CSP grade
Data, AI & Analytics

Microsoft & Amdocs
Joint proposition

Ronen Fischler
Head of Data Intelligence BU

Microsoft Azure

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Become a CSP Data & Analytics as-a-service Leader

The opportunity

*The data, AI & analytics untapped opportunity**

- CSPs are amongst the largest producers of data. An average size CSP produces 16 TB per day and stores **26PB**
- **44%** Of CSPs report Inability to access data needed across operational silos
- CSP cloud-specific spending expected to grow at more than **6** times the rate of general IT spending through 2021
- Telecom industry suffered a **21%** churn rate in the United States in 2018

That is why CSPs are expected to invest more then $36.7B annually Data, AI & analytics spend is estimated by 2025

(*Analysts estimations)

Our right to play

Amdocs is a global leader in Modernizing, digitizing & automating the communications industry
Magic Quadrant for Integrated Revenue and Customer Management for CSPs

- ✓ Industry know-how and robust track record
- ✓ Constantly innovating
- ✓ Broad customer base

Broadest scope of industry IP

36 years, Always adapting and leading

80+ major productions per quarter

Full accountability from scoping to operations

Full year cash flow of **$428** million

Constant infusion of M&As

80% success rate delivering on time (industry rate 53%)

$4.1B
Revenues

350
Customers including the greatest SPs on the planet

25,000
Employees

85
Countries

1.7 billion
Daily digital journeys

600
Media company relationships

Microsoft & Amdocs – How to scale data & AI in the Telco industry

Amdocs is one of the biggest producers of CSP data

Amdocs data Intelligence

DATA ONE

Taking the industry to the cloud
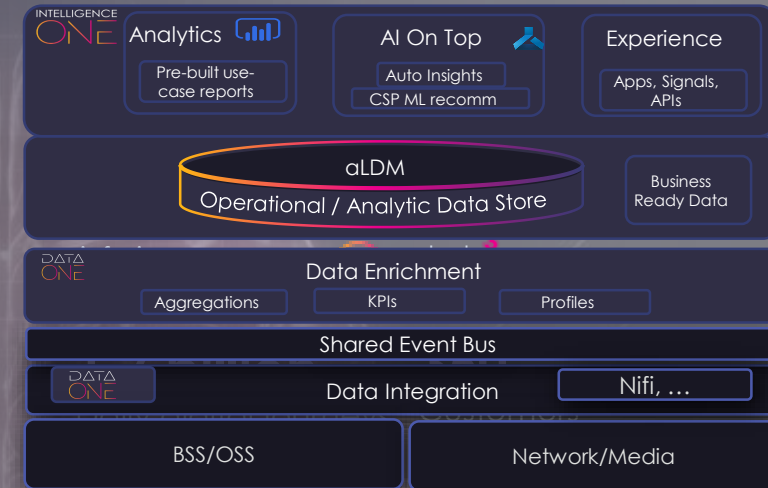**Comprehensive data integration and transformation**

Streams and unifies data from all app sources into a cloud DW. Enriches data with CSP KPIs, cust profiles, and aggregations to create business-ready data

INTELLIGENCE ONE

The Only CSP specific e2e analytics AI & BI t solution
Modern AI & BI analytics platform

Uses CSP-optimized AI to provide actionable insights, ML recommendations, root-cause analysis and predictions. Includes pre-built use cases and best practices for a range of business areas covering Customer, Product, Care, Finance and Network. Enables self-service analytics for users of all levels.

INTELLIGENCE ONE

Analytics	AI On Top	Experience
Pre-built use-case reports	Auto Insights / CSP ML recomm	Apps, Signals, APIs

aLDM
Operational / Analytic Data Store — Business Ready Data

DATA ONE — Data Enrichment

Aggregations	KPIs	Profiles

Shared Event Bus

DATA ONE — Data Integration — Nifi, …

BSS/OSS	Network/Media

Strategic partnerships with Microsoft

How do we do it together?

