SERVICE DELIVERY PARTY
POLICY VISION PAPER

Farouk's Vision.
Cape Town's Future.

Reimagining the Mathematics, Science and Technology Park as a Talent, Teaching and AI Hub for the Cape Flats

From the Cape Flats to the world.

ABSTRACT

A New Purpose for the MST Park

Cape Town's future economic competitiveness will depend not only upon infrastructure, investment and access to technology, but upon its capacity to develop the human capabilities required to use, understand and ultimately create that technology. The city's most important untapped resource is therefore not physical infrastructure but human potential, particularly among children growing up in communities historically excluded from South Africa's knowledge economy.

The proposed revival of the Mathematics, Science and Technology (MST) Park associated with former councillor Mahomed Farouk Cassim provides an opportunity to address this challenge through a distinctly Cape Town approach to educational development. The original concept should not simply be revived as a conventional science or technology centre. It should be transformed into an AI, Mathematics, Science and Technology Hub, combining advanced learner development, teacher development, educational research, technology exposure, mentorship and pathways into higher education and the technology economy.

The central proposition is that educational inequality cannot be addressed solely by providing more equipment, computers or curriculum documents. Cape Town should systematically identify exceptional teachers working in under-resourced communities, study what they do differently, determine which elements of their practice are transferable and establish mechanisms to reproduce successful teaching methods across the city's schools.

Do not merely bring technology to disadvantaged communities. Build the people who will create the technology.

Farouk's original vision therefore becomes more than a historical policy proposal. Properly redesigned, it can become a practical instrument of spatial justice, educational transformation and economic development for Cape Town.

PART ONE

From Educational Inequality to Human Potential

01 The Limits of Access

Why computers alone do not create engineers

Cape Town possesses world-class universities, technology companies, research institutions, data infrastructure and an increasingly sophisticated digital economy. Yet these opportunities remain distributed unevenly across the metropolitan area.

For many children growing up in the Cape Flats and other historically disadvantaged communities, the pathway from primary school mathematics to a career in artificial intelligence, engineering, software development, data science or advanced technology remains uncertain and difficult to navigate. The problem is not simply access to computers.

A child cannot become an engineer merely because a computer is placed in a classroom. Nor does exposure to coding automatically create the mathematical reasoning required for computer science, artificial intelligence or engineering. The foundation is deeper.

Children need strong numeracy, confidence in mathematics and scientific curiosity. They need teachers who can communicate difficult concepts, access to laboratories and technology, and mentors who have themselves travelled the pathway they are being asked to imagine. Most importantly, they need an education system capable of recognising potential before disadvantage has had the opportunity to suppress it.

South Africa has already recognised the growing importance of this challenge. The national Department of Basic Education has introduced Coding and Robotics into the school curriculum and has explicitly connected digital skills with future employment, artificial intelligence, machine learning, robotics and the Internet of Things. The Western Cape is similarly implementing Coding and Robotics through a structured pilot involving hundreds of schools.

The question for Cape Town is no longer whether technology belongs in education. It does. The question is whether the city can build an institutional ecosystem capable of turning access into capability, capability into talent and talent into opportunity. That is the opportunity presented by the MST Park.

02 Farouk's Vision

An idea that predates the AI boom

The proposed MST Park is not an entirely new political idea. Former councillor Mahomed Farouk Cassim has for years advocated the development of mathematics, science and technology education, and has associated the concept with what he called "Maths in the Park". His broader political work has consistently connected education, technology, township development and economic opportunity.

The significance of this history is that the concept did not originate as a fashionable response to the latest artificial intelligence boom. The underlying question was already being asked: how do we give children from communities historically excluded from economic opportunity the intellectual tools to participate in the future? That question remains profoundly relevant.

Farouk's original vision should therefore be preserved rather than discarded. The task is to bring it into the technological reality of 2026 and beyond. The transformation can be expressed simply: MST Park → AI, Mathematics, Science and Technology Hub.

The change is not from mathematics and science to artificial intelligence. It is from mathematics and science towards artificial intelligence. Mathematics remains the foundation. Science provides the method of understanding the physical world. Technology provides the tools for applying knowledge. Engineering provides the discipline of turning ideas into systems. Artificial intelligence becomes one of the most powerful technological applications of that foundation.

The result is not an "AI centre" in isolation. It is a human-capital development institution for the scientific and technological economy.

