



Internet de Las Cosas y Digitalización

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Cisco Systems

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Cuando Internet de las cosas se conecta todo funciona como nunca antes



Internet de las cosas (IoT) es la próxima transición tecnológica que hace Internet de todo posible; y cambia fundamentalmente la manera en que vivimos, trabajamos y aprendemos.

Conectarlo todo hoy nos llevará al mundo del mañana.

www.cisco.com/la/iot



Cuando Internet de las cosas se conecta con la industria todo funciona como nunca antes



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Conectar la producción todo hoy nos llevará a la industria del mañana.

www.cisco.com/la/industria



Cuando Internet de las cosas se conecta con las ciudades todo funciona como nunca antes



Internet de las cosas (IoT) es la próxima transición tecnológica que hace Internet de todo posible; y cambia fundamentalmente la manera en que vivimos, trabajamos y aprendemos.

Conectar los servicios públicos hoy nos llevará al mundo del mañana.

www.cisco.com/la/ciudades



Cuando Internet de las cosas se conecta con el transporte todo funciona como nunca antes

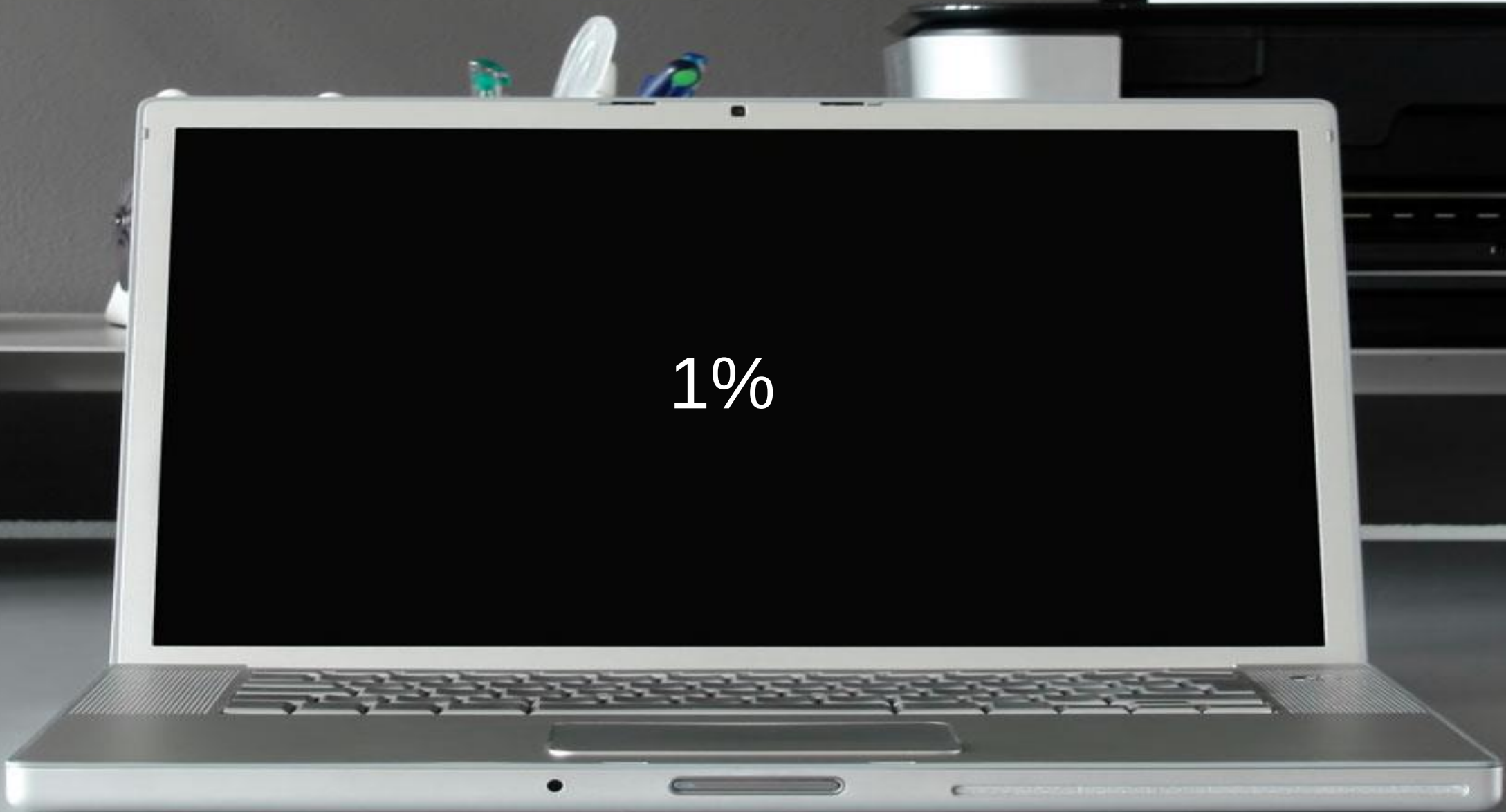


Internet de las cosas (IoT) es la próxima transición tecnológica que hace Internet de todo posible; y cambia fundamentalmente la manera en que vivimos, trabajamos y aprendemos.

Conectar el transporte hoy nos llevará al mundo del mañana.

