

Unlocking Higher Education

ODEM.IO

White Paper

'18

Solution

solves problems with the modern educational model

Platform

built on blockchain technology

Opportunity

access to higher education across borders, for students and educators

V1.4

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## Notice

THE PERIOD FOR THE SALE OF ODEM TOKENS (ODEMT) WILL EXPIRE ON THE EARLIER OF THE FOLLOWING: (I) THE DATE ON WHICH THE MAXIMUM NUMBER OF TOKENS TO BE SOLD HAS BEEN SOLD BY ODEM SA OR (II) MARCH 19TH, 2018, THE CLOSING DATE OF THE ICO.

This Confidential Preliminary Product Whitepaper (this “Whitepaper”) has been prepared by ODEM SA, a Switzerland based public limited company (“ODEM SA”), for use by purchasers to whom ODEM SA is offering the opportunity to purchase up to 238,200,000 of ODEMT, for the primary use in the ODEM Platform (“ODEM”)

DISCLAIMER – IMPORTANT NOTICE: Please read the notices in Schedule A carefully before proceeding to read this Whitepaper, which apply to all persons who read this document and may be updated.

Token sales are by their nature highly risky and participating in the token sale means taking high risks due to legal, regulatory, technical, untested market risks as well as any other potential unknown risks at the time of writing of this document.



# 1. Vision

Kevin Carey, author of *The End of College: Creating the Future of Learning and the University of Everywhere*, imagines a world in which the rigid four-year-degree model of post-secondary schooling and its associated student-debt burden fade into the past. He foresees a time when higher education becomes an affordable, lifelong process of intellectual and practical enrichment shaped by an individual's professional and personal aspirations.

Major international publications like *Forbes* magazine, *The Washington Post* and *The Economist* have deemed the \$4.6 trillion-to-\$6 trillion global education market ripe for technological disruption. Our analysis suggests higher education is vulnerable because of escalating tuition costs and student debt burdens, the unjustified amount of time required to earn a degree and a mismatch between college training and job skills demanded by employers.

After assessing higher learning's weaknesses, our team concluded a solution lies in an On-Demand Education Marketplace, or what we call **ODEM**. The platform is a single, accessible, and distributed network that allows students to seamlessly interact with professors and their academic partners **in-person, onsite, in both local and international settings** to raise the quality of accessible education at reasonable cost.



## 2. Executive Summary

Education is a global industry. Worldwide expenditures rose to an estimated \$6 trillion in 2016<sup>1</sup>, with spending on higher learning forecasted to rise eight percent this year to \$2.05 trillion<sup>2</sup>. Year-on-year growth in demand is fueled globally by population growth and an expanding middle class in Asia and Africa. Despite prospects for increased spending, students face many hurdles and restrictions that reduce the accessibility to quality education experiences. Rising tuition costs, student debt and layers of intermediaries, including universities, shut out many prospective students, ensuring that the highest quality education is overwhelmingly allocated to global elites. For many, higher education is neither accessible, affordable nor relevant to students with ever-changing desires.

The ODEM platform has been made possible by the emergence of cutting-edge blockchain technology that allows qualified and trusted members of the education industry to create customized curriculum and experiences and offer them directly to the market. The ODEM platform further provides students with more choices for housing, transportation and other necessities. It allows international and local students to take ownership of their education. ODEM will facilitate live, in-classroom experiences, supported by online capabilities.

ODEM is more than just an education marketplace. Through Ethereum-based smart contracts, agreement between students and professors will be attained with the least possible involvement of intermediaries. The platform's exchangeable utility tokens will act as a common currency to smoothen cross-border payments and to incentivize professors to keep their courses up to date and relevant. Our dream is making education from the world's top educators accessible to everyone.

<sup>1</sup> <https://www.forbes.com/sites/jordanshapiro/2013/09/11/grab-a-share-of-educations-6-trillion-marketplace/>

<sup>2</sup> <https://2u.com/about/press/2u-to-acquire-getsmarter/>



## Stories from Two Students

### Daniel

Daniel is nearing the end of a four-year degree program at a U.S. college. He's studied diligently and is excited to embark on his working life. However, as graduation approaches he faces the prospect of monthly payments on his student loans. While his parents tapped their retirement savings to defray the cost of his education, it will probably take Daniel decades to pay off his debt. Daniel's high-cost college education may not have prepared him for meaningful employment. Chances are he will struggle to find fulfilling work right away, ending up in a low-paying job that hampers his ability to repay his loans.

### Mei Lin

Mei Lin was just 20 years old when she first traveled to America from her native Taiwan. Curious and excited during her brief trip, she returned home determined to live and study in the U.S. She describes that decision as life changing. While Mei Lin did eventually attend US community college and study technology, it was only after overcoming many challenges and hurdles. Her inability to speak English fluently complicated everything from grocery shopping to finding an apartment. She flourished, but only thanks to the personal contact she had with professors, teaching assistants, classmates and friends. Mei Lin completed her education and now works in her area of specialization.

*These are not separate instances, but the story of Daniel and Mei is shared by millions of students based globally. The ODEM platform unifies the diverse needs of students, educators and service providers by using leading-edge blockchain technology to improve transparency and efficiency, reducing cost and making education accessible to all.*



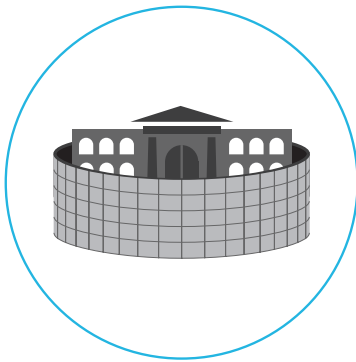
## 3. The Problem/The Market Place

### Lack of Access to Quality Higher Education

Improving accessibility means addressing the challenges that students face in acquiring a great education. We recognize that overcoming obstacles is an important part of growing up. However, we also believe that creating a global marketplace can assist students in accessing many education options, customizing course selections, and managing the acquisition of student accommodation and transportation.

### Institutional Barriers

#### Entrenched, Rigid Legacy Models



Several hurdles stand in the way of achieving broader student access to traditional, in-person higher-quality education. Professors, keen to increase their impact in the wider learning community, are often restricted by their home colleges on how, when and on what terms they can share their expertise. Students are hampered in their quest for knowledge by rigid controls on enrollment, course prerequisites and other onerous requirements. Gaining admission to some elite colleges can be more difficult and fraught with greater uncertainty than graduating. A rapidly changing world means education must adapt. The old paradigm of four-year and graduate education fails to address the importance of calibrating education to meet the needs of students and employers.



## Financial Barriers

### Exponential Increases in Tuition Costs



Rising tuition costs and disadvantages of geography also complicate the process. For students committed to lifelong learning, a lack of customizable options inhibits their ability to update their knowledge as their careers evolve. Additionally, access to the best educators is controlled and the cost inflated by the institutions who employ them.

## Geographic & Societal Barriers...

### ... and the Limits of Online Education



The emergence of online teaching systems has drawn attention to the limits of what students can get from the online education experience. Social and geographical context is lost in the world of online education. We believe in ODEM's emphasis on in-class teaching.





## 4. The ODEM Solution

### Overview

Using the power of blockchain technology and its smart contract-based payment platform, ODEM will enable students and professors to interact directly and participate in the exchange of education and learning, without the involvement of intermediaries. Our goal is to make quality education more accessible and affordable to a broader audience.

Demand for U.S.-based education has risen enormously with students from Asia, Africa, South America and the Middle East, seeking access to traditional four-year colleges as well as providers of customized training and curriculum.

ODEM and its secure, blockchain-based platform allows students to seamlessly interact with educators and to seize opportunities to access custom-designed courses and education programs. Students can use ODEM to search for curriculum that meets their needs.

ODEM addresses many of the industry's challenges with:

- Access to both local and international onsite, and in-person educational experiences. While ODEM can provide any type of learning experience, the program emphasizes on-the-ground education at elite institutions around the globe.
- A single education community in which students, educators and service providers can communicate and participate directly in a secure environment.
- A more efficient way of sharing and understanding educational requirements, goals and details to meet the rapidly changing workforce and the globalization of students and educators.
- A single, real-time system of negotiation, curriculum description and payments on an agreed-upon schedule.



- An integrated academic and curriculum schedule builder with details available to all participants to ensure development of educational programs that are clearly laid out and agreed upon by all parties.
- Capacity to perform back-and-forth language translation at all levels of education procurement to ensure that important nuances in program requests are not lost in translation.

## Our Industry Experience

### Inspired by Excelorators

The ODEM team was inspired by the success of U.S.-based Excelorators, a premier provider of education services to overseas students, executives and managers seeking exposure to America's elite learning institutions and corporate campuses. On that foundation, ODEM is establishing a new industry standard of satisfaction by revolutionizing the quality and accessibility of high-impact educational experiences. Excelorators will be the exclusive on the ground service provider of ODEM education programs in the United States. Students and educators from Excelorators will pilot and test ODEM and form the basis for mass adoption.

