Girls CodeToo

ANNUAL REPORT 2024

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ABOUT GIRLSCODETOO

GirlsCodeToo (GCT) is a Zurich-based non-profit organisation founded in 2021 by Lara Riparip-Fritsche, Alicia Cesa Bianchi, and David Cleres. Driven by their passion for teaching technology, GCT is operated by a dedicated team of students, professors, industry professionals, and parents. At GirlsCodeToo, our mission is to support and encourage girls to discover coding and explore careers in tech. By introducing them to software tools, coding languages, and processes used to build apps, games, websites, and robots, we aim to spark learning and curiosity. Our overall goal is to close the gender gap in the tech industry and engineering education while inspiring more girls to pursue STEM-related programs and technical apprenticeships.

Since our foundation, GirlsCodeToo has grown rapidly, as evidenced by our achievements in 2024. This year, we reached more girls, developed additional workshops, and welcomed a more significant number of university students — predominantly women — as instructors. By gathering participant feedback, we've refined our courses to make them even more impactful and accessible. We're also actively designing new workshops to showcase the breadth of technology to young learners.

The highlights of 2024? Our after-school coding classes! Following the pilot project launched in autumn 2023 at Kilchberg Primary School in Zurich, the weekly sessions for girls aged 10-12 were a big success. Over a semester, the students mastered essential Python commands through pixel art and gained hands-on experience with robotics, learning how to program movement. The enthusiasm and engagement from both students and instructors have been incredibly encouraging. We also continued our popular holiday technology camps in rural Switzerland, providing children with early exposure to the topics of coding and robotics. These initiatives will expand in 2025 alongside our other offerings. In 2024, we also successfully onboarded former instructors as board members, ensuring teaching insights contribute directly to our strategy. Additionally, we adopted Bexio as a professional accounting tool, streamlining our operations and supporting the growth of GirlsCodeToo.

Looking ahead, 2025 promises to be another ambitious year. We plan to:

- Partner with additional schools to introduce more after-school coding classes.
- Strengthen collaborations with leading companies.
- Expand our reach to new regions across Switzerland and ensure that more girls have access to our programs. To support these goals, we've taken practical steps: acquiring a car rental membership to access remote locations more efficiently and securing a central storage facility in Zurich to house our growing inventory of course materials – no longer relegated to our co-founders' basements!

To our active members, instructors, partners, donors, students, and their parents, thank you for your trust and contributions. Together, we are bringing technology closer to girls' hearts.
See you in 2025!

Lara Riparip-Fritsche
Co-founder
of GirlsCodeToo

David Cleres
Co-founder
of GirlsCodeToo

KEY FIGURES 2023 AND 2024

STUDENTS TAUGHT

1093 2023 **1448** 2024

HOURS TAUGHT

196 2023 **226** 2024

WORKSHOPS GIVEN

73 2023 **118** 2024

LOCATIONS

24 2023 **31** 2024

TEACHERS

20 2023 **27** 2024

VOLUNTEERING HOURS

650+ 2023 **850+** 2024

ACTIVE MEMBERS

27 2023 **34** 2024

MONEY THAT WENT OUT TO PAY STUDENTS *(CHF)*

18k+ 2023 **39k+** 2024

NUMBER OF WORKSHOPS IN SWITZERLAND

NextGen Hero Winner of the Digital Economy Award 2024

NOMINATIONS

ETH zürich
Together for the SDGs

Building a Sustainable Future - SDG Pitch-Event of ETH Zurich

AWARDS

DIGITAL ECONOMY AWARD

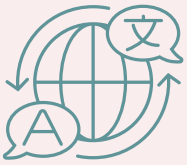
Winner of the Digital Economy award 2024

EDUCATIONAL PROGRAMME

118 workshops

For a total of 226 hours

In 31 different locations



In 4 different languages

With 1400+ participants

Our educational programme is structured around the age of the participants, the duration of the workshops, and the subjects taught. We offer our own workshops and also design tailored courses for schools and companies. Each course includes a mix of theory and hands-on activities, utilizing physical devices, licensed software, and apps.

