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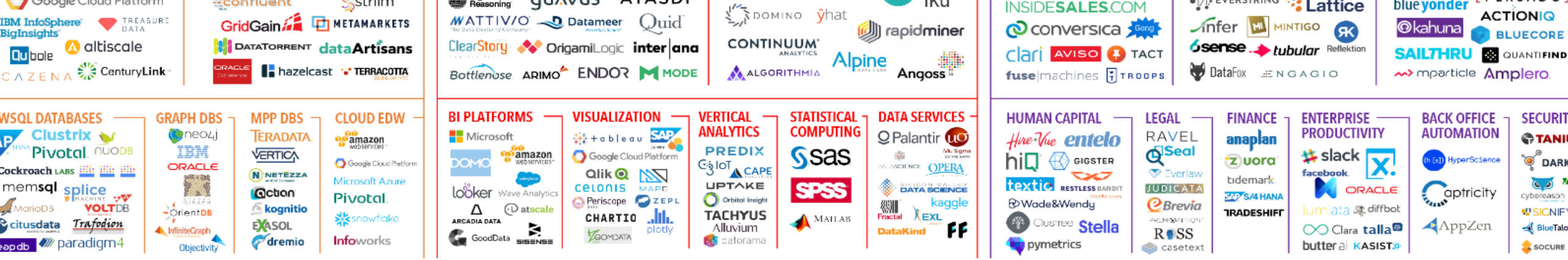
인공지능 ERP시대
- 클라우드 시대의 차세대 ERP -

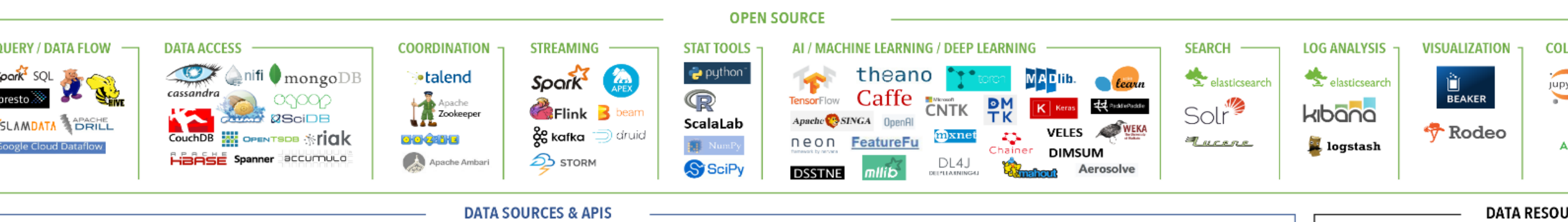
조혜수 전무
Application Sales Engineering 본부

Oracle Korea
July 17, 2019



Artificial Intelligence Is Everywhere...

...But What Does It All Mean?



Agenda

The Value Shift:
Driven by Digitalization

Creating Tomorrow, Today.
With Augmented CFO

Don’t Tell, Show Me!
Tomorrow’s ERP Today

Agenda

The Value Shift
Driven by Digitalization

Keeping Up With The C-Suite

CHRO

- Hire efficiently
- Engage employees
- Increase employee productivity

CFO

- Minimize financial risk
- Manage spend
- Maintain compliance

CRO

- Progress opportunities
- Increase sales
- Exceed revenue goals

CMO

- Engage customers
- Increase pipeline
- Create effective campaigns

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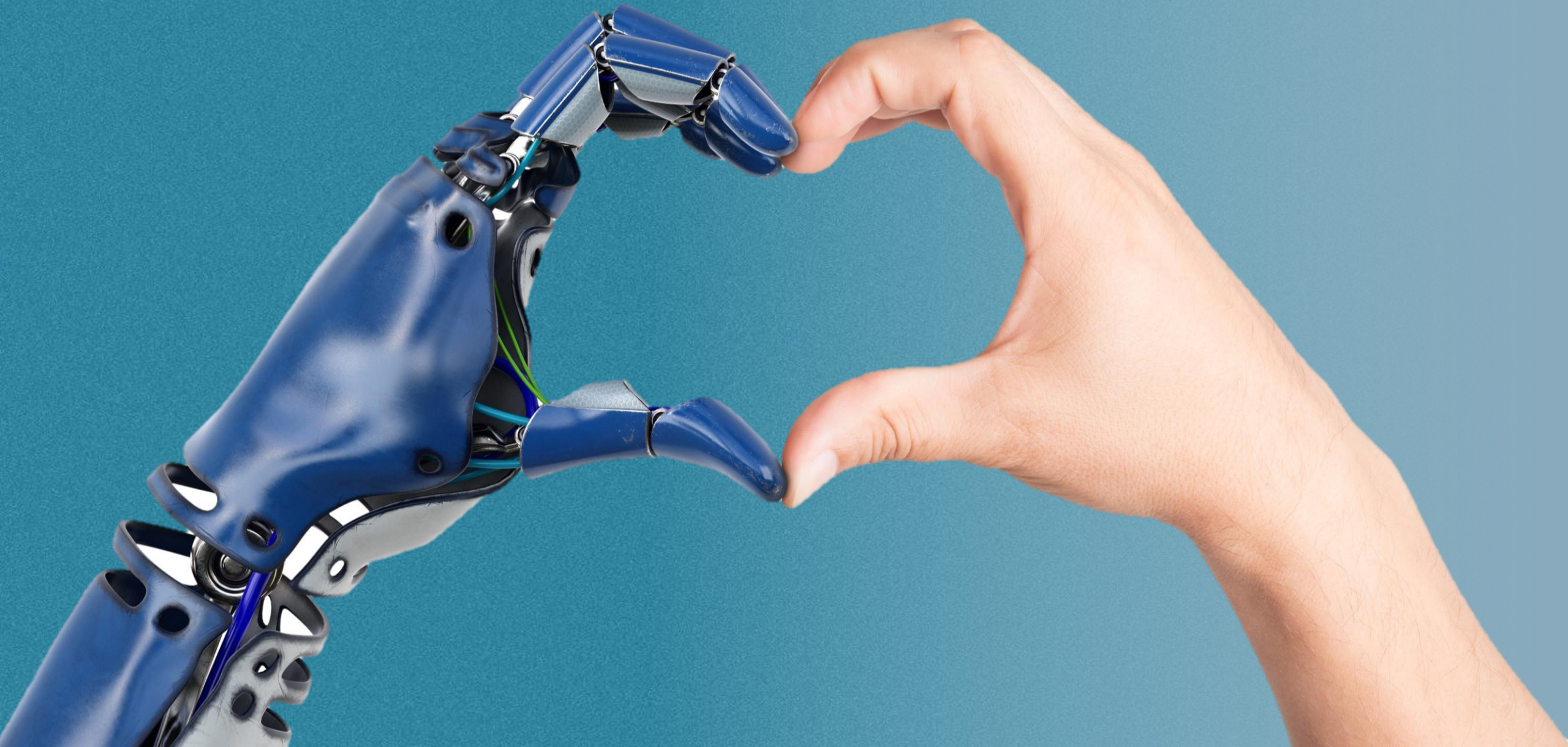
Humans Alone Cannot Meet These Expectations



4가지 Digital 기술들이 ERP 업무를 Reshaping 할 것이라고 예측

Source: McKinsey & Company, July 2018

Automation and robotics

To improve processes

- Enable planning and budgeting platforms in cloud-based solutions
- Automate data reconciliation for single source of truth
- Apply robotics to standardize report generation and allow for narrative commentary

Data visualization

To give end users real-time financial information

- Generate user-friendly, dynamic dashboards and graphics tailored to internal customer needs
- Deliver ubiquitous reports that can provide information at very detailed levels
- Seamlessly combine information from multiple data sources[1]

Advanced analytics for finance

To accelerate decision support

- Conduct top-down scenario analysis
- Develop self-optimizing algorithms for preliminary sales forecasts
- Develop demand models to improve working capital and inventory management

Advanced analytics for business

To uncover hidden shareholder value and growth opportunities

- Support optimization of pricing and SKU lineup
- Track resource utilization at detailed levels[2] and mirror against value creation and resource effectiveness
- Create predictive models for early warning[3]

