Technology Plan 2024 – 2027

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Sophio Bazadze
Director

GEORGIA "EUROPEAN SCHOOL" Ltd 205172917

2 I. Skhirtladze Str. Tbilisi, 0177, Georgia
Tel: (032) 239 59 64,
info@europeanschool.ge
www.europeanschool.ge
ს/კ: 205172917

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Technology Plan 2024 – 2027

(This document is aligned with the Technology Development Concept 2024–2030 and represents its third section)

Introduction

Purpose of the Plan

The 3-Year Technology Plan (2024–2027) is a strategic framework aimed at integrating advanced technology across all aspects of the school's operations. Its purpose is to:

1. Enhance the quality of teaching and learning through innovative tools and practices.
2. Build a sustainable and secure IT infrastructure that supports uninterrupted digital engagement.
3. Equip teachers, students, and staff with the skills and resources necessary for thriving in a digitally driven world.
4. Strengthen the school's position as a leader in educational technology both regionally and globally.

Vision Statement

By 2027, the school will be recognized as a hub of technological innovation and excellence, where cutting-edge tools, inclusive practices, and a robust digital culture empower students and educators to achieve their fullest potential.

Strategic Priorities

This plan focuses on four strategic priorities to drive its implementation:

1. **Curriculum Development**: Leveraging digital tools to make learning more engaging, interdisciplinary, and relevant to 21st-century challenges.
2. **Professional Development**: Building teacher confidence and expertise in using technology to improve student outcomes.
3. **Infrastructure and Security**: Creating a resilient IT environment that supports modern educational practices.
4. **Research and Evaluation**: Using evidence-based insights to refine strategies and ensure continuous improvement.

Global and Local Context

The plan responds to global trends, such as the growing importance of AI, digital literacy, and sustainability in education, while addressing the school's unique needs. It aims to prepare students for future challenges and opportunities, fostering digital citizenship, creativity, and collaboration.

Plan Structure

The plan is divided into three annual phases, each with distinct goals and activities, underpinned by the following pillars:

- **Curriculum Development**
- **Professional Development**
- **Infrastructure and Security**
- **Research and Evaluation**

Technology Development Framework

Key Pillars

1. **Pillar 1: Curriculum Development**
    - **Objective**: To embed technology seamlessly into the curriculum, fostering critical thinking, creativity, and digital citizenship among students.
    - **Focus Areas**:
        - Development and integration of AI, AR/VR, and coding across grade levels.
        - Interdisciplinary projects utilizing tools like FabLabs and digital fabrication.
        - Digital citizenship education, emphasizing responsible and ethical online behavior.
    - **Long-Term Outcome**: Students develop future-ready skills and the ability to solve real-world problems through technology.
2. **Pillar 2: Professional Development**
    - **Objective**: To ensure all teachers are equipped with the knowledge and confidence to use technology effectively in the classroom.
    - **Focus Areas**:
        - Advanced training in emerging technologies like AI, AR/VR, and IoT.
        - Peer-led mentoring and Professional Learning Communities (PLCs).
        - Continuous support through digital competency frameworks and tailored workshops.
    - **Long-Term Outcome**: Teachers lead innovative lessons that enhance student learning experiences.
3. **Pillar 3: Infrastructure and Security**
    - **Objective**: To build a secure and scalable IT environment that supports innovative educational practices.
    - **Focus Areas**:
        - Upgrading WiFi, devices, and software for equitable access.
        - Implementing advanced cybersecurity measures like MFA and threat detection systems.
        - Establishing Green ICT practices to promote sustainability.
    - **Long-Term Outcome**: Reliable infrastructure that enables seamless digital learning and teaching.
4. **Pillar 4: Research and Evaluation**

- **Objective**: To use data and stakeholder feedback to measure the impact of technology initiatives and guide future improvements.
- **Focus Areas**:
  - Annual surveys and reports on technology use and outcomes.
  - Collaboration with academic and industry partners for EdTech research.
  - Hosting innovation showcases and summits to share findings.
- **Long-Term Outcome**: A culture of continuous improvement and innovation based on evidence.

2024-2025 Technology Plan

Annual Goals Summary

Focus Areas:

- Launch digital citizenship education across all grades.
- Pilot AI and coding modules for grades 3–11.
- Strengthen IT infrastructure by upgrading devices and cybersecurity protocols.
- Establish FabLab as a hub for interdisciplinary learning.

Key Outcomes:

- Teachers trained in digital citizenship and emerging technologies.
- Students demonstrate foundational AI and coding skills through projects.
- Reliable and secure IT infrastructure supports all digital initiatives.