PART TWO

The Central Thesis: Find the Exceptional Teacher

03 The Exceptional Teacher Laboratory

Treating great teachers as sources of knowledge

The most important element of the proposed Hub should not be its computers. It should be its teachers. Cape Town should establish a systematic programme to identify exceptional mathematics and science teachers working in disadvantaged schools.

These teachers already exist. Some are achieving extraordinary results in circumstances where conventional indicators would predict failure. Some make mathematics understandable to children who have previously struggled with it. Some create cultures of discipline, curiosity and intellectual ambition. Others use technology creatively despite having limited resources.

The city should stop treating these individuals merely as successful teachers. It should treat them as sources of knowledge. The proposed Hub would establish an Exceptional Teacher Laboratory whose purpose would be to answer a deceptively simple question: what exactly does an exceptional teacher do that an average teacher does not?

The investigation would examine how teachers introduce abstract concepts, diagnose learning gaps, motivate learners, structure classroom time, use questioning, explain difficult ideas, use technology, create expectations, manage discipline, identify potential, support struggling learners, encourage independent learning, connect mathematics to everyday life, develop confidence and inspire learners to believe that advanced subjects are within reach.

The objective is not to create a rigid teaching formula. Teaching is not mechanical. The objective is to identify transferable principles of exceptional practice, which can then be converted into teacher-development programmes, classroom resources, mentorship systems and demonstration lessons.

The Hub would become a place where Cape Town does not simply ask how many teachers have we trained. It asks what have our best teachers discovered about teaching children who the system too often assumes cannot succeed.

04 The "Stand and Deliver" Principle

Why expectations determine outcomes

There is a useful international analogy in the story of Jaime Escalante, portrayed by Edward James Olmos in the film Stand and Deliver. Escalante taught mathematics at a disadvantaged school in East Los Angeles and rejected the assumption that socioeconomic disadvantage should determine mathematical achievement.

His philosophy rested on high expectations, intensive teaching, persistence and the conviction that disadvantaged learners could master advanced mathematics.

The lesson for Cape Town is not that one charismatic teacher can solve systemic educational inequality. It is that expectations matter. A system that expects little from children will often produce little. A system that identifies potential, provides exceptional teaching and creates sustained pathways towards excellence can produce outcomes that challenge prevailing assumptions.

Cape Town should therefore seek its own Escalantes. More importantly, it should ensure that their knowledge does not remain trapped inside one classroom. The exceptional teacher should become a teacher of teachers.

05 From Exceptional Individuals to a Replicable System

The Teacher Laboratory cycle

The proposed Teacher Laboratory would establish a structured cycle. Exceptional mathematics, science, technology and coding teachers in under-resourced schools are identified. Researchers, experienced teachers and education specialists observe their classroom practice. Teaching methods, lesson structures, interventions and learner responses are systematically documented.

The Hub examines which practices appear to contribute to improved understanding and performance, and tests promising approaches in additional schools. Methods are adapted to different school environments rather than copied mechanically. Teachers from other schools receive practical training from exceptional practitioners, who become mentors to wider networks.

Learner outcomes, attendance, subject choices and progression are monitored throughout, and successful approaches are progressively introduced across additional schools.

This creates an educational innovation cycle: find what works, understand why it works, test it, improve it, teach others, measure results, and scale it. That is fundamentally different from simply distributing another policy document.

PART THREE

The Learner Academy

06 A Progression Pathway for Learners

Supplementing, not replacing, ordinary schools

The second pillar of the Hub would be a Cape Town STEM and Technology Academy for learners. The Academy would not replace ordinary schools. It would supplement them. Learners from participating schools would attend programmes after school, during weekends and during school holidays, providing opportunities that many schools cannot independently provide because of limitations in facilities, specialist teachers or equipment.

Stage 1: Discover

Children encounter mathematics, science, puzzles, experiments, coding and technology through engaging activities. The objective is curiosity.

Stage 2: Explore

Learners begin structured exposure to mathematics, physical science, computational thinking, coding, robotics, electronics, digital design, engineering, data and artificial intelligence.

Stage 3: Build

Learners begin creating things. They write programs, construct robots, analyse data, design experiments, solve engineering problems, use AI tools and learn how systems work.

