The Coming of Age of Smart Containers

Hanane BECHA, Ph.D.
SMDG 16th March 2017
The Coming of Age of Smart Containers

- What exactly are they?
- Why now?
- What for?
- How are they used?
- How do they work?
Smart Container

- Automatically generate data
  - Position
  - Door Open/Close status
  - Temperature
  - Movement
  - Impact
  - + extensions

- Communicate near real-time
  - From (nearly) anywhere
  - Economically

- Permanently attached
- Built-in or back-fitted
Why Now?
George Youroukos, CEO of Athens-based containership owner Poseidon Containers has said cost savings are not being offered by the mega-ships that are being ordered and deployed and that economies of scale are not being realised, according to the Journal of Commerce.
MSC joins CMA CGM in backing TRAXENS

Monday, July 25, 2016

Cargo Monitoring Innovation Gets Strong Endorsement from Leading Shipping Lines and Set to Become an Industry Standard

Geneva and Marseille, 25th July - MSC Mediterranean Shipping Company, a world leader in global container shipping, has joined CMA CGM, in backing French start-up, TRAXENS.

Reefer, Dry, Tank, ...
The Missing Link in the Digitalization of the Supply Chain

Awareness of the value of digital in logistics/SC/Transport
Smart Container Deployment Forecast ( Millions )
What for?
Video: Smart Containers

https://vimeo.com/155658816
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Alerts & Notifications

- Significant events
  - Arrival at warehouse
  - >1 hour stop on truck
  - Door open
  - >8°C
  - Running late
  - Etc.

- Delivered to the right person at the right time
  - Web interface
  - Email
  - SMS
How does it work?
TRAXENS·BOX

Localisation
GPS - GNSS

Embedded Sensors
- Door Open
- Temperature
- Shock
- Movement
- Vibration

ARGOS 2

2G, 3G
Dry and Reefer
Reefer
TRAXENS-NET Benefits: Power Sharing
TRAXENS-NET Benefits: Power Sharing
TRAXENS-NET Benefits: Reach
TRAXENS-NET Benefits: Sensor Extension

- Cargo Temperature
- Humidity
- Pressure
- Gas detection
- Human presence detection
- Specialized Sensors
Smart Container as a Data Sharing Enabler

- Smart containers offer an **end-to-end visibility of shipment execution**

**Stakeholders:** shipping lines, freight forwarders, Beneficial Cargo Owners, cross-border agencies and port authorities, etc.

**Deployment and benefits of smart containers:**
- Smart containers in support of smart ports and terminals by enhancing local monitoring and dangerous goods management (unplugged Reefer alerts, idle cargo, planning), etc.
- Smart containers in support of fast lanes by enhancing documents sharing (secure element) and “reality” versus “declarations” matching (Provenance traceability, open door detection, physical parameters monitoring), etc.
What is the Role of the SMDG?

- **Gathering requirements and new processes definition**
  - The right audience and expertise for *gathering requirements* (what data should be captured and shared?) and *new process definition* integrating the smart container new flow of data (what KPI to be enhanced and how).

- **New EDI messages in support of the new data flow**
  - Dangerous goods management
  - Cross border-agencies
  - For declarations and certifications availability
Thank You

Hanane BECHA
h.becha@traxens.com
+33 634 023 517
TRAXENS’ History

- **Founded**: 2010
- Staff: 2

- **2010**: TRAXENS founded
- **2011**: TRAXENS Award
- **2012**: Start-up Award, CMA CGM Seed
- **2013**: CMA CGM + Banks
- **2014**: Innovation Award (2M€)
- **2015**: TERTIUM
- **2016**: MSC
- **2017**: 65
  - 10 nationalities
  - 7 PhD’s
  - Average Age: 40
  - Wide Industry experience

**Key Milestones**

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- **2011**: TRAXENS Award
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**Staff & Experience**

- 10 nationalities
- 7 PhD’s
- Average Age: 40
- Wide Industry experience

**Financials**

- **2010**: 3 M€ / Grants & Subsidies
- **2011**: 4,9 / M€ Equity