Objective	Key Activities	Responsible Persons/ Departments	Timeline	Achievable Results	Evidence of Achievement or Progress Towards Achievement of the Objective
1. Implement Digital Citizenship Across the Curriculum (Pillar 1: Curriculum Development)	a) Finalize the digital citizenship framework for integration. b) Train teachers on incorporating digital citizenship concepts into lesson plans across all grades. c) Create a repository of lesson materials and activities aligned with digital citizenship principles. d) Monitor and evaluate integration with classroom observations.	Digital Transformation Managers All Departments Quality Assurance and Assessment Team	Q4 2024 - Q1-Q2 2025	Digital citizenship concepts become part of every subject, fostering responsible digital behavior in students.	a) Digital citizenship framework approved and distributed. b) Teacher training attendance records. c) Lesson plans reflecting digital citizenship integration. d) Observation reports documenting classroom implementation
2. Bring Artificial Intelligence (AI) into the	a) Design and launch AI learning modules for grades 8–11. b) Develop AI-based interdisciplinary	Digital Transformation Managers	Q1 – Q2 2025	Students gain foundational AI skills and apply them to real-world scenarios.	a) AI learning modules developed and piloted. b) Student participation in AI

classroom (Pillar 1: Curriculum Development)	activities (e.g., using AI for art or data analysis in science). c) Host workshops on ethical AI use for students. d) Provide AI tools for classroom use (e.g., ChatGPT, Canva AI tools, Grammarly). e) Evaluate the effectiveness of AI activities through surveys and assessments.	Department of Innovative Technologies STEAM Development Team			workshops documented. c) Samples of interdisciplinary AI projects. d) Survey results showing improved understanding of AI concepts.
3. Expand Coding Education (Pillar 1: Curriculum Development)	a) Strengthening coding programs for grades 3–8, focusing on Scratch and Python. b) Develop interdisciplinary coding projects in STEAM and non-STEM subjects. c) Train teachers to integrate computational thinking into lessons. d) Organize coding competitions and hackathons for students. e) Pilot coding assessment methods to track progress	Department of Innovative Technologies Mathematics Department Sciences Department STEAM Development Team	Q3 2024–Q2 2025	Students develop coding skills and apply computational thinking in multiple disciplines.	a) Coding curriculum and projects developed. b) Participation records for coding competitions. c) Teacher training attendance logs. d) Student coding portfolios and assessment data
4. Integrate FabLab into Learning Across Subjects (Pillar 1: Curriculum Development & Pillar 2: Professional Development)	a) Train teachers in using FabLab resources for interdisciplinary projects. b) Host FabLab workshops for students on design and prototyping. c) Launch school-wide FabLab challenges (e.g., sustainable designs or assistive devices). d) Develop a calendar for FabLab use across departments. e) Evaluate student engagement through FabLab project outcomes.	FabLab Manager Robots Manager STEAM Development Team All Departments	Q3 2024–Q2 2025	Students and teachers actively use FabLab resources to enhance hands-on learning and creativity.	a) FabLab project guides created and distributed. b) Teacher and student participation logs for workshops. c) Completed FabLab projects showcased. d) Feedback forms indicating improved engagement
5. Strengthen IT Infrastructure and Security (Pillar 3: Infrastructure and Security)	a) Audit and upgrade WiFi for consistent connectivity across the school (all buildings). b) Audit, Upgrade, and Equitably Distribute Digital Devices and Software Across the School (All Buildings)	IT Manager Digital Transformation Permanent Committee	Q3 2024–Q2 2025	A secure and reliable infrastructure supports uninterrupted teaching and learning activities.	a) IT audit report completed. b) Evidence of upgraded devices and network improvements. c) Training attendance logs. d) Incident response plan finalized and distributed.

