



# **INDONESIA COLD CHAIN OUTLOOK**

## ***INFRASTRUCTURE AND STRATEGY***

**IN ORDER TO HAVE BETTER MANAGEMENT**  
***“PRESENTATION ON ARPI NATIONAL DIALOGUE”***

***JAKARTA, 30 APRIL 2019***

**BY HASANUDDIN YASNI**  
**CHAIRMAN OF INDONESIA COLD CHAIN ASSOCIATION**



## 4 SECTORS OFFER POTENTIAL US\$ 1.8t BUSINESS OPPORTUNITY BY 2030

SECTORS	VALUE (IN BILLION US\$)
CONSUMERS	1,070
AGRICULTURE & FISHERIES	450
RESOURCES	270
PRIVATE EDUCATION	40
<b>TOTAL</b>	<b>1,830</b>

Source: McKinsey

**NOTE: Only includes upstream energy market and saving, and societal value from increased energy efficiency**



# INDONESIA MARKET OVERVIEW

## *FUTURE OPPORTUNITIES*

NOW	MID TERM	LONG TERM
ROADS	MASS TRANSIT (INCREASE AIR TRAVEL)	INSURANCE
PORTS	BEEF	SUPERANNUATION
HOSPITALS	FINANCIAL SERVICES	GOURMET FOOD / FUNCTIONAL FOOD
LIVE CATTLE	MORE ADVANCED HEALTHCARE	SUSTAINABLE DESIGN
EDUCATION & TRAINING	AGED CARE	ECO LIVING
PROJECT CONSULTANCY	RENEWABLE ANERGY	ALTERNATIVE FUELS
SMART PHONE - SOLUTIONS		
COAL, GAS, GEOTHERMAL		

Source: Trade & Investment Queensland, Australia



# **INDONESIA LOGISTICS MARKET FUTURE PROJECTIONS ON THE BASIS OF REVENUES 2016 – 2021**

<b>YEAR</b>	<b>REVENUE (US\$ BILLION)</b>	<b>GROWTH RATE (%)</b>
2016	32.5	
2017	71.3	126
2018	105.1	46
2019	146.7	39
2020	182.9	24
2021	239.2	29

**Source: Ken Research Analysis (based on interview, 2014)**



# INDONESIA LOGISTICS MARKET (1)

## *LAST FIVE YEARS SITUATION*

- ***INDONESIA LOGISTICS MARKET*** has a combination of shipping and international freight forwarders along with courier providers mainly engaged in land transportation and total logistics services providers that operate a multimodal transport model
- ***INDONESIA FREIGHT FORWARDING MARKET*** was majorly dominated by road-land freight and followed by sea freight and air freight
- ***International freight forwarding from Asian Countries*** flow corridor is the largest contributor in terms of revenue owing to free trade agreement. The leading players in the industry are DHL, CEVA Logistics, Yusen Logistics, Agility Logistics and others
- ***Indonesia express delivery market*** has witnessed a tremendous growth due to rising prominence of online shopping, increase in international cross border trade, shopping online for perishable items and elevated e-commerce industry. Air express logistics has dominated, include DHL, FEDEX, First Logistics, and JNE Express



# INDONESIA LOGISTICS MARKET (2)

## *LAST FIVE YEARS SITUATION*

- ***Indonesia Third Party Logistics segment*** has witnessed a robust growth due to 3PL outsourcing gaining importance in the country. The leading companies in the segment are CEVA Logistics, Combi Logistics, Mitsui, APL Logistics, Kerry Logistics and others
- ***Warehousing market*** in Indonesia grew due to expansion in FMCG sector, increase in the imported goods, increased demand for the outsourcing of warehouse services, rising e-commerce industry, Indonesian regulation relaxed for the foreign companies and increase in the warehouse & its capacity. Industrial / retail sector is the largest contributor to the warehousing sector in terms, container freight and inland reefer truck deport warehousing has contributed second highest share. The cold storage market contributed least revenue share in the warehousing market of Indonesia. Based on owing to the industrial parks situation, Greater Jakarta area contributed highest revenue, followed by Surabaya, Bali, Medan and others



