Training staff for the IT industry. Our experience

As technology continues to rapidly develop, it is crucial for IT specialists to maintain their skill level and to constantly bring in new talent to the team. Kaspersky firmly believes the most reliable way to train the future workforce is to grow it ourselves. We are already implementing numerous educational and partnership projects that encompass an audience ranging from schoolchildren to IT specialists.

How we train specialists

- We give a jump-start to school students and train university students
- We upgrade the qualifications of information security specialists

Our approach to education

With information technologies, it is important to think long-term: who will be working for Kaspersky tomorrow? In a year? In five to 10 years? Can we even imagine what these people are doing right now, whether they are specialists or school students who have just embarked on the path of studying information technologies? What will their knowledge and skills be like when they join our team? Will their knowledge level be consistent with how rapidly technology has developed?

Kaspersky conducted its own research "The portrait of modern Information Security professional" in order to evaluate the current state of the labor market and analyze the exact reasons for the cybersecurity skills shortage. Russia reported the largest cybersecurity staff shortage, followed by Latin America, APAC and META. A lack of in-house cybersecurity talent is one of the main reasons why companies turn to IT and security service providers, along with the increased efficiency of outsourcing and the need to comply with regulatory requirements.

41%

of the companies questioned describe their cybersecurity teams as "somewhat" or "significantly understaffed"[1]

We realize that training needs to be conducted early and continuously. This is why we have developed and are constantly expanding our range of educational projects. We work with school and university students and teachers, record cartoons and video lectures for the younger generation, hold hackathons[2], offer on-the-job training in summer and paid internships, and also implement numerous educational projects in partnership with key agencies and universities. Separately, we train specialists who also need to constantly refresh their knowledge and practical skills.

"Education is one of the main drivers of the safe future that we seek to build, while paying special attention to social projects".

Kirill Shiryayev,
Head of Kaspersky Academy

[1] The research surveyed more than 1,000 InfoSec professionals from Asia-Pacific, Europe, the META region, North and Latin America.
[2] A hackathon is an event during which IT specialists jointly develop a solution to a given problem.

Educating school students

We believe it's important for children to acquaint themselves with the industry they will eventually work in. According to our survey[1], 41 percent of children in Russia want to work in IT. Kaspersky is constantly finding new formats to educate and train school children so they are familiar with, and can understand cybersecurity.

Kaspersky Math Vertical

One of our key educational projects is the Kaspersky Math Vertical, where we have crafted a specialized program focusing on information security. We take a comprehensive approach to this issue: engaging not only with school students but also with teachers in our program.

Kaspersky has been participating in the Moscow Math Vertical program under the auspices of the Moscow Department of Education since its launch in 2017. As part of the program, school students study mathematics and different aspects of natural sciences in depth. With the Company's support, a separate course called Kaspersky Math Vertical has been created with an emphasis on the Basics of Information Security, consisting of several key blocks such as programming basics, an introduction to cutting-edge technology, and advice on security in cyberspace. We have been implementing the course for three years at our partner schools in Moscow for students in grades 7–11.

Today, Kaspersky has a presence at 15 schools in Moscow. Our experts teach special courses to students and host seminars. After finishing the tenth grade, students join us as interns, which not only simplifies their path to university for an IT major, but also provides them with an opportunity to remain at the Company and develop their skills.

In 2023, the first participants of the Math Vertical program graduated from school. Some of them won the National Technology Olympiad in Information Security.

School students take part in numerous online events organized by Kaspersky. In particular, we organized the Kaspersky IT Marathon at Moscow schools. In 2023, the marathon involved 34 schools with several thousand students participating.

More than 400 mathematics and computer science teachers in Moscow completed advanced training courses from Kaspersky in the 2022/2023 academic year.

We work closely with school teachers. This marks the third year in a row that our specialists conducted advanced training courses for Moscow teachers of mathematics and computer science together with the Moscow Department of Education and Science. The training takes place online, and on completion, teachers take tests to verify their knowledge. Some teachers take our course annually because they understand that the IT industry is developing rapidly and their knowledge needs to be refreshed.

Teachers who complete our courses receive a corresponding state-issued document, which is issued by the city's methodological center. In the first half of the 2023/2024 academic year, 250 teachers successfully completed these courses, and roughly the same number will complete them in the second half of the year. We are ready to extend our training programs to teachers in the regions.