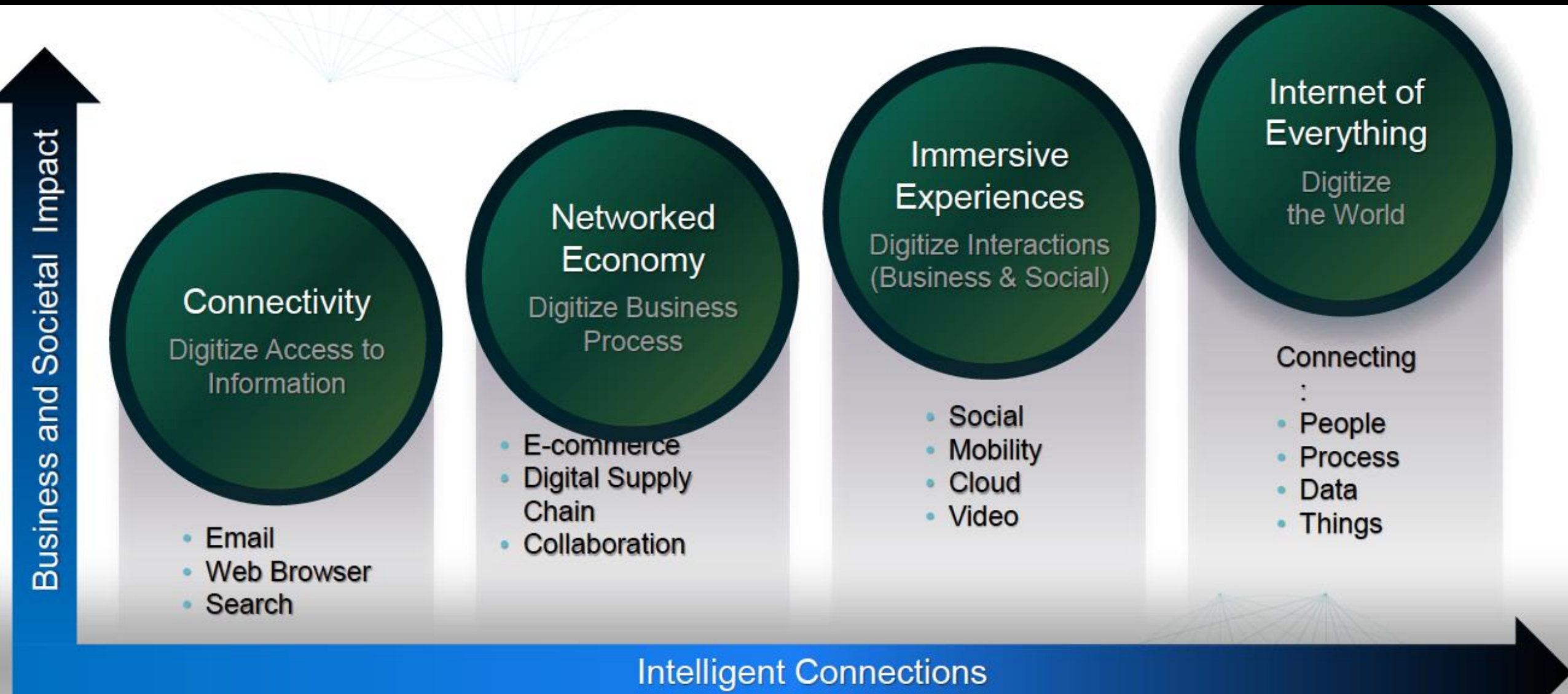
www.cisco.com/la/transporte



A silver laptop is open on a light-colored desk. The screen is black with the text '1%' in white, centered. The laptop has a silver keyboard and a trackpad. In the background, there is a dark desk with some items on it, including a white object and a blue object. A large window is visible in the background, showing a bright sky.

1%

Proceso de Digitalización



Una Tormenta Perfecta

Multiples puntos de inflexión concurrentes

- ▶ IP Estandarizado en todas las industrias → IPv6
- ▶ Cloud Computing en proceso de Madurez
- ▶ Intelligence... App Layer → Network – Fog Computing
- ▶ Monetización ... Software Apps
- ▶ Big Data & Analytics
- ▶ Capacidad de Red... expansión de banda ancha
- ▶ Consumerization ... Experiencias enriquecidas e íntimas de usuarios con tecnología
- ▶ Alta Movilidad en todos los sectores
- ▶ Nanotecnología– Miniaturization de sensores y actuadores



Internet de las Cosas— Nuestra definición

Consiste de Redes de sensores adjuntas o inmersas en objetos y dispositivos de comunicación, que proveen datos que pueden ser analizados y utilizados para iniciar acciones automatizadas.

