

Robotic automation: one robot performing multiple operations, deployable in any country

FOR MANUFACTURERS IN ANY COUNTRY, FROM SMALL BUSINESSES TO FACTORIES

One robot, several workstations

Modernize a section, build a robotic production line, or launch a new manufacturing process. An industrial robot picks, sorts, loads products into packaging, and loads machines. A camera with artificial intelligence, if needed, locates the product in any position and identifies defects.

We, "Vector Technologies" from Minsk, developed the software for the robot and machine vision systems. We configure, deploy, and train remotely: only your engineer is needed on-site.

+375 33 380-78-10

Viber

Telegram

WhatsApp

support@engi.live

Our software: engiAI and Robot1

Robots of various brands

Remote commissioning available in any country

Online training



One robot, multiple operations

The robot picks up, inspects, stacks and rejects products, and loads machines.



Machine vision – if needed

The camera identifies products in any orientation and detects defects without special fixtures.



Commissioning over the internet

We provide remote setup, launch, and training, available in any country.

1 robot

performs multiple tasks, including sorting, stacking, quality control, and loading machines.

4-5 milliseconds

per frame: this is how long it takes for the neural network to analyze a product using a graphics card

20 minutes

Each program can be used without a license for a trial period – you can try it out right away

17 years

of experience in industrial automation, since 2009.

Three ways to integrate a robot into your production



Modernize an existing area

The robot is placed next to your conveyor belt, machine, or packaging line and takes over manual tasks.

- We analyze the task using video and photos of the area;
- We select the appropriate robot and camera – or integrate vision into a robot that is already in your facility;
- We test the process on a digital twin before installation.
- Let's implement it remotely, step-by-step – from a dry run to a complete cycle.



Build a robotic workshop

We assemble the cells in a digital twin: we verify the reach, layout plan, and cycle time before the first movement of the actual robot.

- Equipment specifications: robot, camera, lens, lighting, computer, gripper, sensors.
- You purchase the equipment from local suppliers according to our specifications.
- We provide connection diagrams and consultations via video conferencing during installation.
- Remote setup and online training for your personnel.



Start a new production

Thinking of producing a new product? A robot with a camera allows you to start without a large workforce: it packs, sorts, inspects, and maintains machines in every shift.

- A new product means a new neural network model and routines, not new tooling.
- Even small batches become profitable.
- Start with a single cell and replicate it by copying the project.
- We will calculate the return on investment based on your figures.

One robot can handle multiple tasks

Each camera response triggers a specific robot path. Therefore, within a single cell, the robot combines operations that are typically performed manually in different locations:

1 The robot picks up a product from the conveyor belt or container.

2 The camera inspects the product to determine if it is acceptable or defective, and identifies the product type.

3 The robot places acceptable products into a box, arranging them in rows and layers.

4 Defective products are placed by the robot into a separate container.

5 The robot loads machines, presses, or conveyor belts.



Packing into boxes

The robot arranges products in rows and layers, and the software automatically calculates the placement for each item.



Sorting

It sorts products by type, size, or grade based on the neural network's analysis.



Orientation

The robot rotates the product to an angle determined by the camera, ranging from 0 to 359 degrees.



Quality control

The camera, which guides the robot, simultaneously checks the product for defects.



Machine tending

It loads machines, presses, or conveyors based on signals from sensors and inputs.



Rejection

The robot removes defective products from the production line and places them in a separate container.

When is machine vision needed?

Robot without a camera

If the product always arrives at the same location, a robot with the program "Robot1" is sufficient. This program can handle routes for each product, arrange the products in boxes in rows and layers, and initiate cycles based on signals from sensors.

The complete cycle is downloaded to the robot's teach pendant, allowing the robot to operate independently without a computer.

Robot with a camera, powered by engiAI

If the products are arranged haphazardly, are of different types, or need to be inspected, we add a camera with a neural network. It identifies the product in any position, determines the type and angle, and distinguishes between acceptable and defective items.

No fixtures, supports, or vibratory feeders are needed for each product: the robot adapts to the part itself.

You can start without a camera

The robot and the software are the same – the vision system is added later, when sorting or quality control is required.

Not just BORUNTE

We also work with other industrial robots. The BORUNTE robots are controlled directly via the network by the Robot1 program, while robots from other brands and PLCs receive commands and recognition results from engiAI over the TCP/IP network. Therefore, machine vision can be integrated with robots that are already installed in your facility.