Enhance Product Offering
- MSFT & Amdocs as a Global SI for CSP data modernization
- Amdocs DataONE on Azure - Data streaming and transformation to cloud
- Amdocs IntelligenceONE powered by Microsoft Power BI

Co sell
- Capture CSP data and analytics workloads moving to cloud
- Existing and new MSFT + Amdocs customers to Drive growth

Mutual marketing plan
- Market education to create awareness and lead gen
- Co-investment in marketing programs

Sales enablement & training

Additional slides

Thank you

Cross telecom industry challenges;

Less then **20%** of project get adopted or reach production

Only **1** in **5** | AI projects are currently succeeding

IDC

Siloed AI use cases

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tm**forum**

Data is still the #1 barrier

44% Of CSPs report Inability to access data needed across operational silos

28% Say have issues with the lack of clear standards for exposing data streams

Harvard Business Review

May 2019

"While generic ML tools may seem to work, domain knowledge aids in applying them to the problem at hand.

Dramatic reductions can be seen in the error rate just from picking good features or a reasonable model structure in a way that's not easy to automate."

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Data is still the #1 challenge

Real-time / on-time data streams

Inefficient data modeling

Fragmented data governance and quality

Data integration and extraction (legacy systems)

"The No. 1 challenge for AI adopters is quality data"

-Forrester-

Meshing own sources & 3rd party data

Data security, privacy and regulation

FORRESTER®

The Evolution To Real-Time Customer Experience

95% of CX decision-makers are **unable to make sense of customer data** and struggle to gain real-time insights from it

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Paradigm shift is needed

AI on top

The Intelligent CSP

Uber-intelligence cross organization

CSP 3.0

Smart products
AI-inside solutions /
use cases

CSP 2.0

Big Data

CSP 1.0

Analytics
& BI

A 'Brain' not a "Lake"

- Intelligent data aggregations
- Cross-business intelligence

Target-oriented AI

- Allow users to easily define & pursue business/Ops objectives
- Rich vertical and cross-domain use cases libraries

Easy to use

- Interactive natural language user interface
- Narrated insight
- Proactive recommendations

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The **Data Intelligence** approach

products, services & pre-integrated partners

Data intelligence E2E Play Driven By Business KPI's

Data, AI, Synchronization & Consumption application

DATA ONE

INTELLIGENCE ONE

1 — Build & Protect

Design, develop & operate the telco's big-data & AI infrastructure

2 — Analyze, Decide & Experience

Democratize and visualize data by extending analytics across business & operation functions to better monetize insights and personalization

3 — Uber AI

Leverage AI across business functions and use cases to improve insights & monetization

Data-driven, technology assets, best practices & expertise

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Data Intelligence e2e modular Offering

Answering real market needs –

Less then 20% of AI projects get adopted or reach production

AI can improve customer experience by 5% to 10% & cost reductions of 15% to 25% within two to three years
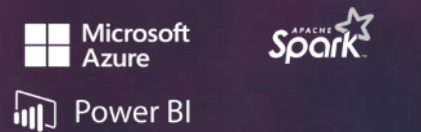
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DATA ONE

	Products	Services	Pre-integrated Partners
3 Uber AI	• Intelligence One / IO app • Insights engine • KPI engine	• Data science as a Services • Business & marketing Consulting • ML Engineering services • AI & data science consulting	Microsoft Azure, Apache Spark, Power BI
2 Analyze, Decide & experience	• Amdocs Engage • Profiles Management • Self-Service Workbench • Auto ML • Intelligent Customer 360	• Data Visualization Design • Implementation / Customization of Dashboards & BI Apps • Marketing and business analytics services	unifi, DataRobot, NEURA, PANORAMA, Power BI
1 Build & Protect	• Data Hub (ADH) • aLDM • Customer Profile • Data Privacy	• Data Ingestion & Integration • Data Migration to Cloud • Data Quality & Governance	Microsoft Azure, Google Cloud, SecuPi, snowflake, aws

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Design, develop & operate the telco's big-data & AI infrastructure

DataONE serves as a next-gen data warehouse serving the entire organization. efficiently unifying and organizing operational & analytical data from any source and making it easily accessible Providing real-time updates and enterprise-grade security.

