



AI-driven automation and optimization in Open RAN

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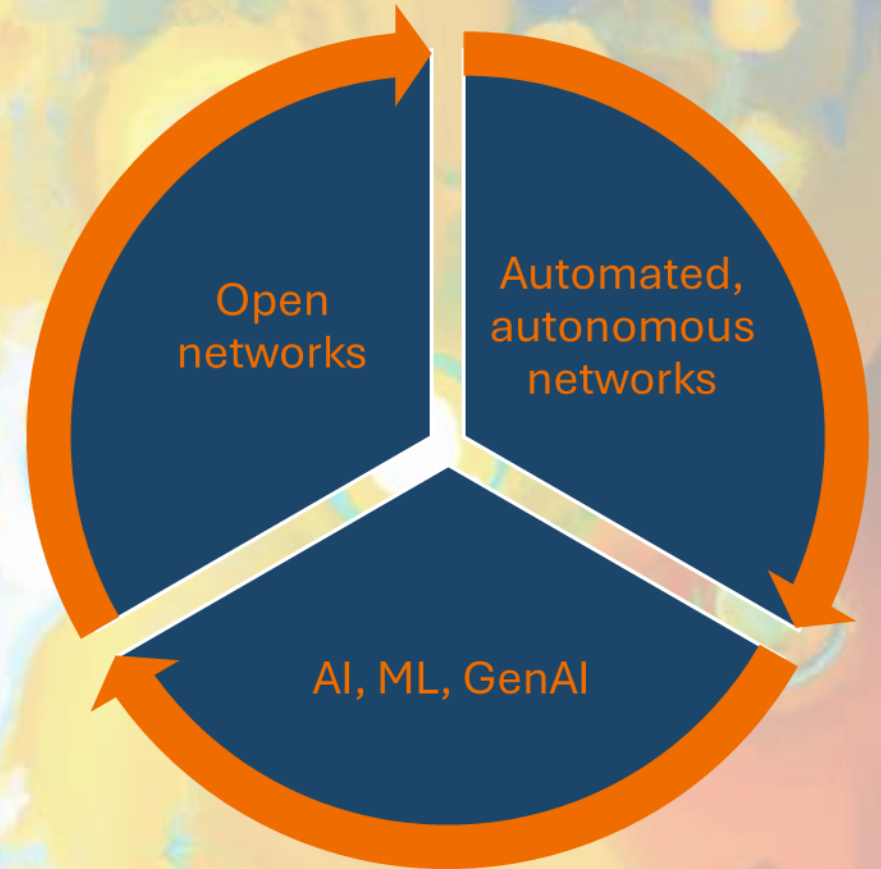
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How it all fits together: Openness, automation, AI