15 schools
are taking part in the Kaspersky Math Vertical project

34 schools
participate in the Kaspersky IT Marathon

"A few years ago, we concluded a historic agreement with the Moscow Ministry of Education. The conditions were as follows: we start with one primary school, gradually expand our coverage, and publish online materials that could be useful to the whole city and eventually the whole country. We comply with these terms unconditionally".

Veniamin Ginodman,
Educational Projects Adviser

[1] The survey was commissioned by Kaspersky and conducted in spring 2023 among 2,000 parents and their school and preschool age children in Russia.

Digital Lesson

Since 2018, Kaspersky has been a partner of the Russian "Digital Lesson" educational project, which is part of the HR for the Digital Economy federal project. Each year, we develop and release a lesson focused on a specific topic with an interactive simulator for school students, their parents and teachers to use over a three-week period.

HR for the Digital Economy federal project

Russian educational project "Digital Lesson"

Implemented by the Ministry of Education, the Ministry of Digital Development and the Digital Economy autonomous non-profit organization in partnership with leading Russian tech companies

Since 2018, we have prepared six thematic lessons about cybersecurity, ways to protect yourself and your data, as well as the work of IT specialists and developers. We make efforts not to overload students with complex information and, on the contrary, only present the most important ideas in a simple and accessible way, while also using high-quality animation and interactivity to pique their interest.

The topic of one of the lessons for the 2022/2023 academic year was the protection of personal data and mobile devices: "What's Hiding in Your Smartphone: Exploring Mobile Threats." Every lessons since 2018 has been made available on the project's website and can be accessed at any time, so students can watch them at school, or at home with the whole family.

In early 2024, students time-traveled with us to the year 2050 and were able to try their hand at building a cybersecure future. Even in a fantasy world, these kids are solving a very real problem – how to protect a smart home and repel cyberattacks using the latest technologies. In addition, the children once again have a good reason to think about their future profession: in 2024, our lessons taught them who pentesters[1] and secure development specialists are.

The students pass through several stages in the learning process:

- Watch a video lecture with Kaspersky's mascot, Midori Kuma
- Practice on a simulator that is divided into three levels of difficulty depending on the student's grade. The simulator consists of an animated and interactive comic about the adventures of two kids, whom Midori and the students help resolve an IT problem
- Receive a certificate for completing the lesson and collect achievements

By recording cybersecurity lessons for children, we achieve the following goals:

- We tell children and adults about the virtual world and the threats it poses
- We teach them methods to protect their identity and personal data
- We introduce school students to new professions: a developer of security solutions for smartphones, an information security expert or a content and spam analyst
- We reveal some of the nuances of developing protection for mobile devices

Kaspersky's Digital Lesson has been completed

13.5 million

times since 2018

11–15%

of children have encountered at least one of the following threats: phone or online fraud, account hacking or infection of their devices with malware[2]

Digital Lesson completed

>2 million times

in 2023

[1] A pentester is a specialist who tests a program for deliberate penetration (hacker attack).
[2] According to a survey commissioned by Kaspersky Lab in Russia in 2022, featuring 2,008 people, including children and their parents.

Online course for school students

In October 2023, we published the first materials of the Basics of Information Security online course, which is designed for seventh grade students and available in the Moscow Electronic School (MES) system in Russian.

The course consists of three modules that gradually immerse students in the subject. It is based on materials Moscow schools accumulated when they were working on joint projects with the Moscow Department of Education and Science, and take into account the latest trends in the industry. School students study the topic in an interactive way by helping good guys fight evil.

What we teach middle and high school students:

- Programming in scripting languages[1]
- Secure information systems configurations
- Data encryption and decryption
- Secure application creation

In summer 2024, we plan to update our online course on information security. By October 1, we will prepare the exact same course for eighth grade students. It will not only target Muscovites, but all residents of Russia. Any student, teacher, or responsible parent from any corner of the country who is interested in the project and needs assistance can go to the website https://kids.kaspersky.ru and use our course materials.

[1] Programming languages (e.g., JavaScript, Python).

Digital Outreach

We also use short cartoons to introduce the younger generation to Internet safety. In 2022, we joined the Russian "Digital Outreach" ("Tsifrovoy likbez") educational project, which aims to improve digital awareness and cybersecurity literacy. The project is based on videos for children and adults created by leading IT companies.

In 2022–2023, together with the Digital Economy autonomous non-profit organization and with the support of the Ministry of Education and the Ministry of Digital Development, we released three cartoons for children over six years old. We recommend that adults watch them with their children to explain any words they do not understand and help them comprehend the information.