Excelorators is best suited to serve in this capacity for three main reasons:

- Its years of experience in selling, fulfilling and delivering programs and educational events has built a wealth of travel industry and academic contacts and an understanding of what it takes to create and deliver a successful education experience to those traveling from abroad.
- The company's staff and leadership and their understanding of the logistics of building an inclusive education ecosystem in which products are developed and sold.
- A seasoned team with both industry experience and the appropriate professional relationships to leverage opportunities in the maturing financial technology sector and to resolve issues involving cross-border payments.



## 5. Technology Platform

### Overview

In direct response to the challenges faced by industry veteran, Excelorators, we are creating an online platform that will provide for direct, transparent creation, negotiation and delivery of education programs that satisfy the changing needs of global students. The platform works in conjunction with an inclusive and decentralized payment system for secure transactions.

### Backend Technology Overview

The ODEM model will create an integrated platform where all types of students and student representatives can create and request services for education programs. Educators and educational service providers can receive requests for program fulfillment and delivery services all through a frictionless, smart contract.

### ODEM: The On-Demand Education Marketplace

ODEM is a comprehensive platform that allows students, educators and service providers in the education industry to participate in a direct, decentralized, real-time marketplace. It empowers participants to search, select and purchase existing educational products as well as create, request and negotiate customized education experiences in person and online. Unlike online education providers like Coursera and Khan Academy, the ODEM platform focuses on creating real-time, in-person educational programs. Because of this, the ODEM platform is designed to accommodate not only the delivery of a single course, but also the accompanying services and scheduling that are included in accommodating a group of students traveling to a location for one day, a month or even a year. Since the majority of our current offerings are onsite educational experiences, we have built an off-blockchain capability to manage a range of tasks, including the negotiation of costs, the securing of service providers and the creation of student certificates.



The ODEM platform is a multi-dimensional education marketplace, accommodating participants, costs, locations and scheduling. The effort to fund, plan and host a complete in-person event requires certain technical nuances and requirements that translate into well managed schedules.

## How it Works

Whether for a one-day lecture or a more extensive week-long training event, the ODEM platform connects students and educators with course offerings at any price point anywhere around the world. And with a growing community of users, ODEM platform will be the ideal way to buy or sell customized education and training courses at a cross border level.

ODEM will be powered by a set of programs deployed on the Ethereum blockchain. Use of Ethereum will provide transparency and ease of payment.

Users will login onto the platform, decide which services to purchase, and the record of such purchase is stored onto the blockchain. Functions and activities performed prior to purchase, like searching for or adding new curriculum will be handled by the off-chain platform.

## Why Blockchain?

Blockchain technology has fundamentally expanded the capacity for people to coordinate. The ODEM platform is a collaboration tool for a community working together to make education more affordable and more accessible. To understand how and why the ODEM platform leverages this powerful new technology, three distinct blockchain use cases are examined.



### Use Case 1

#### Decentralizing the Marketplace Business Model

- Tokens serve as vouchers in the use of the ODEM platform that can be used by Educators and Sponsors of Educators to eliminate the platform fees incurred using the software.
- The crowdsale jumpstarts the community and development of the ODEM platform which supports and empowers that community using tokens.

### Use Case 2

#### Complex Coordination across many different stakeholders

- A decentralized ledger helps maintain identities, govern commitments and ensure that algorithms used to coordinate between many stakeholders are secure and fair.
- Execution of commitments can be automated and community members are incentivized and rewarded for being good actors within the platform.

### Use Case 3

#### Fast, low friction in system Payments across currencies

- Traditional payment systems are inefficient when currency exchange is involved and when there are multiple participants in a transaction.
- Cryptocurrency systems integrated with the conventional banking system provide the best of all worlds: speed, security and flexibility.

## Use Case 1: The ODEM Token Layer

The tokenization of the ODEM Business model, a software-as-a-service platform, is the first use of blockchain technology. The ODEM community will be launched through the public sale of an ERC-20 type token, ODEMT, that will serve as the software license in the ODEM platform. The economic model for ODEMT is based on Discount Token research developed by the Sweetbridge Foundation. This design helps to isolate the utility of the token from fluctuations ensuring that use of the tokens is always advantageous. Through early participation in the ODEM platform, token participants jumpstart the community and fund the development. With the launch of the platform token-holding community members will immediately have access to software at a discounted cost, enabling immediate access to lower-cost educational services.



## **Benefits of acquiring the ODEM tokens during the token sale include:**

- Immediate membership in the ODEM community
- Discounted use of the ODEM platform
- The power to sponsor Educators and Students to reduce their costs for participating in the ODEM ecosystem

Thanks to the discount token framework, buying tokens is more than just a temporary transaction. It is a reusable resource enabling ongoing participation in the platform.

An important aspect of community is the concept of Identity. As part of the token distribution process, Know Your Customer (KYC) and Anti-Money Laundering (AML) processes will be strictly observed. Inside of the ODEM platform, Identity will also include credentials of educators (KYE - Know Your Educator, as we refer to it at ODEM), proofs of completed programs and blockchain network accounts required to govern commitments and payments within the ecosystem.

## **Use Case 2:**

### **Managed Services (Usage): the ODEM Coordination Layer**

In use case 2, ODEM leverages a combination of blockchain and artificial intelligence technologies to create an optimized ecosystem that automates the process of pairing interested students (the consumers) with educators and service providers (the providers).

The educational programs provided are complex events requiring commitments from and coordination between students, educators and services providers with regards to an agreed upon cost, time, place and curriculum. While individual stakeholders provide their preferences, it falls to an artificial intelligence service to identify and organize these preferences into viable events which meet all parties' requirements.



At first glance this is not a blockchain use case at all. However, when coordinating between so many parties, the blockchain allows participants to make commitments that indicate their participation as a function of the commitment of other parties. In this way, the AI system is able to discover solutions to the coordination problem that participants have pre-committed to via a blockchain transaction.

### **Coordination Layer, Working Architecture:**

Use case two is the brain of the ODEM platform and a great deal of thought has gone into realizing it correctly. Pending our ongoing research, the approach involves multiple layers of security to create and set the conditions for the pre-commitment smart contracts. Key points of consideration include:

1. Use case two may be implemented on a consortium network using the Quorum codebase, an open source code base for launching enterprise grade blockchain networks based on Ethereum but for which participation is governed by a community. In the case of ODEM this community would be managed through open collaboration with all stakeholders. An additional benefit of this solution is insulation against the growing costs and computational limitations associated with leveraging the Ethereum public network.
2. Data representing the pre-commitment criteria of all stakeholders is highly (?) dimensional and not ideal for storing on chain; however, by signing transactions when commitment criteria are legitimately edited and broadcasting hashes of the criteria on chain, it is always possible to check the validity of the commitment criteria before confirming stakeholder commitments to a new education event.
3. The optimization and machine learning algorithms used to identify groups of stakeholders who collectively meet the requirements for an educational program can be secured through validation games in accordance with the TrueBit Protocol. While the item above ensure that the data used to find matches is secure, the validation games ensure the complex computations in the AI services are secure.



*TrueBit enables trustless smart contracts, in theory, to securely perform any computation task. Moreover, TrueBit vastly reduces the number of redundant network node computations used in traditional Ethereum smart contracts. Presently every Ethereum miner has to independently replicate each smart contract action in its entirety, whereas TrueBit outsources most computation work to a handful of entities. In this way, TrueBit makes secure computing affordable.*

## How Ecosystem Optimization Creates Value Through Waste Reduction

With a combination of blockchain transparency and ODEM's artificial intelligence discovery, the ODEM program selection generator identifies a full set of service providers and the exact subset of members participating in the ODEM services community that fit the criteria of the program (product) specifications and the resulting event is automatically orchestrated.

Participating in the ODEM platform is based on users providing their pre-approval criteria; unlike a platform merely matching buyer and seller, like AirBnB, the ODEM platform aligns many parties to achieve an advanced "match" where all parties' requirements must be matched precisely as they have already accepted valid service engagements in the manner of AirBnB's automatic acceptance booking feature. The fundamental limitation in ecosystem level optimization is the ability to account for the needs and restrictions of all parties concurrently; thankfully, advances in machine learning and optimization techniques make this a solvable problem and blockchain allows it the necessary contract automation to facilitate coordinated execution.

The ODEM platform is in fact an interconnected network of software services ranging from traditional backend databases, to mathematical micro-services to smart contracts. The software architecture is micro-service oriented where the blockchain serves as the source of truth regarding validity of user data, including the requirements they have specified and the commitments they have made. Collectively, the system provides a





genius level, perfectly honest middleman substitute, programmed to create as much value to stakeholders as is possible. A beneficial side effect of this approach is that inefficiencies and non-value add middle men fall out of the education supply chain.

