



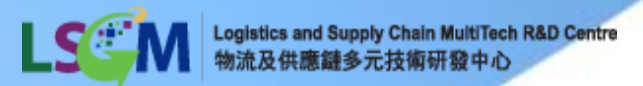
Future Cold Chain Business in Hong Kong

LSCM Logistics Summit 2018

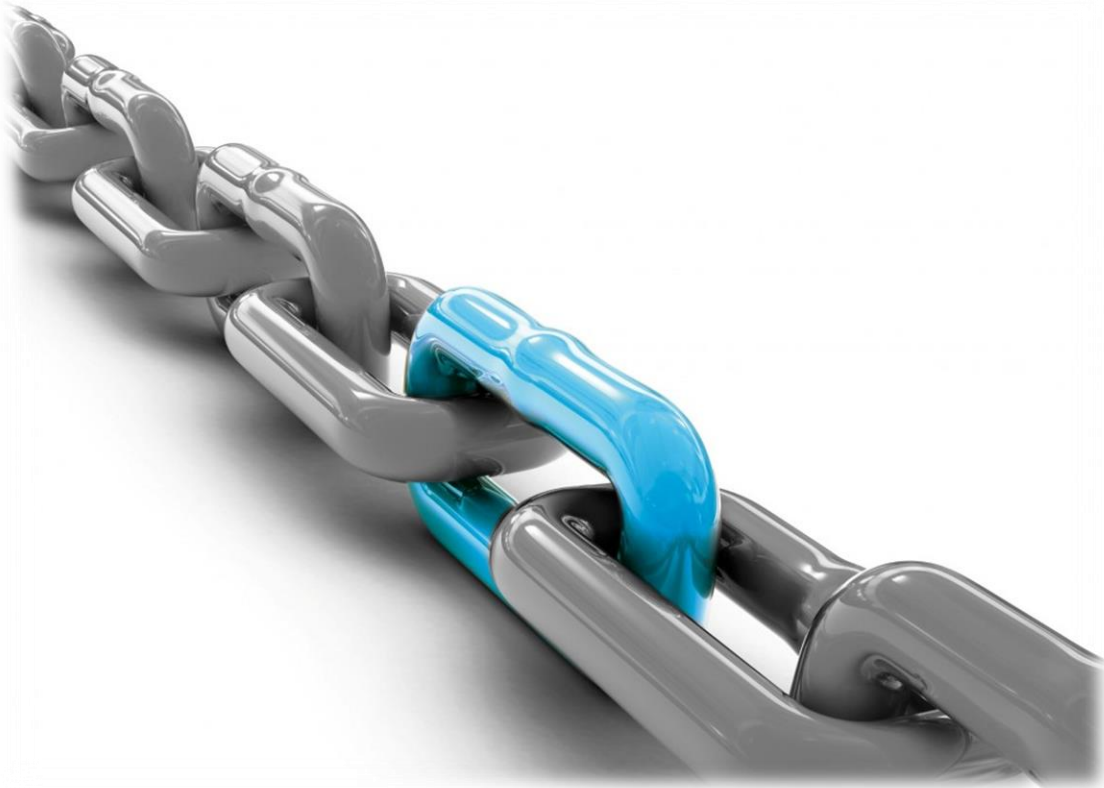
Presentation by Mr. Wilson Kwong

Chief Executive, Hong Kong Air Cargo Terminals Limited

5 October 2018



What is Cold Chain?



Cold chain refers to the management of temperature-sensitive products as they move through the supply chain

What uses Cold Chain and why?