In just two quick minutes, we teach children about key cyberthreats. The story follows the adventures of the inhabitants of Ocean City. The main character, Lina, is an aspiring journalist who is interning at a major IT company Karasevsky, where she is writing a blog about how the town's residents fall for cyber-fraudsters.

A written explanation of complex concepts and details accompanies the video, allowing adults to explain things that children might not understand, and further expand their own knowledge. Each video can be downloaded for educational purposes at any time, in a shareable format so they can been seen even when people do not have internet access.

We firmly believe that such programs increase the overall level of digital awareness, and also help us popularize the IT profession, ensuring that future specialists constantly maintain interest in it.

Technology Valley program

1,200
participants registered for Technology Valley program

44
finalists attended the final training session

While developing educational projects for school students, we decided to organize a real internship for them, just like we do for university students, to give them the opportunity to learn more about different IT professions and plunge into the world of cybersecurity. In 2023, we held our first open summer internship for grade 8–10 school students and first- and second-year university students. The three-week Technology Valley program consisted of webinars and offline classes at the Kaspersky's headquarters. We invited students who excelled in the online training to participate in the in-person part of the on-the-job training.

A total of 1,200 participants registered for the project, and Kaspersky specialists introduced them to IT professions online. The Technology Valley participants then completed their homework, and based on their results, we selected 44 people (32 from Moscow and 12 from other regions) who came to our Moscow office. We took them on office tours, where our developers, testers and other experts spent three days telling the children about IT professions and helped them get an idea of what it is like to work at the Company. Team-building activities and quizzes were also organized for the students.

In 2024, the Company plans to repeat the program and scale it up, since we saw that the target audience has great interest in the Technology Valley project.

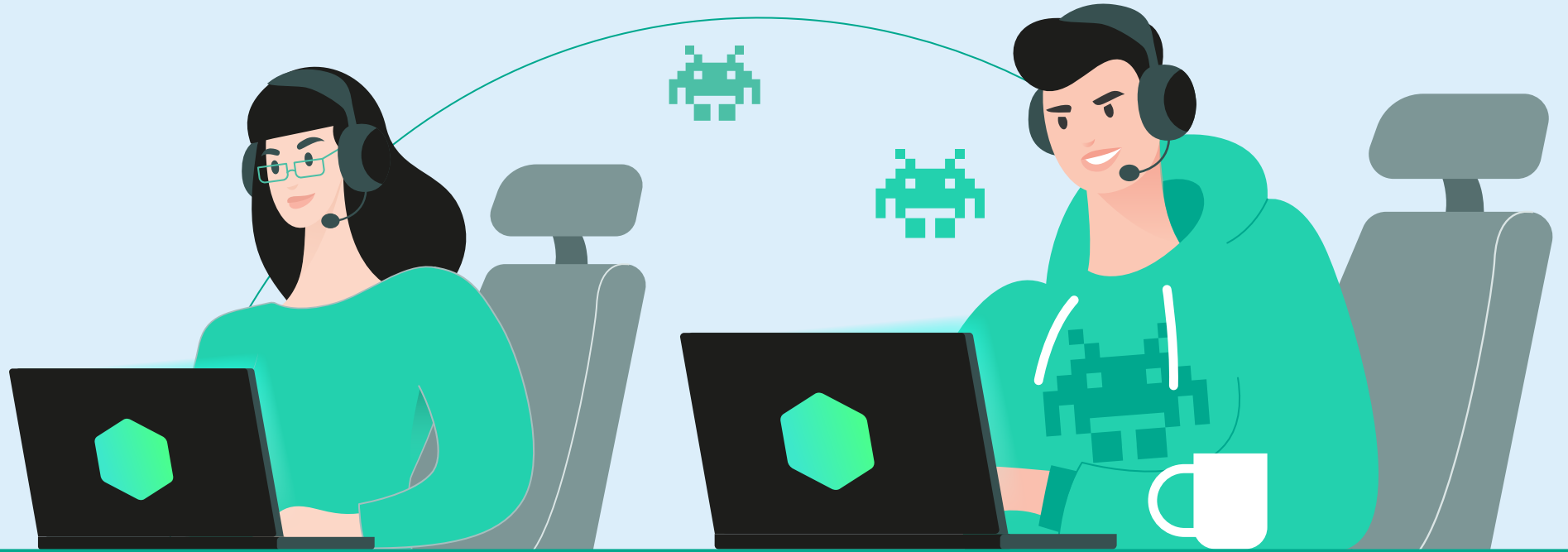
Development of e-sports for children and teenagers

Russia is the first country to officially recognize competitive programming as a sport. In June 2023, we concluded a strategic cooperation agreement with the Russian Sports Programming Federation. By helping athletes prepare for competitions, we hope to contribute to building up human resources in the IT sector. School and university students will have an opportunity to enhance their IT knowledge and skills and always stay up to date with the main events in our industry.