### Use Case 3: Facilitating Payment

The ODEM platform requires a fast, pain free solution for payments across currencies. This use case is commonly cited amongst blockchain projects and the ODEM team knows the value of harnessing the power of collaboration. While ODEM will remain blockchain-agnostic, we will consider solutions such as Stellar as a method to most effectively implement our settlement use case. Stellar is an open source protocol enabling a blockchain-based cross-border payments solution proven to significantly reduce transaction costs and increase transaction speeds. This solution will help financial institutions and consumers eliminate inefficiencies and frustrations in current cross-border payment systems, including high fees, slow processing, error-prone transactions, and inefficient capital utilization.

Here are some examples of how the Stellar platform would perform key functions required for successful ODEM settlement:

1. The Stellar Foundation's focus on integrating with the traditional financial system allows ODEM platform users to experience the benefits of the platform by making and receiving payments in their local currencies with their existing banks and financial service providers.
2. The Stellar blockchain is designed with less of the general functionality of the Ethereum Virtual Machine and a much greater focus on the remittance use case; by restricting the complexity, a simpler more secure payment system is enabled.
3. The Asset Issuance system on the Stellar public blockchain network supports the ODEM platform to serve the Anchor role by issuing tokenized educational assets which provide clear confirmations and audit trails for the financial transactions associate with ODEM orchestrated services.



## Observations about Inter-chain Operations

The technical overview outlined in this section references three blockchain networks. While it is increasingly common to design systems by matching distinct blockchain use cases with the most suitable tools, it is non-trivial to integrate multiple chains. A good precedent for a multi chain solution can be found in the Mad Network solution architecture.

In the case of the ODEM platform, the use of the public Ethereum network ensures the system is trusted as access to the platform and periodic hashes of the the state of the platform are broadcast on the public network. At this time, ODEM token functionality is considered sufficiently complex for the team to prefer the Turing Complete EVM over the use of Stellar for the public token. Nonetheless, use of the Ethereum Network will be kept to a minimum to avoid excess transactions costs on ODEM.

An important technical characteristic of smart contracts is that they are passive. Each cross chain interaction is designed through the events the smart contracts emit.

1. Escrowing tokens in the the discount smart contract will emit events that are logged in the coordination and payments layers to ensure a correct accounting of costs.
2. Collective commitment to an instance of an educational program on the ODEM (Quorum) Network emits an event to the Asset Issuing smart contract in Stellar.
3. Completion of required payments in the Stellar Network will emit an event to the ODEM Network and be used to update a variety of states including but not limited to student event credentials and other event related documents.
4. Completion of an educational program as determined by smart contracts in the ODEM Network will emit an event back to the Ethereum Network so that tokens escrowed for the purpose of offsetting fees associated with hosting the educational program on the ODEM platform will be resealed back to the stakeholder or their sponsor.



## Using Smart Contracts for Securing Products and Payment Transactions

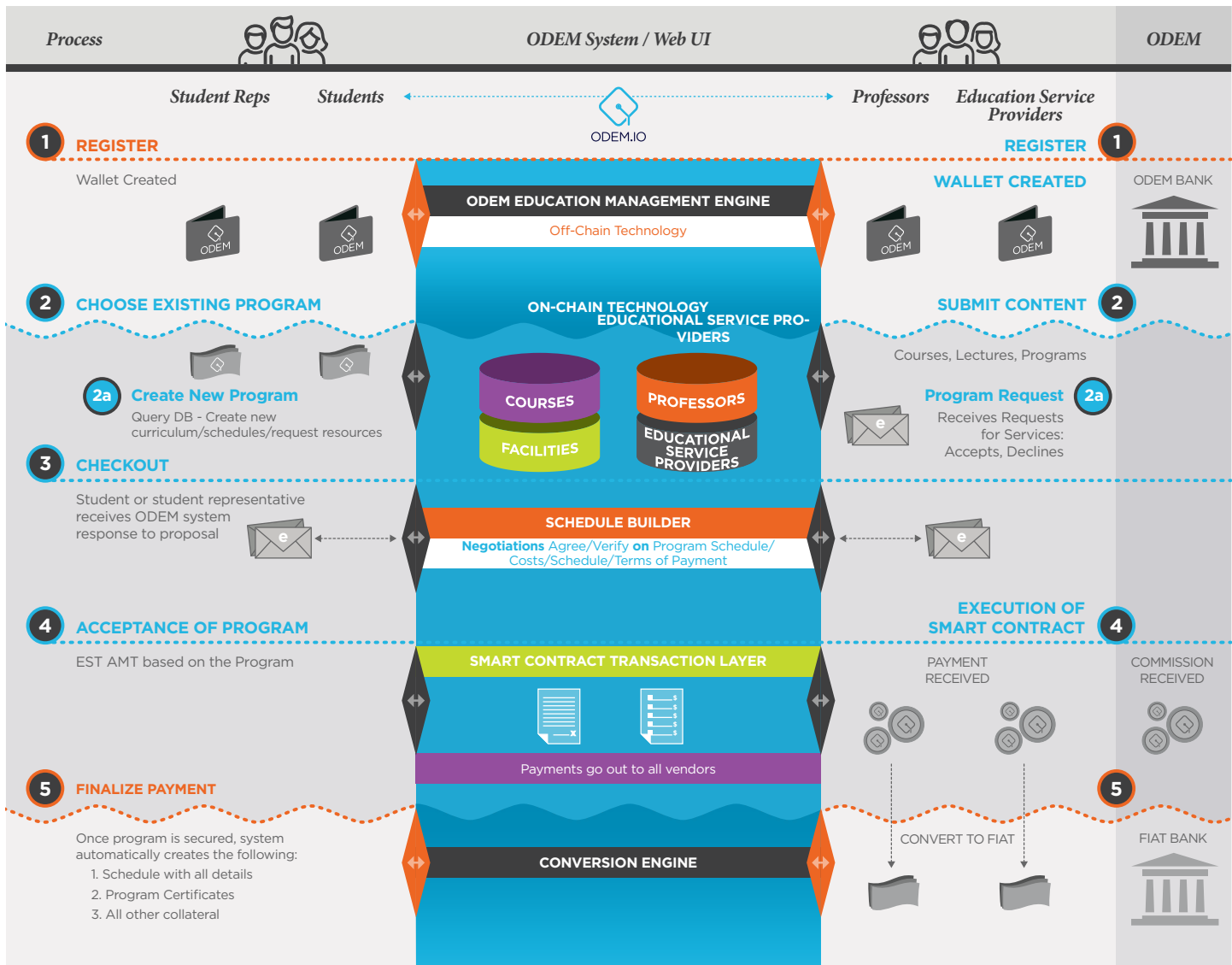
On the ODEM platform, Ethereum based smart contracts will ensure the services are accessed in a “trustless” manner. “Trustless” does not mean that they can’t be trusted, but instead the necessity to trust each other is not required. At a practical level, this means that a student can buy services from service providers sitting on the other side of the globe, without ever meeting them and without knowing whether they are an honest service provider.

Inefficiencies attached to the current payment system – which allows paybacks can be mitigated through smart contracts. In a blockchain based smart contract, a non-payment by the student will block the services from being delivered, and non-delivery of services will automatically result in the students being refunded. Because of the immutable nature of the blockchain, the students can inspect the blockchain and make sure that they trust the delivery mechanism, and the service providers can make sure that the students have sufficient funds to pay for the services. Therefore, both execution and enforcement of the agreements between the parties will be done on smart contracts.

