Tshwane Varsity Hackathon (TVH) 2025 Problem Statements proposed by City of Tshwane

Stream/ Theme	Description
Health: Informatics	**DEPARTMENT** **BACKGROUND** **CHALLENGE**
Safety: Security and protection of the City	**DEPARTMENT: Tshwane Metro Police Department** **BACKGROUND:** Crimein urban areas is a complex issue rooted in socio-economic and spatial inequalities. Cities, through their developmental responsibilities, are expected to create a safe environment for all residents. Safety is understood as a proactive and integrated approach that addresses the underlying causes of crime. It is also closely linked to municipal security efforts, including municipal policing and infrastructure protection. Crime Prevention Through Environmental Design (CPTED) is a key strategy, involving interventions such as improved street lighting, well-maintained roads, and vegetation management to reduce crime opportunities. However, the effectiveness of these measures is often compromised by ongoing theft and vandalism of municipal infrastructure, which not only affects safety and public trust but also places a financial strain on city budgets. Resources are frequently redirected from essential services to the replacement of stolen or damaged assets. Given the scale and vulnerability of urban infrastructure, cities face significant costs in implementing and sustaining effective security measures, necessitating a

	careful balance between preventative strategies and reactive responses**.** **CHALLENGE** How might we protect municipal infrastructure and enhance urban safety through smart, sustainable and cost-effective design and technology?" **DEPARTMENT: Water and Sanitation**
Service Delivery: 1. **Reserving of water usage and supply for the City**	**BACKGROUND:** There are many car washes in the city. Formal and informal which consume a lot of water and some without paying for it. **CHALLENGE:** Develop a solution where the city can identify car washes both formal and informal and also account for the consumption of water and losses and how to reduces water losses from car washes. The solution must also address how the city can sell water to informal car washes. **DEPARTMENT**
Education: Academic operations	**BACKGROUND** **CHALLENGE**

TVH Trends:
   1. **Fin-Tech**
   2. **Climate Change**
   3. **Township Economy**
	DEPARTMENT: Economic Development And Spatial Planning
	
	Problem Statement: Unlocking Digital Innovation for Township Economic Revitalisation
	
	BACKGROUND:
	
	Townships across Gauteng—and particularly within the City of Tshwane—are home to dynamic informal economies, are rich in entrepreneurial energy and community resilience. Decades of spatial exclusion, underinvestment, and systemic barriers though have left township enterprises disconnected from mainstream economic activity.

In response, the Gauteng Township Economic Development Act (2022) was enacted to transform townships into productive economic zones. The Act amongst others: promotes the creation of Township Enterprise Zones, supports local manufacturing and services, calls for innovative partnerships collaboration between government, private sector, and civil society, promotes procurement from township-based suppliers and service providers, prioritizes the inclusion of historically disadvantaged individuals and calls for the establishment of Township Enterprise Zone Coordination Centres etc. to unlock inclusive growth.

Similarly, the recently approved City of Tshwane Economic Revitalisation Strategy (TERS) (2025 - 2029) seeks to revitalise Tshwane's economy by creating an enabling environment for investment, enterprise development, and job creation. It responds to years of economic stagnation and aims to reverse the decline in growth—from 6% in 2011 to just 0.3% in 2023. It seeks to attract R17 billion in investment and create 80,000 jobs by 2029 through e.g. supporting township economies, in-line with the TEDA Act, investing in workforce and talent development, promotion of informal and township economies, promotion of economic diversification and industrialisation, improve the ease of doing business etc. The TERS adopts an inclusive approach, which is set to establish interventions, determine effective ways to achieve them, assess as well as report on progress supported by data and innovation. It further aims to address the City's challenges and create jobs through eleven clusters/pillars which include: informal and township economy revitalisation, digital transformation, the circular economy, agriculture and agro processing, research and innovation, automotive sector, Tourism and MICE, diplomatic economy, student economy, construction economy. The Micro, Small and Medium Enterprises (MSME) empowerment is at the heart of its agenda.

Despite these progressive frameworks, township entrepreneurs continue to face persistent challenges:

- Limited access to digital tools and platforms
- Limited broadband access
- Poor visibility in formal markets
- Fragmented support ecosystems
- Inadequate infrastructure and financial exclusion
- A lack of scalable, locally grounded innovations
- Lack of affordable operating business infrastructure
- Low skills-base amongst many entrepreneurs
- Unstable electricity supply
- Adverse general socio-economic circumstances preventing ICT adoption

	CHALLENGE:
	How might we design tech-enabled solutions that directly support the revitalisation of township economies in Gauteng—especially within the City of Tshwane?
	Participants are invited to develop digital innovations that:
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	• Strengthen visibility and market access for township businesses
	• Improve access to finance, infrastructure, or operational tools
	• Foster collaboration among local entrepreneurs and support agencies
	Align with the goals of the Township Enterprise Zones and Tshwane's revitalisation targets
	Are scalable, inclusive, and grounded in the lived realities of township communities