In 2024, we conducted 118 workshops across 31 different locations, in four languages – German, French, Italian, and English – reaching a total of 1,742 participants. This achievement marks our personal best and a significant source of pride. Beyond the impressive numbers, the variety of subjects taught highlights our dedication to meeting the unique needs of schools and companies. We take great joy in developing engaging, rich, and educational experiences for children, ensuring we deliver maximum value within the limited time available.

Here are some examples of the workshops and categories that formed the core of our programme in 2024, shaped by our years of experience:

3D PRINTING WORKSHOP

GirlsCodeToo had set a goal for 2024 to create and deliver a 3D printing workshop – and we're proud to say that this goal was achieved! During a three-day workshop held in the summer holidays, kids were introduced to 3D printing and its various steps. The programme included:

- Basics of 3D modelling using TinkerCAD (Autodesk)
- Slicing a 3D model
- Setting up the printer, changing filaments, and removing supports after printing
- Troubleshooting failed prints
- Soldering and assembling LED chains into the print

> At the end of the workshop, participants went home with their own 3D-printed dinosaur lamp and a wealth of new skills.

Maria Makeenkova
Instructor

"As a 3D printing and overall DIY enthusiast, it was delightful to be able to share my experience with interested and enthusiastic students. It was inspiring to see students tap into their creativity and master new skills in order to bring their creative visions to life with the help of 3D printing technologies. I hope this experience encouraged them to embrace their creativity, experiment boldly, and realize they have the power to bring their visions to life. By exploring everything from 3D modelling to soldering and assembling electronics, they've gained some tools to reimagine what's possible. It's my hope that this workshop sparked a lifelong curiosity about the world of making and innovation."

AFTER-SCHOOL CLASSES

Every week, 10 girls aged 9-11 meet for a one-hour programming workshop at the Primary School of Kilchberg. The semester-long course allows us to introduce programming concepts gradually, making sure the girls really understand them and can apply what they've learned. This format is one of our favourites because we see a lot of progress, and it's great to build a close relationship with the students over time.

The workshop is split into two parts:

1. Programming with Pixel Art

Over several weeks, the girls learn the basics of programming by creating pixel art. With plenty of time to explore different functions, they develop animated images and gain confidence in coding. At the end of this part, they present their projects, which they're always proud of. The imagi keychains they have been working with over the semester are given as surprise Christmas gifts, making this part especially fun and memorable.

2. Animating Robots

In the second part, the girls use their programming skills to animate robots. After an interactive theory session, they dive into building the LEGO robots themselves, which we think is a great addition to the pedagogy programme. The programming of the robots is just a little bit different from the pixelated keychains, meaning that the girls can use the coding basics from the first part to achieve great results with the robots, making them move and perform tasks based on if-statements.

This after-school course is one of GirlsCodeToo's greatest achievements, and we're excited to bring it to more schools in 2025.

Mathieu Dubied
Instructor

"The course that we are teaching at the school of Kilchberg allows us to interact with a group of young girls on a weekly basis, creating a safe space where learning and self-expression are encouraged. As the main organiser and teacher, I can witness the steady progress of the girls who now grasp important programming concepts, such as functions, variables, and for-loops (all of that at the age of 10, this is truly impressive!). But most importantly, we are able in this course to foster a common interest for technology and logical thinking, and crucially experience and interact with technical systems such the imagiCharm and the LEGO robots.

Characteristic of today's society, the girls present in this group usually have different familial backgrounds and not the same familiarity with technology outside of school. Following one of our core mission at GirlsCodeToo, we can empower these girls to discover the world of technology, and hopefully enlarge their vocational interests in a world where women are still underrepresented in technical and scientifical fields."

TECHNOLOGY DAYS AT SCHOOLS

A recurring format we've been teaching since the start of our organisation is the 2-3 hour course during special school days, such as Technology Days or Days for the Future. These sessions give students an introduction to topics like:

- **Interactive Programming:** Using imagi keychains, LEGO Education SPIKE robots, or Sphero robots, all programmed in Python.
- **App Design:** Creating apps with the App Lab of Code.org using JavaScript.
- **AI & Arts:** Exploring AI-generated art while discussing its applications and ethical considerations in class.

