
LakeDiamond ICO – White Paper

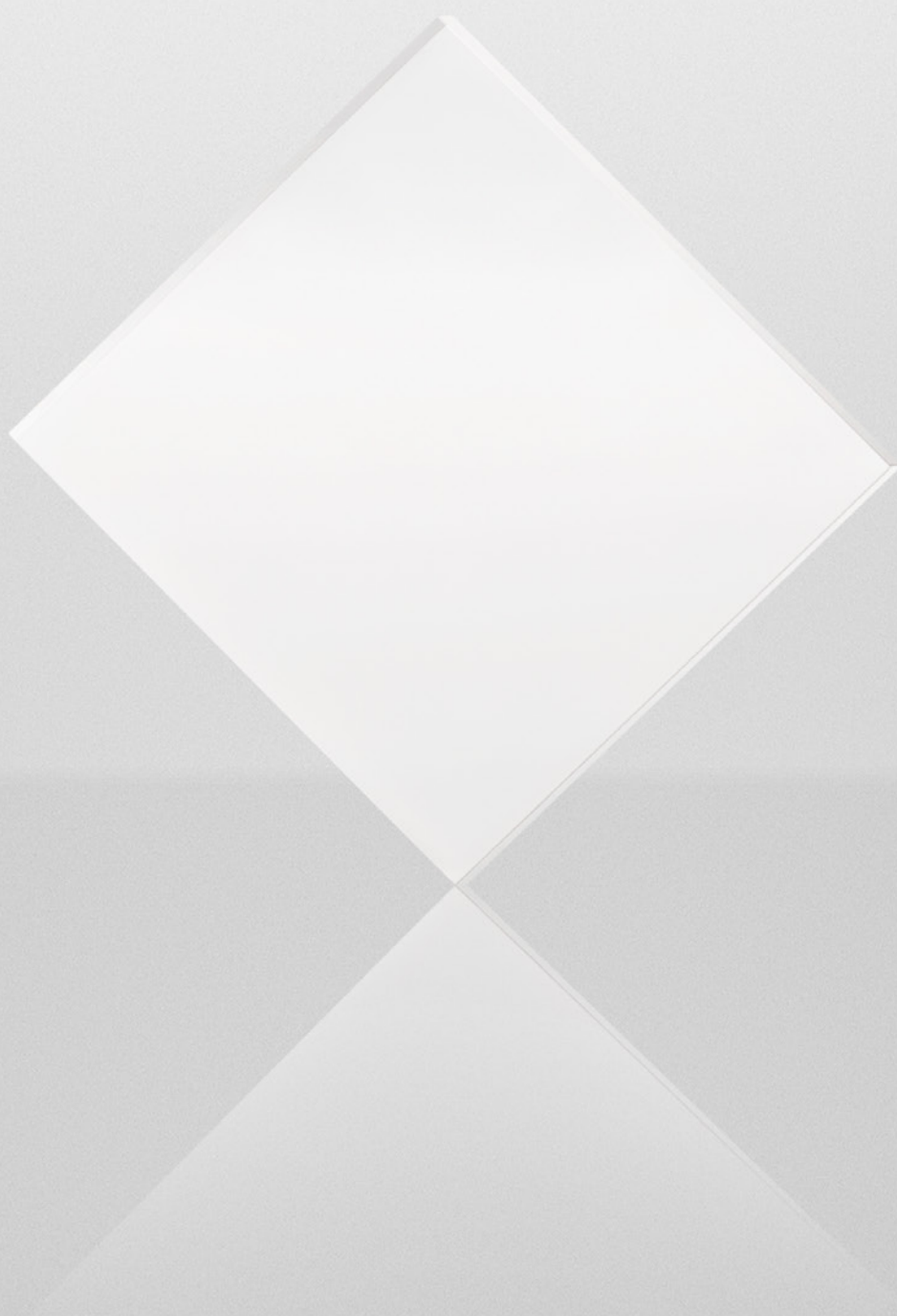


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LakeDiamond offers a collaborative diamond growth experience – a cooperative in which token owners can exchange LKD tokens (time-based machine tokens) for actual machine time (1 LKD = 1 minute of production time) in LakeDiamond’s diamond-growing reactors.

1. Introduction

LakeDiamond is a Swiss Company that grows diamonds and transforms them for high-value industrial applications. These diamonds, manufactured at its local laboratory, are ultra-pure – at least 50 times more pure than mined diamonds.

Purity is essential because the purer the diamond is, the greater its versatility and performance for industrial applications. The exceptional qualities of diamonds – their hardness, transparency and supreme thermal properties – make them an advantageous alternative to the materials currently used in many industrial applications.

Diamonds have the power to revolutionize energy management, telecommunications, medical and computer science – driving considerable improvements in efficiency, productivity and value.

LakeDiamond has the proprietary growth and transformation technology to fully capture the potential of ultra-pure diamonds. Today, the Company transforms diamonds into micromechanical parts for the Swiss watch industry. LakeDiamond is also developing diamond-based lasers and has embarked on research into diamond transistors. Its long-term vision extends to R&D of diamond-based semiconductors and biotech applications.

Below is a list of important definitions to better understand the rest of the document:

- ◇ **Growing diamond:** the action of producing physical diamonds in the reactor. This controlled process is realised in laboratories and described below and in the business presentation.
- ◇ **Industrial client:** it is LakeDiamond’s final client or end customer that makes a purchase with the company via its online shop or directly from LakeDiamond. At first, this will be limited to diamond plates for high tech implementations, as described in the business presentation.
- ◇ **LKD token owner:** it is an Ethereum address which can send and receive time-based tokens (LKD). For the purposes of this paper we use the term LKD owner to describe addresses instead of physical owners (i.e. the person that holds the private keys). All authorized Ethereum addresses will be identified via KYC procedures. In this context, we use the term owner to describe the physical owner of LKD and the Ethereum address.

1.1 Problem overview

Building diamond growth reactors is extremely costly and requires heavy investments. In order to seize the most promising markets, LakeDiamond needs to reach a critical production capacity. Raising capital through equity sale would imply giving

away control of the company, and could have deep implications on the targeted markets. The team in place wishes to address civilian applications only, while high-purity diamond is mainly used for military applications.

1.2 The solution

The LakeDiamond team has over 15 years of extensive knowledge in growing diamonds and has developed unique proprietary reactors for this exact purpose. An estimated CHF 10 millions was invested in the development of these reactors to reach an industrial version and are now ready to be duplicated in order to reach scale for mass production.

LakeDiamond now opens the possibility to collaboratively produce diamonds to expand its production capacities and access new market opportunities.

This innovative mining technology, which LakeDiamond is pioneering, also remotely connects 'token owners' to our lab-based 'diamond growth reactors' 24/7, from the convenience of their computers.

For full details on what the reactors do or what these diamonds are used for, please refer to the Business Presentation – this white paper will list token specifics and explain the purpose of the project's blockchain implementation.

2. Growing diamonds

2.1 LakeDiamond's technology

LakeDiamond's proprietary technology derives from MicroWave Chemical Vapor Deposition (MWCVD), consisting in the growth of diamonds by building a carbon atom lattice, layer by layer, using only a gas mixture and electromagnetic radiation. The initial development of MWCVD diamond processes goes back to the late 80s.

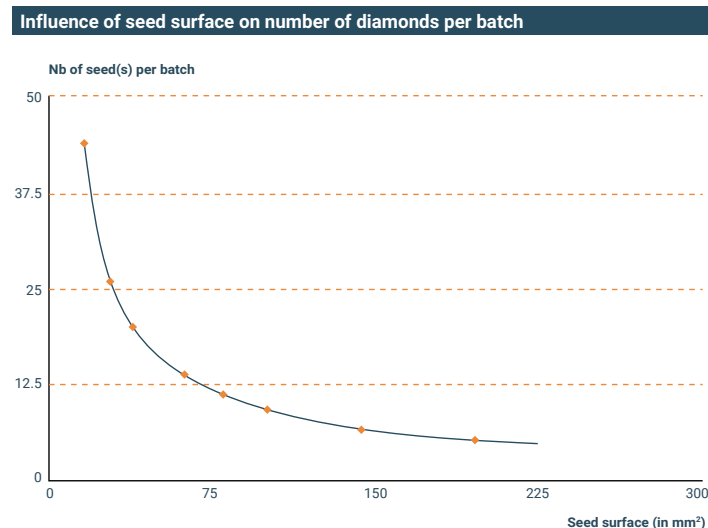
The growth takes place on a starting material; a high-purity diamond seed (thin diamond plate). Before the gas mixture is admitted into the reaction chamber, all the potential contaminants are removed by performing a high vacuum. The growth process is carried out in a perfectly controlled atmosphere, with pure gases. As a result, LakeDiamond can produce a consistently engineered, ultra-pure and optimum quality diamond as required by high-tech applications.

Indicatively, LakeDiamond's reactors can grow 20 rough diamonds of 6mm x 6mm base size simultaneously. It takes about a month to grow a 4mm thick layer, leading to diamonds of roughly 3 carats each, in the same batch. Multiple reactors can be operated in parallel in one single factory.

