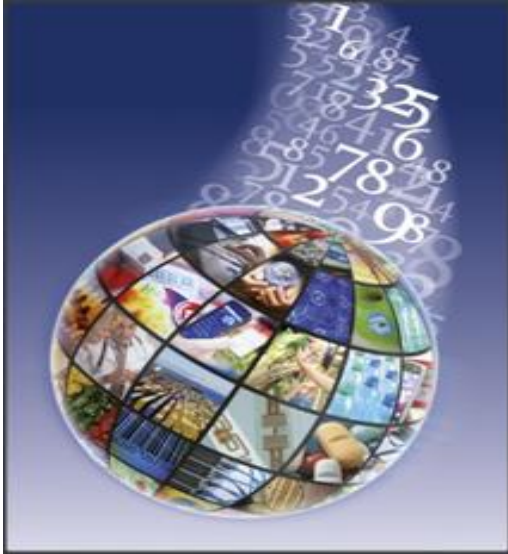# 物聯網技術(IoT)可以用於冷鏈運輸物流管理嗎?

Dick Ng, Senior Manager – Industry Engagement
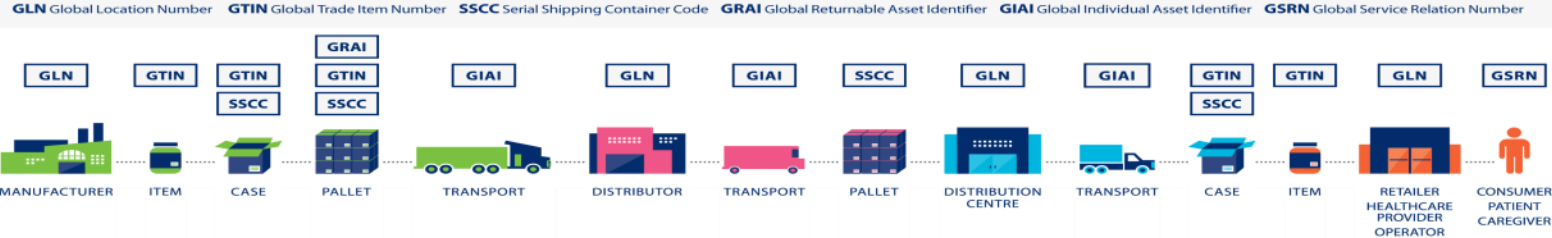
15-Dec-2017

The Global Language of Business

GS1 is a neutral, not-for-profit, user-driven standards body, which facilitates collaboration to create more efficient, safer and sustainable value chains through the adoption of easy-to-implement global standards.

The most widely used supply chain standards system in the world

GS1 Standards

Cold Chain & IoT

Supply Chain Traceability

Supply Chain Traceability + Temperature Control

Supply Chain Traceability + Temperature Control + IoT

-14°c   -10°c   Cold Chain Portal

A thermo-sensor RFID tags is placed in each pallet
每個貨盤中放入一個無線射頻感測溫度感應標籤

Monitor the temperature when the products are loaded to the cargos up to its final destination via ezTRACK
透過ezTRACK網頁監控食品在整個運送流程中的溫度變化

Call up the data and analytic graphs through GS1 Hong Kong's Cold Chain Portal for regular review and monitoring quickly
透過香港貨品編碼協會的冷鏈管理平台，更快捷地取得數據和分析圖表，以進行定期檢討和監控

Trust starts with traceability

Where is my shipment?

Was it sustainably sourced?

Is this safe to eat?

