

Data Innovation Summit  
14-15 March 2019  
Stockholm



# Artificial Intelligence enabled zero-touch, real time, Telecom & IT network design and operations

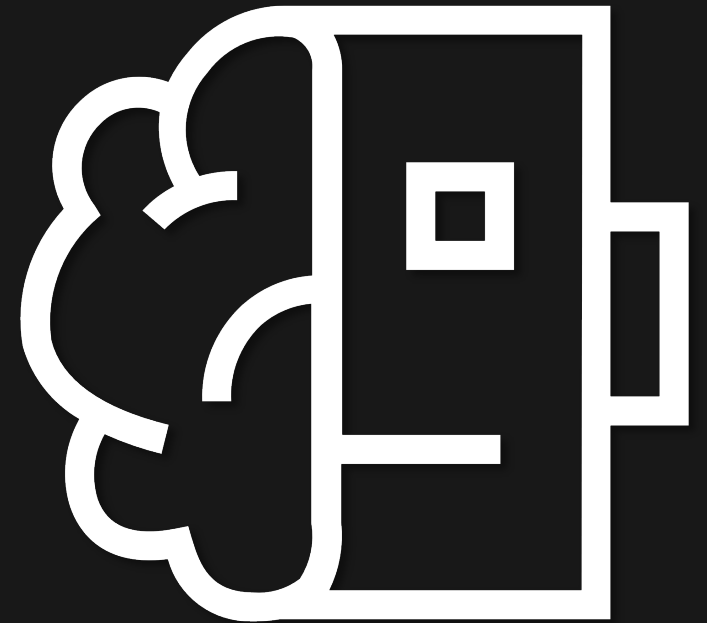
**Gaurav Dixit**

Head of Automation & AI Development  
Business Area Managed Services  
Ericsson

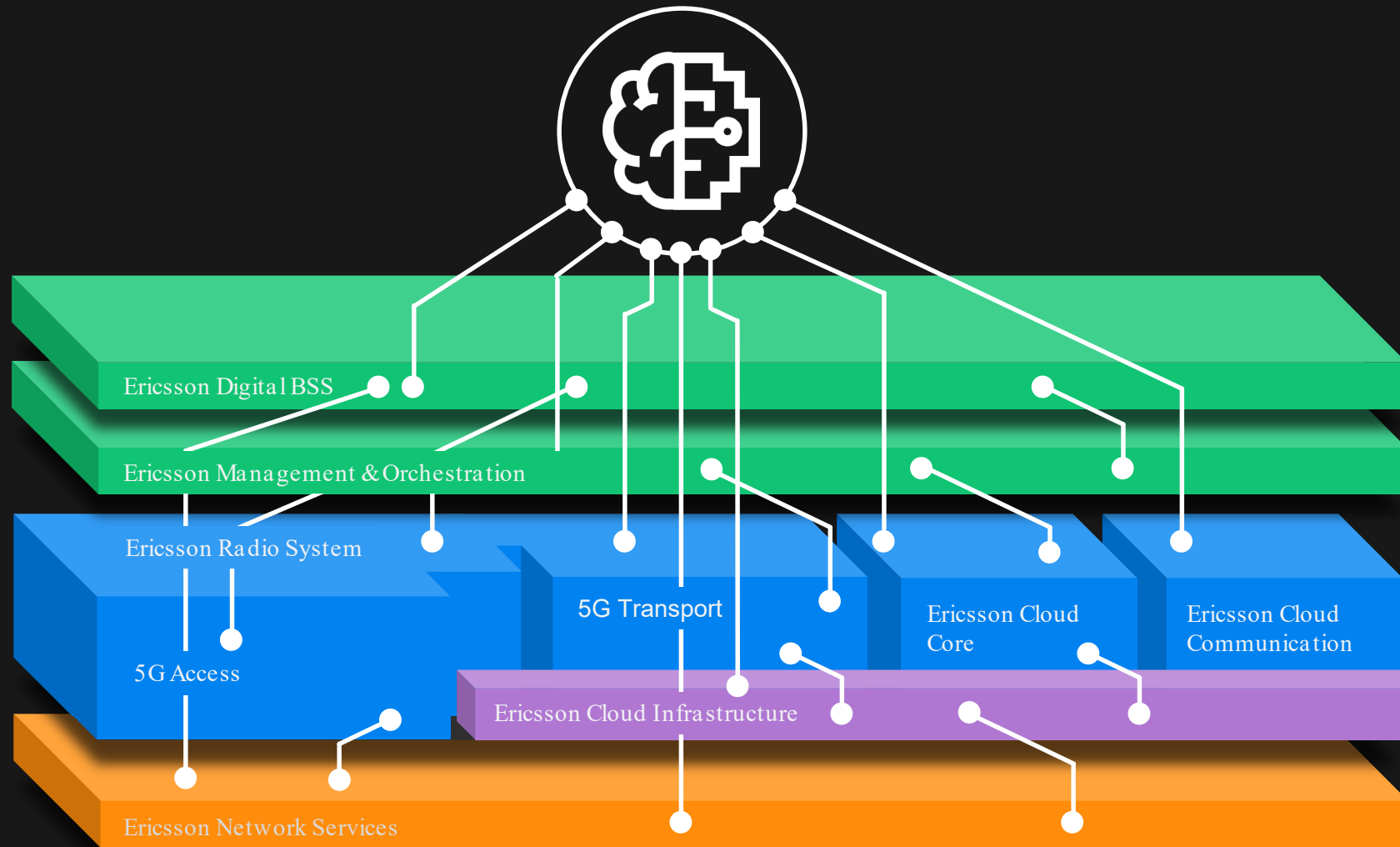
**Kai Chaza**

Director of AI Innovation  
Group Automation & Analytics  
Ericsson

Established leader in the Telecom  
industry transformation  
by successfully deploying  
Artificial Intelligence  
and Automation technologies  
across our product  
and services portfolio



