



17th Edition INTERNATIONAL OPERATIONS & MAINTENANCE CONFERENCE IN THE ARAB COUNTRIES

United Arab Emirates – 19th till 21st Nov 2019

Next Generation O&M – Digitized, Autonomous, & Agile
Digital Transformation approach towards achieving Operational Excellence

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**Smart Services,
Better Experience**

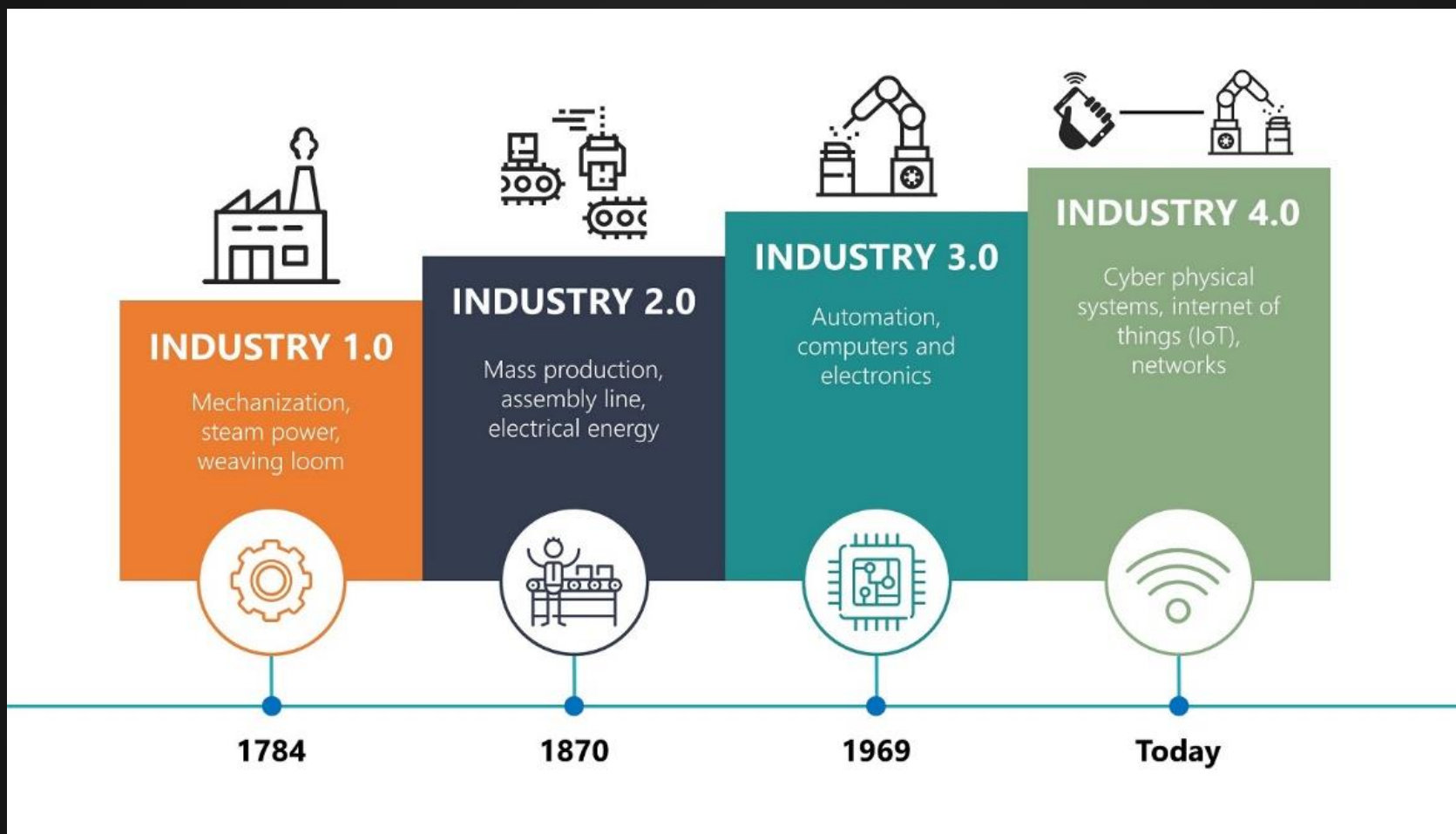
LEADING NEW ICT

Contents :-

- *What is INDUSTRY 4.0 ?*
- *What is Digital Transformation ?*
- *TOP-3 Challenges faced by Organizations in pursuit of Digital Transformation*
- *TOP Industry Challenges Organizations faces related to O&M*
- *Next Generation O&M*
- *AI & BIG Data enabled O&M*
- *O&M Innovation & Continuous Improvement – Idea to APP Life Cycle*
- *O&M Digital Transformation – Reference Delivery Models*
- *O&M Digital Transformation – Industry Case Studies*

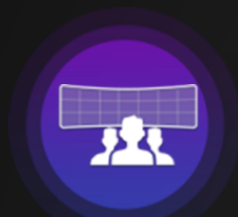
What is INDUSTRY 4.0 ?

Industry 4.0 describes the Digital Transformation trend towards automation and data exchange in industrial technologies and processes which include cyber-physical systems (CPS), the internet of things (IoT), cloud computing, BIG Data and AI.

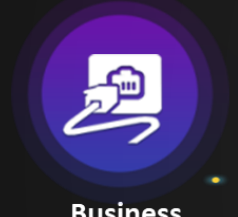


What is Digital Transformation ?

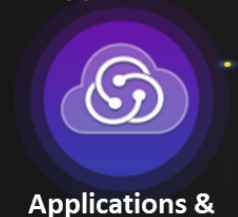
Digital Transformation leverages **Smart Workplace** to empower people, **Agile Business Applications developments** to enhance Customer Engagements, **BIG Data & AI** to enable Smart and Efficient Operations and **Applications & Infrastructure platforms** to Transform Services



