AI DIFFUSION AND POLICY IN AFRICA – EXPERIMENTAL DATA

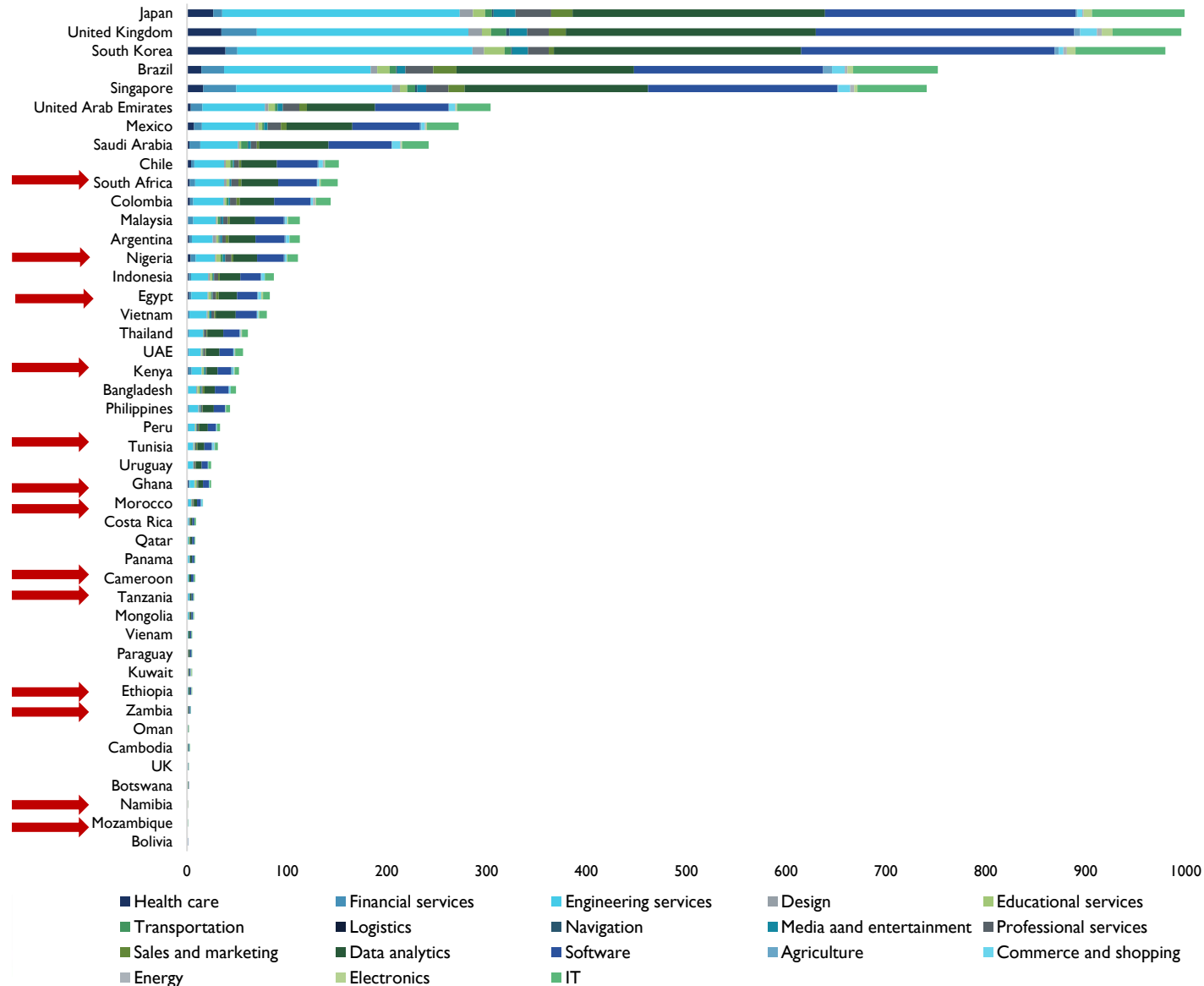KATI SUOMINEN – KATI@NEXTRADEGROUPLLC.COM