Cold chain is commonly used in the **Food** and **Pharmaceutical** industries

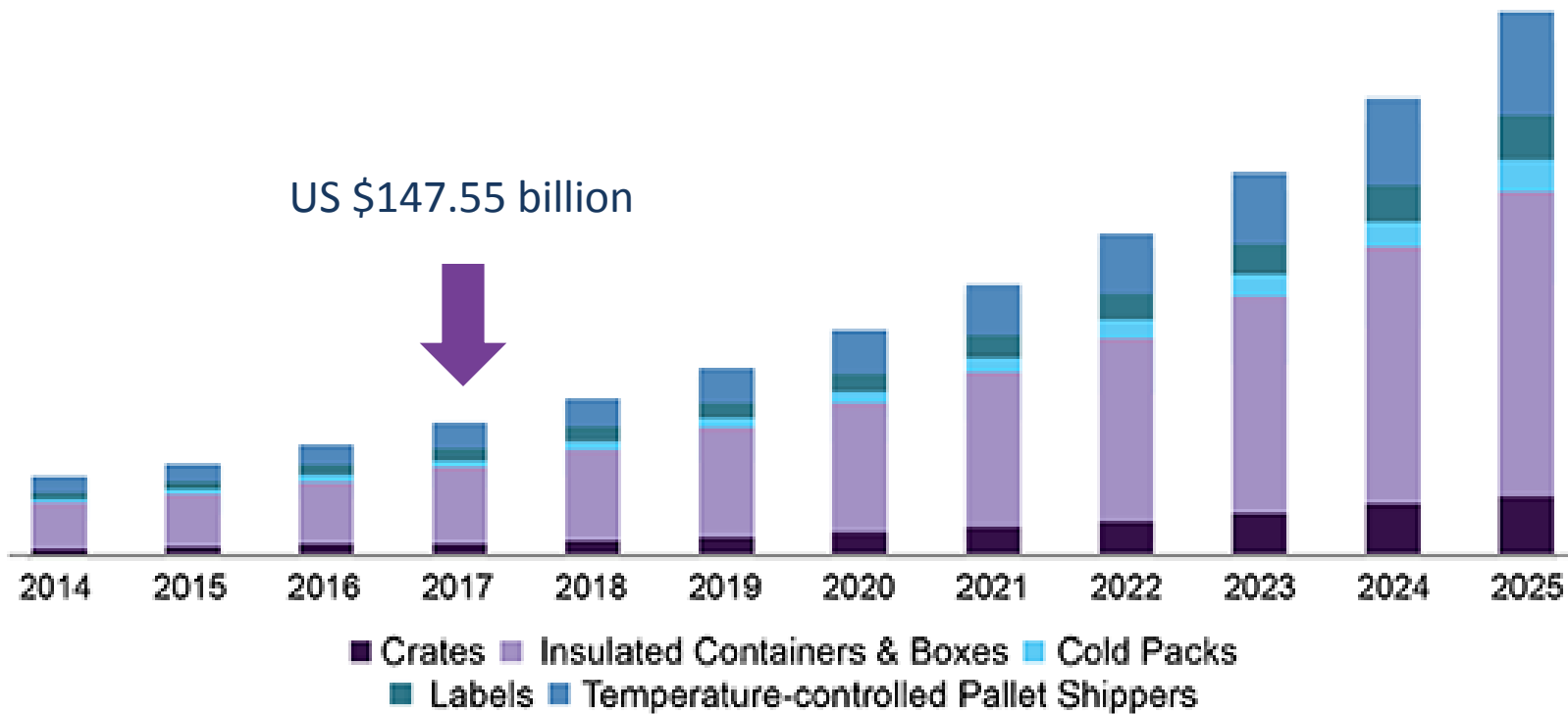


“We use cold chain to **preserve** and to **extend** and ensure the **shelf life** of products”



Global cold chain market size

Global cold chain market size, by product, 2014 - 2025 (USD Billion)

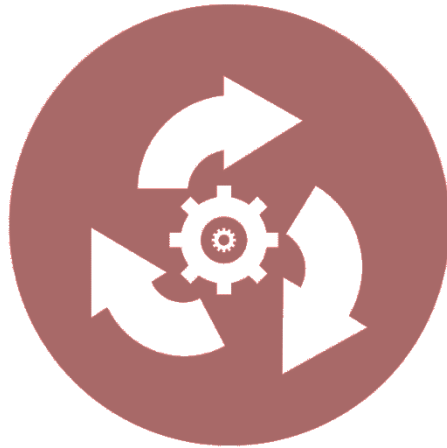


Source: Grand View Research, Inc.

Market Forecast



By 2023, the global cold chain market size is estimated to reach US \$293.27 billion. With a CAGR of 7.6% between 2018-2023.



Technological advancements in packaging, processing and the storage of seafood products are expected to drive the market.

