

Telco and industry digitalization

International Business Congress
INFOC Committee meeting

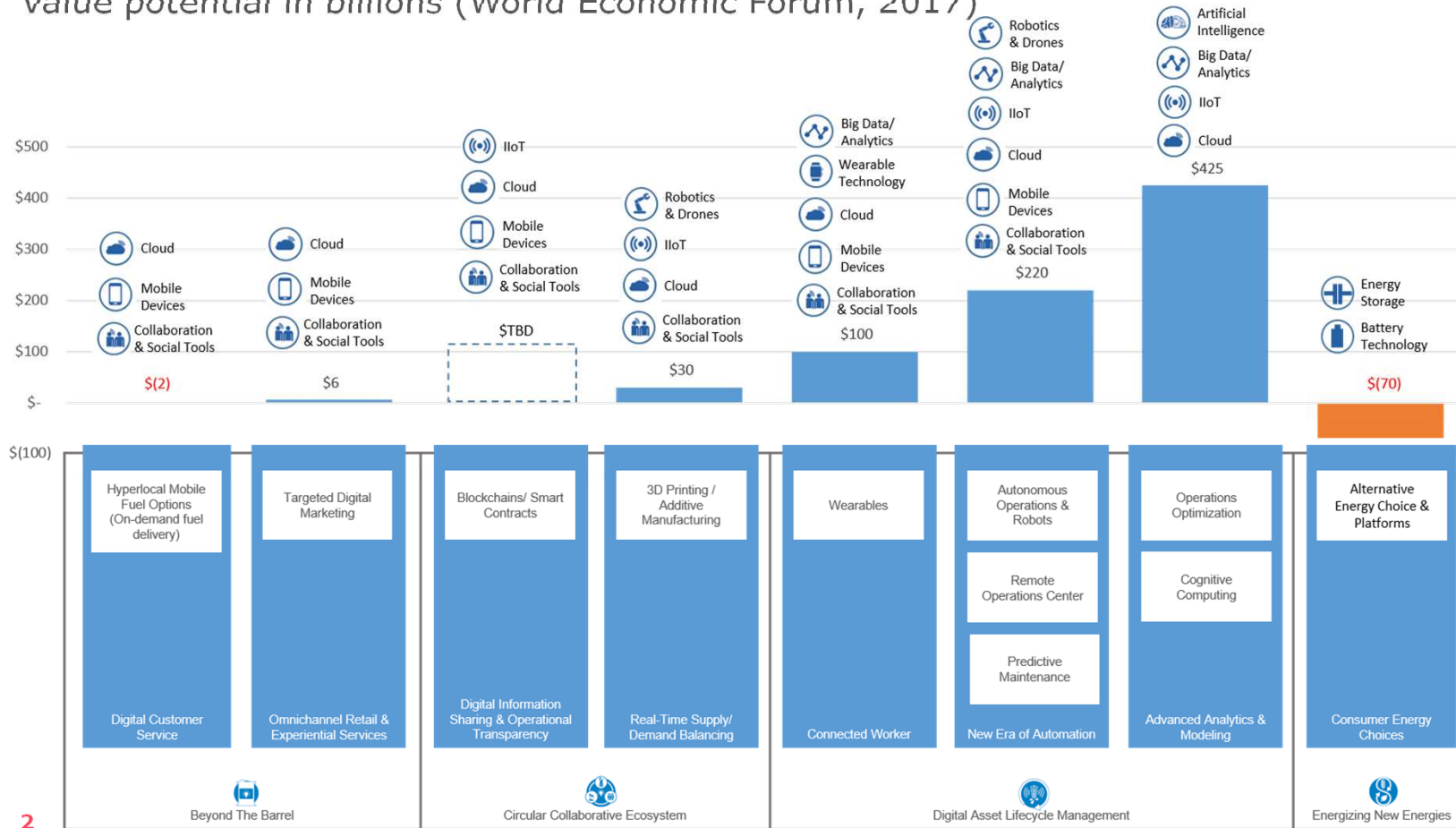
30 March 2018, Moscow
Kirill Kushnarev, PhD
CEO Devoteam Russia



Innovative technology consulting for business

Digital Transformation Initiative Oil and Gas Industry

Value potential in billions (World Economic Forum, 2017)



