

Paris, 16-18 October 2018

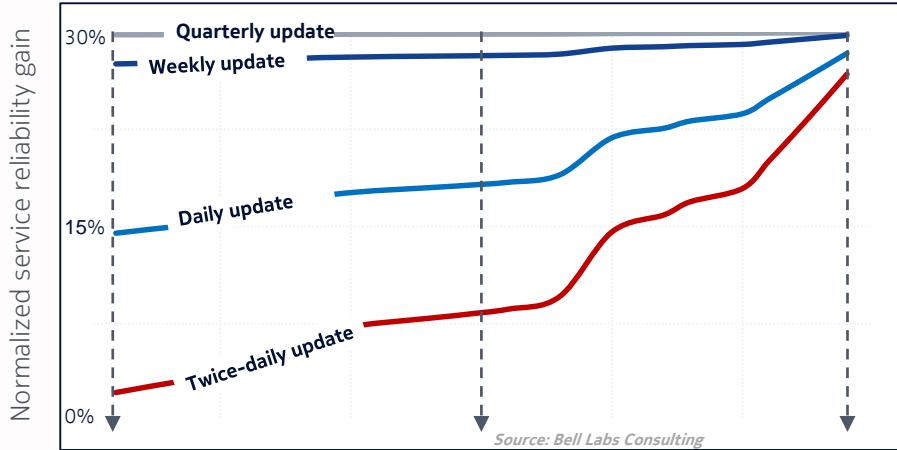


Organizer:  **TESTING
SOLUTIONS
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Dev-for-Ops: Maturity assessment and benchmarking platform for Telco DevOps

Abdol Saleh, Anis Cheikhrouhou (presenter) and Harald Bender

Release dynamics, service reliability, and future X network



Platform Service Providers	Deployment frequency: multiple deployments per day
	Lead time for changes: < 1 hour
	Mean time to recover: < 1 hour
	Change failure rate: 0-15%



Source: 2017 State of DevOps report, Puppet & Dora : sponsored by: AWS, Deloitte, Electric Cloud, HP, splunk, vmware, WAVEFRONT
<https://www.ipexpoeurope.com/content/download/10069/143970/file/2017-state-of-devops-report.pdf>