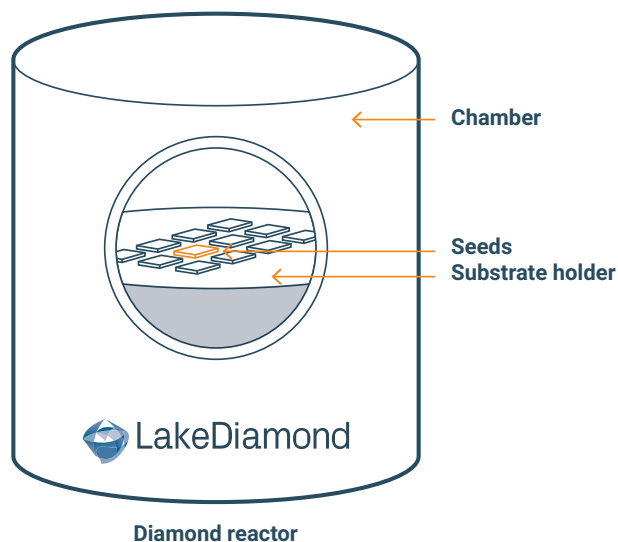
One LKD token represents one minute of growth of one diamond in one reactor, not the entire batch. In this paper we describe the process of growing one single diamond.

2.2 Diamond seed

Diamond products' size is driven by the size of the seed and the growth time. The following scheme and its metrics represent the area occupied by each diamond in the growth chamber.



The larger the seeds, the fewer the number that can be arranged on the substrate holder in the reactor's growth chamber. An LKD token integrates area unit/seed in its price calculation.



2.3 Time

During a growth, the thickness of diamond increases with time. Growth rate, meaning the speed at which diamond thickness increases, mainly depends on reactor performance and diamond purity. As a consequence, the number of LKD tokens used to grow a diamond of specific thickness may vary. Indicatively, a diamond dedicated to micromechanical applications will grow at a rate of 10µm/h, while the purest diamonds, with specific properties, will grow at a rate slower than 1µm/h.

It should also be noted that the time needed to grow a diamond may evolve with productivity improvements. The faster LakeDiamond is able to grow a diamond, the less LKD tokens that will be required for the same output.

2.4 Quality assessment

After the growth, all diamonds are thoroughly checked with state-of-the-art characterization tools in order to match industrial clients' expectations. Only the diamonds that pass these tests are accounted for and displayed on the LKD platform.



3. Initial coin offering

3.1 Why the Blockchain? Why an ICO?

Blockchain can bring huge benefits to industrial companies such as LakeDiamond: collaborative production, traceability and frictionless payments.

From October 2018, the Company launches an initial coin offering (ICO). The goal of this operation is to allow for a collaborative production of diamonds in LakeDiamond's factory.

The ICO gives the possibility to acquire minutes of diamond production in the form of tokens. By doing this, token owners can take an active part in the story of LakeDiamond. Token owners can therefore directly capture a part of LakeDiamond's turnover. Shares, in contrast, provide dividends, that depend on company policy.

3.2 Collaborative production

An estimated CHF 10 million has already been invested in setting up a first diamond growth reactor and R&D on novel diamond-based devices. The ICO constitutes an opportunity to avoid further dilution, as LakeDiamond's founders wish to remain in control of their company to preserve their core values. Today indeed, diamond is mostly used in military applications, while LakeDiamond only addresses civilian markets.

During the ICO, whitelisted contributors will be allowed to purchase LKD tokens which represent one minute of reactor use.

After the ICO, approximatively two weeks of checking will take place, to ensure no foul play or irregularities occurred during the crowdsale. Tokens will be released to all token owners that will then be responsible for manually withdrawing them. All token owners will be notified by email. Withdrawal requests will only be issuable from the Ethereum addresses registered during the contribution stage.

3.3 ICO

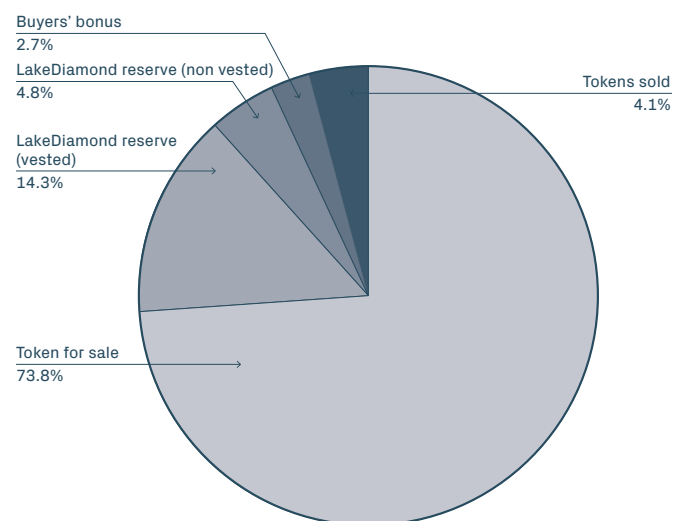
- ◇ **Duration:** October 22, 2018 – February 15, 2019
- ◇ **Token Name:** LKD
- ◇ **Total token supply:** 141,120,000 tokens
- ◇ **Minimum purchase per address:** 60 LKD (1 hour of production)
- ◇ **Accepted currency:** Ether, Fiat (CHF/EUR) via Swissquote Bank
- ◇ **Token emission price:** CHF 0.55
- ◇ **Distribution:** Will take place 2 weeks after the ICO. Once the period elapses, investors will be able to manually withdraw their tokens as per instructions on the company blog.
- ◇ **Soft cap (already reached):** 5,454,545 LKD, equivalent of CHF 3m
- ◇ **Hard cap (ends sooner if reached):** 110,000,000 LKD
- ◇ **Token Sale bonus:** 3% of total token supply
- ◇ **Special feature:** Delayed Release – around 2 weeks post ICO, tokens are still frozen
- ◇ **Special feature:** Whitelist – only whitelisted addresses can contribute

3.4 Token metrics

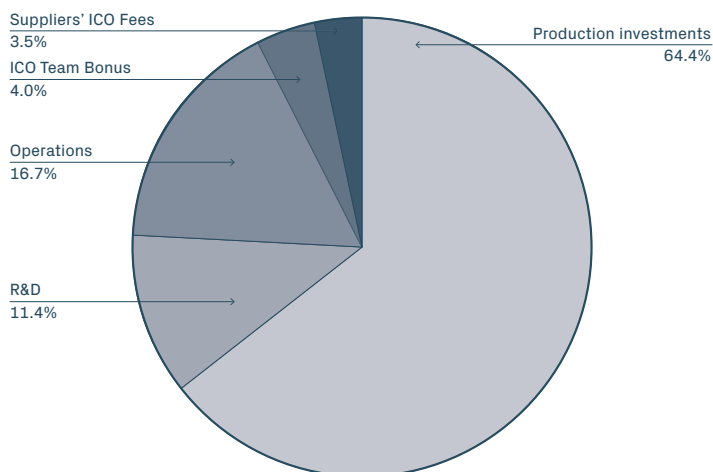
- ◇ **Total token supply:** 141,120,000 minute tokens, equal to 2,352,000 machine hours
- ◇ **ICO reserve and bonus vesting plan:** 20% maximum of the total token supply. After all debts in tokens are cleared, the LakeDiamond reserve will be shared between the LakeDiamond and ICO team. The LakeDiamond reserve and the ICO team bonus follow different vesting plans as illustrated below:
- ◇ LakeDiamond teams will not be allowed to use token bonuses on the LKD Platform except on the e-commerce.
- ◇ **Special function:** Burn – allows the token owner to burn their balance and reduce total supply.

Vesting rule		Total maximum tokens
LakeDiamond Reserve	Vested for 1 year	6,743,182
	Vested on a monthly basis the following year	6,743,182
ICO Team bonus	Available after ICO	6,743,182
	Vested for 1 year	6,743,182

Token distribution



Use of proceeds



4. LKD token

4.1 Description

The LKD emission price has been calculated upon cost of diamond growth: labour, reactors depreciation, electricity, gas and seeds.

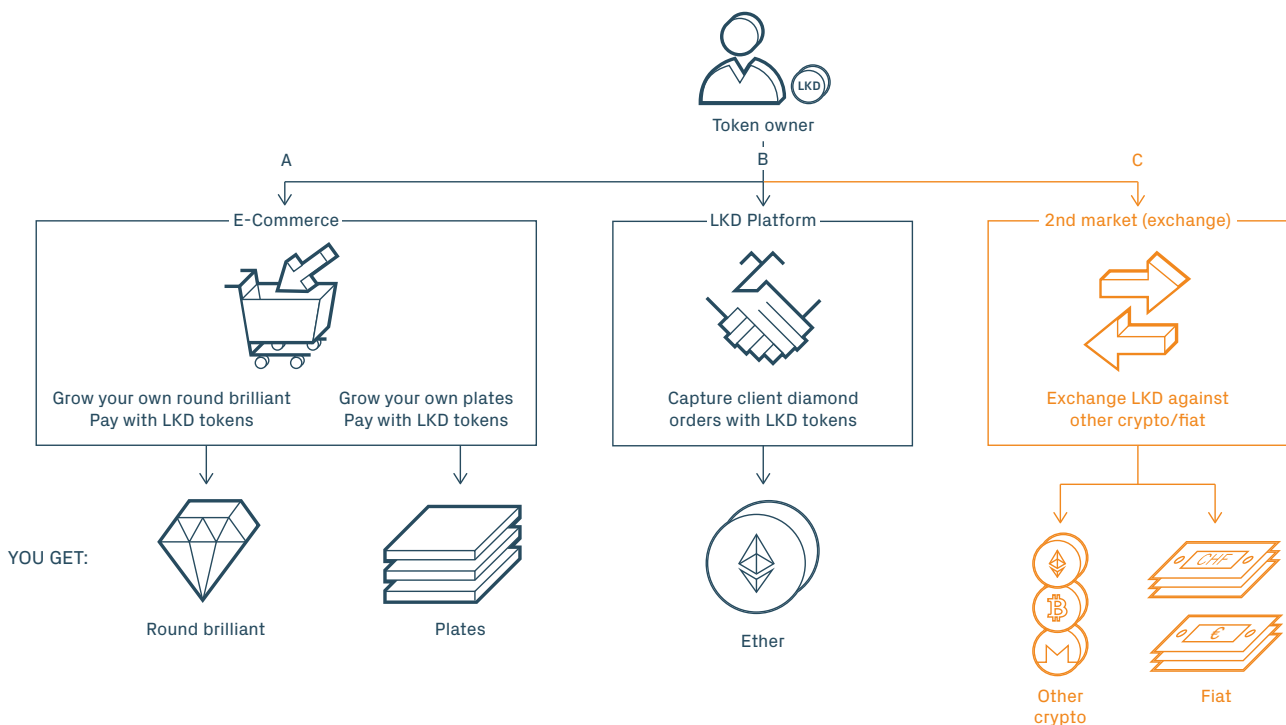
One LKD token is equivalent to 1 (one) minute of growth reactor operating time, which produces lab-grown diamonds. One minute is the smallest possible unit, so the tokens are non-divisible past this point. If a diamond plate takes 180.5 minutes to grow, it will consume 181 LKD.

