

Emerging Market Challenges



An interview with Werner Cilliers, Director and Founder of WRB-Global (Pty) Ltd about biometric challenges in emerging markets: price, connectivity, power, and scalability.

The first biometric systems were developed in highly industrialized nations, including France, Japan, the United Kingdom, and the United States. As such, the developers unconsciously assumed that the conditions in their headquarters were universal.

However, many of the assumptions that apply in highly industrialized nations do not apply in emerging markets, complicating the deployment of biometric solutions in these markets.

Challenges in emerging markets

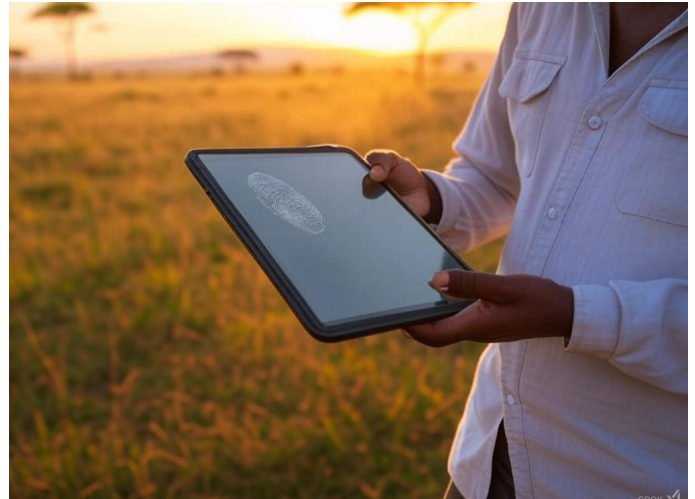
Werner Cilliers, Director and Founder of WRB Global (Pty) Ltd, provides international procurement expertise throughout Africa and around the world. He has been a partner of Integrated Biometrics for years and serves clients throughout Africa and elsewhere.

Cilliers identifies four major challenges facing his clients, who often struggle with issues related to price, connectivity, power, and scalability.

Price

Governments in emerging markets do not have the funding resources enjoyed by more developed nations. Therefore, emerging markets often depend upon funding provided by non-governmental organizations (NGOs). These limitations, coupled by the other challenges below, have occasionally resulted in the cancellation of desperately needed projects because the funds have run out.

“Cost remains the primary barrier to adopting internationally accredited solutions in the African market.”



Connectivity

The assumption that all locations have wired or wireless Internet access does not hold true in some remote areas of emerging markets.

As Cilliers notes:

“We’ve developed innovative solutions, such as hand-delivered encrypted data sticks and dedicated satellite internet for batch downloads. We also emphasize the need for hardware that is lightweight and autonomous without sacrificing quality or usability.”

Because of connectivity solutions, it is essential that deployed software:

- Implement batch downloads that can resume from the last successful point after a signal interruption.
- Optimize data package sizes, as smaller packages enhance transmission efficiency and synchronization speed.

Power

In some cases, power is unreliable or simply unavailable.



“In regions with unreliable power, our kits require substantial battery capacity, solar backup—especially in sunny areas—and, occasionally, generators that may supply unstable, “dirty” power that can damage equipment.”

Scalability

Competitors provide experience with large national systems. However, because of the constraints mentioned above and for other reasons, a single national system is not suitable for Cilliers’ clients. Clients require systems with multiple levels, usually these four:

1. Kits talk to local hub
2. Local hubs talk to regional hub
3. Regional to Provincial (equivalent to a USA state)
4. Provincial to National

Each level requires deduplication and consolidation of data before it is moved up the chain. After processing at the national level, data needs to move back down the chain for issuing of IDs or payroll checks.

In Cilliers’ experience, steps 2 and 3 are the most problematic, as local data must move to the regional and then the provincial level. Since these data transfers are often performed offline in batches, it is possible that a regional or provincial system must receive 40,000 or more records a week, overwhelming the system capacity.

WRB Global needs to work with biometric hardware and software vendors who not only address the four major challenges listed above, but can also meet tight manufacturing, delivery, and deployment deadlines. This requires vendors who can operate in-country during the deployment period and adapt to cultural sensitivities.

IB360 in emerging markets

During the COVID pandemic, Cilliers and WRB Global realized that a better solution was needed for emerging markets. For this reason, he has been involved with the IB360 solution from Integrated Biometrics since its inception and has tested the solution since the middle of 2023.

He observes: “IB360 offers a significantly lower cost structure, integrates seamlessly with other solutions, and reduces hardware requirements to a quarter of existing options, effectively halving costs. It’s scalable for both small and large populations, user-friendly for training purposes, and customizable to meet client needs. Importantly, it allows clients to visualize concepts before making substantial investments.”

“Ownership of solutions is critical in Africa. Clients who have invested considerable time and money into non-biometric solutions value the ability of programs like IB360 to integrate easily.”