DECEMBER 2023

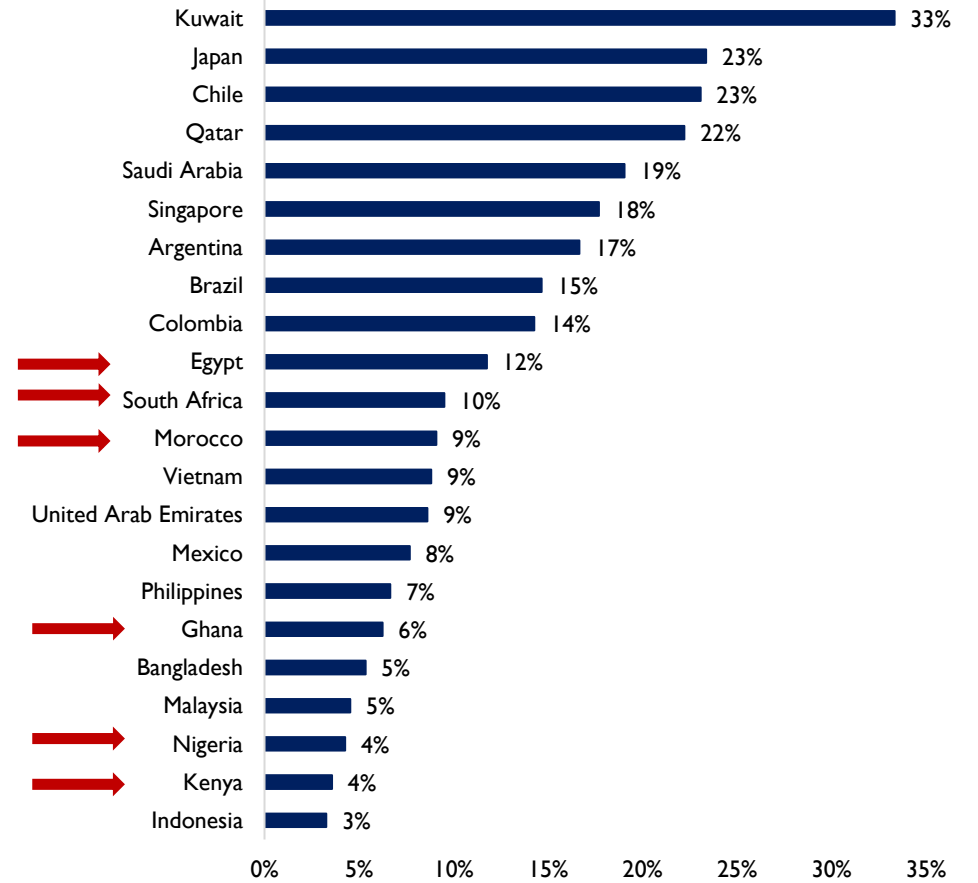# DIFFUSION OF AI AND POLICIES CONDUCIVE TO AI IN AFRICA: MAIN CONCLUSIONS

- Growing numbers of African startups are founded with AI-driven business models, for example in logistics, finance and healthcare

- AI use is diffusing also among African SMEs, with majorities of SMEs reporting some AI use cases
  - "AI Superuser" SMEs are better performing, export-driven firms that invest heavily in AI
  - "AI Sporadics" are more likely to be micro enterprises in rural areas and invest only a little in AI

- AI diffusion and AI-enabling policies correlate: Countries with a high density of AI-driven startups and large share of SMEs that use AI intensively also have in place policies that encourage AI adoption and use

- Africa is behind other parts of the world in adopting policies conducive to the diffusion and use of AI, including in the future AFCFTA Digital Protocol – this opens a work agenda for the eTrade and Tech for Trade Alliances

AI-DRIVEN BUSINESS MODELS ARE PREVALENT AMONG NEW STARTUPS

Startups founded in 2000-23 with AI-driven business models: Africa has >550 and is still nascent compared to global benchmarks
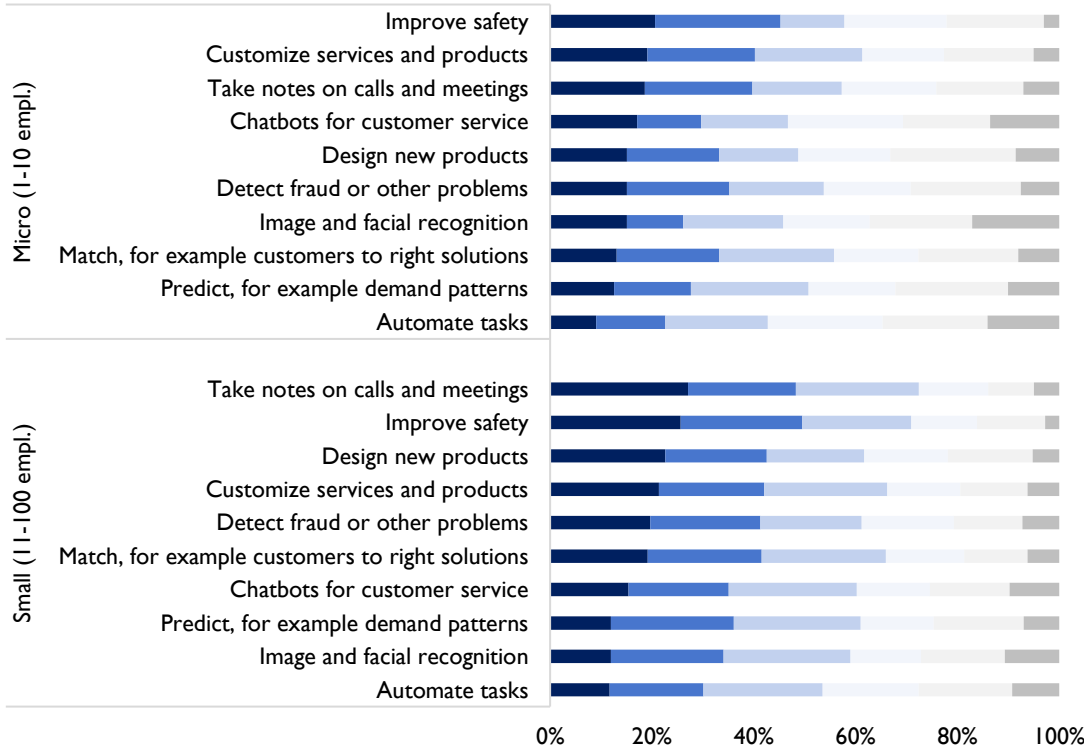
Share of AI-driven startups of all startups created in 2023, by country