***Payment of educational services on the ODEM platform will be made via an inherent cryptocurrency, an ERC 20 token, namely the ODEM Token (ODEMT). This feature allows for a common denominator that provides low-cost transfers of value, as well as fast and secure financial transactions on the platform.***



**Figure 1: System Delivery Workflow - Off-chain and On-chain Processing**



*Figure 1. ODEM Platform Ecosystem and Payment Gateway illustrating on chain and off chain transactions during the purchase process*



Process	Description	Technical
1a. Student sign up / Registration	<p>Logs into secure ODEM portal and:</p> <ul style="list-style-type: none"> <li>• Create user login</li> <li>• Create User wallet (in background)</li> <li>• Create full profile to educational preferences, interests and goals</li> </ul>	<p>Off-chain</p> <ul style="list-style-type: none"> <li>• Secure ODEM user account created with all credentials, details and preferences</li> </ul> <p>On-chain</p> <ul style="list-style-type: none"> <li>• Secure ODEM digital wallet created with connection to student's fiat banking for easy transfer</li> </ul>
1b. Educator / Provider sign up / Registration	<p>Logs into secure ODEM portal and:</p> <ul style="list-style-type: none"> <li>• Create user login</li> <li>• Create User wallet (in background)</li> <li>• Create full profile including:</li> <li>• Provider Type</li> <li>• Location</li> <li>• Availability</li> <li>• Public or private (or ODEM Member only) profile listing</li> <li>• Feature page assets including video, books or other products that provider offers they would like to include for promotion</li> <li>• Notification preference and price point (notification for requested programs and price they are willing to consider)</li> </ul>	<p>Off-chain</p> <ul style="list-style-type: none"> <li>• Secure ODEM user account created with all credentials, details and preferences</li> </ul> <p>On-chain</p> <ul style="list-style-type: none"> <li>• Secure ODEM digital wallet created with connection to educator's fiat banking for easy transfer</li> </ul>



Process	Description	Technical
2. Student / student representative searches for and selects existing program	<p>The ODEM interface will allow students to search for curriculum by:</p> <ul style="list-style-type: none"> <li>• University or city location(s), classroom or event facilities</li> <li>• Education themes, specific lecture topics or lecture series</li> <li>• Translation services, accommodations, refreshments and meals, and other activities that enhance their educational experience</li> </ul>	<p>Off-chain</p> <ul style="list-style-type: none"> <li>• Relational database with existing program, faculty, curriculum and service provider data is queried and served back to user via web interface</li> </ul>
2. Educator / service provider submits content: courses, lectures, programs		



Process	Description	Technical
2b. Student / student representative creates new program	<p>Students who do not find what they are searching for on the system are free to create their own program data and submit it for approval and fulfillment by educators and service providers. They can:</p> <ul style="list-style-type: none"> <li>• Request modified version of existing program</li> <li>• Request custom program</li> <li>• Create new programs and curriculum and share for bidding with educators and providers</li> </ul> <p>*NOTE: Educators and service providers can also create their own program data and submit it for approval and fulfillment by other educators and service providers.</p> <p>They can also modify version of existing programs.</p>	<p>Off-chain</p> <ul style="list-style-type: none"> <li>• User creates new program content that is then verified to meet necessary requirements and once approved, will be added to relational database with existing program, faculty, curriculum and service provider data is queried and served back to user via web interface.</li> </ul>
2b. Educator / service provider receives and responds to request for program	<p>Once a request is completed, negotiations between the student (buyer) and the educator and service providers (suppliers) respond until all specific requirements and requests are met at the negotiated rate</p>	<p>Off-chain</p> <ul style="list-style-type: none"> <li>• An alert is sent to educators and service providers who have met the criteria for selection in the provider database.</li> <li>• Suppliers can then accept requests and responses are then aggregated.</li> <li>• Once all request for services are met a complete response is returned to the buyer.</li> </ul>



Process	Description	Technical
3. Student or student representative receives ODEM system response to proposal	<p>Once the buyer creates and confirms the program details, the buyer will have four options to negotiate and secure the price of their product:</p> <ul style="list-style-type: none"> <li>• Accept the system-selected (default) supplier services and costs</li> <li>• Consider ODEM suggested alternative suppliers that meet their budget</li> <li>• Submit a request to suppliers with another price and accept responses from request</li> <li>• Open the program to the ODEM student community for smaller groups wishing to fill a program that requires a minimum of attendees</li> </ul>	<p>Off-Chain</p> <ul style="list-style-type: none"> <li>• Supplier creates new program content that is then verified to meet necessary requirements and once approved, will be added to relational database with existing program, faculty, curriculum and service provider data is queried and served back to user via web interface.</li> </ul> <p>On-chain</p> <ul style="list-style-type: none"> <li>• NOTE: On-chain activity does not commence until agreement is reached</li> </ul>





Process	Description	Technical
4. Acceptance of program	<p>Once program and all service needs are met, the program can be officially 'accepted' by client. Payments will be disbursed accordingly to the program terms, conditions and schedule.</p> <ul style="list-style-type: none"> <li>• The smart contract becomes active once transactions are initiated.</li> <li>• Program Contract (includes)</li> <li>• All terms &amp; conditions</li> <li>• Dates and detailed schedule</li> <li>• Participant manifest</li> <li>• Costs and payment schedule</li> <li>• Service providers</li> </ul>	<p>Off-chain</p> <ul style="list-style-type: none"> <li>• Upon acceptance of program and all details, data is handed off via system ODEM API to Solidity smart</li> <li>• contract system from Web back-end estimate acceptance system</li> <li>• All necessary data is fed to On-chain system to then determine smart contract to be implemented based on program details, schedule, costs, and deposit schedule.</li> </ul> <p>On-chain</p> <ul style="list-style-type: none"> <li>• Initiation of smart contract instance (or multiple smart contract)</li> <li>• Establishment of contract payment schedule based on terms and conditions</li> </ul>



Process	Description	Technical
4. Execution of smart contract	<p>Once program is under contract, the ODEM system will generate:</p> <ul style="list-style-type: none"> <li>• A finalized web-based event site with event details, participant rosters, speakers times and event locations</li> <li>• Availability of attendee ticket to allow additional sign-ups to public (or private groups)</li> <li>• Schedule future deposits and payments</li> </ul>	<p>Off-chain</p> <ul style="list-style-type: none"> <li>• ODEM Estimator and fulfillment systems send data through ODEM API to event management platform</li> <li>• Suppliers are requested to confirm all schedules and commitments on event site</li> <li>• Ticket sales made available through event site when desired</li> <li>• Event management systems sends supplier confirmations of final scheduling and commitment via API to ODEM smart contract engine for terms and conditions and additional payments from schedule</li> </ul> <p>On-chain</p> <ul style="list-style-type: none"> <li>• Smart contract engine executes supplier terms and conditions</li> </ul>
5. Completion of scheduled payments and final notices prior to program	<ul style="list-style-type: none"> <li>• As the program start date approaches, notification alerts are sent to all suppliers and the buyer with final details and confirmation to ensure the success of an accurately executed program experience</li> <li>• Final payments from the buyer will be made and sent to suppliers accordingly</li> </ul>	<p>Off-chain</p> <ul style="list-style-type: none"> <li>• Event management engine sends confirmation alerts to all buyers and suppliers for final review of requirements</li> </ul> <p>On-chain</p> <ul style="list-style-type: none"> <li>• Payments on schedule continue as designated</li> </ul>



Process	Description	Technical
5a. Program fulfillment	<ul style="list-style-type: none"> <li>• Verification of final list of participants and will be uploaded to event website</li> <li>• Automatic generation of student certificates, entry badges, curriculum material and other requested collateral</li> </ul>	<p>Off-chain</p> <ul style="list-style-type: none"> <li>• Program management component creates and delivers via email alert all necessary curriculum and program collateral</li> <li>• Event management engine generates necessary badges and sends final alert to participants to verify preferences</li> <li>• Incidental expenses are tallied up and sent via API to on-chain smart contract as single transaction</li> </ul> <p>On-chain</p> <ul style="list-style-type: none"> <li>• Smart contract logs any revenue from additional purchased tickets</li> </ul>
5b. Program completion	<ul style="list-style-type: none"> <li>• System-generated request of confirmation from the buyer of successful program completion and fulfillment</li> <li>• Final payment to all suppliers will be instantly paid</li> </ul>	<p>Off-chain</p> <ul style="list-style-type: none"> <li>• Participants/buyers sign off on completion of program and all supplier delivery</li> <li>• Confirmation is rolled up and sent via API to on-chain smart contracts)</li> </ul> <p>On-chain</p> <ul style="list-style-type: none"> <li>• Any final payouts made to suppliers</li> <li>• Fees paid to ODEM SA</li> </ul>



Process	Description	Technical
5c. Post program activity	<ul style="list-style-type: none"> <li>• Supplier surveys sent to buyer to rate educators and suppliers</li> <li>• These surveys will ensure the quality of the ODEM model and be used for process improvements and contribute to ODEM reputation scoring</li> </ul>	<p>Off-chain</p> <ul style="list-style-type: none"> <li>• Request for rating send to all participants</li> <li>• Rating requests, once complete initiate API send to smart contracts for ODEM system incentives (which are added to program costs)</li> </ul> <p>On-chain</p> <ul style="list-style-type: none"> <li>• Students/buyers receive rewards for completing program surveys</li> <li>• Initiation of student credits on blockchain contributing to blockchain-based ODEM accreditation*</li> </ul>

## Platform Features and Benefits

Current Model	ODEM Solution	Benefits
Client creates request directly via phone or email. Must cycle through many layers and negotiations	Easily Request Lectures/ Programs through ODEM portal.	Request captured accurately and instantly put out to bid, triggering fulfillment process. Customer is matched with the program with the dates desired at lower overhead.
Extensive back and forth with client, partners and sales	System facilitates offers between customer and ODEM providers.	ODEM providers accept project based on mutually agreed-upon price with client. Middlemen costs are eliminated.



