Smart Data for Maritime shipping

Container Context & emission reporting
Intermodal Maritime shipping market:

- **10,000** container ships; **+22M** containers, inc. **2M** reefers (refrigerated container)
- **x10** more efficient than truck / **x100** than air travel (energy/ton/km)
- **25%** of dry and **100%** of reefers **connected by 2026**

Major challenges:

- Late on digitization
- Needs for cost optimization
- Carbon taxed in **2023 (EU ETS)**
- **350 million tons CO₂e** emission / year inc. **est. 60 million tons CO₂ from reefers**

Note 1: container-based shipments  
Note 2: Drewry 2022  
Note 3: prop and use energy
100 tons CO$_2$e/day from reefers - on this picture
BluePulse is

✓ A data-driven company specializing in AI
✓ Focusing on container IoT data
✓ Hardware agnostic (any hardware, any sensor)
✓ Operating a SaaS platform for time series
✓ Building patented technologies (patents filed)

We transform data into information & insights
Available on a **SaaS & KPI reports** implementation:

**Existing features:**
- **Sea/Rail/Road/Port** tracking for dry & reefers
- **Scope 1 GHG emissions** for dry & reefers
- **Energy tracking & prediction** for reefers
- **Scope 2 GHG emissions** reporting
- **Event detections** for reefers
- **Efficiency index** for reefers

**Upcoming features:**
- **Temp breach** predictions
- **In Port zone** tracking (3 labels - CY, CFS, Quay)
Context enrichment for any container

- IoT data
- GPS

Sea/Harbor/ Road/Rail

Port geo fencing + GPS accuracy increase

Context: On truck, on train, on barge, on vessel, on land
In port: on storage, on quay, on CFS

Carbon Accounting: CO₂ tracking
CO₂ accounting¹
Scope 1 & 2 GHG reporting

Note 1: Comply with EN16258 standards & GLEC framework
**CONTEXT ENRICHMENT: World polygon database**

**Sea / Inland tracking**

Current polygons:
- **Sea**
- **Waterways** (canals, rivers, lakes)
- **Railways**
- **Highways and roads**
- **Land**

Upcoming "in port" zones

Example: Railways for Fos sur Mer Container port (Red lines)
IN PORT GEO LOCATION: Storage, Quay, CFS

1) Image Classification: automatic container zone detection

2) Image label: automatic zone description
   Storage (green) & Reefer (Yellow)
**SOLUTIONS BENEFITS**
*Smart Data for Maritime Shipping*

- IoT Data
  - Identify reefer **best fit** for each routes – 10/15% savings
  - Report of reefers **losing efficiency** – PTI optimization
  - GHG & CO₂ **accounting & reports** – Carbon credits
  - Trip **context & qualification** – geo fencing and alerts
  - Energy & CO₂ **prediction** – energy optimization

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*bluepulse.*