AI, ML and GenAI as a toolbox to enable automation

Automation to manage increasingly complex networks

Incremental innovation, mutually reinforcing loop



Open RAN: Specific AI and automation requirements

Increased complexity

Disaggregation multi-vendor ecosystem

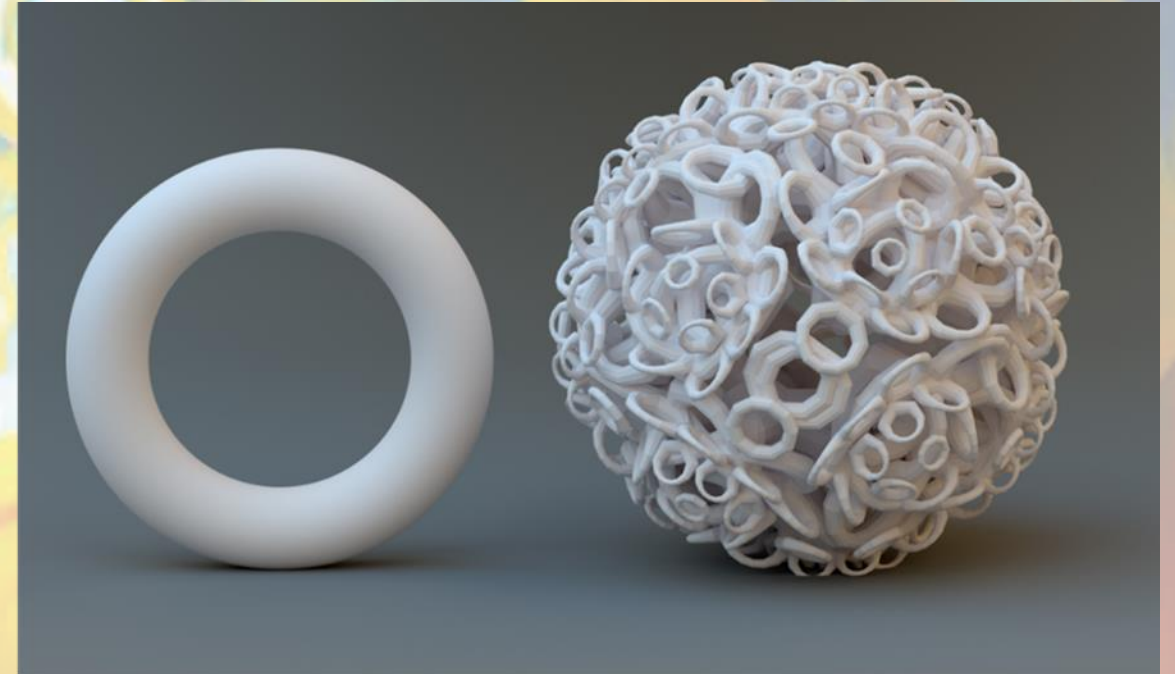
Virtualization

Cloud-native architectures

Open source, open interfaces

RIC, xApps, rApps

Security



The challenge: Open RAN is still a maturing technology with a developing ecosystem, and so is AI. Can vendors and operators get both of them off the ground at the same time?

Setting realistic expectations, moving beyond hype

Hype raises awareness, but creates unrealistic expectations

GenAI is minor player, but major hype contributor

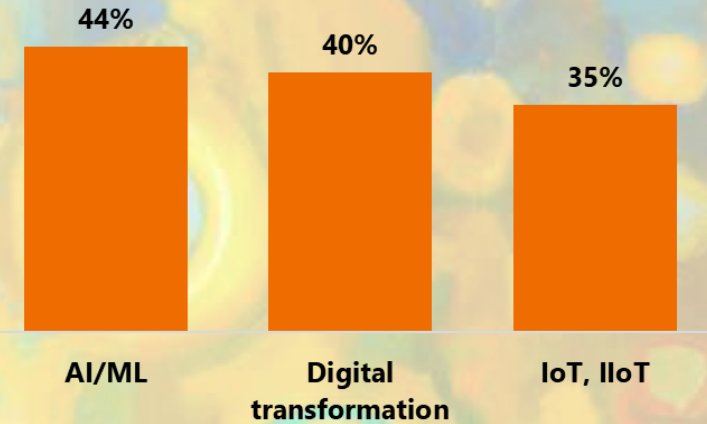
We need clarity and realism to assess risks and opportunities

We can learn from other industries to develop telco-specific models

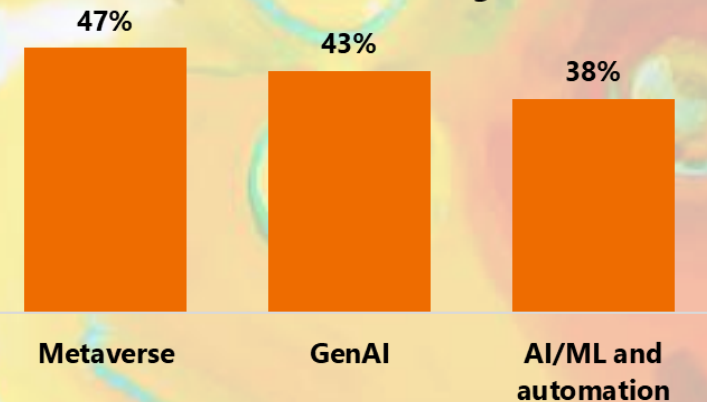
AI, ML and GenAI bring value only if used wisely

