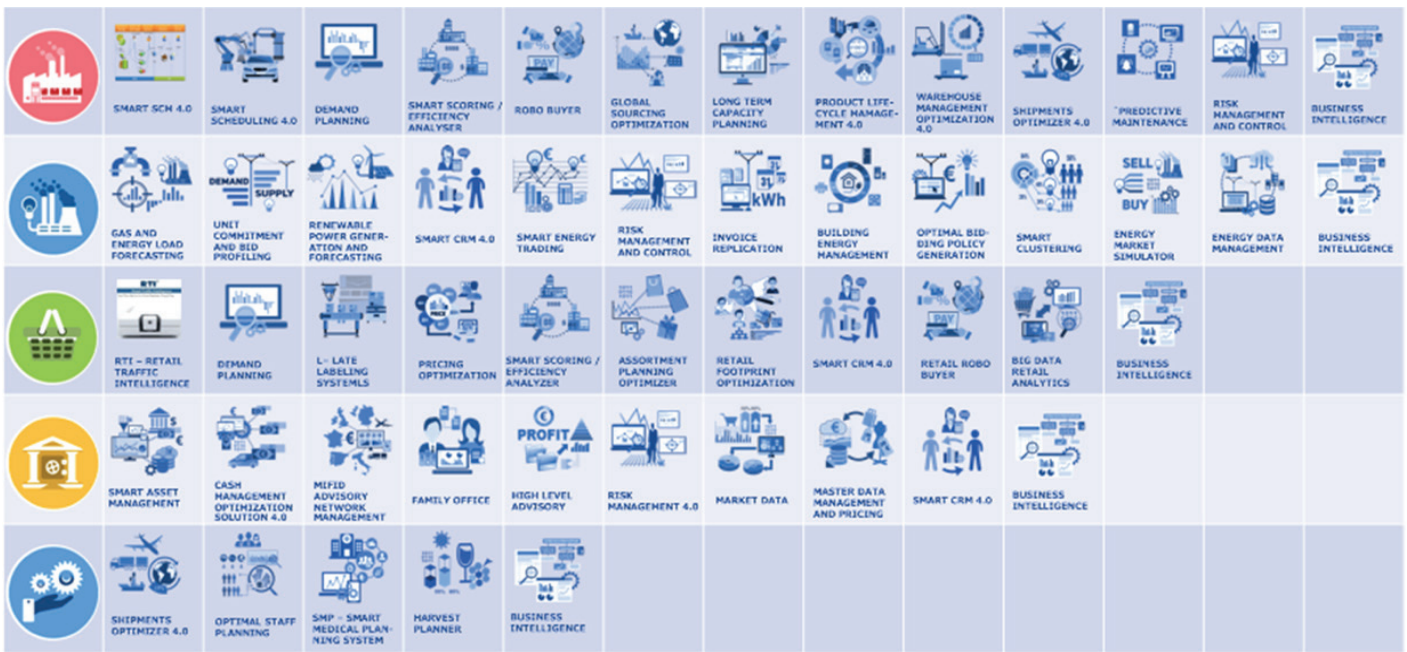


Figure 4. The current landscape of ORS A.I. Algorithms that will be harnessed by Hypersmart Contracts

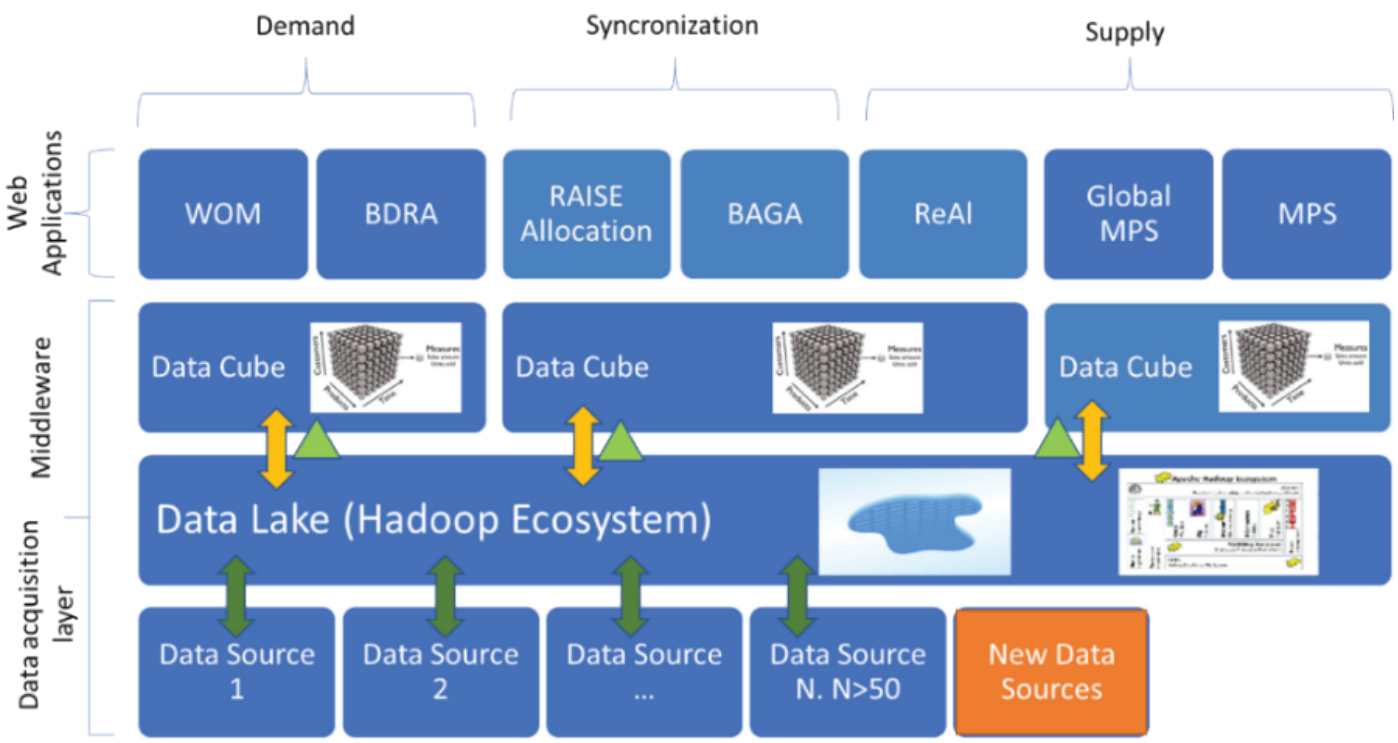


Figure 5. High level view of the RAMS 4.0 architecture

RAMS stands for Risk and Asset Management Studio

Figure 6 contains a **logical view of the same architecture**: it shows how the RAMS 4.0 Platform 'looks' at businesses/value chains like a set of assets (logistics, production, customers, etc.) with associated performances and risks. **Increasing performance and reducing risks** require **optimization,** which the RAMS 4.0 platform achieves through cutting-edge scientific libraries of algorithms.

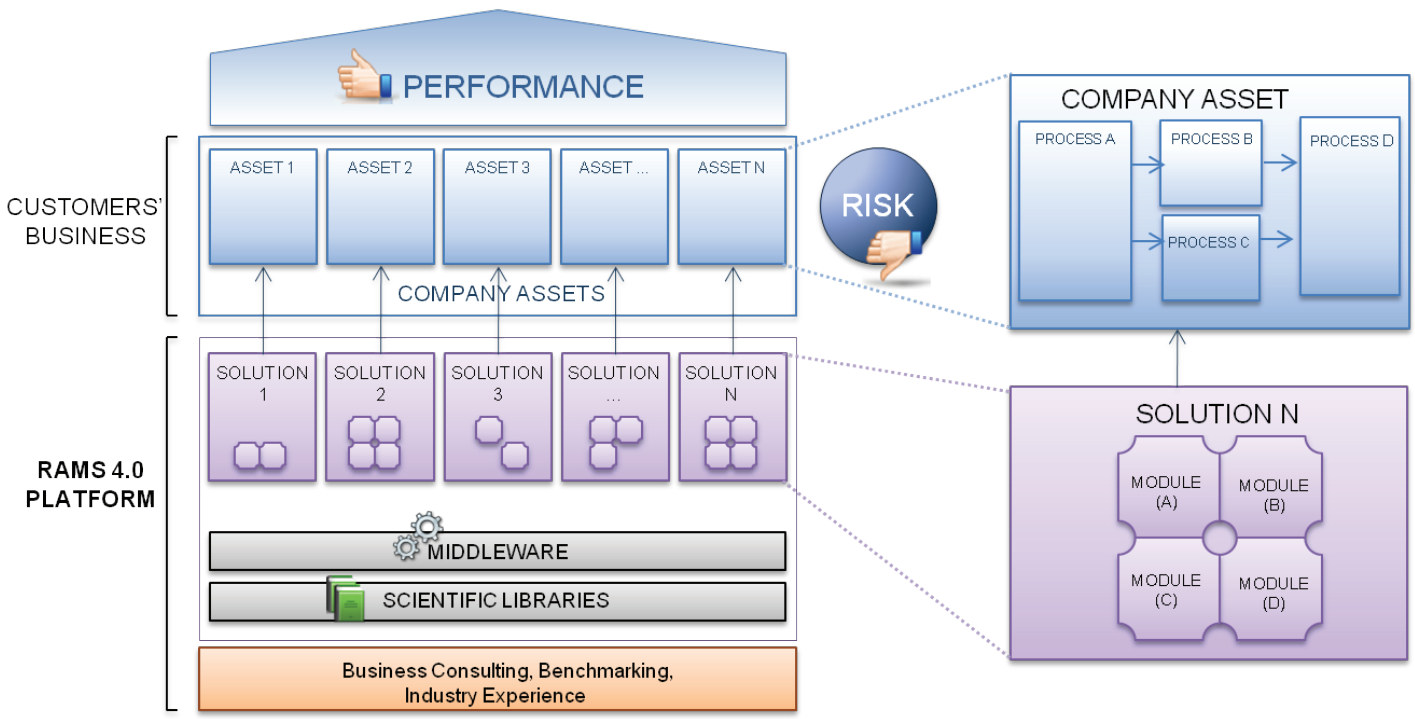


Figure 6. Logical view of the RAMS 4.0 architecture

5. The Platform and the Utility Token

The **ORS Utility Token** (the **'ORST'**) is an Ethereum based token compliant with the **ERC 20** standard (see Section 6.5 for token details). The ORST is used for buying and selling Hypersmart Contracts, A.I. Algorithms and Solutions and other digital assets (together, the **'Platform Services'**) on the ORS SA **Platform & Marketplace** (the **'Platform'**) and to activate such Platform Services (both ORS' ones and **certified third parties'** ones).