DataONE calculates business metrics and KPIs, generates individual customer profiles and enriches it with external data sources such as behavioral data.

Products: DataOne (ADH), aLDM, IC360

Services: Data Ingestion & Integration, Data Migration to Cloud, Data privacy, Data Quality & Governance

1st & 3rd Party Data

Batch

Real time

Data Transformation, modeling, protection

Entity Matching

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INTELLIGENCE ONE

Comprehensive AI & BI analytics solution built specifically to help CSPs use data to drive their business
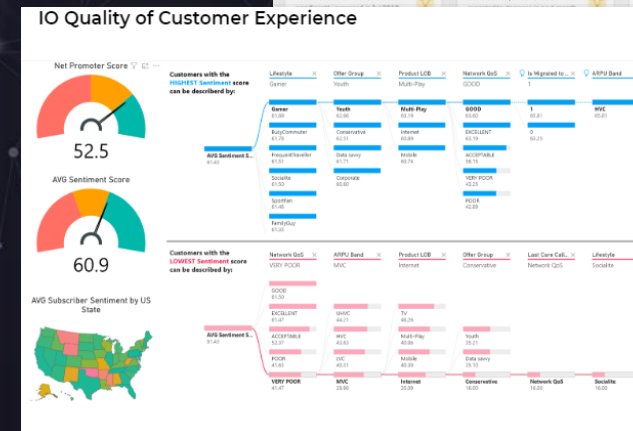
IntelligenceONE app is a comprehensive analytics solution built specifically to help CSPs use data to drive their business. The service utilizes advanced AI and BI technologies to analyze data from dozens of internal and external systems and provide users of all levels with concise, insightful and actionable insights.

IntelligenceONE comes with rich vertical and cross-domain pre build telco specific use cases & KPI libraries to Proactive inject recommendations

IntelligenceONE is designed to span every aspect of the business with detailed use-cases and best-practices being built for covering Network, Customer, Product, Care and Finance.
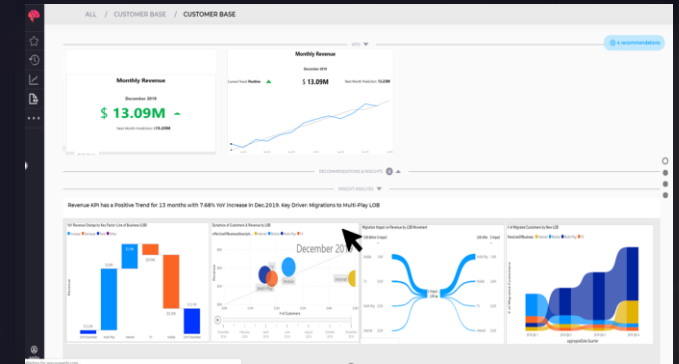
Products: IntelligenceOne

Services: AI business optimization models, Data Science as a service, marketing & business consulting

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Unique position for data enrichment

"where I go, when, how I get there…"

"what do I see and browse for"

Behavioral Data

In App Analytics

Psychological Data

Usage & Spend

"what personality, what drives my behavior..."

"how I use my service"

AI / ML models

- Recommendation engine
- Top telco specific KPIs
- Real Time Context
- Enriched customer profile
- Auto-generated Insights enabling users to find true root-causes and spot early trends
- Predictive scores
- Advanced segmentation
- Personalization
- AI / ML algorithms optimized and trained to understand CSPs-specific terms and attributes

Real time business Insights

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Data Intelligence functional Architecture