Let's push forward, but without rushing

Top three investment areas in 2024



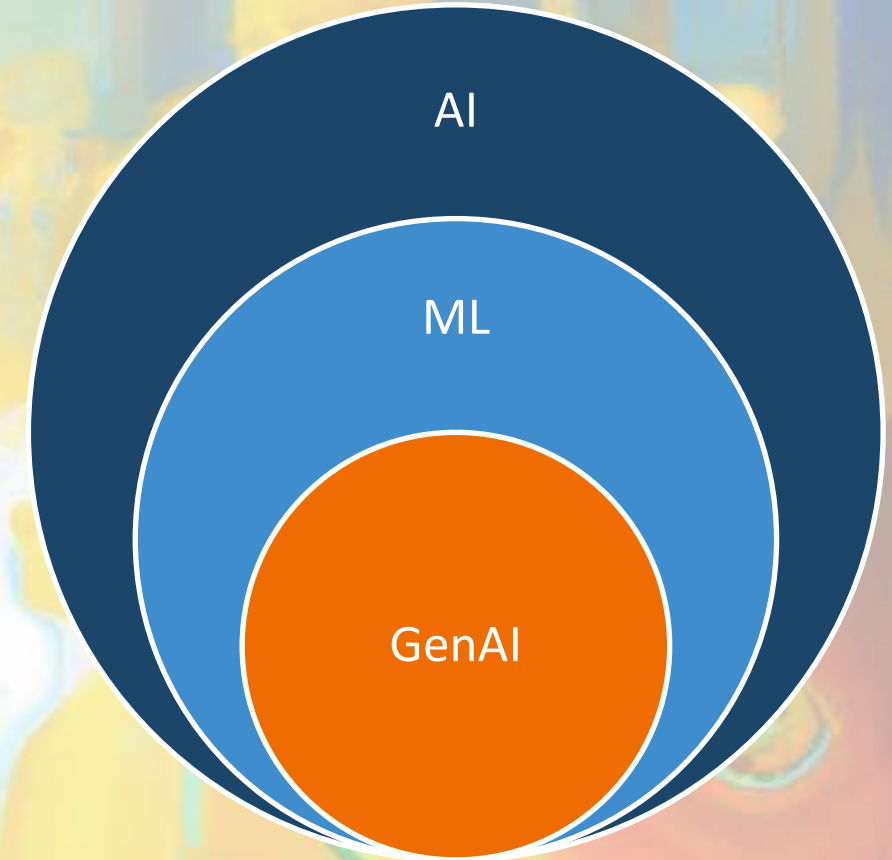
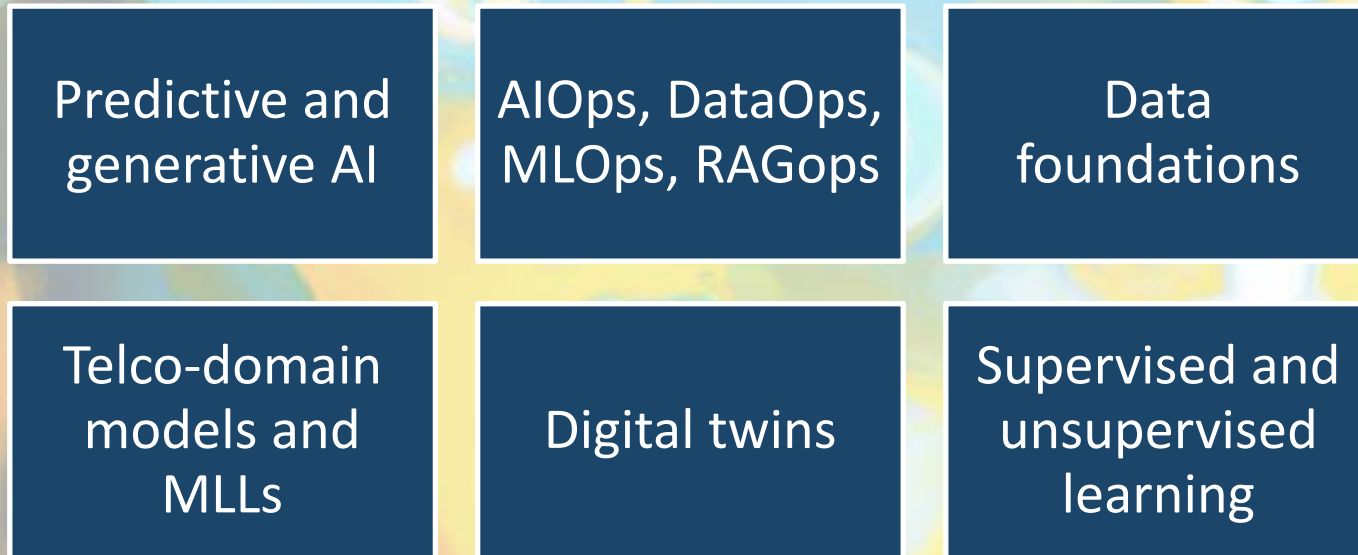
Top three most overhyped emerging services or technologies



