

**INTERNET OF THINGS, ARTIFICIAL INTELLIGENCE
AND BLOCKCHAIN EMPOWERING ENERGY CONSUMERS**

ROBOTINA ICO: LIGHT PAPER



SAVE ELECTRICITY. SAVE MONEY. SAVE THE PLANET.

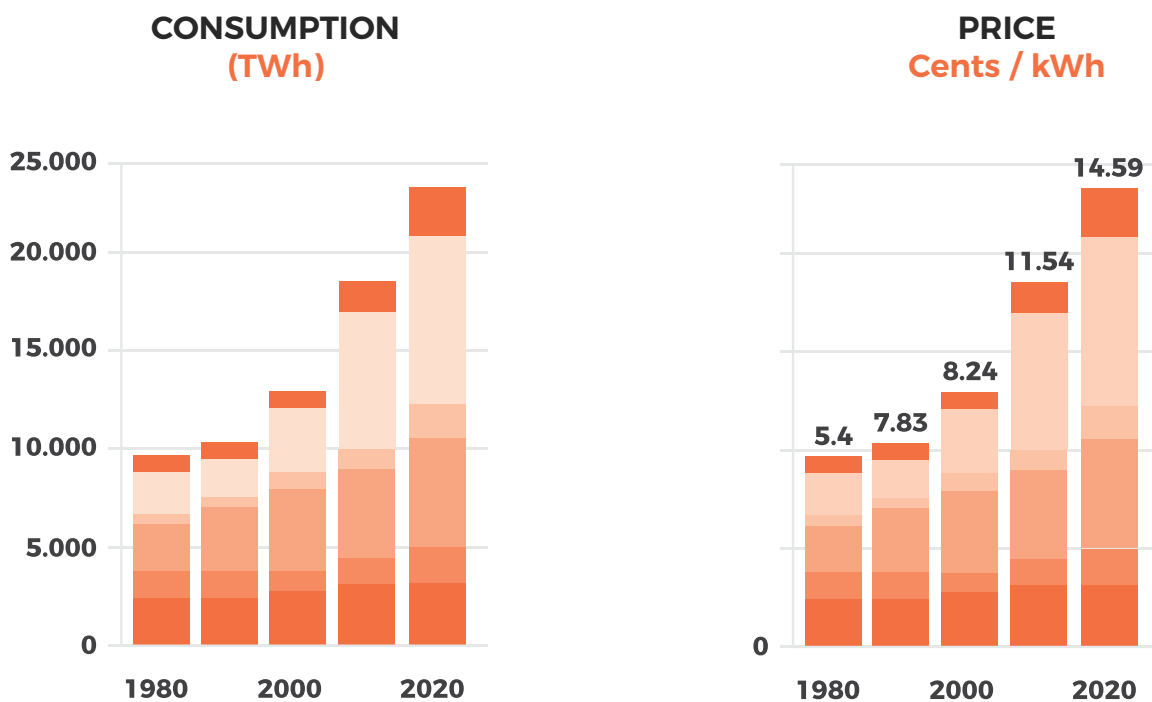
Robotina is an European company with 28 years of experience, employing over 50 experts in the development of smart technologies for the energy industry. Our main expertise is the optimization of smart electrical grids. We envision the future based on the products and solutions, developed by our key experts, who are members of two research and development (R&D) teams, one of them registered as an institute.

Our products, services and technologies have all been developed “in-house” by our experienced team of technicians and engineers. As a company committed to excellence, we have obtained 7 patents and 5 international certificates relating to our technologies. We have successfully implemented our projects in 25 countries and have more than 1 million connected points worldwide today. Our production facilities are in Slovenia and in order to be close to our customers we have offices in UK, Singapore, Croatia, Dubai (UAE) and India.



Electricity is one of the key energy sources, probably the most important one. The ever higher price of electricity, unstable electrical networks as well as growing consumption of electrical energy, seriously endangers our lifestyle and natural environment. **The price of electricity is significantly influenced by the uncontrolled peaks in the network/grid.** For example, when a higher number of customers use the electricity at the same time. This means a constant demand for enlarged electricity production – also the case when it is actually not needed at all. The surplus of electricity

goes to waste if not used immediately. Equally important as the surpluses, there are the deficits of electrical energy in the network, which means that the electricity has to be bought at much higher prices than normally. **All of the above problems are influenced by (1) unstable sources, such as solar and wind power plants that produce the electricity only when the weather is favorable, (2) electric vehicles as new type of random load and (3) the current technology, which hasn't enabled a price-favorable storage facility of larger quantities of electrical energy yet.**