Left chart categories (legend):
- Health care
- Financial services
- Engineering services
- Design
- Educational services
- Transportation
- Logistics
- Navigation
- Media aand entertainment
- Professional services
- Sales and marketing
- Data analytics
- Software
- Agriculture
- Commerce and shopping
- Energy
- Electronics
- IT

Left chart countries (top to bottom): Japan, United Kingdom, South Korea, Brazil, Singapore, United Arab Emirates, Mexico, Saudi Arabia, Chile, South Africa, Colombia, Malaysia, Argentina, Nigeria, Indonesia, Egypt, Vietnam, Thailand, UAE, Kenya, Bangladesh, Philippines, Peru, Tunisia, Uruguay, Ghana, Morocco, Costa Rica, Qatar, Panama, Cameroon, Tanzania, Mongolia, Vienam, Paraguay, Kuwait, Ethiopia, Zambia, Oman, Cambodia, UK, Botswana, Namibia, Mozambique, Bolivia

Right chart — Share of AI-driven startups of all startups created in 2023, by country:
- Kuwait — 33%
- Japan — 23%
- Chile — 23%
- Qatar — 22%
- Saudi Arabia — 19%
- Singapore — 18%
- Argentina — 17%
- Brazil — 15%
- Colombia — 14%
- Egypt — 12%
- South Africa — 10%
- Morocco — 9%
- Vietnam — 9%
- United Arab Emirates — 9%
- Mexico — 8%
- Philippines — 7%
- Ghana — 6%
- Bangladesh — 5%
- Malaysia — 5%
- Nigeria — 4%
- Kenya — 4%
- Indonesia — 3%

Source: Nextrade Group calculations based on Crunchbase

ALSO AFRICAN SMES (NOT STARTUPS) USE AI IN VARIOUS WAYS; >50% REPORT USING AI INTENSIVELY

SMEs' AI use cases

Micro (1-10 empl.)
- Improve safety
- Customize services and products
- Take notes on calls and meetings
- Chatbots for customer service
- Design new products
- Detect fraud or other problems
- Image and facial recognition
- Match, for example customers to right solutions
- Predict, for example demand patterns
- Automate tasks

Small (11-100 empl.)
- Take notes on calls and meetings
- Improve safety
- Design new products
- Customize services and products
- Detect fraud or other problems
- Match, for example customers to right solutions
- Chatbots for customer service
- Predict, for example demand patterns
- Image and facial recognition
- Automate tasks

Legend:
- We have used >5 years
- We have used 3-5 years
- We have used 1-2 years
- We have used <1 year
- We plan to use in 2024
- We do not use or plan to use

Diffusion and intensity of AI use among SMEs

Micro (1-10 empl.)
- 16%
- 23%
- 26%
- 25%
- 10%

Small (11-100 empl.)
- 20%
- 33%
- 24%
- 18%
- 6%

Legend:
- **Highly intensively** - AI does most of the work in the area it is used in
- **Intensively** - AI significant complements staff in the area it is used in
- **Somewhat intensively** - AI is being used every now and then to support staff
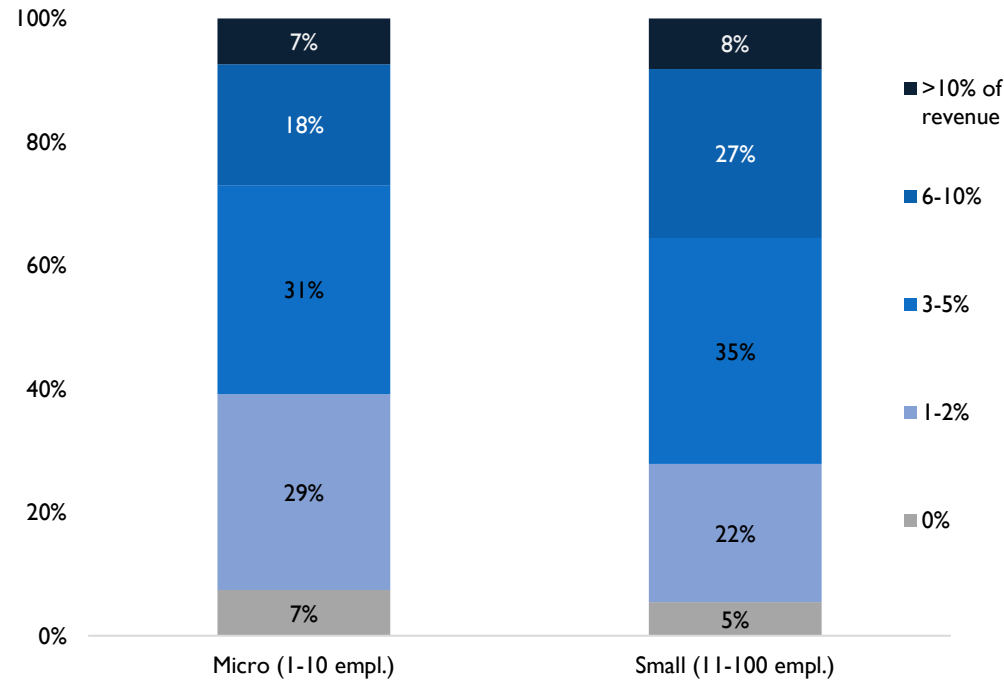- We use only sometimes in some functions
- We do not use