The LKD (LakeDiamond Token) is a burnable ERC20 token on the Ethereum public blockchain.

Being ERC20 means it inherits all the features (balance, transfer, approval) of the most used and tested Ethereum token standard, thus increasing security, and facilitating integration and adoption with partners.

Being burnable means the total supply of the token can be reduced by the holder of the tokens. For example, if LKD holder A has 20 tokens, then address A can initiate the burn function of up to 20 tokens. Burned tokens are removed from existence permanently, and this change is immediately reflected on various coin-listing sites like CoinMarketCap.

4.2 Conversion



LKD token can be used to:

- ◆ **A - Purchase LakeDiamond products:** LKD token can be used as a payment method to purchase diamond products (plates or round brilliants) on LakeDiamond e-commerce website.
- ◆ **B - Capture LakeDiamond industrial orders:** When an industrial client purchases diamonds with fiat, an opportunity for capturing the proceeds of the sale is presented to LKD token owners.
- ◆ **C - Secondary Market:** Because LKD tokens are Ethereum-based, they can be sold at any time to another ERC20 compatible wallet. LKD token re-sale is not managed by LakeDiamond and the company has no control whatsoever on the secondary market. It is possible that centralized and decentralized exchanges list the LKD token. This listing may facilitate LKD tokens' exchanges.

4.3 Transparency

Blockchain technology allows the exchange of value on trustless networks without any corruption or duplicity of information. At LakeDiamond, the blockchain is used to connect token owners to reactors, enabling them to produce their own diamonds.

Ethereum smart contracts guarantee financial transactions and transparency of time used during the diamond industrial process from the sale to the token conversion.

The protocol will be open source before the crowdsale, published on GitLab under the MIT license for the code and a Creative Commons license for the documentation, free of use, and it can be applicable to any industry which produces goods and services.

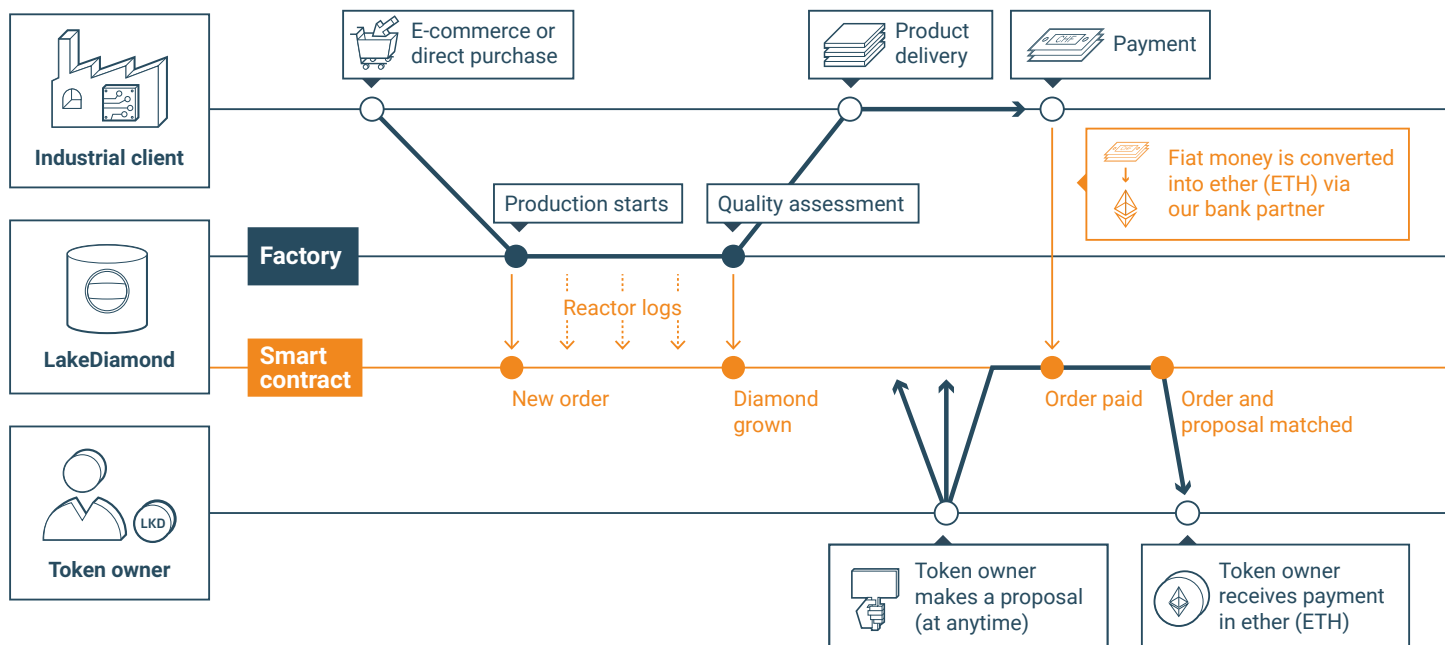
In LakeDiamond's case, the diamond production and use of reactors will be timestamped through a regularly audited process and logged on the blockchain for all to see. This ensures that the production process is fully transparent and auditable both in real time and long into the future. We want LKD token owners to have full insight into where and how their tokens are being spent. LakeDiamond's timestamping and auditing process is being developed by prominent cryptography researchers including Dr. Jean-Philippe Aumasson (<https://aumasson.jp>).

5. Full project description

The platform is built to manage the LKD token life cycle. LKD owners are able to purchase diamond products on LakeDiamond's e-commerce website using their LKD tokens as a payment method. Another option for an LKD token owner is to complete a

smart contract order, resulting from an industrial purchase, and receive ether in exchange for their tokens. LakeDiamond is also committed to improving user experience, while remaining strongly focused on business opportunities and transparency.

Flow overview



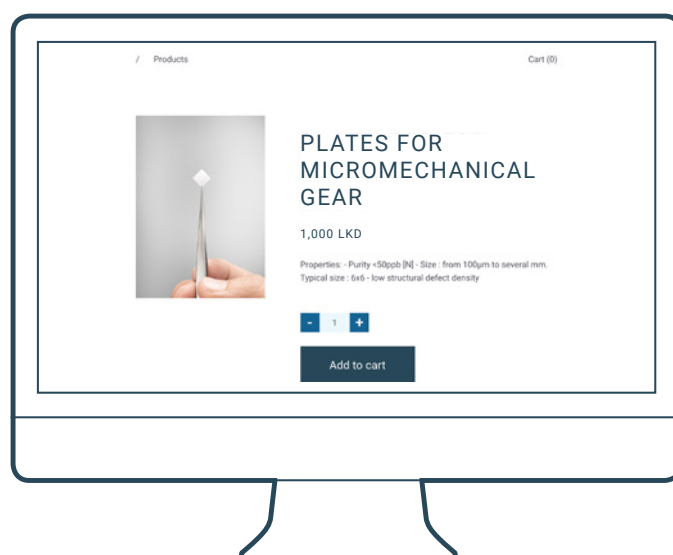
Components of the LKD ecosystem:

- ◇ **E-commerce:** The front shop enables customers to purchase diamond products (plates and round brilliants).
- ◇ **Bank partner:** This financial institution will secure LakeDiamond accounts, act as a CHF/EUR gateway to Ethereum ecosystem, and ease conversion between currencies at different stages of the process.
- ◇ **Smart Contract Order:** The blockchain program which records all orders on Ethereum.
- ◇ **LKD Platform:** Heavily interacting with the Smart Contract Order as a backbone, it displays purchased orders completed (from e-commerce and direct clients) and proposals from LKD tokens owners that are willing to sell their tokens.
- ◇ **Log Collector:** A secure program running on each reactor. Reactor activity and metrics are recorded on the blockchain.

