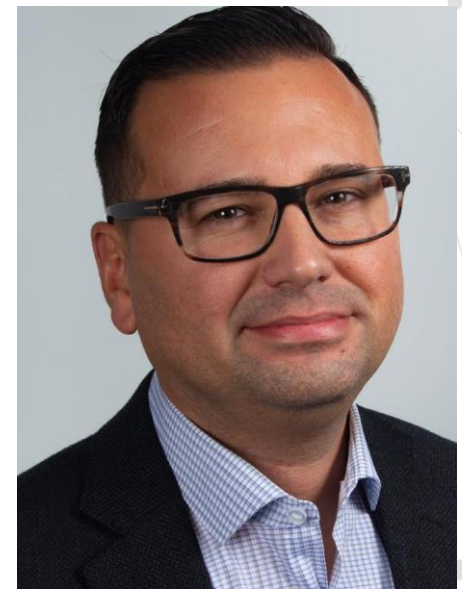# THE NEXT PHASE OF IOT IN SHIPPING DIGITALIZATION

Al Tama, Vice President & General Manager Container and Port Solutions

Responsible for growing the company's global footprint in the marine and intermodal container market. Before joining ORBCOMM, he served as General Manager at WAM Technologies, which deployed the first large-scale global telemetry control and monitoring system for nearly 300,000 refrigerated containers.

AGENDA

- Current Environment

- Improving Implementation – Challenges

- Visibility

- Supply Chain and Asset Integration

- IoT Spending Trends and Market Size

- The Internet of Shipping – Adoption Trends

- Making Data Meaningful

- Open Standards and Interoperability

- Questions

CURRENT ENVIRONMENT

- Sea freight moves slowly and unreliably

- Assets are not optimally utilized

- Pressures from regulation and climate

- Shorter delivery-time expectations

- Supply chains are more complex

- E-commerce is changing the supply chain

IMPROVING IMPLEMENTATION - CHALLENGES

- Supporting industry to scale

- Enabling faster device installation

- Facilitating multiple data streams

- Fast-tracking development

- Collaboration to define and deliver on new analytics use cases

- Ease of data integration

VISIBILITY

- Visibility: substitute for speed

- Data helps bridge the gap

- Data is fragmented and not real-time

- High-quality data and analytics
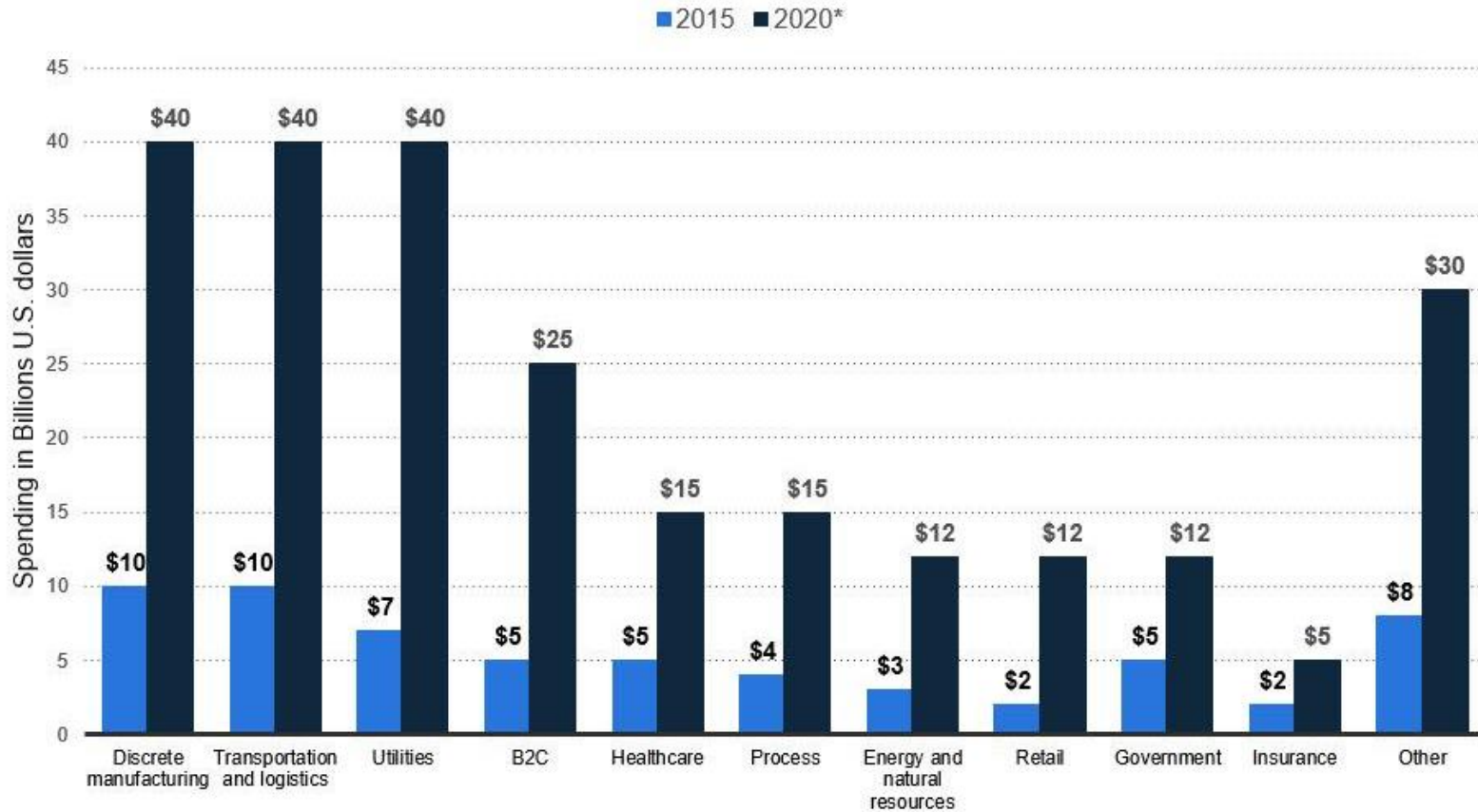
- IoT enables the digital transformation