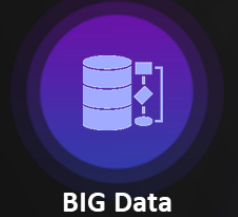
Smart Workplace



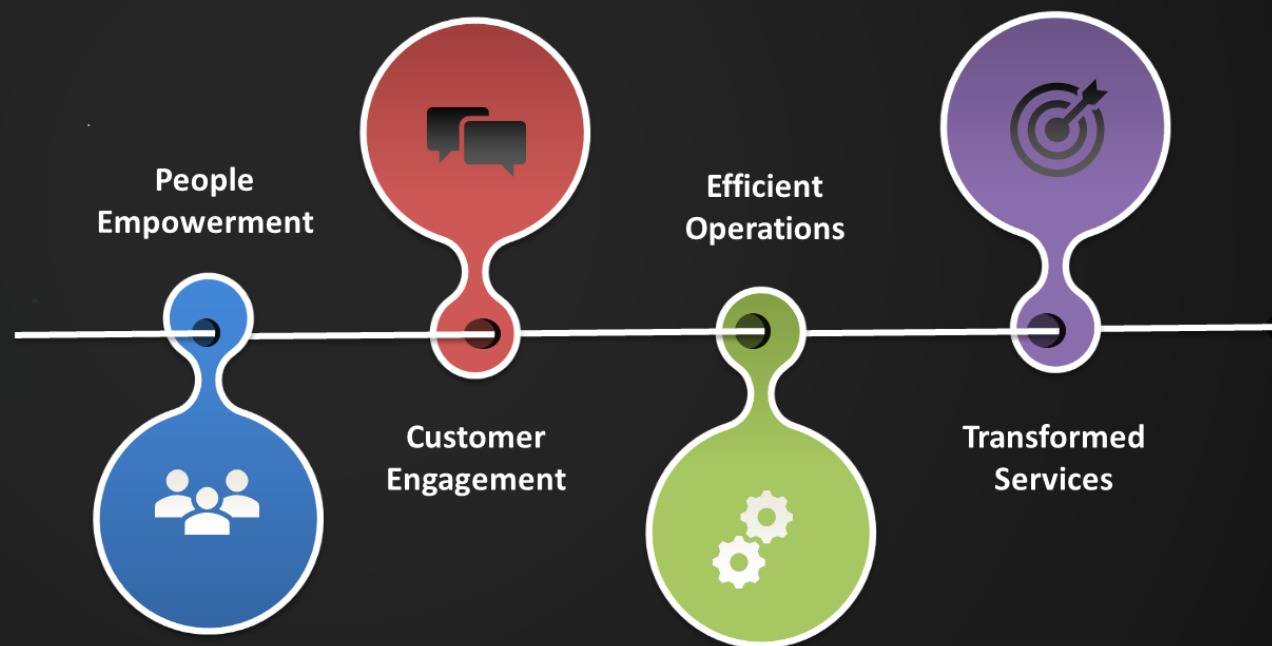
Business Applications



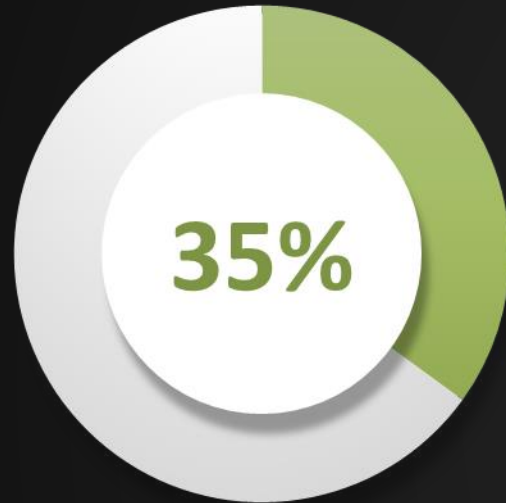
Applications & Infrastructure



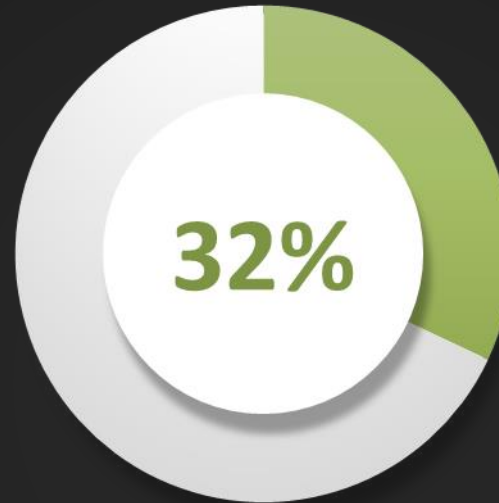
BIG Data & AI



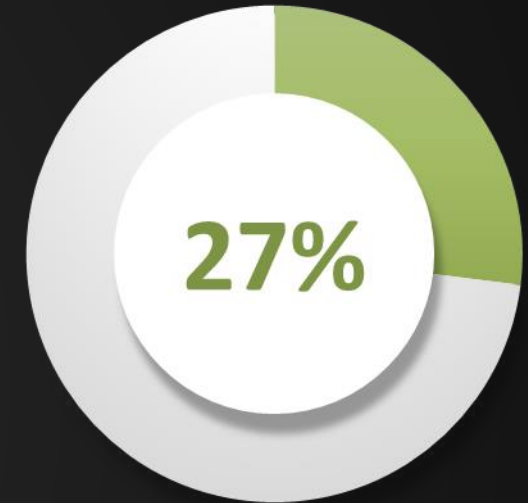
What are the TOP-3 Industry Challenges faced by Organizations , during their pursuit of Digital Transformation ?



Finding , Training, &
Retaining the right talent



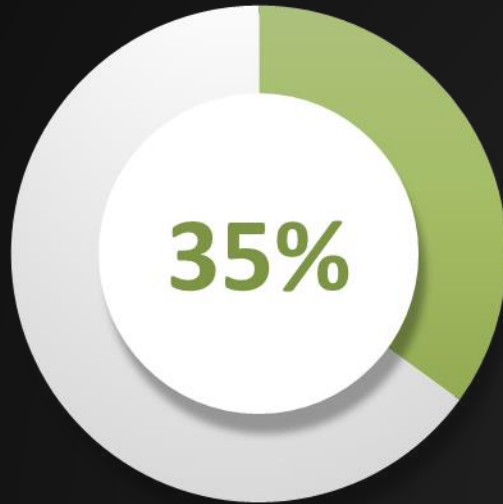
Lack of Internal Alignment
with Strategy



Emergence of New Businesses
or Delivery Model

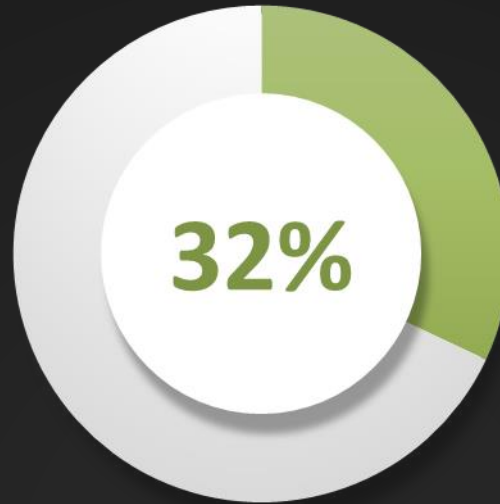
Source : Deolitte Industry 4.0 Investment Survey , 2018

What are the Possible Solutions ?