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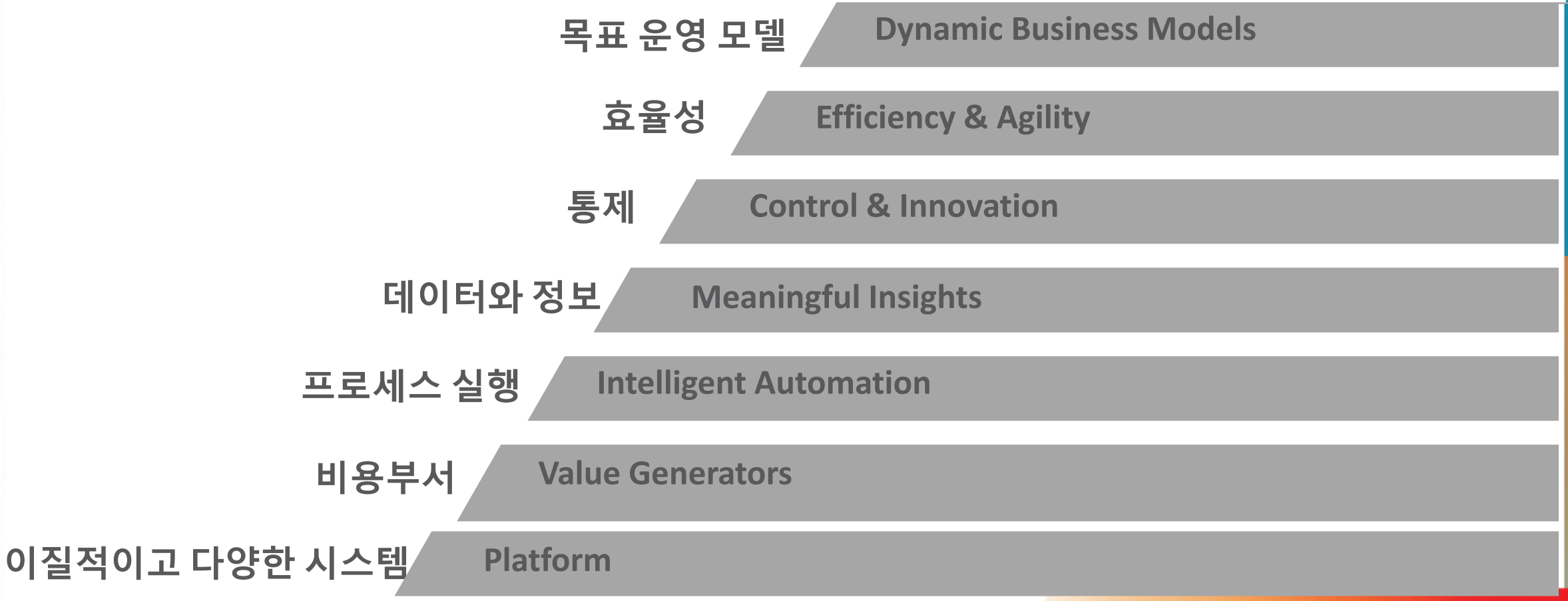
Augmented CFO: 7 ERP TRANSFORMATIONS



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Agenda

The Value Shift
Driven by Digitalization

Creating Tomorrow, Today!
With Augmented CFO

Augmented CFO.
Augmented Enterprise series
Greater efficiency | Better Information | More Influence
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Augmented Enterprise series

Automate
free from the
mundane
ORACLE
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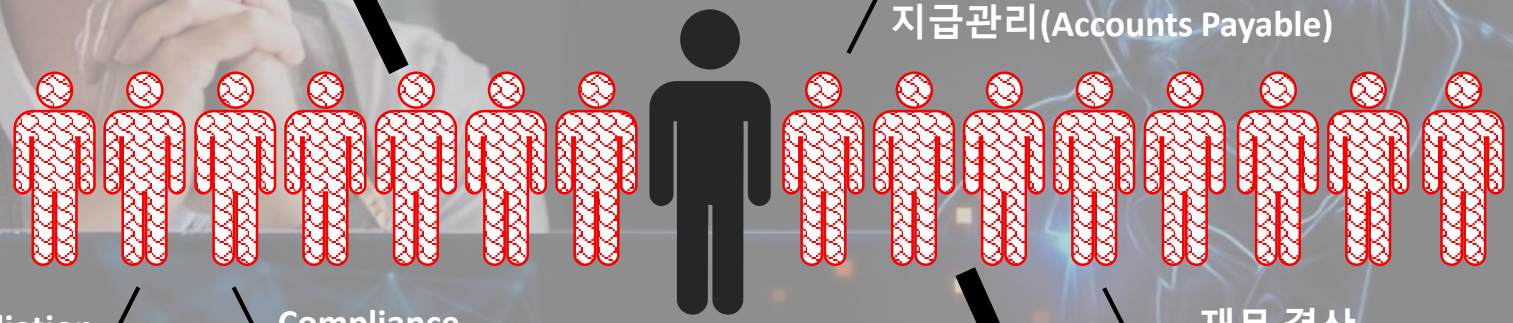
자동화(Automate)

업무를 시뮬레이션하고
24/7 동안 운영

45%

Achieve higher productivity



지급관리(Accounts Payable)

Account Reconciliation

Compliance

재무 결산

대량의 트랜젝션 의 통제
예외사항의 관리

백오피스 프로세스에
내재된 AI & RPA

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create **Virtual Agents**

자동화(Automate)

65% to 75%

Time Saved on Overall Process

현행 처리 절차

담당자는 지급송장과 관련된 시스템에 로그인

담당자는 지급 송장을 보고, 해당 내용을 검증합니다.

담당자는 송장내용을 시스템에 입력하고 분개처리 내용을 검증

상태에 따라 전표를 전기, 미전기, 지급보류(신용도 고려)

자동화된 프로세스

Digital화된 지급송장은 통합된 공용 RPA 센터에 자동으로 업로드 됩니다.

OCR은 지급 송장을 읽고, 머신러닝은 이것을 검증합니다.

머신러닝을 기반으로, 입력RPA가 Cost Center 등 유관 필요 정보와 함께 원장에 송장을 입력

Post, Park, Block 또는 규칙에 의하여 사람이 예외사항을 처리하도록 통지

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유통에서 Accounts Payable 의 사례

Visualize
reveal the insight
ORACLE
Augmented Enterprise series

Visualize.

reveal Insights
Everywhere
access Insight
Anytime
predict outcomes
Always

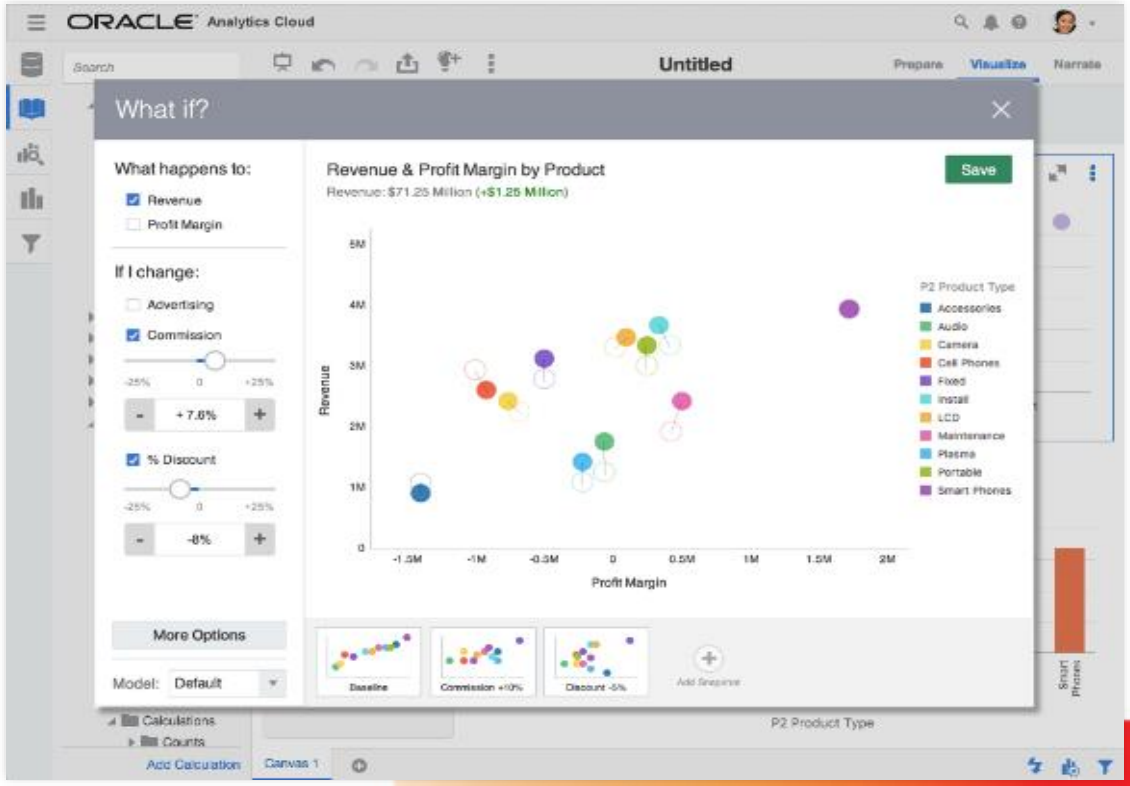
ORACLE®
Augmented Enterprise series

SEE.

- 유틸리트 회사에서의 샘플 사례 -

ERP 내의 KPI 및 대시 보드를 통해 조직별 실시간 트랜잭션 정보를 분석

시나리오 모델을 만들고
« 현재의 무슨 일이 난 것인가?»가 아니라
«어떻게 될 것인가?»를 답할 것입니다.



impact.
drive outcomes
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impact.