New projects for school students

We have received numerous inquiries from schools and colleges interested in our new courses. To meet their needs, Kaspersky plans to launch two new courses in 2024. One of them – Enter_IT – is dedicated to real professions at an IT company. This course will introduce students to the information security industry, outline various professions within this field, and provide guidance on how to pursue careers in this area. The new course will be available to students from any part of Russia and other Russian-speaking countries, since it will be released in video format.

We are also preparing a cyber-hygiene video course with a focus on the rules of online behavior which we plan to release in 2024 in Russian and English, and distribute internationally.



Kaspersky Academy

In an effort to bolster human resources in the IT sector, we are constantly expanding our collaboration with universities. Our goal is to provide the knowledge and hands-on experience required by students globally. Furthermore, we facilitate the connection of talented young individuals, fostering networking, knowledge sharing, and interactions with industry experts to enhance their readiness for the professional world.

To achieve this goal, we have established long-standing collaborations with universities across various initiatives: arranging hackathons and competitions, both domestically and internationally; providing internship opportunities for students; establishing joint laboratories and research centers equipped with state-of-the-art technology to enhance students' skills.

Academy Alliance

In autumn 2023, the Academy Alliance welcomed

~20 universities

from around the world

In 2023, we expanded the list of formats for cooperation with universities and students by developing the special Kaspersky Academy Alliance partner program, which we launched in September. It will enable us to use our cybersecurity technologies and experience in the educational process. We believe this will help strengthen existing programs and provide the industry with professionals who are best prepared to work in the real world. The program participants have access to online courses and global expertise, can attend lectures and trainings, and have access to Kaspersky's products.

The program offers two types of participation for universities:

- Associate Membership – for universities that annually graduate at least 400 bachelors and 50 masters in computer science, applied information science and computer science fields
- Advanced Membership – for universities that, in addition to the above, also graduate at least 50 students with degrees in information security

Numerous educational institutions spanning multiple countries are interested in the Kaspersky Academy Alliance program. We currently cooperate with around 20 universities and are in the process of signing agreements with several educational institutions. These include major universities in India, Spain, Kazakhstan, Uzbekistan and Peru. It is essentially an intercontinental partnership already. Over time, we anticipate that numerous European universities and educational institutions from Africa, Asia and Latin America will join the list of those that wish to participate in the program.

Eventually, Kaspersky plans for the Kaspersky Academy Alliance to formalize its collaboration with all universities previously engaged at the memorandum level and to further expand regional cooperation.

Cooperation with universities

Working with universities is a key component of Kaspersky's strategy to develop human capital and the Company's scientific and technical potential. We work with universities around the world.

200+ universities

42 countries

150 students

have undergone training based on KasperskyOS since the laboratory opened

For more about Cyber Immunity and KasperskyOS, please see the Safer Cyber World section

Robot semi-trailers and their Cyber Immunity

We follow trends in commerce, specifically how the popularity of automated logistics systems is on the rise. Boosting cyber-resilience is one of the key objectives for their further development. In November 2023, together with MAI, we held a hackathon to create a control system for Alphabot/RaspberryPi-based logistics robots that run on KasperskyOS. The system must be invulnerable to hacker attacks and successfully deliver cargo along a particular route.

Secur'IT Cup: spreading cybersecurity knowledge around the world

We believe it's important to provide students, universities, and people worldwide with opportunities to advance their ideas and pursue successful careers.

Since 2018, Kaspersky has been welcoming talented young individuals to demonstrate their innovative problem-solving skills in addressing critical information security challenges in our international Secur'IT Cup competition. As per the rules of the competition, we invite participants to develop projects individually or in teams in certain areas and compete for cash prizes and the opportunity to take our Kaspersky Expert Training online courses. The judges include experts from Kaspersky's Global Research & Analysis Team (GReAT), as well as representatives of foreign universities and winners of previous years' competitions.

In 2023, we focused on developing the gaming universe, ensuring data and financial security, as well as protecting seniors and pets. One key innovation in this year's competition is the opportunity to communicate live with Kaspersky experts during mentoring sessions in order to receive competent advice and perfect the project. Developers from Kenya, Mauritius, Nigeria, Russia, Saudi Arabia and Singapore reached the finals of the Secur'IT Cup 2023.