Cold Chain Traceability Today

Organizations are usually address their internal traceability needs only

Traceability data not from trading partner upstream and downstream

Traceability information is difficult to access and share

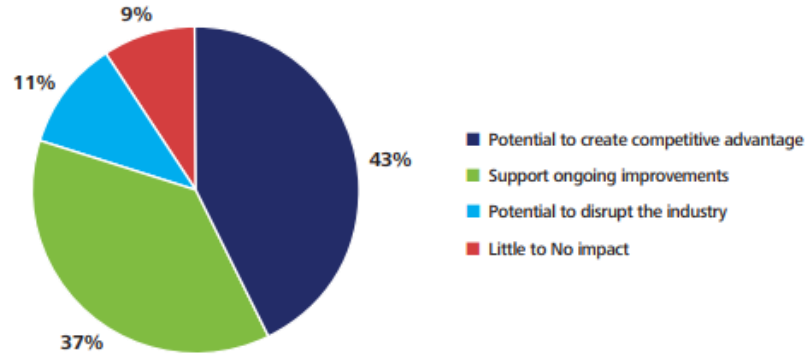**Difficult to share accurate traceability data between trading partner**

More transparency between trading partners to meet consumer demand

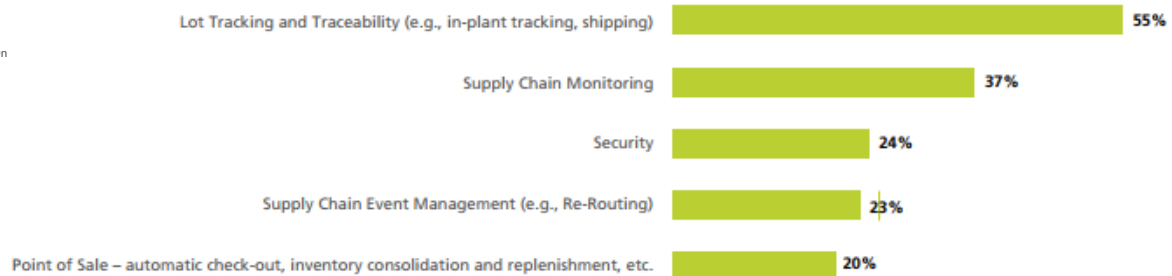**Difficult to capture all temperature data throughout the supply chain**

Sensors, Automatic Identification & IoT

Figure 15. 2017 survey results: Potential impact of Sensors and automatic identification

9%
11%
43%
37%

- ■ Potential to create competitive advantage
- ■ Support ongoing improvements
- ■ Potential to disrupt the industry
- ■ Little to No impact

Source: The 2017 MHI Annual Industry Report Next Generation Supply Chains: Digital, On-Demand and Always On

Figure 16. 2017 survey results: How companies are using sensors and automatic identification today (or planning in the next 1-2 years)

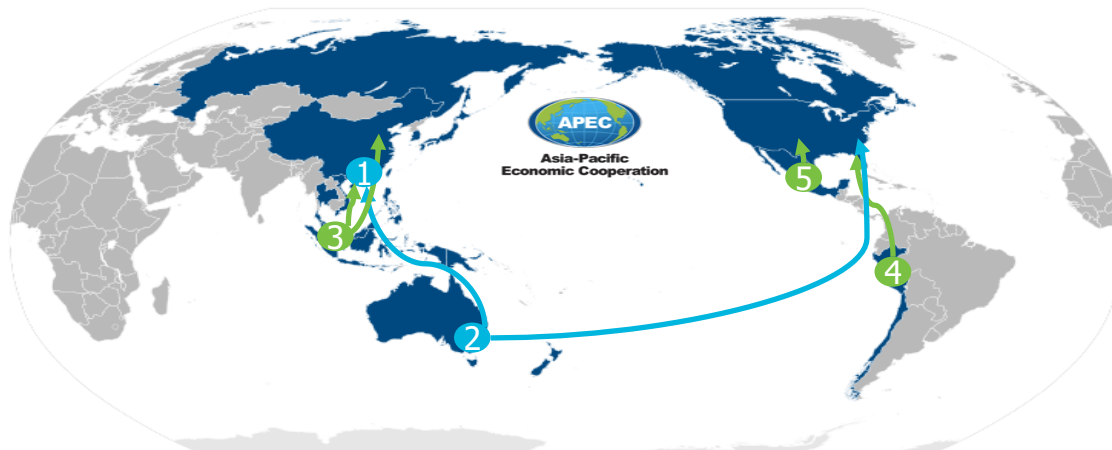| Category	Value
Lot Tracking and Traceability (e.g., in-plant tracking, shipping)	55%
Supply Chain Monitoring	37%
Security	24%
Supply Chain Event Management (e.g., Re-Routing)	23%
Point of Sale – automatic check-out, inventory consolidation and replenishment, etc.	20%

