





Remechain whitepaper

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1. Project summary

Remechain is a marketplace on basis of smart-contracts, allowing participants of the scrap metal market, to buy and sell scrap safely, as well as to control the supply chain delivery to the destination points.

This is the first decentralized exchange, aimed to solve the main problems of secondary metals market. At the moment, the market is inefficient and the system has a set of imperfections:

Market Imperfection	Consequence of the Imperfection	Remechain Solution
The lack of standardized classification of scrap. Today, the consumers of scrap (steel plants and factories) use their own standards for assessing scrap categories, which determine its grade and price.	<i>As a result, it is difficult for suppliers to find out what kind of scrap they bought in reality and how much it costs. This leads to long negotiations on the terms of each transaction (price, quality, cost of delivery)</i>	Remechain is calculating the parameters for optimal transaction and creates the standardized scrap metal quality assessment methodology
There is no mechanism to determine the optimal counterparty, depending on the geographical location of the trading partner, as well as category and amount of scrap available.	<i>The problem for scrap supplier is determination of the place with the highest purchase price. The problem for the buyer is to find the lowest price, taking into account the delivery costs. All this leads to an overestimation of the costs of transport.</i>	Remechain takes into account the geographical location of the purchaser when calculating the optimal transaction. Carries out the planning and contracting delivery by integrating with blockchain-logistics services.
The transaction assurance mechanism does not exist	<i>Risk of non-fulfillment by the parties of their obligations</i>	Remechain It takes advantage of smart contracts and provides delivery versus payment.
Counterparty Risk	<i>Risk of fraud or another breach of law</i>	Remechain conducts primary accreditation of system participant, blockchain record all the information in the history of transactions. Remechain creates ranking of counterparties in accordance with their reputation.

At this point, Remechain has no competitors offering the similar product. The project principles meet the interests of all the suppliers and buyers of secondary raw materials. Implementation of Remechain technology multiply reduces the costs and risks for market participants. Mutual interest of market participants in the project ensures rapid growth of its popularity and usage. Remechain has a scalable model and it can be implemented on the majority of foreign markets having similar problems and claims to be the only decentralized exchange of secondary metals. The other participants will gradually accept the quality standards of Remechain.



Remechain is the first decentralized exchange for dealing with scrap metal, which solves the main problems of the secondary metals market, reduces the costs and eliminates risks of market participants.

2. Problems of secondary metals market

Remechain is the first decentralized exchange for transactions with scrap metal, which solves the main problems of the secondary metals market, multiple reduces the costs and risks of market participants.

2.1. Types of Market Participants

Buyers:

- **small retail metal collectors**, accepting to its platform metals of all kinds
- **platforms of different sizes and specifications**, including facilities for cars recycling and recycling of other large equipment, supplying wholesale shipments of larger sites and direct consumers of scrap metal
- **large recycling facilities and consumers of scrap** – steel plants, manufacturing plants, and others

Sellers:

- **professional scrap sellers** (metalworking enterprises engaged in cutting and machining metal, sites for collecting scrap from people, utility services, railway companies, etc.)
- **one-time scrap sellers** (e.g, construction companies), who at the same time produce a certain amount of scrap metals

Small market players and one-time sellers (quite large lots of scrap) are in the least favorable position. Not being professional participants of the market, they do not own all the information about the prices of the metal they sell and the methods of its valuation and become the main target of fraud on the part of unscrupulous buyers.

2.2. Description of the business process of contracting secondary metals

Usually, scrap is formed as a waste product or the result of a purposeful activity by its collection. In this case, scrap metal is first accumulated by the seller and then sold to the buyer. In that case, the business process is as follows:

- Preliminary determination of the quality and quantity of scrap collected from the seller (performed by the seller himself).
- Decision on the need to sell scrap metal
- Initiation of the transaction by the seller
- Search for a suitable buyer based on available sources of information
- Negotiations on the terms of scrap delivery
- Conclusion of a contract
- Selection of the transport company, coordination of the transportation conditions
- Conclusion of the contract for transportation and prepayment
- Delivery of scrap to the buyer
- Scrap reception by the buyer
- Weighing, the determination of its category and the percentage of debris
- Receiving a payment and invoice from the buyer



There is no unified information network for concluding transactions. Unequal conditions of market participants provoke unscrupulous behavior. The most difficult thing in contracting is finding a buyer, negotiating terms and logistics.

In some cases, the initiation of the transaction may be carried out by the scrap buyer, who is interested in obtaining a permanent customer. Then the buyer is forced to independently look for suppliers of scrap, but the essence of the business process does not change from this. From the description given, it can be seen that this business process is associated with significant transaction costs.

The main problem is the search for a buyer. Finding a suitable buyer, in fact, means that the responsible person on the part of the seller should call a large number of buyers, independently check their reliability, agree with the terms of the transaction, sign the contract, and also do the same in relation to the transport company. Working hours of the employee and his travel expenses are paid by the seller. Despite this, the seller has no guarantees that this transaction is optimal from the point of view of maximizing revenue, and is not immune from fraudulent actions, incl. (conspiracy to obtain a kickback) of his employee.

The next problem of the existing business process is the determination of the category and quality (contamination) of scrap. If, as a rule, problems do not arise with the determination of scrap weight (scrap weight is measured as the difference between the weight of the loaded truck at the entrance to the buyer's site and the empty truck at the exit from the site). That definition of a category of a breakage (especially mixed) and its weediness is made on eyes by the representative of the buyer. If the seller disagrees with these parameters, then he is invited to look for another buyer. At the same time, transportation costs to the original buyer have already been paid and are not compensated. In such circumstances, the seller is easier to agree to the proposed terms than to pay additional transportation costs to another site.

Finally, the third and most common risk of the seller is the risk of late or incomplete payment for the goods. The secondary metals market does not use letters of credit or prepay for metal. The reason is simple — the parties to the transaction usually do not know the exact amount of metal until the machines are weighed on the site of the buyer. Therefore, sellers are forced to rely on the decency of buyers and patiently wait for the receipt of money on the settlement account.

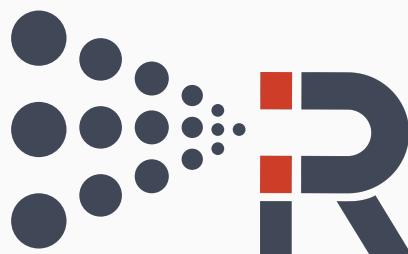
It can not be said that the scrap market is a market exclusively for the buyer. The buyer also risks, if the seller disguises (covers) the ballast (stones, rubbish) with scrap. Also, in the case of buying and selling scrap of non-ferrous metals, the buyer may be mistaken not in his favor in determining the chemical composition of the alloy. Cases of the sale and purchase of metal with toxic or radioactive contamination are also possible.

Another serious problem for the buyer is the risk of buying stolen metal. Under the current legislation adopted in most countries, the purchase of stolen goods is a criminal offense. However, in most cases, the buyer does not have information about the seller's reputation and the origin of the scrap. Also in most cases, it is not possible to determine the legitimacy of the origin of scrap metal by wild guess on the basis of its appearance.

In general, it can be concluded that the existing business processes for the purchase and sale of secondary metals are inefficient and involve very significant risks. These risks are not eliminated by local optimization of traditional business processes, but they are solved by the implementation of Remechain.

It can not be said that the secondary metals market is not moving in the direction of increasing the transparency and security of transactions. So, with the increase in the number of Internet users, specialized websites and forums in the field of secondary metals (scrapmonster.com, armetalrecyclers.com, metaltorg.ru), various tender platforms and aggregators have become popular. However, all these Internet resources solve only a small part of the market problems and do not solve the problems in a complex. In most cases, they are essentially bulletin boards, without any further support for the transaction. A single trade and information space that facilitates the buying and selling process and reduces risks, is absent, despite the obvious need for it.

The existing market for recycling of secondary metals can be shown in the form of an impressive heap of metal sawdust, which is located chaotically and is magnetized to each other according to the principle of position and placement in space. With the help of a magnet, all this can be arranged and brought into strict correspondence to the direction of the magnetic lines. ReMeChain is such a magnet that allows structuring the metal waste market, to enable all participants of this market to study, compare and make the right decision in choosing one or another executor of their order.



Now the market is inefficient and its participants bear significant risks.
Remechain eliminates inefficiencies, risks of participants and solves problems in a complex.
Remechain is like a magnet, which puts in order a chaotic heap of iron filings.