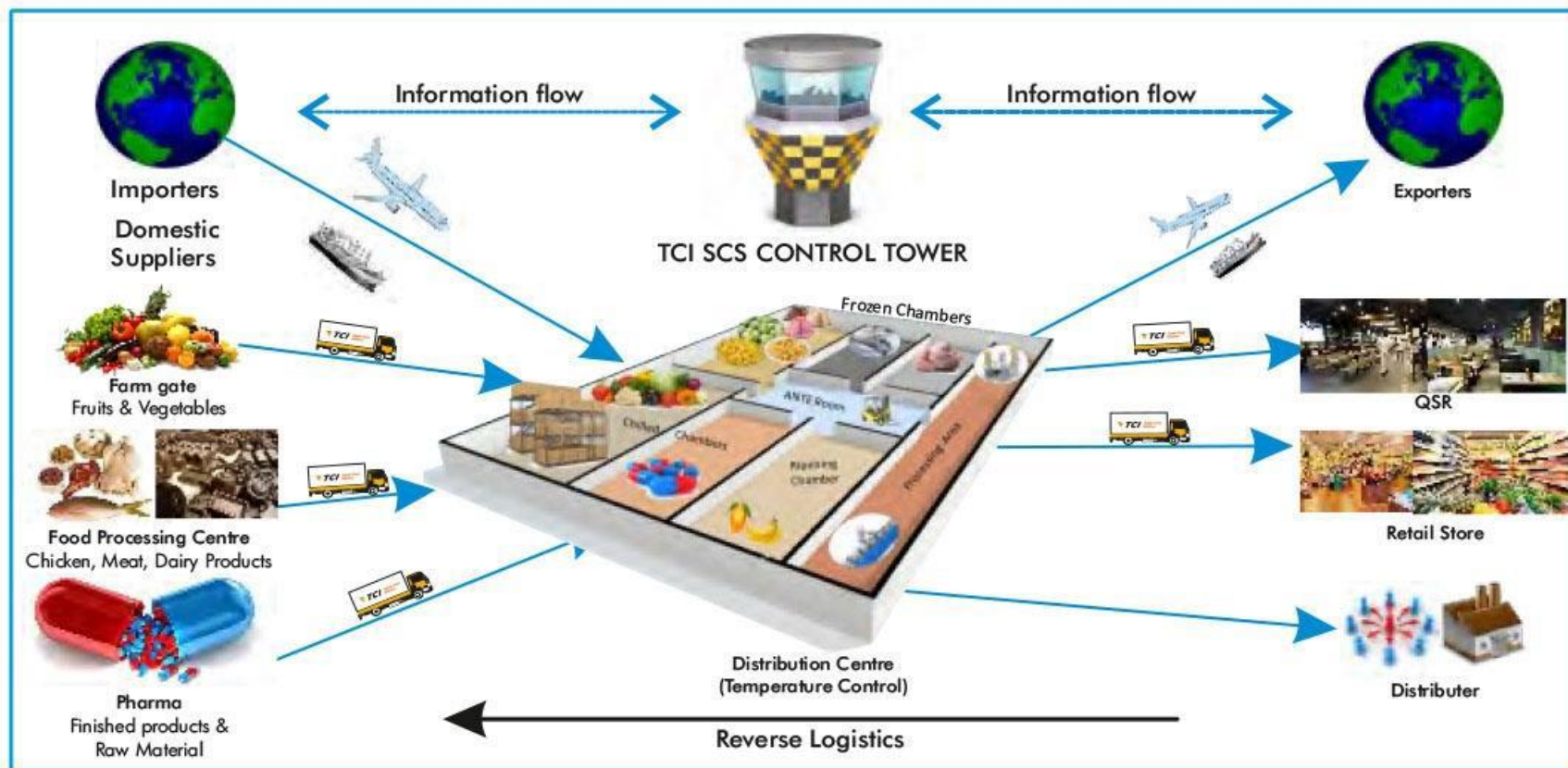
# INDONESIA LOGISTICS MARKET (3)