5.1 *The Marketplace*

The marketplace is the part of the Platform for buying and selling the Platform Services (Hypersmart Contracts, A.I. Algorithms and Solutions and other digital assets), while the platform component is the ORS SA's open (to third parties) and HSC-based version of the RAMS 4.0 architecture created by ORS GROUP. The first Hypersmart Contracts will be created and published by ORS SA, thanks to the **vast library of A.I. Algorithms** existing at ORS GROUP, so that **established businesses and new blockchain projects** can **immediately take advantage** of all the already existing algorithms and related software solutions. At operating speed, the Platform will also host third-parties' certified HSC and A.I. Algorithms: the certification process by ORS SA will ensure that the minimum level of quality is matched, predominantly - but not solely - on security and reliability. The Platform is designed to host not merely Hypersmart Contracts, but in addition a wider range of **digital assets,** such as:

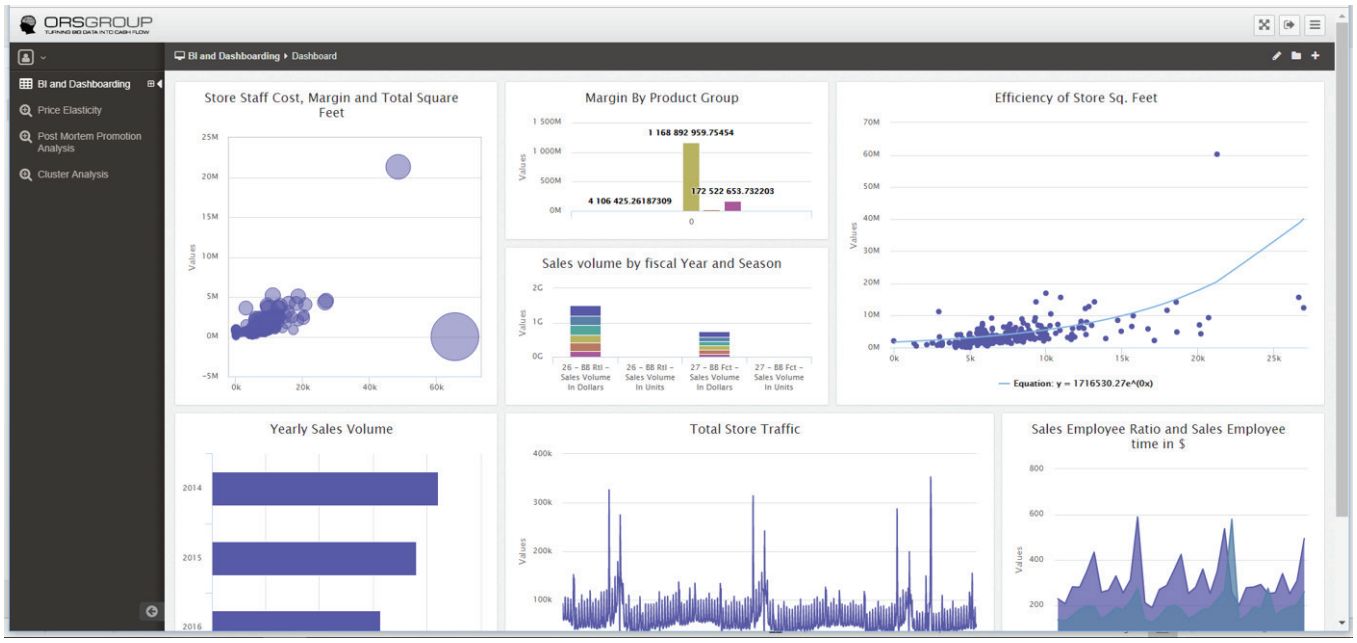
- **Algorithms & related Software Solutions** will be hosted on special virtual machines, created on demand, and scalable, to solve specific optimization problems. Since data is 'raw' and algorithms work on conventional exposed data, tools for declaring the shape of the original data source and transform them as needed by the algorithms are needed and tradable too.

- **Data:** ORS GROUP already handles a huge amount of proprietary and public business data in 'raw' form. Portions of such data can be exposed to the market, so that customers can buy and import such portions in their own data lake (with provided ETL functions). It will also be possible to register external data sources and the streams to collect such data: streams move and convert data to the data lakes of customers, who could use or even trade the data on the market place.

In addition to algorithms and access to data, the Platform shall offer a variety of **data services,** starting from: ,

- **ISO-compliant data quality and cleansing:** in the Big Data world, quality of data is of extreme importance. The ISO/IEC standards on software data quality modelling (ISO/IEC 25012) and measurement (ISO/IEC 25024) define 15 quality characteristics and 63 metrics to measure them. **The ORS GROUP, contributor to the technical commission** that steered the work on the ISO standards on data quality, will offer through the Platform a service to check datasets against those ISO quality dimensions that are sensitive to the customers business cases.

- **Business Intelligence ('BI') Dashboards and Reporting:** all existing Hypersmart Solutions include a BI dashboard designed with state of the art User Experience methodologies, which allow easy access to and provide a quick, holistic view of all Key Performance Indicators ('KPI') (see some examples in Figure 7). The panel is dynamic: pivot graphs, counters, grids, alerts, can be added on the fly to the visualization panel. Furthermore, KPIs can be custom ized by composition of basic metrics, and multidimensional data structures are created with zero latency. Dashboards permit the analysis of the demand (know what you are required to do), resources (know what your capabilities are), to model and decide (drive your decision model for taking optimal options) and be alerted to anomalies in the data.



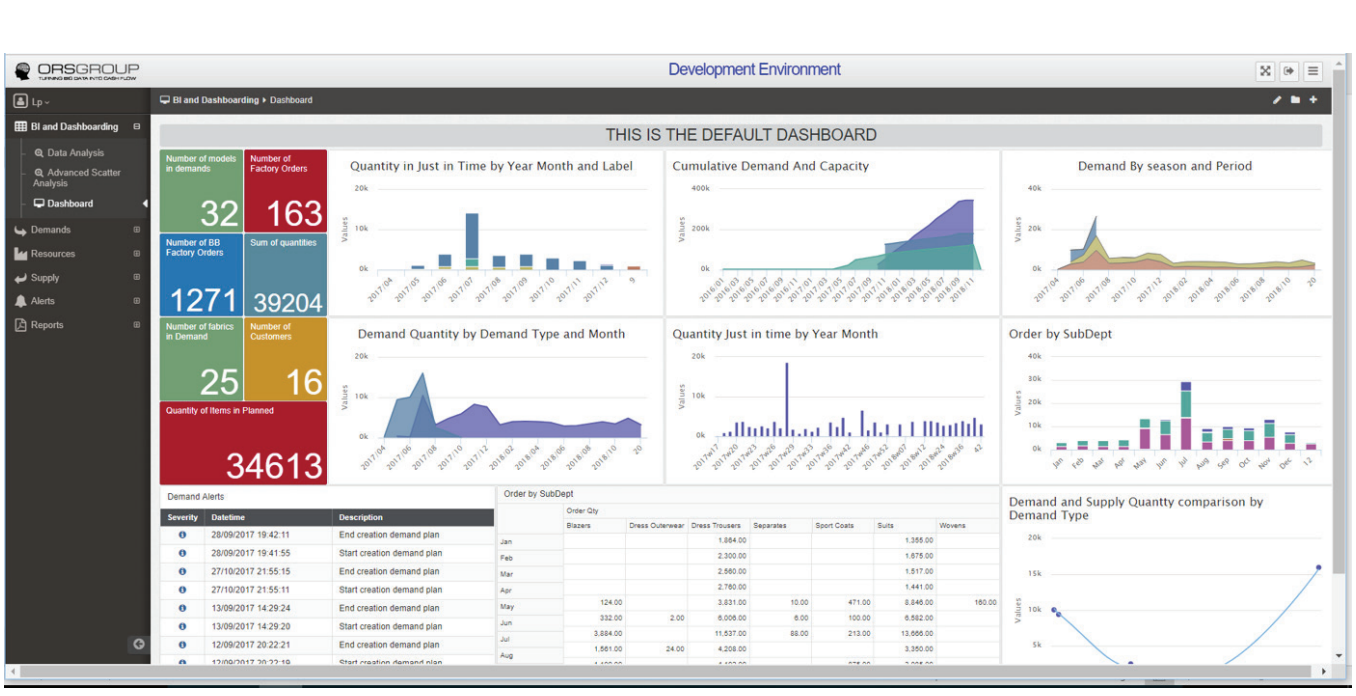


Figure 7. Typical ORS dashboards

See ISO 25012 at https://www.iso.org/standard/35736.html and ISO 25024 at https://www.iso.org/standard/35749.html
See http://www.uninfo.it/index.php/partecipare/aree/category/uninfo-sc07 (in Italian)

6. Hypersmart Contracts: first use cases

This section hosts a collection of first use cases of Hypersmart Contracts in decentralized and trustless parts of value chains.