Each session starts with a bit of theory before moving on to the fun, hands-on part. This short format allows us to inspire students who might not have otherwise been exposed to or interested in technology. Since these courses are often attended by slightly older students (12-16 years old), we ensure that our instructors, who are mostly women, share their academic journeys and career paths. This provides the students with the chance to ask questions and gain insights into potential future career options.

In 2024, we have been working in collaboration with the Schweizerische Akademie der Technischen Wissenschaften (SATW) on two of their youth development programmes, the TecDays and GO4IT, delivering 38 hours of workshops for the former and 58 hours for the latter! Our collaboration this year has been the result of a trusted and strong relationship, and we are looking forward to meeting the students of the 2025 workshops.

CAMPS

Another favourite: the camps! In 2024, we had the chance to deliver two types of camps: the Dance & Code Camp, organized with the Canton of Zurich, and the Tech Camp, held in Silvaplana, Engadin, a mountainous region of Switzerland. The part taught by GirlsCodeToo consisted of three hours a day for 3 to 5 days and included programming with imagis and LEGO robots.

In the other parts of both camps, kids had the opportunity to engage in sports activities, which we highly support! For example, during the Dance & Code Camp, the girls spent time dancing and coding. At the end of the week, instructors and students gave a small presentation of their newly acquired skills to their parents, making the robots dance! This is always a highlight for everyone involved.

Sahana Betschen
Instructor

"The Robotics and Dance camp gives girls a unique experience to discover coding and robotics in a creative setting. We spend the week learning to build and code the robots to ultimately design a robot dance choreography. Teaching at a camp is wonderful as it allows us instructors to create a rapport with the girls and we get to share with them our experiences in tech and engineering. We get to see a diverse group of young girls learn new skills and gain confidence in trying, failing and creating. In this course, we promote working together and sharing ideas. We always finish the week strong with a presentation of the robot choreography where the girls can see the outcome of their hard work and creativity. My favorite part in teaching this course is seeing them realize that technology can be applied to any field and has endless possibilities."

TAILORED COURSES FOR PARTNERS

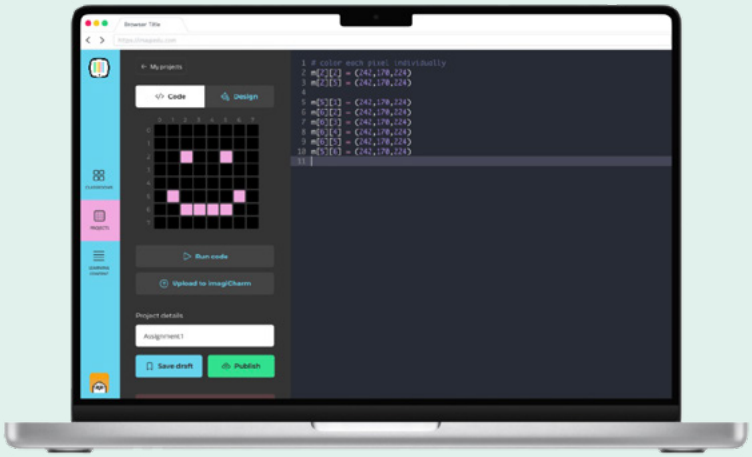
In 2024, just as in 2023, we offered tailored workshops for companies aiming to encourage more girls and women to pursue careers in STEM fields. We renewed our collaboration with aity and welcomed a new partner, SwissLife. These workshops are designed to fit the partners' preferences in terms of duration, topics, and budget. This format not only fosters meaningful discussions but also provides valuable insights into enhancing programming courses to make them even more impactful and engaging.