## *LAST FIVE YEARS SITUATION*

- ***Cold Chain Market.*** The Indonesia cold chain market grew 4-6% due to the increasing contribution from e-commerce industry with rising population opting for online grocery and food delivery, increase the pharmaceutical industry, elevated agricultural market with rising population for consumption, increased demand of frozen foods and beverages, rise in franchises in the country and increased smart phone users and internet penetration. Cold chain market in Indonesia is a concentrated. PT. Diamond Cold Storage, Maersk Line, Wahana, PT. Kiat Ananda Cold Storage, PT. MGM Bosco, PT. Dua Putera Perkasa, GAC Samudera are the leading companies in the industry. Indonesia cold chain industry is expected to grow 8-10% for next five years owing to the nascence and emerging demand. The market will be majorly driven by increasing for perishable items including frozen food, pharmaceutical, meat, seafood and dairy products in the country.

# COLD CHAIN SYSTEM APPLICATION (1)

## INFRASTRUCTURE FRAME AND PLAN







# **COLD CHAIN SYSTEM APPLICATION (2)**

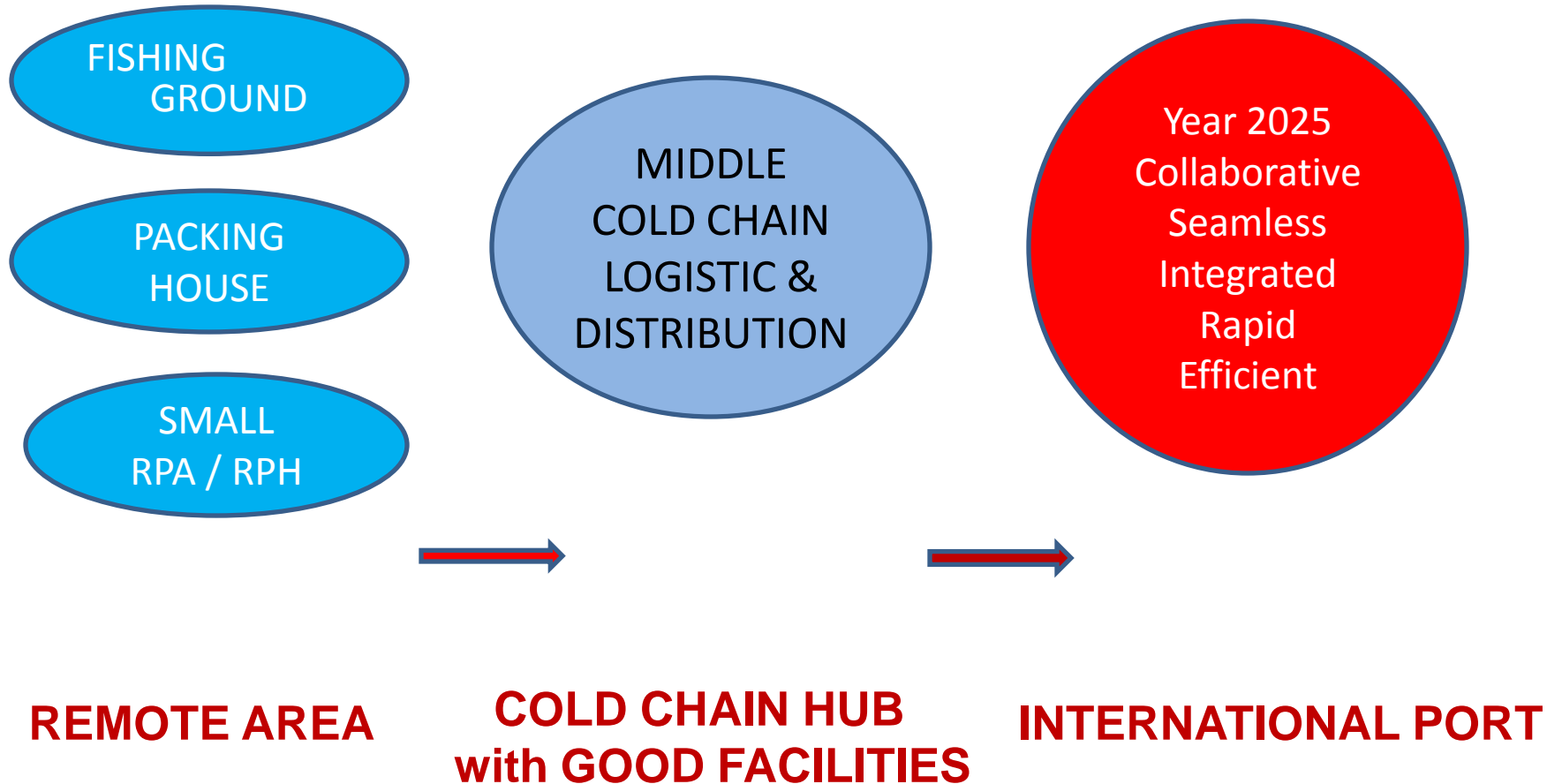
## ***CHALLENGE & DEVELOPMENT***

- **International Sea Port, limited facility (especially for export import) and only 60% (from 11 million TEUs a year) can be handled professionally. Increased by build new container terminal port, like New Priok Container Terminal (NPCT-1) and Cikarang Dry Port (CDP)**
- **Good Management of cold logistics, limited access and centralized. Increased by build new expansion of 3PL cold logistics**
- **Reefer truck & container and its temperature control management system. All 3 PL cold logistics has added their business unit in refrigeration vehicle**
- **Limited E-Commerce that can inform a capability of cold logistics with supporting industries. Need to develop a good system of ICT or block-chain program in the near future**