Current Model	ODEM Solution	Benefits
Difficult to secure speakers and facilities before client will make a commitment and leave deposit.	ODEM Client request can only be completed once all resources are committed.	Using smart contracts, payments are exchanged at specified dates based on deliverables in terms and conditions of contract, only once all resources are secured and committed.
Creation of online schedule only if time permitting, and all done via manual input.	Schedule is built automatically as part of schedule request.	Removes uncertainty and last minute requests to program schedule and fulfillment, as event schedule is created online directly from terms, conditions through smart contract.
Unpredictable payments causing subsequent delays in payouts to vendors, resources, facility and speakers.	Payments managed through ODEM smart contracts.	All payments are processed within ODEM to be paid out specifically when product terms and conditions are met, preventing delays in payouts, building trust among all parties.
Program curriculum are created ad hoc by a combined effort from sales staff and program coordinators with little input from speakers/educators.	Program and curriculum creation and ownership with lifetime royalty on programs used in the future.	Speakers from high-impact universities and businesses have already been engaged to design and create their own programs and curriculum. This drastically increases the quality of the programs and incentivizes clients to utilize programs developed by experts.



Current Model	ODEM Solution	Benefits
Service providers are contracted on a per-case basis, feedback is not collected and quality not measured.	Vetting, securing and rating of all service providers in system.	Service providers are vetted by the community through a rating system (initially in the alpha-and-beta phases of development) allowing customers to select from those who have had prior work (similar to the rating system used by Upwork.com).

## User Roles Redefined

Who uses the ODEM platform and how are they empowered? The following chart shows how participants will engage and benefit from ODEM.

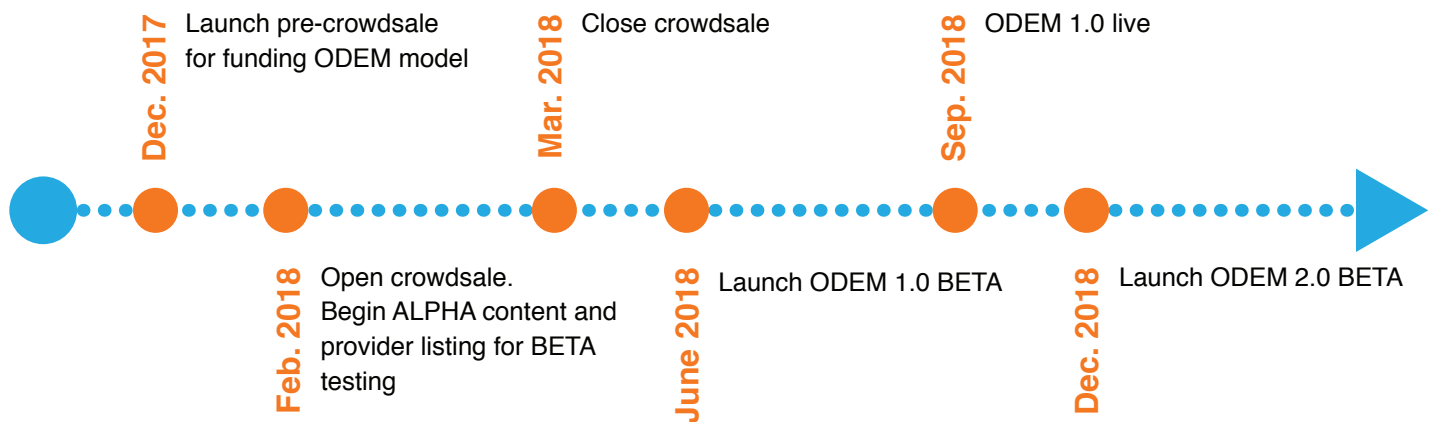
Role	Description of Use	Advantages
<b>BUYER</b>  Student or anyone who creates custom educational experiences for these students (student representatives)	<ul style="list-style-type: none"> <li>• Become a buyer and use the ODEM platform</li> <li>• Search for and enroll in existing educational programs</li> <li>• Design your own program or partner with educators to design them</li> </ul>	<ul style="list-style-type: none"> <li>• Students can create their own programs that can be resold on the ODEM network, earning an ongoing royalty</li> <li>• Become a program creator and earn royalties from future sales</li> </ul>



Role	Description of Use	Advantages
<b>EDUCATORS</b> <ul style="list-style-type: none"> <li>• Professors</li> <li>• Speakers</li> <li>• Teachers</li> <li>• Lecturers</li> </ul>	Educators can: <ul style="list-style-type: none"> <li>• Sign up</li> <li>• Create a professional profile</li> <li>• Share availability and expected compensation</li> <li>• Develop original curriculum and educational programs</li> <li>• Re-use program curriculum and other educational products to feature on profile page for sale and promotion</li> <li>• Review and consult on curriculum development and program ideas</li> </ul>	<ul style="list-style-type: none"> <li>• Rewarded with ODEM tokens for early Sign-up</li> <li>• Respond to (bid on) program requests</li> <li>• Earn compensation and ongoing royalties from reuse of original content</li> </ul>
<b>SERVICE PROVIDERS</b> <ul style="list-style-type: none"> <li>• Educational facilities</li> <li>• Translators</li> <li>• Program creators</li> <li>• Program coordinators</li> <li>• Videographers/photographers</li> <li>• Restaurateurs/Caterers</li> <li>• Transportation Providers</li> <li>• Accommodations Providers</li> </ul>	Service Providers: <ul style="list-style-type: none"> <li>• Sign up</li> <li>• Create a professional profile</li> <li>• Share availability and expected compensation</li> </ul>	<ul style="list-style-type: none"> <li>• Rewarded with ODEM tokens for early sign-up</li> <li>• Respond to (bid on) program requests</li> </ul>



## 6. Timeline



## 7. ODEM Financial Ecosystem

### ODEM Token

ODEM platform participants will conduct all transactions using the ODEMT. Payments will occur through the exchange of tokens and will adhere to the smart contract terms and conditions. The token itself will be built on the Ethereum Token Standard, also known as ERC 20.

### The ODEM Payment Gateway

As illustrated in Figure 1, ODEMT must be the medium of exchange to purchase program products and services on the ODEM platform.

### The Digital Wallet

A digital wallet is an online or mobile account in which users can store all payment information for ODEMT. Wallets will be integrated on the ODEM platform for educators, students and other service providers.





## 8. Advantages

### Education Supplier Service Fees

Service fees will be generated by the creation and listing of education lectures, courses and content on the platform. These fees will be automatically calculated according to flexible supplier fee structures and added to the listing prices selected by educators when they publish educational content. Additionally, service providers suppliers have the ability to gain a share of these fees.

Inside the ODEM platform, suppliers will be incentivized to join the platform through free initial tokens allocated from the ODEM Rewards token distributions. Once suppliers sign up and create profiles, they must adhere to the supplier fee structures.

Initial reward structures will be based on three factors, which will transition as the platform develops. These factors include:

- Time of Adoption
- Reputation
- Volume

**Time of Adoption:** The first 100 suppliers that sign up and create profiles on the ODEM platform will receive the supplier fees as additional discount.. The next 400 suppliers will receive a 50 percent bonus and the last 1000 suppliers to join the network will receive 25 percent bonus.

**Reputation:** Reputation is an important metric of quality and will eventually become the most important driver of supplier discounts/bonuses, as well as positioning within the platform. Initially, reputation will be established from university rankings. Suppliers listing their content and services out of the top 100 universities will receive a one percent discount for which percentile they fall. For example, professors from universities listed 1-10 will receive a 10 percent discount while professors from universities listed 90-100 will receive a one percent discount. Upon launching of the platform, customer feedback



and rating will begin to be incorporated and eventually become the dominant factor for validation of reputation.

**Volume:** Suppliers will also achieve discounts through volume successes on the ODEM network. Volume discounts of 5-25 percent will be available for revenue generated from education lectures, courses and content purchased on the ODEM platform. Adjustments will be made over time to properly align the incentives with actual business intelligence and results.

## Education Supplier Royalty Structuring

Within the ODEM payment ecosystem, both students and educators have a unique opportunity to earn ongoing royalties for the contribution of programs and program curriculum. Here are two possible scenarios.

### Example One: Professor-developed Curriculum

The following chronicles a typical university professor's role on the ODEM Platform:

- The professor is contracted by the ODEM platform to speak at a program and receives payment.
- Upon speaking at the event, the professor sees opportunities to create more unique curriculum based on his/her experience with specific student populations.
- The professor develops and submits a custom program and curriculum based on previous program experience and understanding of market requirements.
- New students search the education marketplace, discover new curriculum that meets their needs and enroll for the professor's future programs.
- As the original curriculum creator, the professor earns a royalty, or percentage of the price of the program curriculum.
- The professor would also earn royalties from subsequent uses of the programs.