Growth In Demand

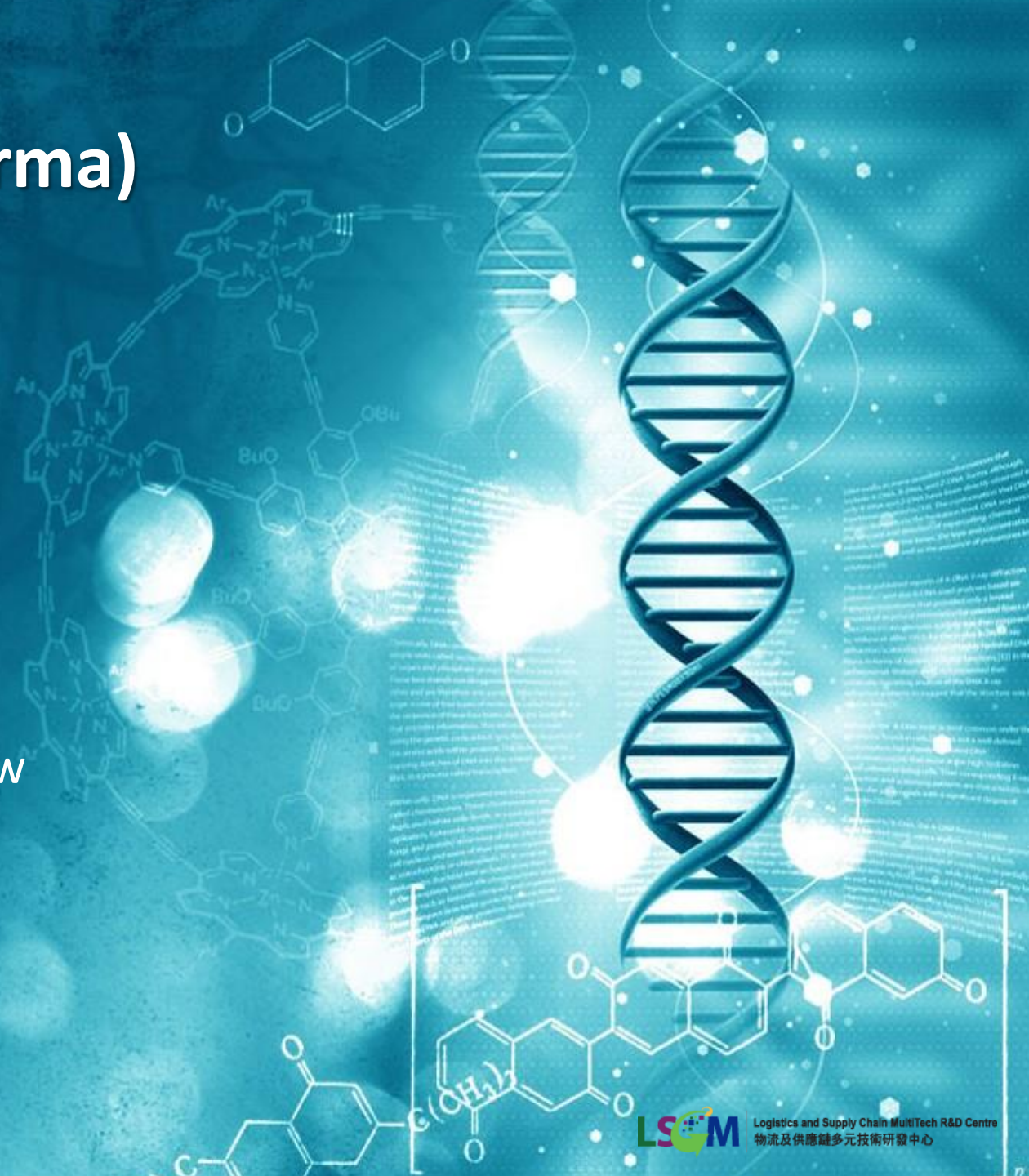
1. Rise of E-commerce for fresh food and grocery sales
2. Increase in demand for **biopharmaceuticals, vaccines and clinical trial materials**
3. Rapid growth of cold chain in China region, due to the wake of rapid development of China's economy
4. New packaging trends



Emerging Market (Pharma)

Over the past 4 years, HKIA experienced 12% annual growth rate in pharma tonnage.