# COLD CHAIN SYSTEM APPLICATION (3)

## *FACILITIES MAPPING & PLAN*





# FACILITIES MAPPING & PLAN (1)

## ***FISHERY SECTOR***

**Cold Storage and Cold Chain in Indonesia will always be linked to the country's fishery production and export business.**

### **Fishing Ports In Indonesia (2016)**

TYPE	NUMBER OF PORTS
PELABUHAN PERIKANAN SAMUDRA (Oceanic Fishing)	6
PELABUHAN PERIKANAN NUSANTARA (Archipelagic Fishing)	15
PELABUHAN PERIKANAN PANTAI (Coastal Fishing)	47
PANGKALAN PENDARATAN IKAN (Fish Landing Depot)	748
PRIVATE FISH PORT	2
TOTAL	818

*Source: Ministry of Fisheries Statistics & Data Information System*

**SLIN Program (National Fish Logistics System)**



# FACILITIES MAPPING & PLAN (2)

## **BEEF & POULTRY SECTOR**

Other than fisheries, cold storage demand is closely related to other food production such as beef and poultry.

**Cold Chain Support for Beef & Poultry (2017) :**

PRODUCTS	CONSUMPTION (000 TON)	COLD CHAIN COVERED (000 TON)	GROWTH (%) LAST 3 YEARS
BEEF	680	412 <i>(t/o 4 times)</i>	4-5
POULTRY	2,100	820 <i>(t/o 5 times)</i>	3-4

*Source : ICCA (analysis from Field Ministry & Industry Data)*

**Every poultry farmers who having 300 thousand of chickens, has to have slaughterhouse and cold storage (New Regulation from Ministry of Agriculture)**



# FACILITIES MAPPING & PLAN (3)

## ***HORTICULTURE SECTOR***

**Other than fisheries, cold storage demand is also closely related to horticulture products, but only very few cold chains facilities are available.**

**Cold Chain Support for Horticulture Products (2017) :**

PRODUCTS	CONSUMPTION (000 TON)	COLD CHAIN COVERED (000 TON)	GROWHT (%) LAST 3 YEARS
FRUITS	17,400	2,300 <i>(t/o 10-12 times)</i>	2-3
VEGETABLES	11,500	815 <i>(t/o 12-14 times)</i>	3-4