Few terms should be described to understand the full platform picture:

- ◇ **LKD token:** Is equivalent to one minute of reactor operating time.
- ◇ **A purchase:** Happens when an industrial client buys diamond-based products via the LakeDiamond e-commerce or directly from LakeDiamond. A purchase has a price per token (in CHF), a growth time required to grow the diamond part of the product (determined in LKD), and more technical product description.
- ◇ **An order:** Resulting from an industrial client purchase, it is transcribed into a smart contract entry on Ethereum and contains the following specifications – order price (in ETH), growth time (number of LKD), token price per token (in CHF).
- ◇ **A proposal:** Represents LKD tokens locked by LKD token owners in the Smart Contract Order. Proposals have two settings – proposal growth time (number of LKD) and price per token (in CHF). Proposals only get exchanged with ether when an order matches the minimum price per token and number of LKD. Multiple proposals can fill a single order.

5.1 The e-commerce website



LKD token owners can use their tokens on the LakeDiamond e-commerce website to buy LakeDiamond products. Products may be directly available or may need to be pre-ordered. In all cases, thanks to the production logs recorded on the blockchain, LKD tokens used for the purchase are linked to diamond production minutes used to produce the items.

The transformation is not related to the LKD tokens and needs to be paid separately, in fiat currencies (CHF or EUR). However, in certain circumstances, LakeDiamond may decide, as a commercial gesture to offer the transformation.

Purchases will be detected by LakeDiamond's back-end and forwarded to the smart contract on the Ethereum blockchain as orders. LKD token owners will only be able to capture fiat-based orders executed on the LKD platform.

5.2 LKD platform

The LKD platform provides a simple way to visualize past purchases from industrial clients and capture ongoing opportunities.

5.2.1 How does the platform work?

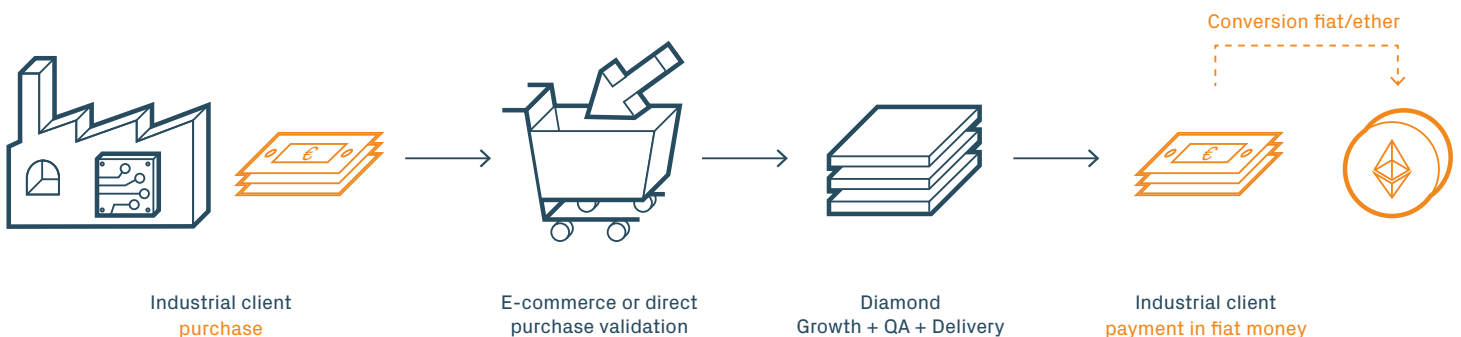
- ◇ All purchases are systematically broadcasted on the LKD platform, and generate an order in the smart contract order
- ◇ Corresponding fiat purchased value is converted into ether and attached to the respective smart contract order
- ◇ Token owners can send LKD to the platform, creating a proposal for future orders
- ◇ Token owners can cancel their respective open proposals
- ◇ The smart contract automatically selects the proposals from the lowest to the maximum price derived from the value of the plates sold to the industrial client
- ◇ The diamond is delivered to the industrial client who pays for the purchase, and ether are credited to the token owners

5.2.2 Smart contract order life cycle

Smart contracts are the backbone of our platform. They simplify the interaction between industrial clients and LKD token owners.

The order life cycle is detailed in these 4 steps:

1 Purchase and growth

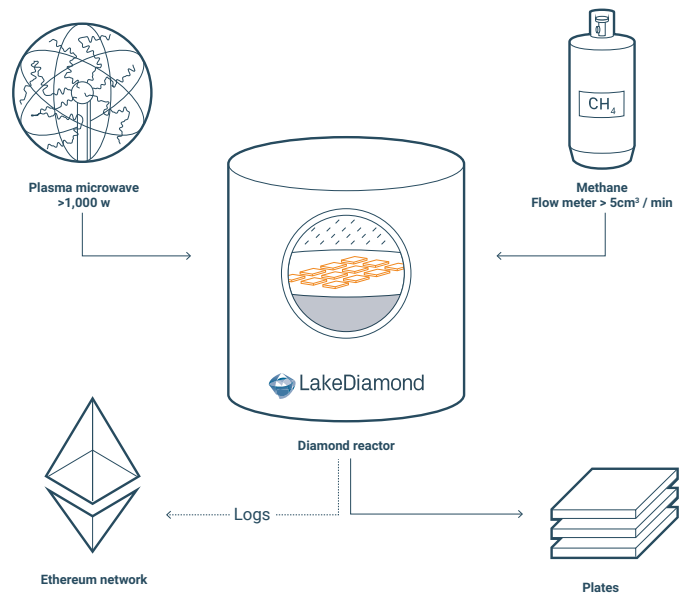


- ◇ The industrial client purchases diamond plates on the e-commerce website or directly via LakeDiamond sales team
- ◇ The purchase is accepted by the company
- ◇ LakeDiamond starts production
- ◇ The products are delivered to the industrial client
- ◇ The payment is received in LakeDiamond's bank account and recorded in LakeDiamond's back-end. The amount corresponding to the value of the diamond is converted into ether and forwarded to the Smart Contract Order. The resulting order has the growth specs related to the diamond product: order price (in ETH), growth time (number of LKD), price per token (in CHF)

Example: An industrial client purchases a Diamond Plate for Micromechanics at 50ppb* for CHF 1,121 (1,300 LKD). LakeDiamond processes the purchase, the growth starts and the product is delivered. LakeDiamond receives the payment in CHF and sends it to the smart contract which now holds 3.74 ETH (with rate: 1 ether = CHF 300).

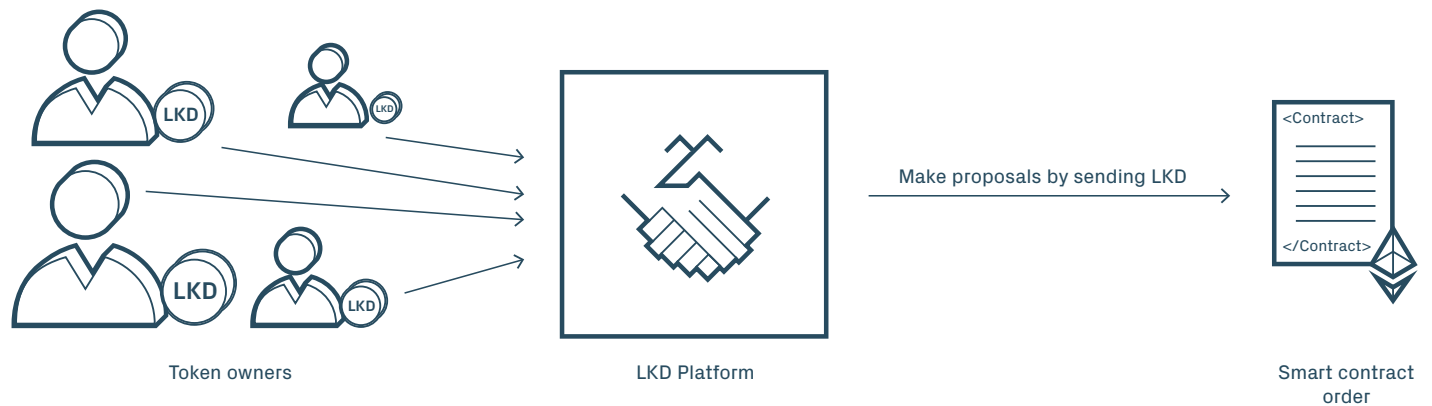
2 Timestamp and Proof of Production

- ◇ Reactor that grows diamonds writes logs via a blockchain agent, which records them on Ethereum via regular transactions in txTransfer.data, making them immutable and time-stamped
- ◇ Diamond grows when the methane valve and the plasma are activated
- ◇ Plasma is considered active when microwave power is above 1,000 w
- ◇ Methane, controlled via flow meter sensor, is considered active if the flowmeter is above 5cm³ / min
- ◇ Reactor activity is broadcasted only when the states of microwave_var and flowmeter_var change



Example: The reactor broadcasts the “Start” and “Stop” timestamps as well as metric logs on the blockchain. The two dates set the amount of time which has been needed to grow the diamond. In this example, the growth duration was 1,300 minutes.