Superusers:
- More médium sized: 60% have >25 employees
- 78% report "very significant" spend on AI
- Export-driven: >Over 80% export
- Most in large urban áreas; only 8% rural
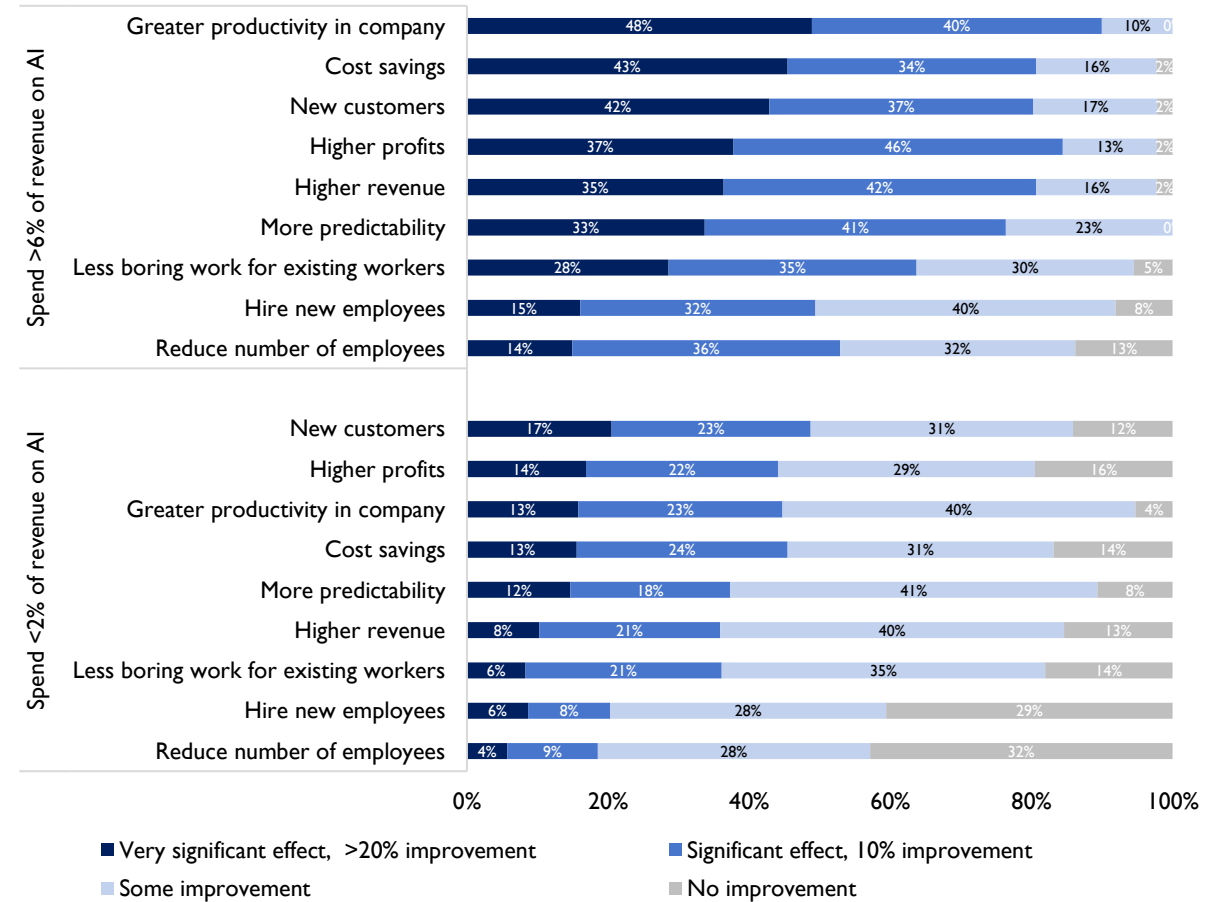
Sporadic users
- More micro: 40% have >25 employees
- Only 16% report "significant spend" on AI
- Only ~50% export to at least one market
- Mostly in large urban áreas; 15% rural

MOST SMES SPEND 3% OR MORE OF REVENUE ON AI; THOSE THAT SPEND MOST ALSO REAP GAINS

Emerging market SMEs' AI spending: ~60% of SMEs spend 1-5% of their revenues on AI-driven services, a third spend even more


Legend:
- ■ >10% of revenue
- ■ 6-10%
- ■ 3-5%
- ■ 1-2%
- ■ 0%

Micro (1-10 empl.): 7%, 18%, 31%, 29%, 7%
Small (11-100 empl.): 8%, 27%, 35%, 22%, 5%