Oil and Gas Industry

Classical Telecom Offer for Facility

MANAGEMENT AND UTILITY SYSTEMS

- Telecom maintenance system
- Network management systems
- Power supply systems

EXTERNAL COMMUNICATION

- Transmission/backbone (SHD/DWDM)
- Fibre optic communication
- Microwave radio
- Marine radio and GMDSS
- Aeronautical radio
- VSAT and Inmarsat
- SCADA communication
- Offloading telemetry
- Vessel berthing systems

INTERNAL COMMUNICATION

- PABX and telephone system
- UHF Tetra radio
- LAN/WAN and structured cabling system
- Wireless distribution
- Paging systems
- Driller's Talkback
- Crane radio
- Turret communication (FPSO)
- Video conferencing
- Entertainment

SAFETY AND SECURITY

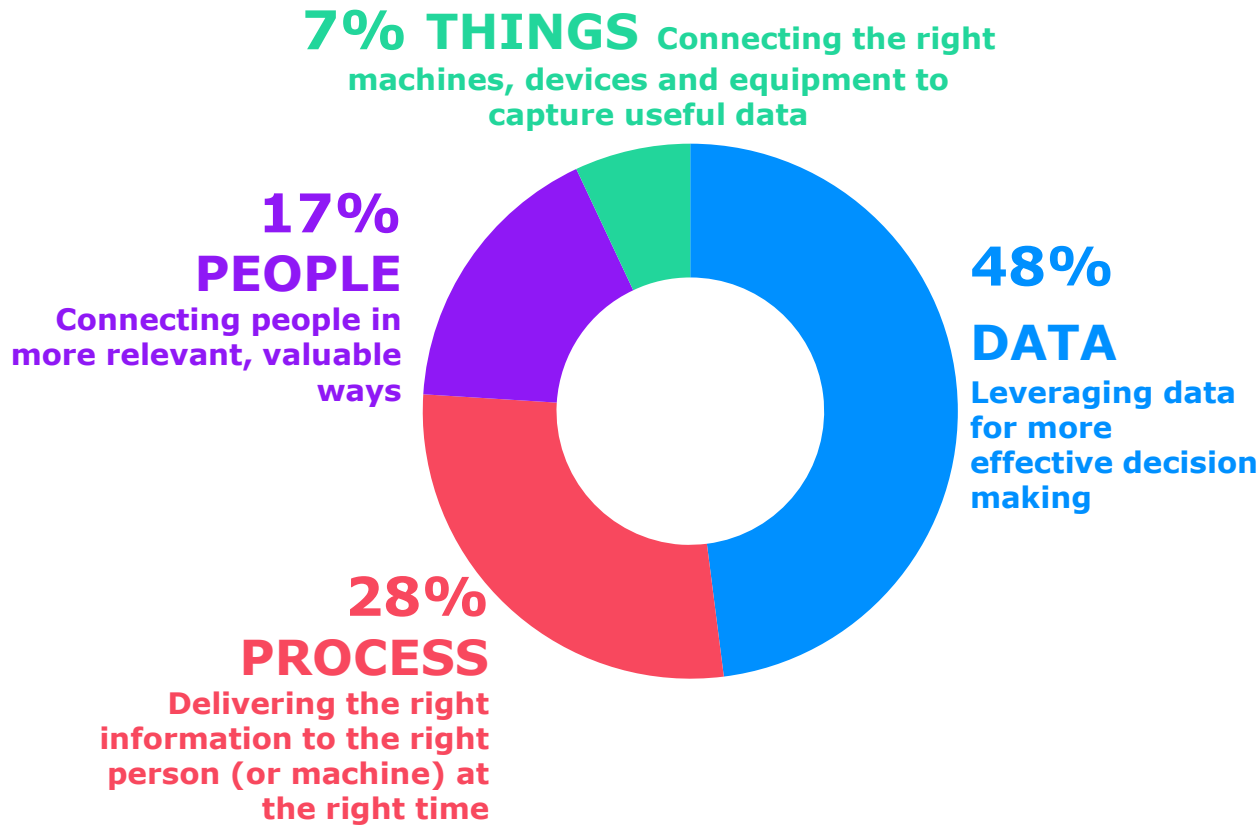
- Public address and general alarm system
- Sirens
- CCTV system
- Access control
- POB and muster systems
- Intrusion detection
- Meteorological and environmental monitoring systems
- Radars and racon
- Navigation systems
- GMDSS
- EPIRB, SART and Beacons
- DGPS
- AIS
- ATIS/VTS