Ready Made Services in the Cloud
표준프로세스 사용으로
손쉽고 빨리 추진 가능

업무에 AI 로직의 적용
구매,물류,영업,인사

모든 기능 조직에서 재무 모델을 사용
IT, 마케팅, 영업, R&D

모든 **비지니스** 운영에 있어
성과창출(Outcome)을 추구

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AI Apps for ERP

Order-To-Cash

Accounts Receivable

- Credit Limits
- Receipt Allocations
- Collections Priorities

Procure-To-Pay

Accounts Payable

- Invoice Entry Automation
- Early Payment Discounts
- Prioritized Exception Handling

Adaptive Automation

Anomaly Detection

Risk Mitigation

Business Optimization

Accounting and Finance

Expense Management

- Automated Expense Entry
- Anomaly Detection
- Smart Expense Audit

Sourcing and Procurement

Supplier Management

- Supplier Enrichment
- Supplier Risk
- Supplier Onboarding

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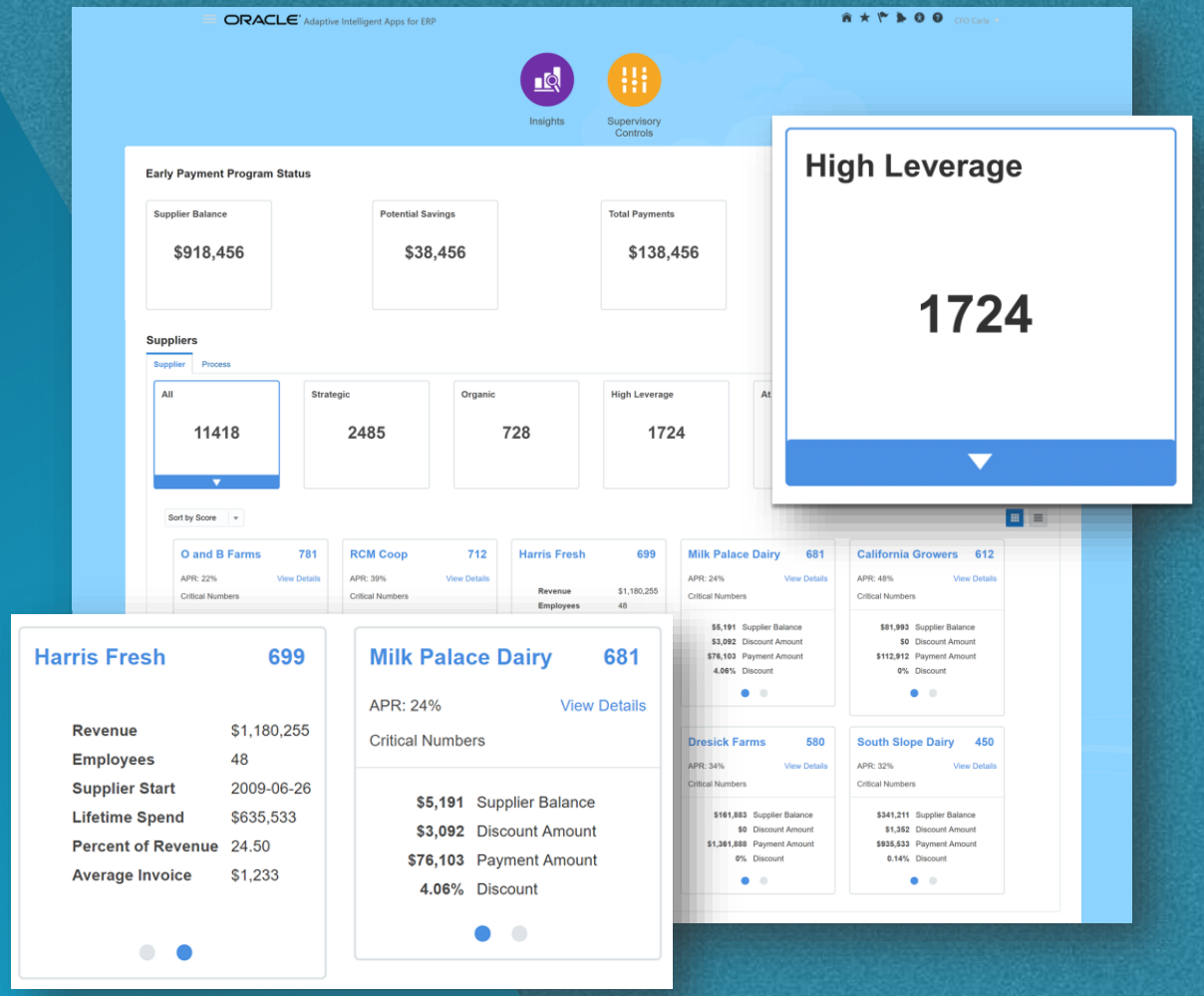
Supplier Categorization

회사 내부 데이터와
외부데이터(DataFox)를 이용하여
공급 업체 할인 및 전체 공급 업체
포트폴리오를 최적화하도록
공급 업체를 지능적으로 자동 분류

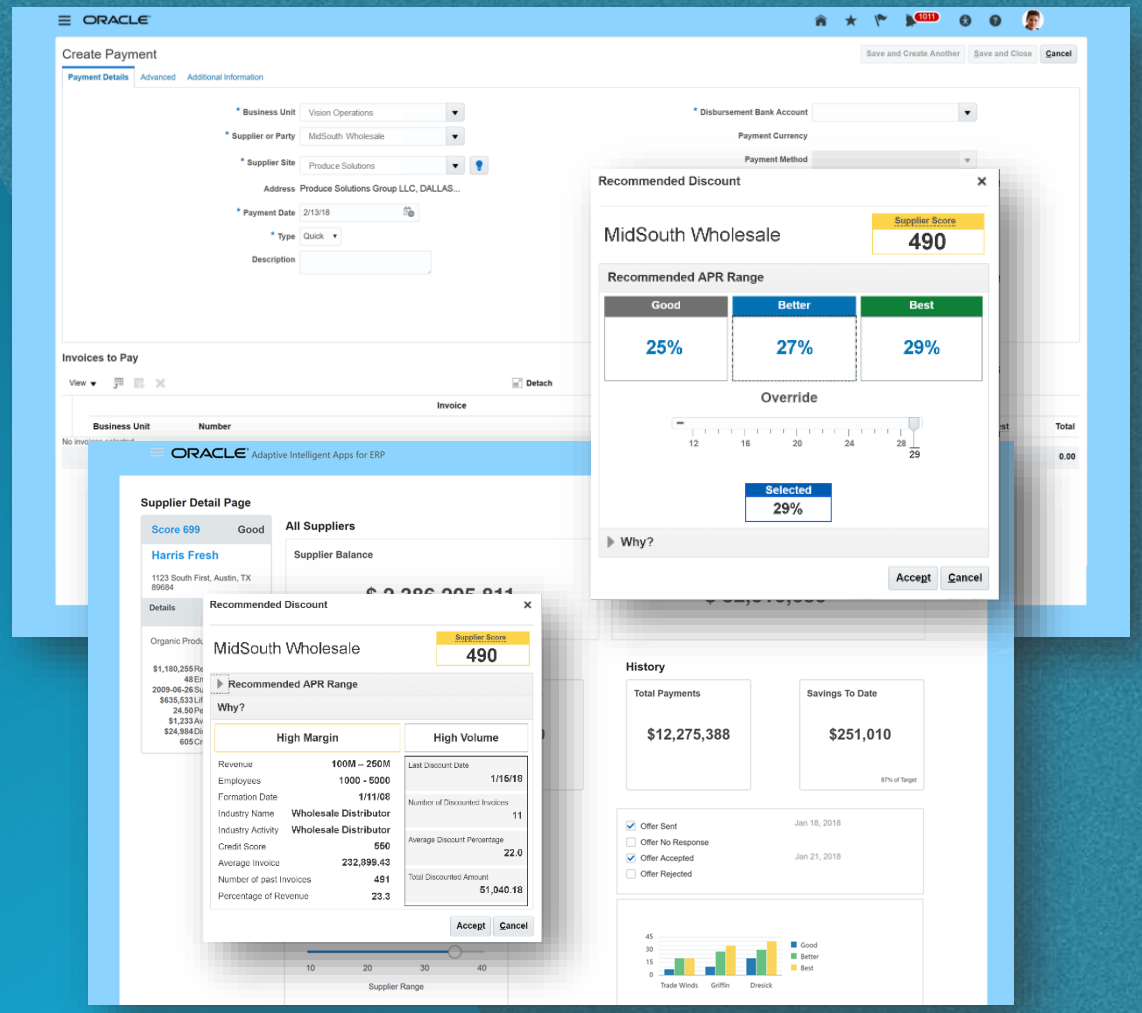
- Improve early payment discount negotiations
- Target suitable suppliers
- Support sourcing decisions



Intelligent Payment Discounts

실시간 공급 업체 인텔리전스를 기반으로 미납 채무의 선지급을 위해 동적으로 공급 업체별 할인률 제안.