Conexiones IOT crecerán **3 veces** al 2017

Trafico IP de IOT Crecerá **20 veces** al 2017

Source: Cisco VNI Global IP Traffic Forecast, 2012–2017

Internet de Todo



People

Conectando personas de manera mas relevante



Process

Automatización de procesos entregando información correcta
M2M, M2H, H2H



Data

Utilizando Datos de forma mas oportuna para toma de decisioens

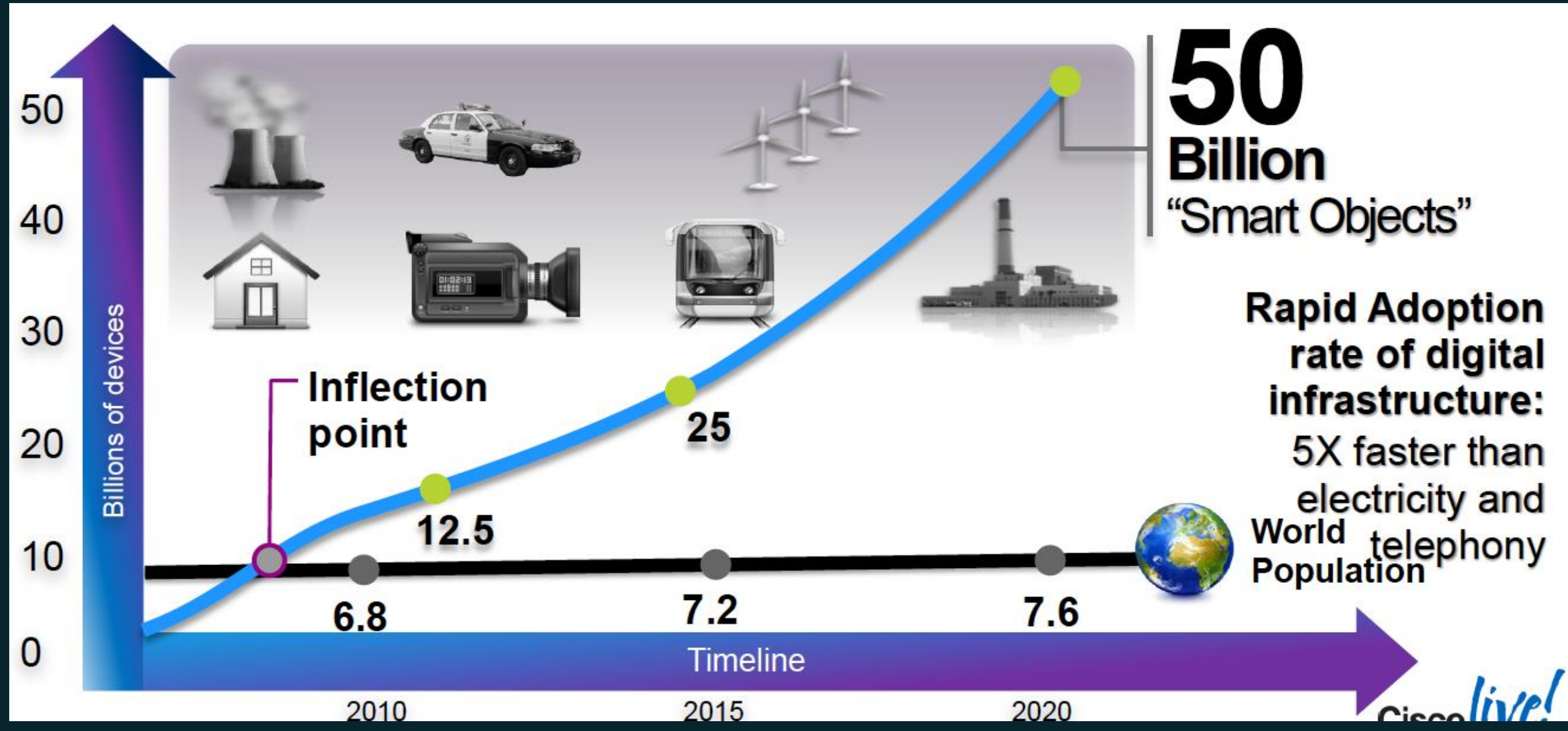


Things

Conexión física de objetos entre si y hacia Internet para soluciones de valor en todos los sectores

Human-to-Human + Human-to-Machine + Machine-to-Machine

Internet de las cosas es una realidad



Convergencia de TI en todos los sectores

Information Technology (IT)

Operational Technology (OT)

Consumer Tech(CT)

Data Center

Campus

Branch

Plant

Field

Life

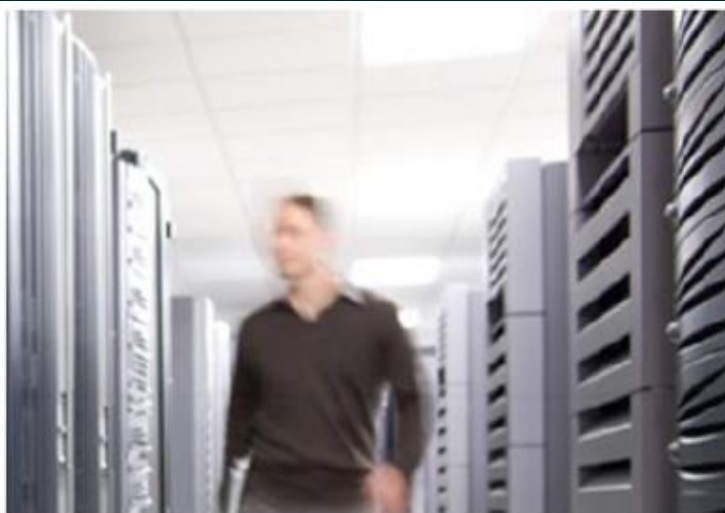
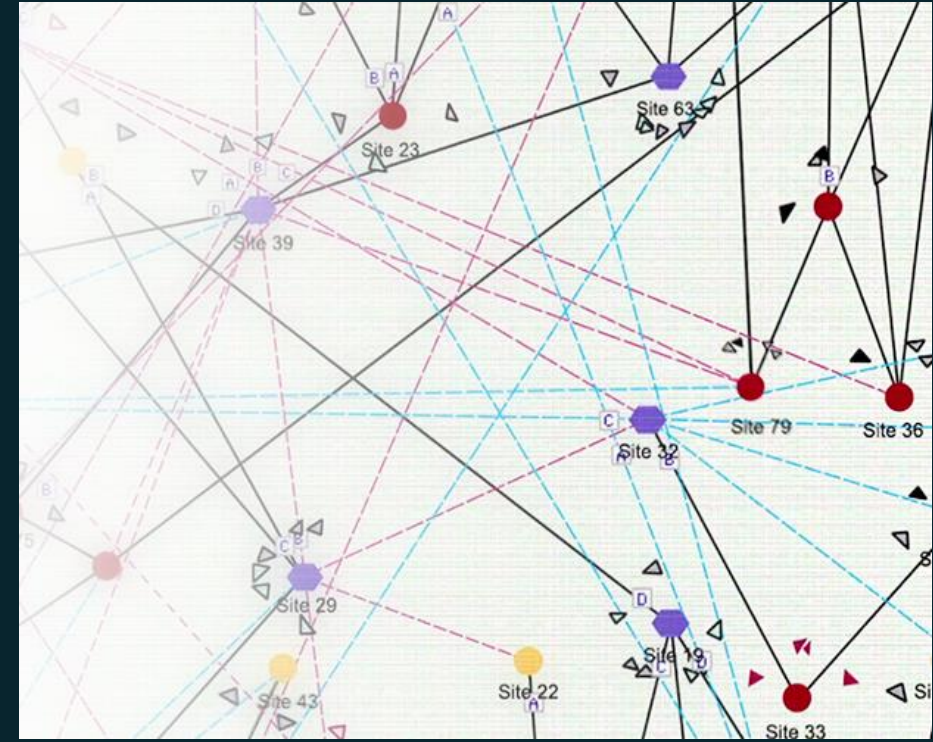