2.3. Identification of the main problems of the secondary metals market

Structuring the problems of the market, we can actually formulate the terms of reference for the development of the Remechain system, which should offer an effective solution:

The first and main problem of the secondary metals market is the absence of the scrap classification standard used by all market participants.

Undoubtedly, there are international and Russian standards, but today, the end buyers of scrap (metallurgical plants) use their own standards for assessing the scrap category, which determines its grade, quality, and price. As a result, it is difficult for suppliers to find out what kind of scrap they are in reality and how much it costs.

The consequences of this problem are:

- lack of information transparency of transactions, which leads to possible abuses both on the part of the seller and the buyer (understating quantity, quality of scrap, collusion, kickbacks)
- the existence of risks for metallurgical companies to acquire secondary metal of inadequate quality and chemical composition
- unreasonable overstatement of transaction costs (costs of finding a counterparty, conclusion, and maintenance of a transaction) both from the seller and the buyer.

And as a result - lengthy negotiations at the conclusion of the transaction and additional costs.

The second most important problem in the secondary metals market is the security problem, which includes the following aspects:

1. Transparency of the counterparty's reputation

The current state of the market is characterized by a lack of information about market participants, the history of their transactions, their integrity. This leads to increased costs for assessing the integrity of the counterparty on the one hand (for example, the work of the security service), and the risk of default on the contract on the other.

2. Achieving consensus in the field of quality

The complexity of finding a counterparty is that there is no reliable information on the quality of the subject matter of the transaction (scrap metal) until the delivery to the buyer's site. Often scrap buyers determine the percentage of contamination "by eye", with rounding not in the direction of the seller. Naturally, scrap quality assessment takes place at the buyer's site when the goods are already delivered. Also, the direct receiver may require the sellers to remunerate or deliberately underestimate the weight reading, leaving the cost of the difference in weight in their pocket, as each subsequent link along the path of creating value for the ultimate beneficiary

3. Determination of the optimal counterparty depending on the geographical location of the initiator of the transaction, the category and amount of scrap

At the moment, the solution to this problem is left to the seller's managers. That is, the human factor is involved in the decision-making, and the responsible employee may simply be too lazy to calculate a large number of options. Without knowing the completeness of the information, the manager can conclude a contract with an intermediary who is more active in the information space than the end user. And miss out on more profitable options for contracting. In addition, in the case of establishing long-term relationships with the selected counterparty, managers may not respond in a timely manner (or not at all) to the emergence of new, more profitable counterparties in the market.

4. Planning and contracting delivery

Another imperfection of the current market situation is high transaction costs. Transaction costs are calculated as the sum of all the costs of finding a counterparty, assessing its reliability, signing a contract, delivering goods, tracking the transaction, collecting documents, etc. etc. Typically, these costs are expressed in the cost of working time of the employees responsible for the transaction, plus travel expenses, plus overheads and so on. The lower the transparency of the scrap market, the lower its structurization, the higher these costs. Market participants have to rely on the quality and efficiency of their employees, and nobody has proposed replacing the human factor before us.

Separately here it is necessary to allocate transport costs. Scrap buyers are not always ready to pay the costs of transport. Therefore, the lack of a vehicle creates certain problems for sellers who have long been willing to send scrap.

Now (before the release of the Remechain project), there are no standard procedures that help to optimize transaction costs. There is no integration of any logistics applications into the chain of sale of scrap.



5. There is no effective mechanism for guaranteed execution of transactions

The problem of untimeliness and incompleteness of payments in particular, as well as the performance of contracts in general, is typical not only for the secondary metals market but for the entire economy. Instruments such as pledge, surety, letters of credit and other traditional means of securing obligations are not characteristic of the secondary metals market. Scrap buyers motivate their desire to work on postpay by the fact that they do not know how much they will bring scrap and what quality to them.

MARKET PROBLEM

Complex search for information

To act on the market, you need to spend a lot of time collecting and processing information on forums, tenders, and websites. There is no single information space for unification and conclusion of transactions on a market basis. Access to such sources is expensive or difficult for ordinary market participants. For large buyers, they are replaced by large key suppliers or traders who, having exclusive prices, usually solve this issue through the work of managers.

Lack of information about participants

Market participants are isolated. It is difficult to obtain reliable data on all actual transactions of potential partners, the success of their implementation and information on the quality of the materials supplied.

The complexity of the supply-demand forecast

The market does not allow you to quickly obtain reliable information about the global supply-demand in various regions. In this regard, once set conditions and prices for partners do not change even if they do not already correspond to the realities of the market.

Inefficient logistics

Suppliers face difficulties in planning logistics. Lack of information leads to the impossibility to build an optimal route and organize a consolidated cargo, which imposes additional financial costs and increases the delivery time of materials.

Barriers to entry for the new players

For a new participant, without a history of established contacts with partners, entry to the market is complicated by the need to plan a marketing budget, develop links and pinpoint partners. All these factors require the company to develop a large-scale strategy for entering the market, hiring additional managers and, thus, lengthen the path to the main goal - directly working in the market.

REMECHAIN SOLUTION

Global open market

A single information space is an open, reliable data about all market participants, including the name and location, the proposed volume of material of a certain type and price. All the necessary information is accumulated on the Remechain platform and is easily accessible.

Open data on participants

Unified information network Remechin contains data on all suppliers and buyers on the market, including the name and location, the proposed volume and price, as well as the transaction history, the number and success of transactions, on the basis of which an objective rating of each participant is drawn up.

International supply-demand map

Remechain allows you to instantly learn about the demand and availability of materials anywhere in the world. This allows you to effectively plan production, predict the development of the market in different regions and always have up-to-date information on prices and opportunities for cooperation.

Open map of buyers and suppliers

The global map of buyers allows you to organize effective logistics in different regions of the world. This allows you to deliver larger volume of materials to different customers, shortening delivery time and optimizing logistics.

Breaking down the barriers to market entry

With Remechain, the entry to the global secondary recycling market is simplified to registering on the platform and filling out the member profile, where the proposed amount of material, price and other data required to interact with potential partners is reflected. This is a new market format, transparent and open, based on the quality of the services provided and the materials supplied.

As a result of the implementation of Remechain, the following global results can be achieved:

- Multiple reductions in transaction costs for market segments and an increase in the efficiency of their activities
- The increase of information transparency and decriminalization of the market
- Increase in the percentage of scrap utilization (which entails a decrease in the harmful effect on the environment) as a result of the overall growth in the efficiency of the industry



Remechain will eliminate the risks of default of the contract using exchange mechanisms.

Remechain will reduce costs, increase transparency and security, and will give the boost to the entire industry.

3. Remechain Solution

Remechain drastically changes the rules of the game in the secondary metals market. The new exchange makes the work of counterparties completely transparent, eliminates bureaucracy, chaos, and inefficiency. We remove an interlayer from the numerous shadow intermediaries between buyers and sellers, reducing the monetary and infrastructure costs of companies. We create clear and civilized rules of the game. Rejections, fraud, etc. are excluded., placing in equal conditions all market participants. The decisive competitive advantages are the quality of the work, the name on the market, and customer feedback. Remechain creates a stock exchange of secondary metal scrap. The blocking solution allows you to make the process of entering the market transparent and the same for everyone.

Opponents of the distribution platform

Despite the fact that most market participants benefit from the creation of a decentralized exchange of secondary metals, there are players who will oppose this decision, as it will shake their business. We are talking about shadow players who earn on intermediation, taking advantage of the market closeness, problems with entering it and not knowing the sellers and buyers about counterparties. The second group of players, which will sharply lose in income - scammers, who make money to deceive customers. The use of smart contracts excludes the possibility of forgery and nonpayment for the scrap received.

The business strategy of the Remechain platform provides customers with a fundamentally new way of interaction. The main distinguishing features:

Search for a counterparty

The platform offers the user to select a counterparty independently from the existing list, examine the terms of the transaction, analyze the various delivery options and accept it in a few mouse clicks. Remechain in the calculations of the optimal transaction reduces private standards to a unified methodology for assessing the quality of scrap. Common to all the standard of procurement. The platform takes into account the geographical location of the buyer when calculating the optimal transaction. Carries out planning and contracting of delivery due to integration with the logistics block-services.

Costs reduction

The Remechain platform dramatically reduces the costs for both buyers and sellers of scrap.