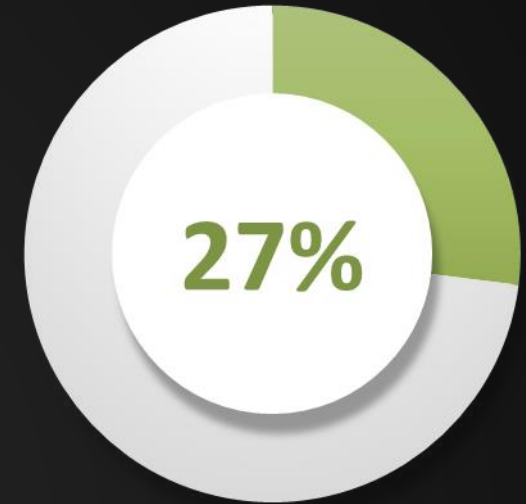


Finding , Training, & Retaining the right talent

Source : Deolitte Industry 4.0 Investment Survey , 2018



Lack of Internal Alignment with Strategy



Emergence of New Businesses or Delivery Model

Potential Solutions :-

- Staff Skills Transformation
- Staff Enablement
- Partnership & Collaboration
- ECO System Development

Potential Solutions :-

- Transformation Methodology
- Business Alignment
- Business Flows to Service Flows
- Idea to APP / Digital Services

Potential Solutions :-

- Faster TTM
- Flexible Delivery Models
- Industry Standards & Processes
- Global Experience Sharing

What are the TOP Operations & Maintenance Challenges faced by Organizations ?

TOP Industry Challenges Organizations face related to O&M

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Higher
Operational
Efficiency

Higher
Customer
Satisfaction

Lower OPEX

Customer
Complaints ↓

Automated
Fault
Handling ↑

Proactive
Resolution ↑

Service
Outages ↓

Mean Time
To Restore ↓


Repeated
Faults ↓

Next Generation O&M – Digitized, Autonomous, & Agile


Next Generation O&M – Digitized, Autonomous , & Agile

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AUTIN is a Digital Transformation based smart & intelligent operation solution. By using AI, it reshapes operations to achieve operational excellence, perform fault prediction & automatic restoration, eventually realizing an autonomous operations.



Massive Man-Made Mistakes
70%



Repeated Outages & Long MTTR
6 Hours



High Operation Cost
Equipment Cost **X3**



Expansion of Network: X Times

Seamless Quality Experience

1 Million+ Alarms/Day

13,000+ WOs/Month

Efficient
Reliable
Agile
Predictive
Autonomous



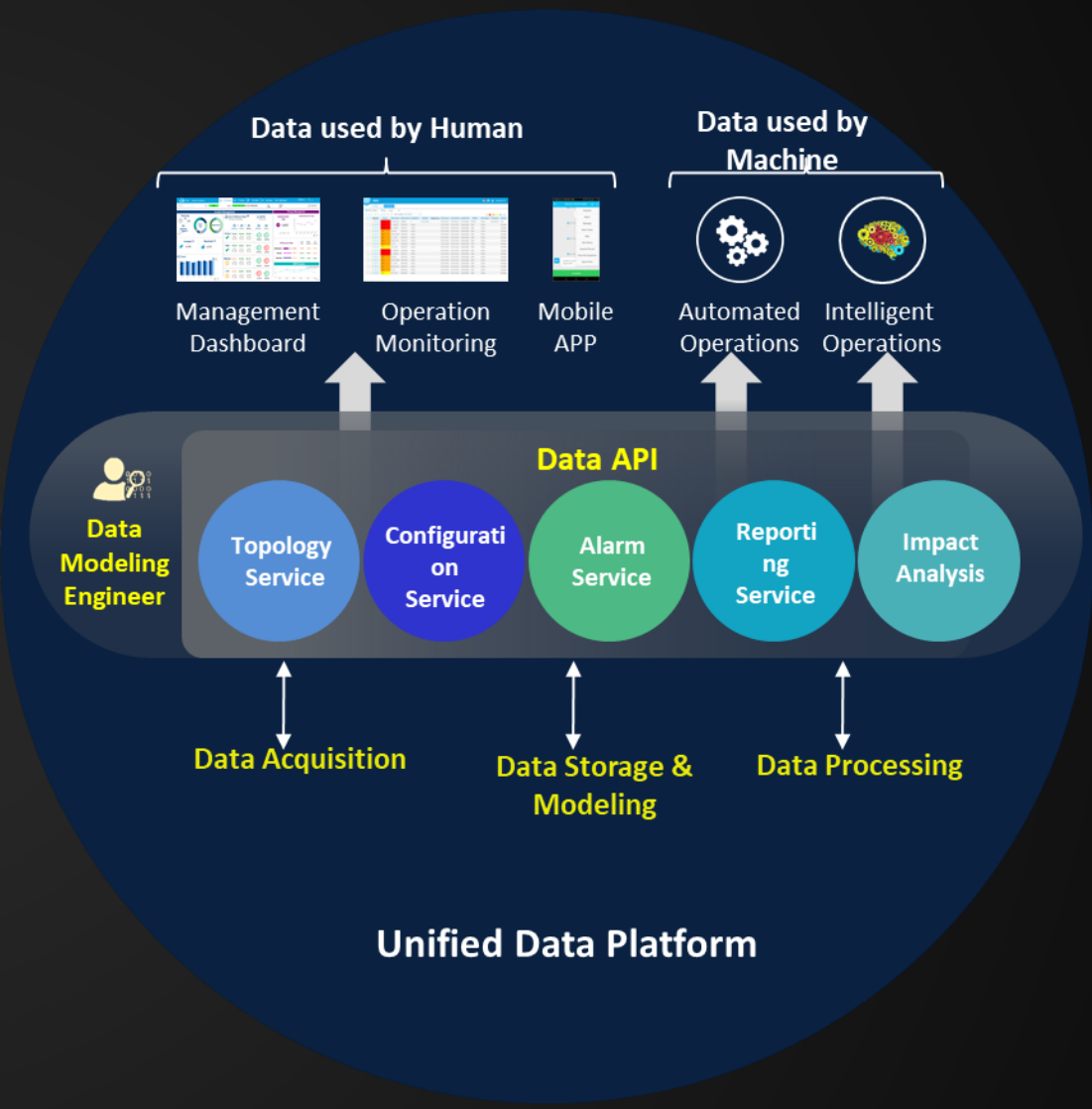
AUTIN
(AUTomation + INtelligence)