# End to end federated AI across product & service portfolio



# From Network KPIs to Service KPIs



Relentless  
Efficiency

Improve the efficiency and  
manage OPEX and CAPEX



End-Customer  
Experience

Understanding and  
enhancing the customer  
experience



Network  
Performance

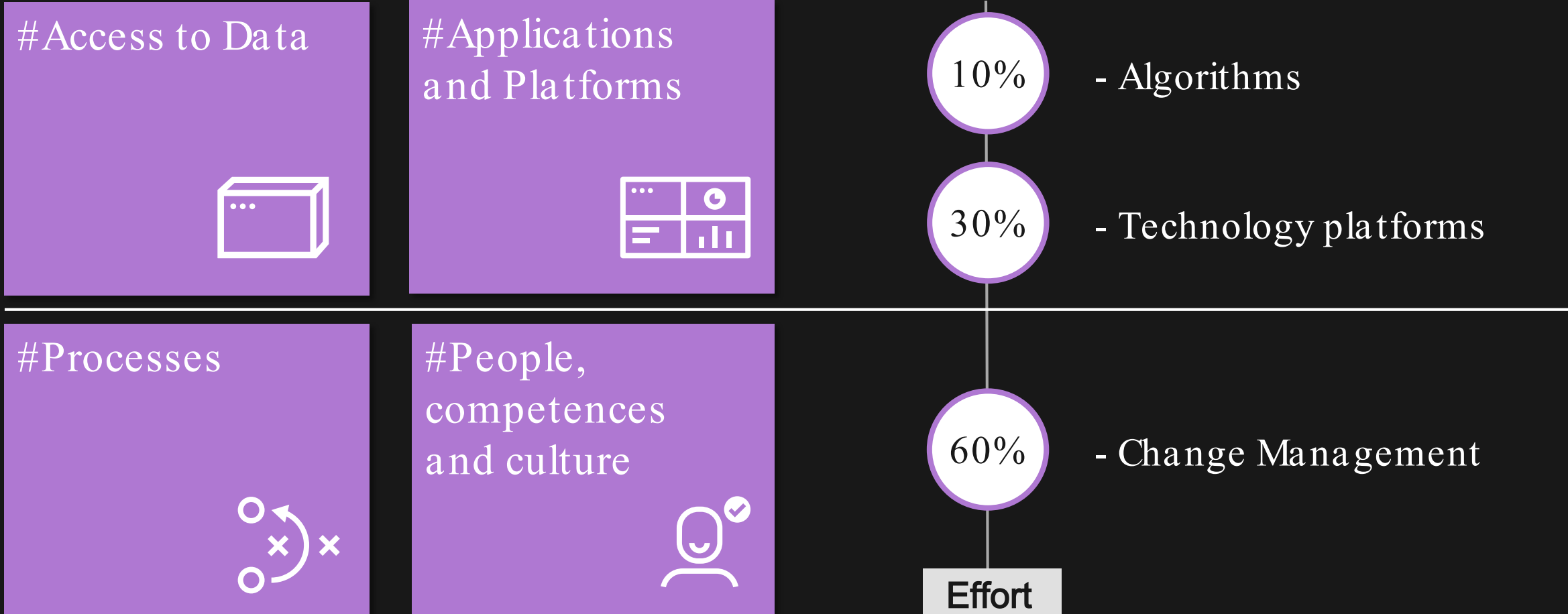
Evolving from a cell and  
node centric network to a  
user centric network



New  
Revenues

New business models and  
5G & IoT enabled use cases

# Ready for the change?



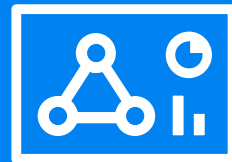
# Securing long term technology leadership in AI & Automation



