



KHOKHO23 CONSULTANCY

The Catalyst of Change in the Education Space



COMPANY PROFILE

Innovating the Future of education with 4IR

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TABLE OF CONTENTS

- 01** Executive Summary
- 02** Our Vision & Mission
- 03** Our Methodology
- 04** Products & Programmes
- 05** Elements of Our Coding & Robotics Lab
- 06** Before & After: Lab Transformation
- 07** Software Development & Gaming: Grade-by-Grade Pathways
- 08** Coding, Robotics & AI in Mainstream Classrooms
- 09** History & Impact
- 10** Drone Technology & Opportunities
- 11** Opportunities for Collaboration
- 12** Conclusion & Contact

01 EXECUTIVE SUMMARY

KHOKHO23 Consultancy is a 100% Black woman-owned education and technology company led by Kholiswa Khoba, with over 16 years of experience advancing education through innovation, technology integration, and values-based learning.

The company delivers Fourth Industrial Revolution (4IR) solutions for primary and high schools and communities, equipping the Black child with future-ready skills through globally informed, locally relevant educational programmes.

16+

YEARS OF EXPERIENCE

7

PROVINCES REACHED

100%

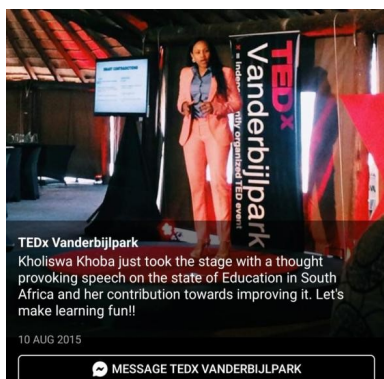
BLACK WOMAN-OWNED

4IR

FOCUSED CURRICULUM

Kholiswa Khoba is a recognised thought leader in South African education, having shared the stage at TEDx Vanderbijlpark and featured across radio and television platforms to advocate for the transformation of education through technology.

"Equipping the Black child with future-ready skills for the Fourth Industrial Revolution."



02 OUR VISION & MISSION

VISION	MISSION
To become a leading catalyst of change in the African education sector by empowering the Black child through innovative, technology-driven, and values-based education that prepares learners for the Fourth Industrial Revolution (4IR) and beyond.	KHOKHO23 transforms education through accessible, future-focused learning in Coding and Robotics, STEM, Artificial Intelligence, Software Development, Game-Based Learning, Drone Technology, Digital Skills Development, and innovative educational programmes.

Objectives

- Bridge the digital divide in township and rural schools.
- Expand Coding and Robotics, STEM, AI, Software Development, and other 4IR programmes across South Africa.
- Bring Coding, Robotics, and AI into everyday classrooms in mainstream schools so that every learner graduates with skills that are relevant in the 4IR.
- Prepare South African learners to compete with their peers in world-class education systems.
- Train educators and youth in modern teaching, digital skills, and drone technology.
- Build sustainable partnerships that support socio-economic development through education and innovation.
- Establish a Christian-based 4IR private school focused on holistic development and academic excellence.

03 OUR METHODOLOGY

KHOKHO23 delivers sustainable impact through strategic partnerships, school-based technology laboratories, educator training, curriculum support, STEM and digital programmes, and youth development pathways linked to employment, entrepreneurship, and innovation.



Official ribbon-cutting ceremony marking the launch of a KHOKHO23 Coding and Robotics Lab at Limpopo Burgersfort

“Strategic partnerships. School-based labs. Educator training. Youth pathways to employment and innovation.”

04 PRODUCTS & PROGRAMMES

KHOKHO23 establishes fully equipped, world-class 4IR learning and innovation centres with advanced infrastructure designed to empower learners with future-ready skills.

Deliverables

- Coding and robotics kits for hands-on STEM education.
- Laptops, tablets, and high-capacity servers to support digital training.
- Gaming-ready computers, tablets, and game-development tools for supervised, curriculum-linked game-based learning.
- Interactive whiteboards for collaborative learning.
- High-speed Wi-Fi and networking infrastructure to ensure connectivity.
- Licensed software packages covering coding, AI, robotics, ICT, game development, and design applications.
- Printers, scanners, and drones to support training, research, and innovation.