6.1 *Use Case 1- Reverse auction in supply chains*

A reverse auction (also known as a procurement auction) is a process where a producer (the Master) seeks new suppliers (the Participants) through a dynamic bidding process. The general procedure is the following one:

- A request for proposal (**RFP**) is issued (usually via a market maker or on the buyer's website) on the reverse auction site, for a group of products or services. The RFP is open for a specific time, depending on the buyer's needs and on the type of products/services.

- Interested suppliers contact the market maker (or visit the buyer's website) and place their offers (quantities, prices, delivery times, etc.).

- The buyer then awards the supply contract(s) to the winning bidder(s).

A reverse auction mechanism is useful because it normally reduces the price of the goods/services to be purchased. There is an on-going competition among suppliers for securing tenders which pushes the suppliers to submit compelling offers and maximize their winning probability. However, from the perspective of the offeror issuing the tender request, **choosing the cheapest bid is not equivalent to making the best possible choice as a whole.** Multi-facet parameters ought to be considered: for example, the quality of the bidder services (declared, inferred or measured), all other relevant terms and conditions of the offer, the capacity constraints of the suppliers, the risk of non-fulfillment or of delayed delivery, etc.

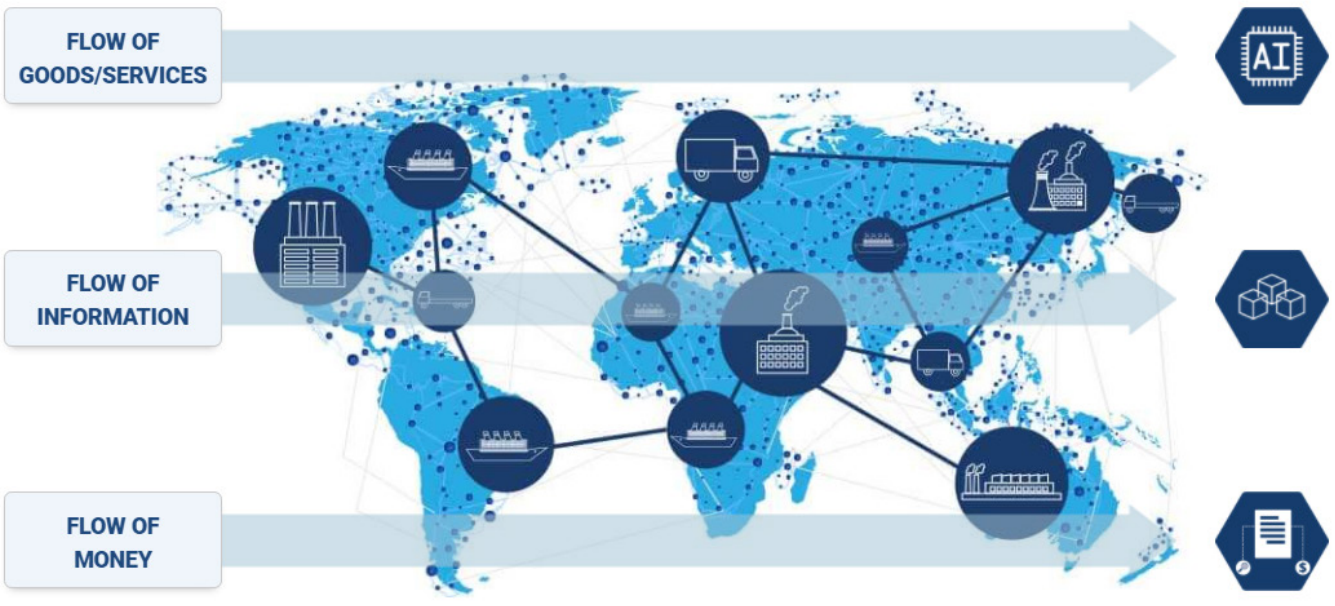


Figure 8. Hypersmart Contracts as integration of A.I. & Blockchain technologies for maximally optimizing supply chain

These criteria need to be considered to avoid or at least reduce 'hidden costs': wrong planning decisions, inefficiencies in production and in other processes of the buyer's value chain, sale losses, lower customer retention and many others. Including all such complex criteria for making an optimal choice in a reverse auction process is not an easy task: given the tremendously high complexity of modern business, it is common to have to **compute thousands of variables** as well as several conflicting goals and constraints.

To solve such a problem, it is necessary to use **big data optimization techniques and algorithms** that leverage on the latest findings in artificial intelligence and related fields. For example, a current ORS GROUP **Hypersmart Solution** optimally generates the distribution plans throughout a complex supply chain network by **solving hundreds of thousands of optimization problems** (each entailing up to 100 million variables) **in seconds.** The availability of **Blockchain** technologies adds now the possibility of **automatic execution of such Hypersmart Solution in a decentralized and untrusted environment,** both in domestic and cross-border trades, eliminating the related paperwork and bureaucracy.

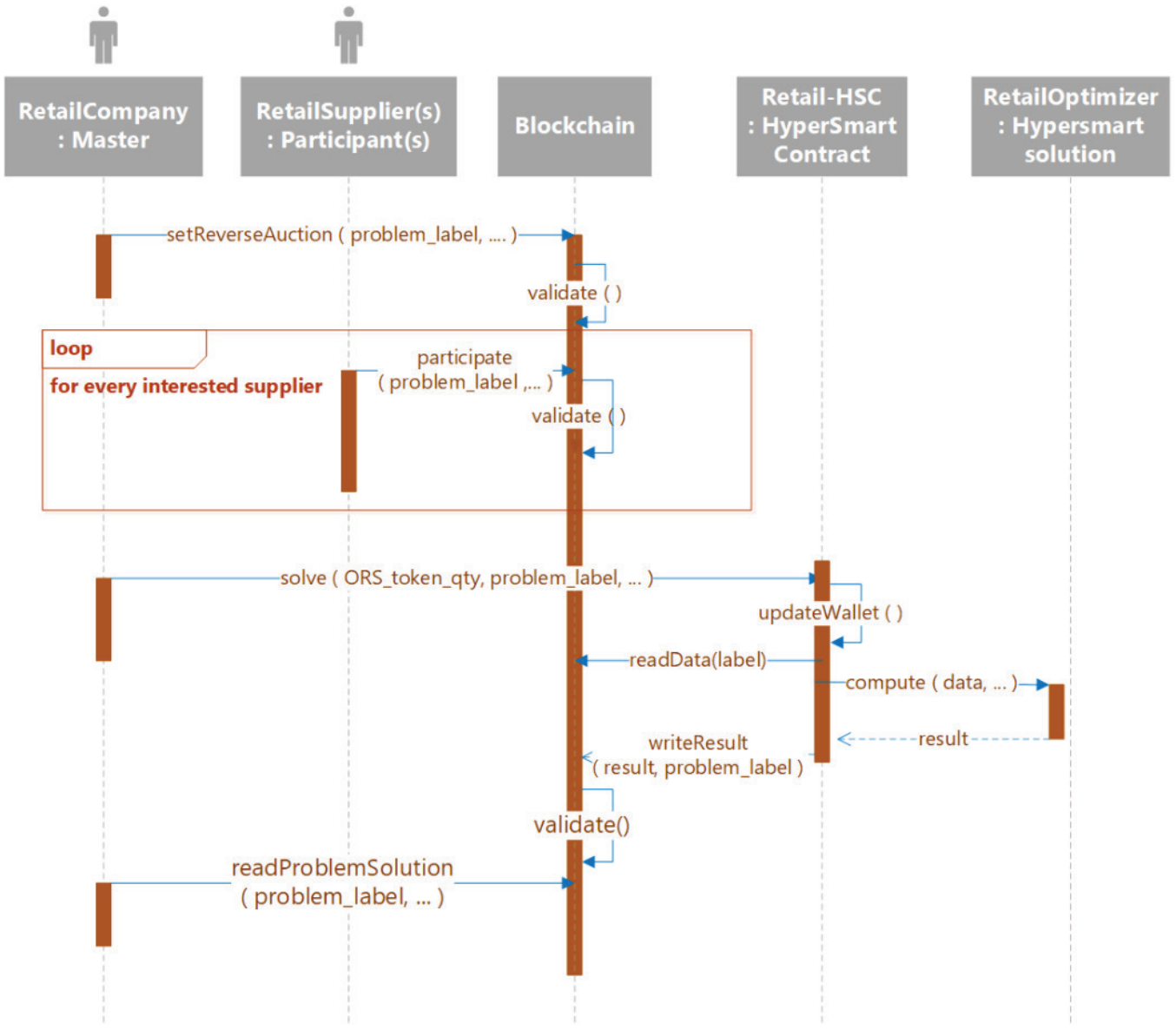


Figure 9 The use of Hypersmart contracts in the reverse auction case in supply chain

The **UML sequence diagram** in Figure 9 depicts how Hypersmart Contracts can be used in the supply chain reverse auction. The process represented in the figure is a specialization of the general use case illustrated in Figure 3: the Master is the buyer that sends to the distributed ledger the request for bids, thus initiating the reverse auction process (in the diagram we imagined a retail company, however it can be applied to many other sectors). The request is uniquely identifiable through a label. Potential suppliers (the Participants) monitor the ledger, and when a new request appears, if interested, they can respond by sending their offer to the same distributed ledger: the format of the request and the necessary parameters are specified upfront, while public key encryption offers a solid mechanism for ensuring confidentiality. The blockchain mining process guarantees integrity of the information provided by both Master and Participants. As in the traditional auction process, after a specified amount of time, the Master needs to check the offers and to opt for the best (i.e. optimized) solution: here is where the Hypersmart Contracts play a role.