Business & Data ecosystem



Technology Leadership

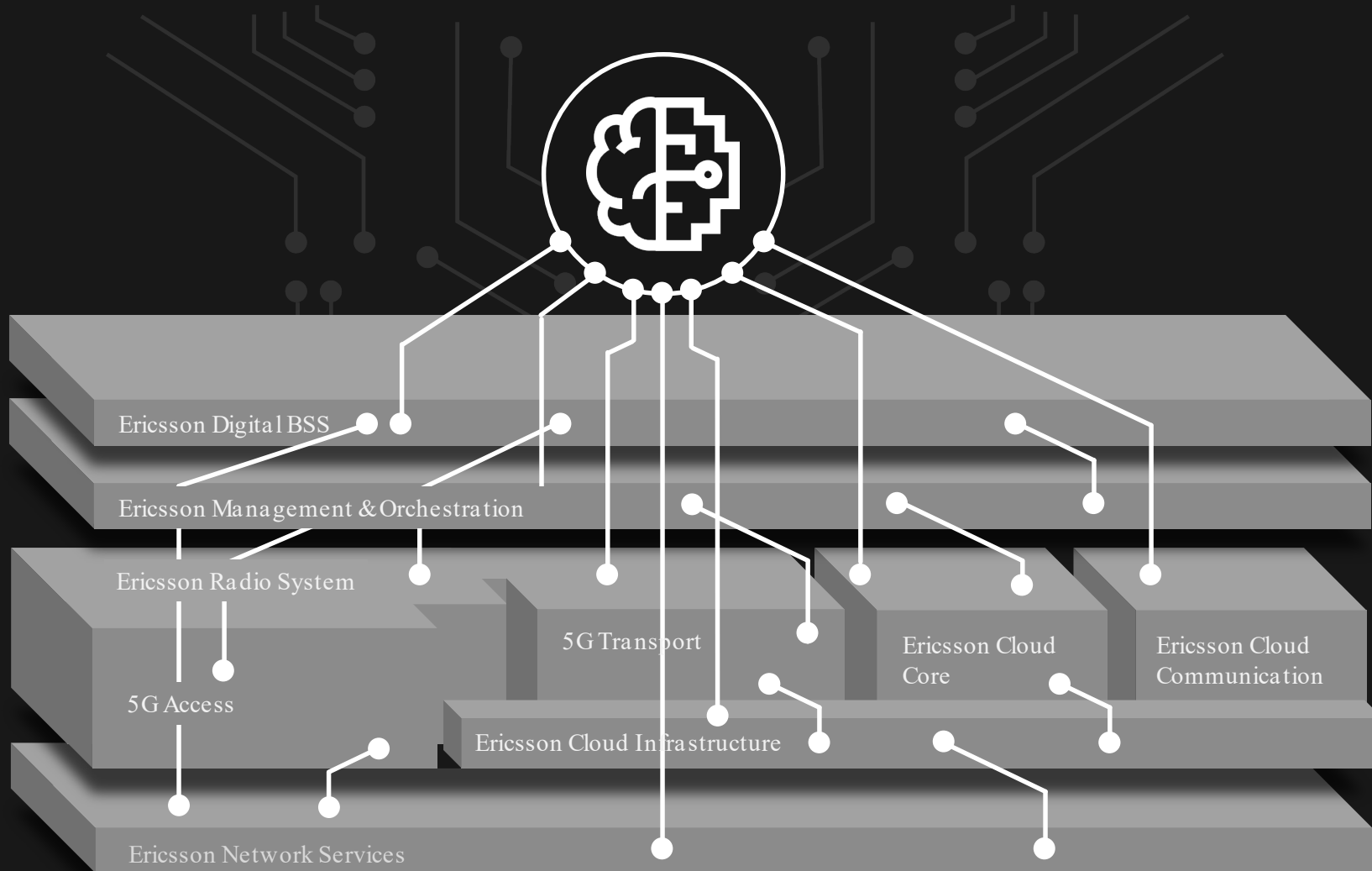


Competence



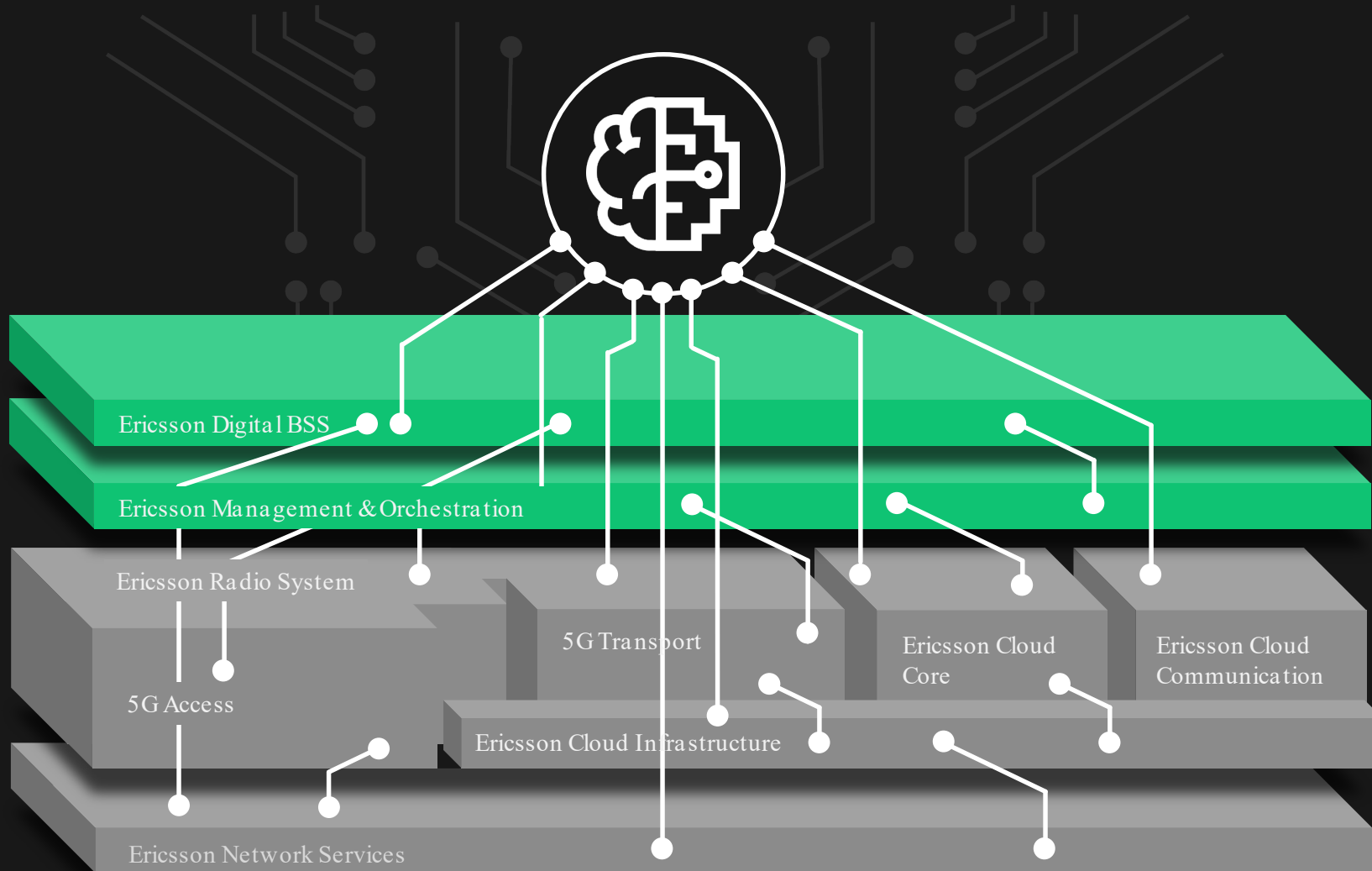


# End to end federated AI across product & service portfolio





# End to end federated AI across product & service