SUPPLY CHAIN AND ASSET INTEGRATION

- Using IoT to respond to delays and breakdowns

- Visibility: just one piece of the puzzle

- Integration of cargo and shipment data, from first to last mile

IOT SPENDING TRENDS

Spending on Internet of Things worldwide by vertical in 2015 and 2020
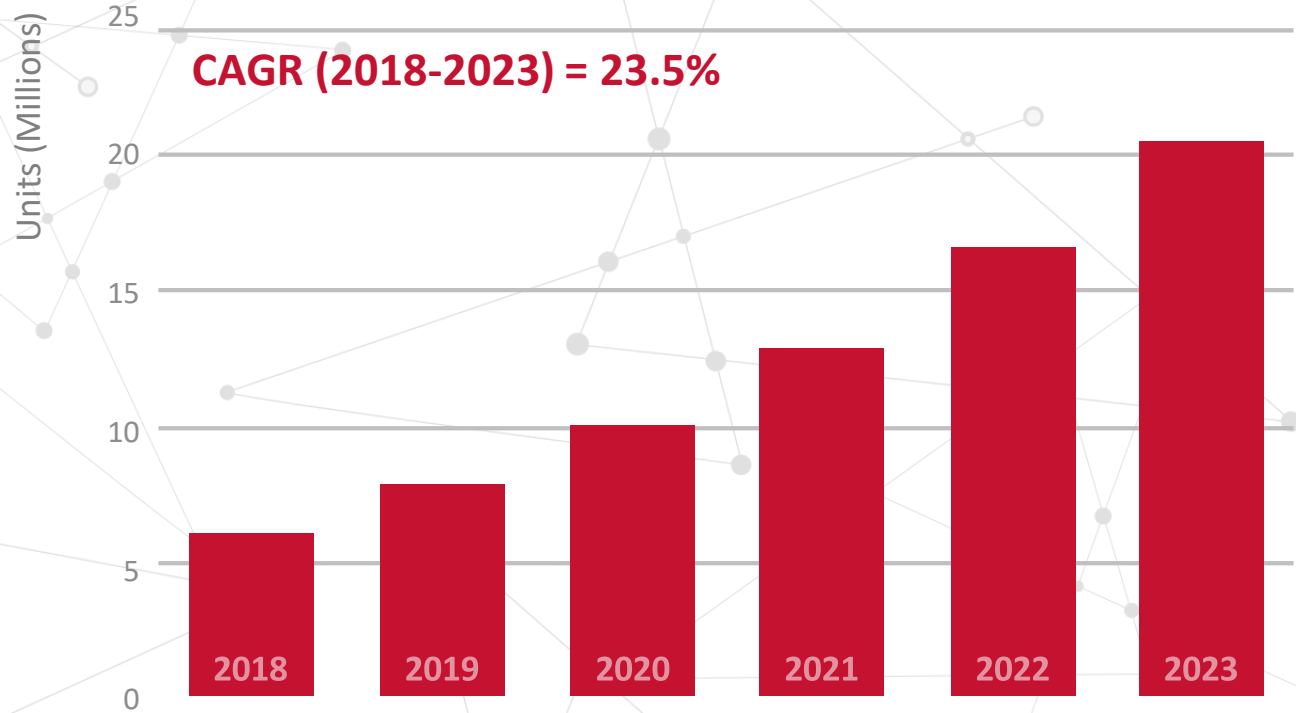(in billions of US dollars)