OUR COURSE MATERIAL

IMAGI KEYCHAINS

Using the imagi keychains, girls can visualise the outputs of their variables, functions, and for-loops by illuminating specific pixels in chosen colours. They can also make their art blink or animate sequences by programming the pixels to light up one after another. The code is written in Python using the imagi app, where its output can initially be viewed on the screen. To make the experience even more engaging, the keychain can be connected via Bluetooth, allowing the output to appear on the physical device.

This approach not only provides a highly creative and interactive introduction to coding but also enables continued exploration at home through a personal login to the imagi platform. In some cases, students are gifted the keychain at the end of the class, giving them a personalised accessory to carry and customise by adapting their code. This tool is one of our absolute favourite materials for teaching!



LEGO EDUCATION MINDSTORMS

2024 marked the final year we used the LEGO MINDSTORMS robots. They have been an invaluable tool for programming rolling robots in Python. However, due to persistent issues with connectivity between the robots and the code, as well as problems with information display, we decided to transition to the LEGO SPIKE platform instead. This change was also prompted by LEGO's decision to discontinue and no longer support the MINDSTORMS system. The SPIKE platform offers a similar but improved experience.

LEGO EDUCATION SPIKE

Kids always begin their SPIKE adventure by building the daily project. SPIKE offers the possibility not only to create classic moving robots but also other interactive projects, such as a safe, a delivery van, a smart e-bike, or a wind indicator, among many other options. The light, colour, distance, force, and touch sensors, along with the small motors and accelerometer, make the robots highly interactive and offer endless opportunities for experimentation. This hands-on construction is a valuable pedagogical element of the programme, fostering problem-solving skills and enhancing spatial awareness.

Once the robot is assembled, kids move on to the coding platform. Here, as with the imagi programme, they use basic programming concepts in Python, such as variables, functions, if-statements, and for-loops, to control their creations. For example, they can determine what will open the LEGO safe, decide what the delivery van should pick up and where it should drive, control the speed of the e-bike, or configure the wind indicator to display the wind speed of a selected city on a small LEGO Beaufort scale.

The robots also serve as a springboard for teaching related theory. For instance, in one of our workshops, we discussed the real-life applications of safes, the security measures they involve, the principles of secure systems, and the mechanics behind how safes work. This combination of practical and theoretical learning makes the experience both educational and engaging.

SPHERO

The Sphero programme is a blend of the imagi and SPIKE robots, offering features like coding its pixelated display while also enabling movement, acceleration, and obstacle avoidance, similar to the SPIKE robots. Thanks to its transparent shell, kids can observe the various mechanical components of the robot, such as the battery, wheels, motor, light sensor, gyroscope, and accelerometer. The Sphero robot is versatile and works well in both short and long classes. In short sessions, kids can explore a range of exciting features that are quick to implement. In longer workshops, these features can be further developed, allowing for more complex coding projects. As with the imagi and LEGO tools, the Sphero robot also serves as a great starting point for discussing technological theory.

Introduced to our course material in 2024, the Sphero robot has already proven to be a valuable addition, and we're excited about the opportunities it offers!

CODE.ORG APP LAB

The App Lab in Code.org allows students to create and code interactive apps in JavaScript. The programme is structured with a live preview of the app on the left side of the screen, displaying what is currently being designed, while the coding interface on the right side enables students to program how the app's various elements function. Students, who are all familiar with apps from their daily lives, can finally gain an understanding of the underlying processes that make them work. This is achieved through an introductory theory session at the start of the course and hands-on practice as they create their own app. The course material encourages creativity and a problem-solving mindset.

We particularly enjoy offering this course in shorter sessions, as students can grasp coding basics and design fun, interactive app interfaces within just a few hours.

CODE AVENGERS WEB DESIGN

The web design course from Code Avengers provides introductory tutorials on coding in HTML and CSS to create a website. As it takes time to cover the foundational concepts necessary for web development, this course is typically delivered over a full day. In the morning, students work through the programming tutorials on Code Avengers, and in the afternoon, they apply their newly acquired skills to create a website on their favourite topic using GitHub Pages. The course can also include a session on the professional world of web design, offering insights into industry practices, as well as a fun and interactive lesson on the principles of good and bad front-end design, helping students understand what makes a website visually appealing and user-friendly.