- Optimize early supplier payment discounts
- Capture savings missed by traditional discount terms
- Generate investment returns on free cash
- Support strategic suppliers

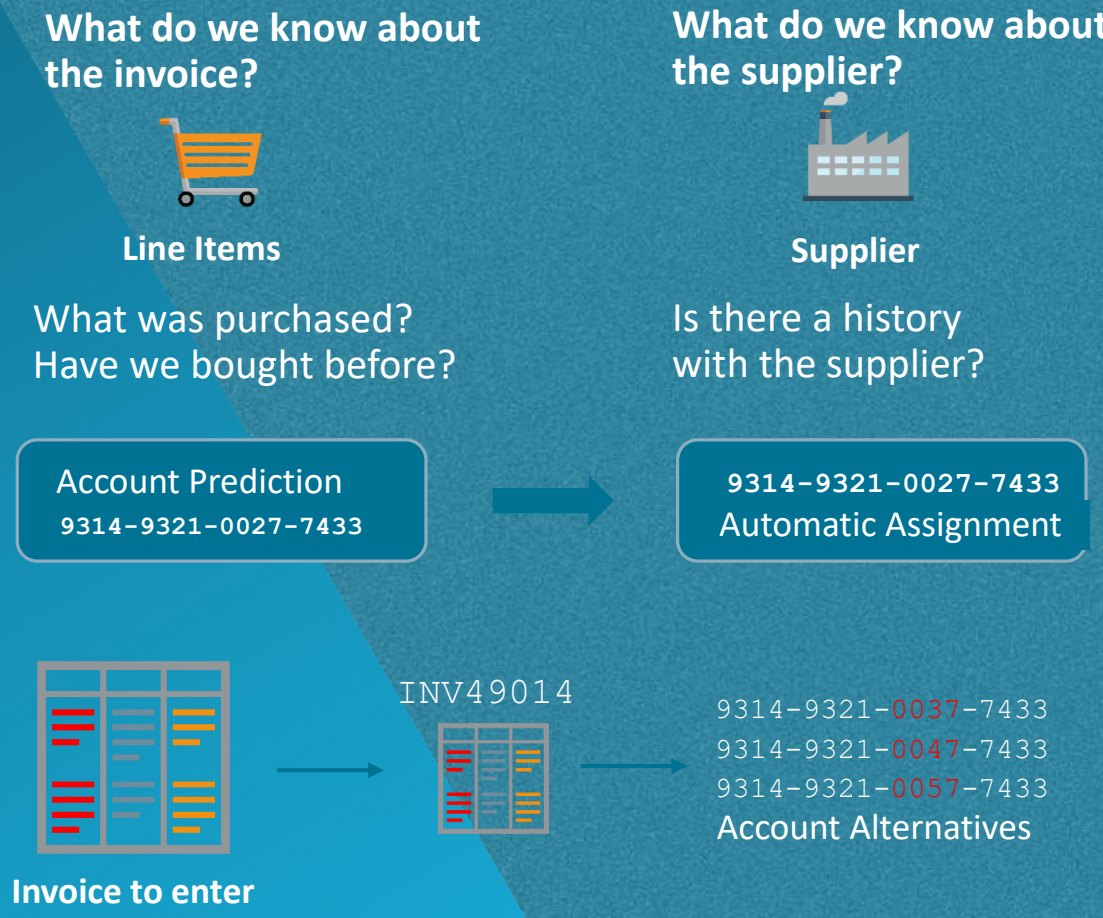


Confidential – Oracle Internal/Restricted/Highly Restricted

Intelligent AP Code Combination Defaulting

지루한 수동 입력을 줄이고, 지불 오류를 줄이며, 송장 보관을 줄이기 위해 머신러닝을 사용하여 지불 계정 코드의 정확한 생성을 자동화.

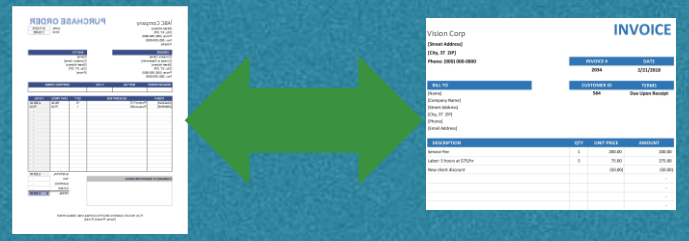
- Predicts based on historical transactions
- Provides recommendations for adjustments
- Learns based on corrections/adjustments



Intelligent AP Invoice to PO Line Matching

거절, 예외 및 지불 지연을 피하기 위해 과거 기록 및 데이터를 기반으로 올바른 수량 및 가격으로 정확한 구매 주문 (라인 및 영수증)으로 인보이스를 자동으로 대조

- Predicts based on historical transactions
- Provides recommendations for adjustments
- Learns based on corrections/adjustments



Purchase Order Invoice

Can we identify the correct PO line based on the information available on the invoice?

PO Line Predictions

What corrections are performed on similar invoices?

Supplier History

How does this supplier typically bill our PO's?

Transaction History

Have we purchased similar items from other suppliers?

Smart Supplier Enrichment

Upgrade Your Data Foundation

Connected Data Platform

Search & Categorize Suppliers

Search

Prioritize Your Suppliers

Scoring

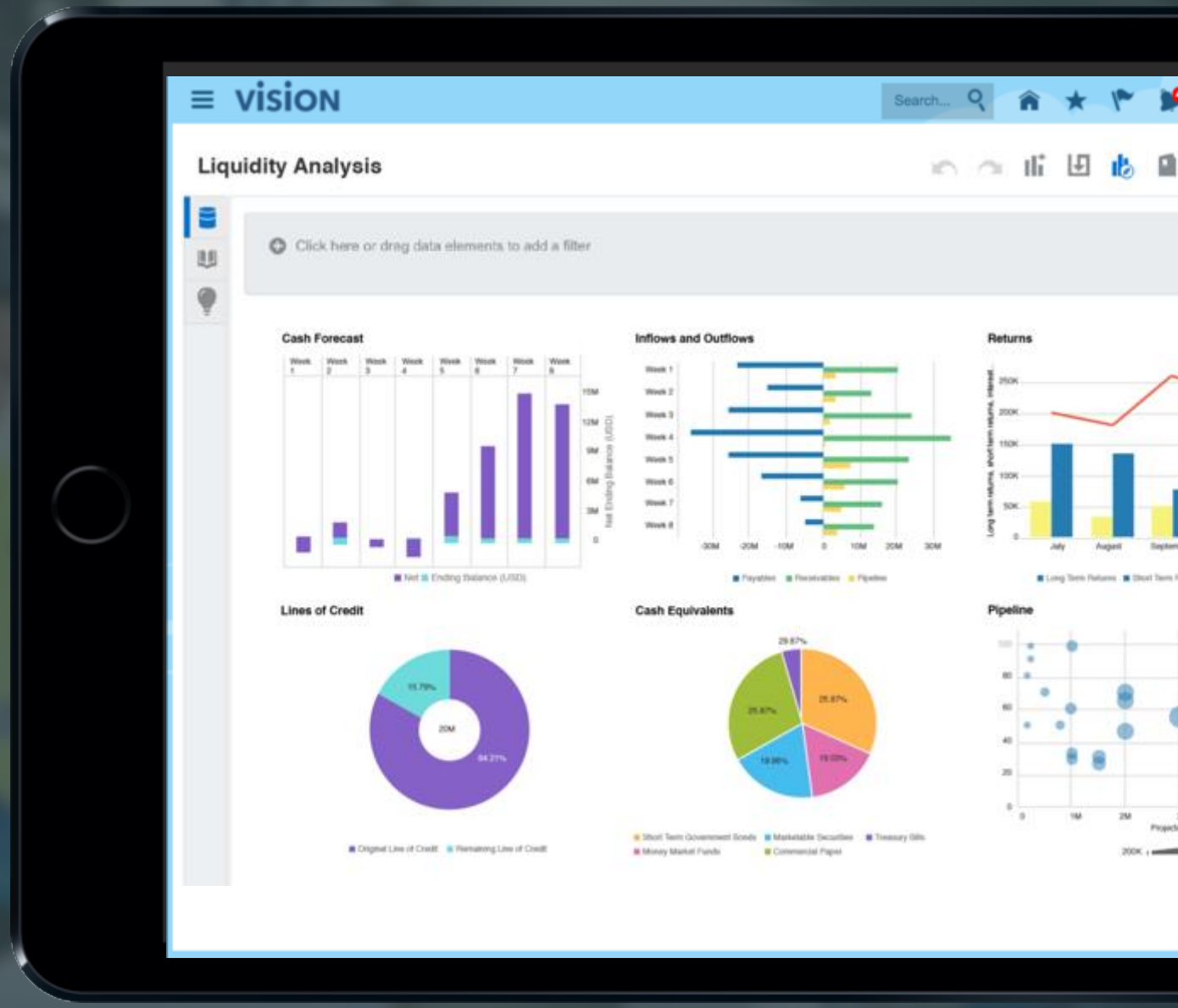
Monitor Your Suppliers

Signals

AI-Based Automation

impact.