Percentage of respondents

Source: Annual industry survey, Telecoms.com, 2023

The AI toolbox: Many options, many use cases



The challenges: How to choose? How to integrate AI into the network and organization? How to avoid duplication?

Integrating AI: Does culture trump technology?

The success of AI depends on human contribution

Humans choose models, data, training, optimization

Human expertise (and patience) still essential

AI creates new skill and talent requirements

Cultural change as important as technological change

The process starts with data collection and figuring out what AI priorities you have for your company. That needs to be based on a holistic view from the top to direct the data collection.

Humans play a large role in collecting, labeling, curating and possibly augmenting the data.

The model selection is super important. Picking the right model and doing a lot of trials and experimentation with that is crucial to getting the cost versus performance tradeoffs right. We all want great performance, but it comes at a cost.

Training, fine tuning and alignment give us the right optimization for the objective we want in the budget that we have.

**Azita Arvani, formerly CEO at Rakuten Symphony
NA**

Domain-specific telco AI: re-use, customize, build?

Many options are available

- What is the right model?
- How should you train it?
- What data do you need?
- What outputs do you expect?

Building and training a model is expensive

- What is the ROI?
- Can you use available models?
- How can you customize to make domain-specific models?
- Do you have the capabilities to develop and train a model?

Integrating AI models in your network is difficult

- How do you avoid duplication and conflicts?
- How do you steer clear of vendor lock in?
- Who do you trust to run or host your models?

Tradeoffs: Do expectations outweigh concerns?

Expectations	Concerns
Higher operational efficiency	Trust and reliability
Move to autonomous, zero-touch networks	Lack of human resources, talent
Increased energy efficiency	Cost
Reduced complexity	Security
Value creation	Energy and resource requirements
Support for new services	Coexistence with legacy
Better customer support	Ecosystem maturity, lock-in
Address talent shortage, work quality	Over-automation

Initial learnings: Crafting a unique, incremental journey

Open networks need AI

The pace of adoption will vary, but there is no way out

AI is a tool

It does not deliver any value or benefit unless you use it well to meet specific goals

AI needs a solid foundation

Data, infrastructure, operations, human expertise and organizational culture

Don't reinvent the wheel

But understand what makes telecoms—and your network—special

It is not a question of when this will happen. AI must succeed for operators to run their networks cost-efficiently and remain relevant. Hyperscalers have already started to move into the telco space. Incumbents may be threatened by more agile companies that are quicker to innovate. It is all about adoption, being open-minded, and being willing to try new paradigms to remain relevant.

Paul Patras, CEO at Net AI and Associate Professor at the University of Edinburgh

About Senza Fili



Senza Fili provides advisory support on wireless technologies and services. At Senza Fili we have in-depth expertise in financial modeling, market forecasts and research, strategy, business plan support, and due diligence. Our client base is international and spans the entire value chain: clients include wireline, fixed wireless, and mobile operators, enterprises and other vertical players, vendors, system integrators, investors, regulators, and industry associations. We provide a bridge between technologies and services, helping our clients assess established and emerging technologies, use these technologies to support new or existing services, and build solid, profitable business models. Independent advice, a strong quantitative orientation, and an international perspective are the hallmarks of our work. For additional information, visit www.senzafili.com

About Monica Paolini



Monica Paolini, PhD, founded Senza Fili in 2003. She is an expert in wireless technologies and has helped clients worldwide to understand technology and customer requirements, evaluate business plan opportunities, market their services and products, and estimate the market size and revenue opportunity of new and established wireless technologies. She frequently gives presentations at conferences, and she has written many reports and articles on wireless technologies and services. She has a PhD in cognitive science from the University of California, San Diego (US), an MBA from the University of Oxford (UK), and a BA/MA in philosophy from the University of Bologna (Italy)