	c) Implement WPA3 encryption for improved security. d) Conduct cybersecurity awareness training for teachers and students. e) Create a Cybersecurity Response Plan to Address IT Incidents.	Senior Leadership Team			
6. Scale Teacher Training Programs (Pillar 2: Professional Development)	a) Provide advanced training in AI integration, coding, and FabLab tools. b) Establish peer mentoring programs for teachers. c) Organize PLCs (Professional Learning Community) for sharing best practices in technology use. d) Create a feedback mechanism for continuous improvement in training sessions. e) Regularly evaluate the impact of professional development through feedback, classroom assessments, and student performance data, using insights to adjust and improve the plan continuously.	Digital Transformation Managers Senior Leadership Team	Q3 2024–Q2 2025	Teachers gain advanced technology skills and collaborate effectively to enhance learning experiences.	a) Training session records and participant feedback. b) Certificates issued for completed modules. c) Documentation of mentoring relationships and PLC meeting minutes. d) Feedback reports analyzed.
7. Expand Digital Literacy Education (Pillar 1 & Pillar 2: Professional Development)	a) Develop baseline digital literacy modules for grades 5–9, focusing on online research, productivity tools, and safe browsing. b) Train teachers to integrate digital literacy into all subjects. c) Create a digital literacy certification for students. d) Host digital literacy fairs to showcase student projects. e) Monitor progress with digital literacy portfolios. f) Strengthening Digital Assessment Practices by Organize workshops that focus on effective digital assessment techniques.	Department of Innovative Technologies All Departments Digital Transformation Managers	Q4 2024–Q2 2025	Students and teachers achieve a strong foundation in digital literacy skills, improving productivity.	a) Digital literacy modules developed. b) Certification program launched. c) Attendance at literacy fairs documented. d) Completed student portfolios with evidence of progress.

8. Conduct Research and Evaluation on Technology Integration (Pillar 4: Research and Evaluation)	a) Develop evaluation tools to measure the impact of AI, coding, and FabLab activities. b) Host reflective workshops with teachers and students to refine programs. c) Publish an annual technology impact report for stakeholders. d) Use findings to update future initiatives.	Quality Assurance and Assessment Team Digital Transformation Permanent Committee Senior Leadership Team	Q4 2024–Q2 2025	Data-driven insights inform continuous improvement in technology integration and usage.	a) Evaluation tools finalized and used. b) Published annual impact report. c) Workshop attendance logs. d) Recommendations implemented based on research findings.
9. Build Community Engagement Through Technology (Pillar 1 & Pillar 4: Research and Evaluation)	a) Organize workshops for parents on digital citizenship, AI, and coding. b) Develop a parent-student-teacher online portal for sharing resources and updates. c) Publish a quarterly EdTech newsletter highlighting successes and initiatives. d) Host open house events showcasing student projects and innovative technology practices. e) Collaborate with local organizations for community projects.	Senior Leadership Team Digital Transformation Managers Digital Transformation Permanent Committee	Q3 2024–Q2 2025	Stronger community engagement builds shared responsibility and excitement for technology initiatives.	a) Workshop attendance logs and feedback forms. b) Online portal usage analytics. c) Newsletter publication records. d) Photos and attendance records from open house events.
10. Continue Development of the ES Teacher's Digital Competency Framework. (Pillar 2: Professional Development)	Develop the ES Teacher's Digital Competency Framework by outlining essential digital skills, creating a progression model, and providing continuous training and support.	Digital Transformation Managers Digital Transformation Permanent Committee	Q3 2024–Q2 2025	A finalized and implemented Digital Competency Framework for teachers. Progressive training modules developed and delivered to teachers. Increased teacher participation in professional development activities related to digital skills. Evidence of improved digital skills among teachers based on pre- and post-assessments. Clear integration of the framework into ongoing	a) Published and distributed ES Teacher's Digital Competency Framework document. b) Reports of training sessions conducted, including participation numbers and feedback. c) Pre- and post-assessment data showing measurable improvement in teacher competencies. d) Minutes or reports from the Digital Transformation Permanent Committee showing the integration of the framework into the professional development strategy. e) Teacher testimonials or case studies showcasing successful application of the new skills in their teaching practices.

				teacher evaluations and training programs.	
11. Collaborate with EdTech Companies (Pillar 4: Research and Evaluation)	Partner with reputable educational technology companies to provide access to cutting-edge tools and software. Negotiate discounts or special offers for teachers to use in their classrooms.	Digital Transformation Managers	Q3 2024–Q2 2025	Establish partnerships with at least 3 reputable EdTech companies. Secure discounted or special pricing offers for educational tools and software for teachers. Integration of new EdTech tools into classroom practices to enhance teaching and learning. Improved access to innovative digital resources for both teachers and students. Positive feedback from teachers regarding the usability and effectiveness of the tools in their classrooms.	a) Signed agreements or memorandums of understanding (MOUs) with EdTech companies. b) Documentation of discounts or special offers negotiated for the school or teachers. c) Training session reports on the use of new tools provided by EdTech partners. d) Survey results or testimonials from teachers highlighting the impact of EdTech tools on their teaching. e) Reports or data on classroom implementation of EdTech tools, including specific examples of successful use cases.