1. 선지불 & 집행을 통한 잉여자금의 활용 및 적합 할인률 제시
2. AI를 통한 최고의 공급 업체 추천 (공급자 평가 등 고려)
3. 총 마진의 개선



사례 – 구매 결정의 Empowering

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shape.
achieve
radical improvement
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Internet of Things

58%
consider IoT strategic

50%
companies will use digital twin by 2021

Blockchain

10%
of global GDP will be stored in blockchain by 2027

42%
of companies planning investment of $5m+ in coming year

Adaptive Intelligence

84%
say AI is key to competitive advantage

40%
boost in labor productivity using AI by 2035

Source: IDC, The Business Value of Oracle SCM Cloud, 2018
APQC and Oracle Customer Experience / Results

Transform Supply Chains

Insight-Driven

Drive more effective business outcomes by leveraging IoT signals

Intelligent

Detect anomalies, predict future states, identify root causes and prescribe recommended actions

Interconnected

Ease track and trace and regulatory compliance while improving human interactions

Copyrigh

IoT Enabled Supply Chain Visibility

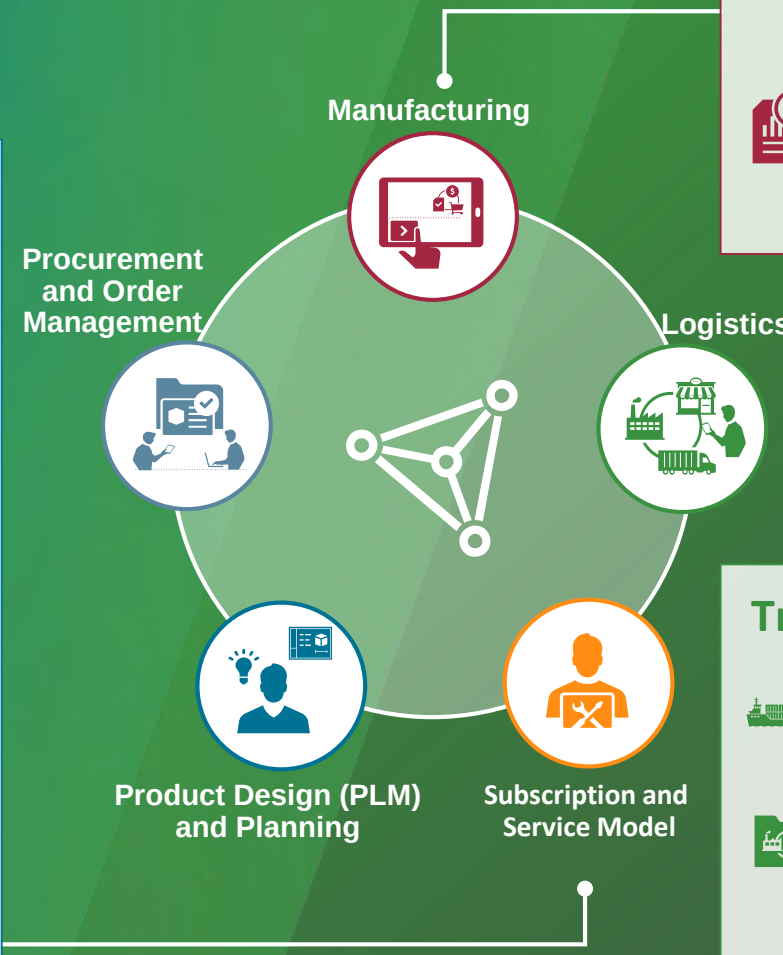
Manufacturing

Real-time visibility into factory, production lines and machines

Minimize unplanned downtime with smart predictive maintenance

Compare performance across factories and perform root cause analysis

Achieving the promise of industry 4.0



Subscription and Service Model

Proactive monitoring of product / asset health

Create new channels gathering information from the products / assets

Accelerate reorder time, reduce time-to-repair

Enabling modern digital field service

Transportation and Logistics

Monitor fleet vehicles and shipments

Monitor cargo conditions in warehouses / trucks

Easy visibility throughout the entire supply chain

Enabling product traceability throughout the supply chain

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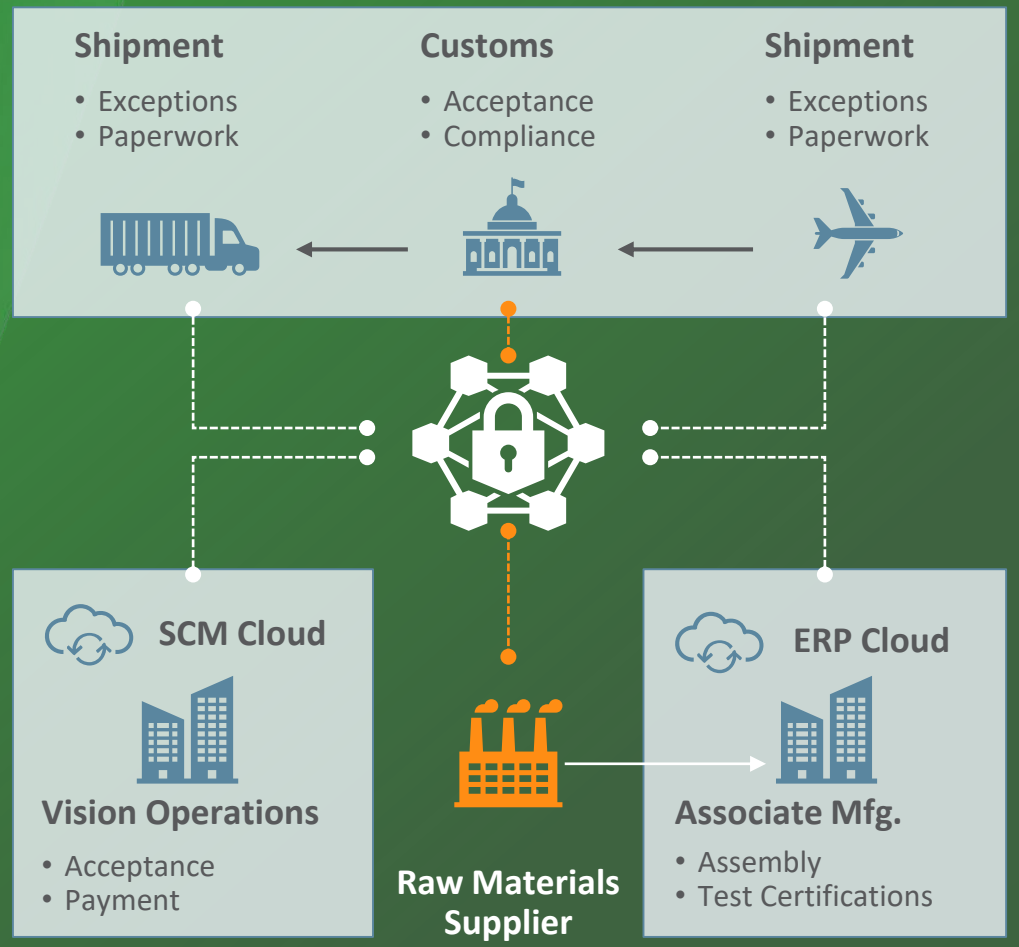
Build Trust and Improve Visibility with **Blockchain and IoT**

- 제품 이동 모니터링
- 원산지부터 소매점까지 추적
- 보관 및 소유권 체인 관리
- 변조 및 위조 방지
- 글로벌 무역 규정 준수 보장
- 선하증권 자동화
- 통관 기간 단축



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Certified Origins Commercializes Different Extra Virgin Olive Oil from Fruit Grown on the Family Farms

1,200
개의 Connected 된
협동 농장

간소화
종이가 필요없는
물류 프로세스와
운영비용의 절감

추적성
블록체인을 통해 제품의 진위 및
인증된 품질

CUSTOMER PERSPECTIVE

"블록체인 기술로 추적성을 관리하는 것은 Bellucci Premium Extra Virgin Olive Oil의 전체 추적성 프로세스의 논리적 진행이다. 우리는 오라클 블록체인(Blockchain)을 사용하여 이탈리아에 있는 병코 공장에서 미국 도착항까지 EVOO의 출하를 추적하고 있다."

Andrea Biagianti, Chief Information Officer, Certified Origins Italia Srl

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Alpha Acid Brewing Company, Founded in 2014, Distributes All Around the San Francisco Bay Area

블록체인 및 IoT를 채택하여 고객 및 공급업체와 **관계 개선**

공급망 전체에 대한 **추적성 보장**

QR 코드 스캔을 통해 제품의 원산지,가공공정내역을 확인 시켜 줌으로써 **고객 경험 향상**

CUSTOMER PERSPECTIVE

"중견 기업도 Oracle IoT와 Oracle Blockchain 애플리케이션을 활용하면, 얻을 것이 많다는 것을 알 수 있다. Oracle Cloud를 통해 모든 규모의 기업이 제품의 품질을 개선할 수 있을 뿐만 아니라 장애의 근본 원인을 신속하게 분석할 수 있습니다."