SMES' gains from AI use, by intensity of investment in AI

Spend >6% of revenue on AI

	Very significant effect, >20%	Significant effect, 10%	Some improvement	No improvement
Greater productivity in company	48%	40%	10%	0
Cost savings	43%	34%	16%	2%
New customers	42%	37%	17%	2%
Higher profits	37%	46%	13%	2%
Higher revenue	35%	42%	16%	2%
More predictability	33%	41%	23%	0
Less boring work for existing workers	28%	35%	30%	5%
Hire new employees	15%	32%	40%	8%
Reduce number of employees	14%	36%	32%	13%

Spend <2% of revenue on AI

	Very significant effect, >20%	Significant effect, 10%	Some improvement	No improvement
New customers	17%	23%	31%	12%
Higher profits	14%	22%	29%	16%
Greater productivity in company	13%	23%	40%	4%
Cost savings	13%	24%	31%	14%
More predictability	12%	18%	41%	8%
Higher revenue	8%	21%	40%	13%
Less boring work for existing workers	6%	21%	35%	14%
Hire new employees	6%	8%	28%	29%
Reduce number of employees	4%	9%	28%	32%

- ■ Very significant effect, >20% improvement
- ■ Significant effect, 10% improvement
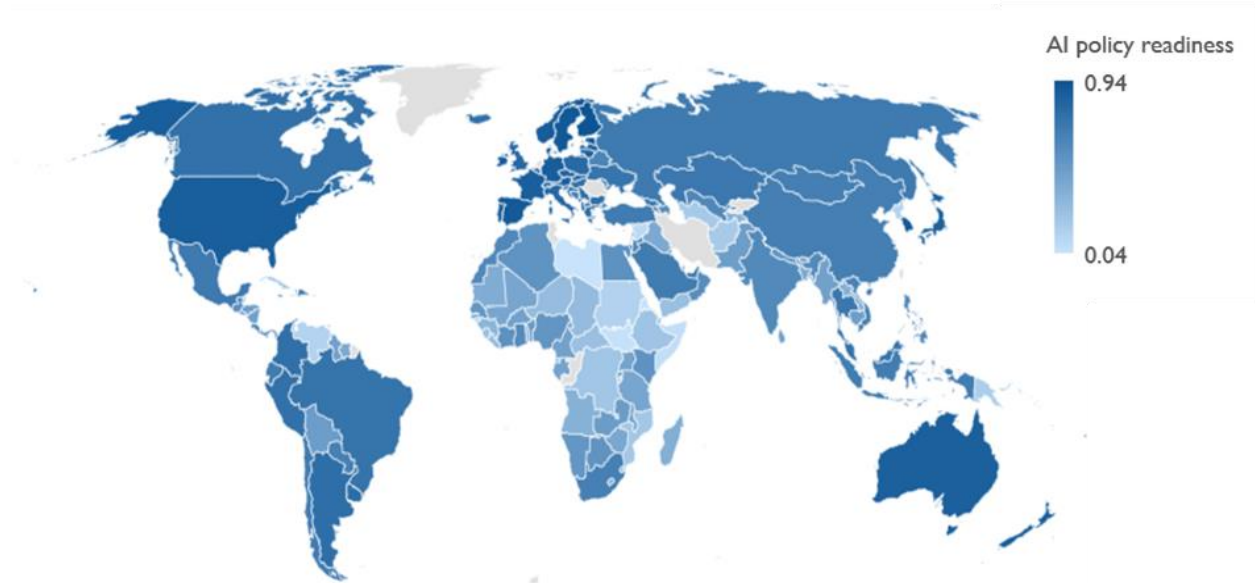- ■ Some improvement
- ■ No improvement

PROMOTING AI DIFFUSION AND USE CASES THROUGH POLICY:
ADOPTION OF 14 AI-ENABLING POLICIES IN 190 COUNTRIES → AFRICA NEEDS TO CATCH UP