3 Proposal

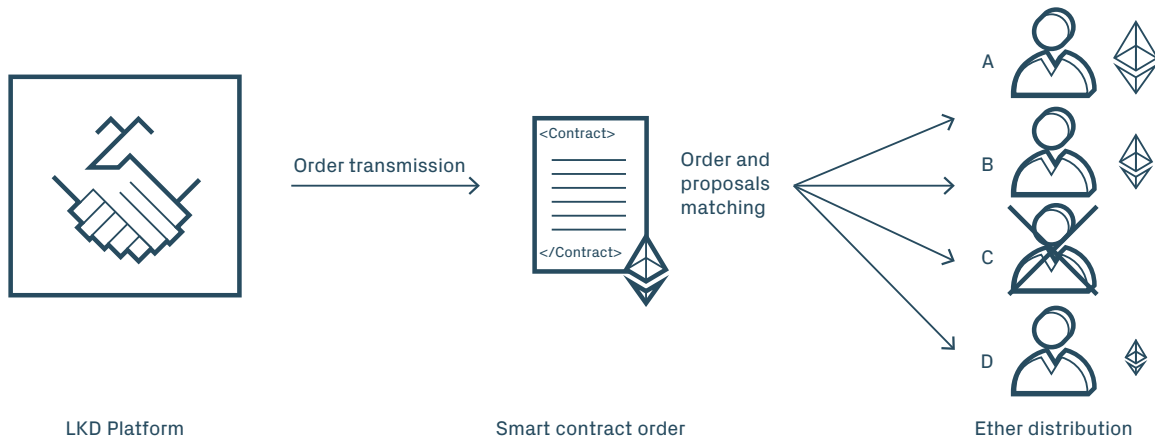


- ◇ To propose their LKD tokens for sale, LKD token owners need to be registered on the LKD platform by successfully completing the KYC process
- ◇ They look at the order history, and make proposals (price per token and number of LKD) for future orders
- ◇ Technically, LKD tokens are sent to the Smart Contract Order. This could be described in the following way: “LKD token owner A is willing to participate in industrial opportunities for which LKD token is valued at more than CHF 0.7 and for 300 LKD (growth time).

- ◇ The 300 LKD tokens are then locked in the contract until:
 - The LKD owner withdraws his respective proposal from the contract, taking back control of the token
 - An order arrives and triggers the matching phase (see next step)

Example: Four token owners proposed to participate in an industrial order each, as illustrated.

4 Order filling



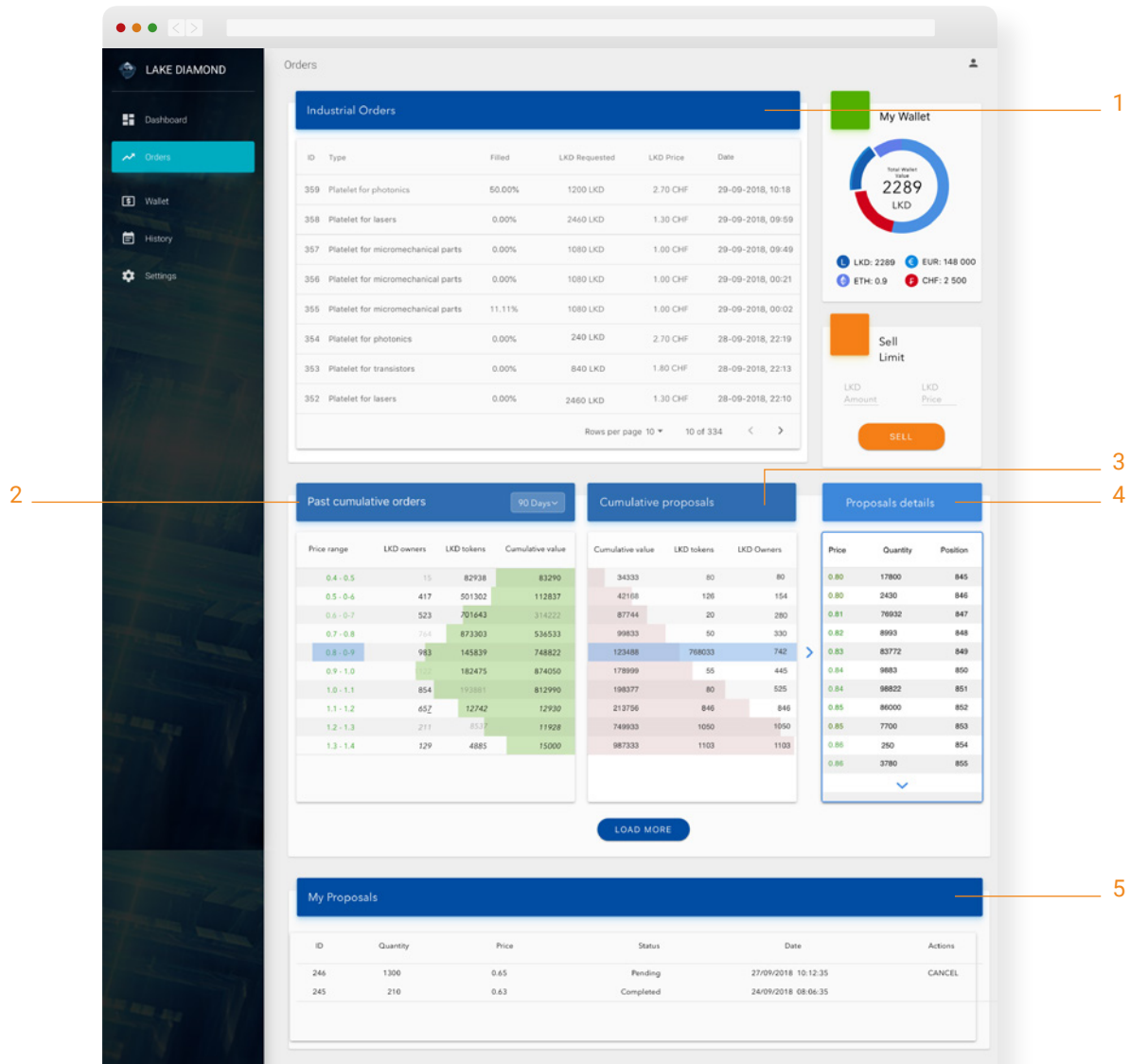
- ◇ LKD platform back-end monitors orders and LKD token owner proposals registering in the Smart Contract Order
- ◇ When a new purchase arrives, LKD platform transmits it to the smart contract, which checks for proposals to fill the order
- ◇ Proposals start from the lowest proposal and stop at the order price (more details in the next section)
- ◇ When final proposals are selected, the smart contract order is filled
 - LKD tokens associated with selected proposals are burnt
 - And respective amounts of ether (from the order) are distributed to LKD token owners whose proposals were selected

Example: Only proposals A, B and D are selected to fill Order 1, and these LKD token owners receive their respective amounts of ether. Proposal C had a price higher than the order price and was excluded.

5.2.3 Order book dashboard

After LakeDiamond has grown a product and received the payment from an industrial client, token owners are able to exchange their LKD tokens against ether when their proposals get selected on the LKD platform. The interface enables LKD token owners to visualise previous orders and make proposals.

The screenshot below displays some typical metrics of the order history and active proposals.



LKD platform version 2, with demo orders

1. List of recent industrial orders
2. List of cumulated orders by value slot (0.5 – 0.6 / 0.6 – 0.7 etc...) representing the total amount of past orders. It allows token owners to evaluate where liquidity is higher, to set a sale price.
3. Active proposals by value slots represent the cumulated list of token price proposals.
4. When a value slot (blue line) is selected on active proposals panel (3), details of the waiting list are sorted by cheaper price to higher price with a FIFO (First In First Out) queue if multiple proposals are at the same sell price.
5. Active proposals of the token owner are monitored. Token owners can use MetaMask (browser based software wallet), and hardware wallets (for example, Ledger Nano S) to securely send their LKD to match future orders.

5.2.4 Order filling mechanism

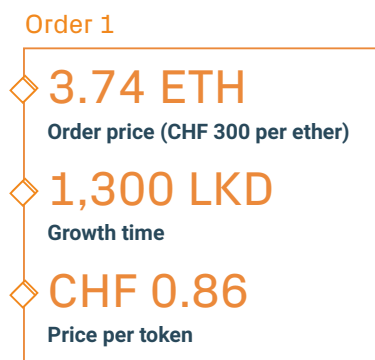
Diamond pricing and growth time depend on the type of diamond being grown and its quality (Electronic – 5ppb / Quantum grade – 1ppb).

Considering a new order creation (Order 1), with the following parameters:

An order will be described in the Smart Contract Order by 3 parameters:

- ◇ **Order price (in ETH):** Represents the growth cost of the diamond
- ◇ **Growth time (in LKD):** Amount of minutes required to grow a specific diamond in a reactor
- ◇ **Token price per LKD (in CHF):** A direct correlation between the order price and the growth time

