Welcome to Wireless Future

Intelligent technology for wireless energy

INTRODUCTION

Node is a revolutionary high-tech start-up, that forms a new market niche of wireless transmission devices for both private and commercial use.

Our innovative developments, research activities in the field of storage and transmission of electricity, allow us to offer solutions that are characterized by high quality and high-tech.

As the pressure of wireless power transfer technology increases in consumer electronics, the industrial and medical industries are shifting focus towards this technology and its inherent advantages. As communication interfaces are becoming increasingly wireless with technologies such as Bluetooth, the remaining wiring connections become the weakest link in the system. Wireless operation of electronic devices is the ultimate goal for many designers. The ultimate goal for many industrial sectors is operating with rough environmental conditions, aggressive cleaning agents, heavy soiling and high mechanical stresses (e.g. IP69, medicine, construction machinery). For consumer electronics, the elimination of wires means more convenient, more reliable and safer applications in bath and kitchen environments, which have to satisfy increasingly stringent requirements on waterproof or doubled insulation.

In 2011 the Nobel Prize was awarded in order to implement the idea of the project, register the intellectual property rights, attract key specialists in the field of wireless energy transmission to the company and start the development of the first prototypes. The company has made significant solutions in the field of wireless energy transmission, development and tested several years ago by a team of physicists from Russia.

Latvia was chosen to be a place for the first production, since the local tax system has many advantages that allow to cut this production tax-free:

- Latvian tax legislation is more flexible than the legislation of other EU members;
- Absence of inheritance tax;
- Absence of income tax on dividends;
- When paying dividends to nonresident Shareholders the tax is not withheld;
- The loyalty tax on interest for nonresidents of Latvia is abolished.

Before this, from October 2012 till May 2014, a number of studies were carried out in the field of wireless energy transmission. The research was based on the use of electromagnetic waves in frequency ranges filled by the room members. Gradually, various experimental proofs of the phenomenon of energy transmission through the magnetic moments of the atoms of matter were obtained. Experiments were conducted with various types of materials and at the same time a decision to commercialize the project was made.

From May 2014 till March 2017, the project team created possible technological solutions for commercial use, numerous were developed and patents were selected. Nodes company successful first testing of several prototypes of devices from 1W to 150W was carried out in December 2016 - March 2017. The company's management team, based on the results of tests, were selected for the production line of consumer products. In May 2017 a legal structure of the company was carried out, a settlement account was opened, domain name and hosting

TECHNOLOGY

The project's FTO (Freedom To Operate) Offering prepared by Nodes is a fundraising operation aimed at the commercialization of technology and continuous production of devices.

IDEA DEVELOPMENT

On the basis of several discoveries in the field of high-frequency pulsed electromagnetic fields, Nodes LLC, Nodes Inc. and Nodes Ltd. have developed a technology for the transfer of magnetic moments of the atoms of matter, which was the starting point for Nodes' research.

Nodes was created with the goal of developing and implementing for commercial use a new technology of wireless energy transmission, developed and tested several years ago by a team of physicists from Russia.

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Advantages of Node technology

- Receiving surface extremely of any shape
- Energy transmitted in space (feeds regardless of the position of the receiver in it)
- Large distance of energy transfer
- Absolute protection against dust and moisture
- Energy transfer while the receiver is moving

The possibilities of using technology are practically limitless. The technology can be built into any electronic devices without significant changes in size, weight, aesthetic appeal, etc. And also integrate directly into the containers of lithium-ion batteries.

Transmitting devices have less weight and dimensions than existing analogues, and can be manufactured in virtually any design including flexible shapes and various protection. In addition, the patented energy can only be received by powerful energy receivers and sets of magnets.

The technology has a low internal energy consumption, provides almost a complete energy transmission with efficiency of about 70%. In addition, it is completely silent, does not create electromagnetic interference and is safe for people.

Unlike the industrial solutions available on the market, Node technology does not have limitations on the location of the receiving device with respect to the device that transmits energy, and also does not have the 3D limits located in all coordinates with respect to signal transmission in the charging station area.

A possibility to transfer energy from one device to an unlimited number of devices in proportion to the power consumption should, according to the scientists, is possible. Transmitting energy from a device with a maximum power of 1000 to 10 devices of 100W, or 20 devices of 50. If there are devices with different power consumption in the transmission area, the power is distributed equally, depending on the distance and power of each device. It is possible to transmit energy when the receiving device is beyond the range of the signal.

PRODUCT LINE - UP (CURRENT)

We are going to offer the market a number of technical solutions in the field of wireless energy transmission - from consumer electronics to industrial products.