FABLAB 1 (BUILDING A)				
OBJECTIVE	**ACTIONS**	**DATE TO BE ACHIEVED**	**PERSON/GROUP RESPONSIBLE FOR ACHIEVING THIS OBJECTIVE**	**EVIDENCE OF ACHIEVEMENT OR OF PROGRESS TOWARDS ACHIEVEMENT OF THE OBJECTIVE**
Equipment Maintenance	Perform quarterly maintenance checks on all equipment	Quarterly (Oct, Jan, Apr, Jul)	FABLAB Manager	Maintenance logs completed; Equipment uptime > 95%
Teacher Training	Conduct advanced workshop for old teachers / Conduct introductory fablab workshop for new teachers	Over the 1st Semester	FABLAB Manager	Participant feedback; Post-workshop assessment
Social Media Engagement	Create and implement content calendar for Facebook and Instagram	Ongoing, review monthly	FABLAB Manager	Follower growth rate; Engagement metrics

School Supply Printing	Create List of which school needs fablab is meeting	Over the Year	FABLAB Manager	Supply Evidences
Inventory Management	Implement digital inventory tracking system	Oct-Nov 2024; Ongoing use	FABLAB Manager	Accuracy of inventory counts; Time saved in stock-taking
Safety Training	Conduct quarterly safety refresher courses	Quarterly (Now, Feb, May, Aug)	FABLAB Manager	Completion rate; Reduction in safety incidents
Staff Professional Development	International FABLAB Conference/Workshop/ Training	Conference date (TBD)	FABLAB Manager	Post-conference knowledge sharing session; Implementation of new ideas
FABLAB 2 (BUILDING C)				
Equipment Implementation	Install and set up new equipment	August/September 2024	FABLAB Manager	Equipment fully operational; Staff trained
Teacher Orientation	Conduct introductory fablab workshop for teachers	August/September 2024	FABLAB Manager	Attendance rate; Participant feedback
Policy Development	Draft and finalize lab usage policies	August/September 2024	FABLAB Manager	Policies approved and implemented
Inventory Management	Set up the initial inventory system and conduct the first full inventory	Oct-Nov 2024; Ongoing use	FABLAB Manager	Accuracy of initial inventory; System functionality
Safety Training	Develop and implement a comprehensive safety training program	Quarterly (Now, Feb, May, Aug)	FABLAB Manager	Completion rate; Safety quiz scores
Staff Professional Development	Organize internal skill-sharing workshops	Monthly, starting Oct 2024	FABLAB Manager	Staff participation rate; Skill assessment surveys
Common Section (Both FABLABs)				
Event Organization	Coordinate annual Maker Faire with Tech Transfer Committee	Over the Year	FABLAB Manager	Attendance numbers; Exhibitor feedback; Media coverage
Outsource Workshops	Create Workshops for people outside of the schools	Over the Year	FABLAB Manager	Income

Policy Update	Review and align policies for both labs	Over the Year	FABLAB Manager	Updated policy document approved
Sustainability Initiative	Implement a recycling program for Machine waste	Over the Year	FABLAB Manager	Amount of material recycled; User participation rate
Train Teachers on Equipment	Develop and implement a comprehensive equipment training program for teachers	Over the Year	FABLAB Manager	Number of teachers trained; Confidence levels in equipment use
Increase Student Engagement	Launch student ambassador program	Over the Year	FABLAB Manager	Number of student ambassadors; Increase in student lab usage
Plan Interdisciplinary Units	Organize a workshop to develop interdisciplinary units incorporating fablab	Over the Year	FABLAB Manager	Number of units developed; Student and teacher feedback
Wide Range of Clubs	Establish and support diverse fablab-related clubs (e.g., Robotics, 3D Printing, IoT)	Club formation: Sept 2024; Ongoing activities	FABLAB Manager	Number of active clubs; Student participation rates; Project outcomes
Collaboration with Other Schools	Initiate inter-school fablab network and project exchange program (at least makerspace, e.g Bakswood)	Network setup: Oct-Nov 2024; First exchange: Jan 2025	FABLAB Manager	Number of participating schools; Collaborative projects completed
Student Internship Initiative	Develop and launch internship program in both FABLABs for high school Students	Program development: Sept-Nov; Internships: Nov-March	FABLAB Manager	Number of internships; Student feedback
Student Internal Skill-Sharing	Organize monthly student-led workshops on various fablab skills	Planning: 2024; Monthly workshops starting Jan 2025	FABLAB Manager	Workshop attendance; Peer teaching evaluations
Survey	Conduct a comprehensive annual survey on fablab usage and impact	Survey design: Mar 2025; Implementation: Apr 2025; Analysis: May 2025	FABLAB Manager	Response rate; Data quality; Actionable insights generated

2025-2026 Technology Plan

Annual Goals Summary

Focus Areas:

- Integrate AR/VR into lessons for immersive learning experiences.
- Expand FabLab usage to non-STEM subjects like social sciences and languages.
- Scale digital citizenship education with advanced topics like ethical AI and digital law.
- Launch international exchange programs for collaborative technology projects.