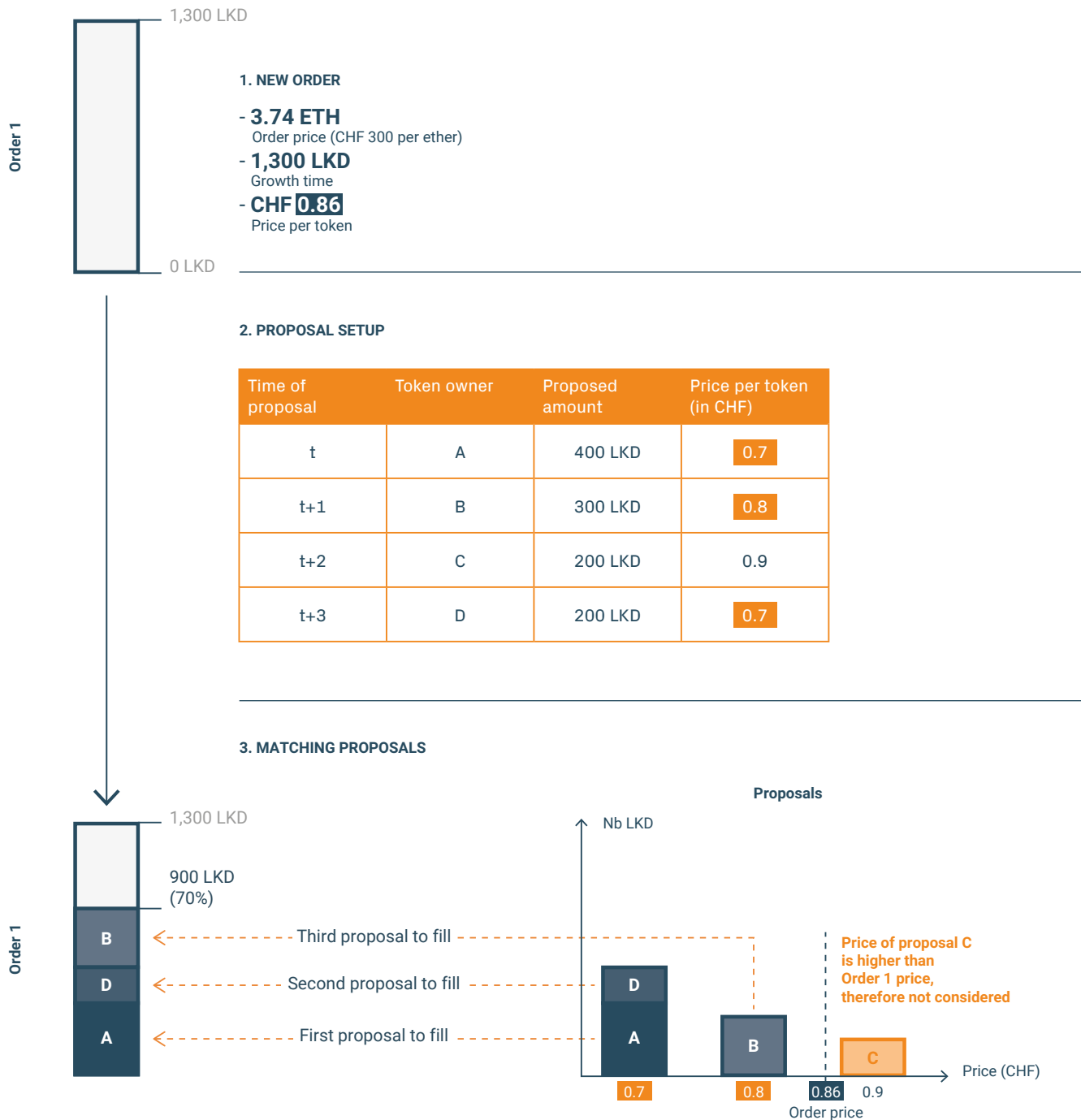
Smart contract order selects proposals in a fair and transparent manner. Source code of the LKD platform and smart contract order including the order filling mechanism will be open sourced for public review.



Smart contract order will select proposals with the following rules:

- ◇ Proposals need to be already recorded in the smart contract order to be selected
- ◇ Proposals start from the cheapest proposal and stop at then order price per token (so up to CHF 0.86 in this example)
- ◇ Cheapest proposal will try first to fill the available growth time of 1,300 LKD:
 - If it succeeds to fill it totally, it will be the only winning proposal
 - If partial, the second cheapest proposal will try to complete the required total amount
- ◇ The process is repeated until the 1,300 LKD is reached, or when no more proposals are available

Four token owners made one proposal each, using the following sequence: A → B → C → D. The order filling mechanism is illustrated below:



What if:

- What if two proposals have the same price, which one will be the first to fill the order? LKD platform will choose the oldest proposals first (FIFO selection). That is why proposal A is selected before proposal D in this example.
- What if LakeDiamond needs to perform in-house R&D to upgrade its own production and propose novel diamond products? This in-house R&D will not be captured by token owners, as it will not be subject to a payment from an industrial client.
- What if there are not enough proposals to complete an order? The order will be filled with the existing proposals, respective ether will be distributed to these proposals, and the rest will be returned to LakeDiamond.

5.2.5 Payment to token owner

When the smart contract order validates each winning proposal, it calculates the respective ether amount to allocate. Only the same Ethereum address which created the proposal can collect the respective ether. The amount corresponds to the price per token set by the token owner during the proposal phase, and not the price per token of the order.

When a proposal is selected, the LKD is burned first, then the ether is sent to the LKD token owner address (the same used for opening the proposal).

To find how much ether each LKD token owner is entitled to, we can use the formula:

$$\frac{\text{Growth time (number of LKD) x price per token (in CHF)}}{\text{ether price rate (in CHF)}} = \text{price amount (in ether)}$$

So, in the case of Order 1, we can verify the order price:

$$\frac{1,300 \text{ LKD} \times \text{CHF } 0.86}{\text{CHF } 300} = 3.74 \text{ ether}$$

The ether amount to be received for token owner A is calculated as below:

$$\frac{400 \text{ LKD} \times \text{CHF } 0.7}{\text{CHF } 300} = 0.93 \text{ ether}$$

A summary of the proposal scheme result for Order 1:

Time of proposal	Token owner	Proposed number of LKD	Price per token (in CHF)	Winning proposal	Selected LKD (will be burned)	Ether to receive
t	A	400	0.7	1st	400	0.93
t+1	B	300	0.8	3rd	300	0.8
t+2	C	200	0.9	Not selected	0	0
t+3	D	200	0.7	2nd	200	0.47
Amount to be returned to LakeDiamond (unfilled ether)						1.54

5.3 Proof of production

A critical component of the LakeDiamond technology platform is the proof of production, or cryptographic evidence that the amount of diamond material produced by the reactors is exactly the amount registered onto the blockchain. This

amount of diamond is registered based on the logs produced from the reactors' activity, and generated by the control workstation.

5.3.1 "Trust" model of the reactors

The correct execution of the physical process cannot be fully verified using electronic means, essentially because the reactors cannot provide cryptographic proof of their operation relying on trusted hardware. Therefore the administrator of the workstation collecting reactors' logs has to be trusted. This "trust the admin" model is the same as that of most online applications (for example, Google services). Furthermore, an advantage is that the operating systems run directly on bare metal hardware, as opposed to a virtual infrastructure. Hence there is no risk that a hypervisor administrator or attacker could compromise the OS.

To prevent tampering of the the reactors' activity logs, LakeDiamond prevents unauthorized access to the workstation. Equipment is run in dedicated facilities with strict access control and monitoring, and a minimal set of authorized operators. LakeDiamond detects and records any unauthorized access in case it happens, and keeps an audit trail of persons having entered the facilities or used the workstation.

LakeDiamond is bound to have its machines and the protocol execution audited by external auditors in order to ensure the robustness of the process and avoid the risk of manipulation. Even if the risk of collusion between LakeDiamond and the auditor cannot be totally eliminated, preventative measures and an audit trail aim to minimize the risk to an acceptable level.

5.3.2 Verifiable logging of reactors' activity

To ensure reactor activity logs' integrity and authenticity, they are recorded on the Ethereum blockchain.

Activity logs record the start and end of reactor production, based on its gas and plasma activity. This makes it possible, for external auditors from major auditing companies, to verify the quantity of diamond material that could be grown and used for LakeDiamond orders.

To regularly record the activity of a reactor, a dedicated program will run attached to the workstation and regularly monitor activity logs. When new log data is discovered, this background process will extract the relevant data (specifically, fields Incident_Power and Read_MFC_CH4 of the logs), create the transaction, and send the signed transaction to another machine for broadcasting to the network.

5.3.3 Key ceremony and revocation processes

The secret key held by the reactors' workstation is required to broadcast the logs to the network. Should this key be compromised, an attacker could forge fake activity logs, and compromise the integrity of the system. This signing key must therefore be securely generated and stored.

The reactors' key will be generated through a documented ceremony, with backup copies recorded using threshold secret sharing and copies kept in different locations. This is common

practice for critical secret key material. In particular, LakeDiamond will use a safe cryptographic pseudorandom generator, a newly purchased air gapped machine, and will destroy any derived data after the ceremony.

Revocation would be necessary if the key or relevant derived data is compromised. The exact procedure is yet to be defined, but will be created before the ceremony when all the deployment information is available.