THE PROBLEMS:

- Electric energy network is outdated
- Small fluctuations destabilize the network
- Electricity costs = generation costs + transport costs + stability assurance costs (peaks)

THE PROBLEMS RESULT IN:

- Growing electrical energy price
- Growing electrical energy consumption
- Cost of keeping the grid stable can be as high as 30 % of electricity cost

Sources:

1. Enerdata. (2018). Global Energy Statistical Yearbook 2017. Accessed at: <https://yearbook.enerdata.net/electricity/electricity-domestic-consumption-data.html>
2. U.S. Energy Information Administration (2018). Annual Energy Review. Accessed at: <https://www.eia.gov/totalenergy/data/annual/showtext.php?t=ptb0810>

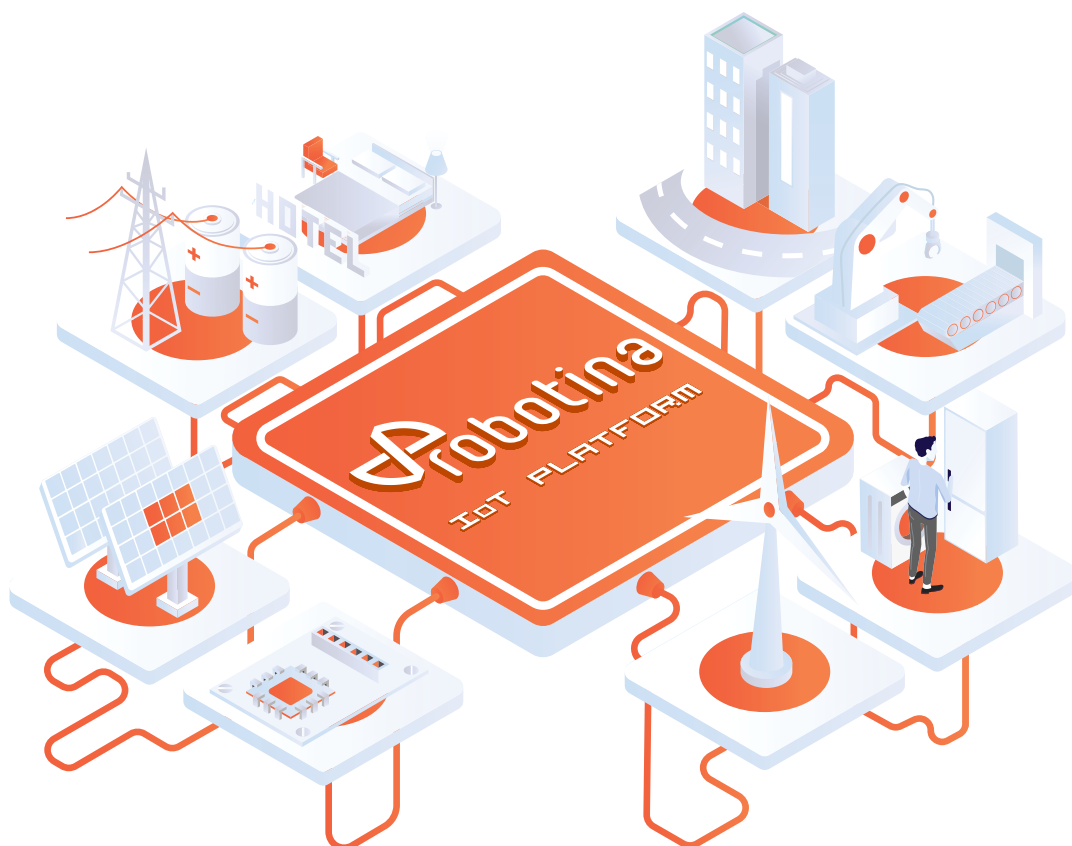
TO MAINTAIN OUR CURRENT STANDARD OF LIVING WE MUST REDUCE (PER CAPITA) AND SHIFT (IN TIME) THE CONSUMPTION OF ELECTRICAL ENERGY!