Training and Learning Programmes

- **Coding & Robotics Lessons** — comprehensive courses on programming, robotics design, automation, and problem-solving skills, tailored for different age groups.
- **Software Development** — a grade-by-grade programme taking learners from block-based coding to building real websites, apps, and software in a modern programming language (see Section 07).
- **Gaming & Game Development** — educational and game-based learning for younger learners, and game design, game development, and e-sports clubs for older learners, run in a safe, supervised, and structured environment.
- **Artificial Intelligence & Data Science** — introduction to AI, machine learning basics, responsible and ethical use of AI, and data-driven innovation.
- **Drone Training & Pilot Licensing** — practical training in drone technology, aerial data collection, safety, and certification for industries such as agriculture, security, mining, and logistics.
- **ICT & Digital Literacy** — building foundational skills in computer applications, networking, cloud technologies, and cybersecurity.
- **Entrepreneurship & Innovation Programmes** — business incubation, startup development, and design-thinking workshops to nurture youth innovators and job creators.
- **Advanced STEM Programmes** — exposure to engineering concepts, electronics, automation systems, and renewable energy technologies.

Gaming as a Learning Product

Learners already love games. KHOKHO23 channels that energy into learning and into careers in one of the world's fastest-growing industries. Our gaming offering for schools has three strands:

- **Learning through games:** gamified Maths, Science, language, and logic activities that make difficult concepts fun and build problem-solving, teamwork, and perseverance.
- **Making games:** learners design, code, and publish their own games, learning storytelling, graphics, logic, and software development at the same time.
- **Gaming and e-sports clubs:** supervised after-school clubs and inter-school competitions that build teamwork, strategy, digital citizenship, and healthy screen-time habits, with clear age-appropriate content rules and parent and school involvement.

05 ELEMENTS OF OUR CODING & ROBOTICS LAB

Every KHOKHO23 lab is designed as a hands-on, colourful, and collaborative environment — combining hardware, connectivity, and structured curriculum to bring 4IR concepts to life for learners.



Collaborative coding stations



Tablet-based digital learning



Hands-on kit building

06 BEFORE & AFTER: LAB TRANSFORMATION

KHOKHO23's school-based interventions transform underutilised classrooms into vibrant, future-ready learning spaces.



BEFORE

Current status of classrooms



AFTER

A converted Coding and Robotics Lab

07 SOFTWARE DEVELOPMENT & GAMING: GRADE-BY-GRADE PATHWAYS

Software development is the foundation of the 4IR. Every app, game, website, robot, and AI system is built with code. KHOKHO23 teaches software development progressively, so that a learner who starts in the Foundation Phase can leave Grade 12 able to build real software, with a portfolio of projects to show for it.

Grade band	Coding, Robotics & AI	Software Development & Gaming
Foundation Phase Grades R–3	- Unplugged coding: patterns, sequences, and instructions through movement, stories, and play - Floor robots and simple programmable toys “Smart machines” stories: what computers can and cannot do	- Logic and puzzle games that build sequencing and early problem-solving - Following and giving step-by-step instructions (algorithms) - Screen-safe, teacher-led play with age-appropriate educational games
Intermediate Phase Grades 4–6	- Block-based coding (e.g. Scratch-style tools) - Building and programming simple robots from kits - Introduction to AI: how machines learn from pictures, sounds, and examples	- Designing and coding simple games and animated stories - Creating a first interactive app or game with a team - Digital citizenship: safe, kind, and responsible online behaviour
Senior Phase Grades 7–9	- Moving from blocks to text-based coding (e.g. Python) - Sensors, microcontrollers, and automation projects - Data and AI basics: training a simple model, spotting bias, using AI tools responsibly	- Web development fundamentals (HTML, CSS, JavaScript) - Game design and development: characters, levels, scoring, and game logic - Mobile app building and project-based learning with a learner portfolio
FET Phase Grades 10–12	- Advanced programming and software engineering practices - Machine learning projects, data science, and cybersecurity awareness - Robotics, IoT, and automation linked to industry challenges	- Building complete web, mobile, and game applications - Databases, version control, testing, and teamwork on real briefs - Career pathways: IT and engineering studies, learnerships, internships, freelancing, and starting a tech business

“From playing games to building them. From using technology to creating it.”

08 CODING, ROBOTICS & AI IN MAINSTREAM CLASSROOMS

KHOKHO23 believes that 4IR skills should not be a privilege reserved for a few well-resourced schools. Our model is designed to work in normal public and independent schools, with or without a dedicated lab, so that every learner in the class gains the skills to be relevant in today's economy and to compete with learners from world-class education systems.

How the programme runs in a normal school

- **Timetabled and curriculum-linked.** Coding, Robotics, and AI lessons are given a regular weekly slot and are linked to existing subjects such as Mathematics, Natural Sciences and Technology, Information Technology, and Computer Applications Technology, and to the national Coding and Robotics curriculum direction, so that they strengthen results rather than compete for time.
- **Unplugged first, plugged where possible.** Schools without enough devices start with unplugged activities and shared devices, then grow into full labs. No learner is left behind because of a lack of equipment.
- **Teacher-led, expert-supported.** Class teachers are trained and mentored to teach the content confidently, supported by KHOKHO23 facilitators, ready-made lesson plans, and learner workbooks.
- **Project-based learning.** Learners solve real community problems, for example a water-saving robot, a school-safety app, or a game that teaches recycling, and present their work at school showcases.
- **Responsible AI in the classroom.** Learners learn how AI works, where it can be wrong or biased, and how to use it ethically as a thinking and learning partner, never as a shortcut for their own work.
- **Measured progress.** Baseline and progress assessments, learner portfolios, and regular reports to schools and partners show what each learner and each school has achieved.