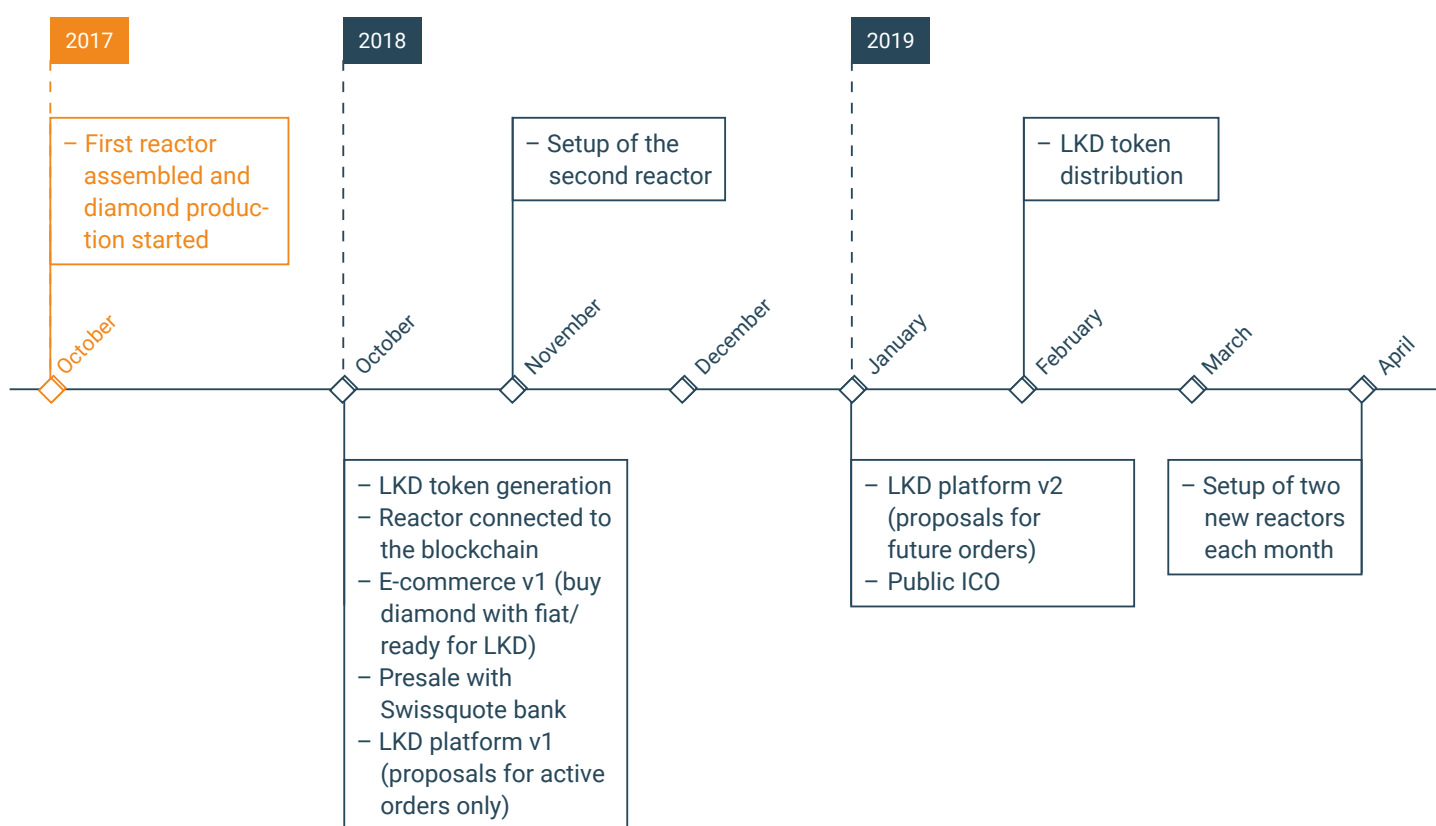
5.4 Audit

A full audit of the ICO and token smart contract code will be performed by the Auditor.io team (excluding overlapping members of the team with the developing team), and Jean-Philippe Aumasson, as well as another external auditor.

The full audit report will be publicly available for inspection to everyone interested, and will be linked to the source code hash of the project.

The project will also be verified on Etherscan with full source code in order to guarantee full transparency. Manual instructions for investors on how to verify the validity of the smart contracts will also be published on the company blog.

6. Roadmap



7. Tokenomics

Token description:

The LKD token represents a right of 1 minute use on a diamond growth reactor. It can also be used as a mean of payment to buy the company's diamond-based products.

Token monetary policy:

Once the tokens are used, they are burned (e.g. removed from the total supply). This is purposely done to limit the use of a token to one minute that can not be reused in the future. It also creates an economic scarcity so that "only" the token owners can benefit from future opportunities.

Token value:

The LKD emission price has been calculated based on Capital Expenditure (CapEx) and Operating Expenditures (OpEx) which are associated with growing diamonds. Mainly, this price has been driven by reactors depreciation schedule, electricity costs, gas costs, seed costs and current plate market price.
 $(LKD) \text{ Market Cap} = \text{Circulating Supply} \times (LKD) \text{ Token Price}$
 $\text{emission} = \text{CHF } 77,616,000.$

Moving forward, the value of a minute of production will be correlated to the value of the diamond component included in diamond product.

Token price is defined as a function of diamond plates sales price.

LakeDiamond is receiving orders from industrial customers, falling in two different categories:

- 1 Diamond plates, which are directly cut and polished from rough diamonds produced in LakeDiamond reactors.
- 2 More elaborate diamond-based products, necessitating further transformations of diamond plates.

For the first category (1), LakeDiamond will retain a portion of the sale price that represents the polishing and cutting costs. This portion depends on the final roughness of the plate or its thinness. The remaining portion is the value at which LakeDiamond limits the repurchase of tokens on the LKD token platform. In this way, both LakeDiamond and token owner's interest are aligned: selling premium products at premium price.

For the second category (2), high value diamond-based products will be produced and marketed by spin-offs from LakeDiamond. These spin-offs will be founded with key industrial partners and strategic investors. Transfer prices of diamond plates to the spin-offs will be set on an arm's length basis. As per category (1), a portion of the transfer price that represents the polishing and cutting costs will be retained. The remainder of the transfer price will be used by LakeDiamond as the limit at which it repurchases tokens on the LKD platform. The order in category (2) will therefore be treated in the same way as for category (1) in diamond plates.

Both LakeDiamond and token owners share a common interest: the maximization of diamond plates value. It is the best way to ensure a transparent and fruitful relationship between all parties.

Diamond product pricing:

LakeDiamond produces and sells high value products.

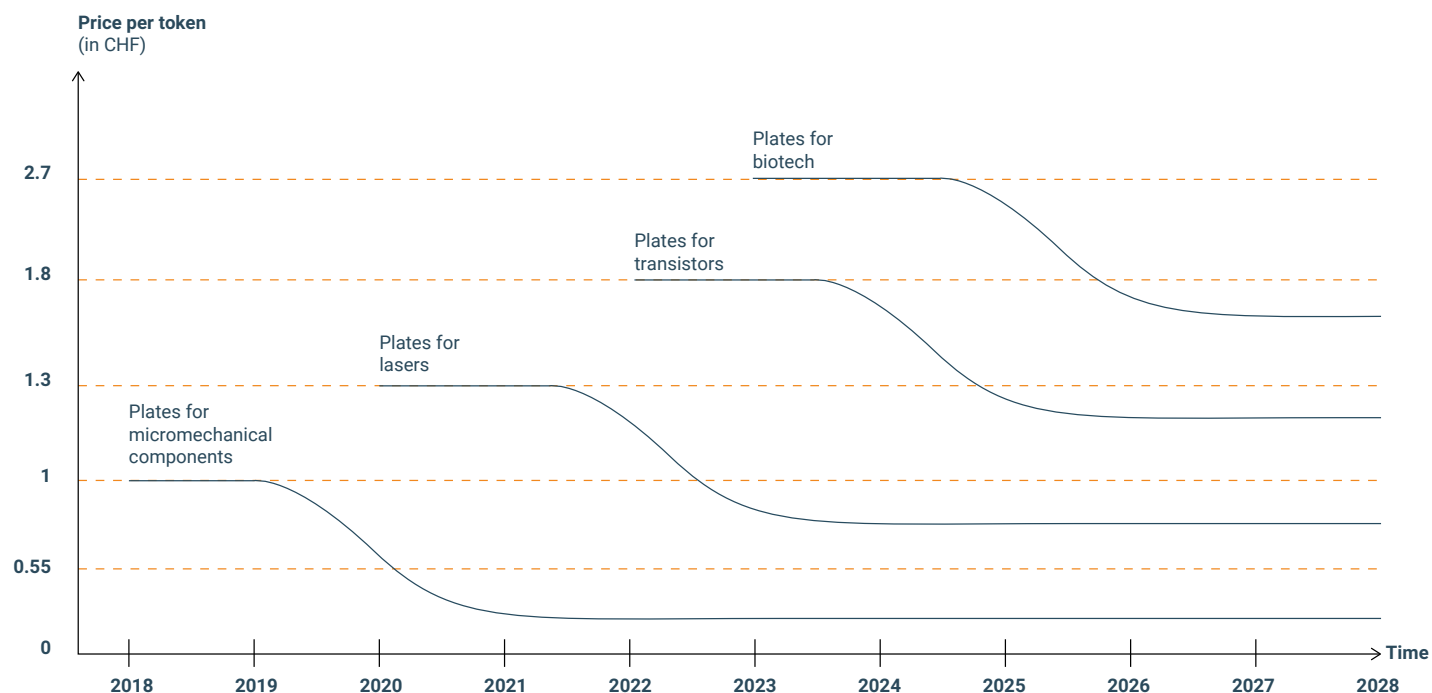
Diamond product value derives from the diamond quality, its transformation and the product feature and its applied use.

It is worth noting that on the LakeDiamond innovation roadmap, miniaturisation is a key element. As examples, diamond-based transistors are much smaller than their silicon based equivalents. Diamond biotech sensors require ultra-thin films of diamond.

The following factors have an impact on the product value:

- Diamond purity
- Diamond special doping (incorporation of special elements)
- Diamond crystal quality
- Plate ultra thinness
- Plate polishing
- Product innovation
- Market leadership
- Production costs

LakeDiamond product roadmap and token value projections



Token value may be impacted by the value of the diamond products, and more specifically of the diamond component of the products. Product is usually sold at a higher price during its launch phase. At maturity phase, volume is at its peak but prices may recede. Value of diamond production minutes may evolve in a similar way. However, when a new product is launched, a higher value derived from its diamond component may underpin diamond production minutes.

