Start-Up Community of Practice Quarterly Call 14: Technology to Implementation: Turning Start-Up Innovation into Utility Impact

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Featuring: **Deon de Jager**, Deputy Director: Water Services, Civil Engineering Services Departments (George Municipality), **Dr. Alex Sinske**, CTO (GLS Consulting), **David Monteiro**, Director of Customer Success (Qatium) & Tertius Rust, Founder (TICC)

Attending Organisations: Connected Things, George Municipality, GLS Consulting, Pluvion, Pump Academy, Qatium, TICC

I. Background

Many utilities are eager to leverage innovative technologies developed by international start-ups, yet implementation often proves more challenging than the technology. This session explored how international start-ups can navigate local regulations, procurement requirements, operational realities, and change management to create lasting impact.

Using a real-world case study from George Municipality in South Africa, the panel shared lessons from a partnership between Qatium, GLS Consulting, TICC, and the municipality to implement a digital twin solution focused on reducing water losses and improving network visibility.

II. The Challenge: From Fragmented Systems to Operational Intelligence

When Deon De Jager joined George Municipality, the utility was managing multiple disconnected monitoring platforms, manual data collection processes, and inconsistent network information. Over several years, investments were made in bulk meters, SCADA systems, pressure sensors, and smart water meters, but this created an additional challenge: too many isolated systems and insufficient integration.

The municipality ultimately partnered with TICC to identify an innovation pathway and was introduced to Qatium's digital twin platform. Together with GLS Consulting's hydraulic modelling expertise, the team began integrating existing systems into a single environment capable of supporting operational decision-making and early warning capabilities.

III. Building the Partnership: Technology Alone Is Not Enough

Key Roles

- Qatium: Digital twin technology and platform development

- GLS Consulting: Hydraulic modelling, engineering expertise, and local implementation support
- TICC: Innovation management, procurement guidance, and change management
- George Municipality: Operational leadership, implementation, and utility oversight

Successful implementation required more than selecting the right technology. Each partner contributed expertise that helped navigate technical and organisational challenges.

A recurring theme was the importance of local knowledge. Whilst international start-ups can provide world-class technology, **success often depends upon local partners who understand procurement processes, regulations, political realities, and utility culture**. As Tertius noted, "boots on the ground" and established relationships can dramatically accelerate implementation outcomes.

IV. Moving from Pilot to Implementation

Key Indicators of Success:

- Improved data quality
- Reliable early warning alerts
- Reduced non-revenue water
- Increasing operational adoption

The project evolved from a proof of concept into a practical operational tool. One of the most important breakthroughs occurred when improvements in sensor quality and hydraulic modelling enabled the digital twin to accurately reflect real-world network behaviour. The municipality began receiving meaningful alerts that allowed teams to respond quickly to incidents and verify recovery after corrective actions had been taken. This demonstrated value and built confidence amongst stakeholders.

For George Municipality, the ultimate measure of success remains straightforward: accurately measuring and reducing water losses and non-revenue water, a core performance metric monitored by both the municipality and national oversight bodies.

V. Change Management: The Human Side of Innovation

The conversation emphasised that technology adoption is fundamentally a people challenge. Tertius explained that innovation succeeds when there is a clear performance gap that existing approaches can no longer address. Organisations need a compelling reason to change before new technology can gain traction.

The role of leadership was highlighted as particularly important. Successful implementation requires leaders who can guide teams through uncertainty, challenge existing processes, and support new ways of working. Dr. Alex Sinske emphasised that dedicated change-management support was essential for helping the municipality embrace new technology rather than reverting to familiar habits.

VI. Lessons Learned

The panel shared several important takeaways for start-ups, consultants, and utilities seeking to replicate similar projects:

1. **Start Small and Scale Gradually:** Rather than deploying across an entire network immediately, begin with smaller pilots or district metering areas (DMAs), validate results, and expand incrementally.
2. **Prioritise Data Quality:** A digital twin is only as valuable as the data feeding it. The team discovered that nearly one-third of their sensors initially produced unreliable data, highlighting the importance of early validation.
3. **Build with Experienced Partners:** Innovation introduces sufficient uncertainty on its own. Bringing in specialists who have mastered the underlying fundamentals significantly improves the likelihood of success.
4. **Communication Builds Trust:** Open communication about challenges, bottlenecks, and expectations helped all parties maintain momentum throughout the project. As Tertius summarised: **"Consistency over time equals trust."**
5. **Focus on Long-Term Adoption:** Success is not the pilot itself. Success is achieved when the technology becomes embedded within day-to-day operations, supported by budgets, processes, and people across the organisation.

VII. Discussion

The community discussion explored procurement challenges, local regulatory requirements, and the role of trusted local partners in helping international start-ups navigate unfamiliar utility markets.

The conversation concluded with a question from Murali Krishna Bandaru (Pump Academy) on how start-ups can pursue opportunities with government and utility customers whilst maintaining ethical business practices. The panel emphasised that **long-term success depends on organisational integrity, transparent relationships, and creating measurable value for customers**. While procurement processes and market conditions can vary significantly between regions, trust, consistency, and professionalism remain essential to building sustainable utility partnerships.

VIII. Conclusion

The session demonstrated that successful digital transformation requires far more than innovative technology. Turning start-up innovation into utility impact depends on strong partnerships, local expertise, change management, and long-term adoption.

For utilities, the lesson was clear: innovation succeeds when technology is paired with operational ownership and organisational readiness**. For start-ups, the discussion reinforced the value of local partners who can bridge regulatory, procurement, and cultural challenges.**

The call concluded with a simple but powerful message: lasting impact is created when technology providers, consultants, and utilities work together to build trust, solve real operational problems, and create sustainable pathways to implementation.