



5G Analytics: use cases, challenges
& opportunities

About Argela

- Global technology company focusing on R&D for 5G and beyond,
- Customized solutions for telecom operators
 - Network & Customer Analytics Suite
 - Multi Access Edge Cloud – vRAN/RIC & SEBA (SDN Enabled Broadband Access)
 - Virtualization & Orchestration
- Open-source and standardization activities through Netsia (ONF, LNF, O-RAN, etc)
- R&D arm of Türk Telekom Group



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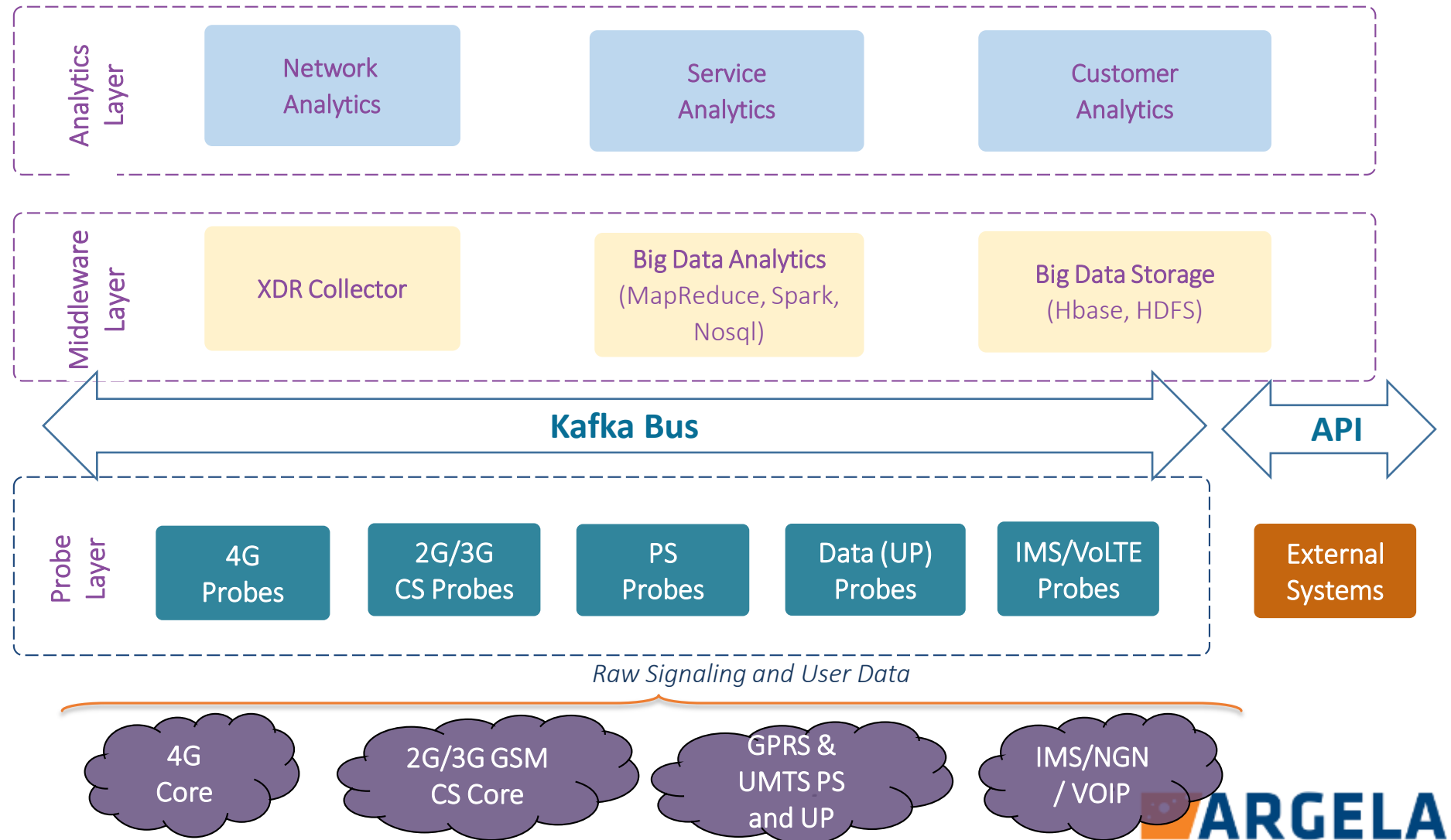
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IZMIR