More than 6,000
people have taken part in the competition since 2018

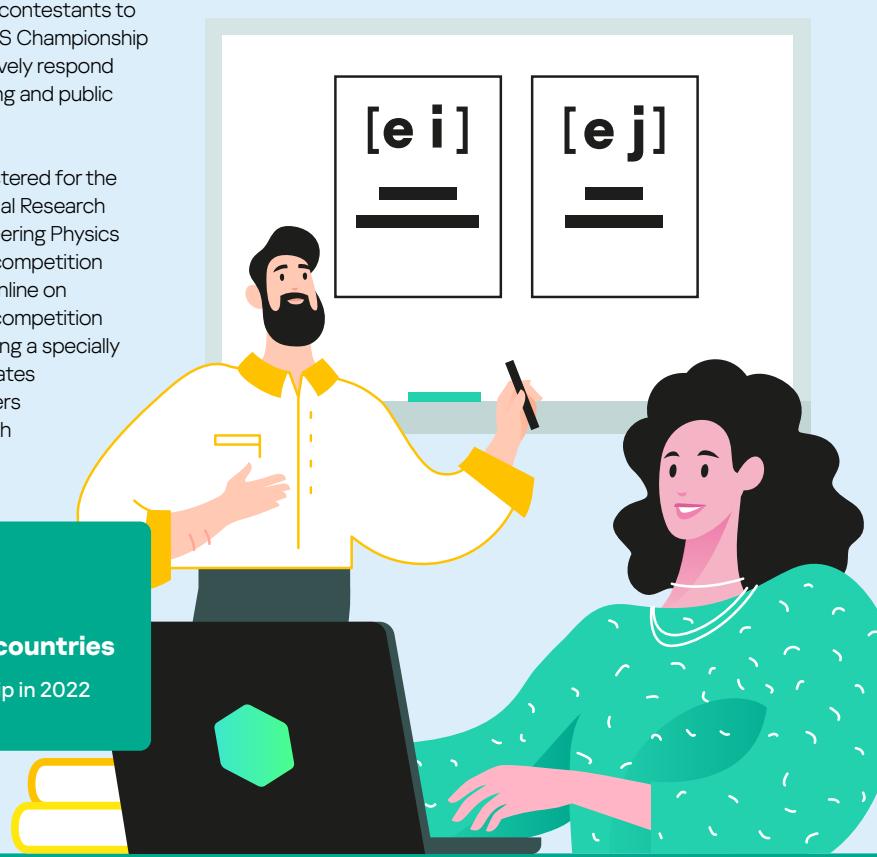
US$10,000
top prize of the Secur'IT Cup 2023

KIPS Championship: training on information security skills

In autumn 2022, the Company held the Kaspersky Interactive Protection Simulation (KIPS) international championship among students. This gamified training session provides a realistic understanding of what happens during a cyberattack and allows contestants to gain gamified learning experience. The KIPS Championship helps young professionals learn to effectively respond to cyber-incidents in such areas as banking and public administration.

A total of 77 teams from 17 countries registered for the competition. The SPAM team from National Research Nuclear University MEPhI (Moscow Engineering Physics Institute) was declared the winner of the competition following the final event, which was held online on December 1, 2022. The final round of the competition was devoted to a technical attribution using a specially designed fictional environment that simulates cyberattacks on the United Nations. Players had to put together pieces of a puzzle with technical evidence of the attacks and make decisions using action cards to perform the most accurate technical analysis of the attack.

77 teams from 17 countries
registered for the KIPS Championship in 2022



Internships

We firmly believe demand for graduates depends on whether they have practical experience in the industry.

Kaspersky offers paid SafeBoard internships for students to work alongside industry experts. SafeBoard is a program where interns are guaranteed support and assistance, as well as a chance to get a job with an industry leader immediately after graduation. Internships are held twice a year – in fall and spring. To apply for an internship, students living in Moscow and the Moscow Region must submit an application and go through a three-stage selection process consisting of a technical knowledge test, practical task and a video interview.

As a socially responsible company, we monitor the salary level of SafeBoard program interns and increased it by 15 percent in 2023.

We ensure the internship does not interfere with the educational process: students can determine the number of hours they work per week on their own (from 20 to 35 hours when school is in session and up to 40 hours in the summer) and work format (entirely office or a hybrid format).

In 2023, we updated our onboarding process and now train interns on technical and business skills. They also have access to courses and meetups, as well as our online library. During the autumn selection process in Russia, 40 interns joined our team.