## Example Two: Student-developed Curriculum

- A student or a student representative can create curriculum based on their own needs.
- Upon inputting their requirements into ODEM, and going through the process of building their curriculum/schedule, the proposal is distributed for 'bids' to professors and educational providers. Once secured, confirmed and validated by community as useful, the program can be used again in the future, generating royal- ties/ODEM reward tokens.
- The program is officially added to the search engine for future students to review and purchase.

## 9. Team and Partners

### Advisory Board

#### Steve Jarding, EDUCATION AND LEADERSHIP CURRICULUM ADVISER



Professor Steve Jarding is an international educator, lecturer, writer and political consultant. He has been on the faculty at Harvard University since 2004. Steve is a founding partner of the international consulting company, SJB Strategies International. Steve lectures is an expert in the field of communication for next-generation leadership.

#### Ingo Fiedler, BLOCKCHAIN AND ECONOMIC ADVISOR



Ingo is a co-founder of SICOS and a director of Hamburg University's Blockchain Research Lab. An adjunct professor at Concordia University in Canada, Ingo is also an economist and an expert in the analysis of token-sale economics.

**Sven Beiker,** TECHNOLOGY ADVISOR

Sven Beiker is the Managing Director of Silicon Valley Mobility, the mobility consulting and advisory firm in Palo Alto (CA). The firm drives the future of mobility along the four trends automation, communication, electrification, commoditization in serving startups, investors, and corporations claiming their share of the mobility sector through innovative products and business opportunities. Sven brings to bear his expertise developed over 20+ years at BMW, McKinsey, and Stanford University. In addition to his consulting business, Sven is a Lecturer at the Graduate School of Business at Stanford University where he instructs students on strategies related to future mobility.

**SICOS,** LEGAL AND CROWDSALE ADVISORY

SICOS is a Luxembourg-based provider of advice and counsel to entrepreneurs planning to raise funds through an initial coin offering. SICO understands the complex structuring of ICO tokens and the establishment of vehicles to facilitate token crowdsales.

**KPMG,** LEGAL AND COMPLIANCE ADVISORY

KPMG is assisting ODEM SA on the creation of a legal structure in preparation for the ODEM crowdsale as well as coordinated contact with regulatory and tax authorities. The firm has assisted ODEM in drafting and finalizing all legal aspects of the whitepaper.



## Core Team

### Richard Maaghul, CEO



Rich is a seasoned Silicon Valley entrepreneur with more than two decades of direct experience in emerging-and-disruptive technologies. In addition to co-founding ODEM.IO spartner Excelorators Inc., Rich has delivered strategic solutions to Chevron Corp. and other corporations. As CEO of ODEM.IO, he is committed to using blockchain technology to expand student access to high-quality education.

### J. William Bayrd II, COO



Bill is a natural leader, innovator and thinker. The founder of three companies, including Excelorators Inc., ODEM.IO's education partner, he was an early developer of the ODEM.IO concept. Bill has a Doctor of Pharmacy from the University of Tennessee Health Science Center. Passionate about big, world-changing ideas, he served six years in the U.S. Marine Corps Reserve as a combat engineer and explosives technician.

### Michael Zargham, CHIEF SYSTEMS ENGINEER



Michael has a Systems Engineering Ph.D. with a focus on optimization and control of decentralized systems. With over a decade of experience applying data to business decision-making applications, Michael founded BlockScience, a firm concentrating on applying rigor to the design of the socio-technical network systems that will help build transformative products on the blockchain.



## TEAM AND PARTNERS

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### **Amit Garg,** CHIEF TECHNOLOGY OFFICER



Amit is a certified leader in information security with hands-on experience in management consulting, sales, business development and building stronger customer-service relationships. Amit, who has an intense entrepreneurial spirit, is passionate about providing value to clients. His work experience ranges from startups to U.S. federal agencies such as the Department of Defense and Fortune 500 companies.

### **Gustavo Guimarães**



Lead Smart Contract and  
Blockchain Architect

### **Ken Finch**



Global Business Development

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### **Christopher Donville**



Director of Communications

### **Jan Bass**



Creative Director

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### **Alexa Narma**



Marketing & Communications

### **Melissa Matos**



Project Management

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### Olivia Lovenmark



Social Media and Writing

### Kirsten Montgomery



Director of Finance and  
Resource Management

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### Bowen Gao



Director of Business Development  
Far East

### Asad Zaman



Education Development

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### Kris Yagel



Chief Program Developer

### Mohit Bansal



Backend Systems Engineer,  
Salesforce Developer

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### Jill Huang



Technology and Translation

### Kari George



Leadership and  
Project Management Consultant

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## Partners

In addition to its core team, the ODEM platform has engaged key industry leaders to ensure a thorough technical and legal assessment to ensure the successful implementation of the financial transactional platform and the underlying technology.

### KPMG Switzerland

KPMG, one of our earliest partners, has helped ODEM SA to navigate Switzerland's legal framework. KPMG is assisting ODEM on the creation of the legal structure in preparation for the ODEM crowdsale, and coordinated contact with the regulatory and tax authorities. The firm has assisted ODEM SA in drafting and finalizing legal aspects of the white- paper

### SICOS

SICOS guides startups through the process of conceiving, planning, and implementing digital token sales. SICOS is primarily responsible for connecting startups with relevant partners for developing a token sale platform and drafting a workable business model. The SICOS team also has expertise in compiling token-sale whitepapers and other relevant communication documents. It also provides ongoing support to developers of blockchain-based business models.





## 10. ODEM Token Sale

Proceeds from the token distribution event will be used to fund the ODEM platform development, operations, legal establishment and marketing. The ODEMT will be the native currency used for functioning and operating on the ODEM platform. In short, the main and only purpose of the token is for the use of the utility services available on ODEM platform. ODEM SA does not make any claims about the use of ODEMT for any other purposes. Kindly note that any information mentioned in this chapter may change without notice before the launch of the main crowdsale.

### The ODEM token sale will happen in two phases

#### 1. Pre token sale - early adopter phase

The Pre Crowdsale phase will start on December 10th, 2017. In the Pre-token sale, 58,200,000 ODEMT will be issued at a discounted rate of €0.0375. These ODEMT will be issued at a 25 percent bonus rate. Kindly note the bonus tokens will only be accessible after completion of the main token sale and token generation event has occurred. There is a minimum purchase requirement of 200,000 ODEMT, per user, in the Pre-token sale phase.

#### 2. Token Sale

The main token sale will commence tentatively on February 17th, 2018 and will continue until March 19th, 2018. A total of 180 million ODEMT will be issued in this phase. The tokens will be issued at, or around €0.05. Considering the fact that the ODEM platform can only perform optimally if the tokens are widely distributed, a user will be allowed to buy a maximum of 250,000 ODEMT during the first hour of the main token sale. After that, a maximum cap of 250,000 ODEMT will be lifted.

*The number of ODEMT to be received per Ethereum will be updated 24 hours before the Token sale.*



## Details of the Contributors

Considering the global Token Sale regime, ODEM SA is committed to following certain best practices. The ODEM token sale will require KYC (Know Your Customer) and AML (Anti-money Laundering) protection measures to ensure contributors can legally participate in the token sale. ODEM believes in being a leader in the implementation of best practices. A KYC form will be available on the [odem.io](http://odem.io), homepage.

Token Issuer	ODEM SA
Total Tokens	396,969,697
Tokens to be sold via the Token sale	238,200,000
Short name	ODEM
Type	ERC20 of Ethereum blockchain
Accepted cryptocurrency	Ether
AML/KYC requirement to participate in the Token sale	Yes