A simple three-stage rollout for every school

Stage	What happens
1. Prepare	School needs assessment, principal and teacher orientation, timetable integration, and set-up of a lab or mobile learning corner.
2. Teach	Weekly lessons from Grade R to Grade 12 following the grade-by-grade pathway, with teacher coaching and in-class support.
3. Showcase & sustain	Learner showcases, coding and robotics competitions, gaming and game-design challenges, impact reporting, and plans to keep the programme running with the school.

What learners leave school with

- Computational thinking and the ability to break big problems into solvable steps.
- The ability to write code and build working software, apps, games, and robots.
- AI and data literacy, including ethics, so they can use new technology wisely.
- Creativity, collaboration, communication, and resilience, the skills employers value worldwide.
- A portfolio of real projects and a clear pathway into tertiary study, employment, freelancing, or entrepreneurship.

Competing with world-class education systems

Learners in leading education systems begin coding in the early grades, build projects every year, and graduate fluent in digital problem-solving. By starting early, teaching consistently, training teachers properly, and measuring progress, KHOKHO23 aims to give South African learners the same strong foundation, so that a learner from a township or rural school can compete with confidence for global opportunities, remote work, and tech careers.

09 HISTORY & IMPACT

KHOKHO23 has pioneered innovative educational programmes across South Africa, with milestones spanning Mathematics Labs, mobile science education, Coding and Robotics, Drone Technology, and learner competitions.

Programmes delivered across 7 provinces in South Africa:

Province	Programmes Delivered
Free State	Mobile Science Labs (2010); Maths Labs (2012); Coding and Robotics Labs; Drone Technology (2023); Career Expos (2024)
Gauteng	Maths Lab and Science Lab (2015)
North West	Maths Lab Pilot (2016)
Mpumalanga	Maths Lab Pilot (2016)
Eastern Cape	Maths Lab Pilot (2017)
Limpopo	Coding and Robotics Labs and Career Expo (2024)
KwaZulu-Natal	Career Expo (2024)

How Coding and Robotics Learners Can Benefit You



Learners engaging with coding and robotics lab in Limpopo Burgersfort

Learners trained in Coding, Robotics, AI, Software Development, Game Development, and Drone Technology can contribute through smart infrastructure monitoring, automation, predictive maintenance, smart grid innovation, renewable energy support, cybersecurity, app and game creation, and digitally enabled problem-solving. These skills also create career and entrepreneurship pathways in engineering, software, data, robotics, the gaming industry, and clean energy.

10 DRONE TECHNOLOGY & OPPORTUNITIES

KHOKHO23 recognises the growing role of drone technology in South Africa's infrastructure and energy sectors.

Drone pilots trained through KHOKHO23 can support infrastructure inspection, fault detection, thermal imaging, emergency response, mapping, and environmental monitoring.

By training youth as drone pilots and technicians, the organisation also promotes employment, entrepreneurship, and participation in the growing drone economy.



Youth drone pilot training in progress

11 OPPORTUNITIES FOR COLLABORATION

Potential collaboration opportunities include:

- Establishment of Coding and Robotics Labs in schools
- Rollout of Coding, Robotics, and AI lessons in mainstream school classrooms
- Software development and game development programmes for learners
- Gaming and e-sports clubs and school competitions
- Drone pilot training programmes for youth
- STEM competitions and innovation challenges
- Renewable energy education projects
- Mathematics and science support programmes
- Smart technology and AI education initiatives
- Infrastructure inspection drone training
- Teacher training in coding, robotics, and AI
- Community digital skills development programmes

By working together, we can contribute meaningfully towards:

- Youth empowerment
- Skills development
- Employment creation
- Teacher development
- Digital transformation

- Educational innovation
- Global competitiveness for South African learners
- Socio-economic development in South Africa

12 CONCLUSION

KHOKHO23 remains a catalyst for transformation in the education sector, empowering communities through innovation, technology, and a commitment to educational excellence.

By forming strategic partnerships, implementing impactful programmes, and fostering a passion for uplifting Black children, the organisation is dedicated to creating a future where every learner has access to opportunities that enable them to reach their full potential.

“Learn. Create. Innovate. — Building a future where every learner reaches their full potential.”



CONTACT US

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