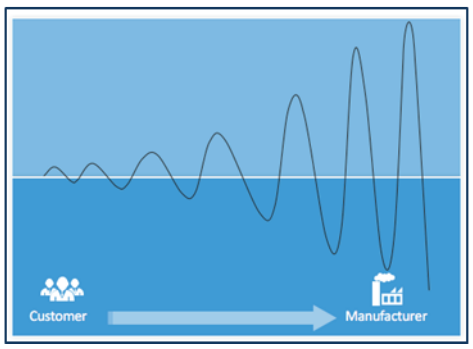
When the set time expires, all the Master has to do is to execute **a payment transaction of n ORST to the specific Hypersmart Contract handling the reverse auction process.** Upon the reception of the payment in ORST (that occurs real time also in case of trans-continental payments, differently from traditional payment systems), the HSC will retrieve the information related to that specific request from the Blockchain and pass them to the ***off-chain*** **Hypersmart Solution** containing the dedicated algorithms for solving the optimization problem; **the result of the complex bidding optimization problem is then written back on the ledger:** as for the general HSC behavior, **sensitive information** on the blockchain is encrypted and accessible only for the HSC and Master via the standard public-key infrastructure. The following steps can involve again the same HSC (differently parameterized) and/or other ones.

The use of Hypersmart Contracts in reverse auctions provides several **benefits**, both for buyers and sellers. Firstly, using the Blockchain as an information layer permits a **much broader set of suppliers to participate** in the proposal (no pre-selection of vendors is needed): the expected result is a more dynamic competition and lower prices. Secondly, the HSC permits a **fully automated auction**, saving a relevant amount of time in the final selection process. Lastly, the format of the proposals sent to the Blockchain and gathered by the HSC allows not only an easier and instantaneous direct comparison, but also to specify through parameters a **large set of business constraints** and to select the bidder(s) through optimization: as a matter of fact, the current ORS Hypersmart Solutions named RAISE **automatically solves in less than 30 minutes over 80,000 network flow problems, some of which have >100M variables** (achieving for a large international manufacturing and retail company the following results: -50% in inventories, -25% back orders, -50% goods movements, near to zero out of stock; all together accounting for **€ 150M in yearly savings**).

6.2 *Use Case 2- Demand planning*

Demand planning is affected by a notorious problem: **forecast inaccuracies** cost billions every year to almost all complex value chains, mostly due to **information asymmetries among the participants** (see Figure 10). At ORS GROUP, we are already solving this problem with Hypersmart Solutions that produce and harmonize independent forecasts at different hierarchies. The demand planning HSC shall link the **Blockchain-based collaborative information sharing** possibility to the off-chain artificial intelligence of Hypersmart Solutions, creating a **fast collaborative, consensus-based forecast process aiming at improving forecast accuracy for all participants** throughout the chain. Participation is fostered by the issuance of **crypto-rewards** to participants sharing both valuable and accurate information (the verification is automatically performed by specific HSC). **Public key cryptography ensures that information is visible only to the HSC.** Figure 11 shows how the process works:

- **Information sharing** for collaborative demand and supply planning is obtained through the Blockchain
- **Cryptocurrency payments** are to be released as a **reward** for information (including estimates) sharing, accu racy and utility
- **A.I. Algorithms** compute the fore casts, automatically exchange data with ERP systems, discover informa tion incongruencies and inconsisten cies and in general **reduce forecast errors** and therefore save money to all participants of the value chain
- The Hypersmart Contract 'buys' the computational services of the algo rithms and delivers both the results as well as it releases crypto reward payments to some participants



The Forrester effect
Decreasing forecast accuracy upstream the supply chain causes swings (like a *bullwhip*) and imbalances in inventories.
Reducing forecast statistical errors become mission critical to reduce inefficiencies.

Figure 10. The consequences of information asymmetries along complex value chains

The **first reward** (participation reward) is given to all the participants willing to share proprietary information, since their data is valuable for improving demand and supply forecast accuracy. The **second reward** is given if certain (computed) information quality and utility criteria are met.

*** n is defined upfront, as for every communication specification
**** http://www.ors.it/index.php/de/30-ors-de/company/stories/258-raise-the-scm-optimizer

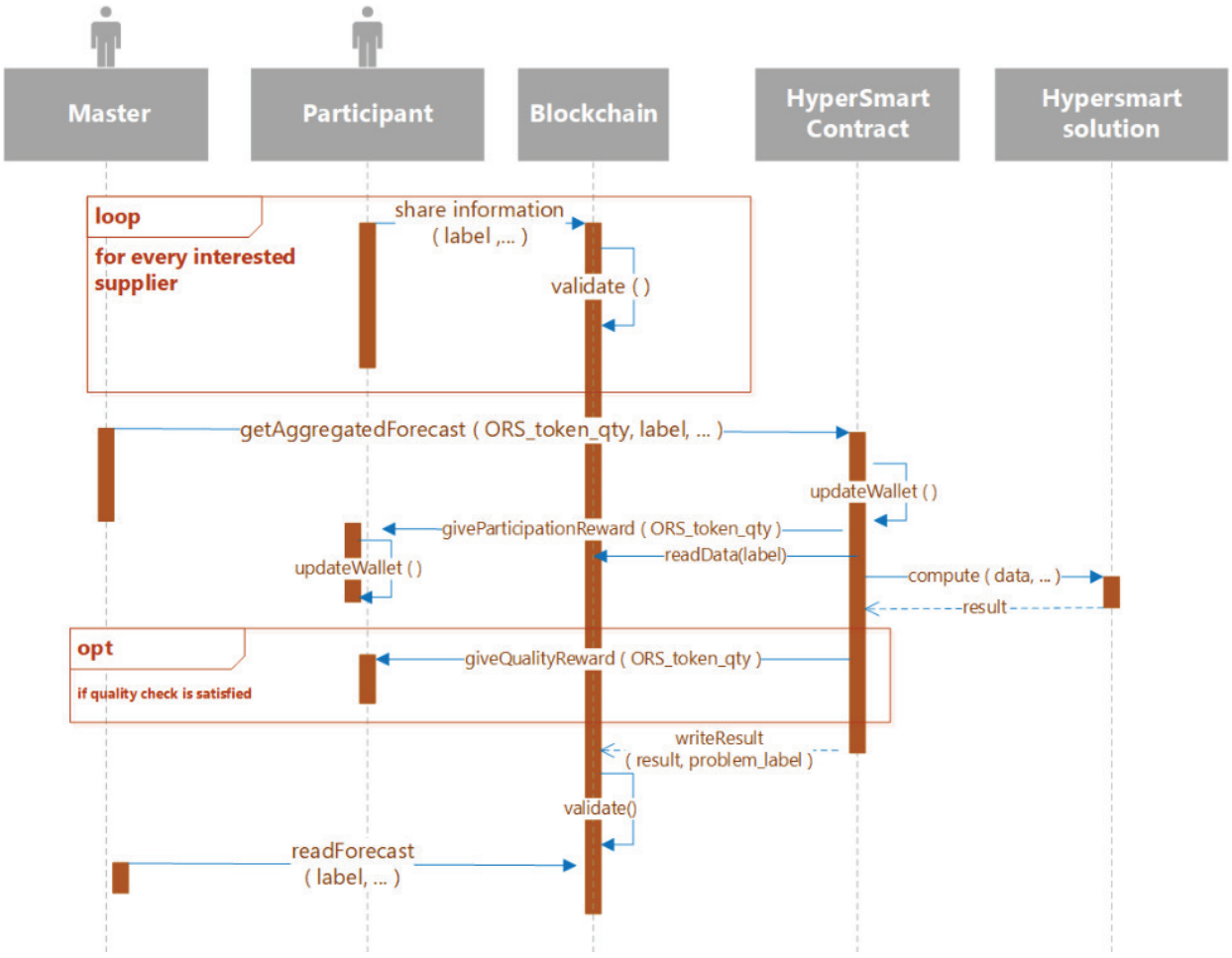


Figure 11. The demand planning case with a rewarding scheme

6.3 *Use Case 3- The Buy Anything Get Anywhere (BAGA™) use case with permissioned blockchain*

Optimal store inventory sizing is a well-known issue in the **retail & fashion business:** the dilemma of stocking the right mix and quantity of products, including customized Stock Keeping Units (SKU, a product and service identification code for a store or product), is non-trivial. When **customers** visit either the online sale channel or the brick-and-mortar stores and they **don't find the goods** they would like to buy, two major problems occur: (i) Loss of revenues (ii) Customer retention and customer satisfaction are likely lowered. Excess inventories would be the easiest countermeasure, however this dramatically reduces profitability.