Data Scientist

Applications

Self Service BI

Business Personas

INTELLIGENCE ONE

Signals, APIs

Enriched Analytics

AI Recommendation

Auto Insights

Experience UI
Pre-Build Use Cases
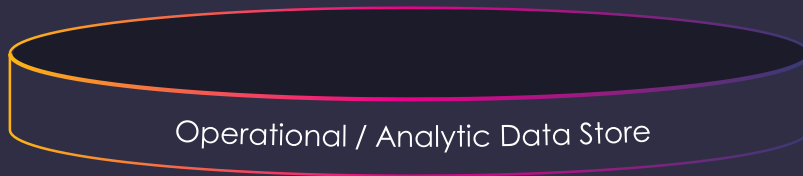
Authoring UI

Shared Data-Model

Metadata

Lifecycle management

Security

DATA ONE

Operational / Analytic Data Store

Business Ready Data

DATA ONE

Data Enrichment

Aggregations

KPIs

Profiles

Shared Event Bus

Data Integration

DATA ONE

ADH

Nifi

…

BSS/OSS

DL/DWH

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Use cases relevant across all Towers

CIO, CDO
1. Build Data network
2. Data privacy & governance
3. Faster TTM
4. Move to the cloud

CFO
1. BI
2. Revenue forecast
3. Profitability
4. Dashboard visualization
5. CapEx allocation

CMO, Head of Sales & Care
1. Churn
2. Sentiment analysis
3. Care
4. Sales revenue, collection
5. Product recommendation
6. Ent - lead 2 cash
7. Acquisition
8. NPS

CTO
1. NW Planning
2. NW Analytics
3. CEM

Transformation: *System transformation & agile delivery*

Insertion points : *Independent agnostic value proposition*

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With Proven Business Results

vodafone

15% net conversion rate of new mobile app users

vodafone Ziggo

12 Points increase in NPS

O₂

5% uplift in Pay-as-you-Go revenue

Globe

Cut data management costs by **~65%**

e)

Reduced churn by **20%**

vodafone Ziggo

8.5% conversion rate in online sales

ROGERS

Cut data management costs by **40%**

Singtel   ViVO   OPTUS   Globe   AT&T   vodafone   PLDT   SoftBank   Three.ie   orange

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LATEST MARKET RECOGNITION

> …Amdocs IntelligenceONE will help us achieve these goals; Create new revenue streams across different industries, utilizing data-driven AI capabilities to generate and monetize business insights.

INTELLIGENCE ONE

SoftBank

- Hidebumi Kitahara, Vice President, Head of Global Business Strategy Division, Technology Unit, SoftBank Corp.

> By ensuring our business has access to critical reports and dashboards from day one DataONE with Amdocs will allow us to proactively manage and offer a better customer experience

- Luciana Barrera, CIO, Telefónica Argentina

DATA ONE

> Altice US has gone live with Amdocs data intelligence on Google cloud platform. Together we will drive better intelligence into core operations for enhanced customer insights and experiences.

DATA ONE

- Alessandra Bomura, CIO, Telefónica VIVO

altice

> "Amdocs AI & Data analytics could help us build the business to a 2x level if implemented in the right way"