Massive Data Collection & Modeling from Single Data Platform

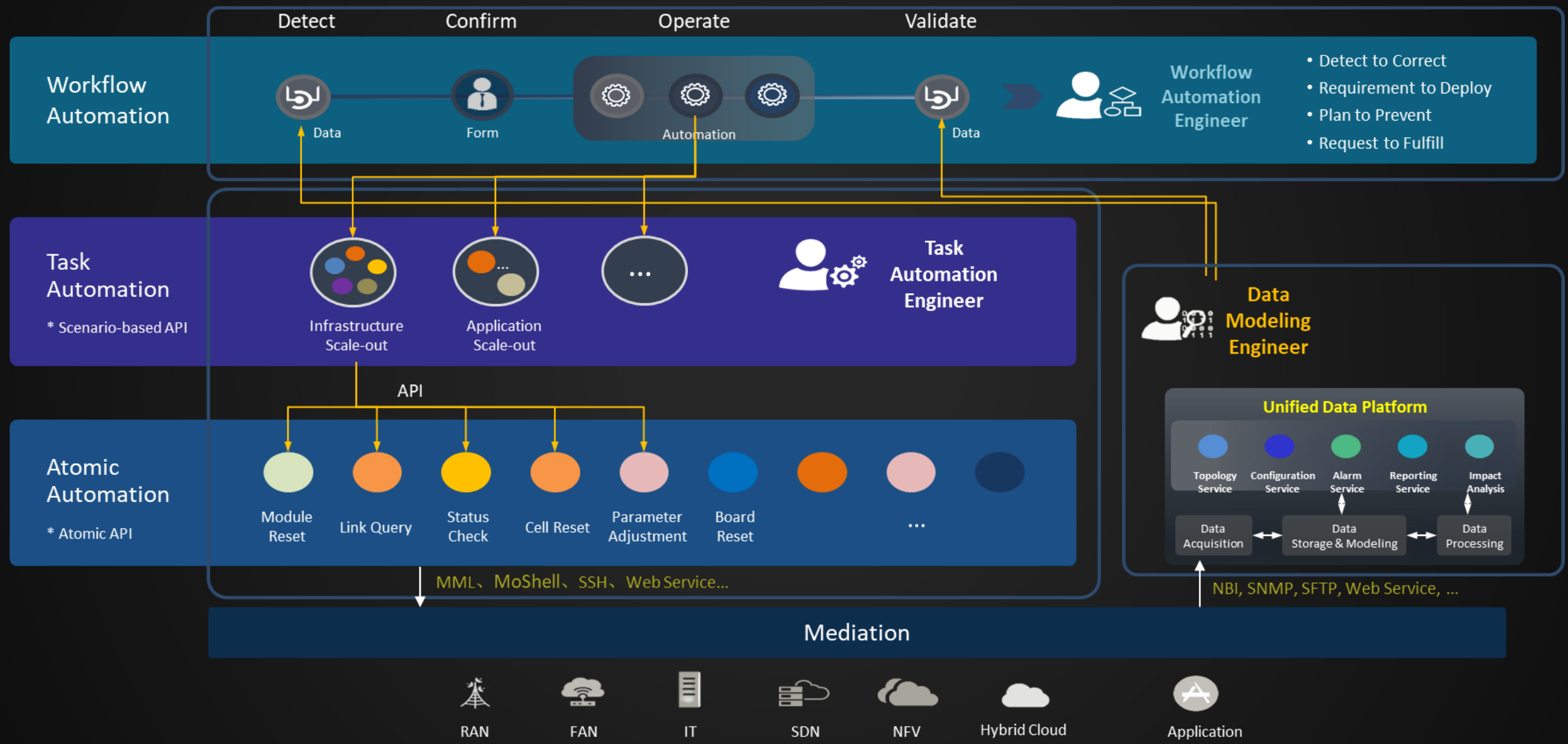


TT	CR	WO
FME	Car	...
Events	Alarms	Log
Perf.	Capacity	...

- Operation Processes Online
- Managed Objects Online
- Delivery Resource Online
- Anytime , Anywhere with Mobility



Effective Orchestration through Open API

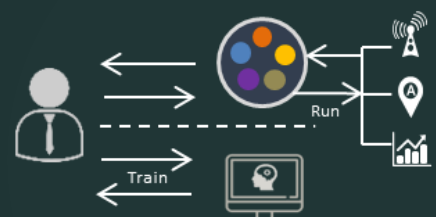


From Automation to Intelligence, from Rule-base to Learning-base

- Fault Management Automation
- Change Request Automation
- Preventive Maintenance Automation

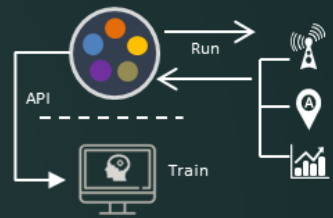
Offline Batch Learning

- Automatic Alarm Correlation Rules@AABD
- On-demand Preventive Maintenance
- Best Workforce Utilization



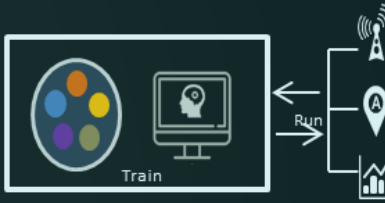
Online Batch Learning

- Root Cause Identification@AABD
- Fault & Risk Prediction
- Service Impact Analysis