The B**AGA™ Hypersmart Solution** solves this problem by **optimally balancing out multiple variables and constraints to ensure fulfilment while maximizing margins.** Whenever a customer wishes to buy an item not immediately available at her channel of choice (store or online shop), BAGA™ finds that item at nearby stores or distribution centers and automatically initiates order fulfilment to reduce 'lost sales'. Using BAGA™, retailers are able to rapidly serve customer requests while ensuring all the operational and financial constraints are met and thus optimize profitability. BAGA™ uses a **complex non-linear optimization function** which is unique for every single item requested by customers. The A.I. Algorithms solving the problem are executed in a scalable software environment, ensuring **real-time response.**

Figure 14 shows how the BAGA™ Hypersmart Solution is activated by a corresponding **Hypersmart Contract,** which uses a **permissioned blockchain as a shared (and decentralized) information layer.** The first step in the UML sequence diagram is the setting of constraints: using a **very intuitive user interface,** managers can easily set up various business constraints. A few examples of constraints that can be set up through the User Interface are:

- Distribution center (DC) vs store priority: if for a certain requesting store "A" this constraint is set to "DC", then the most convenient Distribution Center (DC) will be chosen even if picking from another store in the network would be better. This might be necessary, for example, to accelerate DC clearing before the new collections are stocked.
- Quarantine of new products: Excluding new products - for a certain amount of time - might be useful to observe the new products sales trends.
- Stores to be excluded: Top sales stores with high product volatility may justify the need to exclude a store from the fulfilment network.

The constraints are specified via graphical interface and then sent to the blockchain as pairs of keys-values. Please notice that the information stored in the blockchain includes also inventory quantities for each item and location: such a task is easily automatized and permits the riddance of centralized inventory systems. For the sake of simplicity, in Figure 14 inventory setting is not represented, while the setting of business constraints is placed at the beginning of the use case: however, the reader should keep in mind that they are modifiable at any moment by the users (Figure 12 shows that no technical knowledge is involved for defining business constraints through the dashboard commands).

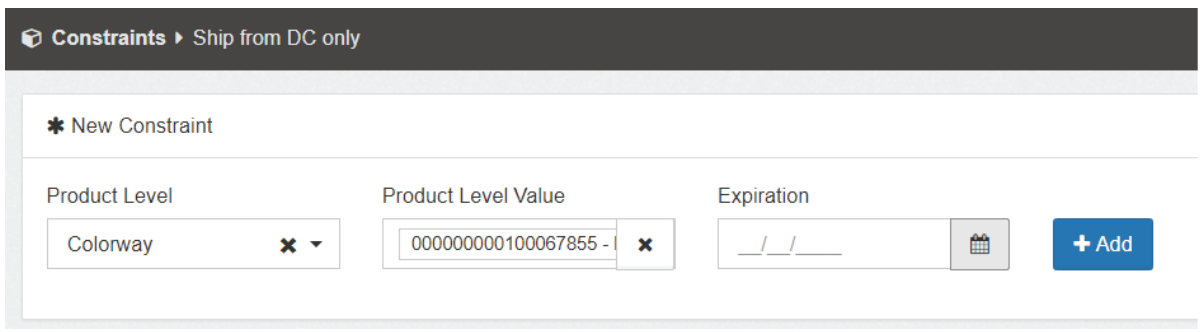


Figure 12. Setting up business constraints in BAGA

The second step in the diagram is the item request made by a shop clerk when a customer needs a product with specific characteristics (e.g., a certain combination of size and color) that is not available at the shop. The request is raised via graphical interface, and initiates the BAGA™-Hypersmart Contract, after the automatic payment of a specified amount of **ORST.** Once activated, the BAGA™-HSC will notify all the participants of the network (i.e., distribution centers and shops) about the item requested: this is done by putting such information on the blockchain, while a program on the DCs/shops frontend monitors that blockchain. The request usually must be satisfied in real time, however there are also cases in which such requirement is not necessary: the diagram encompasses both cases.

In the first option (real time answer), when an item request is received by the BAGA™-HSC, the BAGA™ Hypersmart Solution on the Platform is immediately activated: the constraints (regardless of their number) are retrieved by the BAGA™-HSC from the blockchain, passed to the BAGA™ Hypersmart Solution and checked to determine whether the request is satisfiable; in positive case, a first list of eligible locations is created. Then the list is further reduced by excluding the locations not having enough stock (also considering the minimum stock threshold, if applicable). Once the new list of eligible source locations is defined, the most convenient location is selected from an expected net profitability perspective.

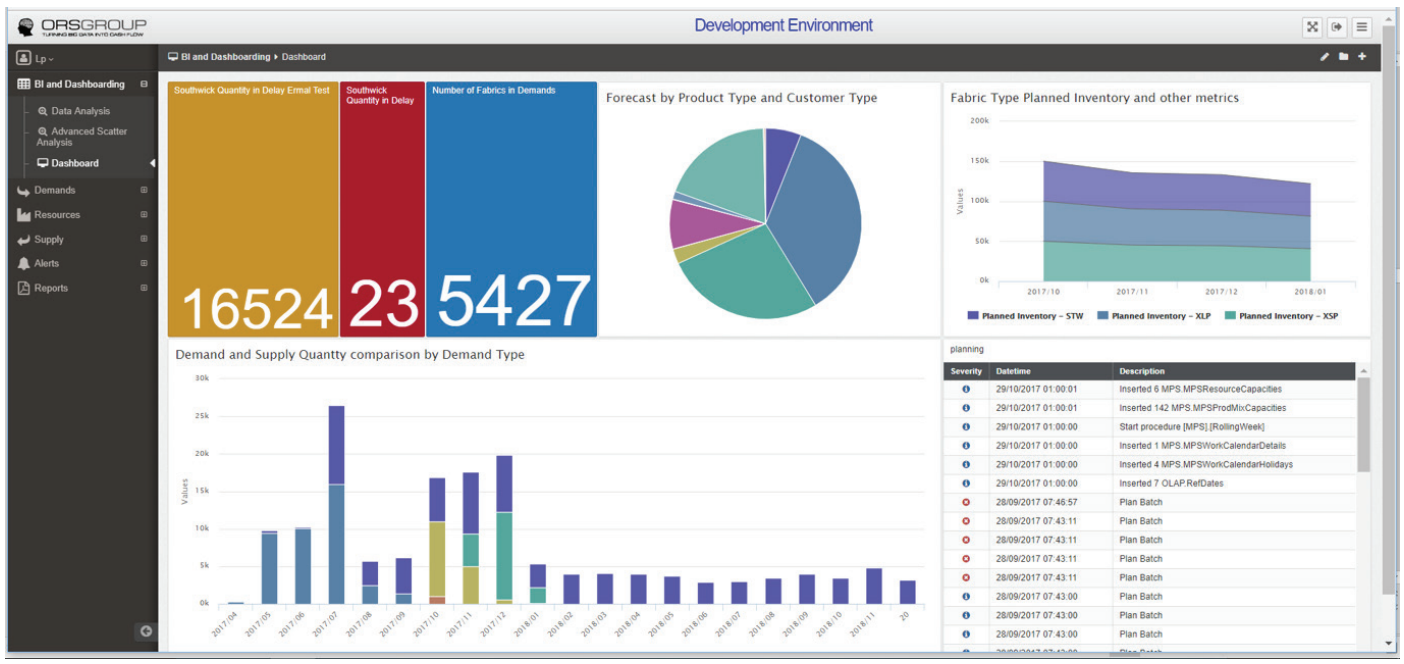


Figure 13. BAGA BI dashboard is configurable through plug and play addons

It is worthwhile mentioning that the optimization made by the BAGA™ A.I. Algorithms takes also into account the expected daily sales, inferred by analyzing the log (on the blockchain) of historical operations, with very high granularity: daily expected sales are calculated for each store, class and type, for each month. The forecast engine is programmed with Smart Strategies to adapt to the different contexts; for example, adjustment towards previous seasons is automatically made: if new predictions are significantly higher (or lower) than previous season results, all the predictions are reduced (or respectively increased).