INTELLIGENCE ONE

Analysis Mason Business Unit Head, Tier-1 CSP in APAC, January 2020, CI Research
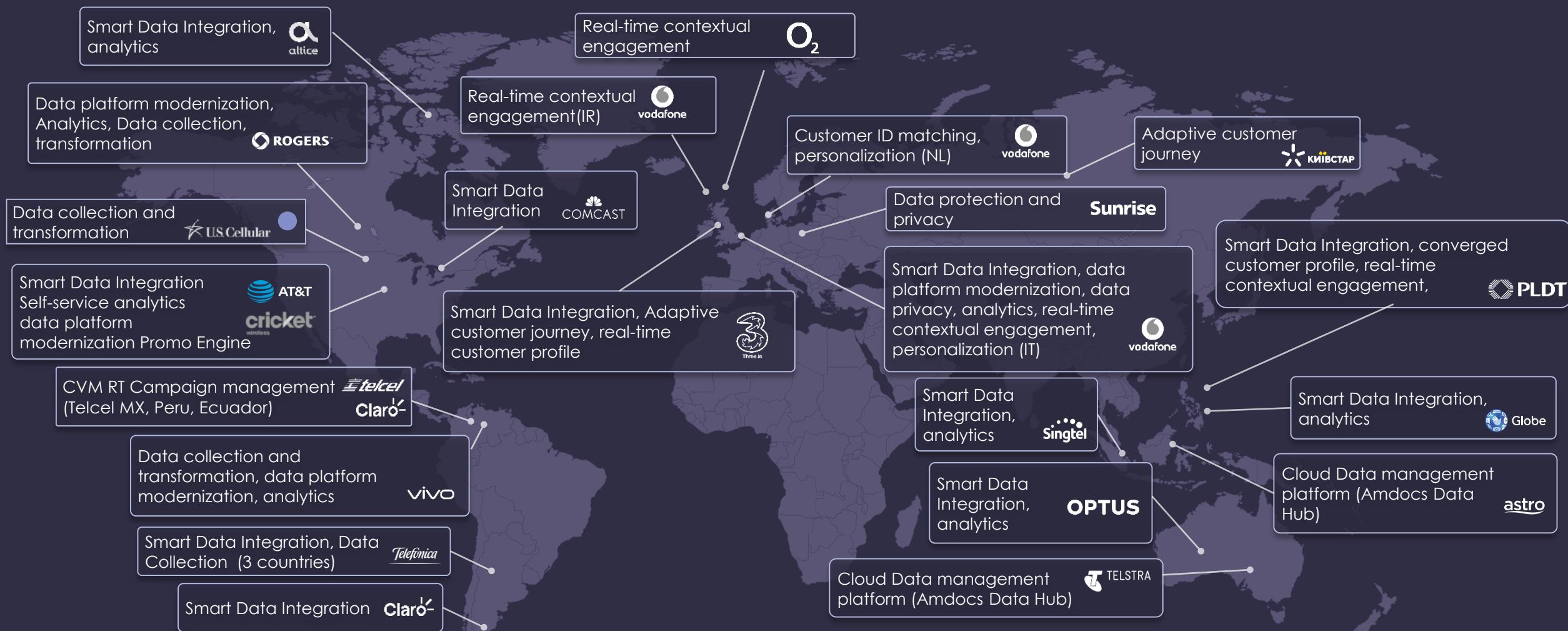
> Orange will Transform Time-to-Market and Customer Relationships Across its Multiple Brands

- press release, Feb 2020

DATA ONE

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Data Intelligence Global Footprint

Smart Data Integration, analytics — altice

Real-time contextual engagement — O2

Data platform modernization, Analytics, Data collection, transformation — ROGERS

Real-time contextual engagement(IR) — vodafone

Customer ID matching, personalization (NL) — vodafone

Adaptive customer journey — КИЇВСТАР

Data collection and transformation — U.S.Cellular

Smart Data Integration — COMCAST

Data protection and privacy — Sunrise

Smart Data Integration, converged customer profile, real-time contextual engagement, — PLDT

Smart Data Integration Self-service analytics data platform modernization Promo Engine — AT&T cricket wireless

Smart Data Integration, Adaptive customer journey, real-time customer profile — Three.ie

Smart Data Integration, data platform modernization, data privacy, analytics, real-time contextual engagement, personalization (IT) — vodafone

CVM RT Campaign management (Telcel MX, Peru, Ecuador) — Telcel Claro

Smart Data Integration, analytics — Singtel

Smart Data Integration, analytics — Globe

Data collection and transformation, data platform modernization, analytics — vivo

Smart Data Integration, analytics — OPTUS

Cloud Data management platform (Amdocs Data Hub) — astro

Smart Data Integration, Data Collection (3 countries) — Telefónica

Cloud Data management platform (Amdocs Data Hub) — TELSTRA

Smart Data Integration — Claro

On-premise and on cloud

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thank you

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