Solutions for consumer electronics are represented by two devices:

Alpha

A large charging surface area allows several devices to be serviced simultaneously or located on top of each other, providing an efficient charge and transmitted power. When charging multiple devices, the power transmitted to each device decreases in proportion to the power consumption of the device. The charging station can also be used as a wireless power receiver, allowing it to receive energy from a device with a maximum power of 100W to 10 devices of 10W, or 20 devices of 5W. If there are devices with different power consumption in the transmission area, the power is distributed equally, depending on the distance and power of each device. It is possible to transmit energy when the receiving device is beyond the range of the signal.

Alpha

Flexible stylish pad for wireless charging of electronic devices, allows you to charge portable electronics, mobile phones, smartwatches, tablets, laptops and camera. Thanks to the flexible design, it can be carefully rolled, fold and flexible design of the Alpha ensures the convenience of having transporting and storing the device.

Eon

Wireless charging station for desktop placement. It has small dimensions and a **charging surface area of 300x200mm, capacity of up to 1 meter** (only in or of-shore of 20b line from the level of the surface on which it is located) and power up to 150W. Eon is equipped with several transmitter coils and is equipped with automatic power control.

Specifications

- Price: 90$
- Surface area 300x200mm
- Transmitted power: up to 150W
- USB 5V power supply

Specifications

- Price: 150$
- Transmitted power: up to 150W
- Power supply: 220V
- Dimensions: 100x70mm

PRODUCT LINE - UP (DEVELOPMENT PLAN)

Solutions for industry is the Nodes's strategic goal. They can be implemented in different areas: production, construction, agriculture, energy, security and many others. Now the company conducts research in the following areas:

1. Automotive

The solution from Node allows faster and more convenient charging of electric vehicles. It is possible to charge the receiving device under asphalt, for example, parking and on the roller surface of the body, the vehicle will be ready for charging. The body itself can act as a receiver. This method is safe, affordable and environmentally friendly and does so simple and fast as refueling a gasoline car or a regular gas station.

2. Drones wireless charging

Wireless charging and power technology provide multiple advantages over traditional connectors and charging systems, not only for consumer systems, but also for industrial robots. Wiring on the surface, or passing areas where there is a signal, the robot can be charged without any connection.

Drones and quadcopters can be continuously recharged from wireless charging stations in the route. No need to connect the drone now to the connector to have a special box for charging. The drone can be charged from the wireless power delivery network with the help of drones, for example, by placing the charging stations on houses.

3. Healthcare

Node is actively engaged in the research and development of new sensors for non-invasive measurements of blood sugar, blood pressure, cholesterol, etc. Nodes's technology allows to signal transmission through various media and collecting information on the change of these signals at different resonant frequencies, it is possible to determine with sufficient accuracy the presence or quantity of chemical elements and compounds in a certain volume of the medium space.

Using special algorithms, it is possible to determine deviations of environmental parameters from the norm and transmit information about the deviation and the necessary corrective data on the state of the environment in real time, remotely and with low power consumption. This is a demanded product, which is extremely necessary in the medical industry, for example - control of blood sugar levels in diabetics, blood pressure control in people with cardiac or vascular disorders, etc. Therefore, Node's technology of sensors can be very in-demand in medicine. Starting with the maintenance of electronics for care and monitoring of heads, ending with the supply of implanted devices, sensors and measuring devices. Implanted microsensors that run on batteries do not require a connection and can be easily recharged by simply placing them in the charging station through the body.

MARKET OVERVIEW

Achievements and innovations in the technological sphere, as well as an increase in production of automotive, household, portable electronics, mobile phones, notebooks, tablets and other energy-dependent products will, without doubts, increase and maintain the level of demand for wireless charging devices. The ability to charge devices without wires and the elimination of use of various energetic devices is simplified and at the same time is more effective.

The introduction of wireless power transmission prolongs the product life cycle, reduces the need for power cables and waste management. Although wireless technology is not compatible with environmental use purposes, it is certainly effective in this regard and will have a very positive impact on the environment. Wireless electronic devices and the external environment can be certainly attributed to an ecologically clean trend.

Revenues from wireless energy transmission products were estimated at approximately 2.43 billion USD, the largest part of which was the segment of consumer electronics.

It is expected that by 2022 the market of wireless transmission devices will grow to 11.27 billion USD, an increase of 23.5% between 2017 and 2022. In addition, with the help of effective and innovations in various areas of this industry, it is quite possible to achieve the projected profit in the industry by 2024 at a rate of 12.6 billion USD.

Worldwide sales of wireless transmission devices, thousand pcs.

2%
2%
2%