Kyle Bozicevic, Owner and Brewer,
Alpha Acid Brewing Company, LLC

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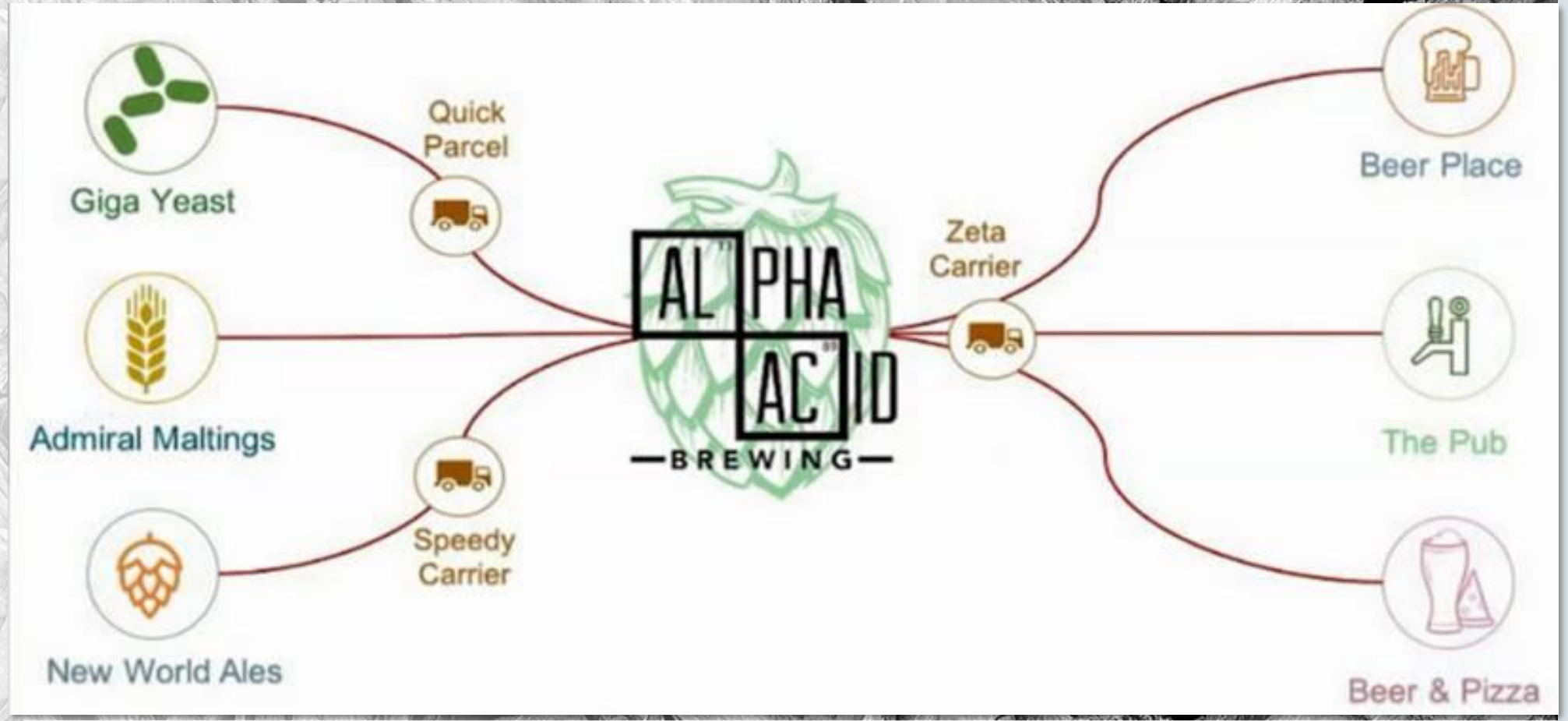
Interconnected Supply Chain
with Block Chain



- Giga Yeast : Yeast(효모) : 발효 시 맥아당을 알코올과 탄산가스
- Admiral Maltings : Malt(맥아) : 2조맥을 싹틔워 말린 것으로 전분·단백질 등을 분해하는 각종 효소 보유
- New World Ales : Hop(호프) : 맥주의 독특한 향기와 쌉쌀한 맛을 내는 호프는 덩굴식물

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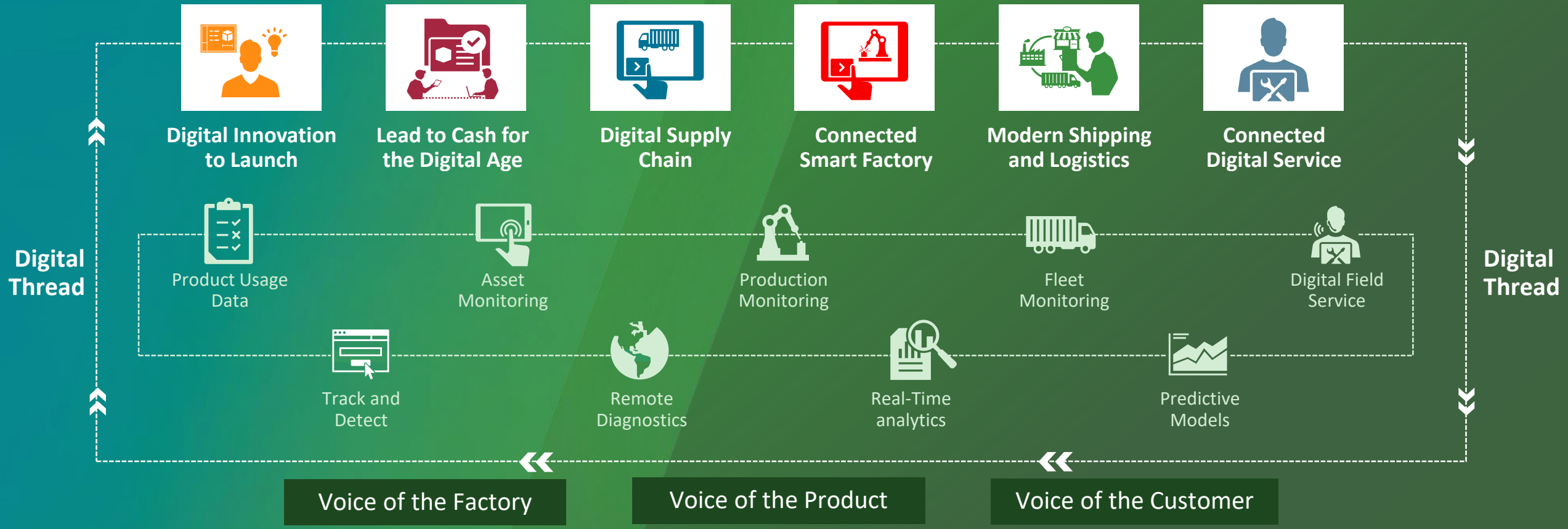
The **Digital Supply Chain**

Solving for the complexity of omni-channel environments



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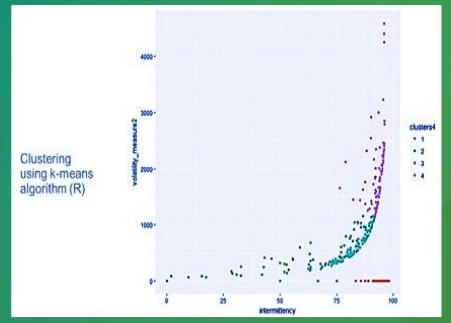
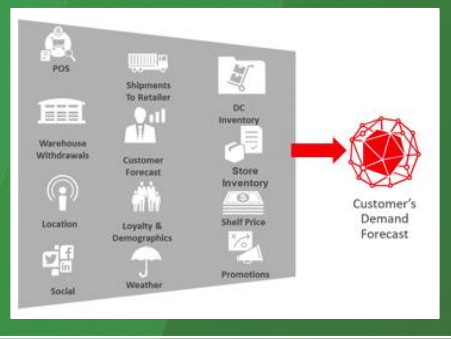
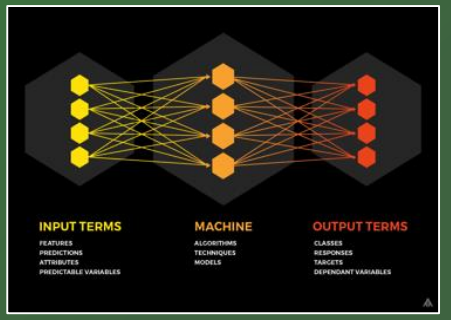
Oracle Adaptive Intelligent Applications

Connected intelligence transforms SCM

AI Product Optimization	AI Segment Optimization	AI Demand Sensing and Response	AI Predictive Maintenance	AI Transportation Optimization
				

Adaptive Intelligent SCM Applications

Data | Domain | Compute | Decision Science

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Greater efficiency | Better Information | More Influence

Augmented CFO.