Between 2016 – 2023, pharma tonnage at HKIA is expected to grow over 16% per annum



Air Pharma

- Pharmaceuticals make up 1.9% of all air cargo volume
- Contributing to 2.6% of the total airline cargo revenue (\$ 1.4bn)
- Between 2018-2020, the volume growth in pharmaceuticals is expected to be 3.7%

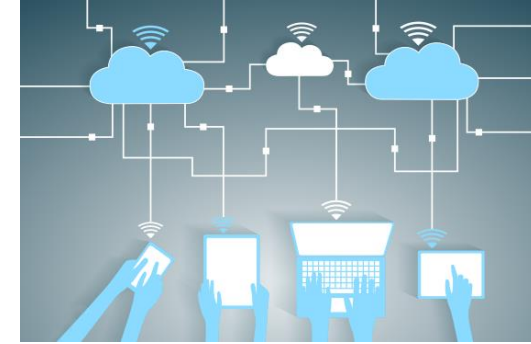


Source: "IATA Publication- Strategic importance of pharmaceuticals for the air cargo business"

The Future for Cold Chain

1. Use of Real-Time Data

- Making it easier to maintain an unbroken temperature control, i.e. the use of IoT devices to monitor and control refrigerated cargo containers remotely



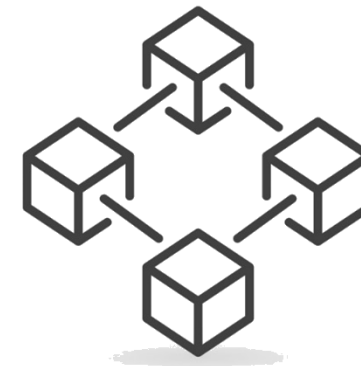
2. Tracking “Showing the Journey”

- This allows retailers to have more information of the process to help substantiate how food remains fresh from “farm to table”



3. Blockchain meets cold chain

- Creating a digital log that cannot be modified or deleted without the consensus of other parties, improving the cold chain transparency



The Vulnerabilities



1. Control vulnerabilities

- A failure to control the cold chain temperature during the transition between transport modes
- In fact according to IATA **50%** of all temperature excursions occur whilst the product is in the hand of airlines and airports, resulting in annual product losses ranging from **US\$ 2.5-12.5 bn**

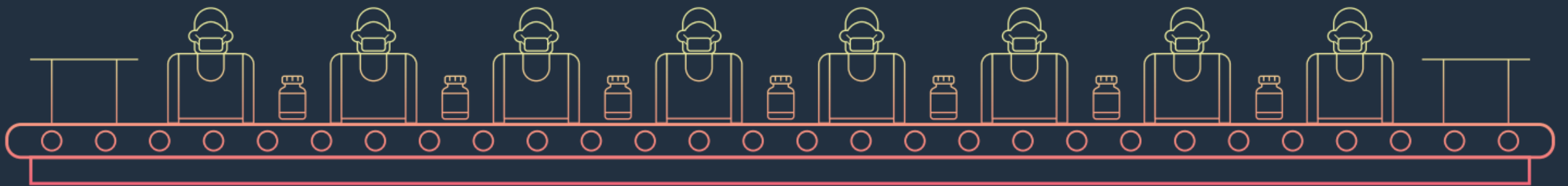
2. Administrative vulnerabilities

- Improper handling of containers or not following shipment instructions can contribute to cold chain failures

3. Operational vulnerabilities

- Unexpected barriers may delay or break the chain, such as public holidays

How Hactl contributes to the Cold Chain ?



Hong Kong Air Cargo Terminals (HACTL)

- Started since 1976
- 1st CTO in Hong Kong to be:
 - ✓ Certified in the WHO Good Distribution Practice (GDP) for pharmaceutical products since 2014, inline with our first customer, Cargolux becoming the 1st GDP certified airline



Hactl's SuperTerminal1 at Hong Kong International Airport

- ✓ Certified in the IATA Center of Excellence for Independent Validators in Pharmaceutical Logistics (CEIV Pharma), along with our customer Air France/KLM/Martinair Cargo being the 1st major airline group to obtain the CEIV Pharma certification