Stage 4: Specialise

Learners with demonstrated aptitude move into specialised pathways including computer science, artificial intelligence, software engineering, robotics, cybersecurity, data science, electrical and mechanical engineering, environmental science, biotechnology, mathematics, physics, astronomy and digital engineering.

Stage 5: Compete

Learners participate in mathematics, science, robotics and coding competitions, hackathons, engineering challenges and research projects. Competition becomes a mechanism for discovering and developing excellence.

Stage 6: Connect

Learners are connected with universities, TVET colleges, research institutions, technology companies, engineering firms, professional associations, entrepreneurs and mentors.

Stage 7: Transition

The ultimate objective is not a certificate from the Hub. It is a pathway into university, technical education, internships, employment, entrepreneurship, research and innovation.

PART FOUR

Mathematics First, Technology as the Vehicle

07 Mathematics Comes First

Guarding against a purely technological seduction

One of the greatest risks in an AI-focused education initiative is becoming seduced by technology while neglecting foundational learning. Artificial intelligence does not eliminate the importance of mathematics. It increases it.

Computer science relies heavily upon mathematical reasoning. Data science requires statistics. Machine learning relies upon probability, algebra, calculus and optimisation. Engineering and physics both require mathematics. Even computational thinking depends upon the ability to recognise patterns, relationships and logical structures.

The national Department of Basic Education has itself acknowledged that learners who fail to establish basic literacy and numeracy foundations face significant barriers when progressing into STEM-related subjects, including Coding and Robotics.

The Hub should therefore operate according to a simple educational principle: technology is the vehicle, mathematics is the engine. Children should be taught to calculate, reason, estimate, model, question, test and solve problems.

Coding should not become merely learning programming syntax. Robotics should not become assembling kits. Artificial intelligence should not become asking a chatbot to do homework. Each technological discipline should be used to deepen mathematical and scientific thinking.

08 AI as a Learning Tool, Not an Answer Machine

Understanding the answer, not just producing it

Artificial intelligence creates a new challenge for education. A learner can now obtain an answer to almost any conventional homework problem within seconds. The educational question consequently changes. The objective can no longer be simply whether the learner produces the correct answer. It must increasingly become whether the learner understands the answer.

The Hub should therefore develop an AI-assisted learning model in which AI acts as tutor, explainer, challenger and personalised learning assistant. An AI system could identify that a learner understands algebraic manipulation but struggles with fractions, and generate additional exercises targeted at that specific weakness. Another learner might require visual explanations, more challenging problems, or the same concept explained through engineering or real-world examples.

The principle should be to use AI to strengthen human thinking, not replace it. Learners should be required to explain their reasoning, critique AI-generated answers, identify errors and demonstrate independent understanding. This creates an important new competency: AI literacy. Children should understand not only how to use AI but how to question it.

PART FIVE

Economic and Spatial Impact

09 From the Cape Flats to the Technology Economy

Building the talent pipeline alongside the infrastructure

The Hub should also be understood as an economic-development intervention. Cape Town is developing an increasingly sophisticated technology economy involving software, financial technology, digital services, data infrastructure, artificial intelligence and advanced computing.

Yet the danger is that the physical economy develops faster than the local human-capital pipeline. The city could construct world-class digital infrastructure while importing much of the specialist talent required to operate it, reproducing an old pattern in a new technological form.

The alternative is to build the talent pipeline alongside the infrastructure. The MST Park should become one component of a broader Cape Town strategy: school, MST Hub, university or TVET, internship, technology company, entrepreneur or researcher.

A child in Khayelitsha should be able to enter the programme at primary-school level and understand that there is a continuous pathway leading towards becoming an engineer, software developer, AI researcher, scientist or technology entrepreneur. A child should not have to leave the Cape Flats simply to discover that the technology economy exists.

10 Spatial Justice Through Knowledge Infrastructure

Bringing opportunity into the community, not the reverse

Spatial inequality in Cape Town is often discussed in terms of housing, transport and employment. It should also be understood in terms of knowledge infrastructure. For decades, the metropolitan spatial structure has concentrated many high-value institutions and opportunities away from the communities where large numbers of young people live. The result is not simply longer travel. It affects aspiration, exposure and networks.