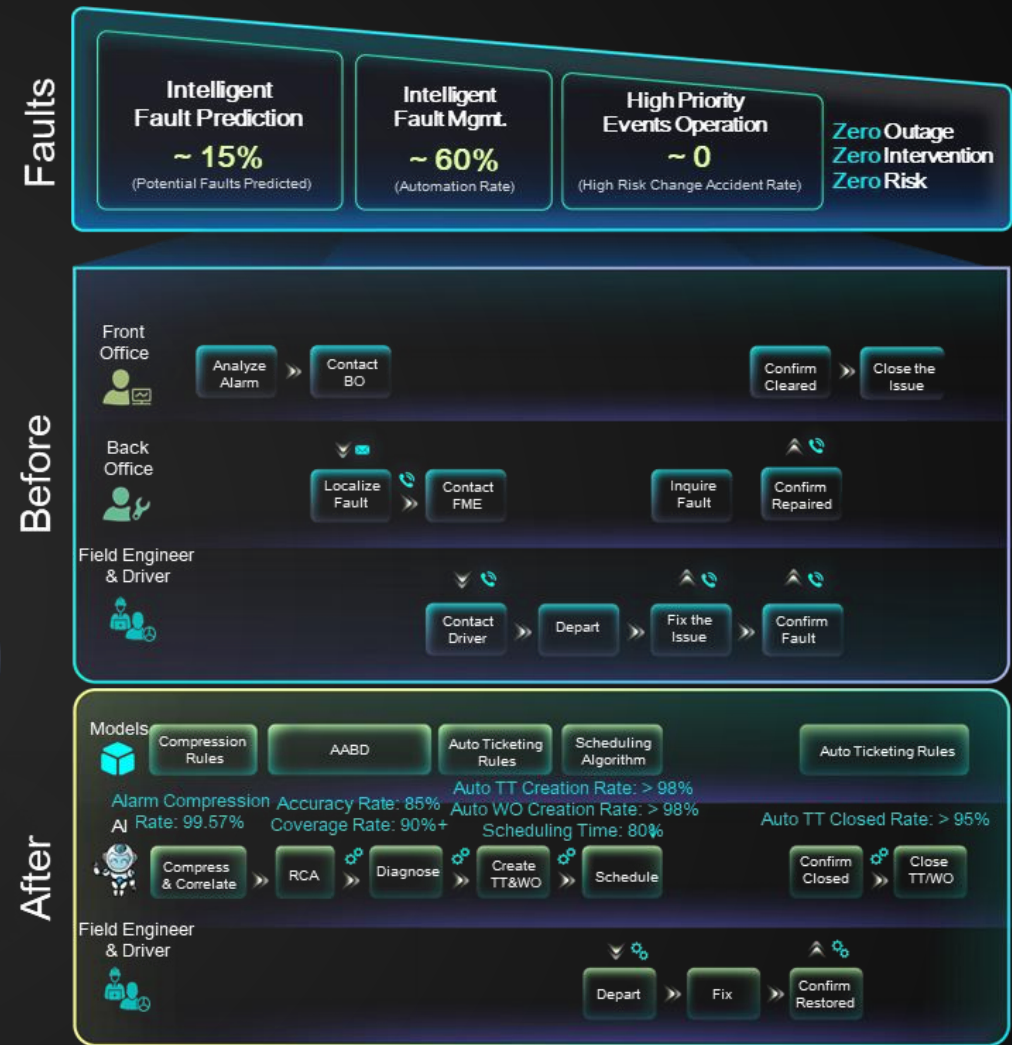


Streaming Learning

- Autonomously provision, configure and assure the network



***AI & BIG Data enabled O&M – ZERO Interventions, ZERO
Outages, ZERO Risks***



* 130+ Projects, 6000+ Developers, 600+ APIs, 6 Certifications & Awards



4 System -> 1 Platform ; Automation Rate 20% to 60% ; MTTR 6 to 3 hr

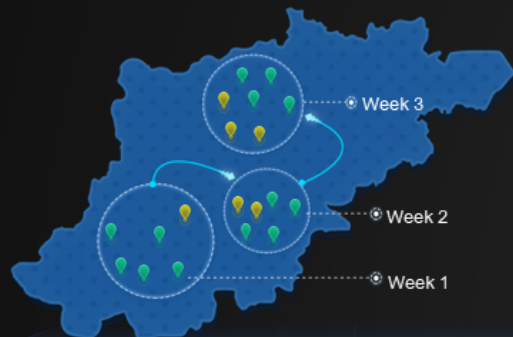


Before: Reactive Operations

Lack of Risk Identification

Preventable Outages & Long MTR (6 hours)

High Operation Cost



Scheduled Preventive Maintenance without insight on potential risk

Reactive fault management
\$80 for each site visit



Network



After: Predictive Operations

Accuracy of Risk Identification 85%

Service Outage reduced by ~ 20%

Site Visit Cost Optimized by ~ 30%

Risk Prediction through Models & Algorithm



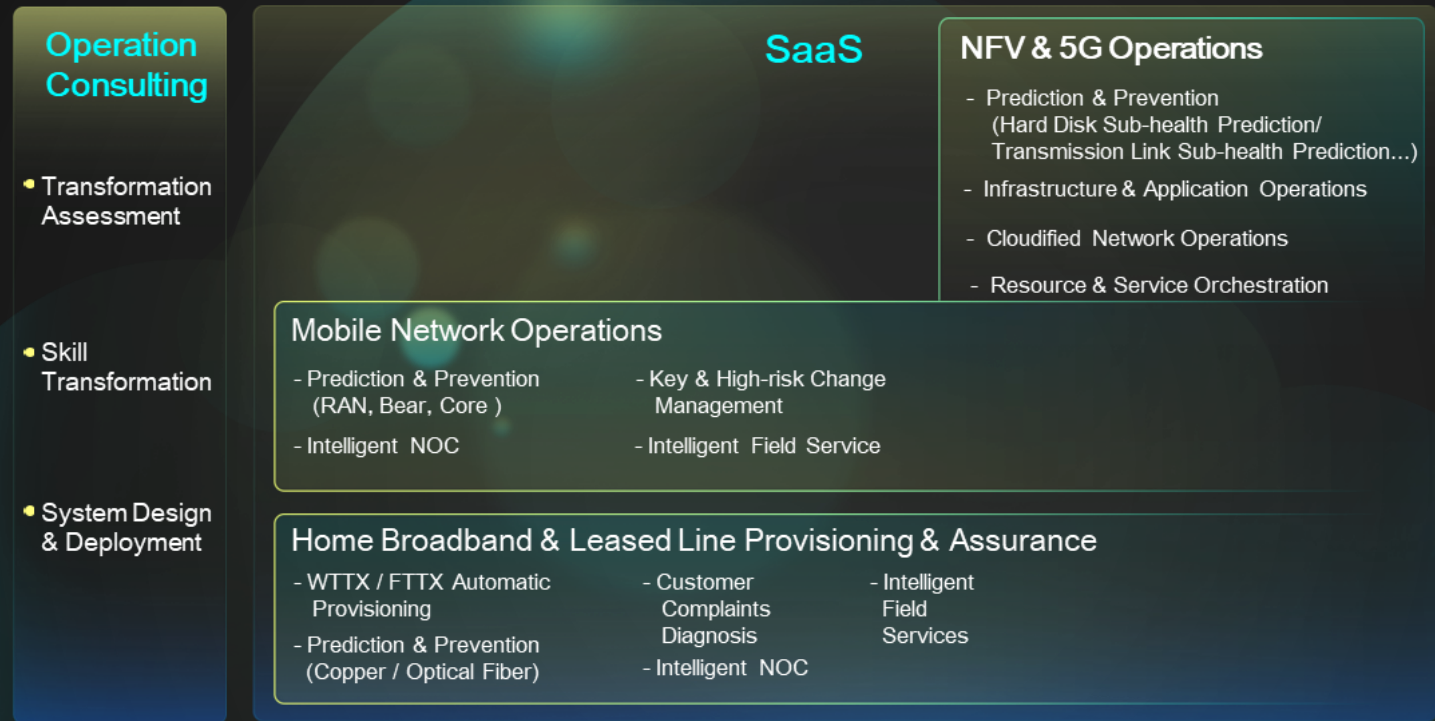
Healthy
Risky



Prediction-based preventive maintenance

AUTIN Digital Transformation model for O&M can assist customers to evolve their operations to an intelligent operations managing across legacy, hybrid and cloudified networks

- VoLTE
- Video
- 2H
- 2B
- Cloud



- Average Cost per Site Reduction **20%**
- Critical Change Accidents Reduction **30%+**
- Operation Efficiency Improvement **20%**
- Customer Complaint Reduction **15%**
- Service Ready Within **1 Day**



- Developer Service
- APP Store
- Data Collection
- Policy & Automation
- Data Analysis
- Service Portal
- ...

Operation Web Services (OWS)

O&M Innovation & Continuous Improvement – Idea to APP Life Cycle

AUTIN online studio with its visual programming means that the staff needs minimal coding skills, with “drag and drop” development . This allows more focus on Real World Problem Definition and Its Real World Solution Orchestration & Implementation by means of AUTIN Digital Transformation



AUTIN digital workforce transformation focuses on empowering the engineers to become developers, giving them the ability to improve operational efficiency directly and add more value to the business