Source: The 2017 MHI Annual Industry Report Next Generation Supply Chains: Digital, On-Demand and Always On

Value of Cold Chain + IoT

- Improve operation efficiency

- Enhance data accuracy

- Fully capture all data along the supply chain

- Enhance brand creditability
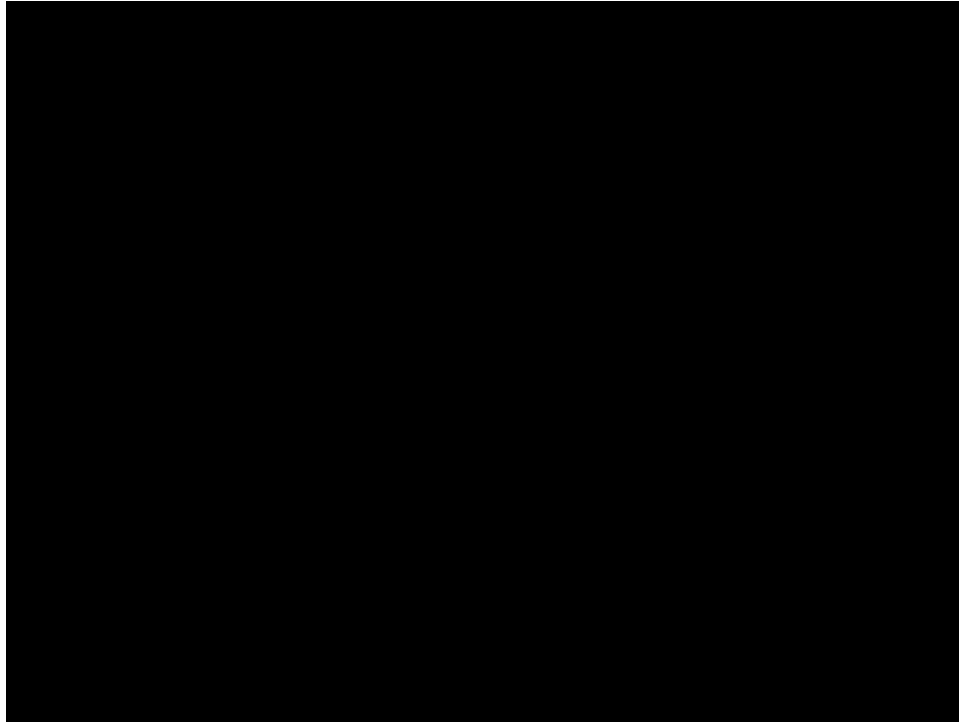
- Engage with end consumer directly

APEC Global Data Standard (GDS)

	No.	Lead Economy	Product	Trade Routes	Transportation
2015	1	Hong Kong	Wine	Australia to HK	By Sea
	2	Australia	Boxed Beef	Australia to US	By Sea
2016	3	Malaysia	Durian (Fresh/Frozen)	Malaysia to HK & China	By Air & By Sea
	4	Peru	Asparagus	Peru to US	By Air
	5	Mexico	Tequila	Mexico to US	By Land
2017	6	ABAC/LSIF	Pharma	TBC	TBC