Code Avengers is a self-paced, interactive coding platform where students tackle hands-on lessons and real-life projects at their own speed, receiving instant feedback and helpful hints along the way; its structured yet flexible curriculum covers multiple programming languages and uses gamified elements, making the learning process engaging, accessible, and motivating for beginners and advanced learners alike.

CODE AVENGERS

ORGANISATION

34
active
members

The impactful achievements of GirlsCodeToo in 2024 were made possible by its 34 active members. What sets GirlsCodeToo apart is its inclusive structure, where anyone interested in contributing can find a role. Many members wear multiple hats – some instructors also serve on the board, some board members like to work as instructors from time to time, some instructors work as project managers and admin support too, and so on. This inclusive approach means that everyone is welcome at strategy meetings and can engage with the organisation on a paid or voluntary basis. This structure fosters a constant influx of fresh energy and ideas while ensuring that all members have a comprehensive understanding of the organisation's activities. It also nurtures strong and trusted relationships among members. Everyone is united by a shared dedication to encouraging girls to explore hobbies or careers in the world of technology. This common goal drives the organisation forward, propelling its growth and impact.

CO-FOUNDERS

David Cleres
Co-founder and president of the board

Lara Riparip-Fritsche
Co-founder and board member

Alicia Cesa Bianchi
Co-founder

INSTRUCTORS OF 2024

Sahana Betschen
Instructor and project manager

Chiara Wooldridge
Instructor and project manager

Aline Scherrer

Xenia Augustin

Maria Makeenkova

Andri Hunkeler

James Wei

Tae Kim

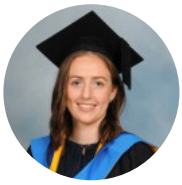
Jenny Nguyen

Pia Herkenrath

Fanny Goy

Julie Favre

Finlay Fehlauer



Mae McKenna

Ellen Dagher

Zenne Reijmer

Enzo Roy

Matteo Ghilardini

Giada Ehrlich

Liza Polupanova

Francesc Sacco

Franz Goerlich

Eugénie Chabenat

Helena Golling

BOARD MEMBERS

Mathieu Dubied

Treasurer of the board, instructor and project manager

Emma Heinzer

Vice-president of the board, instructor and project manager

Dr. Monica Landoni

Prof. Dr. Stefano Brusoni

Matthias Ogg

Caroline Perriard

Advisory board member

VOLUNTEERS

Radhika V Bhogaraju

Timo Nicolai

Philipp Herrmann

PARTNERS AND DONORS

In 2024, we strengthened our existing partnerships and built new ones, allowing us to expand our reach and impact. We deeply appreciate the trust and support of all the people involved in these organisations. Their commitment and renewed collaborations enable GirlsCodeToo to inspire and involve more young girls in the world of programming and technology. Together, we're creating a future where technology is accessible and exciting for everyone.

BRONZE PARTNERSHIPS

Our bronze partners are essential to us, as they enable us to bring our programming courses to diverse audiences while fostering long-term collaborations.

Our long-standing collaboration with the Schweizerische Akademie der Technischen Wissenschaften (SATW) continued to thrive as we delivered courses at their GO4IT and TecDays events. We also maintained rewarding relationships with the administration of Silvaplana (GR) and the Canton of Zurich, providing technology courses during their holiday programmes. Additionally, our partnership with the Primary School of Kilchberg continued to grow in 2024 after the success of the autumn 2023 semester. This after-school coding class gives us the unique opportunity to teach girls over an extended period, allowing us to get to know them, observe their progress, and give them the time to truly understand coding concepts and get excited about programming. This programme has become one of our flagship offerings, showcasing the value of sustained engagement in STEM education. We also collaborated with aity, offering customised coding courses for the daughters of their employees and their friends, providing a supportive environment for young girls to explore technology.

This year, we welcomed a new partnership with SwissLife, where we conducted a one-day personalised web design course at their facilities.