240,000+
Registers

Ecosystem Development & Management

- Partner Engagement
- Developer Campaign

APP Operation

- APP Store - TeleOWS
- APP Security Management

Training

- Classroom
- Online Experience

6,600+
Developers

900+
APPs

Certification

- HCDA
- HCDP

Technical Support

- 24*7
- API Catalog

AUTIN Innovation Center



20+
Partners

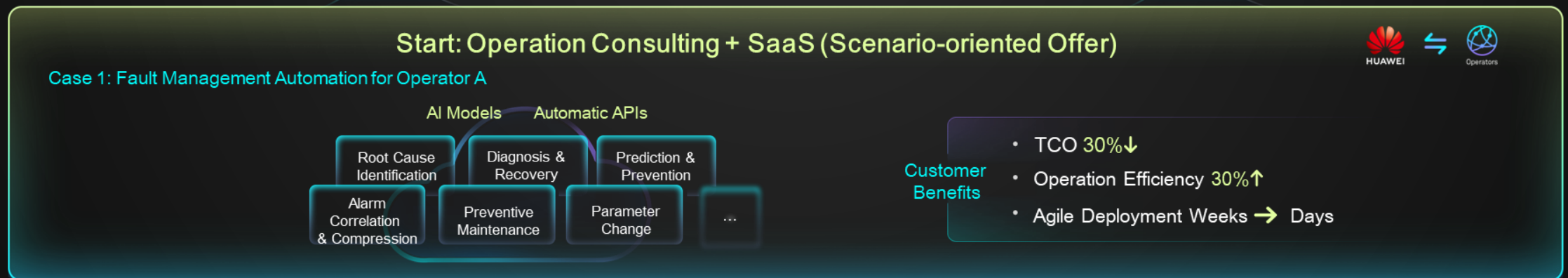
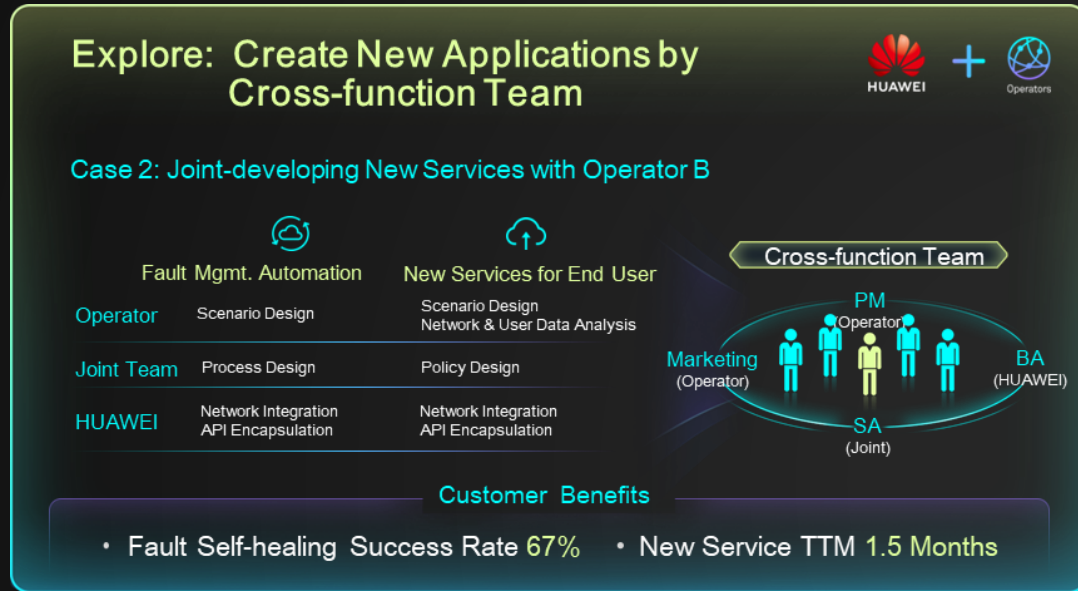
Developer Service

900+ Off the Shelf APPs in AUTIN APP Store based on global best practices for easy and quick reference , customization & deployment.