Our own software

The software for machine vision and robot control is developed by "Vector Technologies." We are responsible for the entire process, from the camera image to the robot's movements, and we customize the software to your specific needs.



engiAI — machine vision

With just a few images of the product, the neural network can be trained with a single click. The system supports cameras from Hikrobot, SICK, as well as USB and IP cameras. It can be controlled via TCP/IP commands, either directly or through a PLC (Programmable Logic Controller).



Robot1 — robot control

Poses and cycles, box packing, entry and exit points, soft axis limits, and forbidden zones. The BORUNTE robot is controlled by a computer over a network.



Stend is a digital twin of a cell

The robot, the box, and the part are arranged on a 3D scene, and the cycle is tested on a model before the actual robot is deployed.



Customization to fit your specific needs

Need a new feature, a communication protocol, or a report? We add it ourselves, without having to correspond with different suppliers.



It works without a cloud connection

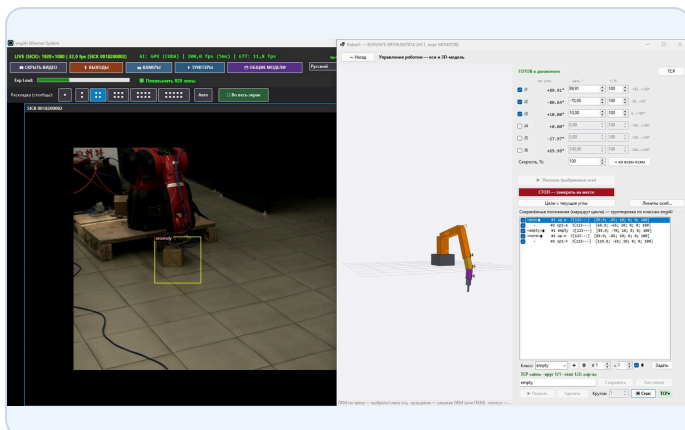
Image processing is performed on a computer located on the production line, so your production images never leave the facility.



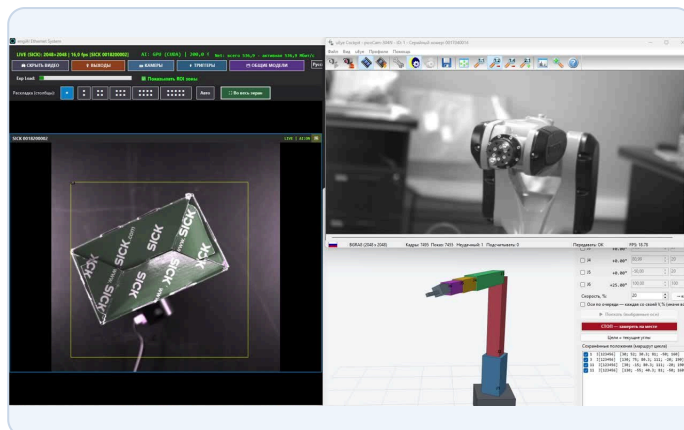
Interface in 14 languages

The operator works with the software in their own language, and the software manuals are also available in 14 languages.

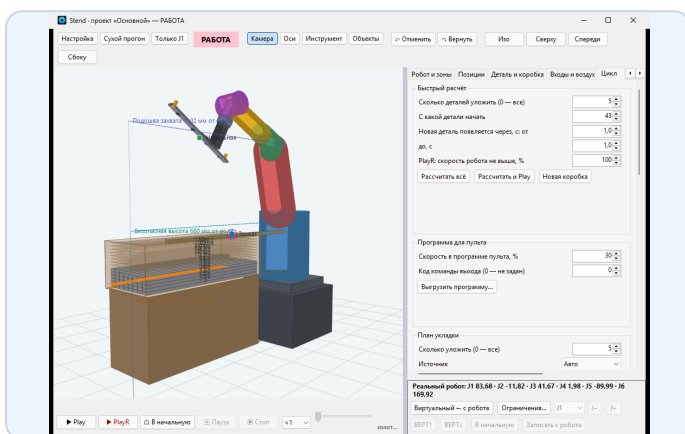
Detailed information about the programs: [engiAI - Machine vision](#) · [Robot1 — robot control](#) · [Video: A robot sorts boxes on our test bench](#) · [A comprehensive commercial proposal](#)



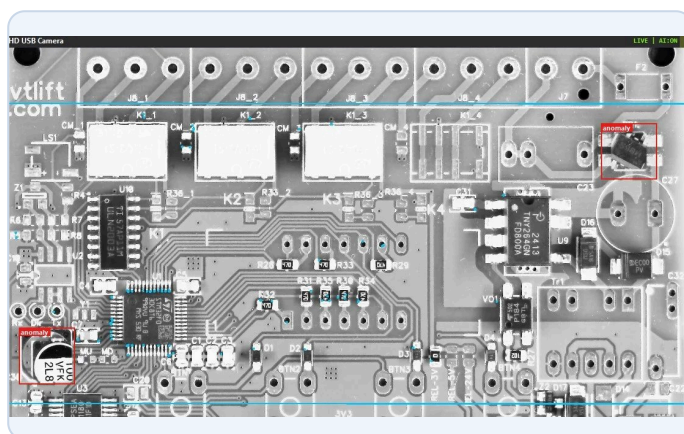
engiAI and Robot1 on our test bench: the camera identifies a box, and the robot follows a pre-defined route based on that recognition.