*Source : ICCA (analysis from Field Ministry & Industry Data)*

**Government focus to develop chilled storage and packing house for shallots and chili**



# LOCAL MANUFACTURE ABILITY

## ***CURRENT SITUATION***

- **CONDENSING UNIT**
- **EVAPORATOR UNIT**
- **INSULATED PANEL : PS, PU, PIR**
- **COOL & COLD BOX (SMALL UP TO REEFER TRUCK SIZE)**
- **ICE GEL UNIT & PHASE CHANGE MATERIAL (PCM)**

***NOTE : ALL NEED NEW NATIONAL STANDARD  
and SNI for WAREHOUSE RECEIPT has established***

# CONTINUOUS-LINE INSULATED PANEL PROCESS





# COOL / COLD BOX REEFER TRUCK







# SMALL COOLER BOX

***SOME COOLER BOX***



# BUSINESS OUTLOOK

## *COLD LOGISTICS (1)*

**GOOD EQUIPEMENT: COMPRESSORS WITH CONTROL PERFORMANCE, ROOM TEMPERATURE MONITORING, CONTINUES LINE OF PU PANEL, DELIVERY SERVICES WITH GOOD COOL BOX, TEMPERATURE MONITORING & MANAGEMENT**





# BUSINESS OUTLOOK

## ***COLD LOGISTICS (2)***

- **Indonesia logistics market revenue expected to reach USD 141 billion, 2018-2023 (growth 30%, YoY). Third Party Logistics (3PL) will dominate market share 60%. Cold logistics only have 11% from total revenue (equivalent USD 14 billion (growth 9% YoY).**
- **Cold logistics new investment will increase 7% (YoY). Total investment USD 170 million.**
- **Jabodetabek still contribute highest revenue share of 41% in Indonesia warehousing market owing to industrial parks situated in this largest area.**
- **B to B segment will still dominate the express logistics market but B to C has started since last year even though only 5% from total.**
- **A noteworthy CAGR (Compound Annual Growth Rate) of 7.9% in revenue in Indonesia market is expected in next year.**
- **Indonesia freight forwarding is expected to be the fastest growing segment, with having a CAGR 9%.**



# **BUSINESS OUTLOOK**

## ***CONDENSING-EVAPORATOR UNIT (3)***

- **Condensing unit global market by type (air-cooled, water-cooled, evaporative condensing unit), by function (air conditioning, refrigeration), and by application (commercial, industrial, transportation) is projected to grow from an estimated USD 21.94 billion in 2017 to USD 32.47 billion by 2022 at a CAGR of 6.2%.**
- **Its growth is driven by the improvements in the quality. Consumers primarily demand technologically advanced they offer such as durability, improved performance, and extended shelf life.**
- **The air-cooled segment is estimated to account for the largest share. Low maintenance as well as installation cost and rising water scarcity issues are the key factors driving the growth of the air-cooled market segment.**
- **The industrial segment is estimated to be fastest-growing application due to the growing demand from advanced refrigeration.**
- **Key players in condensing unit market include Emerson Electric Company(US), Carrier Corporation (US), Danfoss (Denmark), GEA Group (Germany), Heatcraft Worldwide Refrigeration (US), Bitzer (Germany), and among others.**
- **Condensing unit Indonesia market is projected to grow from an estimated USD 302.1 million in 2017 to USD 405.3 million in 2022 at a CAGR of 4.9%.**