ENERGY BILL OPTIMIZATION WITH ROBOTINA PLATFORM

INTERNET OF THINGS + ARTIFICIAL INTELLIGENCE + BLOCKCHAIN

Applying several state-of-the-art technologies, the Robotina Platform reduces electric energy consumption, lowers electricity costs and optimizes the functioning of the entire electricity grid by monitoring and controlling real-time electricity consumption and distributed production. Thus it (1) manages the devices and (2) collects and processes the data from platform users. This data is then offered to the network operators or electric energy producers.

Using smart technology the Robotina Platform solution will help you optimize the consumption of electricity by automatically turning off a device when in use (but not needed) or switching it on when the tariff is cheapest. Additionally, you will earn money by allowing power consumption flexibility to the grid and by collaborating in group buying, power trade, aggregated data sales, crowd financing and by activities in the platform's marketplace. Last but not least, you will significantly contribute to a greener environment and sustainable development of mankind.



EXPLANATION OF KEY PLATFORM CONCEPTS



1. GROUP BUYING

Users of the platform will be aggregated to carry out a group purchase of electricity. More than 1,000 or more than 10,000 **users will have a stronger negotiating position** regarding the price than if they negotiated separately with the providers.



2. POWER TRADE

Selling electricity to the highest bidder when the network needs it. This is implemented in such a way that for a short time a large number of users agree a device or devices is/are turned off. Only those devices that do not affect the quality of living are switched off - e.g. the boiler turns off for 5 min, heat pump for 10 min, etc.



3. AGGREGATED DATA SELL

Data collected and processed by the platform will be sold (1) **electricity distributors** so that they can better plan the amount of electricity they need for their customers, (2) **electricity producers**, (3) advertisers, etc.



4. CROWD FINANCING

Supported by the community, the funds for financing equipment for **larger facilities (B2B)** are raised within the platform. The Community is therefore rewarded on the basis of collecting the majority of the savings gained on the facility.



5. MARKETPLACE

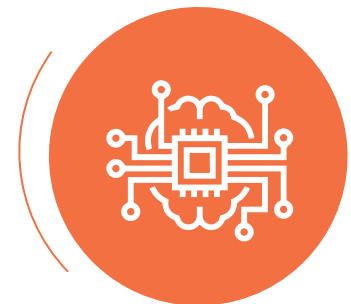
The marketplace is the central business area of the platform. All the transactions happen in the marketplace.

ALL OF THE ABOVE IS POSSIBLE BY THE FOLLOWING TECHNOLOGIES COMBINED:



The Internet of Things (IoT) is a system of intelligent **connected devices**, digital machines, objects, animals or people that are provided with unique identifiers and the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction.

The artificial intelligence (AI) is a systematic search through a range of possible energy optimization solutions in order to reach some predefined goals of the platform's user. AI is the **brains of the Robotina's platform** which cracks the real time smart grid data into valuable information and provides the rewards to its members.



Blockchain is a **decentralized ledger** which hosts a number of smart contracts triggered between different parties and a definitive contract is produced that can't be disputed. **The individuals involved are anonymous, but the contract is public** on a decentralized ledger. Transactions are encrypted.

HOW DO I SAVE?

STEP 1:

You receive the Energy Management System (EMS) hardware device. It's a smart Internet of Things (IoT) device that senses the energy consumption and behavior of your electrical appliances. After the installation, it immediately starts sending data to and receiving data from Robotina Platform.

STEP 2:

You are connected! You save up to 30 % on electricity bills by using the EMS connected to the platform. Internet of Things (IoT) sensors across the entire energy network from **producer > distributor > consumer** – to optimize the network and brings you savings from an optimal **'energy value chain'**. Using the Artificial Intelligence (AI) the Robotina Platform operates your electric devices so that it switches them on when the price of electricity is lowest and turns them off when electricity is more expensive or when the need for the electricity in the network is higher.

STEP 3:

Robotina Smart Grid platform collects anonymous energy data 24/7. The Artificial Intelligence (AI) on the platform collects and processes the data sent by EMS device to identify the historical data patterns such as when and how many times the boiler, air conditioner, heat pump, etc. is switched on. AI uses weather forecasts and energy price data to optimize your expenses.

STEP 4:

Additional savings based on collaboration. The Community benefits from all transactions on the Robotina Platform. The majority of the earnings generated by group buying, power trade (which stabilizes the grid), aggregated data sales and crowd financing will be allocated to pool awarding most active community members.

STEP 5:

Robotina Utility Token (ROX) is the platform's utility token, used in all transactions within the platform. You can pay for the products and services on the platform also with other tokens, coins or fiat money, but you will only receive a special discount and enjoy other utility benefits, when paying with ROX.