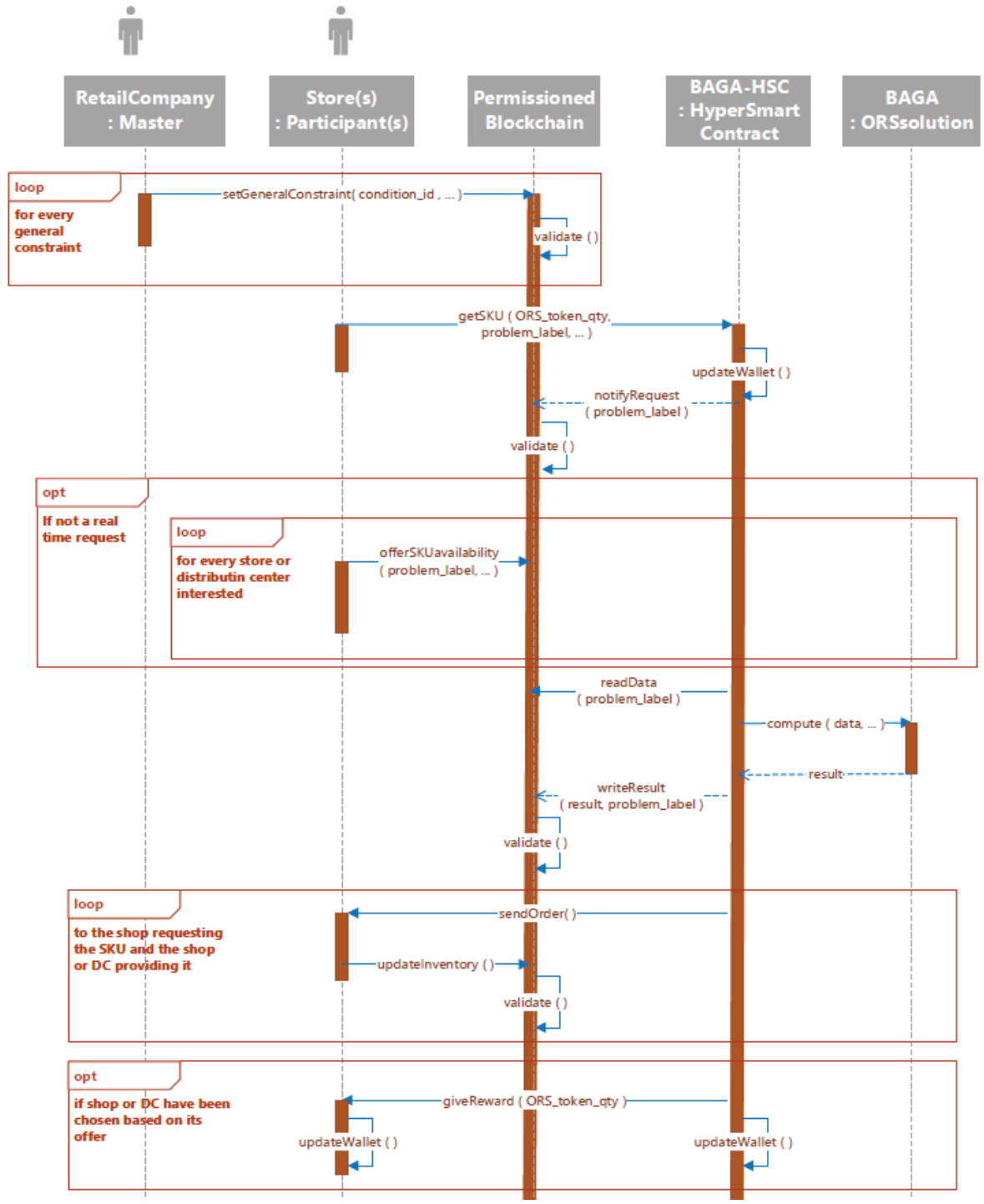


Figure 14. The BAGA Hypersmart contract

The inclusion of the expected daily sales does not prevent BAGA™ finding the optimal solution in real-time.
The second option represents situations in which a real-time answer is not necessary. Imagine, for example, a business customer who wants to change in the next three months all the uniforms in her company: she chooses items in several combinations, and not all of them are available in that moment at the shop. In such a situation, the BAGA™-HSC can work in a slightly different way. The steps in the optional boxes of Figure 14 of the diagram refer to this case: after the request is received by the BAGA™-HSC and all the participants are notified by monitoring the blockchain, there is a time window in which the participants can proactively offer to provide the items requested by specifying delivery time and additional parameters.

This is done by **sending the offer to the distributed ledger.** At the elapse of the time window, the BAGA™-HSC retrieves the offers from the blockchain. The offers collected will be included (and, potentially, prioritized) by the BAGA™ Hypersmart Solution. If one (or more) offer is selected as an acceptable solution, **the participant will be rewarded with a certain amount of ORST.** In both urgent and not-urgent requests, the selected participant receives the order to ship the item, while all notifications (including inventory updates) are sent to the blockchain.

The use of the ORS HSC in conjunction with the blockchain fosters **higher participation between shops/distribution centers,** with respect to the current BAGA™ Hypersmart Solution; it also **provides additional data** to improve the precision of the BAGA™ A.I. Algorithms with more detailed and updated information on the demand curve, retrievable from the blockchain. An additional and remarkable advantage of using the BAGA™-HSC in combination with the distribution ledger, is the **possibility for independent third parties -such as franchise companies- to participate in the SKU provision call with their offer:** in fact, the **blockchain guarantees data certification** even in an untrusted environment, **while the off-chain intelligence of HSC ensures optimal profitability and service level.**

We conclude remarking that the BAGA™ Hypersmart Solution includes a BI dashboard, designed with state of the art User Experience methodologies, which allows to get a quick, holistic view of all KPIs (see Figure 13). The panel is dynamic: pivot graphs, counters, grids, alerts, can be added on the fly to the visualization panel. Furthermore, KPIs can be customized by composing basic metrics, and multidimensional data structures are created with zero latency.

6.4 *Blockchain types*

Hypersmart Contracts are **blockchain agnostic:** each business case requires a careful analysis of which blockchain infrastructure and typology (e.g., permissions, consensus mechanism) should be used as an information layer. The reason lies in the fact that Hypersmart Solutions cover a very wide range of application fields (energy, finance, retail, industry 4.0, logistics, etc.) and domain requirements are so disparate that no unique silver bullet works for all of them. Initial reference points are Ethereum (Buterin, 2014) for the permission-less blockchains and Hyperledger Fabric (Cachin, 2016) for permissioned ones. Further blockchain solutions might be considered on a case by case logic, including experimental developments - such as the Lightning Network (Poon & Dryja, 2016) that proposes off-chain transactions to overcome the blockchain scalability issues (Conoscenti, Vetrò, & De Martin, 2017).

6.5 *The ORS Token*

The ORS Utility Token (the **'ORST'**) is an Ethereum based token compliant with the **ERC20 standard.** It is the means of transacting within the ORS Platform. ORS decided to use its own native token instead of using an already existing cryptocurrency (e.g., Bitcoin, Litecoin, Zcash, Ether, etc.) to create a specific marketplace for HSC and for all other Platform Services to be offered to established businesses and to the **Crypto Community.** The use of Ethereum as the coin backbone allows a scalable transaction infrastructure with international access: the Platform is designed to foster smooth micro transactions for buying modular, computationally complex services (the HSC and the related A.I. Algorithms and Solutions, etc.). The use of a native token will incentivize companies and the Crypto Community to join the Platform for both buying and selling the Services and will also **help developers and scientists worldwide to monetize their talent and knowledge.** In addition, the ORS Utility Token will be used as a reward and complement to remuneration for developers and affiliates, in order to engage them and improve their commitment towards the project. With such characteristics, the ORST can attract several typologies of buyers:

- Established Businesses: Buying A.I.-based HSC for **optimizing** all flows (goods/services; information; payments) of key processes of their **value chains**
- Developers and scientists: buying and using HSC, A.I. Algorithms and Solutions, etc. to devel op high **competitive business models**; selling and **monetizing** own HSC and **algorithms**
- Innovators in Blockchain/Ethereum projects: Buying the Platform Services for **differentiating** own blockchain / Ethereum **projects; selling** innovative projects to **Fortune 2000** already served by the ORS GROUP

The ORST does not have the legal qualification as a security, since it does not give any rights on dividends or interest. The ORST is final and non-refundable. The ORST is not a share and does not give any right to participate in the general meetings of the Company. The ORST cannot have a performance or a particular value outside the ORS Platform.
After the ORST are used the first time to buy products and services offered on the ORS Platform, part of the ORST will be gradually reintroduced to the market, in order to sustain the liquidity of the tokens.

See http://www.ors.it/index.php/en/solutions
Off chain transactions represent one of the main solutions proposed to the well-known blockchain scalability problem, especially relevant in data-intensive applications (Conoscenti, Vetrò, & De Martin, 2017)
https://theethereum.wiki/w/index.php/ERC20_Token_Standard

7. Development and business roadmap

The development of the ORS Hypersmart Contracts, which include the corresponding A.I. Algorithms and/or Solutions, and the development of the Platform will follow an iterative-**incremental process,** with the significant **advantage** that the **starting point** is the existing and running ORS GROUP RAMS 4.0 platform as well as over 1,000 A.I. Algorithms and over 100 software solutions for optimizing value chains. The planned roadmap is represented in Figure 15 . The initial development (**Phase 1**) step will produce the first Hypersmart Contracts and base functionalities of the marketplace and of the Platform. From the **Phase 2**, third-parties' HSC, algorithms and solutions will be allowed to be hosted (upon successful certification process by ORS), while the development of the Platform will proceed until its **final release in Q1 of 2019 at the latest.**

The long experience at ORS GROUP in developing sophisticated software solutions, including platforms, and delivering them on time to demanding international customers is the best guarantee that the development and business roadmap of the ORS SA Platform for Hypersmart Contracts will be duly and professionally executed, achieving all set goals.