Key Outcomes:

- Students and teachers effectively use AR/VR tools in classrooms.
- FabLab projects demonstrate interdisciplinary innovation.
- Global partnerships foster cross-cultural collaboration in EdTech.

Objective	Key Activities	Responsible Persons/ Departments	Timeline	Achievable Results	Evidence of Achievement or Progress Towards Achievement of the Objective
1. Scale Digital Citizenship Education (Pillar 1: Curriculum Development)	- Embed digital citizenship concepts into assessments across all subjects. - Launch student-led digital citizenship campaigns to promote safe online practices. - Introduce advanced topics like ethical AI use and digital law into middle and high school curricula. - Evaluate program effectiveness through surveys and classroom observations.	Digital Transformation Managers All Departments Quality Assurance and Assessment Team	Q1–Q4 2025	Students demonstrate deeper understanding of digital ethics and responsible online behavior.	- Assessment results incorporating digital citizenship concepts. - Feedback from student-led campaigns. - Classroom observation reports indicating integration success.

2. Integrate AR/VR for Immersive Learning (Pillar 1: Curriculum Development)	- Procure AR/VR equipment and educational apps. - Train teachers to design and implement AR/VR-based lessons in subjects like history, geography, and science. - Develop interdisciplinary AR/VR projects. - Collect and analyze feedback from students and teachers to improve lessons.	IT Manager Sciences Department Social Sciences Department STEAM Development Team	Q3–Q4 2025	Students engage in immersive, interactive learning experiences that enhance retention and understanding.	- Teacher training records. - AR/VR-based lesson plans and student project portfolios. - Feedback forms from students and teachers.
3. Expand Advanced AI Integration in Classrooms (Pillar 1: Curriculum Development)	- Develop projects involving AI, such as predictive modeling or AI-assisted writing tools. - Introduce AI ethics debates and case studies in social studies and language classes. - Establish partnerships with tech companies for AI mentorship programs. - Evaluate AI projects using rubrics focused on creativity and problem-solving.	Digital Transformation Managers Department of Innovative Technologies Languages and Literature Department STEAM Development Team	Q1–Q4 2025	Students gain advanced AI skills and apply them in cross-disciplinary projects.	- Student AI project examples (e.g., predictive models, chatbots). - Participation records for AI mentorship programs. - Rubric-based assessment data from AI activities.
4. Strengthen Teacher Leadership Through PLCs (Pillar 2: Professional Development)	- Establish advanced PLCs focused on subject-specific technology integration. - Provide resources and training for PLC leaders to facilitate effective collaboration. - Share best practices and innovations during annual teacher summits. - Evaluate the impact of PLCs on classroom practices through peer reviews and surveys.	Digital Transformation Permanent Committee Senior Leadership Team IT Manager	Q1–Q4 2025	Teachers lead technology-driven lessons and contribute to a culture of continuous learning.	- PLC meeting minutes and attendance records. - Peer review reports on classroom technology use. - Teacher survey data showing improved confidence and competency.

5. Enhance Green ICT Practices (Pillar 3: Infrastructure and Security)	- Expand the e-waste recycling program to include the broader community. - Replace 30% of remaining devices with energy-efficient models. - Conduct workshops on sustainable technology use for students and staff. - Publish an annual sustainability report detailing progress in Green ICT initiatives.	IT Manager Digital Transformation Permanent Committee STEAM Development Team	Q2–Q4 2025	The school becomes a leader in sustainable ICT practices and community engagement.	- Community participation records in e-waste drives. - Procurement records for energy-efficient devices. - Published sustainability report with measurable impact data.
6. Expand FabLab Interdisciplinary Projects (Pillar 1 & Pillar 2)	- Organize FabLab competitions with themes like sustainability or assistive technology. - Train teachers to create curriculum-linked FabLab projects. - Introduce digital fabrication projects to new departments like social sciences and languages. - Evaluate FabLab usage by tracking student and teacher participation.	FabLab Manager Robots Manager STEAM Development Team All Department	Q1–Q4 2025	Students and teachers use the FabLab for innovative and interdisciplinary projects.	- Participation records for FabLab competitions. - Lesson plans incorporating FabLab activities. - Completed student projects and associated rubrics.
7. Upgrade Cybersecurity Measures and Protocols (Pillar 3: Infrastructure and Security)	- Conduct cybersecurity audits to identify vulnerabilities. - Upgrade firewall and antivirus solutions. - Implement multi-factor authentication (MFA) for all school accounts. - Provide ongoing cybersecurity training for all users. - Test the digital incident response plan with simulated exercises.	IT Manager Digital Transformation Managers Senior Leadership Team	Q1–Q4 2025	The school maintains a secure digital environment and minimizes cybersecurity risks.	- Cybersecurity audit reports. - MFA implementation records. - Training participation logs. - Results of simulated incident response drills.