# **BUSINESS OUTLOOK**

## ***SANDWICH PANEL & PU FOAM (4)***

- The global sandwich panel market is driven by the growth in construction and industrial sector. Its market is highly dependent on applications such as storage, warehouses, manufacturing plants, etc. With rising industrialization, the need for less time consuming construction solution is growing. This fuels the market for sandwich panels globally.
- The global sandwich panel market is predicted to reach USD 523.6 million in 2023 with CAGR 6.13% during the period 2018-2023.
- Structural Insulated Panels (SIPs) will dominate the market in the future. SIPs is thermal insulated with having capacity significantly.
- Based on Global forecast, Polyurethane (PU) foam market predicted will increase from USD 54.19 billion in 2018 to USD 79.77 billion in 2023, or having CAGR 8.0%.
- PU foam market by type: (flexible, rigid, spray foam), end-users (bedding & furniture, building & construction, electronics, automotive, footwear, packaging).
- The Asia Pacific region (emerging economies: China, India, Thailand, Malaysia, Indonesia) is estimated to account for the largest share of PU foam market.
- Indonesia PU foam market by type will increase from USD 544.4 million in 2018 to USD 751.3 million in 2023, or having CAGR 5.9%.



# **BUSINESS OUTLOOK 2019**

## ***REFRIGERATED VEHICLE (5)***

- **Global refrigerated vehicle market expected to reach USD 16.5 billion by 2022, growing a CAGR around 5.2% between 2017 and 2022. The market is driven by increasing demand for frozen food and ready to eat foods.**
- **Refrigerated vehicle market by vehicle type (insulated container, refrigerated truck, refrigerated transport by air, multimodal temperature container and atmosphere controlled container), by product type (chilled and frozen).**
- **Indonesia refrigerated vehicle market expected to reach USD 1.02 billion by 2022, growing a CAGR around 8.8% between 2017 and 2022.**



# **3 PL COLD LOGISTICS**

## ***INDONESIA CHARACTERISTICS***

- **BUSINESS SCOPE : B to B**
- **DELIVERY SYSTEM : NEED TO HAVE BETTER INFORMATION**
- **INSURANCE GUARANTEE : INCREASE THE AWARENESS**
- **FAILURE PERCENTAGE : UP TO 10% IN STORAGE & UP TO 20% IN DISTRIBUTION**
- **QUALIFICATION : NEED NATIONAL STANDARD AND WILL MAKE IN 3 (THREE) GRADE**
- **NEW BUSINESS SCOPE : B to C**



# ICT

## ***MONITORING MACHINE PERFORMANCE***

- **APPLICABLE IN ONE SYSTEM OF MONITORING**
- **UPDATING DATA LOGGER**
- **CALLIBRATION (easy and updated)**
- **CONNECTING WITH CENTRAL OPERATOR (block-chain)**
- **STANDARD OPERAION PROCEDURE (principal – brand guidance)**
- **EASY TO COMMUNICATE**





# ICT

## ***MONITORING PRODUCT PERFORMANCE***

- **USE GPS**
- **APPLICABLE IN ONE SYSTEM OF MONITORING**
- **UPDATING DATA LOGGER**
- **CALLIBRATION (easy and updated)**
- **CONNECTING WITH CENTRAL OPERATOR (block-chain)**
- **STANDARD OPERAION PROCEDURE (principal – brand guidance)**
- **EASY TO COMMUNICATE**
- **RECORD KEEPING**