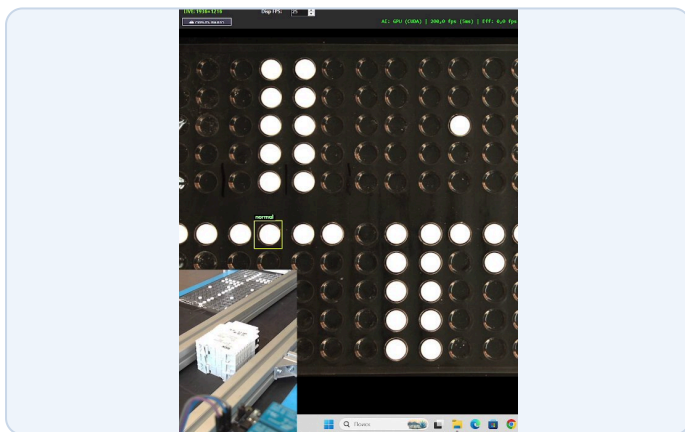
The camera determines the angle of the box, and the robot then rotates the gripper accordingly.



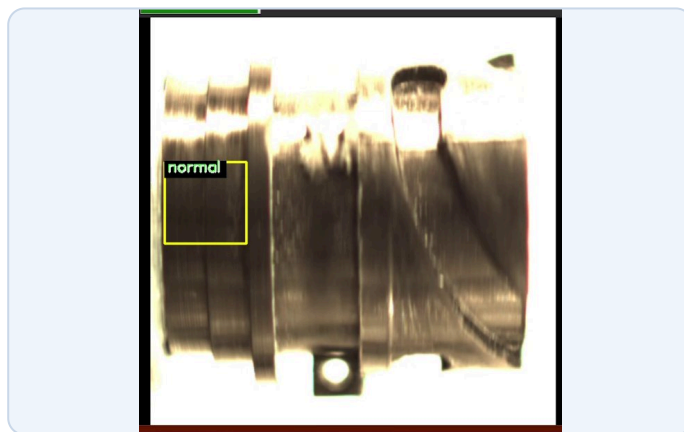
The Stend module: packing products into a box in a 3D scene and calculating the cycle time before launch.



Inspection of printed circuit board assembly: a misaligned component is marked in red.



Tablets in blister packs: inspection by zone on a moving conveyor belt.



Metal part: a neural network compares the area with the "normal" state.

Where this is used



Packaging and logistics

Box orientation and stacking, palletizing, sorting, and dimensional measurement using a stereo camera.



Food and beverage industry

Monitoring product flow on the conveyor belt, detecting dropped containers, and sorting.



Pharmaceuticals

Tablet inspection in blister packs, packaging and labeling control, and rejection.



Machine building and metalworking

Loading machines and presses, inspecting parts, and loading parts into containers.



Electronics

Inspection of printed circuit board assembly: checking for the presence, alignment, and orientation of components.



Cable manufacturing

Inspecting markings and insulation, transporting spools using automated carts.



Warehouses

Palletizing and de-palletizing, measuring the dimensions of goods.

Why choose us



We operate in any country

We configure programs remotely, train the neural network on your products, and launch the robot together with your engineer.



One team for everything

The vision system, communication, and robot control are all managed by a single team, ensuring issues are resolved directly.



Detailed logs

Both programs record every action, allowing us to see what happened at the workstation without needing to visit the site.



17 years in the market, over 50 employees

2,500 square meters of production space, ISO 9001 quality management system.



Online training for employees

Online training sessions are available for operators, technicians, and engineers; recordings of the sessions are kept for your reference.



The second cell is a copy of the first

The second identical workstation is launched by copying the project and the neural network model, rather than creating a new project.



For small businesses: robots are not just for large factories

- Start with a single cell that immediately handles multiple operations.
- Switching to a new product takes hours: a new neural network model and new processing routes are required, but the cell's mechanics remain the same.
- Therefore, it is beneficial to automate even small batches, even those produced in a single shift.
- The robot takes over repetitive tasks in each shift.