DISTRIBUTION OF GENERATED BENEFITS ON PLATFORM

REWARDS SPLIT*	USER	COMMUNITY**
EMS*** SAVINGS	90 %	8 %
GROUP BUYING	80 %	18 %
SYSTEM DATA SALES	0 %	98 %
POWER SALES	80 %	18 %
REWARD FOR SOLD HARDWARE	0 %	5 %
ESCO**** CROWDFUNDING	20 %	78 %
VPP***** CROWDFUNDING	20 %	78 %

* 2 % of the listed rewards will be paid over to the platform operator.

** **All collaborative community rewards come in from ROX bought on cryptocurrency exchanges.**

*** EMS - Energy Management System

**** ESCO - Energy Service Company

***** VPP - Virtual Power Plant

USERS OF THE ROBOTINA PLATFORM WILL ENJOY A DRAMATIC REDUCTION OF OVERALL ENERGY COSTS. THEY WILL GAIN CONTROL AND BOOST THEIR SAFETY AND SECURITY. FINALLY, THEY WILL EARN AND BRING NUMEROUS BENEFITS TO THE ROBOTINA COMMUNITY.

ROBOTINA'S KEY REFERENCES IN ENERGY EFFICIENCY AND OPTIMIZATION



LOUVRE ABU DHABI

Robotina designed and implemented high-tech people counting and occupancy prediction systems, which improve safety, security and energy efficiency in this futuristic building.



GOFLEX
goflex-community.eu

A Consortium of European partners led by IBM in the EU sponsored demonstration project demonstrates full vertically integrated smart grid in three European countries: Germany, Cyprus and Switzerland.

Microsoft[®]

Energy efficiency and fault detection system fully integrated with client's Building Management System (BMS) helps delivering outstanding savings and allows users to optimize their energy consumption.

Panasonic

Photovoltaic power plants in Japan. The installation was done in cooperation with Japanese partner SanRex, They are connected to the Robotina platform, which optimizes the yields.

HITACHI

A smart community and smart grid project in Speyer, Germany. We delivered control system and platforms that optimize self consumption storage and purchase. The solution for smart grids delivered excellent results.

SHARP

Power plant monitoring system, which used to be the biggest installation in the world at the time of delivery. The nominal capacity reaches 150 MW and it generates enough energy for a small town.

ROX: ROBOTINA'S PLATFORM UTILITY TOKEN

Robotina Utility Token (ROX) will be the fuel of the Robotina Platform, used by members worldwide. It will be an application specific token, built on top of the existing Ethereum blockchain, with various utility features. ROX can - WILL be used on the Robotina platform:



FOR ESCO CROWDFUNDING

ROX tokens will exclusively be used in **Energy Service Company (ESCO)** which will implement the energy efficiency projects for business customers, who will have a great opportunity to save energy and manage costs.

FOR COMMUNITY INCENTIVES & REWARDS

Platform will enable connected users to actively participate in the ecosystem and share their data with the Platform, for which they will be awarded with ROXs, power trade and a share (%) from all hardware sales, in correlation with their active participation.

FOR BUYING HARDWARE & SOFTWARE

Robotina Platform will have an in-built **App Store** where ROX and other currencies will be used when **buying hardware, software and numerous services.**

AS A MEMBERSHIP PROOF

Collaborative members holding ROX will be able to identify themselves within the community and participate in members only **benefits including group buying, Virtual Power Plant (VPP) Fund and Energy Service Company (ESCO) Pool.**

AS A PAYMENT METHOD FOR SUBSCRIPTION

All subscriptions will be paid monthly and will get 3 % off if paid by ROX. All subscriptions will be locked for 6 months into a smart contract. With the growth of the community, and considering tokens will be locked, fewer tokens will be on the open market.

FOR VPP CROWDFUNDING

Virtual Power Plants (VPP) will give to the ROX holders without solar power plants or other relevant energy related assets a chance to participate in benefits, derived from energy and power trading.