- a. Open data on each market participant + existing user feedback, reduce the cost of analyzing the counterparty before each transaction
- b. Reduction of errors associated with the human factor, when the manager may be just too lazy to call counterparts and calculate alternative logistics channels
- c. Optimization of the number of personnel engaged in buying/selling secondary metal
- d. Reducing the cost of telephone calls and office expenses
- e. Reduction of costs for legal services (including by reducing lawsuits)
- f. Reduction of the delivery time of metal to the buyer's warehouse

Fraud prevention

Remechain eliminates the risk of fraud by conducting transactions through smart contracts. The platform deposits funds from the buyer and makes payments to the seller automatically when the parties fulfill their obligations. In the event of default by the seller, the funds are returned to the buyer. In each smart contract, there is an opportunity to individually register any parameters of the transaction. For example price, delivery time, scrap quality, etc.

Access to the market of small participants

Remechain makes it easy for new entrants to enter the market, making it simple and not cost-effective. There is no longer a marketing budget, time for networking + the necessary time lag for the emergence of trust in a new market participant. With the Remechain platform, the entrance to the global scrap market is reduced to registering on the platform and filling out the membership card.

Project development and further scalability

The creation of a decentralized exchange of secondary metal scrap is the first step towards an even larger stock exchange that will aggregate supply and demand in the market for all secondary raw materials used for recycling. For example, we are talking about plastic, glass, scrap of non-ferrous and rare-earth metals.

It is important to note

All tokens that will not be redeemed during the ICO will be destroyed. And more will never be generated additionally. The fixed number of tokens guarantees their buyer an increase in value as the demand for Remechain services increases. The owners of the tokens will be able to pay for them both inside the platform and freely withdraw + exchange them for Fiat + other crypto-currencies on the exchanges.



Remechain will remove the obstacles between the buyer and the seller. The blockchain solution will make the market entry easy and transparent. Remechain consolidates and unites the market, reducing costs and providing security.

3.1. Advantages of the Remechain system

1. Global open market Remechain

The project solves the problem of complex information retrieval by creating a single information space. ReMeChain will openly provide all data on market participants: name, location, the proposed volume of goods of a certain type and price. All the necessary information is aggregated and stored on the platform.

Сокращенное название	Прошлая цена руб/т	Текущая цена руб/т
Стальной лом 3A	7,05	7,50 + 0,45 (6,04%)
Стальной лом 5A	7,92	7,80 - 0,12 (1,52%)
Стальной лом 12A	8,00	9,00 + 1,00 (12,50%)
Лом электротехнического алюминия	98,45	92,00 - 6,45 (6,55%)
Лом меди «блеск»	298,05	298,50 + 0,45 (0,15%)

2. Open data on each participant in the marketplace

The Remechain platform contains open and reliable data about each participant. This solves the problem of the isolation of many companies that are engaged in metal processing. In the open access, there will be such information as data on actual transactions, the results of transactions, their volumes, pricing and the success of transactions. From all information will be formed an open and accessible rating of participants.

Лом	Прошлая цена руб/тонн	Текущая цена руб/тонн	Засор	Мин. вес пома тонн
Стальной лом 3A, габаритный Дата изменения: 31 мая, 12:54	7 000,00	7 500,00 + 500 (7,14%)	8 %	0,250
Стальной лом 5A, негабаритный Дата изменения: 31 мая, 12:54	7 200,00	7 300,00 + 100 (1,34%)	8 %	0,250
Стальной лом 9A, пакетированный Дата изменения: 31 мая, 12:54	6 980,00	7 500,00 + 600 (7,14%)	4 %	0,250
Стальной лом 12A, негабаритный Дата изменения: 31 мая, 12:54	7 300,00	7 500,00 + 200 (2,74%)	6 %	0,250
Отходы металлургического производ... Дата изменения: 31 мая, 12:54	5 500,00	7 500,00 + 200 (3,64%)	15 %	0,250
Стальной оцинкованный лом T2AЦ, Дата изменения: 31 мая, 12:54	7 000,00	7 100,00 + 100 (1,43%)	10 %	0,250

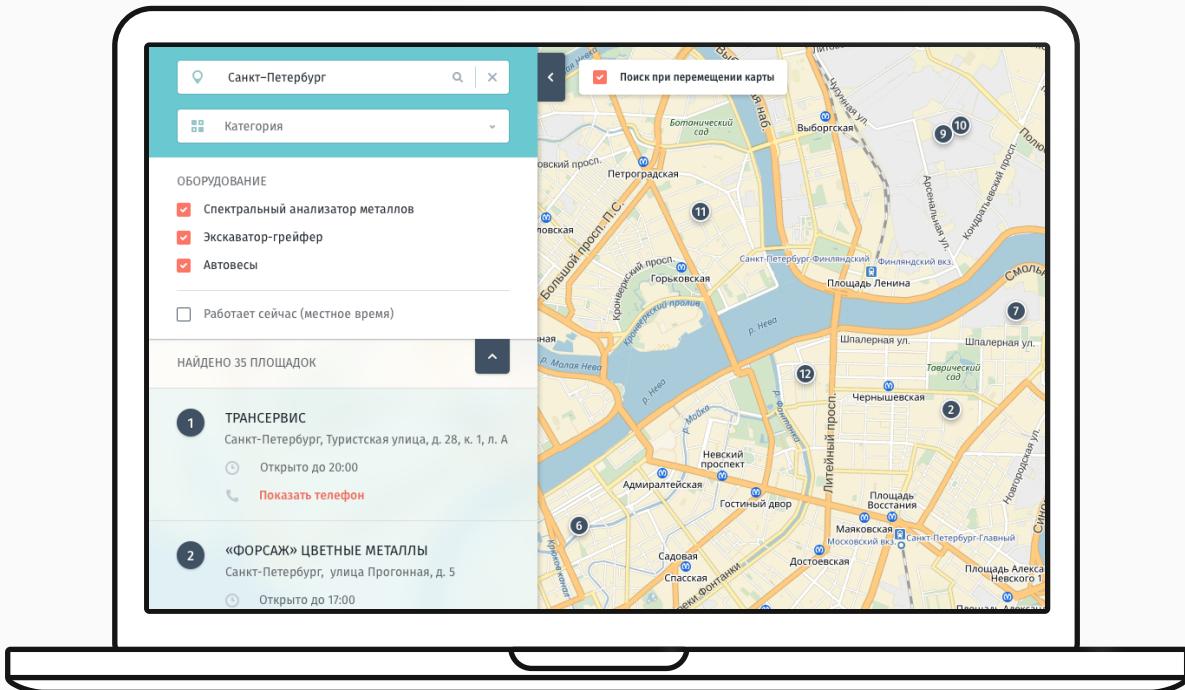


3. International supply-demand map

The problem of promptly receiving information about demand and supply is solved by aggregating information on a single platform. Remechain allows you to instantly know about the demand and availability of goods. This helps to plan production more efficiently, to predict the development of the market in different regions, to develop cooperation with suppliers.

4. Open map of buyers and suppliers

The inefficiency of the existing logistics, the inability to build the optimal route is determined with the help of an open map of suppliers and buyers. This allows you to reduce logistics costs and optimize them.



5. Simple market entry

Prior to the development of the platform, market entry for new entrants was complex and expensive. It required a budget for marketing, time for networking. With Remechain, the entrance to the global secondary recycling market boils down to simple registration on the platform and filling in the participant's card. The user simply needs to provide data for interaction with potential partners.

Регистрация ломосдатчика

Имя

Фамилия

Название компании

Email

Стационарный номер телефона

Номер телефона

Ваш номер будет использован для поступления ценовых предложений через смс

Пароль

Пароль не менее 6 символов

Я – ломосдатчик

Регистрация ломосдатчика

Имя

Фамилия

Email

Номер телефона

Ваш номер будет использован для информирования о поступлении ценовых предложений от металлопромышленных площадок через смс

Пароль

Пароль не менее 6 символов

Я – проф. участник

Зарегистрироваться

войти через соцсети:

Я зарегистрирован
Перейти к авторизации

войти через соцсети:

Я зарегистрирован
Перейти к авторизации

6. Elimination of risks of non-fulfillment of transactions by means of smart contracts

The Remechain system reserves the buyer's funds and makes payments to the seller automatically when the parties fulfill their obligations. In the event of default by the seller, the funds are returned to the buyer.



Remechain ensures that the information is relevant, accurate and it gives the instant access to the market data and logistics solutions, simplifies the market entry, secures the execution of transactions using smart contracts.

4. Structure tokens issued

4.1. Types of Remechain project tokens

1. iRMC tokens - dividend token, limited in quantity and issued for Pre-ICO and ICO. iRMC token is issued on the basis of Ethereum blockchain by ERC-20 standard. The main goal of this token is to reward investors after the ICO.