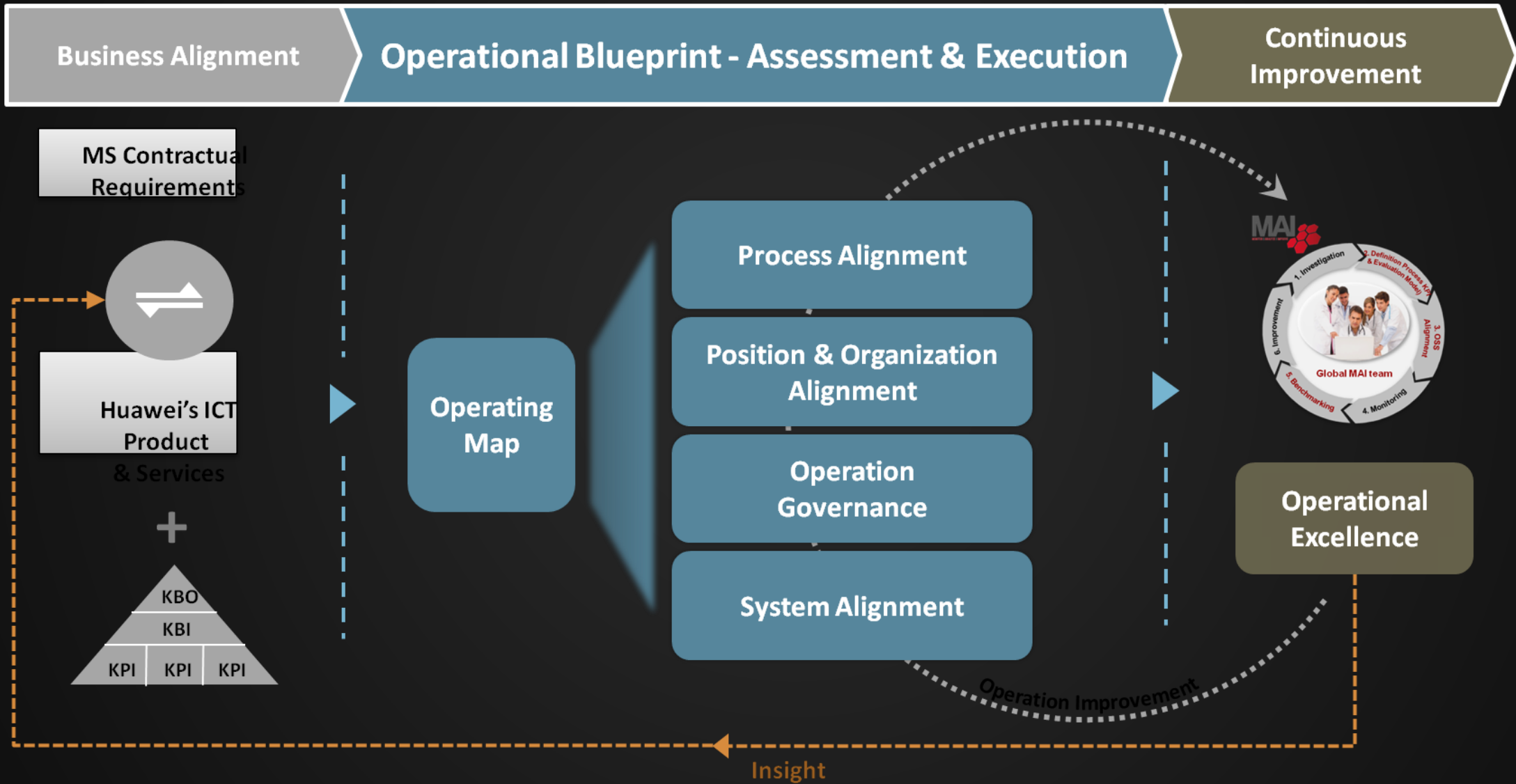


O&M Digital Transformation – Reference Delivery Models

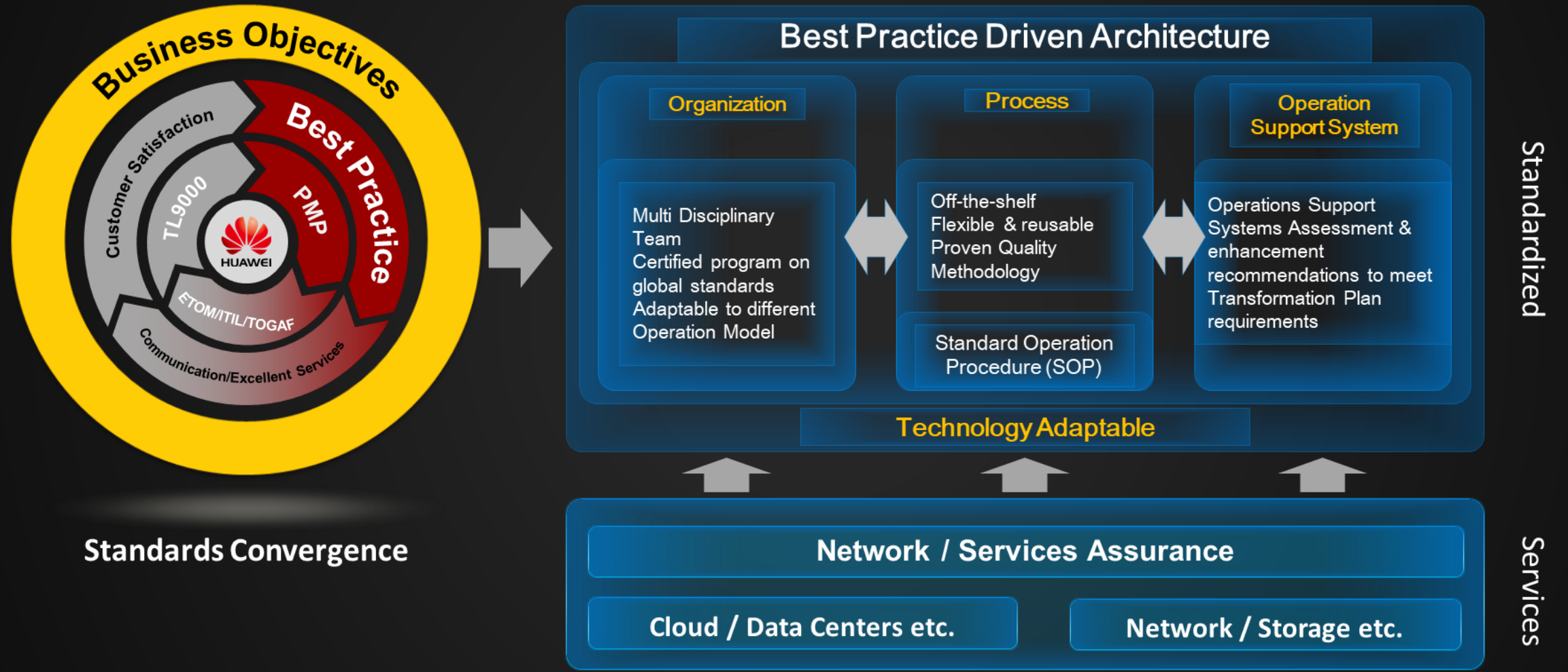
Customer will always start with **AUTIN (OC+SaaS)** model which provides the foundation to explore **different model** options to meet unique problems & requirements



Innovative & Holistic Transformation Framework to realize O&M Digital Transformation & Operational Excellence



Mature & Robust O&M Transformation Delivery Framework based on industry standards & best practices



O&M Digital Transformation – Industry Case Studies

Customer B - Automation & Intelligent Operations for ZERO Intervention

The benefits realized by customer with this solution was a work orders have been reduced by 30%, operation efficiency increased by 50% and the P1 MTTR was reduced ~10%

Challenges

Massive Alarms:
27+ Million Alarms / Month



High Workload:
13,000+ Work Orders / Month



P1 MTTR:
144 Minutes



O&M Digital Transformation Solution



Transparent
Operations
Management



AI-driven
Intelligent
Fault Management



Automation
Operations
by API



Intelligent
Performance
Analysis

500+ Rules

500+ APIs

4 Patents

15+ Models

OWS

Developer Ecosystem

Benefits

No. of Work Orders: 30% ↓

NOC Operation Efficiency 50% ↑

P1 MTTR:
130 Minutes

Customer C - Managing Critical Network Issues for ZERO Risks

The benefits realized by customer with this solution was a reduction of 30% revenue loss, 20% decrease in critical issue MTTR and 0 High Risk Change Accident Rate

Challenges

150K USD
Loss revenue due to 200 site outages for 10 hours

30 mins
Time for organizing the experts

200 mins
Critical issue MTTR

70% Human mistakes
Major cause - High risk changes

High Priority Events Intelligent Operation Solution

Before

VS

After

Key Capabilities

30 mins

VS

5 mins

Time to organize experts

Automatic mapping of experts
Organize experts with One-Click



Expert Experience

VS

Fault Analysis Tree, Covering
80% Scenario

Global knowledge + customer data
Machine learning



Individual Operation

VS

Collaboration between FME, FO & BO to Achieve
0 Accident

One step with control checks for high risk operation
Process driven to IT controls