shape
radically improve processes

impact
drive outcomes in all operations

Visualise
reveal insights everywhere, anytime

automate
free from the mundane

Only with ORACLE
Augmented Enterprise series

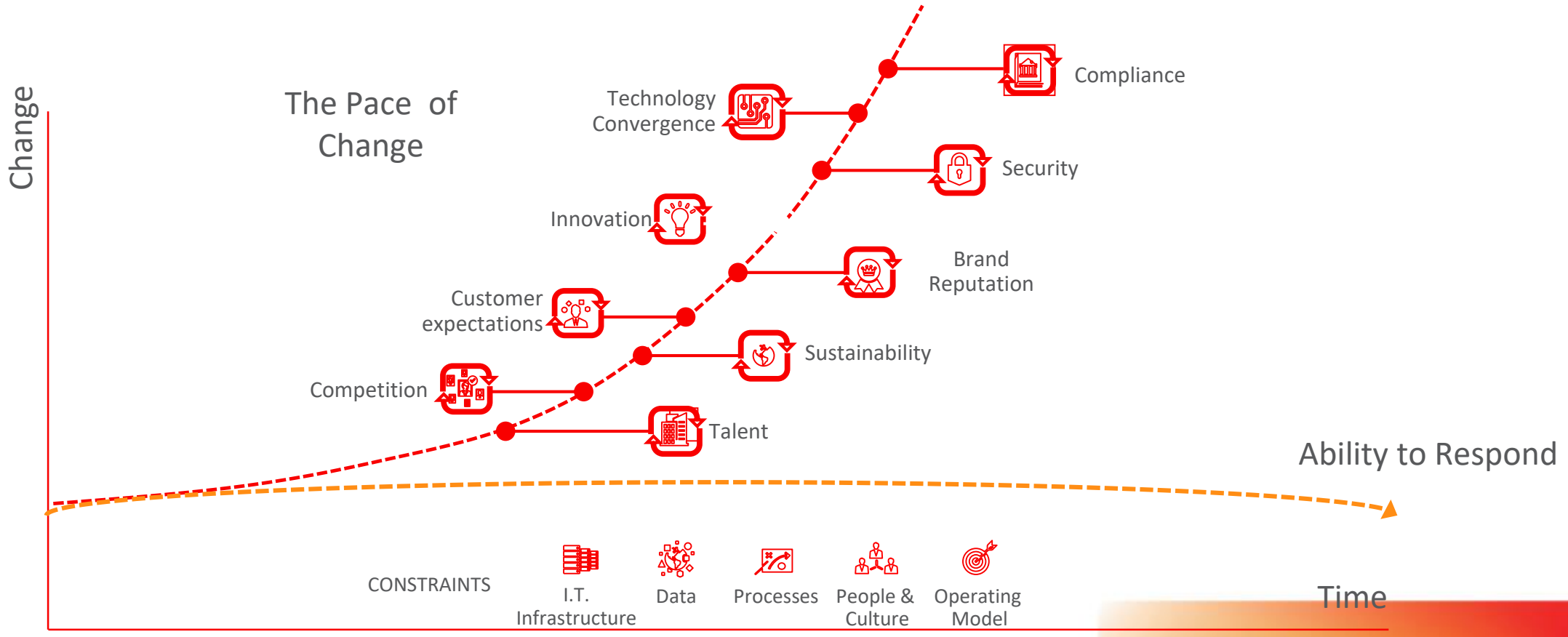
Agenda

The Value Shift
Driven by Digitalization

Creating Tomorrow, Today!
With Augmented CFO

Don’t Tell, Show Me!
Tomorrow’s ERP Today

전통적인 I.T. 로는 ERP TRANSFORMATION 지원이 역부족



Source: Oracle, 2018

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ERP MUST BE FUTURE READY

5-YEAR 업그레이드 → **지속적인 업데이트로 항상 최신화**

2009 2014

BEFORE

On-premises applications

5-year adoption cycles

Technical upgrades

Long requirements lag

NOW

Cloud applications

Quarterly adoption

New features and technologies in updates

Immediate feedback loop

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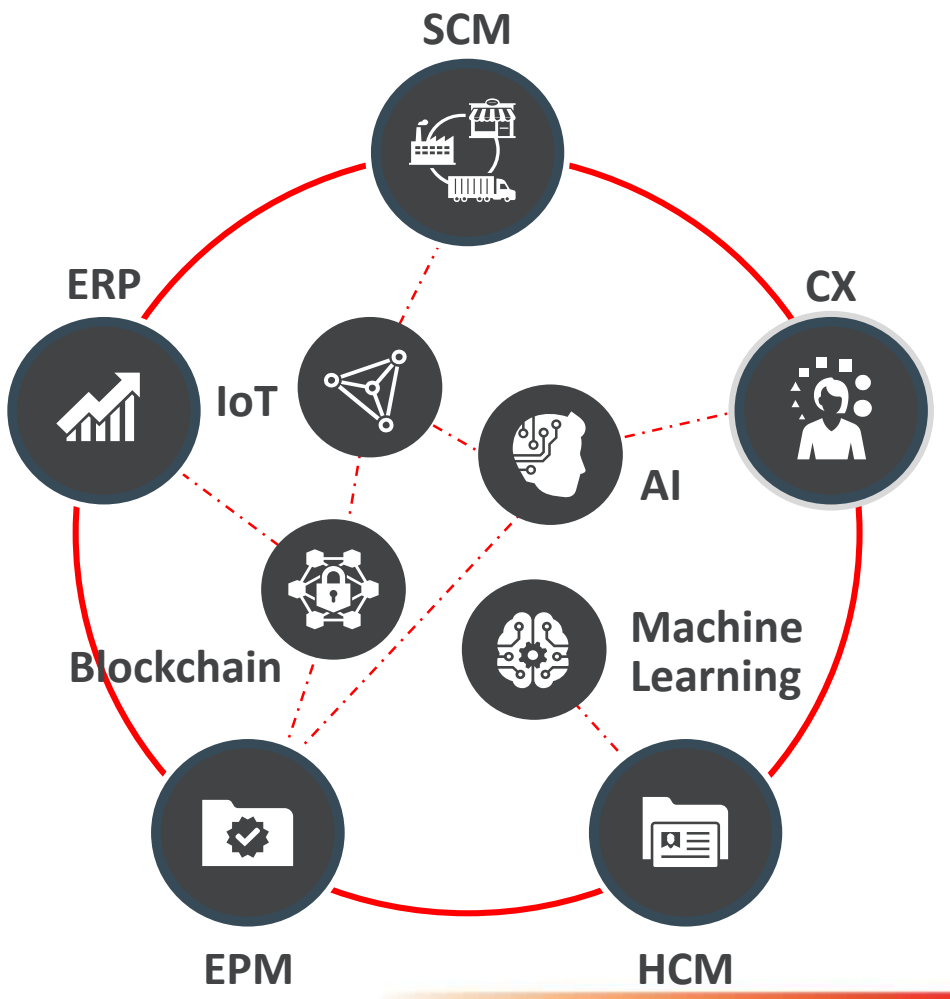
ONLY A NEW COMPUTING MODEL CAN DELIVER



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ERP/EPM

Intelligent Payments

Advanced Access Controls

Intelligent Process Automation

Intelligent Performance Management

HCM

Best-Fit Candidate

Advanced HCM Controls

CX

Next-Best Action

Win Probability Scores

Coordinated Open-Time Content

Connected Audiences

Optimized Marketing Orchestrations

Next-Best Offer and Product Recommendations

Personalized Search

Intelligent Switch

SCM

Supplier Recommendations

Manufacturing

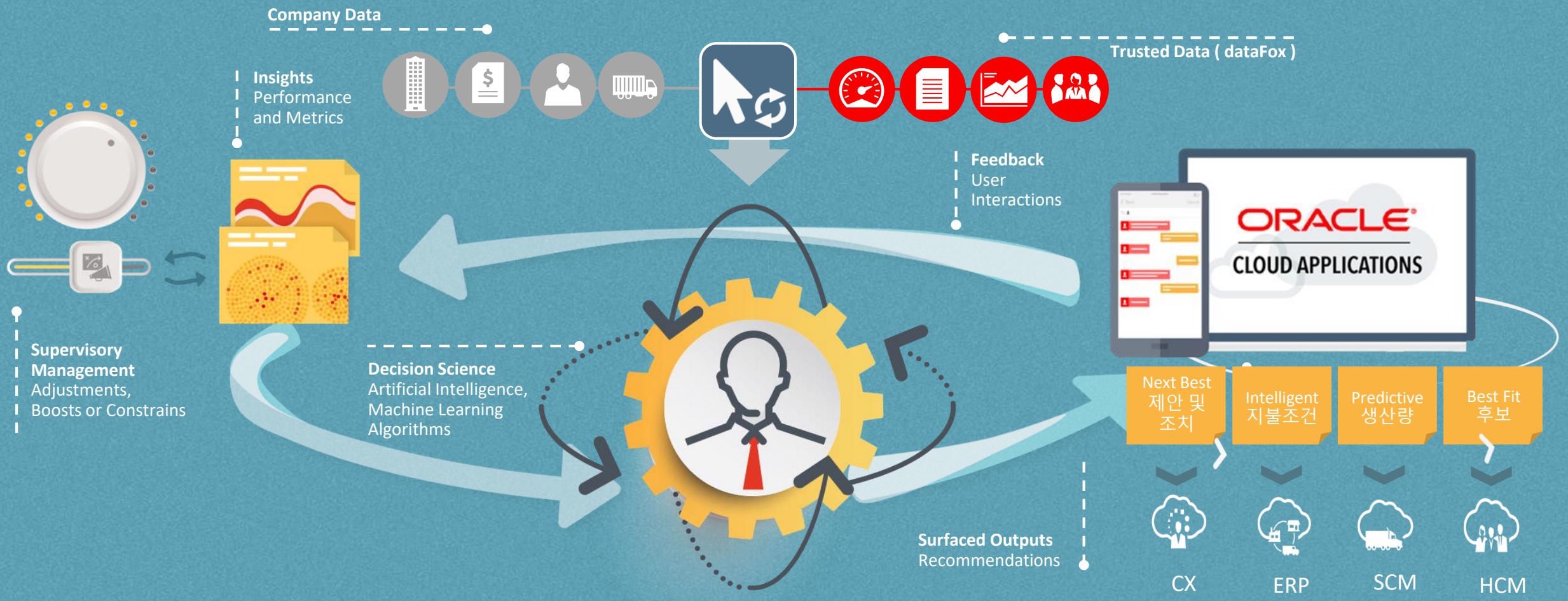
IoT

Blockchain

ORACLE

How Oracle Adaptive Intelligent Apps Work

Create, Surface And Control Smarter Business Results



Why is Smart Data Important?