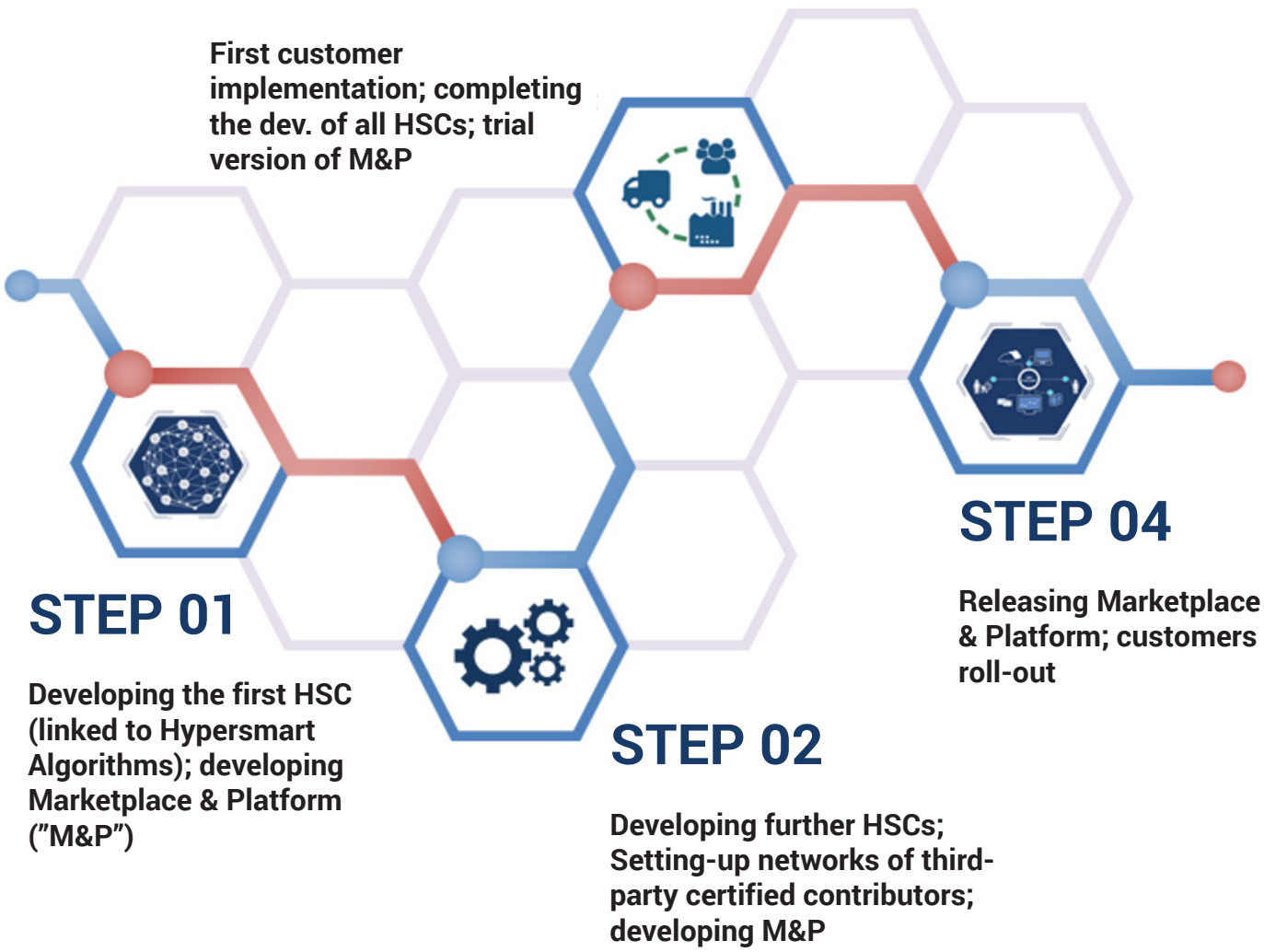


Figure 15. Development and business roadmap

8. ICO token sale summary

Proceeds from the token distribution event shall be used to fund at ORS SA the development – to be carried out by companies of the ORS GROUP - of all Hypersmart Contracts and of the Platform, as well as operations, HR, sales and marketing expenses, G&A and all necessary other expenses and investments. The ORS Token will be the native currency used for functioning and operating on the Platform. In short, the main and only purpose of the ORS Token is to be used as a **utility token to buy** services and products available on the ORS SA Platform.

8.1 *Token sale*

As of today, ORS SA **has already sold** (without any bonus or discount) to High Net Worth Individual (HNWI) a certain amount of ORST equivalent to **€10 million.** The remaining proceeds are to be collected through the Main Token Sale which shall take place within March/ 2018.
A total of **500 million ORS Tokens** will be issued during the Main Token Sale. The ORST will be issued at a price of € 0.05 per token.

There will be **a total of 833,333,333 ORS Tokens** in existence and they will be issued within 3 weeks from the end of the Main Token Sale. Only 60% of the total existing ORST will be available to buyers and any unsold tokens shall be burned at the end of the Main Token Sale.

The exchange rate of Ether to ORST will be set 24 hours prior to the Main Token Sale.

The following table summarizes the details of the ORS Token Sale:

Token Issuer	ORS SA
Total Tokens in existence	833,333,333
Tokens to be sold via the Token sale	500,000,000
Tokens kept by ORS SA	198,412,698 50% of which will have a 12 months lock-up period; the remaining 50% will have a 18 months lock-up period
Tokens available for the Bounty Program	25,000,000
Tokens allocated to advisors	26,587,302
Tokens available for the ORS SA management team, developers and employees	83,333,333
Short name	ORST
Type	ERC20 of Ethereum blockchain
Accepted cryptocurrency and fiat money	Ether
KYC requirement to participate in the Token sale	Yes

Price per ORST (at the Token sale) **The ORS Token sale will be a single sale process without any bonus or discount on price and/or volume**	€0.05 (equivalent price in Ether will be updated shortly before the Token sale)
Estimated Main Token sale	April 28, 9AM CET
Hard cap on the Token Sale	500,000,000
Minimum buying limit	-
Minimum amount to be raised	EUR 5 MILLION

8.2 *Token Sale and use of proceeds*

Funds raised during the contribution period will be used to fund ORS SA's development and distribution of Hypersmart Contracts and of the Platform. The software development and the initial commercial distribution shall be mainly carried out by companies that are part of ORS GROUP together with blockchain developers and project managers who will partner with ORS SA over the period of time. Funds raised shall also be used to finance operations, HR, sales and marketing expenses, G&A and all necessary expenses and investments at ORS SA. The use of proceeds from the ORS Token sale is budgeted here below:

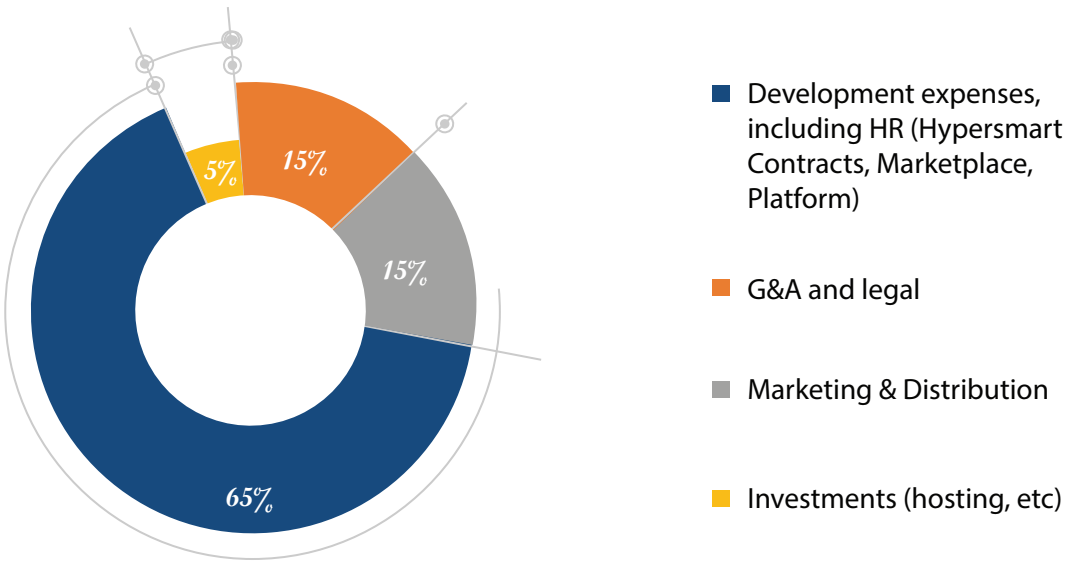


Figure 16. Planned use of proceeds from the ORS Token sale

8.3 *KYC policy*

Even if ORS SA is not to be qualified as a financial intermediary, considering the **established reputation and tradition of transparency** at ORS GROUP, ORS SA is committed to adopting recognized best practices, too. Therefore, the ORS token sale will require KYC (Know Your Customer) protection measures. A KYC form for buyers of the ORST will be available at www.orsgroup.io. The participants to the Token Sale are aware that ORS SA can refuse any payment which is not compliant with the KYC procedure.

9. Expenses and tier level

As the current project is very cost intensive in terms of implementation, ORS SA will only be able to implement certain portion of the project once various levels of funding, mentioned herein below are achieved. In this section, we underline the business setup that we will be able to construct based upon the contribution we receive during the ORS Token sale.

We propose the following plan based upon the expected ORST sale contributions.

Level 1 - €5 million

Achievable:

- 25% of all Hypersmart Contracts
- 25% of all Hypersmart Solutions
- The Marketplace
- The Platform, without functionalities for third parties and without advanced functionalities (see Data Services in Section 5)

Level 2 - €5 million to €10 million

Achievable:

- 50% of all Hypersmart Contracts
- 50% of all Hypersmart Solutions
- The Marketplace
- The Platform, without functionalities for third parties and without advanced functionalities
- A POC (proof of concept) with one of the customers of ORS GROUP

Level 3 - €10 million to €15 million

Achievable:

- 75% of all Hypersmart Contracts
- 75% of all Hypersmart Solutions
- The Marketplace
- The Platform, with functionalities for third parties (including the certification process) but without all advanced functionalities
- A limited initial roll-out to some of the customers of ORS GROUP

Level 4 – €15 million and €25 million

Achievable:

- All Hypersmart Contracts
- All Hypersmart Solutions
- The Marketplace
- The complete Platform, including the functionalities for third parties (and the certification process) and all advanced functionalities
- The international network with universities and research centers
- The initial roll-out to some of the customers of ORS GROUP
- Several distribution agreements with VARs (Value Added Resellers)

Please note that we will not collect more than €25M from the Token sale; the unsold ORS Tokens shall be destroyed.