NETSIA
Silicon Valley, USA

Assurance in 4G World

- Analytic modules
 - Reporting
 - AI/ML based
 - Event triggering for realtime actions
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- Big Data & Stream Processing techniques
 - Correlation & enrichment
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- Distributed thru sites
 - Passive monitoring
 - Data acquisition from external systems, e.g. OSS/BSS



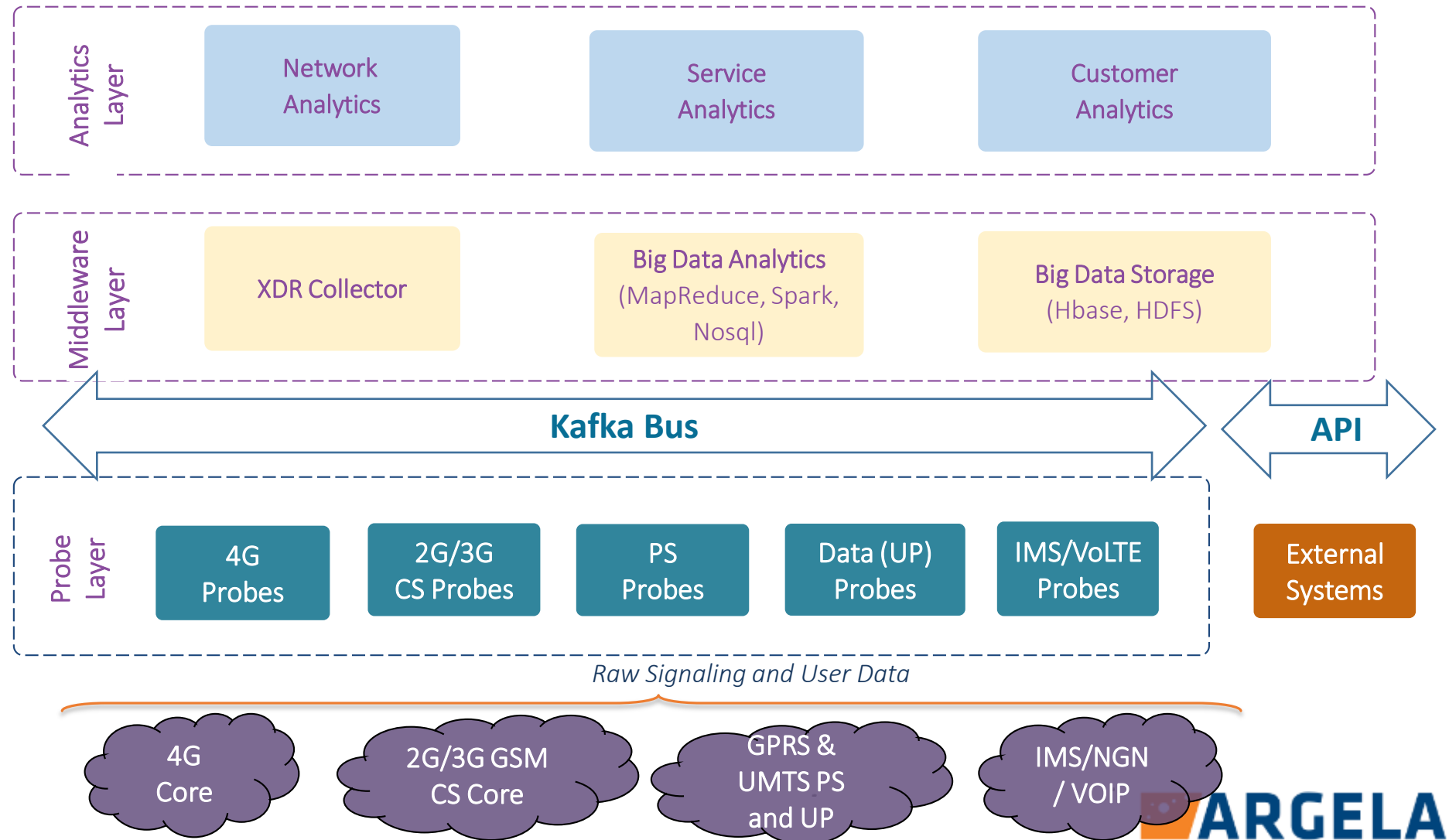
Assurance in 4G World

Analytics

- Voice, messaging
- Data usage
- OTT usage
- OTT video quality
- VoLTE & VoWiFi
- Location
- Corporate/Enterprise
- Cell-based Network Experience Index (NEI)
- Customer Experience Index (CEI)