- AI Is Only As Smart As Your Data

Artificial Intelligence + Garbage Data = Garbage Decisions

Artificial Intelligence + Smart Data = Smarter Decisions

Current Data Challenges

Junk Data

Corrupted, Delayed Signals

Clunky, Batch Systems

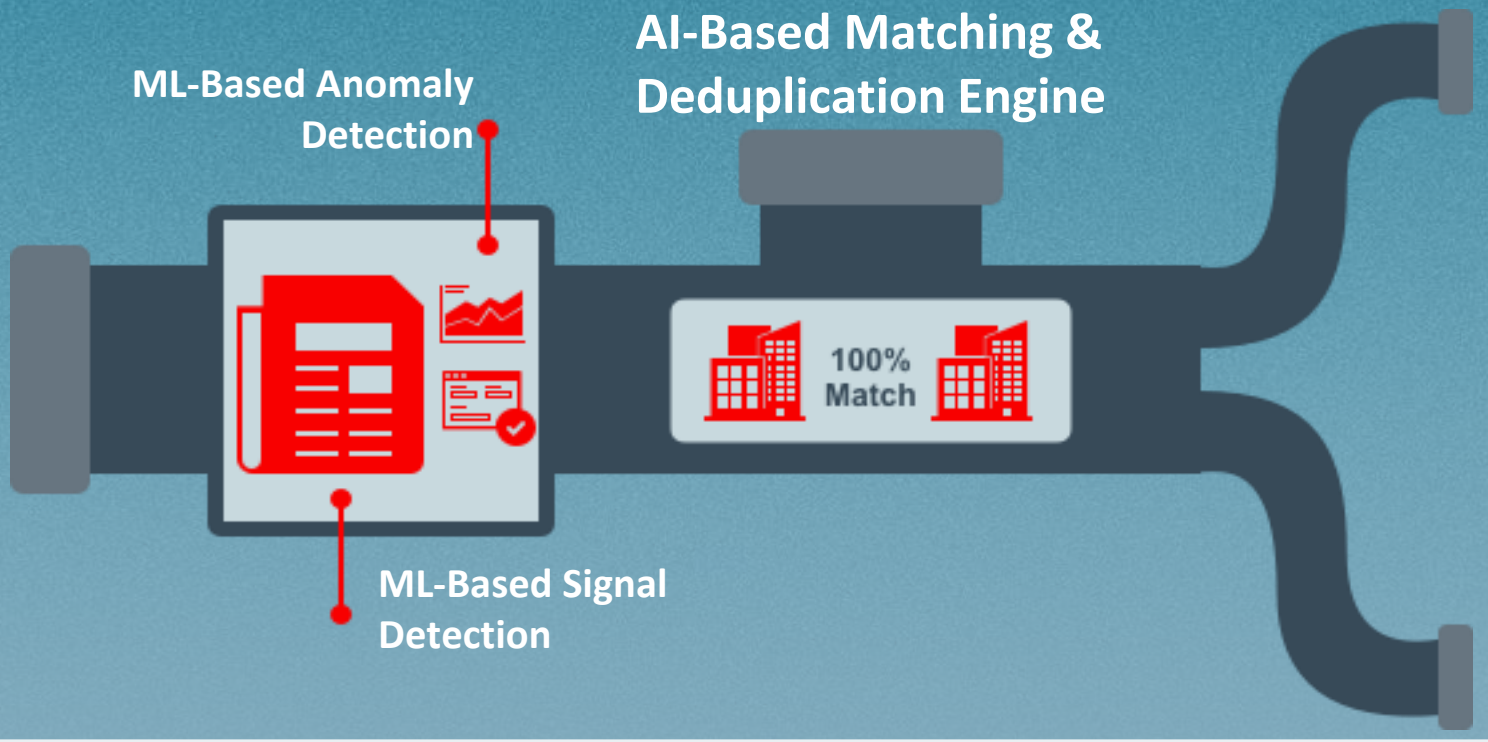
Oracle DataFox AI Data Engine - 지능형 기업 데이터 제공

글로벌 가망 고객 데이터 제공 및 매일 7만개 이상의 뉴스 및 인터넷 최신 정보를 AI를 통해 분석하고 데이터를 제공

DataFox

NLP-Based Data Creation

- Web Data
- API Stream Ingestion
- RSS Feeds



Firmographic Data

- Name
- Description
- Location
- Headcount
- Keywords
- Industries
- Hierarchies

Signals Data

- Growth
- Financial
- People
- Recognition
- Events
- Corp Updates
- Risk signals

1.8 million
New Businesses Added/Year

49 million
Records Updated/Week

6.6 million
Signals Detected/Year

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EMERGING TECHNOLOGY IN FINANCE

의사결정
개선

업무 자동화

리스크
관리

자산의
최적화

REVOLUTIONIZE COMMON PROCESSES

마감 및 결산 보고서 작성 - NOW

보조원장 마감

가 결산

(가)계정 정산

원장 마감

MOBILE

ANALYTICS

SOCIAL

해외 법인 및 계열사 취합

연결회계 조정 및 확정

재무 보고서 공고 및 공유

Financial Forecasts 조정

Source: Oracle, 2017

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AI: BUSINESS PROCESSES REVOLUTIONIZED

마감 및 결산 보고서 작성 – A PREDICTION

MOBILE ANALYTICS SOCIAL

Source: Oracle, 2017

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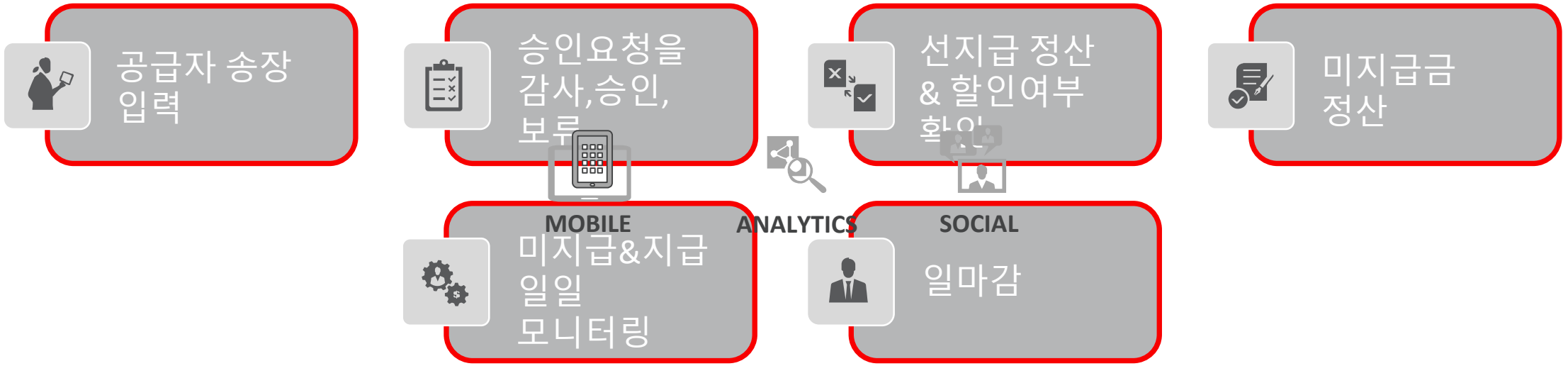
REVOLUTIONIZING COMMON PROCESSES

SUPPLIER INVOICE TO PAYMENT - NOW



Source: Oracle, 2017

AI: BUSINESS PROCESSES REVOLUTIONIZED

SUPPLIER INVOICE TO PAYMENT – OUR PREDICTION

MOBILE ANALYTICS SOCIAL

Source: Oracle, 2017

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오라클 자체 ERP 구축 with Oracle Cloud Apps
- OUR JOURNEY -

$40B business closes its books using Cloud Apps

CX

430,000 고객

1.5B 고객 interactions per year

6,000 새로운 제품 in 2 years – 다른 가격체계와 영업 모델 활용

ERP/EPM

$40B company

122 business units

1 chart of accounts

1 way (일하는 방법)

HCM

137,000+ 직원

10,000 새로운 대졸 신입사원 in 5 years

SCM

340,000+ planned items

183,000 bills of material

54 inventory organizations

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Oracle ERP Cloud를 통해 새로운 민첩한 운영 모델을 재정립

금융	Professional 서비스	High Technology	통신	미디어, 호텔 Entertainment	운송, 제조	유통 & CPG	학교,병원, 공공
Bank of America	pwc	Dropbox	orange	MATTEL	FedEx	Office DEPOT	UCLA
LLOYDS BANKING GROUP	G4S	Western Digital	vodafone	HEARST	GE	Little Caesars	University of Pittsburgh
MetLife	virtusa	Qualcomm	VEON	CAESARS ENTERTAINMENT	DP WORLD	TESCO	VANDERBILT UNIVERSITY
RBS	dunnhumby	ARRIS	Vonage	Hilton	ANA	SUPERVALU	Providence St.Joseph Health
HSBC	GENPACT	BROADCOM	COX	CLUBCORP	NISSAN MOTOR COMPANY	GRUPO BIMBO	Cleveland Clinic
LEGG MASON	Deloitte.	NEC	SINCLAIR BROADCAST GROUP	airbnb	C.H. ROBINSON	instacart	Mount Sinai
QBE	KPMG	ORACLE	MTN	LIBERTY GLOBAL	Cummins	Auchan	Home Office

And many many more…

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Thank you