ROX: CROWDSALE INFORMATION

TOKEN DISTRIBUTION:

- 70 % - Crowd sale
- 10 % - Founders
- 7 % - Marketing and promotion
- 5 % - Angel investors
- 3 % - Bounty Fund
- 3 % - Market and product development
- 2 % - Escrow and merchant services



AVERAGE ROX PRICE: 0.05\$

TOTAL: 815.000.000 ROX

PHASE 1: PRE-SALE

Start: 21. 02. 2018 at 15:00 CET | Finish: 21. 03. 2018 at 14.59 CET

Hard Cap: \$15.5 M | Bonus: 10 %

PHASE 2: INITIAL COIN OFFERING (ICO)

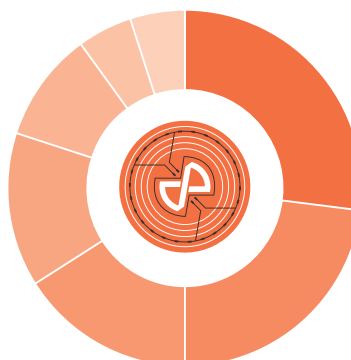
Start: 21. 03. 2018 at 15:00 CET | Finish: 30. 04. 2018 at 14.59 CET until Hard Cap

Total Hard Cap: \$28.5 M | Bonus1: 5 % first \$7 M | Bonus2: 0% last \$6 M

- When in the presale (Phase 1) HARD CAP (\$15. 5M) is reached, all transfers are rejected until Phase 2 opens. When Total Hard Cap: \$28.5M is reached, all funds are rejected and transferred back.
- Initial Coin Offering (ICO) SOFT CAP: \$10M.
- **Potentially unsold Tokens reserved for crowd sale will never be created.**

FUNDS ALLOCATION

- 27 % - Platform development
- 23 % - Sales & marketing
- 16 % - IT Security and compliance
- 14 % - Operation cost
- 10 % - Legal expense
- 5 % - Hardware development
- 5 % - Strategy development



MILESTONES

Robotina has already integrated HEMS systems for residential and BEMS for businesses across the world. Our eSTORE, energy storage and management system, help thousands of users to reduce their energy expenses and increase autonomy. In order to keep the pace with global residential demand we need to scale up the Robotina IoT platform.

Soft Cap

Full Smart Grid
Service Integration

Funds returned if less < USD 10M

- Dynamic Tariff Analyzer - Optimizer
- Behavior Intelligence
- Individual Negotiation
- Scheduler, Scheduled Tasks
- Local Energy & Power Sales
- Virtual Power Plant - VPP
- Energy Service Company - ESCO
- 'Community Book'
- Aggregation
- Interface to "IBM Watson"
- Interface to "MS Azure"
- eSTORE
- Smart contract - Subscription Manager

Integrated Marketplace
Collaboration

USD20M

- Aggregated Negotiation
- Group Buying
- Internal Trade
- Anonymous Data Broker Module
- Community Benefits
- Automatic Program
Generation & Download
- Content Marketing
- Revenue Distribution Calculator
- EV (Electric Vehicle) Integration
- Open for Non-Energy Business,
Safety, Security, Insurance,
Medical, Artificial Intelligence (AI)

Hard Cap

Neuromarketing
& Social Modules

USD 28.5M

- Multisupplier
- Neuromarketing Module
- Social Service Module
- Marketplace Full Functionality
- Inclusion of Business Users
- Tax Optimizer
- CO₂ Coupons Market

PENETRATION PHASES – ROADMAP

While designing our penetration strategy and deciding geographical priorities, the following key factors have been considered:

1) DEREGULATION OF THE ENERGY MARKET: regions with deregulated markets and high acceptance of smart grids together with well differentiated roles, will be the priority.

2) EASY PENETRATION: markets, where we are already present and markets with existing Robotina partners, rank high in this classification. Additionally, similar regulations boost this parameter.

3) MARKET SIZE: bigger the market is, lower will be the relative investment.

The following markets have been identified and prioritized:

2018	2019	2020	2021	2022
Slovenia	UK	Japan	US	Russia
Germany	Rest of EU	South East Asia	Canada	Rest of the World
Austria	Middle East	China	Australia	
Switzerland	India	South America		
Cyprus	Indonesia			
Netherlands				
UAE				

ICO TEAM



DEVID PALČIČ, CEO,

is an expert in cognitive technology solutions. In 2011 his contribution to the economy has been recognised by the Chamber of Commerce & Industry of Slovenia, with the highest national business award. Devid contributed to several patents and products.



DAMIR ŠKRJANEC, R&D,

is head of R&D with several technical competences: Software design (Windows, Linux, Android, iOS, C/C++, JavaScript, Python, assembler, PLC) man-machine interface, software engineering, embedded systems (8051 series), networking (TCP/IP, MODBUS), analogue/digital electronics.