# **PARCEL DELIVERY LOGISTICS, B TO C (1)**

## ***OPPORTUNITY TO DEVELOP FOR FRESH PRODUCTS***

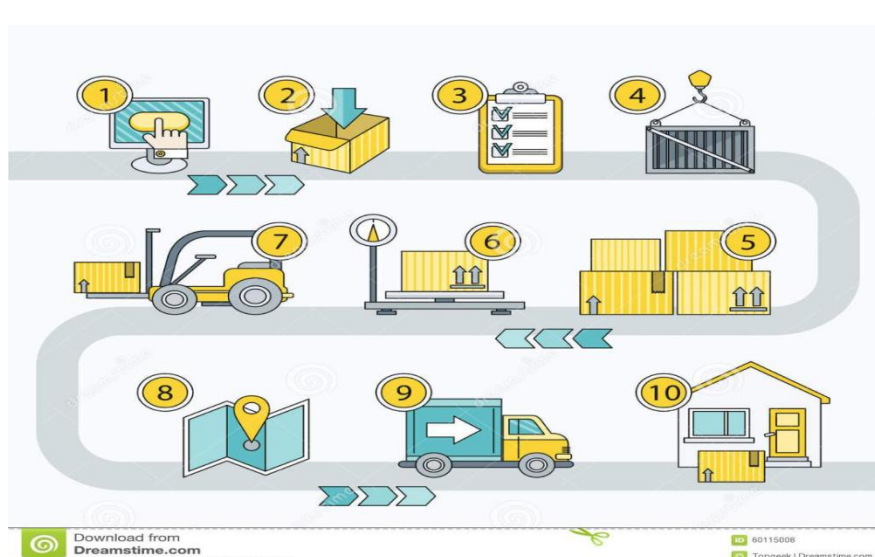
- The company's parcel delivery serves as the answer to a variety of customized services that meets a specific needs of Indonesian based businesses. The local and international network ensures parcels are delivered within agreed time, providing a fast, on demand and integrated movement of shipment which are tracked via GPS throughout the journey.
- The type of service are:
  1. A door to door same-day that utilizes air transport,
  2. A next day delivery that uses the company's air and rail transportation network,
  3. The delivery of packages throughout the nationwide network,
  4. Economy services caters to large quantities of shipments (sea transport).

# PARCEL DELIVERY LOGISTICS, B TO C (2)

## *OPPORTUNITY TO DEVELOP FOR FRESH PRODUCTS*

### DISTRIBUTION PRICE OF DELIVERY SERVICE:

TYPE	PRICE (IDR / KG)
AIR TRANSPORT	22,000 – 30,000
LAND TRANSPORT	1,200 – 1,500
SEA TRANSPORT	3,000 – 4,500





# EFFECTIVE STRATEGY (1)

## *INFRASTRUCTURE*

- **REMOTE AREA** (regarding to have a good collecting products)
- **CONNECTING (Hub) AREA** (regarding to maximize product performance, reduce cost and easy to control)
- **SCIENCE & TECHNOLOGIES** (laboratory and implementation)
- **SOFTWARE SYSTEM** (block-chain, on line, easy to operate and continues)
- **MAN POWER SKILL**
- **REGULATIONS**

# EFFECTIVE STRATEGY (2)

## ***CENTRAL MONITORING***

### ***BLOCK CHAIN (future monitoring):***

is a structure of data that can't be changed but only can be added. Every block-chain connect with other and if one of block-chain change, will effect to its continuing data. Every transaction will keep on Open Ledger that distribute to all chains, and copy to every computer that connecting with this chain.





# **EFFECTIVE STRATEGY (3)**

## ***FUTURE COLD CHAIN CONNECTION***

- **RAW MATERIAL AREA**
- **CONNECTING AREA**
- **SCIENCE & RESEARCH**
- **PLANNING**
- **CONCEPT**
- **ACCESS**
- **MAN POWER**
- **SOFTWARE FACILITY**
- **REGULATION**



# INDONESIA COLD CHAIN ASSOCIATION

## *ABOUT US*

- **AS A AFFILIATE MEMBER OF GLOBAL COLD CHAIN ALLIANCE (GCCA).**
- **ESTABLISHED ON 2004**
- **AS A PARTNER OF FIELD MINISTRY PROJECTS WHO ENTIRE COD CHAIN SYSTEM**
- **AS A COLD CHAIN INDUSTRY AND PROFFESIONAL ASSOCIATION THAT HAS MANY COOPERATION PROJECTS WITH FOREIGN INDUSTRIES AND GLOBAL ASSOCIATION**
- **WE HAVE PROGRAMS IN: COLD CHAIN TRAINING, COLD CHAIN EXPO, COLD CHAIN CONFERENCE, NATIONAL COLD CHAIN STANDARD AND DEVELOP NATIONAL COLD CHAIN INDUSTRIES**
- **WEBSITE: [WWW.ARPIONLINE.ORG](http://WWW.ARPIONLINE.ORG) EMAIL: [HASAN.YASNI@YAHOO.COM](mailto:HASAN.YASNI@YAHOO.COM)**

## WITH GOOD COLLABORATION WE CAN DEVELOP GOOD C/C INFRASTRUCTURE

