



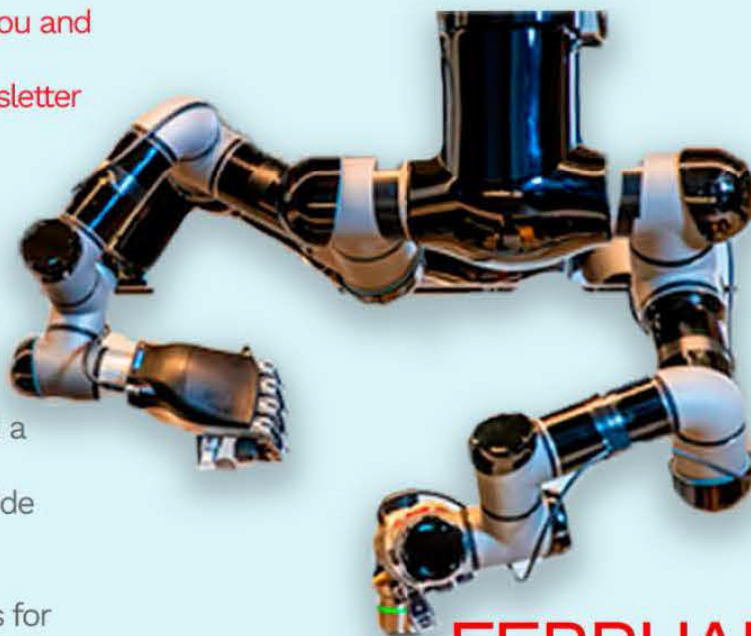
12 BREAKTHROUGHS IN WORLD ROBOTICS IN 2021

LeoTronics team congratulates you and wish you and all your colleagues a Merry Christmas! We take this occasion to launch a weekly newsletter regarding our company and world robotics.

JANUARY

The British company Moley Robotics presented a fully robotic kitchen for wealthy people. It can independently prepare more than 5,000 of a wide variety of dishes.

Its robotic arms help the robot use the utensils for cooking and clean up the clutter in the kitchen.



MARCH

Chinese developers have constructed a soft polymer robot with flexible electronic components and silicone fins-wings that allow it to withstand the colossal pressure at depths of more than 10 kilometers.

As the primary test, the robot was attached to a traditional deep-sea machine, which sank to the bottom of the Mariana Trench and released its minor soft "brother" to float freely.



FEBRUARY

The American company Boston Dynamics has updated the Spot robot. Its Enterprise Spot version can recharge the built-in battery entirely independently without any human assistance. Thus, this robot can be sent to remote locations for an infinitely long time.



APRIL

NASA's Parker Solar Probe, launched as early as August 2018, set a new record and approached the Sun as close as possible.

It successfully flew through the solar corona (or upper atmosphere) to sample particles and their magnetic fields.



MAY

Movies often feature how robots walk along the streets of cities and help people in the future. It looks like it is starting to come true. The first autonomous robotic janitor, the Trombia Free sweeping machine of the Finnish company Trombia Technologies, entered the Finnish streets. The robot is equipped with cameras and proximity sensors, moves at a speed of up to 6 km / h, and, using a network of rotating brushes, can work for up to 17 hours.



JUNE

MassRobotics, an independent not-for-profit organization, has developed the MassRobotics Interoperability Standard to allow competitors in the automation industry to collaborate seamlessly. The benefits of complying with such standards are visible to all manufacturers in the robotics automatization field.



JULY

American scientists have created a superfast insect-sized robot. The mini-robot can move on a flat surface at a phenomenal speed - 20 body lengths per second.

Another feature is the ability to move rapidly over any terrain and work in harsh conditions. Its most likely future is to help the special services and the army.

AUGUST

The four-legged CyberDog robot is Xiaomi's first attempt at robotics.

CyberDog has a rich feature set that will provide developers with a solid platform for developing new applications and empowerment operations and navigation functions.





SEPTEMBER

Obviously, Tesla could not bear to keep away from robotic technologies' chasing. In September, its CEO Elon Musk introduced a conceptual humanoid robot powered by artificial intelligence that is currently embedded in Tesla's autonomous vehicles. The robot was named Tesla Bot. He emphasized that the robot would be friendly.



OCTOBER

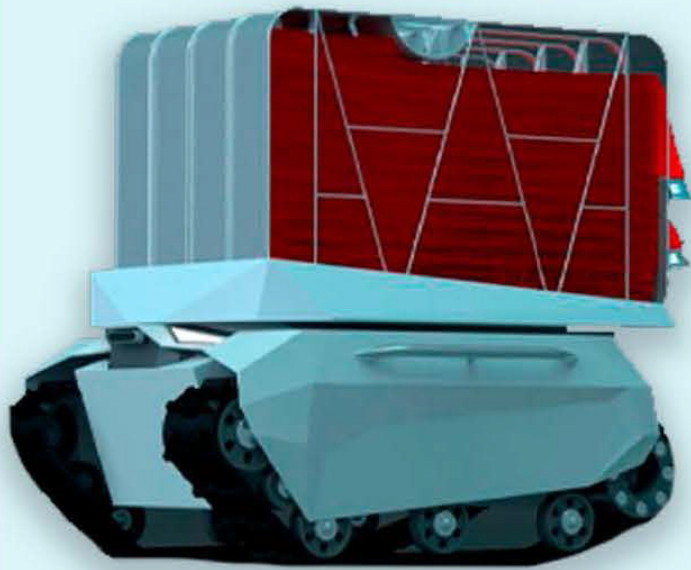
Ghost Robotics, an American company, has created a robot dog armed with a Special Purpose Unmanned Rifle (SPUR). Producers believe that the new product will soon become the "best friend" for the American special forces.

Furthermore, from 6 to 8 October in the Czech Republic, Brno, there were held the International Fire Fighting Equipment and Services Fair, the International Security Technology and Services Fair, or PYROS for short, and the International Exhibition for Security Technologies and Services ISET.





NOVEMBER



An autonomous electric vessel that does not need a crew was launched in Norway. It should replace 40,000 annual diesel truck trips. Obviously, the introduction of this technology will significantly reduce the shipping industry's carbon footprint.

A joint venture between chemical company Yara and marine technology company Kongsberg, the Yara Birkeland was introduced in 2017 as the world's first fully electric and autonomous container ship.

LeoTronics team weren't sitting idle and took part in the ELMIA Subcontractor International Exhibition 2021 with TrackReitar FFL fire robot, that is equipped with a high-pressure water and foam nozzle to fight the fire with maximum efficiency. Based on the success, LeoTronics has already launched the TrackReitar FFL and TrackReitar Rescue Horse models into mass production.

DECEMBER

Thus, it is possible to identify five main trends in robotics development:

- robots take on monotonous and dangerous work;
- robots learn new tricks;
- robots increase the efficiency of intelligent factories;
- robots reduce the carbon footprint;
- robots are rapidly expanding into new markets.

For us, the LeoTronics team, the year was heavy but industrious and productive. We decided on the main line of robots and launched our firefighting robots into mass production. And our preliminary estimate is 2022 to be even more efficient and busier: from the market launch of existing prototypes to the implementation of robotic ideas in the field of social protection.

The British company Engineered Arts held a presentation of its new robot Ameca. The android machine differs in two aspects. Firstly, it has very realistic movements, including facial expressions. Secondly, Ameca is a good actress and has already managed to impress observers with its acting.