One key feature of our internship program is that students from any field of study, even non-technical ones, can participate in it. The main condition is that they are interested in the IT world.

Kaspersky Academy Expert Community

Kaspersky focuses not only on training school and university students, but also the teaching community. The Kaspersky Academy Expert Community offers a series of regular specialized events for teachers, researchers, deans and the heads of information security departments and related fields. It is also a community of like-minded people.

The events are held in several formats, including offline meetings and regular community meetings, which take place every two months at our office, where Company specialists share their experience on important issues. There is also the Training Lab, which provides free two- or three-day training sessions for university teaching staff with our experts. The training themes are highly diverse – starting from general areas of information security and ending with Kaspersky's products.

The geography of the Kaspersky Academy Expert Community is quite diverse and covers almost all of Russia and the CIS countries. We have had colleagues visit us from Chelyabinsk, Vladivostok, Almaty, Minsk and other cities. In 2023, we held teacher events in Dubai, Cairo, Bombay and Delhi, and we plan to repeat them in other cities and countries in the Middle East and Pacific regions in 2024. We are always glad to see new people in the Kaspersky Academy Expert Community – anyone who teaches information security at universities and is interested in developing their knowledge and communicating with like-minded individuals.

>15

internship focuses, including C/C++, C#, Python, Go, JavaScript[1], as well as testing, threat analysis and DevOps[2]

13,500

applications for SafeBoard internships were received in the reporting period

>50%

of interns joined the Company's staff within 8 years after completing the SafeBoard program

[1] Programming languages.
[2] DevOps is a methodology for interaction between developers and the integration of processes when creating a product.

Training IT specialists

The development of technology and legislation are among the main drivers of the emergence of new professions and expertise. This is why continuous training is one of the main requirements for cybersecurity professionals. To help them improve their skills, Kaspersky has developed a set of educational training courses on our own online learning portal, Kaspersky Expert Training.

The courses were written by leading Kaspersky specialists, who are familiar with more than 400,000 malware samples and know how to counter them. We supplemented the theoretical component with cases based on actual threats. It is not fundamental education, but practical training, in which specialists master techniques and tools that they can immediately use in their work.

The range of people who take the courses is broad and covers everyone in our industry – from cybersecurity professionals and SOC teams to research institutions, incident response centers and government organizations.

Skills that can be improved with Kaspersky Expert Training

- Reverse engineering
- Threat search and detection
- Incident response
- Product security analysis

The Company offers both basic courses that are designed for entry-level training, as well as advanced ones for experts and professionals. Some of the protection tools that we teach about include Ghidra, Yara, Suricata and Frida.

The portfolio of online training sessions for Kaspersky Expert Training experts includes 11 courses. In 2023, we expanded it with the following three online courses:

- **Advanced reverse engineering of malware using Ghidra**, which focuses on the process of analyzing malware using the Ghidra framework based on the real experience of its authors: experts from the computer incident investigation team and the Global Research & Analysis Team (GReAT)
- **Suricata for incident response and threat hunting**, which teaches users how to use Suricata to work with different data streams to detect and block even the most complex threats
- **Online cybersecurity training for managers** created by the Kaspersky Academy team for senior executives. It explains complex terms in simple language and aims to help understand the basic concepts of information security, as well as learn how to manage a company in the face of cyberthreats

2,000+ users
from more than 50 countries make up the expert training audience

~10 hours
the average time that Kaspersky Expert Training students dedicated to each program

20 hours
the average time Kaspersky Expert Training students spent in on their practical skills in our virtual laboratory

The most popular topics of 2023 were advanced malware analysis techniques with Yara. Students spent a total of 4,000 minutes on them.

The most practical courses are malware analysis and reverse engineering.

In 2024–2025, we plan to expand our portfolio with training courses on digital forensics and secure development. The Company is also translating existing training courses into Russian and has already selected a separate training platform for them. In 2024, Kaspersky plans to launch sales of Russian-language training courses.

In 2023, we continued to provide free training for INTERPOL employees from Russia, Europe, Latin America, Asia, Africa and the Middle East.

A total of 71 INTERPOL employees completed free Kaspersky Expert Training in 2023.

In addition, we provided 10 interns participating in the Suricata Outreach program with free access to training on how to use Suricata for incident response and threat hunting. The list of participants in the initiative was determined by the Suricata community. Our training courses were also used as prizes for the winners of the Secur'IT Cup international student competition.

158 Kaspersky's employees
took Kaspersky Expert Training courses for free