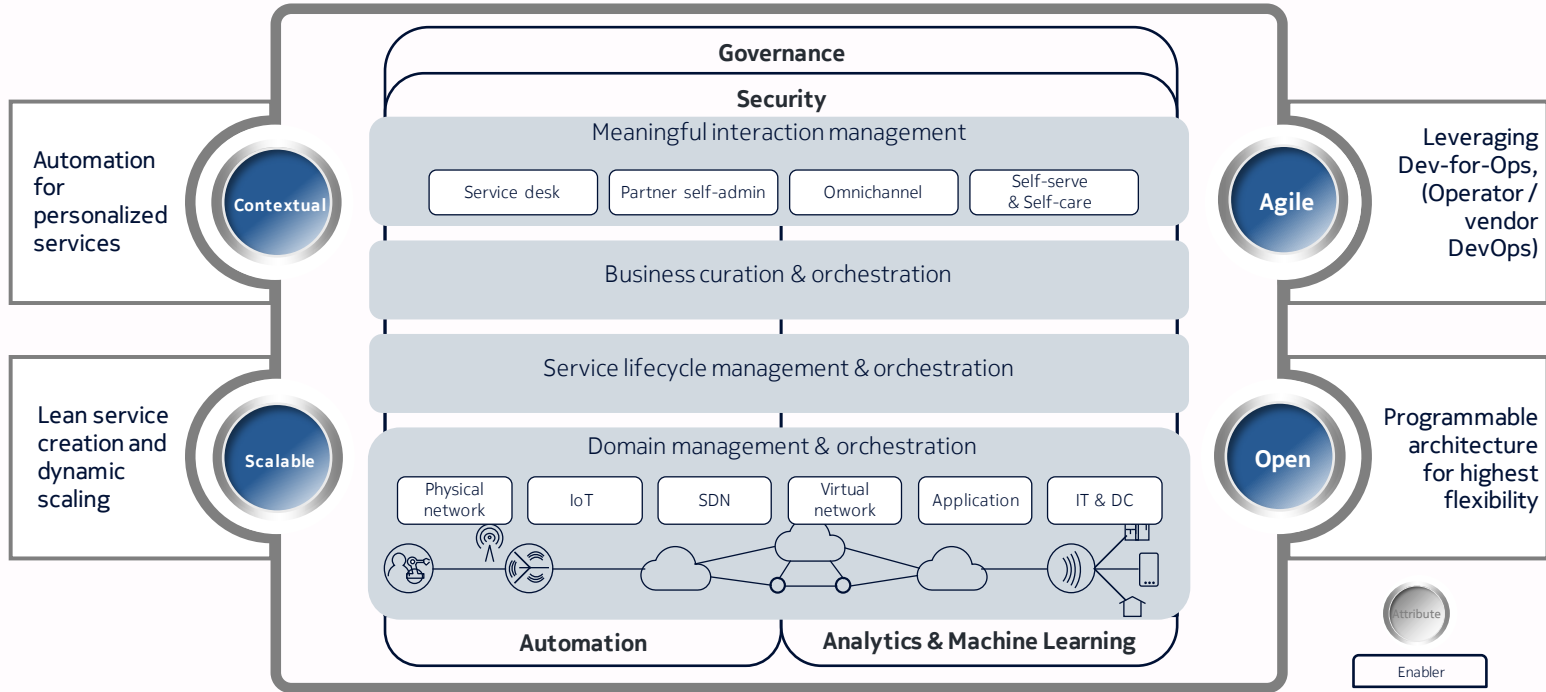


Change management in current networks is too slow and inefficient

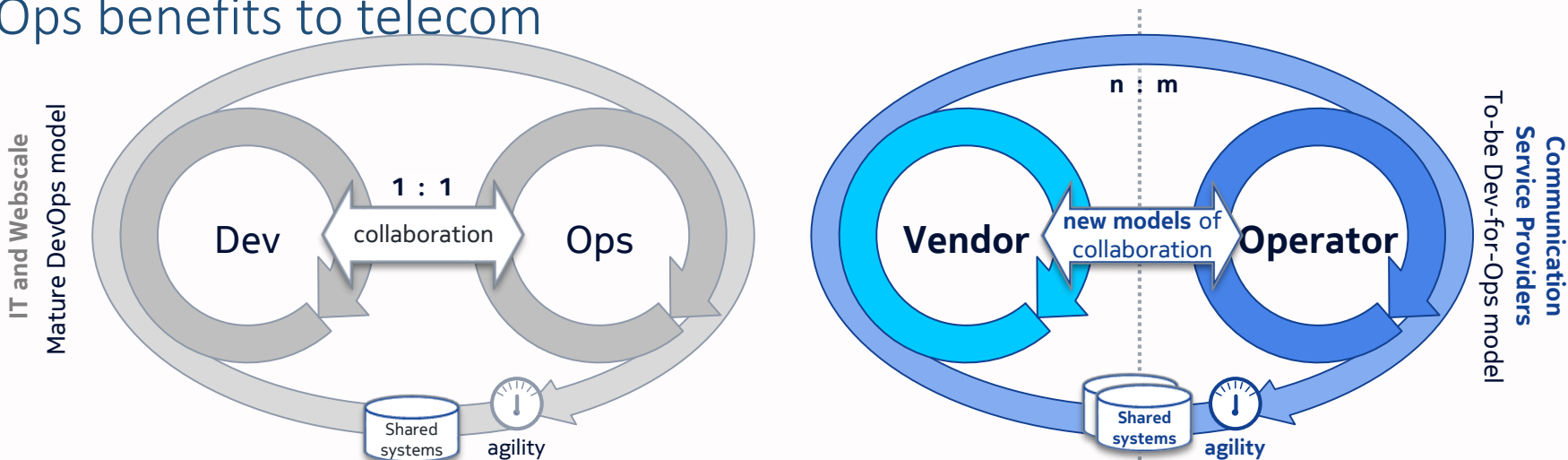
Future X networks require optimized and continuous change management, with high service reliability

Cloud provider-like agility + high reliability → Integrated Future X Network

Future X Operations Framework



Agile operations: development for operations (Dev-for-Ops) brings DevOps benefits to telecom