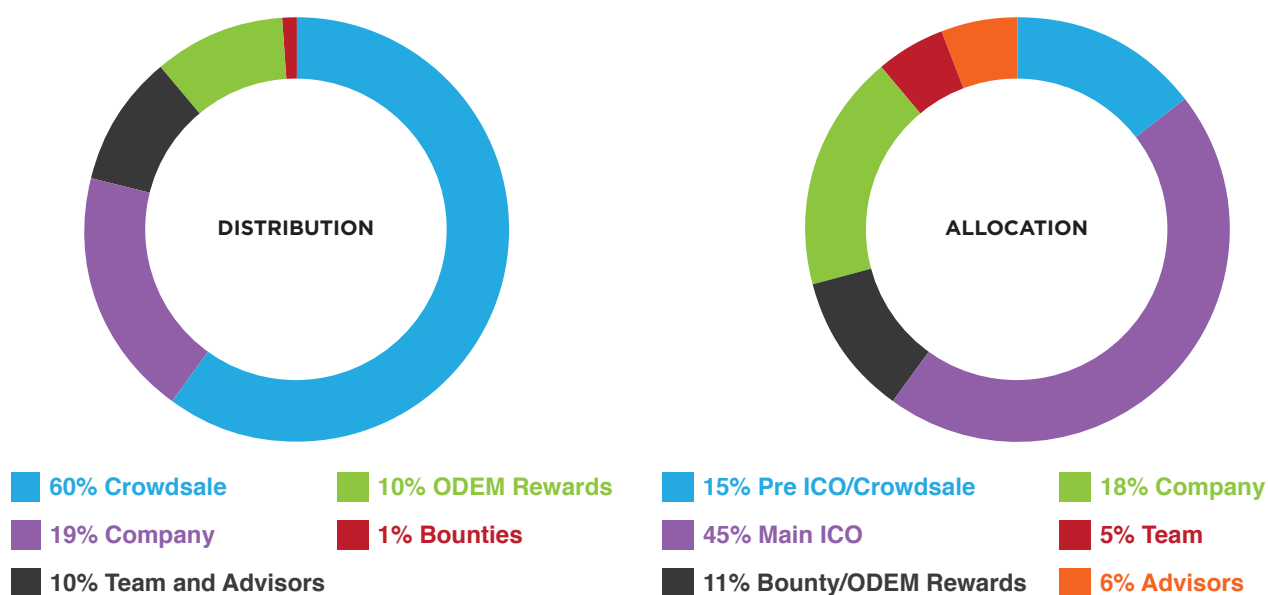
Pre Token Sale Details	
Price per ODEM (pre Token sale) for 58,200,000 ODEMT	€0.0375
Pre Token sale starting date and time	Dec. 10, 2017, at 9 a.m. CET
Pre Token sale ending date and time	Dec. 31, 2017, at 9 a.m. CET
Minimum buying limit	200,000 ODEMT
Maximum buying limit	Nil



Token Sale Details	
Price per ODEM (Token sale) for 180,000,000	€0.05 (equivalent price in Ether will be updated 24 hours before the Token sale)
Token sale starting date	Feb. 17, 2018 at 9 a.m. CET
Token Sale ending date	Mar. 19, 2018 at 9 a.m. CET
Hard cap on the main token sale	180,000,000
Minimum buying limit	Nil
Maximum buying limit	2,000,000 ODEMT tokens for first hour

*NOTE: We will not collect more than €12 million net, excluding all token sale related commissions, marketing, legal and organizational expenses.*

## Distribution and Utilization of Proceeds





The contributions raised by ODEM SA will be used for the research and development of the ODEM platform and building out the marketplace. ODEM Rewards will be used to incentivize marketplace participants and will be used at the company's discretion based on economic conditions.

## Utilization of Funds Roadmap

In this section, we underline the business setup that we will construct from the contributions we receive from the token sale. We propose the following plan for the expected contributions which we may receive in this ODEMT token sale.

### Level 1 - €1 up to €3 million

#### Benefits:

- Limited functionality for educators to create profiles and content
- Deploy on chain transactions on Ethereum at limited capacity
- ODEM Platform Beta Launch
- 1 physical office (Switzerland)

#### Team:

- 3 full time senior developers
- 1 full time blockchain developer
- 1 full time sysadmin/quality assurance/support
- 1 full time consultant/sales engineer

### Level 2 – €3 million to €6 million

#### Benefits:

- All Level 1 benefits



- Additional marketplace participants will be added (mentors and interpreters).
- Recruitment of developer team to migrate majority of off chain transactions to on-chain ecosystem
- Additional branch office (China)
- Develop course offerings for distributed ledger technology with social, political and technological impacts

### Team:

- 4 full time senior developers
- 2 full time blockchain developers
- 2 full time sysadmins/quality assurance /support
- 2 full time sales engineers/consultants
- 1 UI and mobile expert
- 1 legal advisor
- 1 business development specialist
- 4 senior professors from Ivy League/Swiss universities

## Level 3 – €6 million to €12 million

### Benefits:

- All level 2 benefits
- Additional marketplace participants will be added (accommodations and facilities).
- All transactions occur on chain and across additional selected blockchains
- Up to 5 physical offices in 5 target markets (Switzerland, Asia, India, S. America, Middle East)
- Pilot credentialing of selected education courses
- Pilot and testing of Video on Demand platform
- Free personalized education blockchain account tracking
- Scholarship program for underprivileged students



### Team:

- 5 full time senior developers
- 3 full time blockchain developers
- 2 full time sysadmins/quality assurance /support
- 4 full time sales engineers/consultants
- 2 UI and mobile expert
- 1 legal advisor
- 4 business development specialist
- Global marketing support
- 4 senior professors from Ivy League/Swiss universities
- Education counsel and accreditation committee
- 1 human resource manager

### VISION for Deliverables / Goals

- Live ODEM Platform fully functional based on specifications supplied above including:
  - Interactive requests, bidding and fulfillment of educational programs
  - Fully built-out participating communities in all areas including:
    - Academia / Corporate / Speakers
    - End clients (both executive and student)
    - Web access for students, student representatives, educators and service providers to set up and become ODEM community members and participate in buying and selling in the ODEM marketplace including:
      - Speakers
      - Corporate Engagement Managers
      - Facilities
      - Program creators, directors and coordinators
      - Service providers like catering, transportation and outside activities
- Full ability to search, select and create new educational products
- Brand Awareness
- Completely active and engaged marketing campaign and ongoing marketing effort
- Fully functional help desk / support platform to accommodate new user onboarding and ongoing use



## Future Development Plans and Features

In addition to the above listed use of funds for the first 18 months of growth, ODEM is researching and developing the following future enhancements:

- Augment the in-person classroom experience to include:
  - Live streaming of classroom experiences
  - Synchronous and asynchronous offering of ODEM educational events as online courses
  - Repurpose recorded and videotaped classroom events to be reused as online content for purchase
  - Use of artificial intelligence (AI) for:
    - AI-based student learning
    - AI-based testing and assessment
    - AI-bot to help buyers navigate choices and created education programs
    - AI to AI smart contract creation and management to streamline requests among buyers and sellers
  - Use of augmented reality (AR) in the classroom and online education experiences
- Extension of blockchain-based technology in the ODEM education model including:
  - Creation of blockchain-based ODEM accreditation programs to be developed jointly by educators, participating institutions and students. (We are already seeing MIT move its graduation degrees to a blockchain-based model). This could also include integration of a blockchain academic grading and accreditation system. Features could include:
    - Student earning academic credit from professors for
    - Attendance and student understanding of classroom lectures
    - Completion of classroom projects and assignments given
- Students having their academic history and success stored on the block-chain that will carry equal education value earned from traditional educational institutions.
- An accredited blockchain-based cross-border education institution, a global international school (ODEM University)



## 11. Our Accountability with Your Contributions

We believe we must be transparent with contributors to the ODEM token sale as well as to the wider community. We pledge to keep all parties informed about the spending of funds raised in the ODEM token sale by preparing a formal Business Report at the end of each fiscal year.

We will disclose the following information in the report on our website:

1. Percentage of contributed amount spent in the preceding year, commencing from the date of the conclusion of the ODEM token sale or the last report end date;
2. Percentage of contributed amount spent on product development, in one fiscal year, commencing from the date of the conclusion of the ODEM token sale or the last report end 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 ODEM token sale or the last report end date;
4. Percentage of contributed amount spent on further research and development, in one fiscal year, commencing from the date of the conclusion of the ODEM token sale or the last report.

### How Information Will be Shared

The information will be delivered to the public through the ODEM website at [odem.io](https://odem.io) and through our telegram channel <https://t.me/odemio>.

The first Business Report, which will be prepared by an independent third party, will be published within the first quarter of 2019. It will cover the fiscal year ending in the third quarter of 2018. The report will be communicated on a rolling basis, annually, until ODEM Swiss SA has exhausted 80 percent of contributions.





