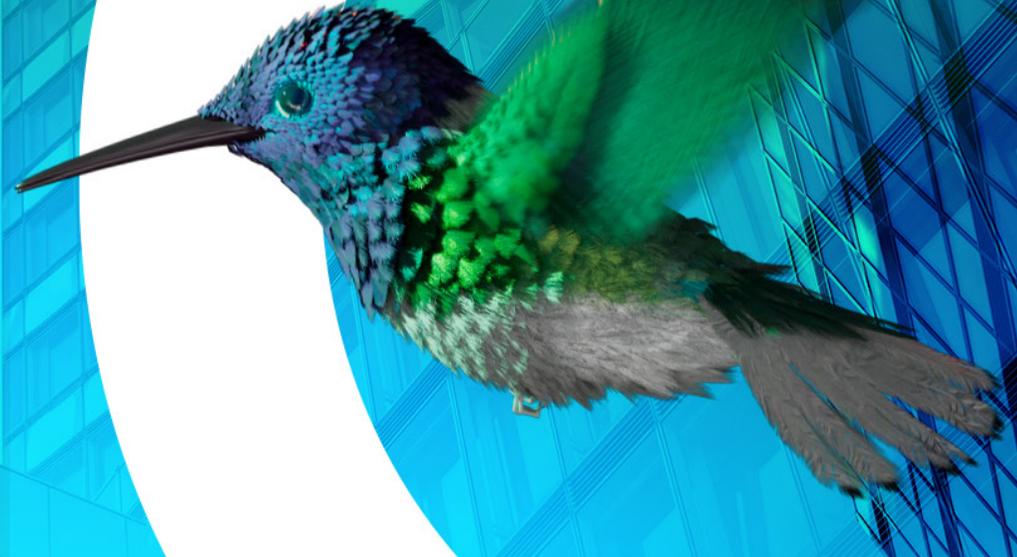


SOLUTION BRIEF

Maximize 5G Standalone business potential with Kolibri small cells

NOKIA



Enhance 5G Standalone monetization with small cells

The demand for high-throughput low-latency connectivity is driving the adoption of 5G globally. For mobile operators and enterprises, **5G Standalone plays a key role in enabling new use cases and revenue models.**

A grid of macro radio cells forms the backbone of 5G Standalone infrastructure. To complement the macro network, small cells are crucial. They help deliver enhanced user experience and unlock more opportunities for 5G monetization.

Small cell solutions are ideal for:

- Expanding network coverage and capacity in dense urban areas
- Providing seamless connectivity in indoor locations
- Enhancing data rates in times of peak traffic
- Increasing productivity of enterprises
- Unlocking new revenue opportunities with edge cloud

Small cells are also well-suited to support industries such as manufacturing and healthcare as well as private network deployments for enterprises, offices and public sector.

This solution brief describes Nokia Kolibri small cell solutions. These fully integrated solutions support 5G Standalone, Advanced 5G, network slicing and edge computing, ensuring that operators and enterprises can leverage the latest technology innovations to boost their business.

Small cells provide key advantages:



Cost efficiency



Focused performance boost



Deployment flexibility



Fast and easy installation



Low energy consumption

Transform industries with fast introduction of innovative applications and services

Our **small cell solutions enable a fast introduction of private 5G networks**, driving innovation and accelerating the digital transformation of industries. Examples include support for real-time applications and data transmission, immersive reality services and mission-critical connectivity.