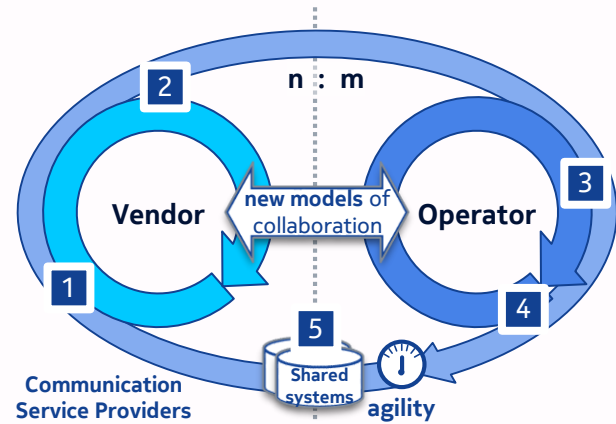


- Organization**
- Focus**
- Feedback**

Operations and development under one “roof”
Single pipeline integrating Dev and Ops
Simple & regular feedback between Dev and Ops

Operators buy most of SW and services from multiple vendors
m operators integrate from n vendors
Automated, cognitive feedback mechanism needed

Agile operations key principles



1 Service Centric Design

- Model-based agile development practices.
- End-to-end Service Manager.
- Service Models used throughout development and operations.

2 Cognitive Lifecycle Testing

- Automated Test Cases
- Full-suite Tests for all changes.
- Dynamic test results fed back into development analytics.

3 Contextual Feedback

- End-to-end feedback automated workflow.
- Begin with feedback during test phases, then extend to operational phases.
- Digital improvement requests on services.

FOCUS

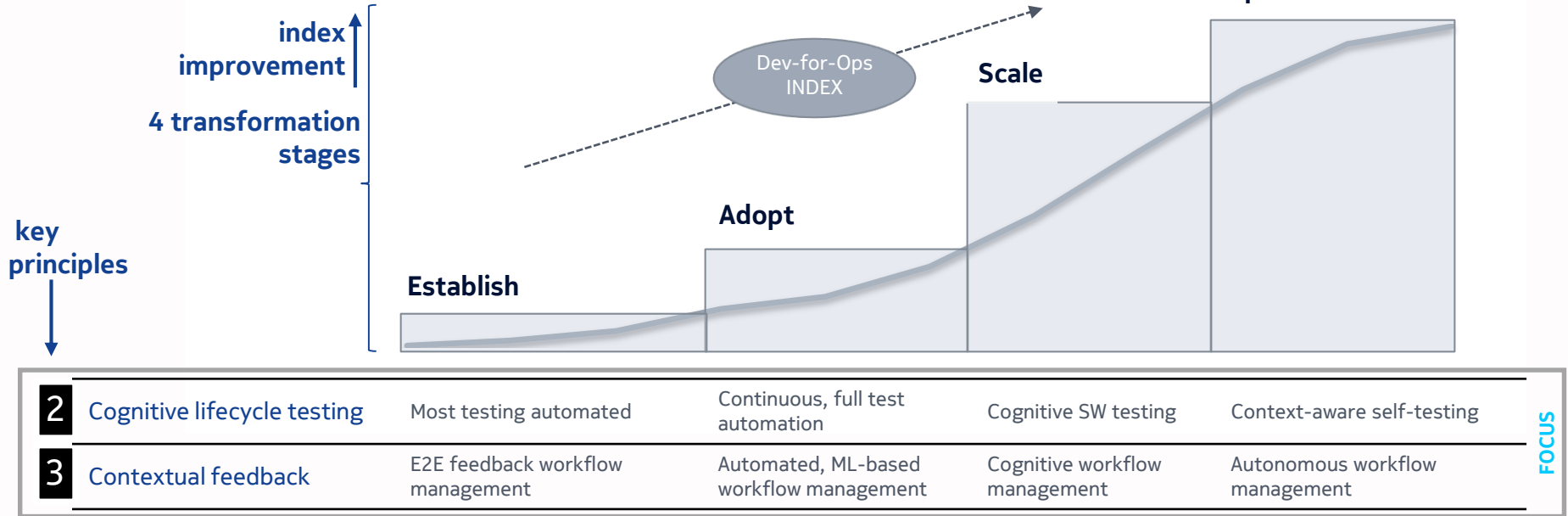
4 Integrated Lifecycle Management

- Common backlog and automated pipeline.
- Integrate operations early in concept, planning, and requirements phases.