IoT

Oportunidad y Desafío para Proveedores de Servicio

50 Billones de cosas serán conectadas a Internet en los próximos años y los proveedores de servicio deberán encontrar su lugar en la industria para capturar una oportunidad de >\$1.7 trillón

- Expandir Mercado
- Diseñar Nuevos Servicios
- Crear Ecosistemas
- Simplificar Operaciones
- Adaptarse y evolucionar



Diferentes estrategias entre Proveedores de Servicio en IOT



The Pragmatist: AT&T

- Driving Scale with Strategic Operational Partnerships
- Jasper Wireless, Kore Telematics, Axeda, ...



The Controller: Verizon Wireless

- Investing to Extend Control over the IoT/M2M
- Single dashboard providing a holistic view into security, analytics, billing, management, ...



The Community Builder: Sprint

- Creating a Central Venue for Multifaceted
- Aggressively seeks & supports IoT/M2M partners with dedicated Collaboration Center



The Connector: Vodafone

- Managing Global Assets to Deliver Deep Service Customization
- Int. network coverage with in-house Global Service Data Platform.



The Silo Breaker: Orange

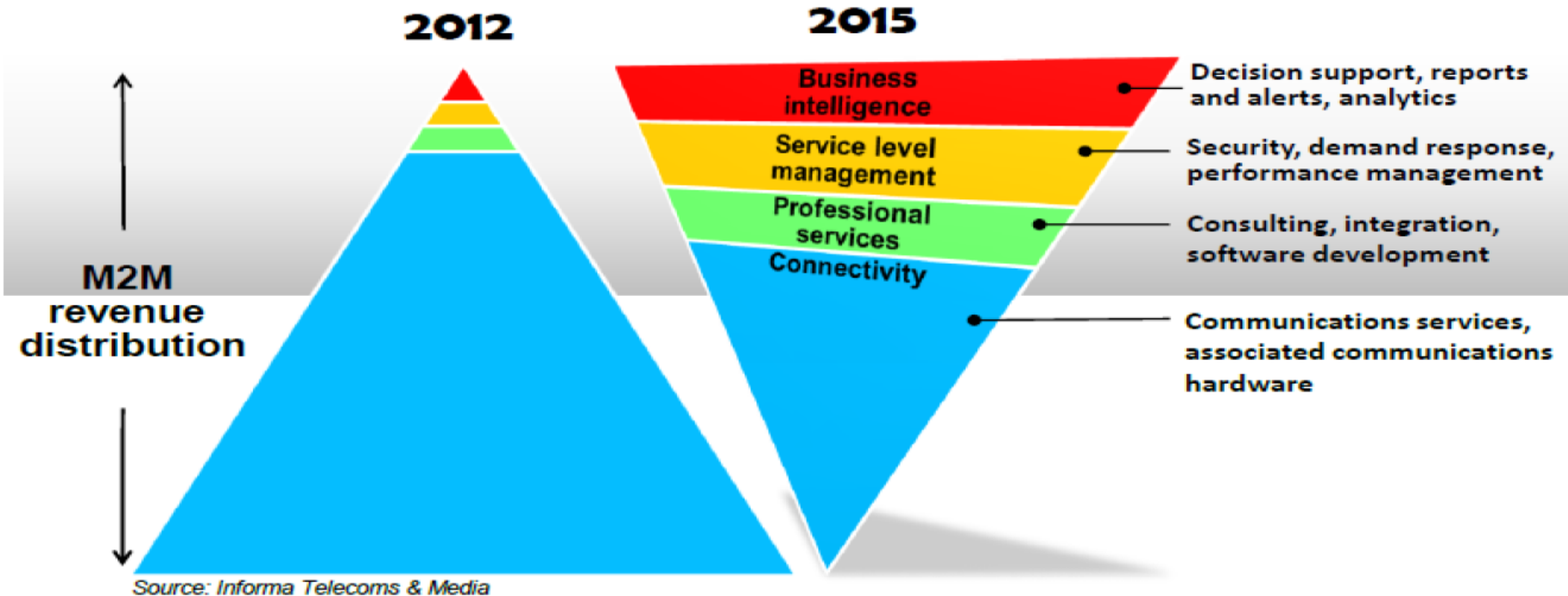
- Building Unique Value & Differentiation with B2B2C models
- Veolia Water & Orange launched m20 city, a smart metering operator with PAYG structure

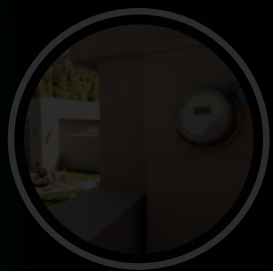


The Integrator: Deutsche Telekom

- Addressing Changing Value Dynamics in IoT/M2M
- Strong ICT services across industries. Ability to integrate IoT/M2M data with Ent biz intell.