10. Reporting to Contributors

Our Accountability with Your Contributions

At ORS GROUP we have an **established tradition of transparency and accountability standards towards all stakeholders** and this includes regular reporting, audited financial statements, ISO certification and the likes. ORS SA is clearly committed to the same standards towards its stakeholders, firstly towards the buyers of our tokens (the "Contributors"). **Contributors** shall be kept informed about the use of proceeds from the Token sale and on the stage of development of the planned activities of the Company through formal **Business Report** at the end of each fiscal year.

The Business Report will disclose the following information:

1. Percentage of contributed amount spent in the preceding year, commencing from the date of the conclusion of the ORS token sale or the last report ending date;

2. Percentage of contributed amount spent on product development, in one fiscal year, com mencing from the date of the conclusion of the ORS token sale or the last report ending date;

3. Percentage of contributed amount spent on marketing and public relations expenses, in one fiscal year, commencing from the date of the conclusion of the ORS token sale or the last report end date;

4. Percentage of contributed amount spent on further expenses, in one fiscal year, commenc ing from the date of the conclusion of the ORS token sale or the last report.

In addition, the audited financial statement of the Company will be published on our web page.

11. The ORST, Legal, and Token Sale (Crowdsale)

Legal & Regulatory Opinion

General Information

The ORST does not have the legal qualification of a security, since it does not give any rights to dividends or interests. The sale of ORST is final and non-refundable. ORST are not shares and do not give any right to participate to the general meeting of ORS SA. ORST cannot have a performance or a value outside the ORS Marketplace and Platform. ORST shall therefore not be used or purchased for speculative or investment purposes. The purchaser of ORST is aware that national securities laws, which ensure that investors are sold investments that include all the proper disclosures and are subject to regulatory scrutiny for the investors' protection, are not applicable.
Anyone purchasing ORST expressly acknowledges and represents that she/he has carefully reviewed this white paper and fully understands the risks, costs and benefits associated with the purchase of ORST.

Knowledge required

The purchaser of ORST undertakes that she/he understands and has significant experience of cryptocurrencies, blockchain systems and services, and that she/he fully understands the risks associated with crowdsales as well as the mechanism related to the use of cryptocurrencies (incl. storage).
ORS SA shall not be responsible for any loss of ORST or situations making it impossible to access the Tokens, which may result from any actions or omissions of the user or any person undertaking to acquire ORST, as well as in case of hacker attacks.

Risks

Acquiring ORST and storing them involves various risks, in particular the risk that ORS SA may not be able to launch its operations and develop its blockchain and provide the services promised. Therefore, and prior to acquiring ORST, any user should carefully consider the risks, costs and benefits of acquiring ORST in the context of the crowdsale and, if necessary, obtain any independent advice in this regard. Any interested person who is not in the position to accept or to understand the risks associated with the activity (incl. the risks related to the non-development of the ORS Platform) or any other risks as indicated in the Terms & Conditions of the crowdsale should not acquire any ORST.

Important disclaimer

This white paper shall not and cannot be considered as an invitation to enter into an investment. It does not constitute or relate in any way nor should be considered as an offering of securities in any jurisdiction. The white paper does not include nor contain any information or indication that might be considered as a recommendation or that might be used as a basis for any investment decision. This document does not constitute an offer or an invitation to sell shares, securities or rights belonging to ORS SA or any related or associated company. The ORST is just a utility token which can be used only on the ORS Marketplace and Platform and is not intended to be used as an investment.

The offering of ORST on a trading platform is done in order to allow the use of the ORS Marketplace and Platform and not for speculative purposes. The offering of ORST on a trading platform is not changing the legal qualification of the Token, which remains a simple means for the use of the ORS Marketplace and Platform and is not a security.

ORS SA is not to be considered as advisor in any legal, tax or financial matters. Any information in the white paper is given for general information purpose only and ORS SA does not provide with any warranty as to the accuracy and completeness of this information. Given the lack of crypto-token qualifications in most countries, each buyer is strongly advised to carry out a legal and tax analysis concerning the purchase and ownership of ORST according to their nationality and place of residence.

ORS SA today is not a financial intermediary according to Swiss Law and is not required to obtain any authorization for Anti-Money Laundering purpose. This qualification may change in case ORS SA will offers services which are to be considered as qualified financial intermediation activity. In this case, the use of the ORS services may require the positive conclusion of a AML/KYC identification process.

ORST confer no direct or indirect right to ORS SA's capital or income, nor does it confer any governance right within ORS SA; an ORST is not proof of ownership or a right of control over ORS SA and does not grant the controlling individual any asset or share in ORS SA, or in the ORS Marketplace and Platform. An ORST does not grant any right to participate in control over ORS SA's management or decision-making set-up, or over the ORS Marketplace and Platform and governance to the purchasers of the Tokens.

Regulatory authorities are carefully scrutinizing businesses and operations associated to cryptocurrencies in the world. In that respect, regulatory measures, investigations or actions may impact ORS SA's business and even limit or prevent it from developing its operations in the future. Any person undertaking to acquire ORST must be aware of the ORS SA business model, the white paper or terms and conditions may change or need to be modified because of new regulatory and compliance requirements from any applicable laws in any jurisdictions. In such a case, purchasers and anyone undertaking to acquire ORST acknowledge and understand that neither ORS SA nor any of its affiliates shall be held liable for any direct or indirect loss or damage caused by such changes.

ORS SA will do its utmost to launch its operations and develop the HSCs and the ORS Marketplace and Platform. Anyone undertaking to acquire ORST acknowledges and understands that ORS SA does not provide any guarantee that it will manage to achieve it. At the conclusion of the token sale, the ORST shall be issued and delivered to the Contributors by means of a technical process as a Ethereum Smart Contract. This is an open source IT protocol over which ORS SA has no rights or liability in terms of its development and operations. The Token distribution mechanism will be controlled by a smart contract; this involves a computer program that can be executed on the Ethereum network or on a blockchain network that is compatible with smart contract programming language. Purchasers of ORST therefore acknowledge and understand that ORS SA (incl. its government bodies and employees) assumes no liability or responsibility for any loss or damage that would result from or relate to the incapacity to use ORST, except in case of intentional misconduct or gross negligence.

ORST is based on the Ethereum protocol. Therefore, any malfunction, unplanned function or unexpected operation of the Ethereum protocol may cause the ORS Marketplace and Platform, and/or the ORST, and/or any other operation at ORS SA to malfunction or operate in a way that is not expected. Ether, the native Ethereum Protocol account unit may itself lose value in a similar way to ORST, and also in other ways.

Representation and warranties

By participating to the Token Sale, purchasers of ORST (the "Purchasers") agree to the above mentioned Legal and Regulatory Opinion and in particular, they represent and warrant that they:

- have carefully read the terms and conditions attached to this white paper and available on www.orsgroup.io; the Purchasers agree to their full contents and accept to be legally bound by them;
- are authorized and have full power to purchase ORST according to the laws that apply in their jurisdiction of domicile;
- are not a U.S. citizen, resident or entity (a "U.S. Person") nor are they purchasing ORST or sign ing on behalf of a U.S. Person;
- live in a jurisdiction which allows ORS SA to sell ORST through a crowdsale without requiring any local authorization and are in compliance with the local, state, and national laws and regul ations when purchasing, selling and/or using ORST;
- are familiar with all related regulations in the specific jurisdiction in which they are based and that purchasing cryptographic tokens in that jurisdiction is not prohibited, restricted or subject to additional conditions of any kind;
- will not use the crowdsale for any illegal activity, including but not limited to money laundering and the financing of terrorism;
- have sufficient knowledge about the nature of the cryptographic tokens and have significant experience with, and functional understanding of, the usage and intricacies of dealing with cryptographic tokens and currencies and blockchain-based systems and services;
- purchase ORST because they wish to have access to the ORS Marketplace and Platform;
- are not purchasing ORST for the purpose of speculative investment or usage.

Governing law – Arbitration

The Purchasers acknowledge and accept that the ORS SA's Token Sale is taking place within a Swiss legal environment that is still under development. The Purchasers and ORS SA agree to seek an amicable settlement prior to bringing any legal action. All disputes arising with regard to this with paper shall be resolved by arbitration in accordance with the Swiss Rules of International Arbitration of the Swiss Chambers of Commerce in force on the date when the Notice of Arbitration is submitted in accordance with these Rules. The arbitration panel shall consist of one arbitrator only. The seat of the arbitration shall be Lugano, Switzerland.

The arbitral proceedings shall be conducted in English. ORST will not be listed on any regulated stock exchange, such as SIX Swiss Exchange, or SIX. These Terms have been prepared without regard to the legal standards for prospectuses under art. 1156 or art. 652a of the Swiss Code of Obligations or the legal standards for facilitated prospectuses under art. 5 of the Collective Investment Schemes Act ("CISA") or art. 27 ff. of the SIX Listing Rules or the listing rules of any other stock exchange in Switzerland. Neither these terms nor any other material relating to the Token Sale, ORS SA or ORST will be or have been filed with or approved by any Swiss regulatory authority. Specifically, these terms will not be filed with, and the Token Sale of ORST will not be supervised by the Swiss Financial Market Supervisory Authority FINMA (FINMA). Furthermore, the sale of ORST has not been and will not be authorized under the CISA. Thus, the protection which is given to purchasers of interests or units in collective investment schemes under the CISA does not extend to purchasers of ORST.

12. Glossary

BAGA - Buy anywhere Get anywhere

BC - Blockchain

BI – Business Intelligence

DC - Distribution Center

HSC - Hypersmart Contract

KPI - Key performance indicator

ORS – ORS GROUP

ORST – ORS Token

SC – Smart Contracts

SKU - Stock keeping unit(s)

UML – Unified Modeling Language

13. Essential bibliography

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