GS1 Peru

Project Result

Performance Attribute		KPI Metrics	Stakeholders			
			Exporter Company - Beta	3PL - Frio Aereo	Customs Authorities	Client in EEUU - Alpine
			Results			
Visibility	1	Asparagus Supply Chain Visibility	100%			
	2	Information search cost	Reduce in 50% US$ 16,500/year			
	3	Information search time	Reduce in 50% 750 hours/year			
Risk management	4	Temperature monitoring	Reduce in 50% US$ 16,500/year			
	5	Access to Order Fulfilment Cycle Time (in each part of the process identified)	100% Visibility	100% Visibility	100% Visibility	100% Visibility
Responsiveness	6	Acceptance/Reception time per pallet (minutes)		Reduce in 20%		
	7	Truck attention time (minutes)		Reduce in 40%		
	8	Pallet assembly Time per pallet (minutes)		Reduce in 10%		
Collaboration	9	Stakeholders communication and engagement				
GDS - Global Data Standards level of use	10	Standars use	100%	100%	100%	100%

(*) Results from GS1 Global GTC - Global Traceability Conformance Program Audit, applied by GS1 Peru

(*1) Frio Aereo has certified in GS1 Global GTC - Global Traceability Conformance Program in 2012 and has been renewing their certificate each year

- **Reduce 20% of time for receiving pallet**

- **Assembly times of ULDs for air dispatch were cut by 50%**

- **Time for search & consolidate information improve 50%**

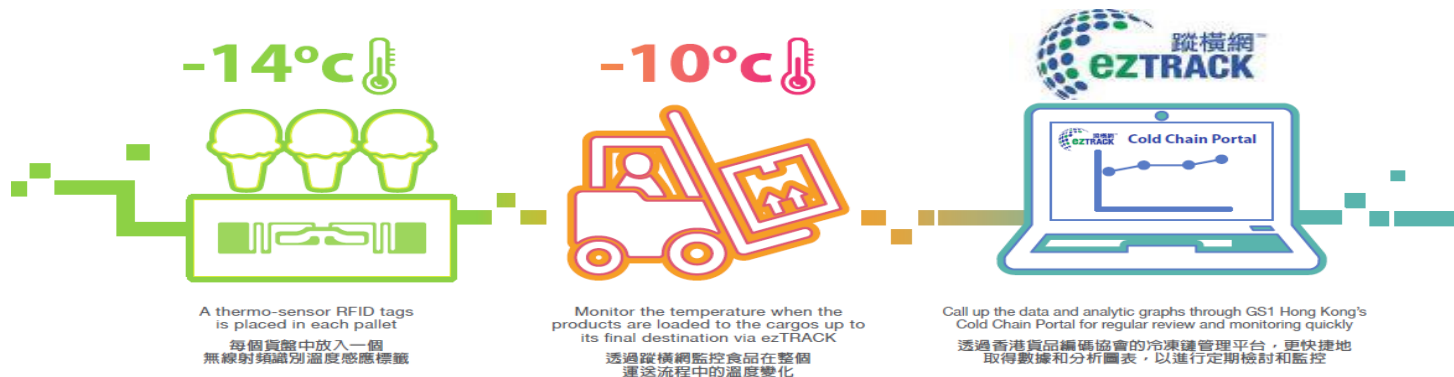- **10% decrease in manual processing costs**

Cold Chain Management

- **To enhance the existing cold chain management process** from supplier releasing temperature-cautious products to receiving products for further use in order to achieve a **more visible and traceable cold chain monitoring system**.

- The ultimate goal is **to ensure food safety and food quality** alongside the entire supply chain, from farm to fork.

GS1 Cold Chain Solution

- GS1 cold chain solution is an **effective and reliable tool** to help stakeholders in the supply chain to **optimise logistics management**. Empowered by the global traceability Platform **ezTRACK** and sensor tags embedded in logistics units, full traceability and temperature condition can be achieved to assure product quality and safety during the whole logistics process.

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無線射頻識別溫度感應標籤

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products are loaded to the cargos up to
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取得數據和分析圖表，以進行定期檢討和監控

Thank You