Distribución de Oportunidades de Negocio para Proveedores de Servicio en IOT / M2M





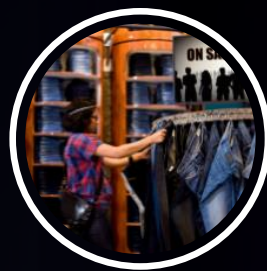
Servicios Públicos



Ciudades
Conectadas e
Inteligentes



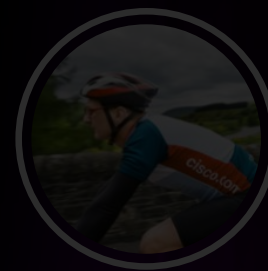
Salud



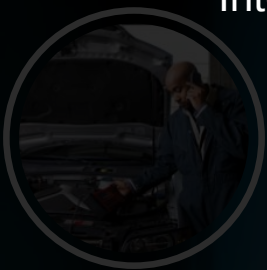
Retail



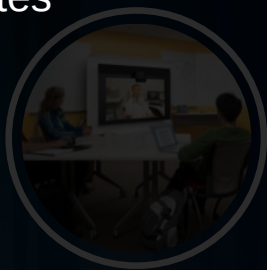
Servicios
Financieros



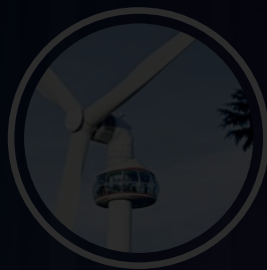
Deporte y
Entretenimiento



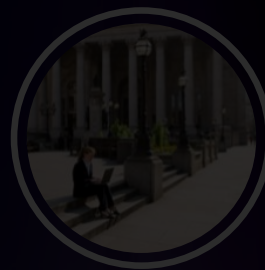
Industria
Automóviles



Educación



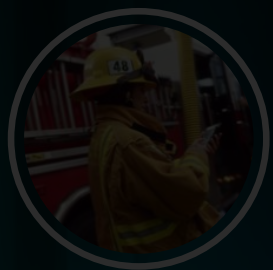
Energía



Gobierno



Hotelería



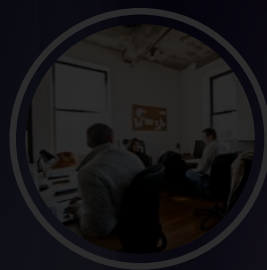
Sector Público



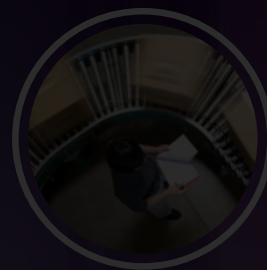
Materiales



Transporte



Formas y Lugares
de Trabajo



Industria de
Consumo



Manufactura



Smart+Connect
Cities

Algunos retos en las ciudades



Presión por crecimiento Urbano

50% of world population lives in cities

6.3 billion will live in cities in 2050, up 70% from 3.6 billion in 2010



Presión por Medio Ambiente

Cities create 60-80% of world's energy and greenhouse emissions

Cities consume 60% of all water and lose as much as 20% in leakage



Presión Económica

Large section of developed world will only grow between 0-2% in 2013

Recent economic recovery has not resulted in proportional job growth

La Ciudad Inteligente y conectada

Smart+Connected City Operations Center

1 Smart+Connected City Parking



Give citizens live parking availability information to reduce circling and congestion

2 Smart+Connected City Traffic



Monitor and manage traffic incidents to reduce congestion and improve livability

3 Smart+Connected City Safety & Security



Automatically detect security incidents, shorten response time, and analyze data to reduce crime

4 Smart+Connected City Location Services



Provide view of people flow data to aid planning and leverage location data for contextual content and advertising