After the start of commercial sales on the Remechain marketplace,

- the marketplace will distribute 50% of net profit for the buyback of iRMC tokens from investors. The buyback is made by smart-contract at a market price.
- the marketplace will distribute 50% of net profit for the payment of interest to iRMC token-holders. Interest payments schedule and the order of their receipt will be explicitly described in White Paper ICO.

2. kRMC tokens - local cryptocurrency issued by the Remechain marketplace that maintains the fixed rate of kRMC to the fiat currency in which the transaction is made. Emission and support of the kRMC fixed rate, where k is the fiat currency, is carried out by the marketplace by depositing transaction amount on the account of the Remechain operator.

kRMC tokens do not have an impact on the amount of the issued iRMC, their function is a technical maintenance of calculations and risk elimination of rate volatility influence of national currency on the transaction price.

4.2. Token Sale Terms

Total number of iRMC tokens: 9 020 000

Number of bounty tokens: 200 000

Number of team tokens: 2 100 000

Pre-ICO Bonus tokens: 120 000

	PRE ICO	ICO
Bonus to the number of tokens	+20%	
Number of iRMC tokens issued	600 000	6 000 000
Start Date	09.11.2017 17:00 GMT+3	25.01.2018 17:00 GMT+3
End Date	23.11.2017 17:00 GMT+3	25.02.2018 17:00 GMT+3
Price per 1 iRMC (last updated on 09.10.2017)		0,003125 ETH
1 ETH	320 iRMC	
Pre-ICO Soft Cap	500 ETH = 160 000 iRMC	

Start of iRMC tokens buyback: Q1 2018

The price forecast for iRMC in 2018: 0,018281 ETH

The price forecast for iRMC in 2020: 0,068343 ETH

The price forecast for iRMC in 2022: 0,109312 ETH

Economic feasibility of token growth

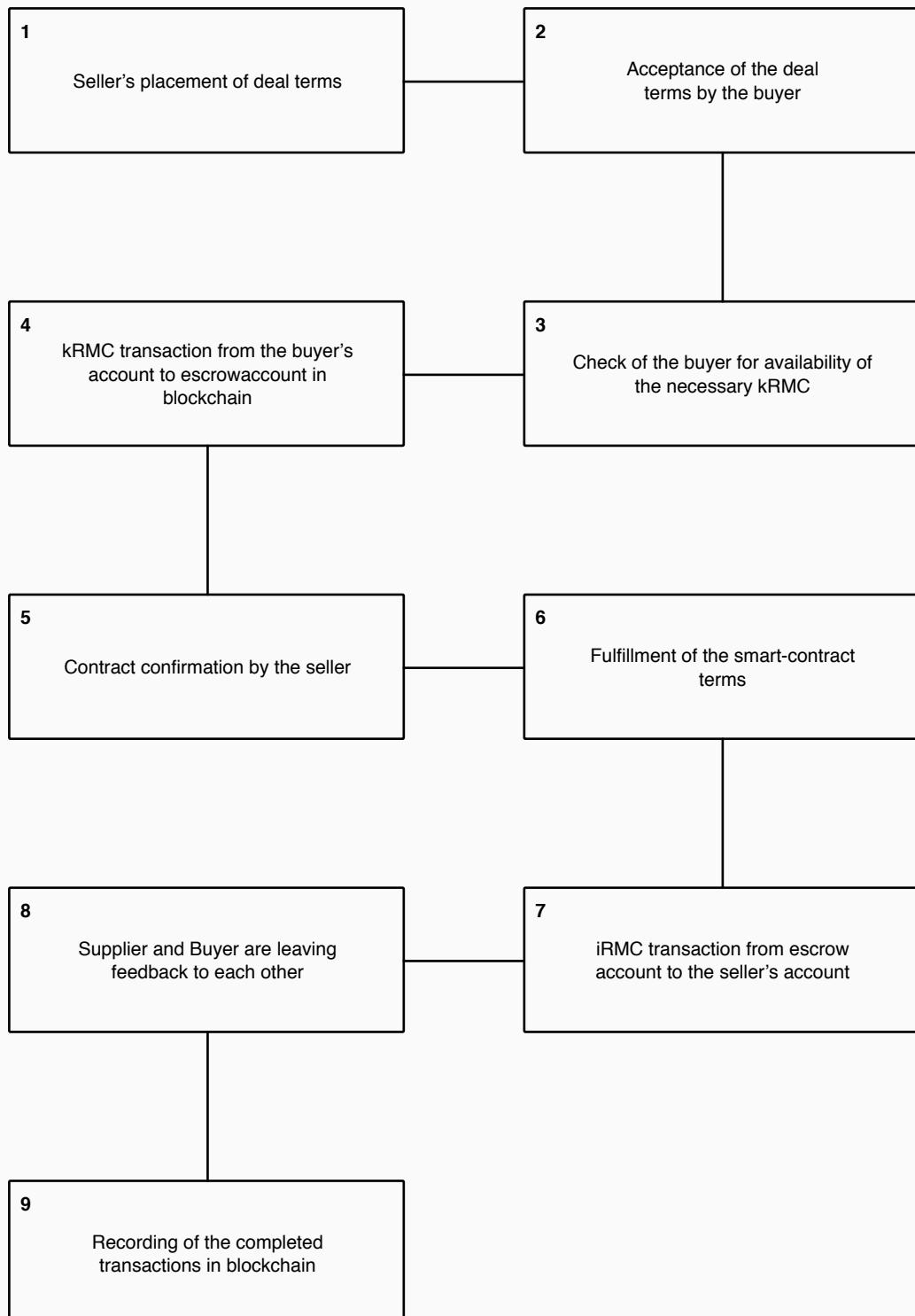
Due to the fact that the number of tokens in circulation decreases with the buyback of tokens from investors, even if the turnover of the platform has reached its peak (the required market share has been achieved), and the number of transactions (and as a result, the balances on Remechain accounts denominated in traditional currencies) will constantly increase, then the iRMC rate will also grow steadily. Leveling the speculative component, the growth rate of iRMC will be equal to the growth rate of the turnover inside the system. Given that the reward of investors is provided by the growth rate of iRMC, the latter is also directly proportional to the growth of turnover.



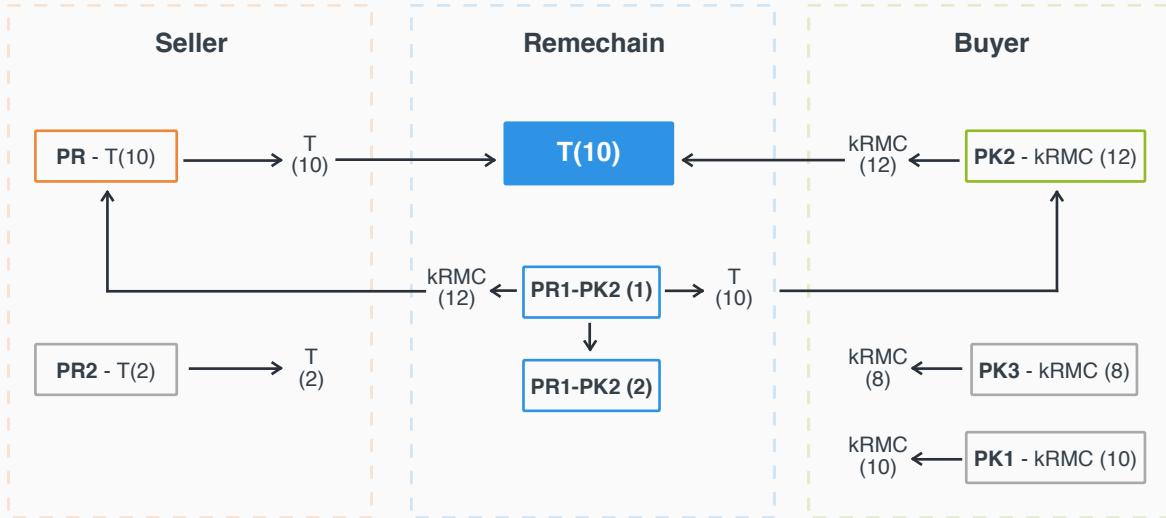
To remunerate the investor Remechain issues iRMC tokens, to ensure settlement of the tokens by RMC transactions. The first 600,000 iRMC tokens purchased will give investors a 20% bonus in iRMC tokens. The value of iRMC tokens is predicted to increase 20 times in the first year and 70 times in 3 years.