portfolio



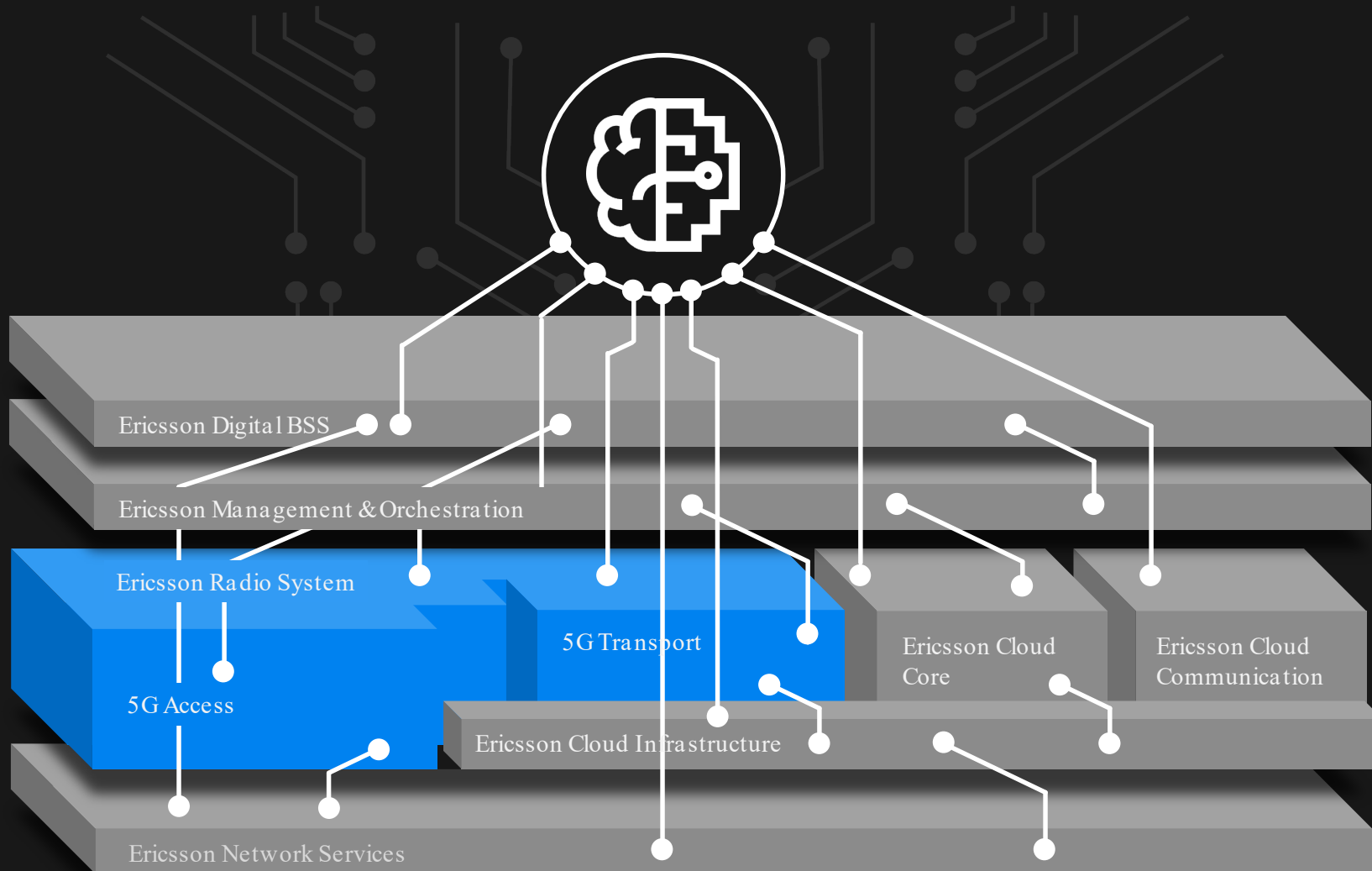
## Ericsson Digital BSS and Management & Orchestration

- Predictive Customer Care
- Dynamic Orchestration
- Subscriber Experience Analyzer
- RAN Engineering Insight
- Automated Operations
- Autonomic Incident Management