5 Smart+Connected City Street Lighting

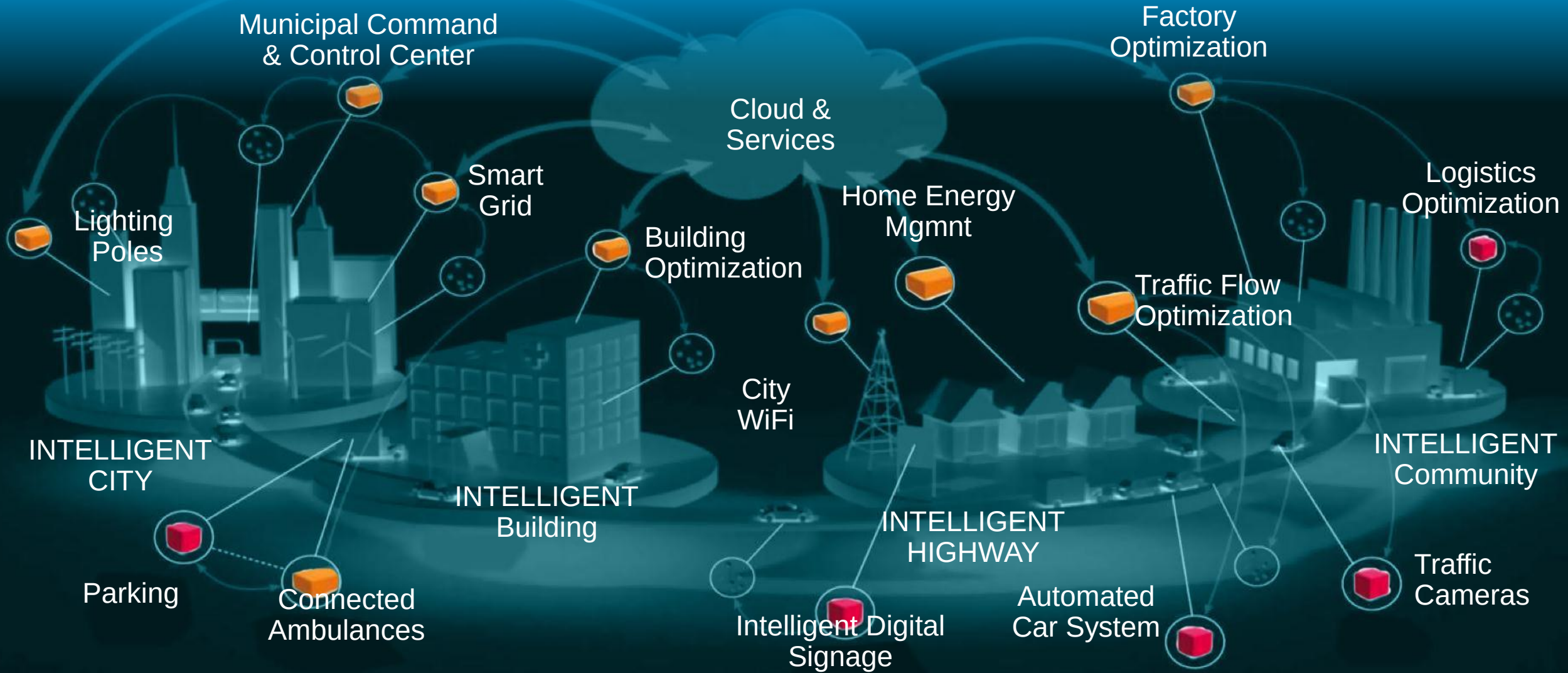


Manage street lighting to reduce energy and maintenance costs

Datos Comunes

Infraestructura Compartida

Ciudades y Comunidades Inteligentes y Conectadas



Source: Intel



Ciudades/Comunidades
Conectadas e
Inteligentes



Energías Alternativas y SmartGrid



Puertos y
Aeropuertos



Agricultura e Industria alimenticia



Manufactura conectada

Salud Conectada es una realidad en América Latina

Telemedicina en Ecuador

Detección Temprana en Argentina

Acceso remoto a servicios pediátricos en Brasil

Diagnóstico y Entrenamiento remoto Oncológico en Uruguay



Oportunidades en Manufactura conectada para impactar competitividad del país y capturar oportunidades latentes

Pasos hacia evolución en creación de soluciones IOT

- Definir Sectores de enfoque
- Crear Ecosistema
- Diseño de Soluciones y propuestas de valor específicas para el sector



Mapeo de Industrias y Soluciones

Industry	Vertical	Sub-Verticals	Solutions	Use Cases
Industrial	Manufacturing	Auto, Heavy Equip/ Discrete, CPG	Connected Factory	Converged Factory Network Plant&Control Room Mobility Secure Factory Controls Machine-as-a-Service
		Materials & Mining	Connected Mine	Connected Mining Vehicle Connected Mine Operations Asset Tracking & Personnel Safety
	Transportation	Rail, Transit Fleet, Public Safety	Connected Rail	Connected Train Connected Trackside Connected Station
			Connected Fleet	Connected Transit Connected Public Safety
	Energy	Utilities	Connected Utility	Distribution Automation Advanced Metering Infrastructure Substation Automation Workforce Enablement
		Oil and Gas	Connected Oilfield	Oilfield Remote Operations Oilfield Collaborative Operations Secure Facility Operations
Public Sector	Government	Local Government	Connected City (S+CC)	Smart+Connected Parking Smart+Connected Traffic Smart+Connected City Wifi
		Government Defense & Safety	Connected Safety and Security	Connected Operational Space Common Operational Picture
Service Provider	Service Provider/ M2M	SP/M2M	Connected IoT Service Provider	Connected Remote SP Operations Connected Supply Chain Connected Customer Kiosk
Consumer	Sports & Entertainment	Events & Venues	Connected Sports	Stadium Vision IPTV/Signage Connected Stadium Infrastructure High Density Fan Wifi Fan Mobile Experience

Connecting Things— Connected Energy





Service Provider

Expand your market



By 2018
Create new services

Internet of Everything



Simplify your
operations

IoE in the real world

See how service providers are already transforming their business by going digital.

[Read their stories](#)