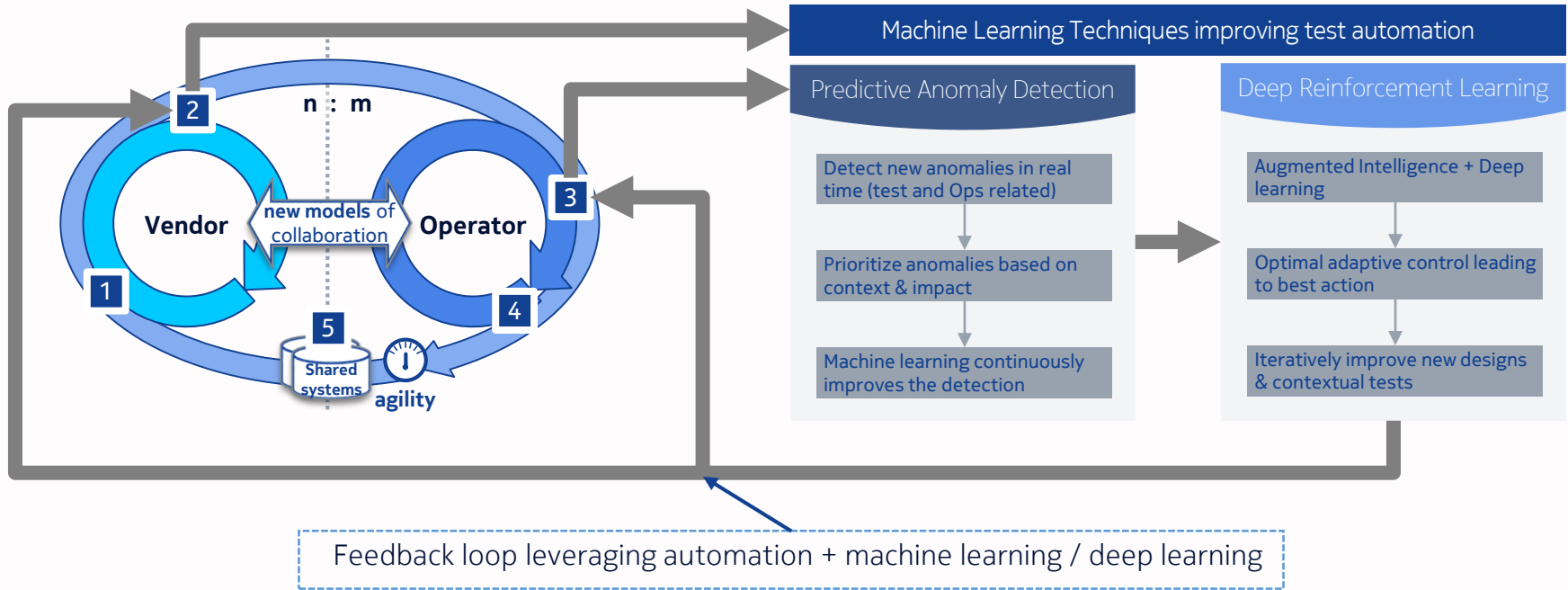
5 Open Delivery Ecosystem

- Start with 1-2 strategic vendor partners.
- Requires culture change on both sides.
- Standardized staging zone for vendor integration.

Dev-for-Ops transformation stages require the evolution of all key principles




Role of Machine Learning to achieve cognitive Vision




Major required actions in the testing domain

Vendor responsibility




Automated regression tests and initial steps on acceptance test automation



Automated product- and network-level testing with predictive anomaly detection



Machine Learning assisted test automation




Automated cognitive testing, self-learning and self-optimizing


Shared vendor operator responsibility




Interconnect vendor and operator pipeline



Pipeline equipped with triggers for automated actions



Network Infrastructure as Code (scripted environment)