5. Principles of Remechain token operations

5.1. General description of the system operations



Logical scheme of the Remechain:



The scheme demonstrates the conceptual process of interaction of participants in a smart contract (seller, buyer). PR1 is the seller evaluating the value of the goods at 10 RMC puts the contract subject, which is the product in the public network. Any PK participant can make sure that the value declared by the PR seller corresponds to the declared value by looking at the information in the block. A PR seller can make sure that the buyer of PK has enough kRMC funds to contract. The product acquires its value through self-evaluation by the seller or through the auction system of bidding.

A contract in the system can be accepted by any participant, PK2 having a kRMC amount equal to or exceeding the claimed PR1. Subject to confirmation of the conclusion of a smart contract by PK2, At this time, kRMC the amount of which was declared in the contract is debited from PK2 and is in the system on the escrow account, until the contract is confirmed by PR1, PR1 must confirm the contract's conclusion thereby confirming the possession of the value of T10.

Information about the transaction is stored in the system from the seller the amount of the goods sold, the buyer the amount of the purchased goods. After the completion of the transaction during the time t - PK2 and PR1 can evaluate the process of interaction between each other by mutual evaluation on a five-point (0..5) scale. The time t (in seconds) is 604,800.

Inside the system, users can exchange goods equal in value by the condition of signing a smart contract. If the seller has failed to comply with or violates the terms of the smart contract and/or does not have the value of the funds declared with the sale with escrow, they are written off and returned to the buyer. The buyer takes away from the seller's rating a number in the range from 1 to 2. All new members of the system receive 0 rating. The seller is given a time t (in seconds) equal to 86,400 to confirm the sale.

The users will be paid through the kRMC system.

In the first incarnation of the system, to begin transactions in the system, users need to buy part of the kRMC currency by converting them from other currencies such as dollars, bitcoins or air. Sellers need to get the goods for N amount in the system to contract.

In the second embodiment, the add-in will be added to the system from the feedback/rating system and the history of the contracts/transactions. The system is geographically distributed to complete the transaction is needed by two relevant users.

A system that integrates sellers and buyers in a narrow specialized niche will create an active community, as both groups of participants can play different roles in both buying and selling. In addition, significant transaction costs for operations are reduced, this will additionally attract the audience.

In addition, large users with a large volume of kRMC through group sales and purchase can work massively with a large number of smaller users, avoiding intermediaries and additional costs. The system will make it possible to clarify the situation on the market to the very latest links, this will allow us to reconstruct an accurate picture of the volumes of purchase and sale in the industry.

A two-sided rating system of buyer and seller valuations will allow participants to see who they contract with so most "guilty" members of the system can be excluded from it or simply ignored by other users as an unreliable source when working in the system. Ratings are publicly available information, the rating of each participant will be available to all participants. Build on the basis of calculating the volume and quality of transactions.



The interaction of the participants is based on the rating system and ensuring the transactions of kRMC.

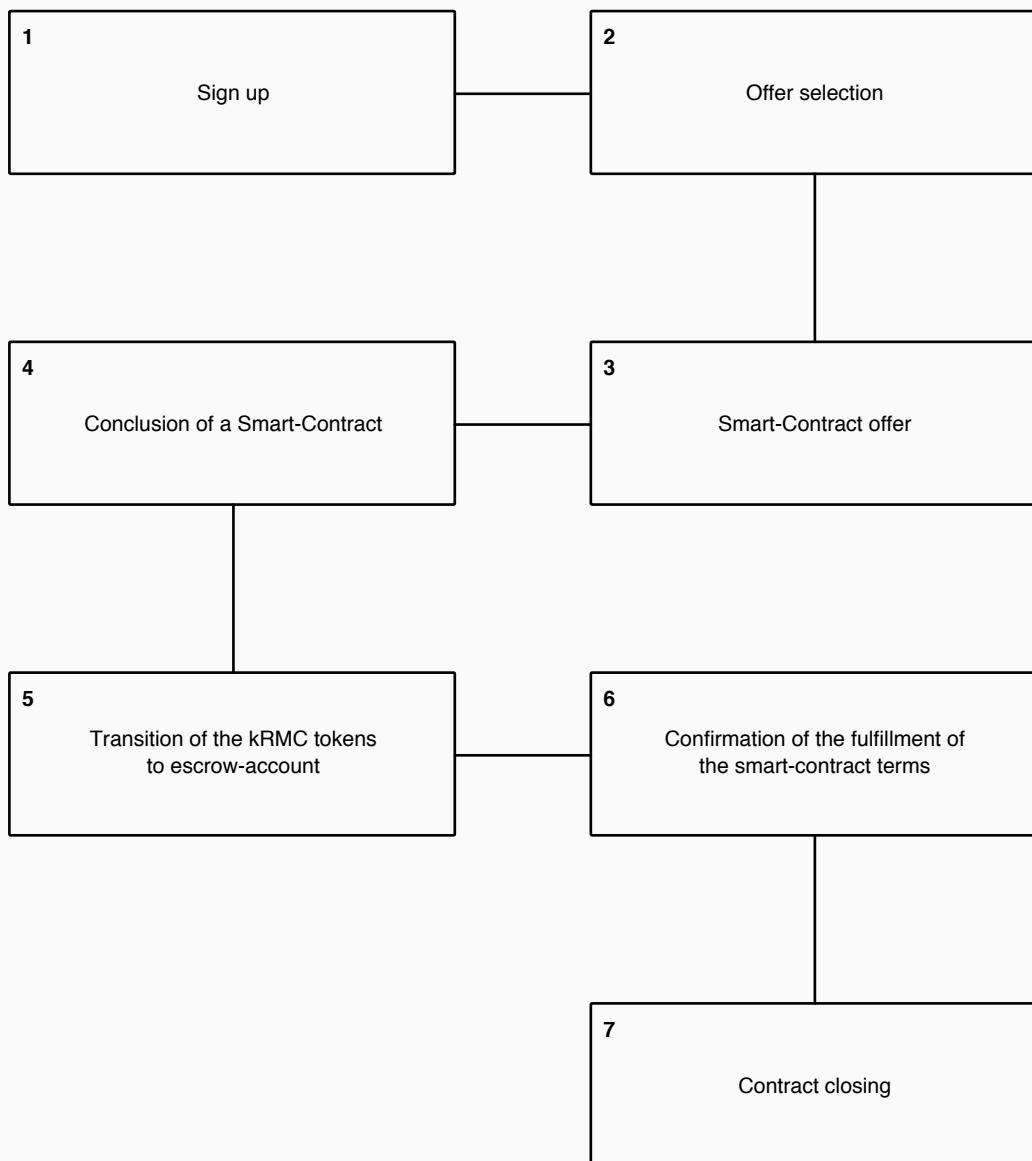
Platform creation technology

Resources for building the platform:

- **Meteor** is a web platform in the JavaScript language designed to develop real-time Web applications
- **API пакета Web3 JavaScript**
- **Mist** - <https://github.com/ethereum/mist>
- **Geth** - <https://github.com/ethereum/go-ethereum/wiki/geth>
- **Solidity** is a statically typed JavaScript-like programming language designed to develop self-executing contracts that run on the Ethereum virtual machine (EVM). Programs in the Solidity language are translated into the EVM bytecode.
- **The source code for cryptocurrency** is <https://www.ethereum.org/token>.