8. Host Global Technology Exchange Programs (Pillar 1 & Pillar 4)	- Partner with international schools to create joint virtual classrooms and projects. - Facilitate teacher exchange programs to learn global best practices. - Organize student exchanges focused on collaborative technology projects. - Evaluate outcomes through surveys and project results.	Senior Leadership Team Digital Transformation Permanent Committee All Departments	Q2–Q4 2025	Students and teachers gain global perspectives and improve collaborative technology skills.	- Records of partnership agreements. - Feedback from participants in exchange programs. - Completed collaborative project portfolios.
9. Conduct Advanced Research and Evaluation (Pillar 4)	- Analyze the impact of AR/VR, AI, and FabLab integration on student outcomes. - Partner with universities to conduct research on EdTech innovations. - Publish findings in academic journals and school reports. - Host an annual research showcase event to share results with stakeholders.	Quality Assurance and Assessment Team Digital Transformation Managers Senior Leadership Team	Q1–Q4 2025	Data-driven insights refine EdTech strategies and establish the school as a leader in educational research.	- Published research articles and reports. - Attendance records for research showcase events. - Feedback from stakeholders on findings and recommendations.
10. Develop a Centralized EdTech Resource Hub (Pillar 3)	- Create a digital repository of resources, lesson plans, and training materials for teachers. - Include video tutorials, guides, and best practices for using technology. - Regularly update the hub with new tools and innovations. - Provide ongoing training on how to use the hub effectively.	IT Manager Digital Transformation Managers Digital Transformation Permanent Committee	Q1–Q4 2025	Teachers access a centralized platform for technology resources, improving lesson planning and efficiency.	- Repository launch metrics (e.g., number of resources uploaded). - Usage analytics showing teacher engagement. - Feedback from users on the hub’s usability and content quality.

2026-2027 Technology Plan

Annual Goals Summary

Focus Areas:

- Fully integrate AR/VR across all subjects and grade levels.
- Introduce advanced AI electives and mentorship programs for senior students.
- Host a global EdTech summit to showcase the school's innovations.
- Achieve full sustainability in ICT practices, including Green ICT certification.

Key Outcomes:

- Students and staff are leaders in using advanced technologies for learning and research.
- The school becomes a regional and global leader in EdTech innovation.
- Sustainable practices and robust infrastructure support long-term goals.

Objective	Key Activities	Responsible Persons/ Departments	Timeline	Achievable Results	Evidence of Achievement or Progress Towards Achievement of the Objective
1. Fully Integrate AR/VR Into Learning (Pillar 1: Curriculum Development)	- Expand AR/VR-based lessons across all grades, focusing on experiential learning. - Develop AR/VR scenarios for STEM and humanities subjects. - Host a school-wide AR/VR innovation fair. - Evaluate the impact of AR/VR integration through surveys and assessments.	IT Manager Sciences Department Social Sciences Department STEAM Development Team	Q1–Q4 2026	Students use AR/VR to enhance critical thinking and engagement in various subjects.	- Participation in AR/VR-based lessons documented. - Projects and portfolios created using AR/VR. - Feedback from innovation fair attendees.

2. Launch Advanced AI Electives and Projects (Pillar 1: Curriculum Development)	- Introduce advanced AI elective courses for grades 9–12 (e.g., machine learning, data analytics). - Encourage AI-driven research projects for senior students. - Partner with local universities and tech companies for mentorship and resources. - Evaluate the success of AI programs based on project outcomes and student performance.	Department of Innovative Technologies Digital Transformation Managers Senior Leadership Team	Q1–Q4 2026	Students achieve expertise in advanced AI topics and produce impactful research projects.	- Enrollment and completion data for AI electives. - Documented mentorships with external partners. - Evaluations of AI research projects using defined rubrics.
3. Host a Global EdTech Innovation Summit (Pillar 4: Research and Evaluation)	- Organize an international summit to share best practices and innovations in EdTech. - Invite global educators, researchers, and industry leaders. - Showcase school-led research and projects at the event. - Publish a report summarizing the summit's outcomes and key takeaways.	Senior Leadership Team Digital Transformation Permanent Committee STEAM Development Team	Q3–Q4 2026	The school establishes itself as a global leader in educational technology innovation.	- Attendance and participation records for the summit. - Summit agenda and session materials. - Published post-summit report shared with stakeholders.
4. Implement Gamification Across the Curriculum (Pillar 1: Curriculum Development)	- Train teachers to gamify lessons using tools like Classcraft or Kahoot. - Develop gamified assessments to increase student engagement. - Host inter-grade competitions leveraging gamified platforms. - Collect feedback on the effectiveness of gamification in improving learning outcomes.	Digital Transformation Managers Department of Innovative Technologies Languages and Literature Department	Q2–Q4 2026	Students exhibit higher engagement and performance through gamified learning experiences.	- Teacher training attendance records. - Gamified lesson plans and assessments. - Survey data from students and teachers on the impact of gamification.