## 12. Resources

- [1] Carey, Kevin. The End of College: Creating the Future of Learning and the University of Everywhere:
  - <https://www.amazon.ca/End-College-Creating-University-Everywhere/dp/1594634041>
- [2] Excelorators:
  - <https://www.excelorators.com>
- [3] Ethereum ERC 20 Token Standard:
  - [https://theethereum.wiki/w/index.php/ERC20\\_Token\\_Standard](https://theethereum.wiki/w/index.php/ERC20_Token_Standard)
- [4] Harvard Business Review - How blockchain will accelerate business performance and power the smart economy:
  - <https://hbr.org/sponsored/2017/10/how-blockchain-will-accelerate-business-performance-and-power-the-smart-economy>
- [5] KPMG Overview:
  - <https://home.kpmg.com/xx/en/home/about/overview.html>
- [6] Mhaske, Yogesh, assistant professor at Sandip University on definitions of different types of education:
  - <https://www.slideshare.net/yogeshmhaske1/types-of-education-66292303>
- [7] National Institute for Learning Outcomes Assessment, <http://www.learning-outcomesassessment.org/documents/BassisPrimer.pdf>
- [8] PWC: A primer on blockchain technology:
  - <http://usblogs.pwc.com/emerging-technology/a-primer-on-blockchain-infographic/>
- [9] SICOS:
  - <https://sicos.io/>
- [10] Visual Capitalist - The Power of Smart Contracts on the Blockchain:
  - <https://www.visualcapitalist.com/smart-contracts-blockchain/>
- [11] Waite, Dan, Engaged Learning and the Future of Higher Education:
  - <https://www.youtube.com/watch?v=TI41eqRpV2g>



- MAD Network (Vision) White paper:
  - <https://madnetwork.io/MAD-Whitepaper.pdf>
- MAD Network Technical White paper #1:
  - <https://madnetwork.io/MAD-Technical-Whitepaper.pdf>
- AdLedger Consortium — community building for Mad Network:
  - <http://adledger.org/>
  - <http://www.prweb.com/releases/2017/06/prweb14455059.htm>
- Sweetbridge (Vision) White paper:
  - <https://sweetbridge.com/public/docs/Sweetbridge-Whitepaper.pdf>
- Sweetbridge Technical White paper #1:
  - <https://images.sweetbridge.org/main/Sweetbridge-WP-LiquidityProtocolMath-v1-01.pdf>
- Sweetbridge Alliance — community building:
  - <https://sweetbridge.com/alliance>
- Truebit — verification games; protocol level work for scalability and tools for verifying validity of complex computations:
  - <https://truebit.io/>, <https://people.cs.uchicago.edu/~teutsch/papers/truebit.pdf>
- Stellar — blockchain aiming for maturity around payments across currencies and countries:
  - <https://www.stellar.org/>, <https://www.youtube.com/watch?v=EA53r43vGCA>
  - <https://www.stellar.org/papers/stellar-consensus-protocol.pdf>
- ICO guidelines whitepaper:
  - <https://www.stellar.org/blog/understanding-initial-coin-offerings/>, <http://bit.ly/2hQRpT7>
- Quorum — code base for launching project specific ethereum-like blockchain networks:
  - <https://github.com/jpmorganchase/quorum/wiki/Quorum-Overview>
  - <https://github.com/jpmorganchase/quorum-docs/blob/master/Quorum%20Whitepaper%20v0.1.pdf>



## 13. ODEMT, Legal, and Crowdsale

### Legal & Regulatory Opinion

#### General Informations

The ODEMT does not have the legal qualification of a security, since it does not give any rights to dividends or interests. The sale of ODEMTs are final and non-refundable. ODEMTs are not shares and do not give any right to participate to the general meeting of ODEM SA. ODEMT cannot have a performance or a particular value outside the ODEM Platform. ODEMT shall therefore not be used or purchased for speculative or investment purposes. The purchaser of ODEMT 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 ODEMT 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 ODEMT.

#### Knowledge Required

The purchaser of ODEMT 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 the crowdsale as well as the mechanism related to the use of cryptocurrencies (incl. storage).

ODEM SA shall not be responsible for any loss of ODEMT or situations making it impossible to access ODEMTs, which may result from any actions or omissions of the user or any person undertaking to acquire ODEMTs, as well as in case of hacker attacks.



## Risks

Acquiring ODEMT and storing them involves various risks, in particular the risk that the ODEM platform may not be able to launch its operations and develop its blockchain and provide the services promised. Therefore, and prior to acquiring ODEMTs, any user should carefully consider the risks, costs and benefits of acquiring ODEMT 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 ODEM platform) or any other risks as indicated in the Terms & Conditions of the crowdsale should not acquire ODEMTs.

## 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 use to base any investment decision. This document does not constitute an offer or an invitation to sell shares, securities or rights belonging to ODEM SA or any related or associated company. The ODEMT is just a utility token which can be used only on the ODEM platform and is not intended to be used as an investment.

The offering of ODEMT on a trading platform is done in order to allow the use of the ODEM platform and not for speculative purposes. The offering of ODEMT on a trading platform is not changing the legal qualification of the token, which remains a simple means for the use of the ODEM platform and is not a security.

ODEM 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 ODEM 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 ODEMTs according to their nationality and place of residence.



ODEM SA 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 ODEM SA will offer services which are to be considered as qualifying and a financial intermediation activity. In this case, the use of ODEM SA's ODEM platform and services may require the positive conclusion of a AML/KYC identification process.

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

Regulatory authorities are carefully scrutinizing businesses and operations associated to cryptocurrencies in the world. In that respect, regulatory measures, investigations or actions may impact ODEM SA's business and even limit or prevent it from developing its operations in the future. Any person undertaking to acquire ODEMT must be aware of ODEM SA's 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 ODEMT acknowledge and understand that neither ODEM SA nor any of its affiliates shall be held liable for any direct or indirect loss or damage caused by such changes.

ODEM SA will do its utmost to launch its operations and develop the ODEM platform. Anyone undertaking to acquire ODEMT acknowledges and understands that ODEM SA does not provide any guarantee that it will manage to achieve it. On concluding the Commercial Operation, these tokens will be issued by a technical process referred to as a token generation event. This is an open source IT protocol over which the Company has no rights or liability in terms of its development and operation. 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. They acknowledge and understand therefore that ODEM SA (including its bodies and employees) assumes no liability or responsibility for any loss or damage that would result from or relate to the incapacity to use ODEMTs, except in case of intentional misconduct or gross negligence.



ODEMT is based on the Ethereum protocol. Therefore, any malfunction, unplanned function or unexpected operation of the Ethereum protocol may cause the ODEM platform or ODEMTs 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 ODEMTs, and also in other ways.

## Representation and warranties

By participating in the crowdsale, the purchaser agrees to the above and in particular, they represent and warrant that they:

- have read carefully the terms and conditions attached to the white paper; agree to their full contents and accept to be legally bound by them;
- are authorized and have full power to purchase ODEMT 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 ODEMT or signing on behalf of a U.S. Person;
- are not resident in China or South Korea and nor are they purchasing ODEMT or signing on behalf of a Chinese or South Korea resident;
- live in a jurisdiction which allows ODEM SA to sell ODEMT through a crowdsale without requiring any local authorization and are in compliance with the local, state, and national laws and regulations when purchasing, selling and/or using ODEMTs;
- 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 ODEMT because they wish to have access to the ODEM platform;
- are not purchasing ODEMT for the purpose of speculative investment or usage



## Governing law – Arbitration

The Client acknowledges and accepts that the ODEM crowdsale operation is taking place within a Swiss legal environment that is still under development. The Parties agree to seek an amicable settlement prior to bringing any legal action. All disputes arising with the with papers provided, 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.

ODEMTs 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 Offer, ODEM SA, the ODEM platform or ODEMTs will be or have been filed with or approved by any Swiss regulatory authority. Specifically, these Terms will not be filed with, and the Offer of ODEMTs will not be supervised by, the Swiss Financial Market Supervisory Authority FINMA (FINMA). Furthermore, the Offer of ODEMTs 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 ODEMTs.



## 14. Appendix A: Glossary of Terms

**AML:** Anti-money Laundering refers to a set of international regulations, laws and procedures intended to halt the practice of legitimizing the proceeds of illegal activity.

**Blockchain Technology:** The foundation of cryptocurrencies like Bitcoin and others, a blockchain features a historical ledger of transactions that is updated by appending blocks.

**Business Report:** An annual summary of spending of ODEM token sale proceeds. The report will be distributed to token holders.

**Crowdsale (Initial Coin Offering):** An emerging means of raising funds for a digital currency venture. Lightly regulated, cryptocurrency startup companies use crowdsale to raise money to fund their development.

**Digital Wallet:** An online or mobile account in which users can store all payment information along with private keys for any cryptocurrency or tokens held.

**ERC 20 Ethereum Token Standard:** The requirements that govern how new cryptographic tokens can be launched on top of the ethereum blockchain.

**ETH:** The short form of Ether, the Ethereum blockchain digital currency.

**Ethereum:** A blockchain designed specifically to encourage development of smart contract platforms.

**Excelorators Inc.:** A San Francisco-based provider of education and travel experiences at elite universities and top corporate campuses.

**KYC:** Know Your Customer refers to steps taken to identify and verify the identity of a company's clients. The process is part of efforts to halt money laundering.





**Off-Chain:** A transaction that occurs off of the blockchain.

**On-Chain:** A transaction that occurs on the blockchain.

**Private Key:** Data that allows access the tokens in a specific wallet. It functions as a password that should be hidden by the wallet owner.

**Smart Contracts:** Decentralized applications that facilitate financial exchanges for services. Smart contracts are also known as self-executing contracts.

**Telegram Channel:** A means of distributing information about a specific utility token or platform.

**Token:** A form of cryptocurrency created by a startup to fund development of blockchain-related product ideas. So-called utility token may also be used to facilitate transactions on a blockchain.