Automated cognitive workflow management leveraging deep learning

Operator responsibility




Monitoring service and software quality



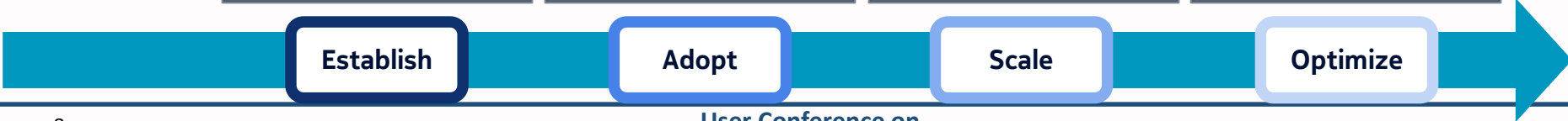
Ramping up platform economy



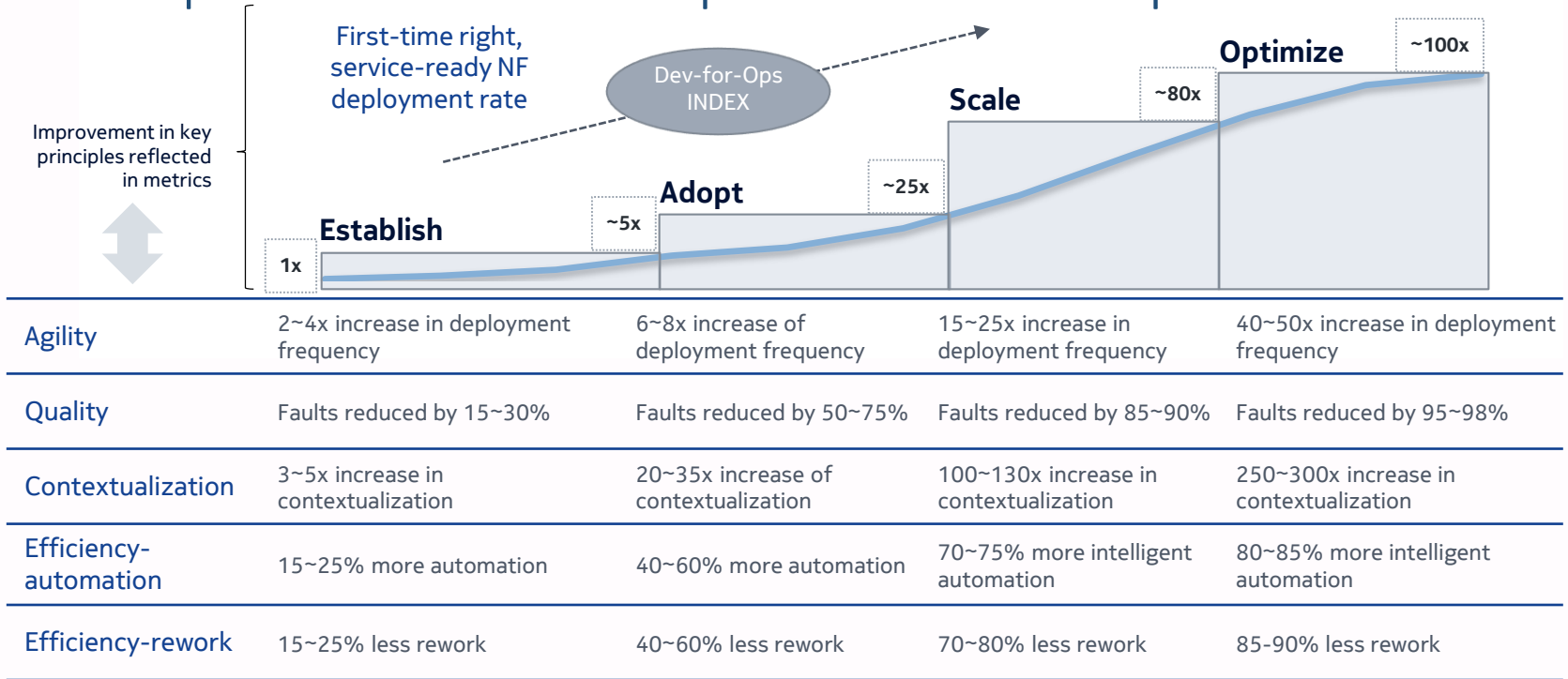
Cognitive feedback leveraging analytics



Fully fledged platform economy with open API exposure.



Dev-for-Ops transformation performance impact



Key take-aways

Integrated Concept

- Dev-for-Ops leading to highest benefits when maturity rises in all dimensions at the same time

Importance of Testing Agility

- Continuous improvement in testing
- Test automation
- Test results automated analysis
- Feedback-loops between teams

Role of Machine Learning

- Testing automation key to achieve higher performance levels.
- Augmented Intelligence using ML equally important

Shared Responsibility

- Operators and vendors working closer together
- High levels of trust needed

The future starts today

- Dev-for-Ops is a future concept evolving over time
- Implementation starting with little steps
- Acceleration after initial lessons learned

6th UCAAT

User Conference on
Advanced Automated Testing



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THANK YOU