Operations

- Multi-dimension performance metrics (KPI/KQI)
- E2E network visibility
- E2E session drill down
- Alarms & event triggering



Enhanced Capabilities with 5G

Enhanced Mobile Broadband (eMBB)

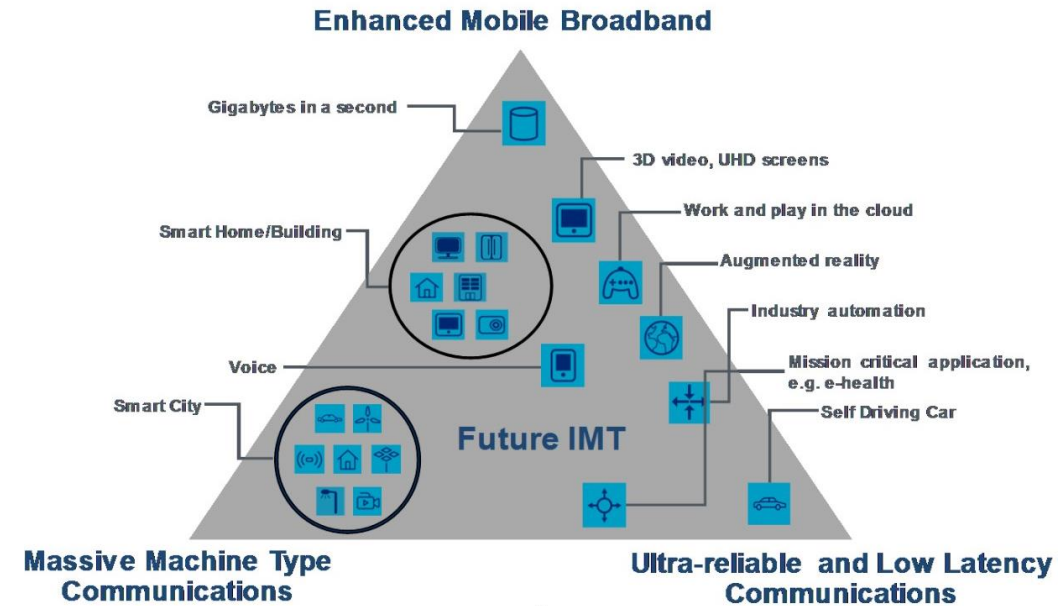
- Faster connections
- Higher throughput
- Larger capacity

Ultra Reliable Low Latency Communications (URLLC)

- Vertical market segments
- Ultra low latency applications
- Mission-critical M2M communications

Massive Machine Type Communications (mMTC)