Smart factories

- Real-time machine control
- Remote operations
- Autonomous mobile robots and guided vehicles



Transportation

- Autonomous vehicles
- Traffic management



Healthcare

- Telemedicine
- Secure connectivity



Public safety

- Emergency response
- Security surveillance



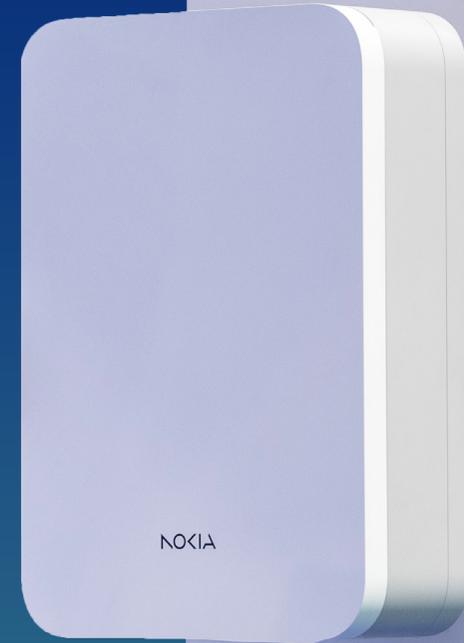
Gaming

- Immersive experiences
- Interactive gaming



High-definition media and entertainment

- Streaming services
- Immersive XR experiences



Flexible deployment options

Remove coverage gaps

Complement mobile operator's existing 5G macro network. Leverage 4G-5G dual-connectivity for maximized end-user experience.

Flexible private 5G

Enable business-critical enterprise connectivity with easy and robust stand-alone 5G anywhere.

Traffic offload at cell edge

Extend the reach of high-performance macro coverage and deliver consistent end user experience during peak traffic hours.

Seamless 5G overlay

5G indoor or outdoor coverage layer on top of existing infrastructure. Boost performance in hot spots and high traffic areas.

5G densification made easy

Our Kolibri small cell portfolio provides a powerful combination of advanced capabilities and easy deployments.

These small cells are compact, plug-and-play products with integrated baseband, supporting direct connectivity to 5G Core.

Our **Kolibri solutions enable a seamless extension of macro 5G networks** built with Nokia AirScale radio access portfolio, making them ideal for 5G densification.

Kolibri small cells are managed with MantaRay NM, our single network management system for all radio and mobile core technologies.

Kolibri outdoor

- Hotspot deployments
- Areas with limited space or permits
- Locations with limited fiber access



Key capabilities:

- Up to 128 users
- High bandwidth 400MHz / 200MHz
- Plug-and-play for fast 5G insertion
- Direct connectivity to 5G Core
- Seamless extension of Nokia RAN
- Management with MantaRay NM

Kolibri indoor

- Enterprises requiring plug-and-play 5G
- Small to medium size deployments
- Easy coverage blind spot removal



Fast modernization of existing all-in-one deployments

Our flexible, easy-to-install small cell solutions are ideal for new deployments and for future-proof network modernization.

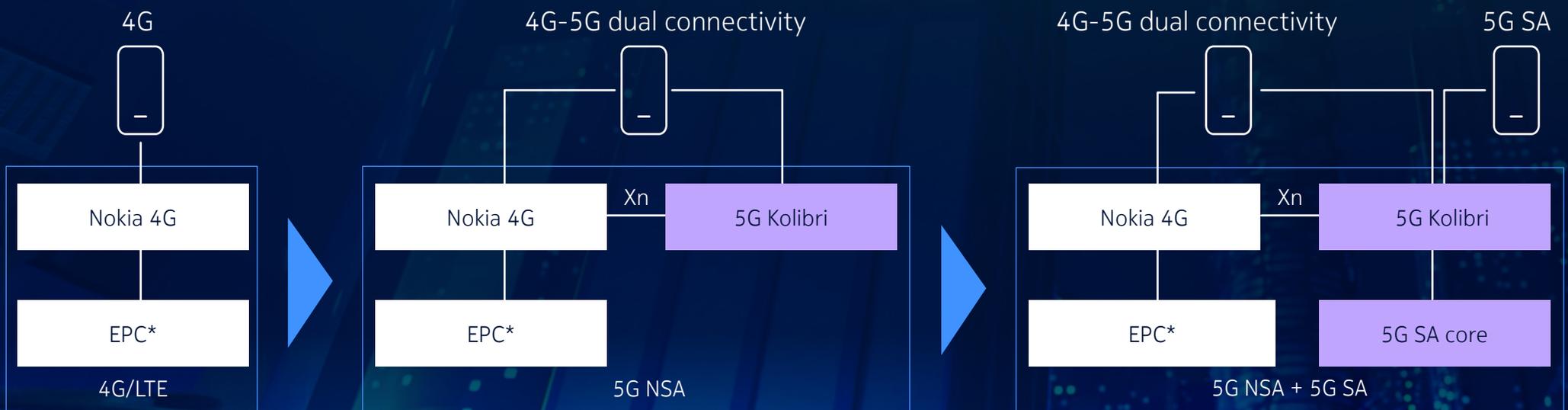
For customers looking to expand 4G capacity with 5G, we support **seamless integration of Kolibri 5G small cells with their existing Nokia 4G solutions** over the standard Xn interface.