THE BIGGEST PROBLEM IS THE LACK OF BANDWIDTH

1 facility generates approximately more than 2Tb of data per day. It takes more than 12 days to transfer 1 day of data using "classical" 2Mbps throughput.

Oil and Gas Industry Digital Transformation

Telecom needs to improve to drive insights and value



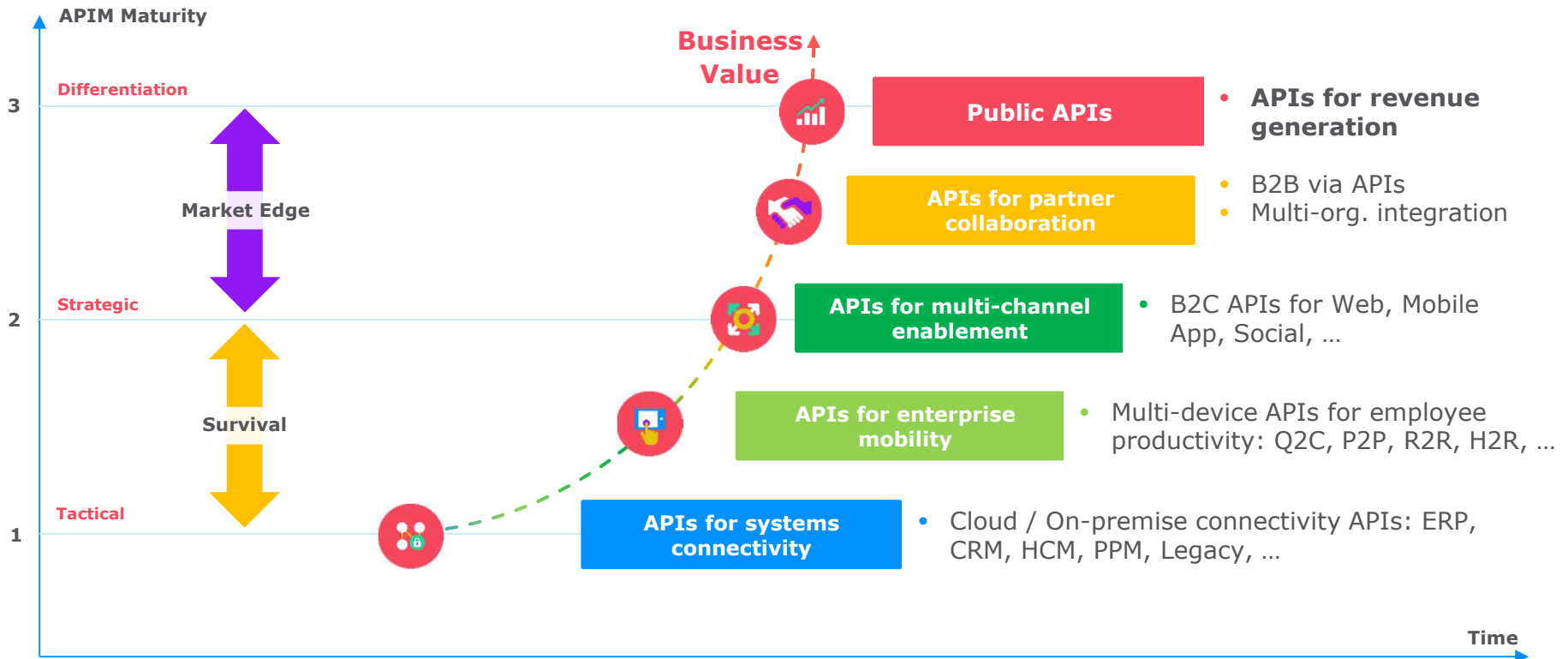
In 2023, monthly global mobile data traffic will surpass **100 ExaBytes**

By 2023, IoT cellular connectivity will mainly be provided by **LTE** and **5G**, as well as unlicensed low-power technologies, such as **LoRa**.