- Massive number of connected devices
- Low cost deployment
- Smart metering



The original 5G triangle, from Recommendation ITU-R M.2083

Cloud Native
Core

CUPS

Service Based
Architecture

Edge Clouds

Network
Slicing

Network
Automation

A new world with 5G

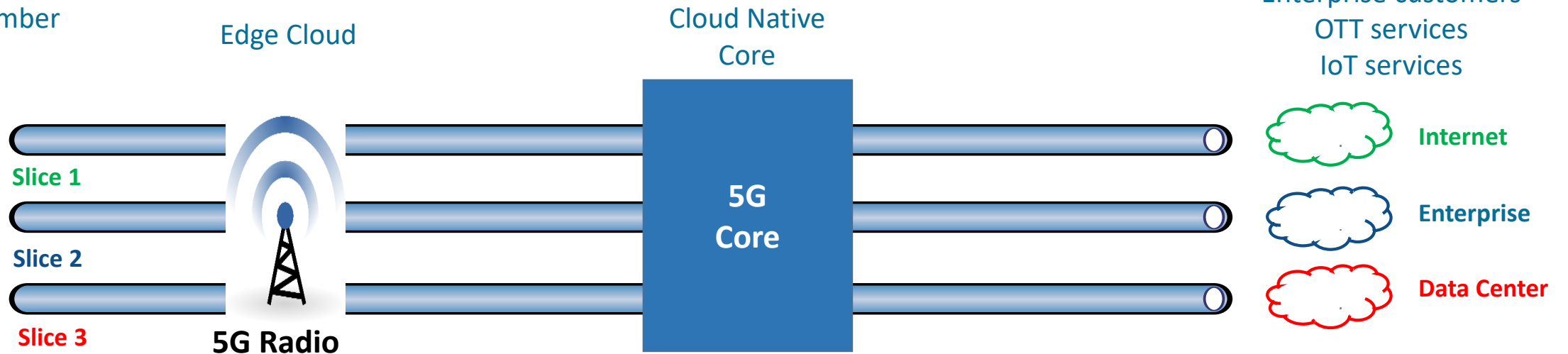
Operations

- Proactive approach, business-driven
- QoS driven analytics
- Widely usage of AI/ML based analytics
- Network automation with close loops
- Real-time decisions for business use cases

Monetization

- New customers with new use cases
- Slice-based offers
- Enterprise analytics based on network slicing
- Realtime triggering to external services

Massive number of devices



5G Analytics

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Virtual Probes

- Containerized probes
- VM or container based deployment
- MANO onboarding

Slice Awareness

- E2E Slice monitoring
- Enhanced enterprise analytics

Automation

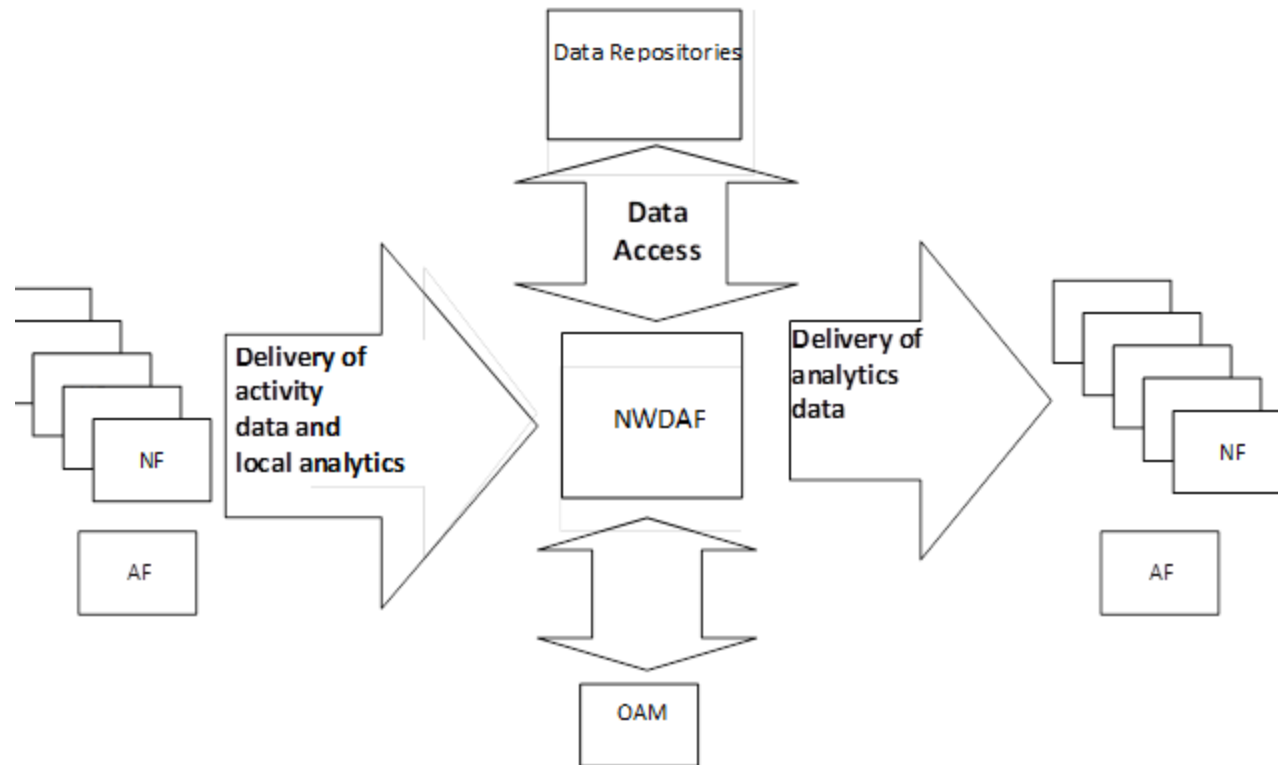
- Closed loop automation support
- Real-time event triggering

Monitoring new services

- EPS Fallback & VoNR
- Enrichment and correlation capabilities for 5G domain
- Cross domain correlation
- 5G specific analytics reporting

A new opportunity: NWDAF

General framework for **5G network automation & reporting** in Release 16, depicting that the NWDAF should be able to collect data from the operator OAM, AFs and 5GC network functions.