Token value may also be impacted by the secondary market where demand and offer meet. LakeDiamond does not have control whatsoever on the secondary market.

LKD token liquidity is correlated with the number of LakeDiamond sales coupled with its production capacities.

8. Disclaimer

LakeDiamond SA is a company limited by shares having its registered office at Rue Galilée 7, 1400 Yverdon-les-Bains, Vaud, Switzerland, and registered as such with the Swiss Commercial Registry under reference CHE-141.951.583.

LakeDiamond SA is a commercial and an operational entity whose sole activity is manufacturing, transforming, selling, marketing and distributing lab grown diamonds. In its Swiss-based labs, LakeDiamond SA grows diamonds plates and transforms them for high-tech applications thanks to its own developed proprietary technology. LakeDiamond SA especially sold diamond-production hours (Diamond Grown Production Hours) to customers, thus allowing customers to use labs and to grow diamond plates, and to transform such diamond plates into round brilliant respectively according to the customers' needs.

LakeDiamond SA contemplates making available Diamond Grown Production Minutes into tokens (LKD Tokens). Time-based machine token initiative based on LKD Token is likely to use the benefits of smart contracts to tokenize Time-based machine use in terms of minutes, by connecting LKD Tokens owners with LakeDiamond SA diamond production labs on Ethereum protocol basis. LKD Tokens are intended to provide a right of use to grow diamonds during a certain number of minutes on LakeDiamond SA labs. 1 LKD Token = 1 Production Minute. LKD Tokens owners are likely to be given priority towards other order made to LakeDiamond SA by other customers, which would not own LKD Token. The smart contract is likely to guarantee the LKD Tokens owner priority.

LakeDiamond SA, at its sole discretion, may decide to issue LKD Tokens in the context of an ICO. Actual owners of Diamond Grown Production Hours do not have any enforceable right against LakeDiamond SA to receive, acquire or convert Diamond Grown Production Hours into LKD Tokens. The launch of the ICO is made at the sole discretion of LakeDiamond.

Potential purchasers of LKD Tokens ("Potential Purchasers") are aware, understand and accept that growing diamond plates, and transforming such diamond plates into round brilliant respectively is at an early stage and is a long process and that Potential Purchasers' needs and expectations with respect to delivery timing may not be guaranteed and may be subject to delay, in particular but not limited to high demand and/or outage and/or labs sizing and/or other production issues. LakeDiamond SA shall not be held liable for any delay and/or postponement and/or impossibility to use LKD Tokens.

LKD Tokens shall give to Potential Purchasers owning LKD Tokens no other right than a right of use labs and to grow diamond plates, and to transform such diamond plates into round brilliant respectively according to Potential Purchasers'

needs. LKD Tokens are intended to be payment tokens that Potential Purchasers would use in order to make use of the Diamond Grown Production Minutes only. LKD Tokens are not intended to give Potential Purchasers any other right like, for instance, equity, assets, bond, security, interest, yield, debt, right to repayment, or intellectual property right.

LKD TOKENS WILL NOT QUALIFY AS PURE CRYPTOCURRENCIES LIKE FOR INSTANCE BITCOIN OR ETHEREUM AND MAY NOT BE USED AS SUCH IN ANY WAY. THEY WILL ALSO NOT AND SHALL NOT BE USED IN ANY WAY AS EQUITY, ASSETS, BONDS, SECURITIES, DERIVATIVES OR ANY OTHER FINANCIAL INSTRUMENTS.

LakeDiamond SA is neither a bank, a private bank, an exchange, a securities dealer, a fund, a collective scheme investment manager or distributor, a financial intermediary, an asset manager or otherwise a financial institution and is neither authorized to act as such nor monitored by any financial market supervisory authority, including the Swiss Financial Market Supervisory Authority FINMA. Neither this document nor any other information material relating to LakeDiamond SA and/or the LKD Tokens, including but not limited to the Terms and Conditions of the LKD Tokens, have been or will be filed with or approved by any Swiss regulatory authority. In particular, this document will not be filed with the Swiss Financial Market Supervisory Authority FINMA (FINMA). The LKD Tokens and the ICO are not and will not be subject to any supervision and/or authorization by the FINMA and Potential Purchasers will not benefit from protection or supervision by such authority. Any ICO involves risks, which would be described in the documentation prepared in due course, in particular but not limited to the Terms and Conditions of the LKD Tokens.

Furthermore, each Customer is aware, understands and accept the inherent risks associated with the Blockchain technology and cryptocurrencies in general and the LKD Tokens in particular, including, but not limited to, those listed hereinafter. More comprehensive risk factors describing risks associated with LKD Tokens will be set out in the documentation prepared in due course related to the LKD Tokens, in particular but not limited to the Terms and Conditions of the LKD Tokens.

Potential Purchasers are aware, understand and accept that any smart contract, and/or any underlying software application and/or any blockchain are part of a new technology that is still in an early stage. Potential Purchasers are aware, understand and accept that the blockchain may be interrupted or may contain errors. Potential Purchasers are aware, understand and accept that there is an inherent risk that the smart contract, and/or the software and/or the blockchain could contain weaknesses, vulnerabilities, virus or bugs causing, inter alia, the complete loss of ETH, other (financial) means and/or support and/or LKD

Tokens. Potential Purchasers are aware, understand and accept that any smart contract and/or underlying protocols and/or any other software, and/or any blockchain may either delay and/or not execute and/or not execute properly an order due to various factors, including, but not limited to the overall traffic volume, mining attacks, virus and/or similar events. LakeDiamond SA shall not be held liable for any suspension, theft, fraud, loss of LKD Tokens.

LakeDiamond SA shall not be liable for the technical risks related to, among others, power outage, disconnection, time-out or system failure, delays, transmission errors, disturbance or the overloading or locking-up of the systems or networks involved therewith. If LakeDiamond SA detects any security risks, it reserves the right to interrupt the blockchain for the protection of the Potential Purchasers at any time until the risk is removed. LakeDiamond SA shall not be liable for any damages incurred as a result of such interruption. LakeDiamond cannot guarantee the availability of the internet.

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This document contains information concerning the actual business and expected future business of LakeDiamond SA, potential growth prospects and other future events or developments of the existing industrial equipment. These forward-looking information are based on the current expectations, esti-

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Potential Purchasers are aware and understand that certain jurisdictions restrict or may restrict in future their residents or citizens from participating in any ICO, token sales, use of cryptocurrencies, or use of any cryptocurrency exchanges for any reason. LakeDiamond SA does not bear any liability for any possible current or future impossibility to convert, hold, use or otherwise keep LKD Tokens because of the aforementioned or any other possible restrictions.

LKD Tokens may not be converted, held, used or otherwise kept if legal restrictions apply, in particular but non-exclusively, to residents or citizens from Prohibited Countries. It is the responsibility of Potential Purchasers to seek legal advice in their

jurisdiction to identify any such legal restrictions. LakeDiamond SA shall have the right at any anytime, at its sole discretion and by any means, to exclude, ban or otherwise restrict the participation in the Token Sale or otherwise restrict the Potential Purchasers' possibility of converting, holding, using or in any other way keeping LKD Tokens if the respective Customer does not meet eligibility requirements set forth by LakeDiamond SA for the purpose of the LKD Tokens Sale or on other grounds.

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8.1 Schedule 1

The United States (including its territories and dependencies, any state of the United States and the District of Columbia), Afghanistan, Angola, Anguilla (Isle), Antigua and Barbuda (Isle), Aruba, Australia, Bangladesh, Belarus, Benin, Bhutan, Bolivia, Botswana, Brunei Darussalam, British Indian Ocean Territory, Burundi, Burkina Faso, Bosnia, Burundi, Cambodia, Cameroon, Canada, Cape Verde, Central African Republic, Chad, People's Republic of China, Comoros, Congo, Democratic Republic of the Congo, Cuba, Djibouti, Dominica, Ecuador, El Salvador, Equatorial Guinea, Eritrea, Ethiopia, Fiji (Isle), French Guiana (Isle), French Polynesia (Isle), Gabon, Gambia, Ghana, Guam (Isle), Guatemala, Guyana, Guinea, Guinea Bissau, Haiti, Honduras, Iran, Iraq, Ivory Coast, Jordan, Kenya, Kiribati, Kosovo, Kyrgyz Republic, Laos People's Republic, Lebanon, Lesotho, Liberia, Libya, Madagascar, Malawi, Mali, Maldives, Mauritania, Mayotte (Isle), Micronesia, Moldova, Mongolia, Montenegro, Montserrat, Mozambique, Myanmar, Namibia, Nauru, Nepal, New Caledonia, Nicaragua, Niger, Nigeria, Niue, Northern Mariana Islands, North Korea, Oman, Pakistan, Palau (Isle), Palestinian Areas, Papua New Guinea, Paraguay, Reunion, Rwanda, Samoa, Sao Tome and Principe, Senegal, Sierra Leone, Somalia, South Georgia, Serbia, Sudan, South Korea, South Sudan, Sri Lanka, Suriname, Syria, Swaziland, Tajikistan, Tanzania, Timor, Togo, Tonga, Trinidad and Tobago, Tunisia, Turkmenistan, Tuvalu (Isle), Uganda, Ukraine, Uzbekistan, Vanuatu, Venezuela, Western Sahara, Yemen, Zambia, Zimbabwe



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