

Recommendations on Digital Adoption and Scaling-Up



**Driving EU-African Trade
by Food Chain Innovations**

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A STARTING POINT

In recent years, digital transformation has been widely described as a key pathway to economic growth, food security and trade integration across Africa. Mobile technologies, digital platforms and data-driven systems promise to connect farmers to markets, improve productivity and strengthen supply chains.

At first glance, the vision is compelling. But as one moves closer to everyday agricultural realities, a more complex picture emerges. The challenge is not a lack of ideas or technologies. The challenge lies in making these technologies work in real environments, shaped by uncertainty, social relations and informal systems.

WHAT WE OBSERVED

Across different countries and contexts, a common pattern appears. Digital tools are present, but they are not always central to daily practice. Farmers, traders and intermediaries often rely on experience, trust and personal networks. Mobile phones are widely used, yet digital systems rarely replace existing ways of working.

Instead, they are added to them. Markets are frequently informal, and transactions depend as much on relationships as on prices. Information is shared through conversations as much as through applications. In such environments, digitalisation does not simply introduce efficiency. It interacts with existing social and economic structures.

WHY THIS MATTERS

This gap between policy ambition and everyday practice is crucial. Many digital strategies assume formal systems, stable infrastructure and individual users with consistent access to devices and data. In reality, connectivity can be unreliable, devices are often shared, and digital literacy varies widely.

As a result, even well-designed tools may struggle to scale. The issue is not resistance to innovation, but a mismatch between design and context. Understanding this gap is essential for developing meaningful policy responses.



Cattle farming in Nyagatare, Rwanda, photographed in 2022

METHODOLOGICAL APPROACH

The findings presented here are based on a mixed-methods approach combining quantitative and qualitative research. Two surveys were conducted within the STREAMING project, together, they capture perspectives from institutional stakeholders as well as actors operating within local agricultural markets.

These data were complemented by a systematic review of existing literature and targeted field research. In February 2026, a research stay in Rwanda provided direct insights into agricultural practices and market dynamics, including visits to a mushroom farm and a potato cultivation system. This combination of surveys, literature and field observations allows for a grounded understanding of how digital tools are actually used in practice.

BARRIERS IN CONTEXT

Several constraints shape digital adoption. Infrastructure remains uneven, particularly in rural areas where electricity and connectivity are not always reliable. Costs for data and devices can be prohibitive. At the same time, digital tools often require skills that are not universally available. Economic considerations also play a central role. If a tool does not provide immediate and visible benefits, it is unlikely to be used consistently. Trust is equally important. Systems that are perceived as complex or external may not be adopted, especially if they do not align with existing practices.



Tea plantations at Sorwathe, Kinihira, Rwanda, photographed in 2025



*Banana plantation in Rubavu,
photographed in 2026*

OPPORTUNITIES THAT EMERGE

Despite these challenges, digital transformation holds significant potential. When aligned with local realities, digital tools can improve access to information, strengthen coordination within value chains and support market integration. They can also help meet international standards and facilitate trade, particularly in the context of regional integration.

Importantly, some of the most promising innovations emerge locally. Start-ups, cooperatives and small enterprises are developing solutions that are tailored to specific contexts. These initiatives show that digital transformation is most effective when it grows from within the system rather than being imposed from outside.

A SHIFT IN PERSPECTIVE

The central insight of this work is that digital transformation should not aim to replace existing systems, but to work with them. Informal markets, social networks and local knowledge are not obstacles. They are fundamental components of how agricultural systems function.

Policies and digital tools should therefore be designed to support these structures. This requires flexibility, simplicity and a strong focus on users' needs.

KEY DIRECTIONS FOR POLICY

Based on these findings, several directions emerge. Investments in infrastructure remain essential, as do efforts to improve digital skills. At the same time, systems should be designed to be accessible, affordable and adaptable. Step-by-step approaches to standardisation can help avoid overburdening users. Inclusion is particularly important. Women, older persons and other groups often face additional barriers to access. Addressing these inequalities is not only a matter of fairness, but also of effectiveness.

Key recommendations - The following principles are essential:

- 1 Invest in basic infrastructure
- 2 Design simple and user-friendly systems
- 3 Strengthen digital skills through practical training
- 4 Introduce standards gradually
- 5 Improve coordination between institutions
- 6 Simplify compliance processes
- 7 Ensure inclusion of vulnerable groups
- 8 Support local innovation
- 9 Strengthen data systems
- 9 Invest in research and evidence



*Mushroom Farm, Rubavu, Rwanda,
photographed in 2026*

CONCLUSION

Digital transformation in African agrifood systems is not a simple story of technology adoption. It is a process shaped by people, practices and institutions. When digital tools are aligned with these realities, they can create meaningful change.

The challenge, therefore, is not to introduce more technology, but to ensure that technology fits the world in which it is used. This is where policy can make a difference.



ABOUT STREAMING

The EU project **STREAMING** (*Sustainable Trade Regimes with Europe and Africa through Mapping Innovation, New Technology and Growth Mindset*) brings together partners from Europe and Africa to develop digital solutions for sustainable trade and traceability in food value chains. The project is funded under Horizon Europe and runs from February 2025 to July 2028. With a total budget of around €4.45 million, an international consortium of 15 partner organisations in 11 countries is working together – including the Bundesverband IT-Mittelstand e. V. (BITMi) as the German partner.

Specifically, the project aims at:



STREAMING project aims to develop strategies for fair, healthy, and environmentally sustainable food systems across the continent. By fostering connections between basic research and practical implementation,



STREAMING seeks to promote innovation and entrepreneurship among various target groups, including women, researchers, students, and farmers.



The project aims to bridge academia-industry gaps and promote the adoption of sustainable practices and technologies in African food trade systems. Additionally, with a focus on policy analysis and recommendation.



The project aims to inform trade policies in Africa and Europe, with an emphasis on removing non-tariff barriers to trade and enhancing resilience against external challenges such as climate change. By integrating stakeholder perspectives, empirical research, and innovative solutions.

CONTACT

STREAMING - Sustainable Trade
Regimes with Europe and Africa through
Mapping Innovation, New-technology and
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