Enables various use cases with ML-supported analytics

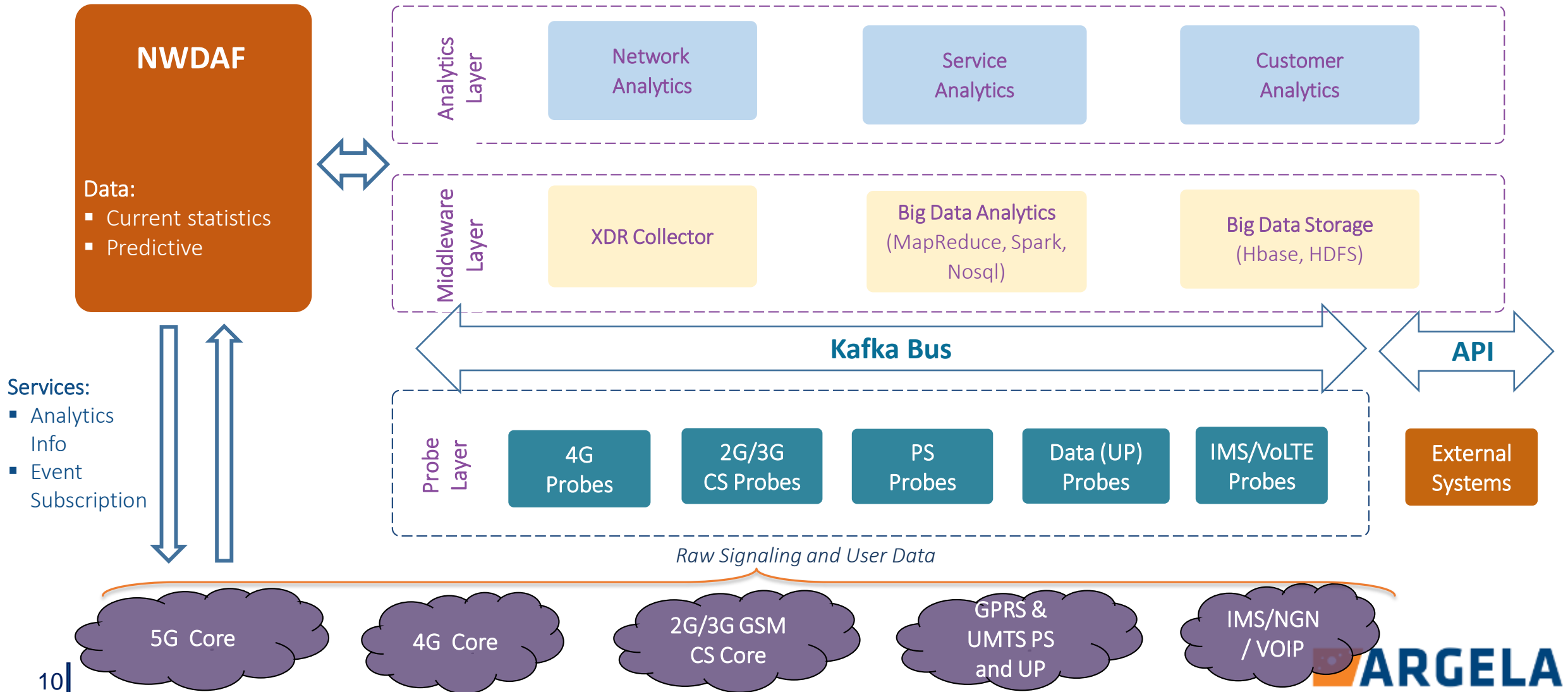
Services:

- AnalyticsInfo
- EventsSubscription

Information:

- Statistical data
- Predictive data

Hybrid Assurance in 5G Networks





- Get in touch to find out how Argela can help your business
 - [Argela.com](https://argela.com)
 - contact@argela.com