	2017	2023	CAGR
Wide-area IoT	0,6	2,4	23%
Short-range IoT	6,4	17,4	18%
PC/laptop/tablet	1,6	1,7	0%
Mobile phones	7,5	8,8	3%
Fixed phones	1,4	1,3	0%
	17,5 bln	31,6 bln	

The Application programming interfaces (APIs) Value Chain

Simplifying the back end. Personalizing offers. Ecosystem of innovation and engagement.



API logical architecture

Using APIs effectively

API layers



User experience
Enable ecosystem management and rapid innovation



Domain-level
Simplify, automate and package digital process



System-level
Standardize data and decentralize data access



Technology opportunities

- Supports microservices built on the foundation
- Allows faster market pivots by isolating changes to upper layer
- Enables more open, “self-serve” APIs
- Reduces time, cost, and effort by building on pre-existing API libraries
- Replaces traditional BPM with process orchestration
- Augments orchestration with AI, bots, and RPA driven by data and APIs
- Uses composition to create domain-specific APIs from system-level building blocks
- Enables data virtualization by mapping to modern formats
- Manages master data governance and access
- Creates batch, real-time, and pub-sub patterns
- Isolates higher-level apps from changes in the underlying system

API portal a means for developers to discover, collaborate, consume, and publish APIs.

API gateway a mechanism that allows consumers to become authenticated and to “contract” with API specifications and policies that are built into the API itself.

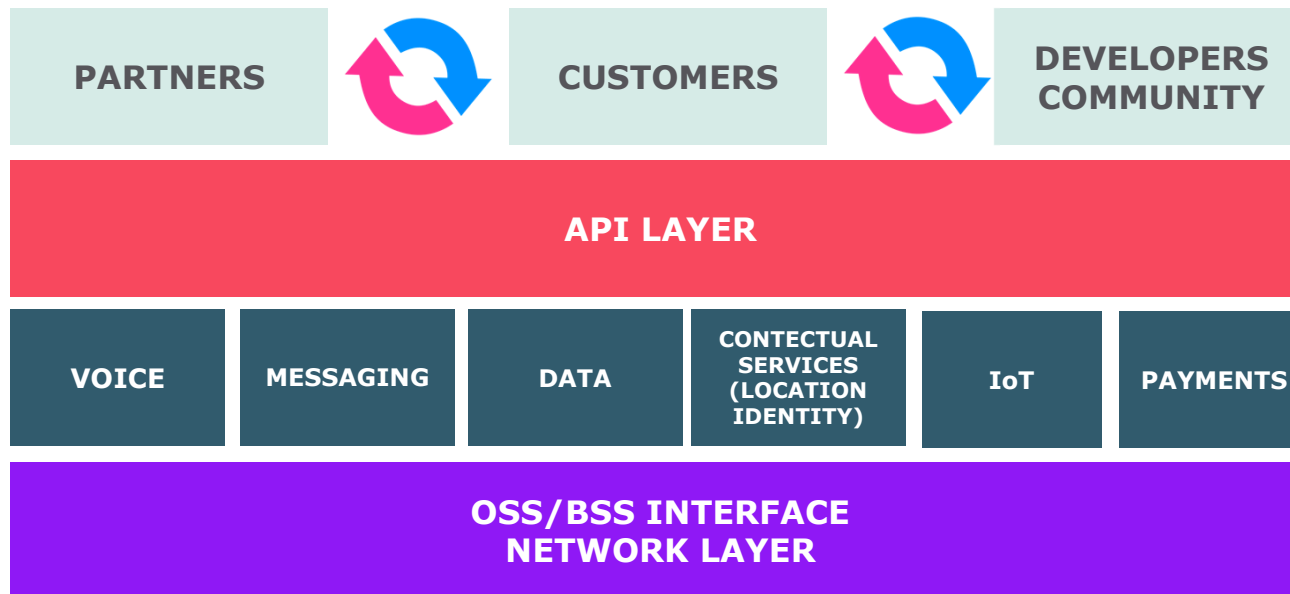
API brokers enrichment, transformation, and validation services to manipulate information coming to/from APIs, as well as tools to embody business rule engines, workflow, and business process orchestration on top of underlying APIs.

