Sub-Saharan Africa could benefit significantly from open and disaggregated solutions, and stakeholders such as TIP can help unlock this potential

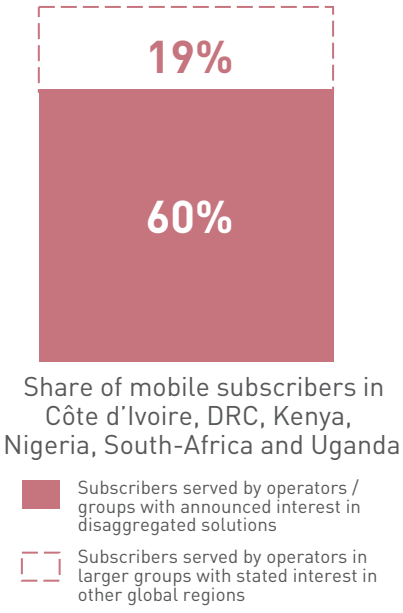
If widely adopted, open and disaggregated technologies will have a positive impact in Sub-Saharan Africa

SSA CONNECTIVITY LANDSCAPE	CURRENT SITUATION	IMPACT OPPORTUNITY
Existing coverage and connectivity levels	Large segments of the population lack access to internet connectivity compared to other regions	Connecting the unconnected / under-served enables economic activity, and can involve greenfield deployments of open and disaggregated solutions
Limitations of traditional solutions	Vendors operate in a challenging physical and commercial environment	Traditional solutions are less flexible and would not be able to easily improve connectivity further, giving open and disaggregated solutions time to develop
Need for the introduction of innovative solutions	Low opportunity cost of experimenting with new models in certain areas	Solutions like network-as-a-service (NaaS) and OpenWiFi are emerging, and could scale with optimised cost efficiency
Potential for home-grown companies to develop	Large operator groups would prefer partners to cover entire footprints	Local / regional systems integrators can expand into new countries, as well as adjacent parts of the value chain

Operators in the region are already deploying open and disaggregated solutions within their networks

Operators have expressed interest in these technologies...

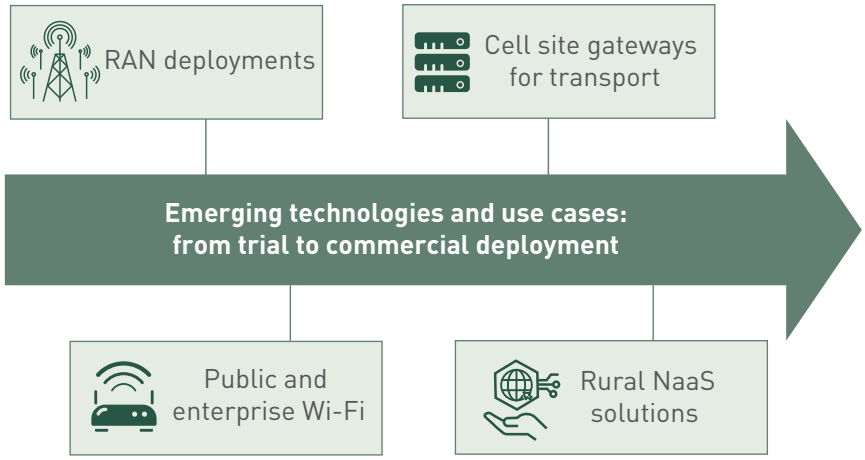
... and are deploying solutions that are ready today, while actively taking part in the design, incubation and trial of other solutions to accelerate their commercial viability



Share of mobile subscribers in Côte d'Ivoire, DRC, Kenya, Nigeria, South-Africa and Uganda

Subscribers served by operators / groups with announced interest in disaggregated solutions

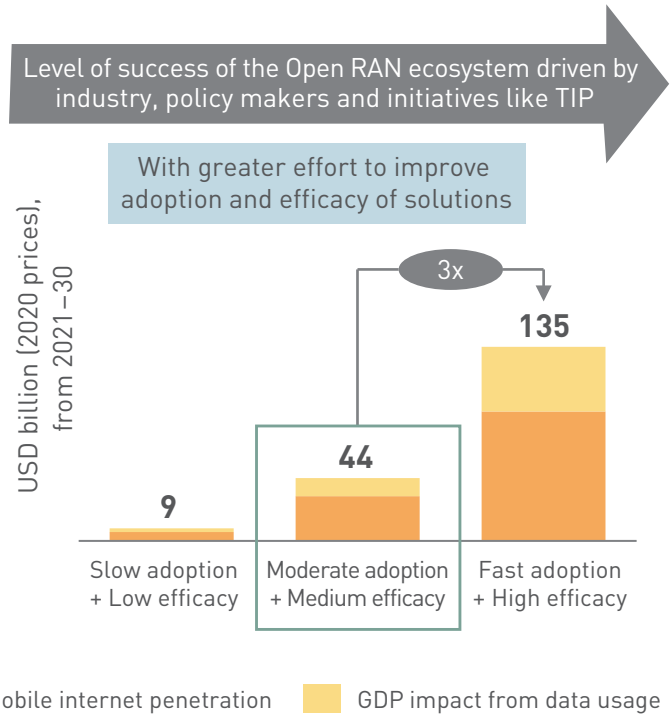
Subscribers served by operators in larger groups with stated interest in other global regions



Open RAN adoption in SSA might take time to reach scale,[1] but if accelerated, could generate outsized benefits for the region in terms of GDP gains[2]

Annual impact in 2030 (baseline estimate for SSA)

- **5.4 million** more unique mobile internet users
- **3.8 exabytes** more data traffic consumed
- **USD15 billion** in annual GDP gains, from wider benefits generated across society



Stakeholders with aligned interests have different roles to play to overcome challenges, to unlock the full potential of open and disaggregated solutions for SSA

Barriers

- Challenging site economics and operations
- Ongoing use of legacy technologies by operators
- Need to develop systems integration expertise

Enablers

- Facilitative regulatory environment
- Involvement of local / regional industry groups
- Platforms for collaboration and testing
- Financing to develop region-specific solutions

Effects

- Supply chain diversity, with more regional companies involved
- Improved connectivity and access to services
- Faster growth and better socioeconomic outcomes

[1] Compared to the low-income country group in the global report, as well as India as discussed in the India report, SSA is expected to experience more gradual adoption of Open RAN solutions given initial barriers to take-up, but with more potential in the upside case if barriers are addressed effectively and efficiently. It should be noted that figures across the three reports are not completely comparable as more recent developments that have informed assumptions in the India and SSA reports would not have been taken into account during the global study earlier in 2021.

[2] Measured in USD billion (2020 prices), with estimate range developed based on a similar methodology used in the global and India reports, by adjusting efficacy and adoption parameters relative to the main SSA scenario estimate, with a wider variance shown for SSA than in the global or India reports.