# End to end federated AI across product & service portfolio

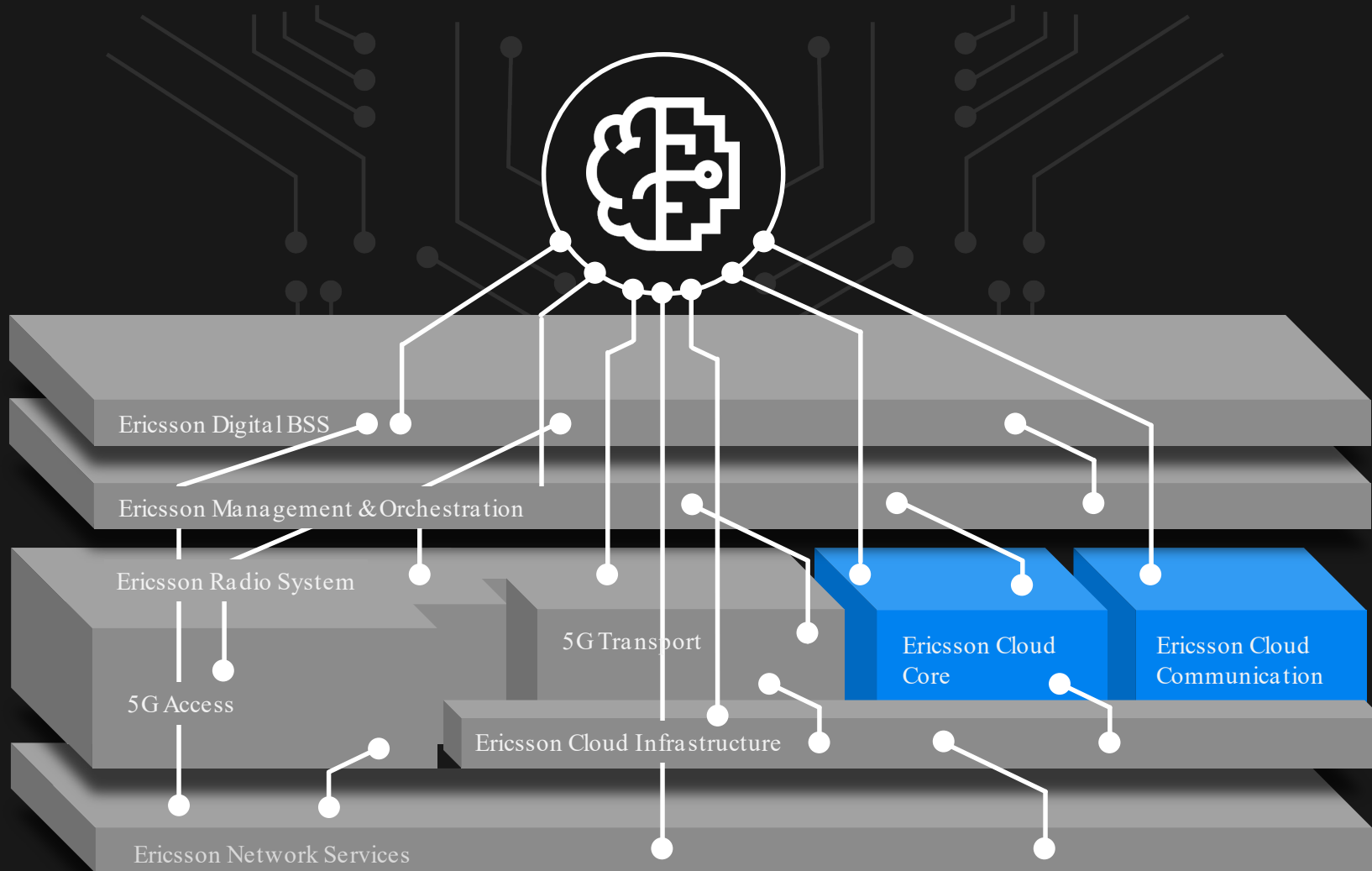


## 5G Access

- MIMO Sleep Mode  
Traffic Aware Power Saving
- AI-enabled Handover
- Data aware UE handling
- 5G aware Traffic Control
- Evolved Load balancing