The MST Hub would represent a different form of spatial transformation. Instead of requiring disadvantaged communities to travel towards opportunity, part of the city's knowledge infrastructure would be deliberately located within or accessible to those communities, creating a knowledge anchor where a child can encounter a mathematician, an engineer, a scientist, a software developer, an AI researcher, a robotics specialist, a university student, an entrepreneur and an exceptional teacher. This is infrastructure with a different purpose. It builds human capital.

11 A Living Laboratory for Cape Town's Schools

A network, not an isolated elite academy

The Hub should not operate as an isolated elite academy. Its greatest value would be its relationship with ordinary public schools. A network of participating schools could be established across the Metro South East and other underserved communities, each receiving access to teacher mentorship, specialist mathematics support, science and coding resources, robotics equipment, AI learning platforms, learner assessment, enrichment programmes, competitions, university mentorship and career guidance.

The Hub would then function as a central node within a wider educational network. This approach also reflects the direction of South Africa's existing Coding and Robotics programme, where government has recognised the importance of teacher training, higher-education partnerships and appropriate resources. Cape Town should build upon that foundation rather than duplicate it.

PART SIX

Delivery Mechanisms

12 The Exceptional Teacher Fellowship

Changing the status of exceptional teachers

A flagship programme within the Hub should be an Exceptional Teacher Fellowship. Each year, a cohort of outstanding teachers could be selected from under-resourced schools, receiving professional recognition, research support, access to technology, specialist development, mentorship, opportunities to document their teaching, collaboration with universities and opportunities to train other teachers.

The Fellowship would deliberately change the status of exceptional teachers. Instead of asking them simply to teach more learners, Cape Town would ask them to teach the system how to teach better. This is potentially one of the highest-return elements of the entire programme. A new computer laboratory can serve hundreds of children. An exceptional teacher-development model can influence thousands.

13 The Teacher Research Laboratory

A municipal education innovation laboratory

The Hub should establish formal partnerships with universities and education researchers, pursuing questions such as why some learners suddenly develop mathematical confidence, which interventions most effectively close mathematical gaps, what characteristics distinguish exceptional teachers, how teacher expectation affects learner performance, which forms of technology genuinely improve learning, how AI should be integrated into mathematics education, and how successful practices can be sustained when exceptional individuals leave.

The Hub therefore becomes a municipal education innovation laboratory. Its currency is evidence.

14 The Talent Identification System

Distinguishing lack of opportunity from lack of ability

Talent should not be identified solely through school marks. Marks are important, but they are an imperfect proxy for potential. The Hub should develop broader mechanisms for identifying learners who demonstrate mathematical reasoning, curiosity, persistence, spatial reasoning, logical thinking, problem solving, creativity, computational thinking, scientific curiosity and engineering aptitude.

A learner who performs poorly because of gaps in prior education should not necessarily be excluded. The programme should distinguish between lack of opportunity and lack of ability. A child who has never had access to advanced mathematics cannot reasonably be expected to demonstrate advanced mathematical performance. The Hub should therefore identify learning potential, provide opportunity and then observe development.

15 The Talent Ladder

The central logic of Farouk's Vision

The entire programme can ultimately be represented as a single ladder: discover, explore, learn, build, compete, specialise, mentor, intern, study, work, create.

The child who enters because they enjoy solving puzzles should be able to discover mathematics. The child who becomes fascinated by mathematics should discover physics. The child fascinated by physics should discover engineering. The child interested in computers should discover coding. The coder should discover algorithms. The learner fascinated by algorithms should discover artificial intelligence.

The student should encounter a university. The university student should encounter industry. The graduate should eventually return as a mentor. The system therefore becomes circular. Today's learner becomes tomorrow's teacher, engineer, scientist, entrepreneur or researcher.

16 Partnerships

Convening, not replacing, existing institutions

The Hub should deliberately avoid becoming another isolated municipal programme. Its strength should lie in partnership: schools for learner identification and implementation, universities for advanced research and academic pathways, TVET colleges for technical and vocational pathways, technology companies for equipment, mentorship and internships, engineering firms for practical projects, research institutions for scientific projects, civil society for community mobilisation, and international institutions for access to global competitions and knowledge networks.

The municipality's role is not to replace these institutions. It is to convene them around a common metropolitan objective.

17 A Cape Town Model of Public Innovation

The City as platform, not curriculum-setter

There is an important governance principle embedded in the proposal. The City should not attempt to micromanage educational content. Education remains a provincial and national competency. The City can, however, use its powers over municipal facilities, partnerships, economic development, spatial planning, infrastructure and community institutions to create an enabling environment.