IVAN MORANO, CTO,

leads a team of engineers and programmers focused on industrial and industry-like automation. He is Robotina's key Industry 4.0 expert and he improves industrial automation projects. He successfully delivered more than 200 projects in his career.



MILAN SUSMAN, CSM,

has extensive experience in working as a resident and non resident sales executive in various markets of Asia and the Middle East. He is responsible for international sales and marketing and contributes to the overall sales strategy.



DR. DOMEN ZUPANČIČ, R&D,

received B.Sc. Ph.D. degree in 2015 from Jožef Stefan International Postgraduate School, Ljubljana, Slovenia. His research and development expertise is focused on Robotina Cognitive Optimization System (COS) and machine learning. He is our data scientist.



MARINO MONTANI, QA,

holds a master's degree. He is an outstanding Industrial IT Project Manager who heads the implementation and maintenance of the biggest Slovenian network of environmental monitoring Internet of Things (IoT) systems at ARSO (Slovenian Environment Agency).



ARJUN UPADHYAYA, SOFTWARE,

he is a leading software development in the Robotina Dubai operations. His main responsibility is development of SCADA (software for control and data acquisition) applications, where he has deep and extensive knowledge. His main task is to develop and integrate real time process software. He is also responsible for communication between IOT devices and the Platform.



IVAN ILIČIČ, R&D,

heads Robotina applied R&D team. He is responsible for final integrated solutions, which combine controllers, IoT linker, and Cloud software. Ivan lead important projects in Europe and Japan. Currently he is focused on our Home Energy Management System (HEMS) project and on implementation of COS systems with machine learning in real projects.



DAVOR SENJANOVIČ, R&D,

holds the MS degree and has been working in the field of digital controllers since 1977. He is responsible for system software at the microcontroller level. He is expert for PLC programming and project management with detailed knowledge of SCADA systems, field buses C, Visual C#, and 8051 family microcontrollers assembly language programming.

ICO TEAM



ARMIN ALAGIC, SOFTWARE,

is responsible for blockchain team. He is also a founder of Omnitask Limited and has created team of 10+ members in various skill set including Blockchain, Smart Contract, Ethereum, PHP, Anuglar JS, Node JS and many more.



IGOR MARIĆ, SMART CONTRACTS,

is Full Stack Web Developer with solid background in different programming areas. He has been strongly focused on future technology like Blockchain for development of highly secure smart-contracts, websites and control panels for smart contracts.



JOAO FERNANDES, SALES MANAGER,

is a native speaker and is responsible for Portuguese, Spanish and English speaking markets, which include Spain, Portugal and South America. He has important international experience. He has worked as sales executive in London, UK before joining Robotina team.



ERIK BUBOLA, SMART GRIDS,

studied power electronics and he is an expert in electrical energy, grids and smart grids. His main role is support and tariff systems. Mr. Bubola has a deep knowledge of energy storage systems and energy management systems and he is central to our technical support team.



TOMAŽ PAVLICA, MARKETING, MBA,

has 20 years of experience in management and International business development. He led teams and projects and was responsible for change management. His expertise facilitates Robotina in the fields of strategy development, business process optimisations, sales, marketing and branding.



ANDREJ PAŠEK, AUTOMATION, GM,

has extensive experience and contributed to many of the key projects, including the development of the Middle East markets. He has experience in system integration, PLCs's, SCADA and in other key areas for automation.



HUBERT GOLLE, SMART GRIDS

heads the Smart Grids division in Robotina. He is focused on Japanese and European markets. Smart grids division includes energy storage systems, energy management systems and IoT based remote operation. He oversees the Goflex project, which will integrate smart grids in three European cities.

**ROBOTINA HAS OVER 50 PEOPLE
WORKING ON THIS PROJECT.**

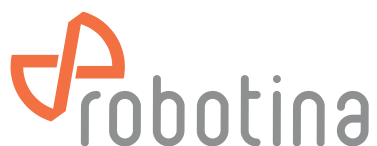
**CHECK THE ADVISORS ON WHITE PAPER
OR WWW.ROBOTINAICO.COM PAGE.**

MAKE SURE YOU GET YOUR
ROX TO JOIN THIS **ELECTRIC**
(R)EVOLUTION.



THE PRE-SALE OF ROX TOKENS GOES LIVE ON THE 21st
OF FEBRUARY, AND THE ICO BEGINS ON THE 21st MARCH.

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CEO, DEVID PALČIČ