GOLD PARTNERSHIPS

We are thrilled to have welcomed SIX as a new gold partner in 2024! This partnership supports us in providing cutting-edge equipment like 3D printers and robotic kits, while also funding furniture and essential resources to maintain comfortable and consistent setups for coding clubs. Additionally, it helps us cover core team salaries, ensuring the stability of our programs. In exchange, SIX enjoys exclusive access to a dedicated workshop, visibility across all our events, and a close partnership in driving our mission forward—all for an annual contribution of 25,000 CHF. Together, we create a win-win situation, making a lasting impact on the future of tech education!

DONORS

We at GirlsCodeToo extend our heartfelt gratitude to all the donors whose generosity has enabled the organisation to thrive. Your support has allowed us to deliver engaging, interactive, and impactful courses to girls across Switzerland, reaching participants from diverse backgrounds. Thank you for being a vital part of our mission to inspire the next generation of girls to explore and embrace the world of technology.

satw it's all about technology

Contributions of
2'500 CHF
and more

EQUINIX

Contributions of
5'000 CHF
and more

HASLERSTIFTUNG

Contributions of
10'000 CHF
and more

NCCR Automation

Contributions of
15'000 CHF
and more

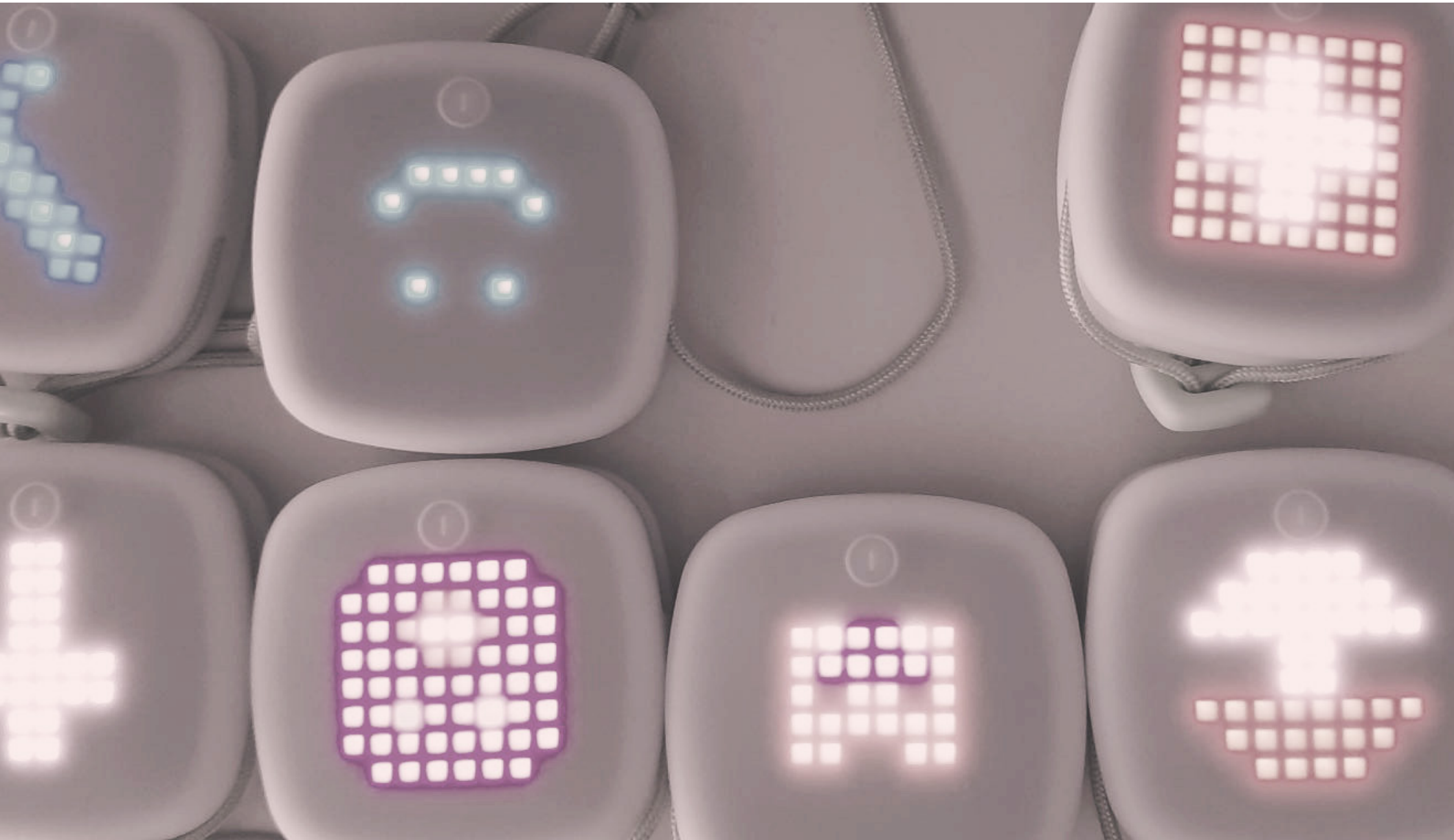
FINANCES

Following the significant profit of 2023, we used 2024 to invest in the growth and development of our organisation. These funds were allocated to compensate our most active members for their dedicated work, provide our instructors with good salaries, expand our course offerings, and invest in new materials. While we end the year with a small deficit of –2'951 CHF, this reflects our commitment to reinvesting in our programmes as a non-profit organisation.

We begin 2025 on a strong footing, with the generous donation from the SIX group and numerous courses already planned in collaboration with our valued partners: SATW, Silvaplana, the Primary School of Kilchberg, and the Canton of Zurich. Thank you to all our partners and donors for helping us achieve our goals and ensuring our financial stability.

Revenues from donations	CHF 26’000	
Revenues from partnerships and services	CHF 63’886.2	
Salary expenses		CHF 65’707.95
Other expenses (transportation, infrastructure, materials)		CHF 27’129.41
TOTAL revenues and expenses	CHF 89’886.2	CHF 92’837.36
		CHF 2’951.16

OUTLOOK