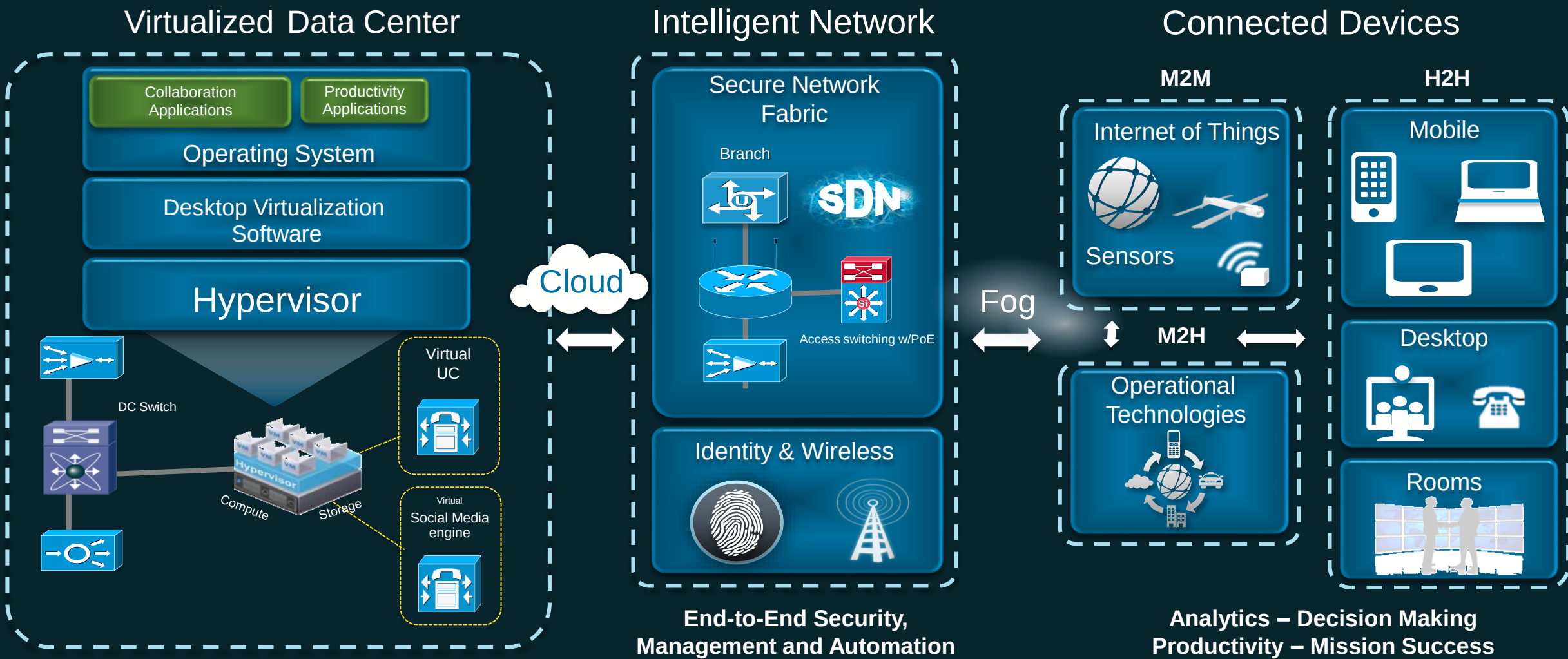


Thank you.



TOMORROW starts here.

Internet of Everything - End-to-End System Ilustración actual



IoT Plataforma de Conectividad (hoy)



**Sensors and
Devices**



**Networks,
Computing, Storage**



**Data
Analytics**



**Control
Systems**

- Location
- Identity + Policy
- Aggregation
- Security
- Mobility
- Lightweight IPv6

- Scale + Reliability
- Resource orchestration
- Difficult networks
- Privacy + Security
- Service Provider M2M
- ASICS + Software

- Data Aggregation
- Video Analytics
- Streaming Data
- Data Federation
- Embedded analytics

- Determinism
- Safety
- Latency
- Virtual Machine Control



Data Center



Intelligent Network



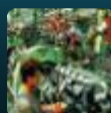
Cloud

IoT Platform

Cisco Internet of Things Portfolio



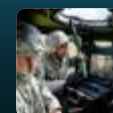
**Process
Manufacturing**



**Discrete
Manufacturing**



Transportation



**Safety and
Security**



Utilities

Plantwide Ethernet, Intelligent Transportation, Smart Cities, S&C Refinery, Smart Connected Vehicle, Smart Grid



Industrial Applications: BYOD, Physical Security, Remote Expert



Industrial Wireless



1550
Series

Ruggedized
Wireless AP

Industrial Switching



IE 2000
IE 3000

Industrial Routing



M2M ISR
Gateway Router

Embedded



Embedded Services
Routers & Switches

Connected Grid



CGR 1000 & 2000 Series
CGS 2500 Series

Industrial Cyber Security

Lightweight IPv6 Stack (RPL, COAP, 6lowpan, optimized low-power link layers, lightweight OS)