API management and monitoring a centralized and managed control level that provides monitoring, service level management, SDLC process integration, and role-based access management across all three layers above.

Digital Transformation: the API-Driven Telco

Where Do APIs Create Value for Telco?

- Create stickiness to enterprise customers
- Software defined networking
- OTT ecosystem enablement
- Provide bridge to cloud
- Better integrate connected devices
- Accelerate internal innovation



Devoteam, entrepreneurs in disruptive technology



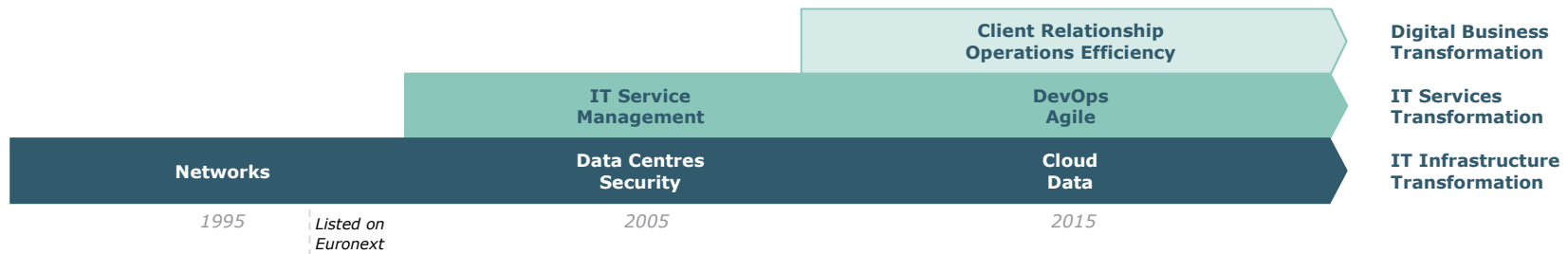
At Devoteam we deliver innovative technology consulting for business, to **make our clients win their digital battle**

5200
Professionals

17
Countries

540M €
Turnover in 2017

20 years of transformation experience



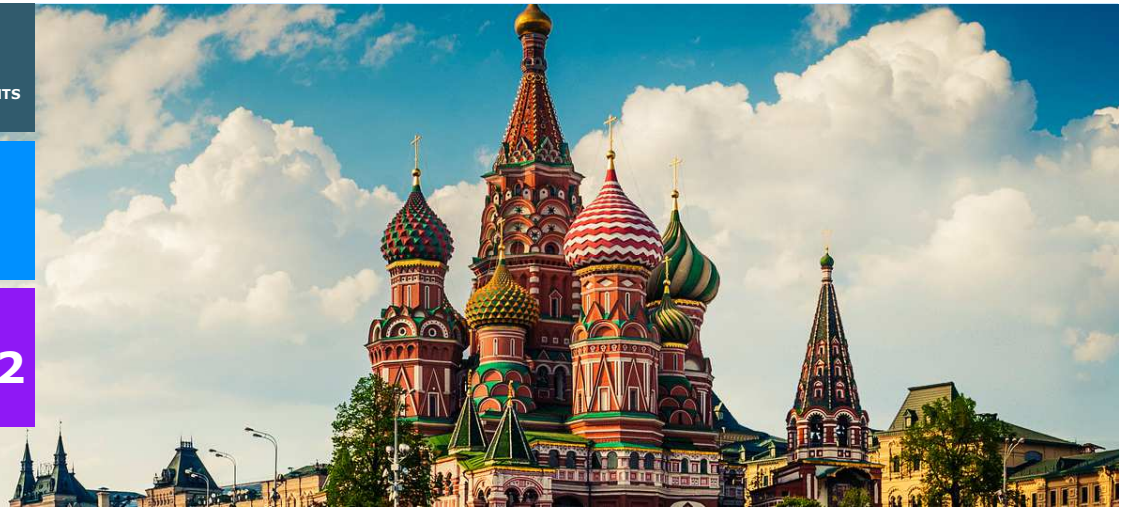
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