5. Expand FabLab to Support Community Projects (Pillar 1 & Pillar 4)	- Open FabLab resources to local community initiatives (e.g., sustainable design, assistive technology). - Partner with local organizations for joint projects. - Organize a “FabLab for the Future” competition involving students and community members. - Evaluate community engagement and project outcomes.	FabLab Manager Robots Manager STEAM Development Team Senior Leadership Team	Q1–Q4 2026	The FabLab becomes a hub for community-driven innovation and collaboration.	- Records of community participation in FabLab activities. - Completed collaborative projects documented. - Feedback from participants in community-driven initiatives.
6. Enhance Teacher Professional Development for Emerging Trends (Pillar 2)	- Offer specialized training in blockchain, quantum computing, and IoT for interested teachers. - Host workshops on incorporating cutting-edge technologies into lessons. - Recognize teacher expertise with advanced certifications. - Create a mentorship program for emerging technologies.	Digital Transformation Permanent Committee IT Manager Senior Leadership Team	Q2–Q4 2026	Teachers integrate emerging technologies into the curriculum, fostering future-ready classrooms.	- Training session records and certification awards. - Documentation of mentorship relationships. - Lesson plans showcasing emerging technology integration.
7. Achieve Full Sustainability in ICT Practices (Pillar 3: Infrastructure and Security)	- Transition all devices to energy-efficient models by the end of the year. - Expand the e-waste recycling program to involve regional schools. - Publish a detailed Green ICT strategy for long-term sustainability. - Host workshops to educate students and staff on eco-friendly technology use.	IT Manager Digital Transformation Permanent Committee STEAM Development Team	Q1–Q4 2026	The school achieves full ICT sustainability and becomes a regional leader in Green ICT practices.	- Audit reports confirming full transition to energy-efficient devices. - Participation records in regional e-waste drives. - Published Green ICT strategy and measurable progress metrics.

8. Advance Cybersecurity Infrastructure (Pillar 3: Infrastructure and Security)	- Implement advanced threat detection and response systems. - Regularly update cybersecurity protocols based on emerging threats. - Provide specialized cybersecurity training for IT staff. - Conduct annual security drills to test response plans. - Publish an updated incident response guide.	IT Manager Digital Transformation Managers Senior Leadership Team	Q1–Q4 2026	The school maintains a robust, secure IT infrastructure to safeguard digital assets.	- Records of updated protocols and response plans. - Training participation logs for IT staff. - Results of annual security drills analyzed and shared.
9. Launch Advanced Coding and Robotics Competitions (Pillar 1)	- Host inter-school coding and robotics competitions. - Develop competition categories like algorithm design, robot programming, and AI challenges. - Offer prizes and certificates to encourage participation. - Evaluate the impact on student engagement and skill development.	Department of Innovative Technologies Robots Manager STEAM Development Team	Q2–Q4 2026	Students demonstrate advanced coding and robotics skills through competitive activities.	- Participation records and competition outcomes. - Feedback from judges and participants. - Documented projects and code submissions from participants.
10. Evaluate and Refine All Technology Initiatives (Pillar 4)	- Conduct in-depth reviews of AR/VR, AI, FabLab, and gamification initiatives. - Gather feedback from teachers, students, and parents. - Update strategies based on evaluation findings. - Publish a comprehensive "State of Technology" report summarizing progress and areas for improvement.	Quality Assurance and Assessment Team Digital Transformation Permanent Committee Senior Leadership Team	Q3–Q4 2026	Data-driven refinements ensure continuous improvement and alignment with strategic goals.	- Published "State of Technology" report shared with stakeholders. - Survey and feedback results. - Updated strategies and action plans for future initiatives.