The MST Hub should therefore be designed as a partnership model involving the City, Western Cape Education Department, universities, industry and civil society. This makes the initiative institutionally realistic. The City provides the platform. The education system provides pedagogical expertise. Universities provide research. Industry provides exposure and pathways. Exceptional teachers provide practical knowledge. Learners provide the ambition.

PART SEVEN

Measuring Success and the Path Forward

18 Measuring Success

Beyond computers purchased and workshops conducted

The programme must resist the temptation to measure success through the number of computers purchased or workshops conducted. Its ultimate outcomes should include improvement in mathematics and science performance, progression into Mathematics and Physical Sciences, increased participation in Coding and Robotics and in mathematics and science competitions, the number of exceptional teachers identified and mentored, the number of schools participating, learner retention, university admissions, TVET progression, technology-sector internships, employment outcomes, learner-created projects, patents or businesses arising from the programme, participation of women and girls in STEM, and the progression of learners from disadvantaged communities into advanced fields.

The most important metric should ultimately be this: how many young Capetonians who would previously have had little access to the technology economy are now entering it.

19 A Ten-Year Vision

Establish, expand, scale

The first phase should be deliberately modest. In years one and two, the priority is to establish the initiative: identify a site, establish institutional partnerships, appoint a core team, identify exceptional teachers, select pilot schools, establish the learner academy, begin mathematics and coding programmes, and create the Teacher Laboratory.

In years three to five, the priority is to expand: increase participating schools, expand robotics and AI programmes, establish university pathways, introduce competitions, launch teacher fellowships, establish industry mentorship, and develop AI learning platforms.

In years six to ten, the priority is to scale: expand across the Metro South East, create satellite programmes, develop research partnerships, establish international competitions, create technology-sector internship pipelines, measure long-term learner outcomes, and replicate successful teaching methods across the city's schools.

The physical Park would become the anchor. The real Park, however, would be the network of people, schools, teachers, researchers and institutions surrounding it.

CONCLUSION

Finish What Was Started

The most powerful aspect of the MST Park proposal is its history. It represents an idea that existed before artificial intelligence became fashionable. Farouk Cassim identified a fundamental challenge: children in communities excluded from economic opportunity needed access to mathematics, science and technology. The task now is not to replace that vision. It is to finish it.

Cape Town has entered a period in which artificial intelligence, advanced computing, robotics, data science and digital technologies will reshape the economy. The city can respond by waiting for schools, companies and markets to adapt independently. Or it can deliberately construct a human-capital pipeline. The proposed AI, Mathematics, Science and Technology Hub offers such a mechanism.

Its defining innovation should not be the building. It should be the Exceptional Teacher Laboratory. Find the teachers who achieve extraordinary things under difficult circumstances. Study them. Learn from them. Give them resources. Connect them with researchers. Turn their experience into knowledge. Let them teach other teachers. Then give children the foundations they need to take that knowledge further.

Teach mathematics before asking them to understand artificial intelligence. Teach science before asking them to build advanced technology. Teach coding as a form of computational thinking rather than merely computer literacy. Give children robots to build, problems to solve, experiments to conduct and technologies to question. Then connect them to universities, industry and the global economy.

The ultimate ambition should be nothing less than changing the trajectory of a generation. A child from Khayelitsha, Mitchells Plain, Delft or another historically disadvantaged community should be able to enter the programme with curiosity and leave it with a pathway.

Not every child will become an engineer. Not every child will become a mathematician. Not every child will become an AI researcher. That is not the objective. The objective is to ensure that poverty, geography and historical exclusion do not decide in advance who gets the opportunity to become one. That is the deeper meaning of Farouk's Vision.

The MST Park was conceived around mathematics, science and technology. Cape Town's future demands that we take that idea to its logical conclusion. Find the teachers who know how to unlock potential. Give children the mathematical and scientific foundations to develop that potential. Give them access to the technologies of the future. Build the pathways that connect learning to opportunity. And then measure success not by the building we construct, but by the lives that change because it exists.

"Farouk's Vision. Cape Town's Future."

"Don't just bring technology to Cape Town. Build the Cape Towners who will build the technology."

"From the Cape Flats to the world."