5.2. Description of the technical process

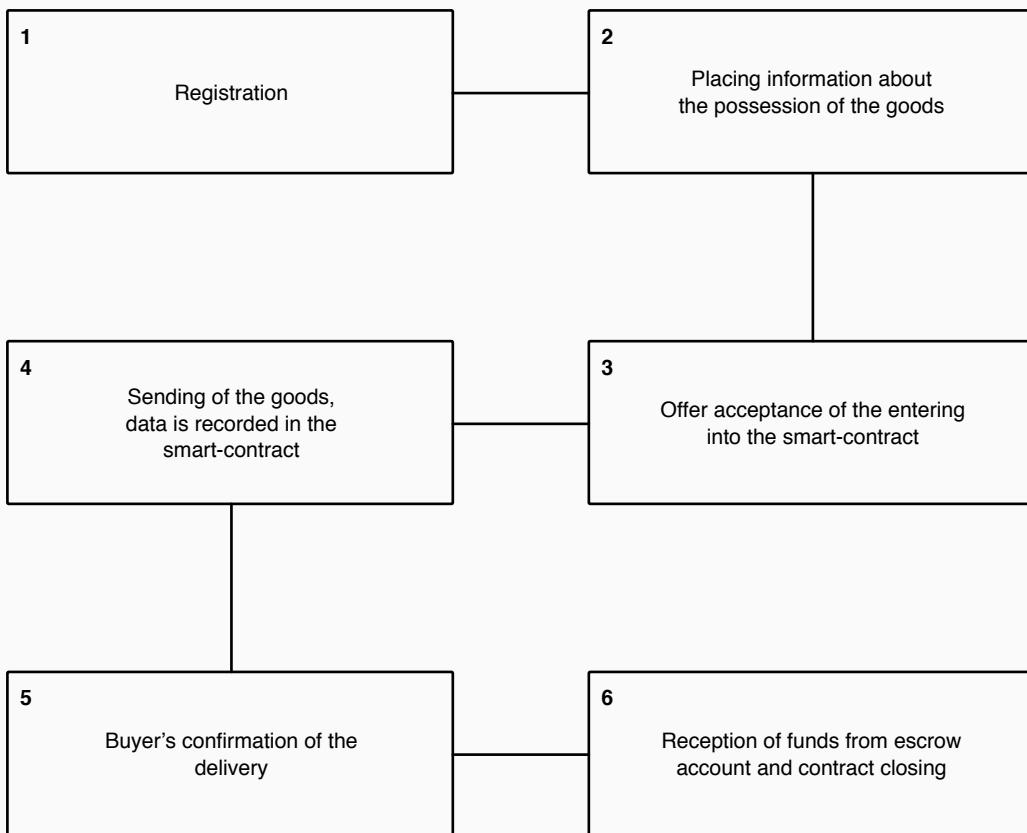
The simplest scenarios for working through the platform are characterized by the following business process:



1. The buyer is registered and fills up the information in the system
2. Select a suitable offer from the list of available offers
3. Exchange fiat money for kRMC and gain access to smart contracts
4. At the previously selected offer, offers the seller to conclude a smart contract
5. If the seller agrees, then the smart contract is concluded and the relevant terms are signed
6. kRMC funds are debited from the buyer and placed on the escrow account
7. The seller sends the goods. If all the characteristics of the goods coincided with the declared - the buyer confirms the transaction and the smart contract is considered closed



The following is a description of the end-to-end business process of creating value for the seller:



1. The seller registers on the platform and fills in the data in the system
2. The seller posts information about the possession of the goods for a certain value, laying it out in a public network
3. If he receives an offer, he declines it, or accept and starts a smart contract
4. The seller sends the goods and completes the smart contract with the necessary data
5. Awaiting delivery. In case of reliability of declared characteristics of the goods, the seller receives funds from the escrow account



The growth of token price is secured by the buyback of tokens from investors by platform participants.

6. Ferrous scrap

Ferrous scrap is consumed mainly in electric-arc furnaces (EAF), which produced 25.1% of the world's steel in 2015. Scrap-intensive EAFs play an important role in the steel industry in Turkey, where they account for 65% of crude steel production, NAFTA (62.1% of crude steel production) and, to a lesser extent, in the EU (39.4%).

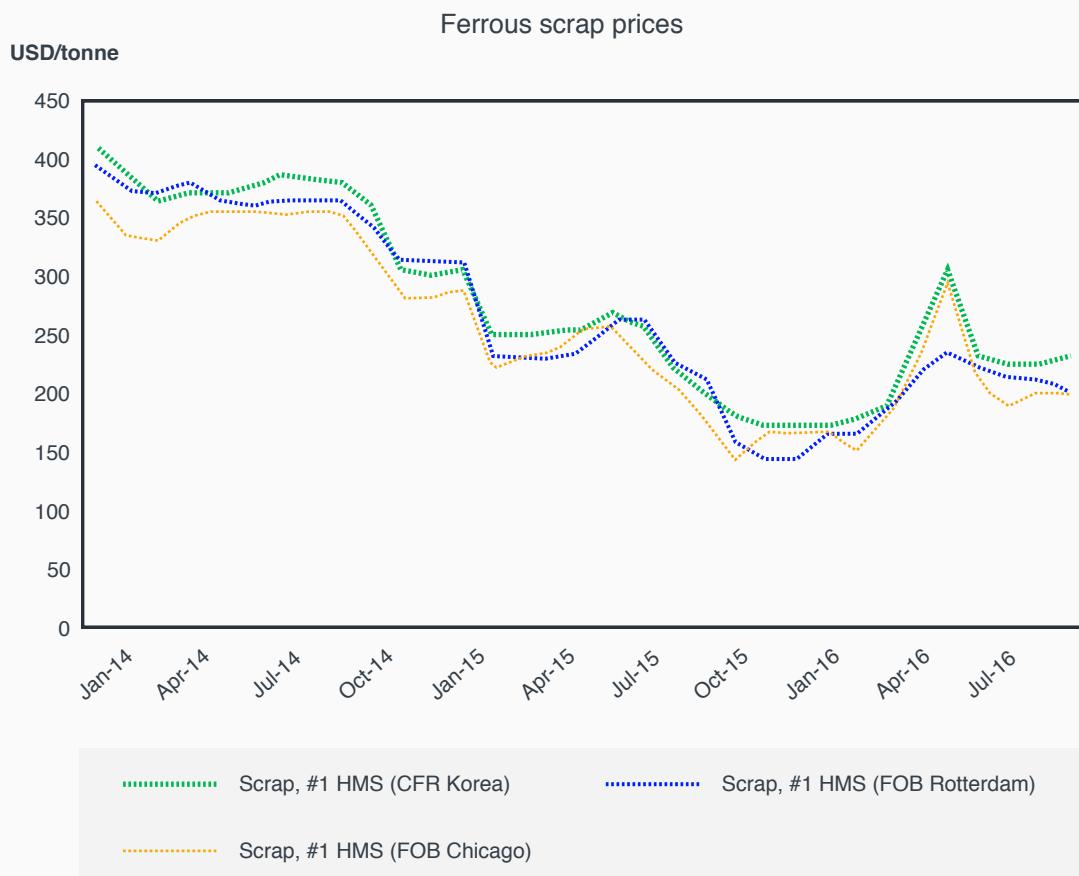
The Middle East and North Africa also have very high shares of EAF in steel production, but many of these mills use direct reduced iron as a principal feedstock for the EAF. Varying amounts of scrap (up to around 30%) are also combined with iron in the blast oxygen furnace (BOF) to reduce levels of heat in the furnace and fine tune the production process.

Scrap is sourced from the steel mills themselves during the steelmaking process (so-called "home scrap"), during the manufacturing processes of industrial plants that manufacture, e.g., machines, electrical appliances and automobiles plants ("prompt industrial scrap"), and through the collection of old steel from demolished buildings, scrapped automobiles, ships and other steel products ("obsolete scrap").

The amount of generation is influenced by the economic situation, in particular industrial production activity. Scrap collection tends to respond quickly to changes in scrap prices; these fluctuations in supply can create significant price volatility.

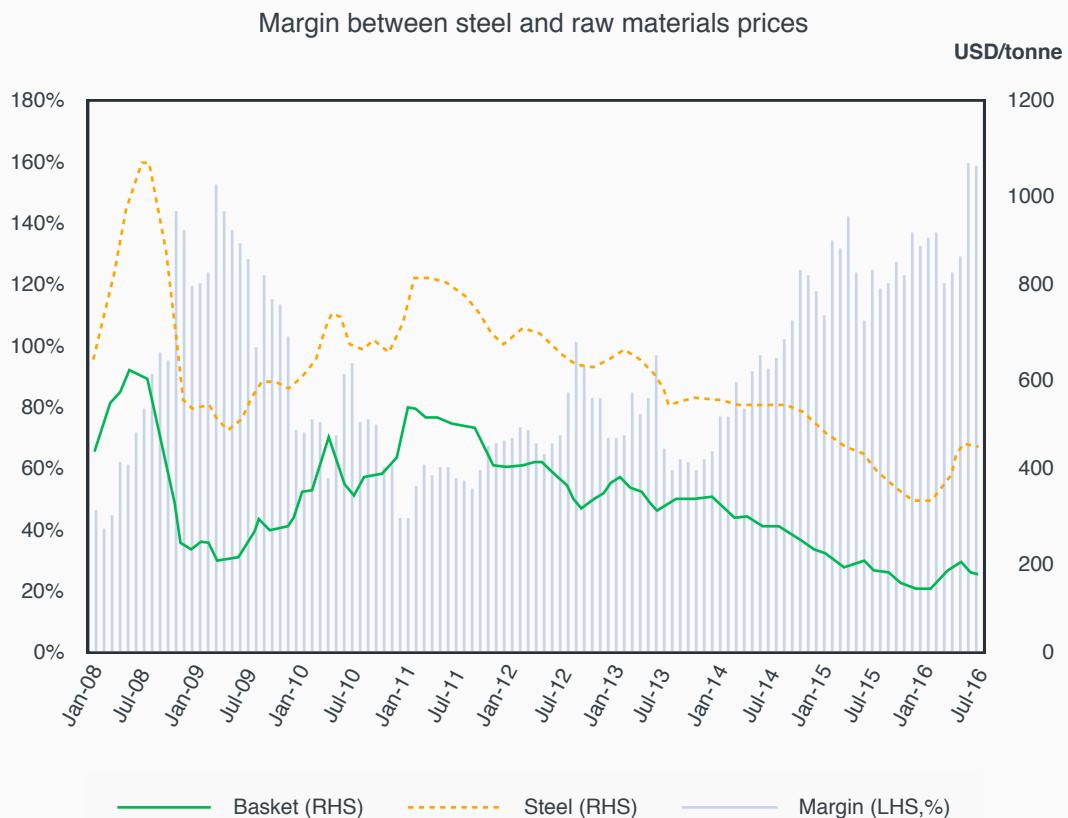
Demand for scrap weakened in 2015 due to the decline in global steel production. Demand weakness had a significant impact on scrap trade, visible in the decline in world exports of 12.2% in 2015. The largest scrap exporter, the United States, recorded a 15.3% decline in exports. Other major exporters, such as Germany, also saw outward scrap shipments decline.