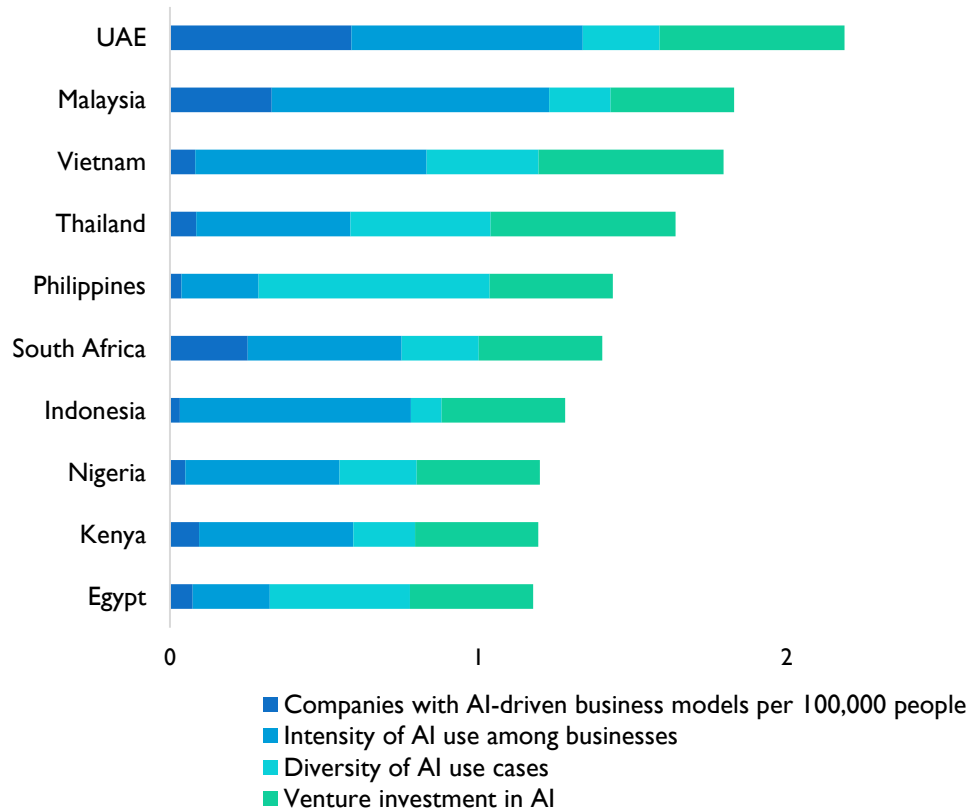## Nextrade AI Policy Readiness Index, by region
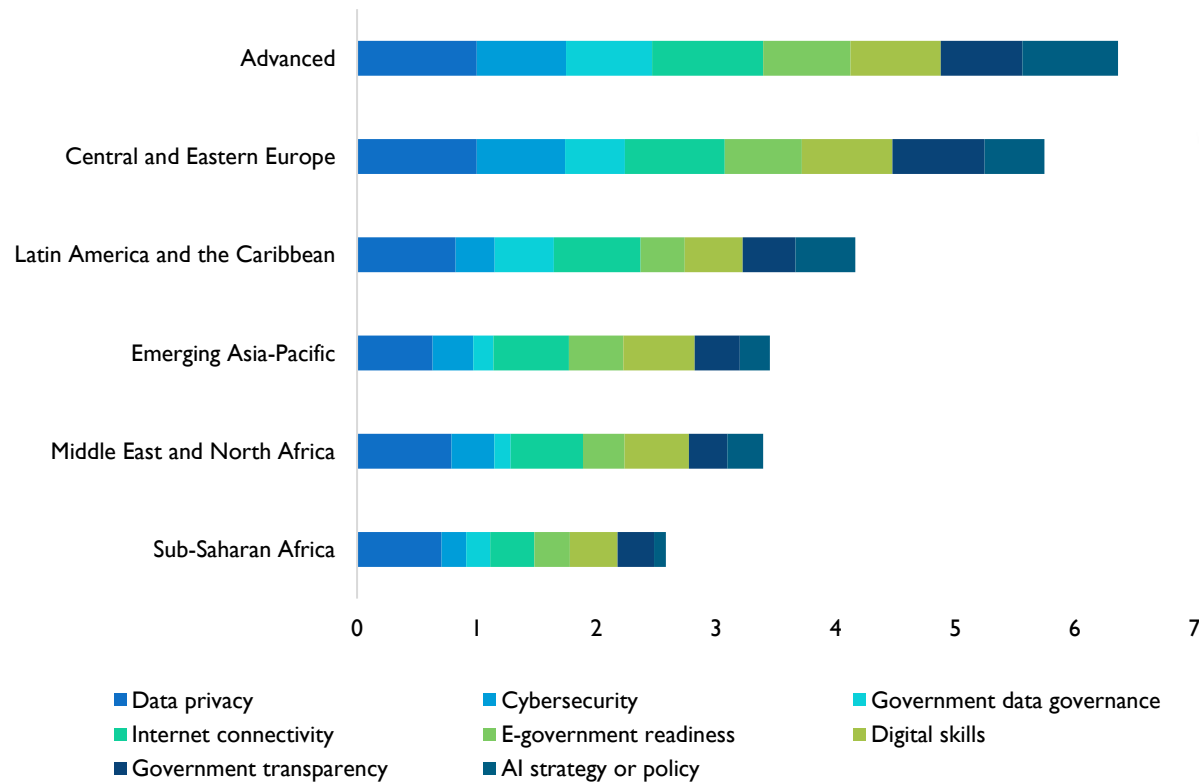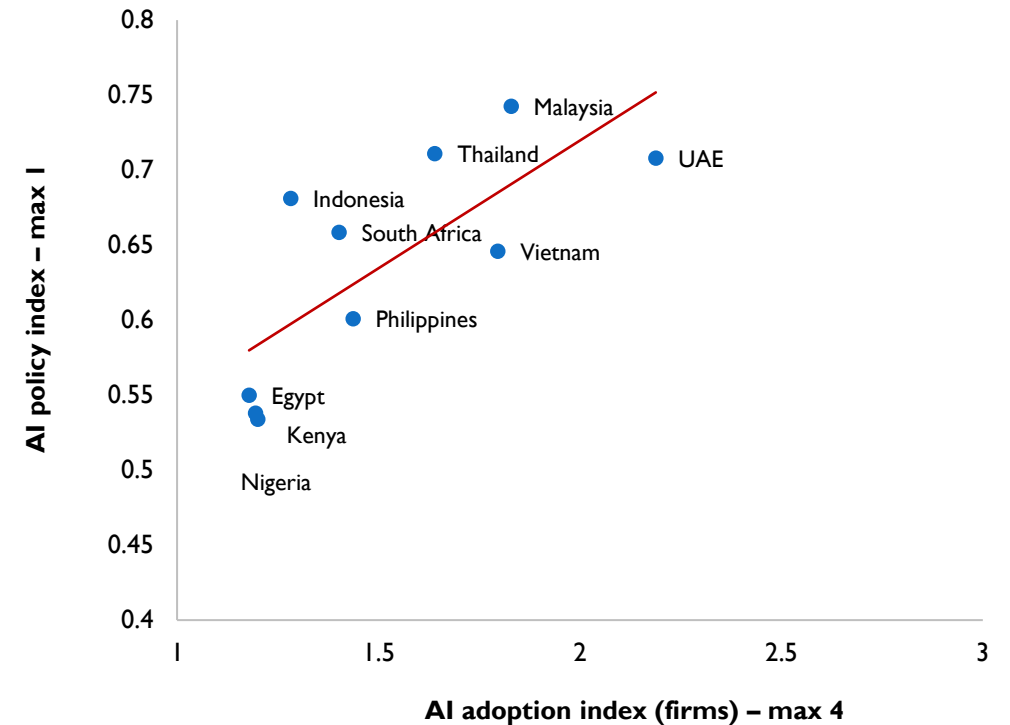
AI policy readiness by country