Benefits



30% ↓
Revenue Loss



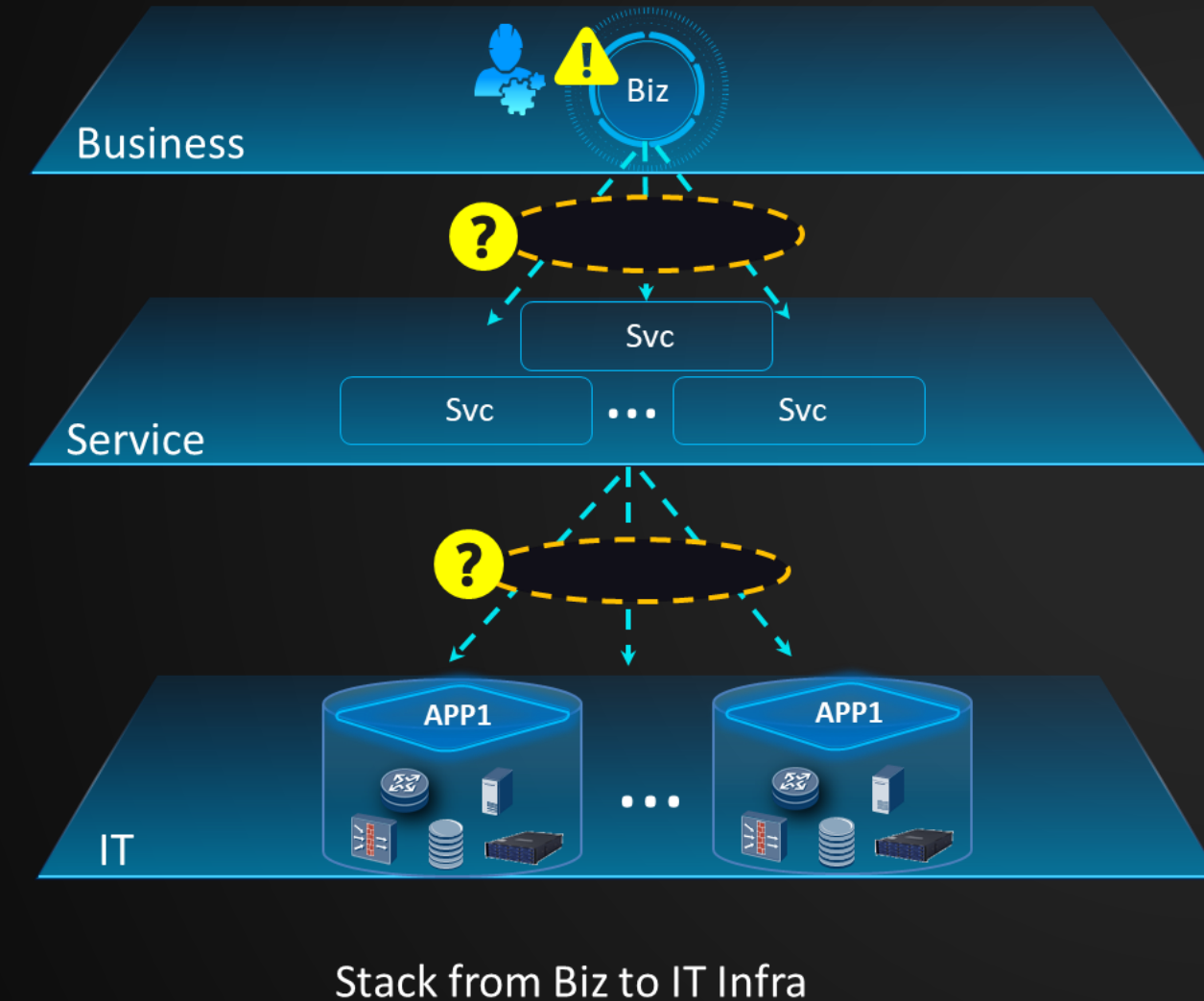
20% ↓
Critical Issue MTTR







0
High Risk Change Accident Rate

Customer T – IT Operations Challenges

Challenges : Lack of E2E Business Service Monitoring Hinders Business Development

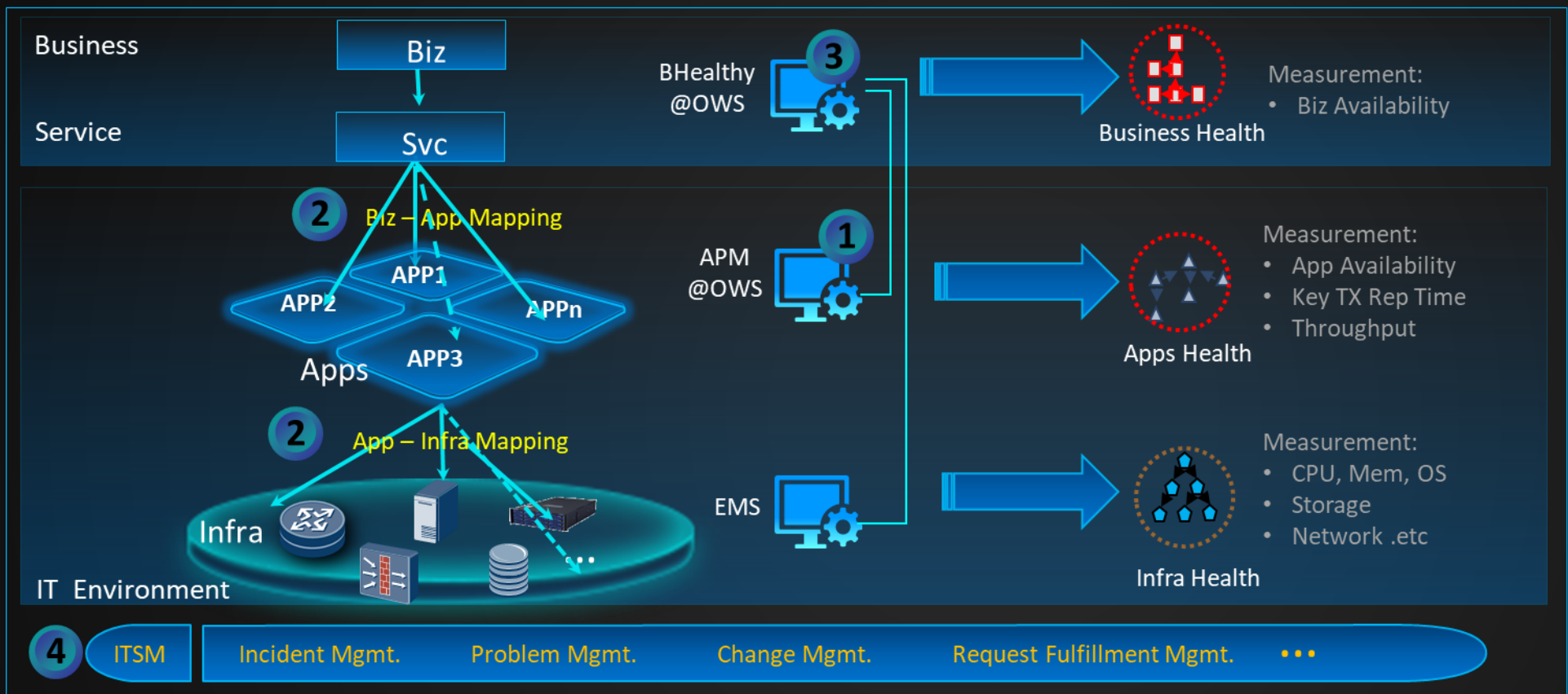


Challenges

- 
1 No clear topology from Business & IT Infra
- 
2 Invisible application performance
- 
3 Information island due to silo systems and operation teams
- 
4 Lack of E2E service management process and efficiency ITSM tools

Customer T – IT Operations Challenges

Solution : E2E BSM Enable MTTR Reduction and Cost Saving, Improve User Satisfaction



Values

- MTTR:** ~90% reduction (indicated by a downward arrow).
- O&M costs:** >\$1 m/y reduction (indicated by a downward arrow).
- User complaint:** >10% reduction (indicated by a downward arrow).

- 1** APM@OWS for real-time performance monitoring
- 2** E2E topology view from Business & IT Infra
- 3** BHealthy@OWS for event consolidation and analysis
- 4** Efficient ITSM tool for service management

The background is black with a subtle grid pattern. On the right side, there are several thin, curved lines in orange, yellow, red, and cyan that sweep across the page. The text 'THANK YOU' is centered on the right side in a large, white, bold, sans-serif font.

THANK YOU

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