In Asia, the major exporter of scrap is Japan, which experienced an increase in outward shipments of 0.4 mmt, despite reports that many EAF steel producers in the region were opting to re-roll imported billets instead of producing their own steel.



Despite the easing of prices during the summer months, the Chicago price in September 2016 (USD 200 per tonne) was still 22% higher than in January, the Korean price (USD 230) was up 34%, and the Rotterdam price (USD 198) was 19% higher. The apparent stabilization of scrap demand and increase in prices may be receiving support from the gradually improving steel production situation in Turkey, the largest scrap-importing country. Following a sharp (7.4%) decline in crude steel production last year, Turkish steel output increased by 3.6% in the first seven months of this year.

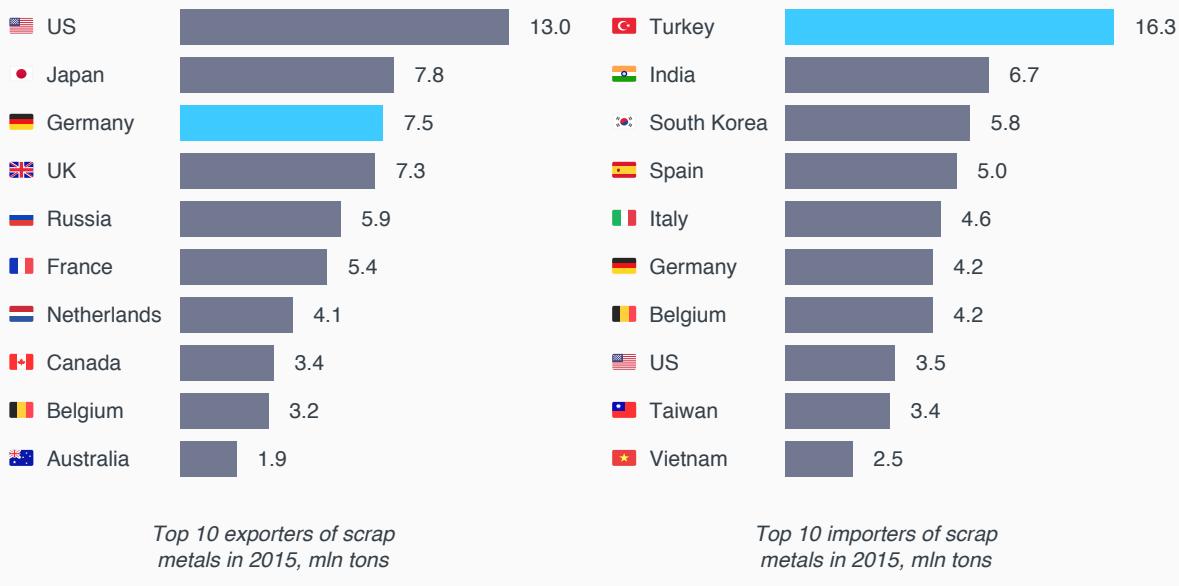
North American steel production, which is also intensive in scrap as noted above, appears to have stabilized in 2016 following a steep, 8.5% contraction in 2015. In Asia, imports of scrap in the first half of the year increased significantly in Viet Nam and Thailand, while in Korea imports were up slightly.



Source: OECD calculations based on Commodity Research Unit and Platts Steel Business Briefing

Note: The raw materials basket for steel production includes 70% of the usual quantities of iron ore (1.6 tonne) and coking coal (0.77 tonne) needed to produce steel in the integrated process and 30% of the quantity of ferrous scrap (1.07 tonne) needed to produce steel in the electric arc furnace process [DSTI/SU/SC(2013)7]. Prices used are as follows: Iron ore Fines, 62% Fe, SPOT, CFR China; Hard coking coal spot, FOB Australia; Scrap, #1 HMS, FOB Rotterdam. The basket is compared against HRC world prices. The margin is defined as the per cent difference between the steel price and the raw materials basket price.

The Remechain project plans geographic expansion in two key scrap markets, except Russian - Turkish and German. Turkey is the largest importer of scrap in the world, with a market share almost 20% of global trade in scrap. Germany is one of the top three scrap exporters in the world.



- Germany - mature steel market, which will be stable in terms of demand and production of steel
- No significant changes in the share of production with the oxygen converter and the arc steel furnace are expected, so the effect of the effect on the consumption of scrap is insignificant
- Consumption of local scrap decreased from 2011 from ~ 25.5 to 22.5 million tons per year
- The export of German scrap was 7-9 million tons per year. Given that steel consumption is also fairly stable, these volumes are likely to continue in the future (1.5-2.0 million tonnes of scrap goes to the Netherlands, mainly for further exports, as the Netherlands also has surplus scrap)

- Turkey is the largest importer of scrap in the world for a long time due to the dependence on the production of oxygen by the oxygen-converter method and limited local production of scrap
- Consumption of scrap in Turkey decreased last 3 years from 31.5 (in 2012) to 25.5 (in 2015) with the biggest fall in 2015 due to a decrease in steel smelting in the EAF, and arbitration of Turkish players between the price of scrap and the cost of importing the tickets. If the prices of billets are advantageously low, they rather buy them on the market than they do with scrap. This is what was observed over the years: the production of unrefined steel (mainly chipboard) decreased, while the production of finished steel remained at the same level
- Given this arbitrage mechanism, the future consumption of scrap in Turkey will depend on the difference in price between the import of bills and their production using scrap
- The political situation may also affect the future situation for the entire industry
- In general, in an uncertain market and its complex price dynamics, less scrap will be exported from Europe to Turkey and, therefore, will be more available for local use. Much will depend on the dynamics of scrap prices

7. Development and Implementation Roadmap

Q1-4 2015

Planning new ways for business development

- Search for innovative ideas for the development of secondary metals business, studying international practices
- Establishment of relations with metal industry advisors from different countries

Q1-4 2016

Project Initiation

- An idea of consolidating the secondary metals market
- Planning the use of blockchain technology by the founders
- Getting feedback from the community and approving the project concept
- Studying best international practices
- Attending conferences
- Identifying common market problems

Q1-2 2017

Project development

- Building of Remechain team
- Prototype application development

Q3 2017

Project generation

- Creating an issuer model
- Conducting a marketing campaign
- Conducting Pre-ICO

Q1-2 2018

Commercial start

- Alpha prototype testing among the community
- Creating and beta testing of the working model
- Creating and testing a mobile application
- Conducting an ICO
- Launch of the Remechain platform in Russia

Q3 2018

Germany and Turkey market entry

- Adaptation of the platform for work in Turkey and Germany
- Drawing up a compliances matrix of Russian and European standards
- Integration of tax and customs optimization for international trade
- Launch of the Remechain platform in Turkey and Germany

Q4 2018

China market entry

- Adaptation of the platform for operations in China
- Drawing up a matrix of correspondences of international platform standards with Chinese
- Integration of tax and customs optimization for international trade
- Launch of the Remechain platform in China

Q1-2 2019

World market

- Getting started with non-ferrous metals
- Standardization of added nomenclatures for users from different countries
- Standards compliance addition by curators from other countries approved on the platform
- Integration of tax and customs optimization for international trade
- World market entry

Q3 2019

Launching of all types of scrap

- Getting started with alloys, scrapes, electronic and rare-earth scrap
- Standardization of added nomenclatures for users from different countries

Q4 2019

Global expansion to work other recyclables

- Getting started with other recyclable resources
- Standardization of added recyclable product for users from different countries



Remechain has a team of developers and already created a prototype application. Remechain model is scalable and could be implemented on the international market.