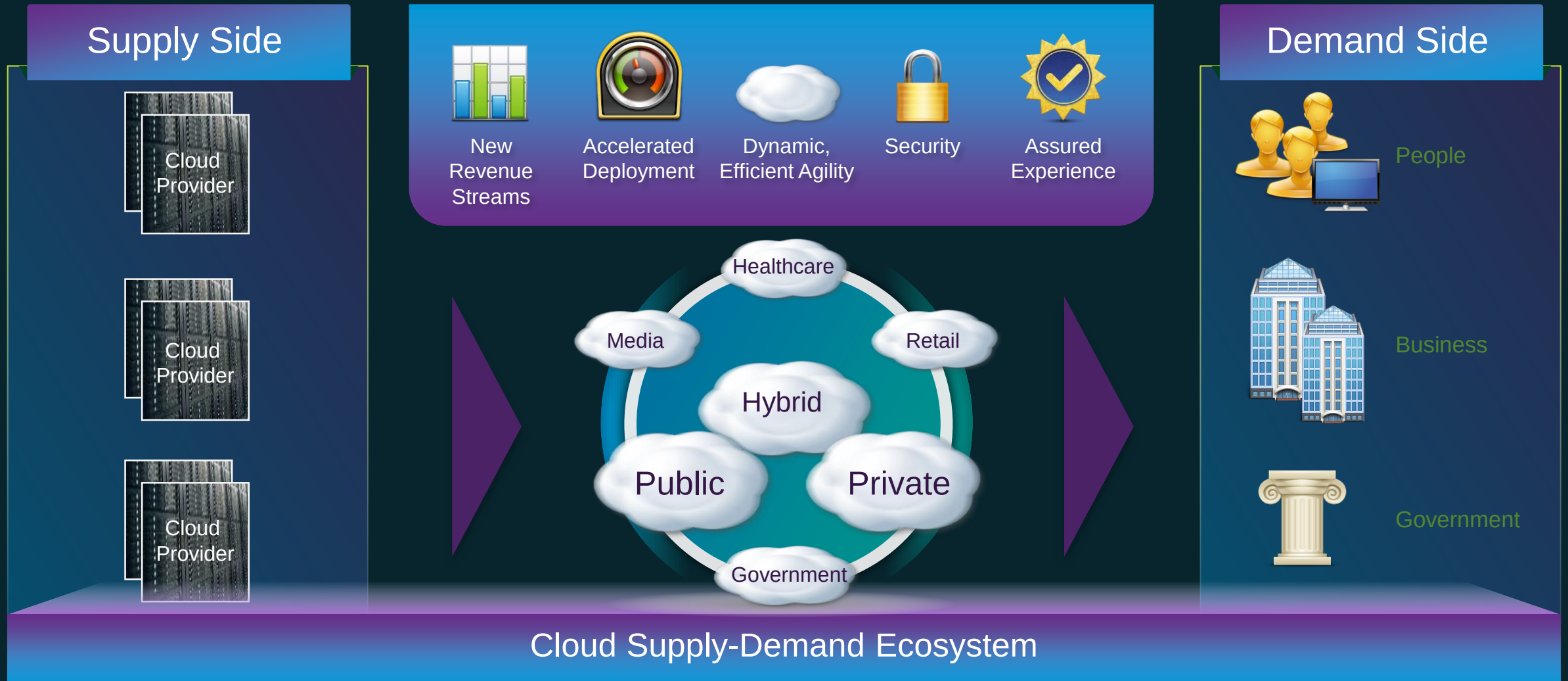
Data Center/Virtualization



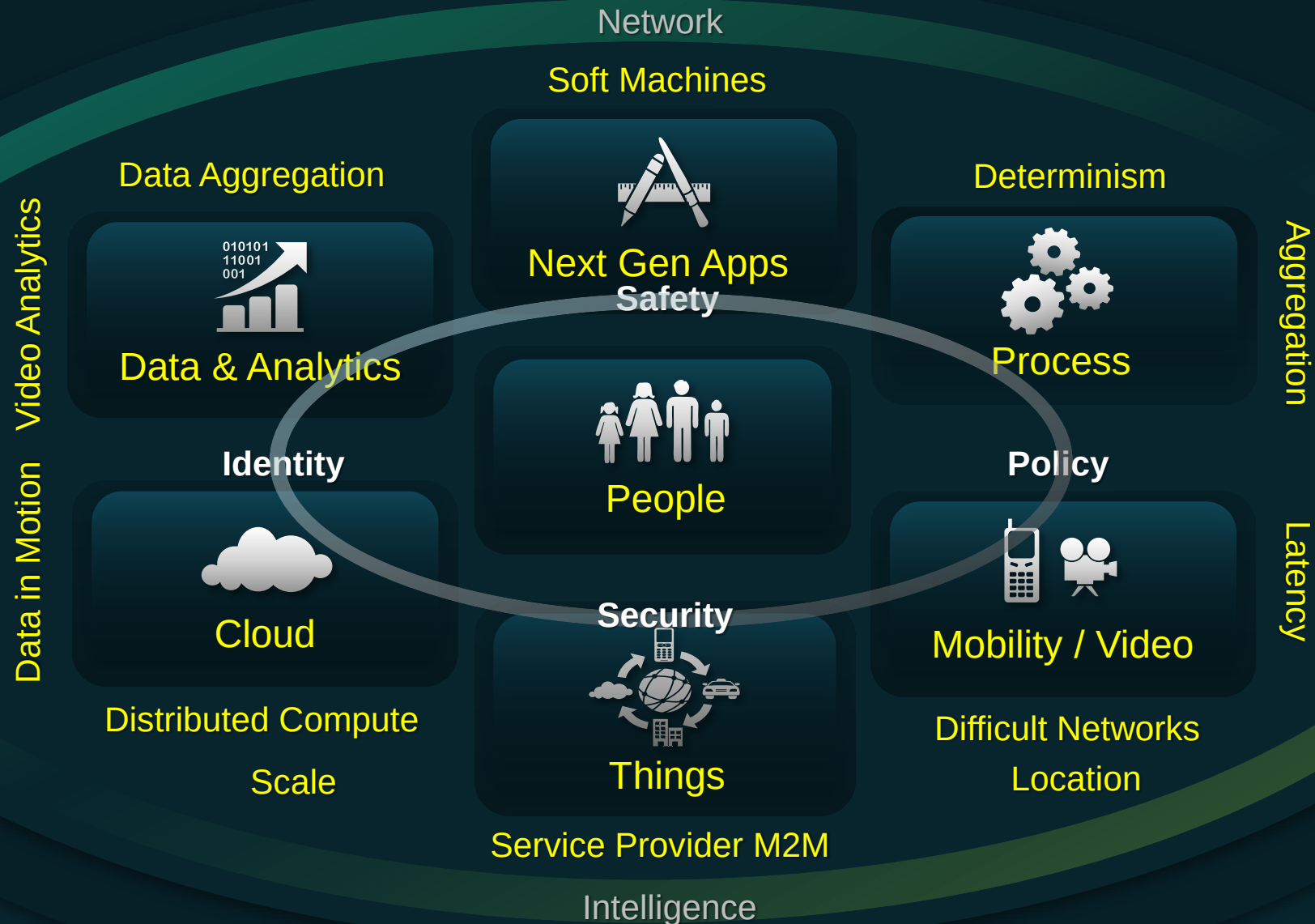
SP Managed Services and SP Service Aggregation Layer (ASR 5K)



Multiples ofertas de servicio en la Nube



Internet of Everything - Capacidades



How Cisco Makes IoE Real

Consulting Services

Partner

Advanced Services

Architectures

Business Strategy

Business Imperatives, Priorities, Pain Points

 Process

IoE Strategy
Why & What

Business Use Cases – Vertical,
Horizontal

IoE Roadmap and Vision

IoE Readiness
(Leadership, Governance, Competence,
Technology)

How

IoE Apps and Endpoints

IoE Solution Design (Industry, Tailored,
Custom)

IoE Operations Design (Platform,
Program, Process)

 People

Collaboration Platform (Visual, Virtual, Mobile, Social)

App Ecosystem

Field Area Network & Cloud

 Data

Data, Sensing, Aggregation, Analytics, and Metadata

Management

Network

Application
Distribution

Security
&
Privacy

Device / Provisioning
Mgmt

Policy Mgmt

Infrastructure

Datacenter(Unified & Distributed Compute, Storage, and Networking)

Core(Layer 2/3 Network Infrastructure)

 Things

Sensors, Actuators and Mobile