Conclusion

The **3-Year Technology Plan (2024–2027)** is a forward-thinking roadmap designed to transform the school into a leader in digital education and innovation. By strategically addressing the pillars of curriculum development, professional development, infrastructure and security, and research and evaluation, this plan ensures that technology becomes a seamless and integral part of teaching, learning, and organizational practices.

Summary of Key Outcomes

- **Empowered Learners**: Students will develop critical 21st-century skills, including digital citizenship, computational thinking, and advanced technological fluency.
- **Equipped Educators**: Teachers will gain confidence and expertise in leveraging technology for innovative, engaging, and effective instruction.
- **Resilient Infrastructure**: The school will maintain a robust and secure IT environment that supports equitable access and sustainability.
- **Data-Driven Progress**: Continuous evaluation and research will ensure that all initiatives are impactful, adaptable, and aligned with both global trends and the school's strategic goals.

Looking Ahead

As the school embarks on this ambitious journey, the plan's phased approach ensures that each year builds on the successes of the previous one, creating a foundation for lasting change. Collaboration among departments, leadership, students, and the wider community will be key to achieving the vision outlined in this document.

By 2027, the school will not only have achieved its goals but will also set a benchmark for how educational institutions can harness technology to inspire creativity, foster critical thinking, and prepare learners for the challenges and opportunities of the digital age.

This plan is not just about integrating technology—it is about transforming education for a better future. Together, we can achieve this vision and create a lasting legacy of innovation and excellence.

Appendix A: Budget Breakdown

Year 2024–2025

Item	Estimated Cost	Description
Interactive Flat-Panel Displays (50)	$100,000	Procured for classrooms to enhance interactive teaching and learning experiences. Approximate cost per unit: $2,000.
Windows Laptops (80)	$80,000	Distributed equitably among departments and classrooms to improve access to digital resources. Approximate cost per unit: $1,000.
Cybersecurity Upgrades	$10,000	Implementation of WPA3 encryption, multi-factor authentication (MFA), and advanced threat detection systems.
FabLab Equipment Maintenance	$10,000	Quarterly maintenance of FabLab machines and tools to ensure smooth operation for interdisciplinary projects.
Teacher Training Programs	$8,000	Advanced training workshops on AI integration, FabLab usage, and digital citizenship.
IT Infrastructure Upgrades	$12,000	WiFi expansion and software updates to ensure consistent connectivity and support for modern educational technologies.
Miscellaneous (Licensing, Tools, etc.)	$5,000	Includes software licenses, digital tools, and minor tech-related expenses to support various initiatives.

Total Estimated Budget: $225,000

Year 2025–2026

Item	Estimated Cost	Description
AR/VR Equipment and Applications	$50,000	Procurement of AR/VR headsets and educational apps for immersive learning in subjects like history, science, and geography.
Additional Laptops and Tablets	$40,000	Purchase of 40 devices to further enhance student and teacher access to technology.
FabLab Expansion and New Projects	$20,000	Investment in new tools and resources for FabLab interdisciplinary projects, including sustainability and assistive technology themes.
Teacher PD Program Support	$15,000	Funding for teacher travel and participation in international EdTech exchange programs.
Cybersecurity Enhancements	$8,000	Annual update to security systems and incident response drills.
Gamification Tools	$5,000	Purchase of licenses and subscriptions for gamified learning platforms.
Professional Learning Community (PLC)	$7,000	Support for advanced PLCs, including resources, materials, and training for leaders.
Miscellaneous (Licensing, Tools, etc.)	$5,000	Continued investment in software and digital tools to support expanding initiatives.

Total Estimated Budget: $150,000

Year 2026–2027

Item	Estimated Cost	Description
Advanced AI and Robotics Equipment	$70,000	Procurement of AI and robotics kits for electives and competitions, including machine learning and IoT resources.
Final Phase of Device Replacement	$50,000	Transition to energy-efficient devices to achieve 100% sustainability in ICT practices.
Global EdTech Innovation Summit	$20,000	Hosting an international summit, including event organization, materials, and participant travel.
Green ICT Implementation	$10,000	Expanding the e-waste recycling program and promoting sustainable technology practices.
FabLab Community Projects	$15,000	Support for FabLab initiatives involving students and the local community, such as “FabLab for the Future” competitions.
Teacher PD Program Support	$10,000	Specialized training in blockchain, quantum computing, and IoT integration, along with certification programs for emerging technologies.
Cybersecurity Advanced Measures	$8,000	Implementation of cutting-edge threat detection systems and annual security protocol updates.
Miscellaneous (Licensing, Tools, etc.)	$7,000	Continued investment in software licenses and tech tools to support comprehensive technology integration.

Total Estimated Budget: $190,000