# End to end federated AI across product & service portfolio

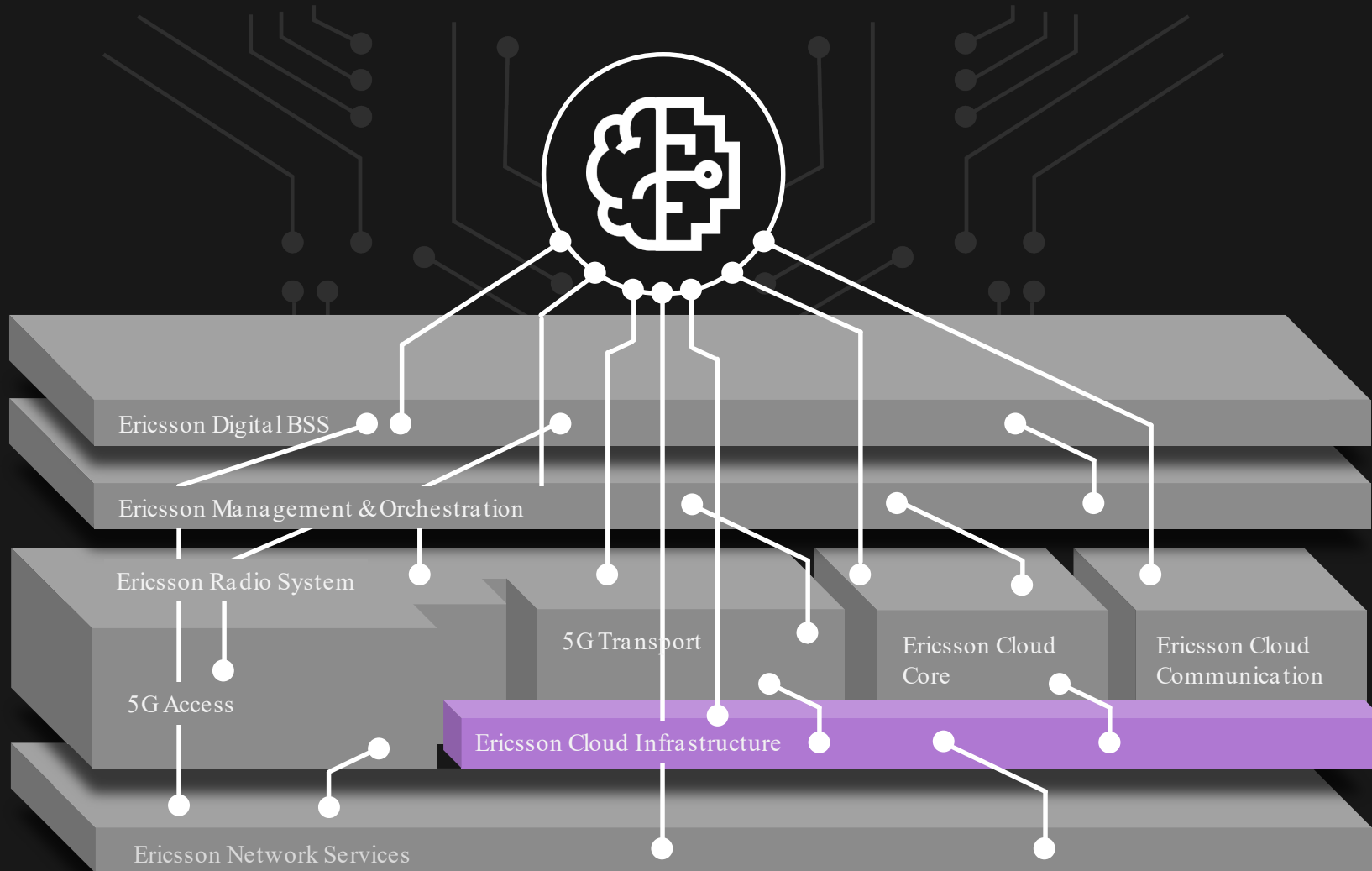


## Cloud Core

- Subscriber Experience Analyzer
- VoLTE Call Browser



# End to end federated AI across product & service portfolio

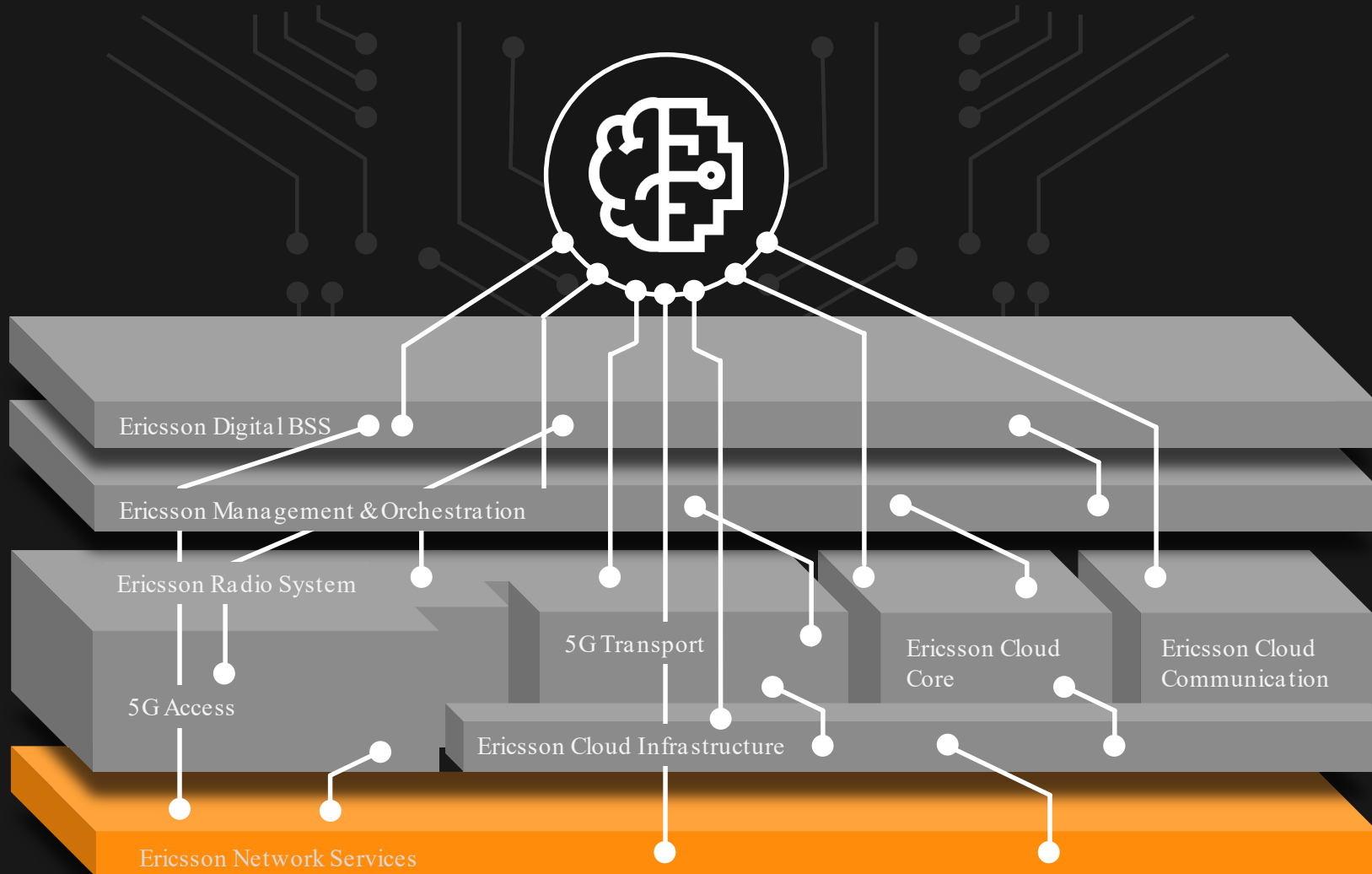


## Cloud Infrastructure

- AI enabled lifecycle management  
trouble-shooting



# End to end federated AI across product & service portfolio



## Ericsson Network Services

- Proactive Customer Support
- Sleeping Cell Prediction
- Preemptive incident prediction
- Anomaly detection
- Predictive Network SLA Degradation
- 5G Network Design and Optimization
- AI driven Hybrid Cloud operations

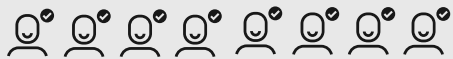
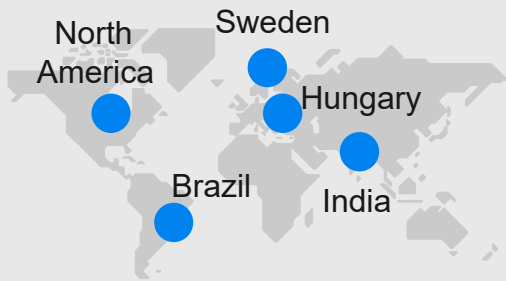


# Ericsson Research



100

AI researchers



- 2G, 3G, 4G, 5G were discovered at Ericsson research
- 600 AI patents
- 50% PhD
- Ericsson research global presence in 10 countries
- 750 researchers in total

Technology  
leadership

Innovation  
and  
Technology  
Invention

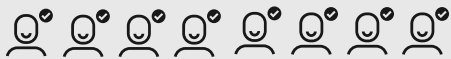
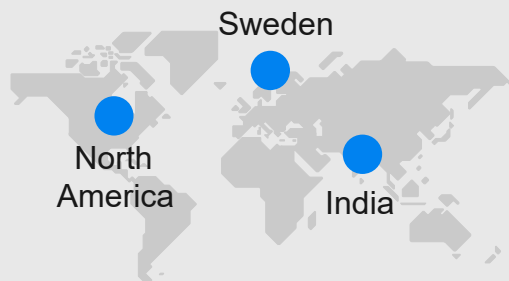
Competence  
and People