Secure remote startup

The robot is always deployed in the presence of a human operator on site. We configure the system and monitor the process remotely via video conferencing, while your engineer controls the robot's movements and has access to the emergency stop button. During the initial deployments, the robot's speed is limited by the software.

For remote operation, you will need:

- a stable internet connection on the cell's computer;
- remote access software approved by your IT department;
- video communication capabilities from a smartphone or laptop connected to the robot.

How to get started

1

Write to us

Write to us via Viber, WhatsApp, Telegram, or email, and briefly describe the process you would like to automate.

2

Send us a video

A short video of the operation and photos of the products allow us to assess the task without a site visit.

3

Meet with us online

During a video conference, we will discuss the task and demonstrate the software and robot in action on our test platform.

4

Test it on your products

We will train the neural network using images of your products and show you the results of the recognition process.

5

Get a quote

Let's prepare the equipment specifications, a remote deployment plan, timelines, and costs.

6

Put the robot into operation

We will conduct remote implementation, setup, and staff training.

How we calculate the return on investment

We calculate the return on investment based on your figures. To calculate this, we need data from the table below.

Data from you	What follows from them
How many employees are involved in the operation per shift, and how many shifts are there per day?	How many working hours per year are replaced by a robot?
The cost of one hour of labor, including taxes.	Annual savings on labor costs.
The defect rate and the cost of each missed error.	Savings from automated quality control.
How often the product changes per month, and how long does the setup process take?	Savings on tooling and downtime.
The cost of a robotic cell or a robotic work area is tailored to your specific application.	Payback period: the cost divided by the annual savings.

Cost

LICENSE FOR ENGIAI AND ROBOT1

1000–1500 USD

First robotic cell. A one-time license for a single robotic cell, which refers to a single computer. There is no annual fee, and the software operates without time restrictions.

The price includes engiAI and Robot1, our software support, and all updates for a year.

ADDITIONAL ROBOTIC CELLS

The price depends on the level of support

Each subsequent module is licensed separately. With our support package, the price is higher. Without our support, the price is lower: your engineer works with the software using the provided instructions.

ROBOT AND EQUIPMENT

Please inquire about availability and prices

We will select a robot that meets your specific needs and create the equipment specifications – you can purchase this equipment from local suppliers.

What is support? This refers to software support, not project management: we train your engineer on how to use engiAI and Robot1, and we answer their questions about the software. If you need us to manage the project, that is a separate agreement.

Updates. The software is constantly being updated. For the first year, all updates are free – both for the initial robotic cell and for any subsequent ones. From the second year onwards, you will not have to pay for the software itself, but new updates may be subject to a fee. If the price of these updates is not to your liking, we can discuss it.

Questions and Answers

What types of robots are supported?

We work with other industrial robots as well, not just BORUNTE robots. With BORUNTE robots equipped with the HC1 controller, the Robot1 software directly controls the robot over the network – from a computer, a digital twin, or by loading the program onto a teach pendant. Robots from other brands and PLCs receive commands and recognition results from engiAI over the TCP/IP network. Therefore, machine vision can be integrated with robots that are already installed in your facility.

Do you need to send someone to our location?

No. We work remotely from Minsk. You need to have your own engineer on-site to work with the robot, while a mechanic and electrician will install the equipment according to our diagrams.

What kind of computer is required?

Windows 10 or Windows 11, 64-bit. A NVIDIA graphics card accelerates training and analysis; without it, the program runs on the processor.

What happens if the product changes?

For a new product, a new neural network model is trained, and new routines are created. The mechanical aspects of the system remain the same. After training, your staff will handle this.

Is a cloud connection required?

No. The recognition process runs on a computer located at the production line. Internet access is needed for remote setup and support, and we connect with your IT department's approval.

Can I try it out before I buy it?

Yes. Without a license, each program runs for 20 minutes. Additionally, we can demonstrate the system online on our test bench and verify its performance using images of your products.

Tell us what you want to automate

Please send us a photo or a short video of the procedure, and we will let you know what aspects can be automated and calculate the potential return on investment based on your specific data.

[+375 33 380-78-10](tel:+375333807810)[Viber](#)[Telegram](#)[WhatsApp](#)support@engi.live**Sergey Kuntsevich**

Technical specialist at "Vector Technologies," software engineer, software developer engiAI and Robot1 · Minsk, Belarus
Programs, guides, and videos – engi.live

**Robotic automation**engi.live/en/remote-support/robotization**WhatsApp**[+375 33 380-78-10](https://wa.me/375333807810)