2024 marked a milestone year for GirlsCodeToo, with the highest number of workshops delivered, the most instructors employed, and the greatest number of children reached in our history. This year brought significant changes and growth, helping us professionalise as an organisation while staying true to our mission: bringing technology closer to girls' hearts, careers, and hobbies. We strive to remain a stable, reliable organisation that delivers meaningful, high-quality content.

Of course, like any organisation, we have experienced both highlights and lowlights. Among the challenges, our new 3D printing course reached only a limited number of students. Despite this, the children who participated were delighted, which encourages us to continue seeking visibility, promoting this course and offering it to more pupils in the future. Another challenge occurred during a Go4IT workshop in Ticino, where we were unable to deliver the standard of quality awaited. A lack of internet access at the school, coupled with our routers connecting to Italian networks instead of Swiss ones, hindered our efforts. This experience highlighted the need for backup courses that can be delivered without an internet connection. In the autumn, we faced a staffing challenge, heavily relying on one instructor, Sahana Betschen, due to several team members being unavailable. This exposed a bottleneck in our operations but also led to Sahana's employment at 40%, an important step towards strengthening and professionalising our team.

Despite these hurdles, 2024 was a highly fruitful year. Our camps, tailored events, and participation in school initiatives like the 'Days of the Future' were well-received by students and partners alike. These programmes enriched school curricula and introduced new perspectives to children with limited access to technology. Our after-school coding classes at the Primary School of Kilchberg have been a success, even generating waiting lists. These achievements inspire us to continue improving and expanding our programmes. In 2025, we plan to host our own, regularly held, workshops to build a vibrant community of technology-enthusiastic girls. With a stable and motivated team that enjoys working and growing together, we are excited for another year of progress.

Here's to 2025, filled with more coding, creative pixel art, dancing robots, and, most importantly, happy children and instructors. Thank you for being part of this journey!

Girls CodeToo