# Global AI Accelerator / GAIA



300  
Data Scientists



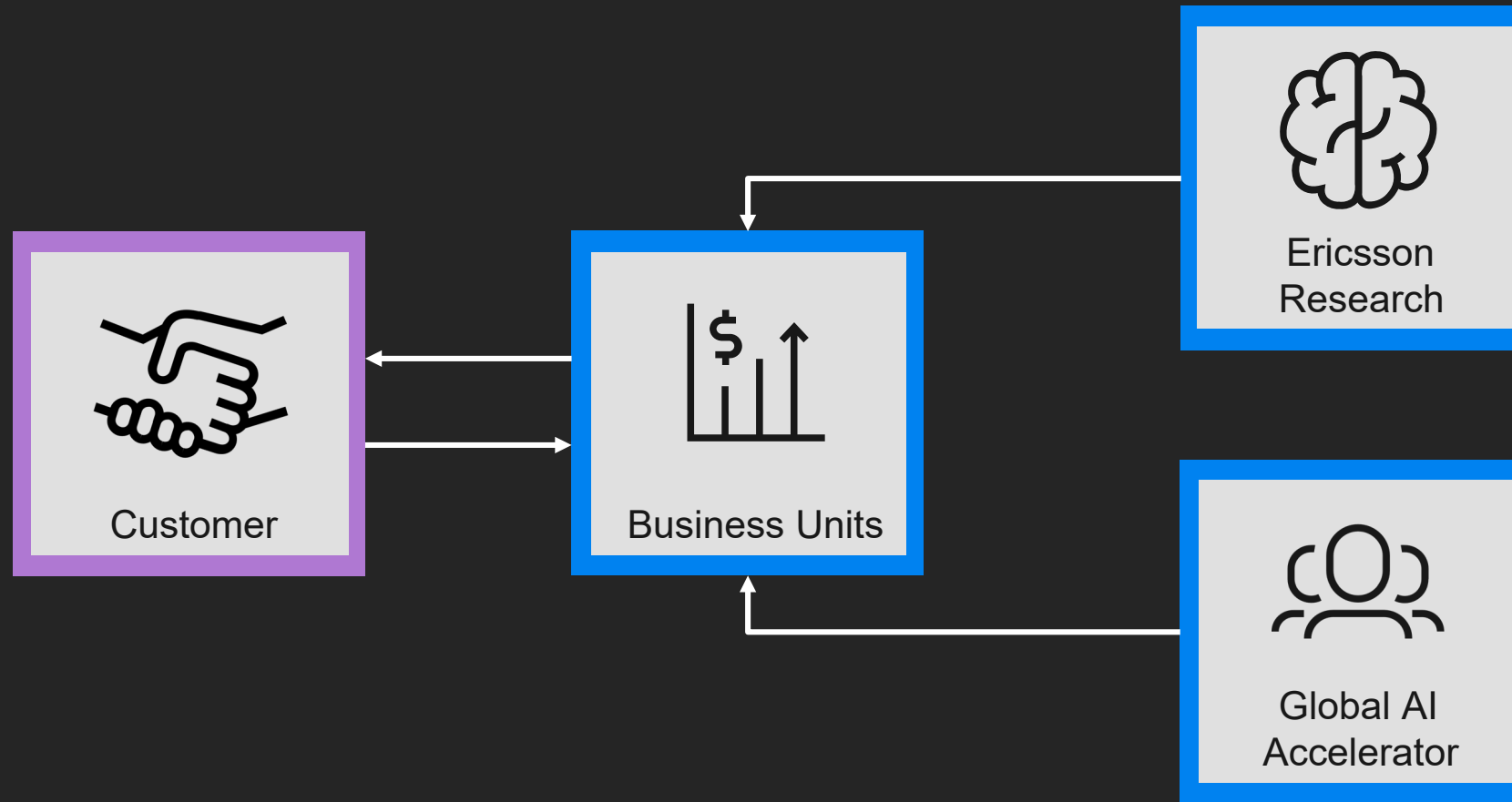
- Accelerate execution of the strategy using AI
- Build critical mass of competence to scale up Ericsson's AI capabilities and delivery
- Innovate and demonstrate Thought Leadership

Automation

Evolution

Growth

# How we work together?



# AI Engagements 2018\*



*\*Business Area Managed Services*



# Examples of proven AI use cases (Not the full list)

## Network Operations



Power Failure  
Detection



Sleeping Cell  
Prediction



Field Dispatch  
Optimization



Site Pattern &  
Anomaly Detection



KPI Degradation  
Prediction

## IT Operations



Event Noise Reduction



Anomaly detection on  
IT infrastructure



Application performance  
prediction



Service availability  
prediction



Cognitive Service Desk

## Design and Optimization



Cognitive C/E-RAN  
design



Cognitive capacity  
planning



Cognitive performance  
diagnosis



Cognitive interference  
diagnosis



Cognitive mobility  
optimization

# Internal Automation: Automation Toolkit



## Robotic Process Automation



(Repetitive tasks, Userinput, Inter-company)

## Natural Language Processing



(Dialogue automation, Contractual, Written text automated processing)

## Low-Code: Point & Click Development



(Integrations, UserInterfaces, Auditing, Workflow tools)

## Computer Vision



(Optical Character Recognition, Document Extraction)

# Internal Automation Toolkit Use Cases



## Robotic Process Automation

- › Inter-company internal project onboarding
- › Pricing sheet creation
- › HR bulk data changes
- › Supplier invoice creation

## Natural Language Processing

- › Product specification search
- › Internal service-desk tickets
- › Supplier contract analysis
- › Ts & Cs deviations tracking