Source: Nextrade Group. Note – AI strategy is broken into 6 further components like whether government promotes interoperability in AI governance with other countries and encourages risk-based assessments.

DIFFUSION OF AI AMONG SMES IS CORRELATED WITH THE ADOPTION OF AI-ENABLING POLICIES (DATA TO BE EXPANDED IN 2024)

Index of prevalence and intensity of AI use among emerging market startups and SMEs (max: 4)

- ■ Companies with AI-driven business models per 100,000 people
- ■ Intensity of AI use among businesses
- ■ Diversity of AI use cases
- ■ Venture investment in AI

AI adoption by businesses and AI policy readiness, selected economies

AI policy index – max 1
AI adoption index (firms) – max 4
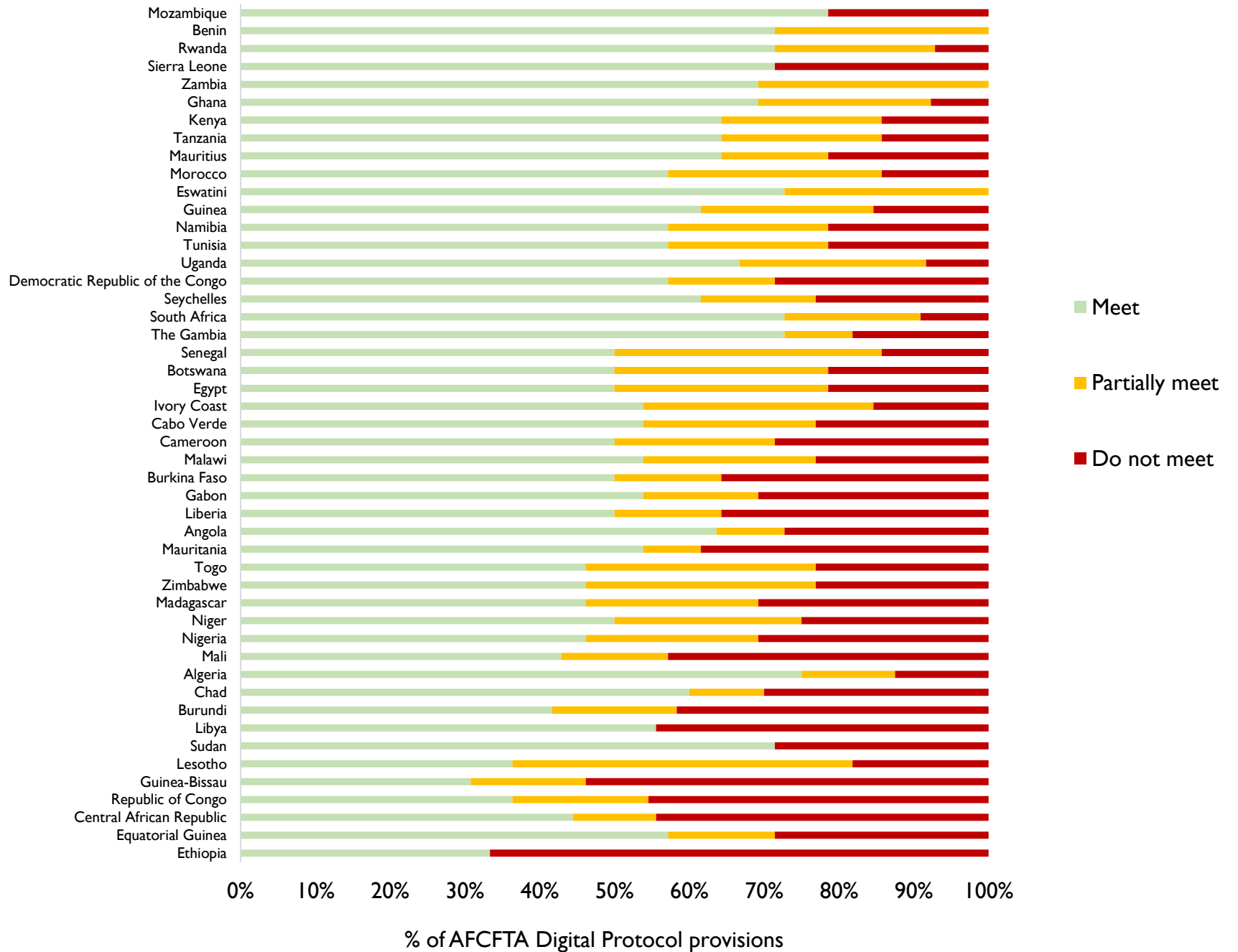
Source: Nextrade Group, 2023.

