

Case Study:

E2E WG Solution for Pharma Deep Frozen Bulk Drug Substances

Managing a closed loop supply of passive containers for the international shipping of temperature sensitive pharmaceutical products (including circular economy)



Customer Challenge

- Customer ships deep frozen - 60C BDS from Asia to Europe in passive containers
- Operational difficulties :
 - **Assurance of Supply of pre-conditioned passive containers (with accessories)** to BDS CMO
 - Keep **multi-stakeholders in sync** for seamless supply to customer manufacturing site else market short supply i.e. treatment drug
 - **Access to carriers/ capacities** for international move of DG/non-DG shipments
 - **Timely return with effective, efficient management of containers** in circulation



DHL solution

- Manage both BDS forward logistics and reverse container logistics as **one closed circular loop**
- **White-glove service** perform BDS packing in accordance to developed packaging protocols by SameDay
- Manage and coordinate timely and compliant forward/return flows through **LifeConEx/SameDay**
- Secure DG airfreight capacities through **DHL's Preferential Airline Program**
- **Container Management with Value Added Services** e.g. pre-conditioning with dry-ice, accessories, re-icing, clean and inspect, container & accessories supply-demand planning, storage, re-positioning, etc.
- **Usage based commercial** arrangement of containers



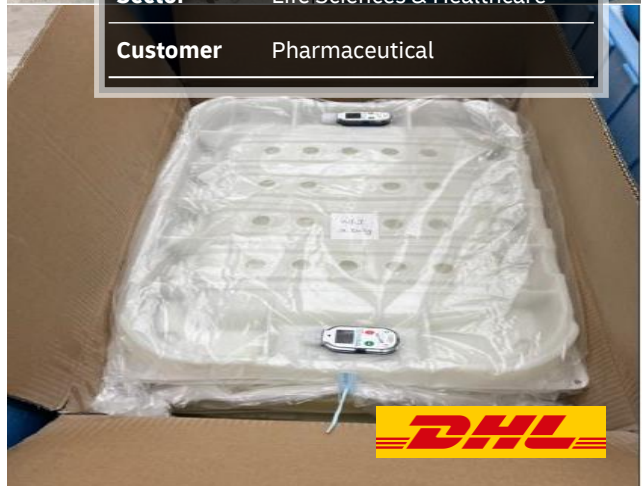
Customer benefits

- **Timely supply** of packaging assets to BDS CMOs
- **Reliable BDS lead time** to plan for manufacturing
- **Quality compliant** transportation
- **Single point of contact** for logistics coordination and management across multiple stakeholders
- **Operational management of Packaging assets** (containers, dry ice, sensors, VAS, etc.)
- **Monthly lease** assurance of supply of container assets without purchasing packaging equipment



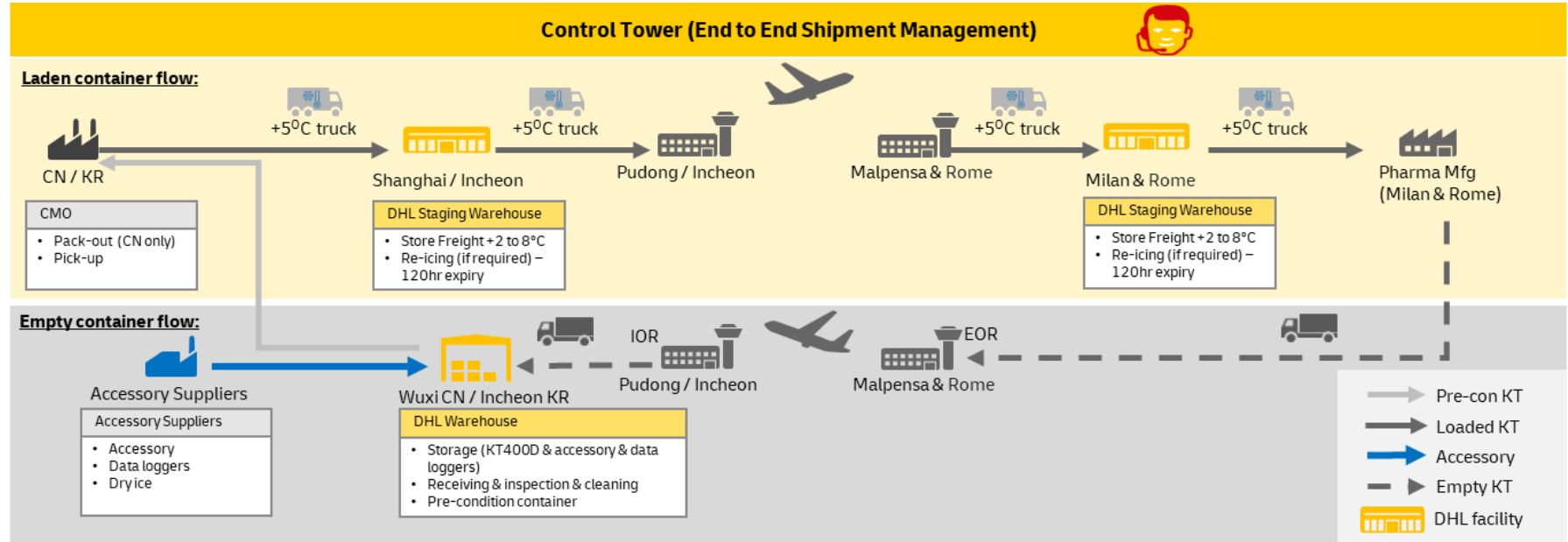
Customer Facts

Geography	APAC – Europe
Sector	Life Sciences & Healthcare
Customer	Pharmaceutical



Overview of E2E Supply Chain Schematics

Supply Chain Schematics for Pharmaceutical Bulk Drug Substances ex-Asia with Passive Containers



Generating visibility on temperature controlled COVID-19 vaccine shipments

🚚 Shipment monitoring 🌡️ Condition monitoring 🏥 Life sciences & healthcare

STATUS **PRODUCTIZED** 

CUSTOMER DHL Global Forwarding | Global | Biontech

TECHNOLOGY **Customer Portal:** Logmore, LifeTrack (WIP)
Transmission: Passive QR-code | **Hardware:** Logmore



CHALLENGE

- mRNA vaccines require special handling like strict -70°C temperature regime
- Temperature logging required for shipments



SOLUTION

- Plug and play passive temperature monitoring solution
- Dry Ice capable external probe to measure temperature in boxes



BENEFITS

- ✓ Contributing to a business worth € 3 m.
- ✓ LSHC compliant delivery of COVID-19 vaccines

BIONTECH

DHL
INNOVATION
CENTER



COVID-19 vaccine shipments from Germany to Hong Kong