## Low-Code: Point & Click

- › Internal auditing software tools
- › Workflow integrations

## Computer Vision

- › Purchase Order analysis, text extraction

# Lessons Learnt During ~~Roll~~ <sup>Rollout</sup>



## Robotic Process Automation



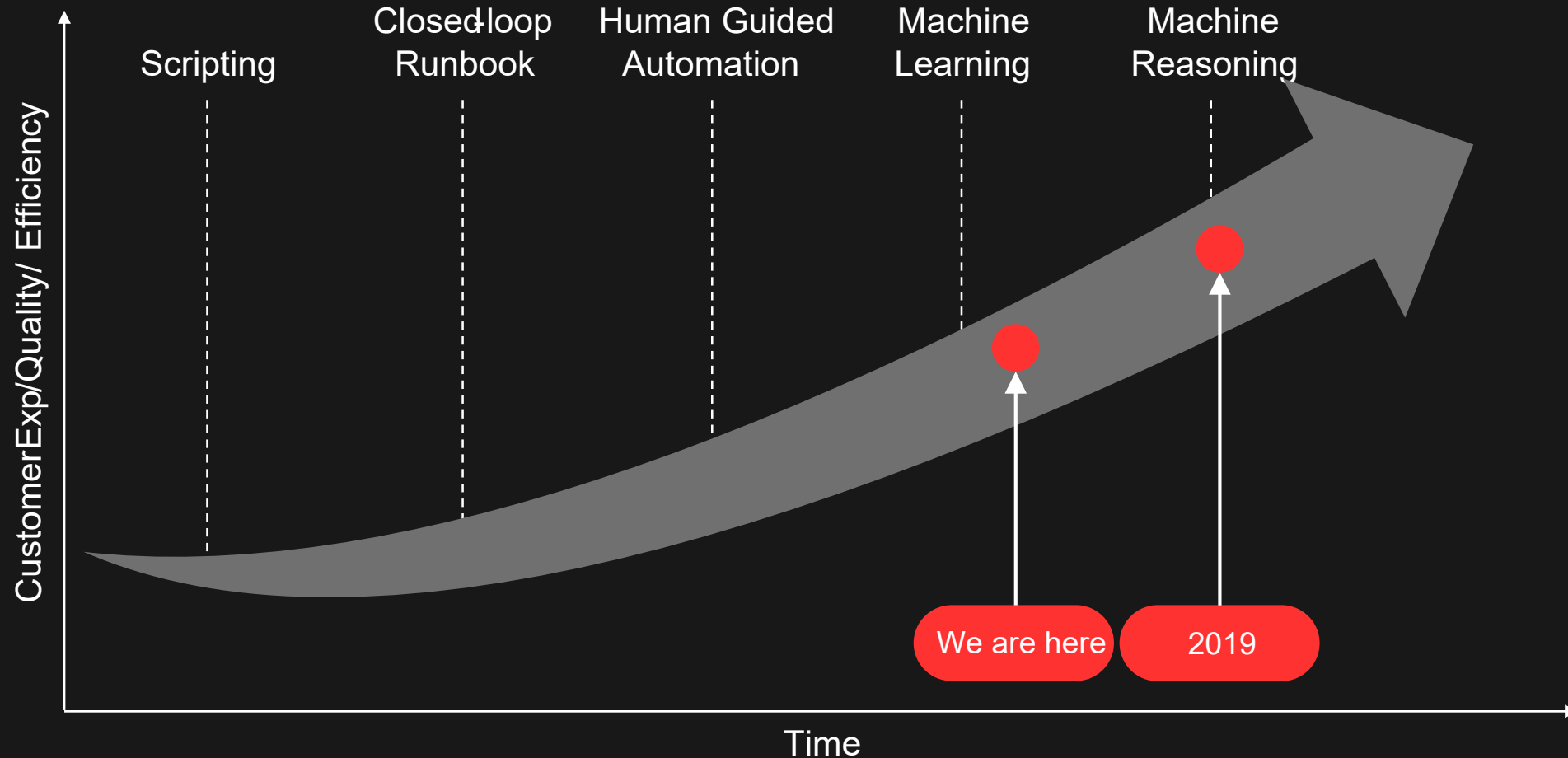
- › Build the business case as you develop an understanding of the technology's capabilities...not before
- › Pick a 3rd party vendor and stick with it, the leaders are all jostling for top spot
- › Get the business unit and end users to own and drive the process

## Natural Language Processing

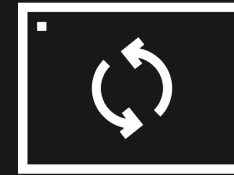
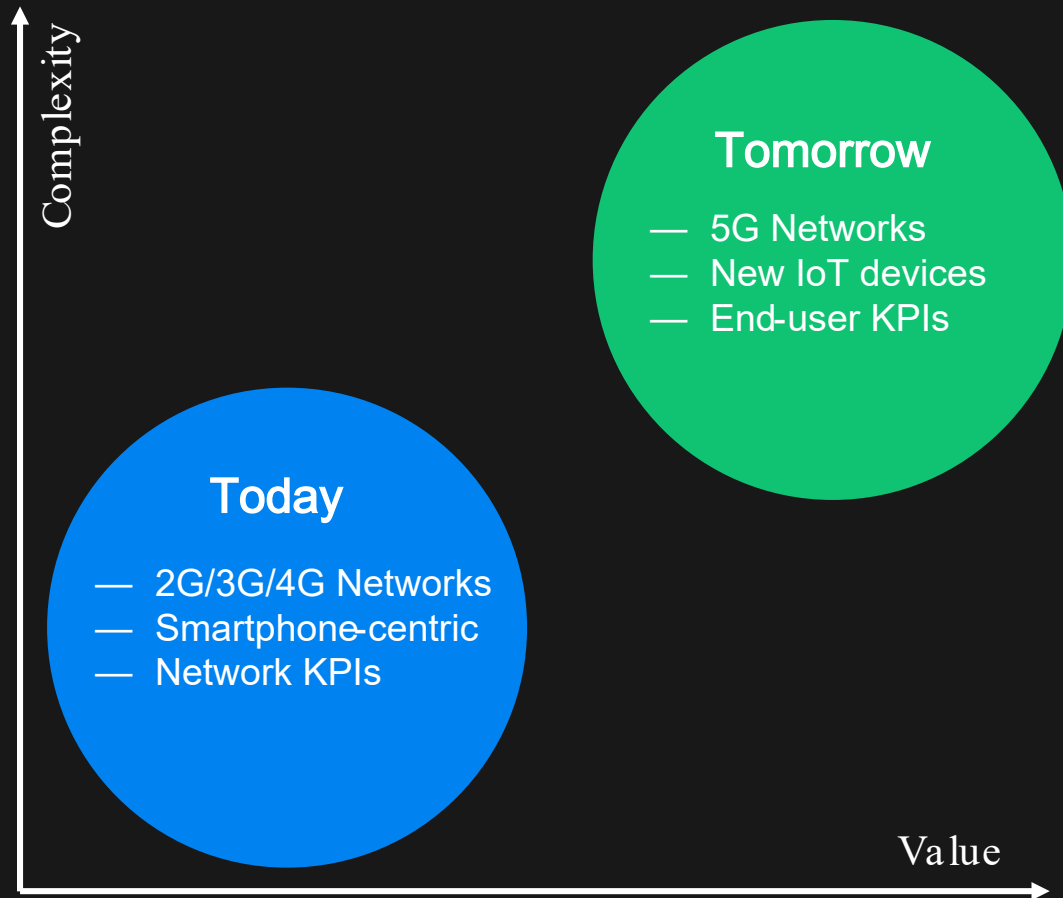


- › Your current customer log data is unlikely to be useful in training AI
- › Focus on structured conversations and highly structured documents
- › Use your company's actual data, and integrate into your systems as early as possible when training the AI

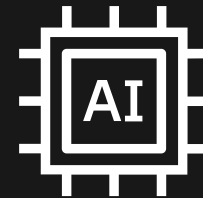
# Automation journey in Managed Services



# Future customer challenges will be more complex



Automation



Artificial Intelligence

# Q & A



OFFICIAL CHANNEL



[www.ericsson.com](http://www.ericsson.com)