Adding Kolibri small cells to the existing Nokia 4G sites enabled 4G-5G dual connectivity, which helps boost end-user experience.

To address new 5G use cases and revenue opportunities, operators can use Kolibri small cell solutions in 5G SA mode. **Our flexible solution also supports concurrent 5G NSA and 5G SA modes.**

To enforce **backhauling security** for Kolibri small cells, we provide an optional IP Security Architecture (IPSec) tunnel for the direct core connectivity over public internet.

Our solution is also **ready for Citizens Broadband Radio Service (CBRS)** operations both with Domain Proxy and Spectrum Access System (SAS) connectivity.



*EPC = Evolved Packet Core

Flexible, cost-efficient and secure small cells

Kolibri small cells provide a compelling solution for mobile operators, industries and enterprises.

Kolibri supports both 5G Standalone (SA) and Non-Standalone (NSA) architectures, providing flexibility for operators in their network evolution strategy.

Their compact size and **ease of deployment allows operators to quickly and efficiently add 5G capacity in high-demand areas.** The plug-and-play nature of Kolibri reduces installation time and costs in any environment.

Our streamlined approach to unified network management simplifies network operations and reduces complexity.

Direct connectivity to the core network ensures low latency and high performance, while secure IP tunneling through the public internet ensures the reliability and privacy of the connection.

“

The Kolibri small cells design enhances signal strength and minimizes interference, delivering strong 5G coverage across diverse outdoor environments. Design is a sustainable, low-cost solution with flexible mounting for quick, scalable deployments in urban and rural areas.”



[Read more](#)

Why Nokia?

Trusted 5G performance

Our customers trust our radio leadership. From 2018 till today, Nokia has deployed 5G with over 300 customers globally, and we have over 850 private wireless customers.

Sustainable TCO

We provide an optimal performance-cost ratio at the lowest footprint and highest energy efficiency.

Simplified deployments

Our Kolibri small cell solution makes deployments simple, helping our customers expand 5G across various types of geographies, and ensuring scalability.

Unified network management

We provide common network management for all radio and mobile core technologies anchored in MantaRay NM.

Secure connectivity

At Nokia, security and privacy are built into all products from the start of the development process and maintained throughout the product life cycle.

Focus on business outcomes

Our future-proof small cell solutions enable fast introduction of 5G for industries and enterprises, unlocking new revenues.



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NOKIA

At Nokia, we create technology that helps the world act together.

As a B2B technology innovation leader, we are pioneering networks that sense, think and act by leveraging our work across mobile, fixed and cloud networks. In addition, we create value with intellectual property and long-term research, led by the award-winning Nokia Bell Labs, which is celebrating 100 years of innovation.

With truly open architectures that seamlessly integrate into any ecosystem, our high-performance networks create new opportunities for monetization and scale. Service providers, enterprises and partners worldwide trust Nokia to deliver secure, reliable and sustainable networks today – and work with us to create the digital services and applications of the future.

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