At the moment, a prototype of a platform for Russian companies has been developed. The working alpha version of the platform will be launched at the beginning of the fourth quarter of 2017. During the first quarter of 2018, it is planned to finalize the platform and release the beta version.

Deadline	Process	percentage of total time
12.09.2017	Module registration and notification	9%
11.10.2017	The module matching tariffs with applications	14%
04.11.2017	The module matching tariffs with applications	26%
28.11.2017	The module of transaction assurance	19%
25.12.2017	Electronic documentation module	20%
07.01.2018	Ranking module and compliance	10%
11.01.2018	Billing module	2%

In order to successfully implement the project, a team of specialists has been assembled in various fields of activity (marketing, scrap collection, financial services, software development, consulting) ready to enter the development and implementation on the international market until reaching 1% of the volume of transactions in the market.

Economic evaluation of the project's prospects was carried out, the market was analyzed. In the first half of 2018, Remechain plans to introduce a platform to the Chinese metal processing market. To do this, an adaptive version of the platform will be created and work will be done with partners.

Then, it is planned to conduct a number of transactions with European partners and to expand data aggregation and user capabilities to the European market.

Since 2019, it is planned to expand the functionality of the platform and attract partners for working with non-ferrous and rare-earth metals.



Team



Ivan Miasoedov
Remechain Founder

Ivan graduated from the St. Petersburg State University of Economics and Finance. From 1994 to 1999 he worked in the banking sector in top management positions, was a member of The Board of Metallurgical Commercial Bank Joint Stock Company. Since 2005, Ivan held leading positions in metal processing enterprises, founded a federal network of metal companies.



Gennady Sidorenko
Technical Expert

Graduated with honors from the Leningrad Polytechnic Institute
Doctor of Technical Sciences, Senior Researcher, Professor.
Author and co-author of more than 180 scientific papers, including 2 inventions, 4 monographs, 4 teaching aids, several articles in scientific journals (<https://scholar.google.ru> Gennady Ivanovich Sidorenko).
As a leader and responsible executive, he took part in 45 domestic and 7 international projects
Currently, Gennady works at Federal State Autonomous Educational Institution of Higher Education "St. Petersburg Polytechnic University of Peter the Great", Engineering and Construction Institute.

Gennady Ivanovich conducts lectures on the following disciplines:
Energy Economics, Renewable Energy, Renewable Energy, Methods for Solving Scientific and Technical Problems, Finite Element Method, and its Application.



Alexander Andreev
Recycling advisor

Graduated from the Baltic State Technical University, St. Petersburg.
Graduated from St. Petersburg State University with a degree in banking and securities.
Graduated from the North-West Academy of Public Administration with a degree in public administration. Deputy CEO of LLC "Preservation of Resources".
Led investment projects aimed to create industrial facilities for waste recycling in the Leningrad Region municipalities. Supervised operations for the environment protection and ensuring environmental security. Expert in recycling of waste and secondary raw materials.



Vivek Tomer
Scrap advisor

Vivek Tomer has held many senior leadership roles in the chemical industry. He led a group in new product design in the automotive sector, power & telecom sector and alternative energy sector. During his time at Dow Chemical Company, he was responsible for identifying new business development opportunities and acquisition targets for the Wire and Cable business. He was also responsible for maintaining the intellectual property landscape of the business and thwart any IP threats from competitors. He has published more than 30 peer-reviewed papers and holds 4 patents.

Vivek is the CEO and Co-founder of VICINTAS, LLC that brings science education to students from all over the world with minimum or no charge. He holds a B.S. degree in Physics, Hansraj College, University of Delhi and Masters in Physics from the University of Akron, USA. He obtained his Ph.D. degree at Penn State University Park in the Department of Materials Science and Engineering



Dmitry Chistyakov
Technical director

Dmitry graduated from the Cherepovets Metallurgical College with degree in "Software of Computer Engineering and Automated Systems"
Dmitry has the skills to form and manage large development teams.
The founder of the company Webest - the leader of web development of complex it-solutions in the region. Remechain is responsible for the technical implementation of the project.



Nikita Pruss
Remechain Leading Project Manager

Nikita graduated from the International Banking Institute, St. Petersburg. Nikita worked in the company "Mera Capital", where he managed projects in the field of corporate finance. Successfully conducted private equity offering. He has a certificate of the Central Bank of Russia, confirming the qualification in the financial field FSFM 1.0. Has PMBOK project management skills. He has practical experience in conducting Pre-ICO, as a co-manager of the project.

In Remechain Nikita leads pre-ICO and ICO.



Alexey Petrov
Ethereum Architect

Alexey graduated from the Cherepovets State University with a degree in "Comprehensive protection of information objects". Alexey studies in postgraduate studies and has 7 scientific publications in international journals. Successfully implemented more than 50 projects implementing the advanced IT solutions.

He is one of the founders of Webest (<https://wbest.ru/>) - the leader of web development of complex IT solutions in the region. The company specializes in the development of mobile applications and integrated marketing of new products. In Remechain, the architecture of the application, the development of the project block is responsible.



Alexander Limm
Specialist in PR and Marketing

An entrepreneur and enthusiast in the field of blockchain technologies. He first invested in Bitcoin in 2013, when the price was from 30 to 265 USD. Alexander studied at the Gatchina Economic Institute, majoring in Finance and Credit. Alexander has the skills of management and analysis of marketing campaigns. Alexander is responsible for public relations and project promotion. Also, he participated in the implementation of two investment projects in partnership with the Investment fund St. Petersburg in 2016 and 2017.



Daniil Miasoedov
Business Analyst

Daniil worked more than a year for McKinsey & Company on a process optimization projects with more than 12 different teams with targets in energy, oil & gas, telecom, retail, metals & mining sectors. Daniil optimized capital expenditures of a USD 600M project in the energy industry with 15% expected cost reduction.



Aidar Karachurin
Remechain Platform Manager

Graduated from UGUES (Ufa State University of Economics and Service)
Co-founder of the digital agency full-cycle PLUS8. Director of the legal company "Military Medical College" in St. Petersburg. The author of more than 100 projects. Aydar is a professional in the design and design of mobile applications.

9. Terms and Conditions

ICO (Initial Coin Offering)

Attraction of financing through issue and placement of cryptocurrency (tokens)

Blockchain

A blockchain is a digitized, decentralized, public ledger of all cryptocurrency transactions. Constantly growing as 'completed' blocks (the most recent transactions) are recorded and added to it in chronological order, it allows market participants to keep track of digital currency transactions without central recordkeeping. Each node (a computer connected to the network) gets a copy of the blockchain, which is downloaded automatically.

Cryptocurrency

Cryptocurrency is a digital currency in which encryption techniques are used to regulate the generation of units of currency and verify the transfer of funds, operating independently of a central bank.

Smart contract

Smart contracts are self-executing contracts with the terms of the agreement between buyer and seller being directly written into lines of code. The code and the agreements contained therein exist across a distributed, decentralized blockchain network. Smart contracts permit trusted transactions and agreements to be carried out among disparate, anonymous parties without the need for a central authority, legal system, or external enforcement mechanism.

Token

Digital currency (coin) that gives access to the services that a decentralized network provides. The main objectives of the tokens for applications are to pay for internal functionality, as well as the distribution of the shares of project participants.

Remechain Marketplace

Marketplace Remechain is a service that allows you to quickly and safely buy and sell scrap metal.

Logistics Chain

All successive steps comprising a logistic-process in a particular environment or industry.

Decentralized Exchange

The decentralized exchange is an exchange which can facilitate the functions of exchange without relying on the central point of authority embedding all the basic principles of exchange in an autonomous technical protocol by the extending the capabilities of the blockchain.

Deposit

A contractual agreement governing the handling of deposited assets, for example in a bank.

Fiat Money

Fiat money is a currency that a government has declared to be legal tender, but it is not backed by a physical commodity. The value of fiat money is derived from the relationship between supply and demand rather than the value of the material that the money is made of. Historically, most currencies were based on physical commodities such as gold or silver, but fiat money is based solely on the faith and credit of the economy.