Statista

MARKET SIZE

Installed base of active trailer and cargo container tracking units (world 2018-2023)

CAGR (2018-2023) = 23.5%

Units (Millions)

Year	
2018	
2019	
2020	
2021	
2022	
2023	

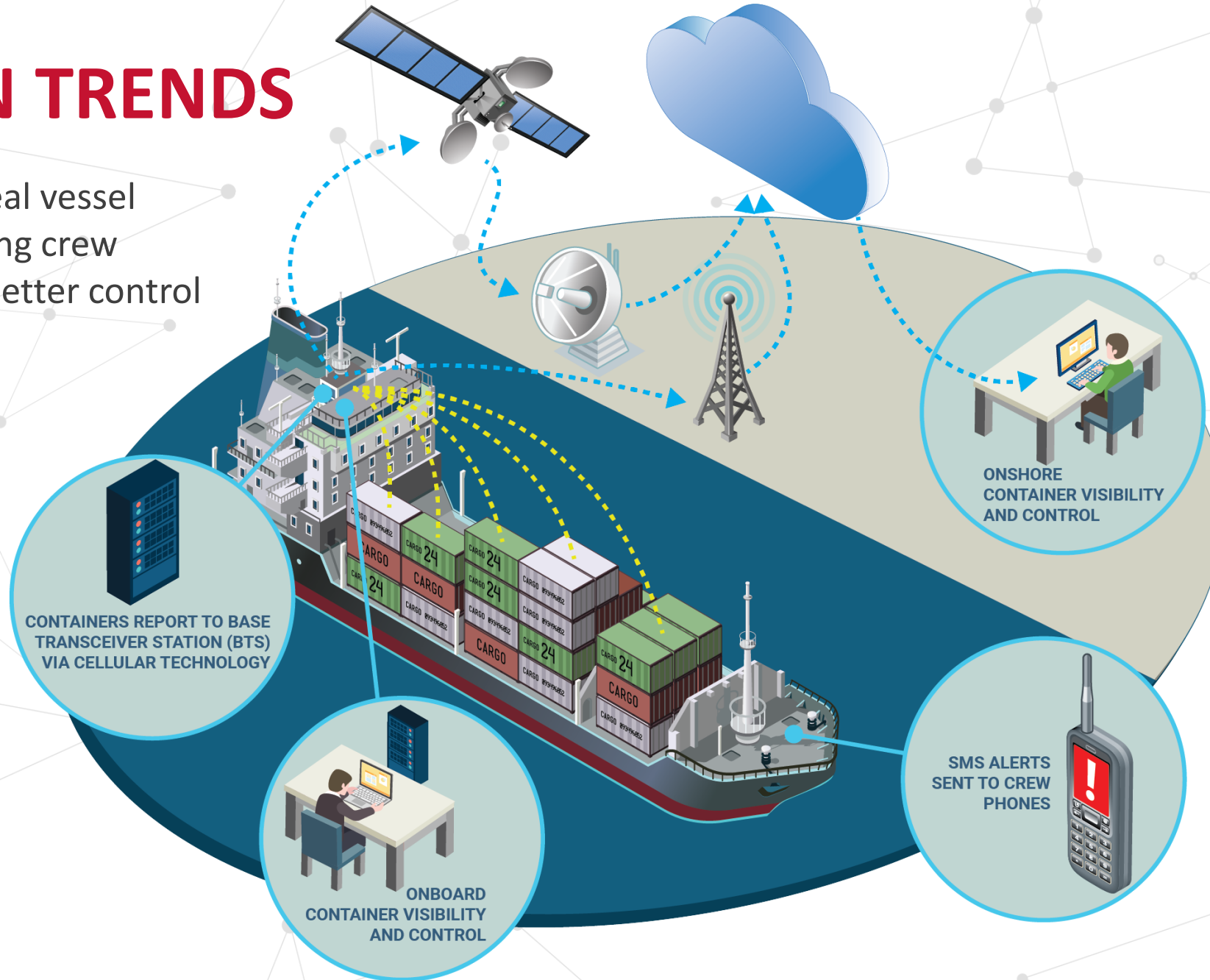Berg Insight

THE INTERNET OF SHIPPING – ADOPTION TRENDS

- Shipping lines are the primary IoT investors

- Smaller and more regional carriers moving quickly

- Container lessors and OEMs entering the space

- Factory-installed devices

ADOPTION TRENDS

The IoT can deliver real vessel connectivity, improving crew safety and enabling better control and planning