Priority Handling

Unloading from aircraft



Shipment transfer to thermal dolly



Dedicated Handling Zones

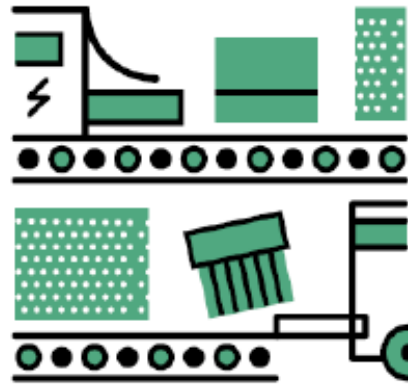
Cold Chain Facilities



Pharmaceutical Facilities



Express Facilities



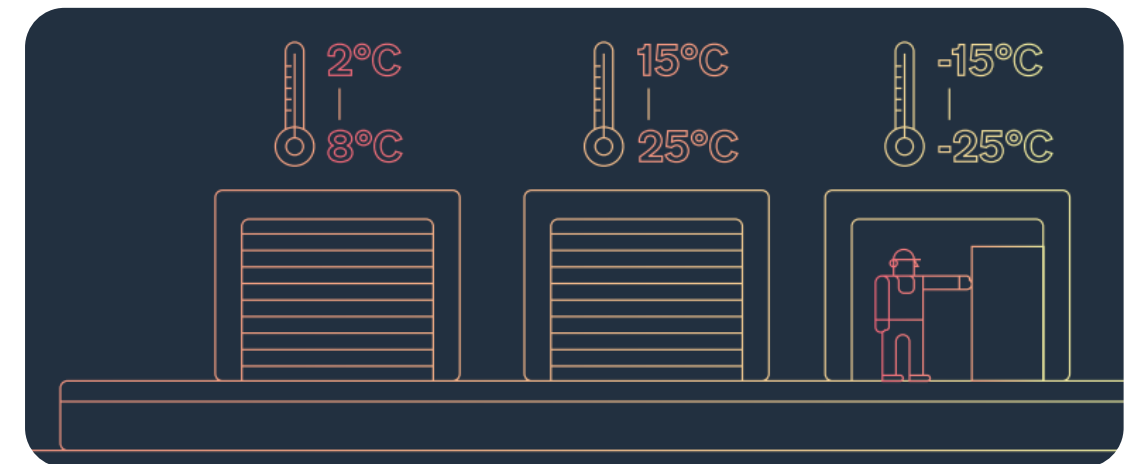
Dangerous Goods Facilities



Temperature Controlled Dollies



- Transport of cargo over the apron for protection from high temperatures
- Loading capacity of 5 metric tons
- Bio-fuel compatible, electric mode for static operations
- Temperature variation of -15°C – -25°C , 2°C – 8°C and 15°C – 25°C



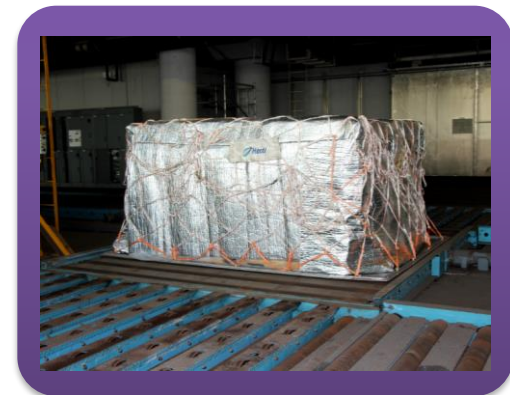
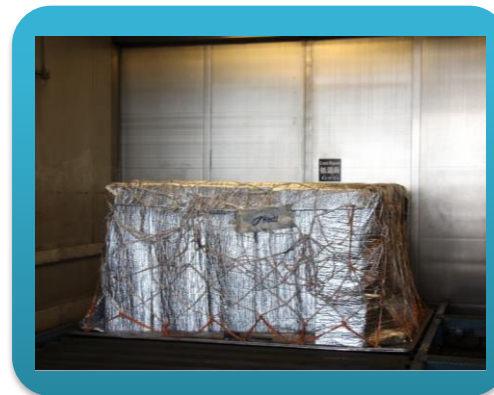
Golden Route for Pharmaceutical Products

IMMEDIATE RELEASE

IMMEDIATE STORAGE

CARGO BREAKDOWN

BATTERY CHARGING AREA



Key success factors in cold chain handling



Thank You