NEXT STEPS FOR TECH FOR TRADE AND ETRADE ALLIANCES IN 2024

- In 2024, we will continue deepening on these data and policy prescriptions via **dialogues with African governments on the AFCFTA Digital Protocol and AI Strategy**

  - Aiming to start with East Africa

- **Policy dialogues continue to be held regularly with USG** as on AI, DPIs, data transfer, etc.

  - Next one planned for end of February on DPIs and government procurement

- Nextrade Group will also bring **data on the extent to which African governments adopt and implement the AFCFTA Digital Protocol**, to:

  - Identify countries that need technical assistance to adopt appropriate laws and regulations

  - Monitor countries' compliance with their AFCFTA commitments

  - See our AFCFTA Digital Protocol implementation data below – final data out in Q1 2024

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World trade is changing. Are you?

Do African countries meet <u>potential</u> 20 provisions of the AFCFTA Digital Protocol (if the protocol is USMCA digital trade chapter-style)?

Most countries at are 30-50% from full implementation

% of AFCFTA Digital Protocol provisions

Legend: Meet, Partially meet, Do not meet

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Example of mapping - meet **potential** 20 provisions of the AFCFTA Digital Protocol?

Legend: Meet (green) · Partially meet (yellow) · Do not meet (red)

Country	Egypt	Botswana	Ghana	Kenya	Morocco	Mozambique	Namibia	Niger	Nigeria	Rwanda	South Africa
Electronic transaction framework	Meet	Meet	Meet	Meet	Meet	Meet	Meet	Meet	Do not meet	Meet	Meet
Electronic signatures admissible, legal, and enforceable	Meet	Meet	Meet	Meet	Meet	Meet	Meet	Do not meet	Meet	Meet	Meet
Moratorium on customs duties on electronic transmissions	Meet	Meet	Meet	Meet	Do not meet	Meet	Meet	Meet	Meet	Meet	Meet
Data privacy law in place	Meet	Meet	Meet	Meet	Meet	Do not meet	Partially meet	Meet	Meet	Meet	Meet
Free crossborder transfer of data of personal information	Partially meet	Partially meet	Partially meet	Partially meet	Partially meet	Meet	Meet	Partially meet	Partially meet	Partially meet	Partially meet
Online consumer protection regulation	Meet	Meet	Meet	Meet	Meet	Meet	Meet	Do not meet	Do not meet	Meet	Meet
Cybersecurity capabilities	Partially meet	Do not meet	Do not meet	Do not meet	Partially meet	Do not meet	Do not meet	Do not meet	Partially meet	Do not meet	Do not meet
Paperless trade - Information on the Internet	Do not meet	Meet	Meet	Do not meet	Meet	Meet	Meet	Do not meet	Meet	Meet	Meet
Paperless trade - Accept digital trade documents	Partially meet	Partially meet	Meet	Meet	Meet	Meet	Partially meet	Meet	Meet	Meet	-
Crossborder paperless trade	Do not meet	Do not meet	Partially meet	Partially meet	Partially meet	Do not meet	Do not meet	Partially meet	Do not meet	Partially meet	-

Source: Nextrade Group analysis based on countries' laws and regualtions.

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Example cont. – do countries meet **potential** 20 provisions of the AFCFTA Digital Protocol?

Country	Egypt	Botswana	Ghana	Kenya	Morocco	Mozambique	Namibia	Niger	Nigeria	Rwanda	South Africa
National digital strategy	🟢	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔴
National cloud first or cloud smart or similar strategy that guides and promotes cloud adoption across government agencies?	🟢	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🟢	🔴	🟢
National AI strategy/policy/guidance?	🟢	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🟢	🟢	🔴
Does the national AI strategy / regulation / guidance have provisions / plan for AI skilling and capacity-building?	🟢	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🟢	🔴
Does the national AI regulation or guidance support a risk-based approach?	🟢	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔴
Does the AI strategy or regulation call for international coordination or interoperability in AI governance?	🟢	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔴
Internet connection charge sharing	🟢	🟡	🟢	🟢	🟢	🟢	🟢	🟢		🟢	🟢
Digital inclusion (Cost of smartphones)	🔴	🔴	🟡	🟡	🟡	🟢	🔴	-	🔴	🟡	🟡

Legend:
- 🟢 Meet
- 🟡 Partially meet
- 🔴 Do not meet

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