CONTAINERS REPORT TO BASE TRANSCEIVER STATION (BTS) VIA CELLULAR TECHNOLOGY

ONSHORE CONTAINER VISIBILITY AND CONTROL

ONBOARD CONTAINER VISIBILITY AND CONTROL

SMS ALERTS SENT TO CREW PHONES

ADOPTION TRENDS

The IoT stack

Devices & Device Management

Data & Data Management

Connectivity & Subscriber Management
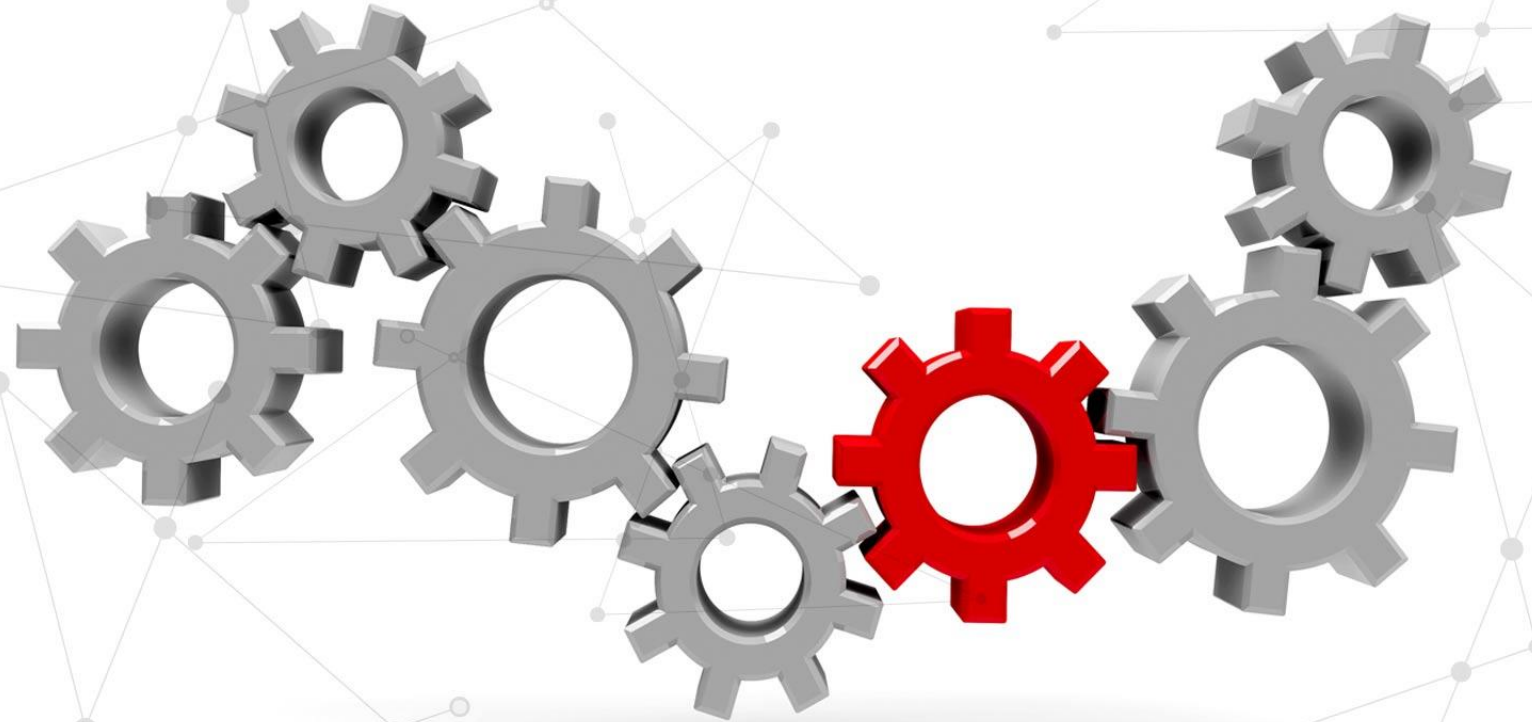
Analytics & Applications

MAKING DATA MEANINGFUL

- Control towers and dashboards are key to filter and present only the relevant data to users

- Analytics to unlock value and insights from big IoT data

- Intelligent analytics, AI and ML are now starting to emerge

OPEN STANDARDS AND INTEROPERABILITY

- Industry collaboration on open standards

- Open standards initiative

- Interoperability is key

QUESTIONS?