The background of the entire page is a complex, abstract pattern of glowing, swirling lines. The lines are primarily green, with some yellow and light green accents. They form a large, roughly circular shape in the center, with many smaller, overlapping loops and strands extending outwards. The overall effect is dynamic and organic, resembling a stylized globe or a network of connections.

Deloitte.

ILH Airfreight Interface Concept Report
Western Parkland City Authority
September 2021



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Executive Summary

Sydney's new 24/7 curfew-free Western Sydney 'Nancy-Bird Walton' International Airport (WSI) and its dedicated WSI Cargo Precinct is planned to be operational by 2026.

Curfew-free 24/7 operations will enable speed-to-market connectivity to global markets for New South Wales (NSW) producers and manufacturers, including enabling agribusiness export opportunities for high growth sectors, like fresh and value-added food, to meet projected volume growth and changing consumer trends over future decades.

The significant investments being made into WSI and the infrastructure connecting it to Greater Sydney and regional NSW will enhance NSW's trade competitiveness driving economic growth, creating new jobs and delivering innovation.

This report has been commissioned by the WPCA to assist in this role, as well in its role in assisting industry, landowners, developers and investors who are all critical to delivery.

Promoting investment and achieving optimal outcomes for Western Sydney by working collaboratively with the Commonwealth and State governments, and local councils is a key role for the Western Parkland City Authority (WPCA).

Through public and private sector collaboration the opportunity exists right now to create a world-class precinct in the Western Parkland City (WPC) making it one of Australia's most advanced and connected places for agribusiness, freight and logistics.

Deloitte, was commissioned by the WPCA to prepare the Integrated Logistics Hub (ILH) Airfreight Interface Concept Study (September, 2021). It builds on the Integrated Logistics Hub Scoping Study (July, 2020) that sought to understand and scope the opportunity to transform Western Sydney into a global freight and logistics powerhouse.

Both of these studies were centred on extensive industry engagement with a broad representation of end-to-end supply chain participants and all levels of governments. The insights generated through these engagements,

along with research into other world-leading examples, has helped identify key opportunities for industry and governments alike to enhance NSW's global trade presence and export competitiveness.

The ILH concept has received strong support from across industry and is now part of the Agribusiness Precinct vision as is set forth in the Draft Aerotropolis Precinct Plan.

The ILH scoping study (the scoping study) identified demand for up to 300ha of freight and logistics operations in the WPC required to service the forecast airfreight volume growth through 2050.

Key industry findings from the scoping study included: industries commitment to investing in the region, they see key freight infrastructure as catalytic enablers of an ILH concept, and they are looking to government for clarity on opportunities for industry within an ILH concept as they develop their own forward strategies and investment plans.

Key recommendations of the scoping study included the need for collaboration with industry and all levels of Government regarding the development and integration of logistics facilities in the WPC, and the need for a coordinated process to deliver an overall integrated outcome for NSW.

An important component of the land-based logistics network of the ILH is the physical and digital connection to ports and airports.

To this end, the ILH Airfreight Interface Concept Study (the concept study) sought to further understand the operational, economic and regulatory considerations to drive innovation and airfreight supply chain efficiencies to benefit NSW exporters and importers, producers and manufacturers.

The concept study envisages a secure, streamlined and highly efficient land-based logistics facility with dedicated operational channels for high value time sensitive ambient, cold and live products, offering specialised functionality and forming an important connection to the broader ILH and NSW freight network.

The concept study builds on some of the key findings from the earlier scoping study by examining opportunities to:

- Optimise and enable new and existing high growth potential industries in NSW with clear potential for competitive advantage
- Consider solutions for identified barriers and problems prohibiting export growth via airfreight to accelerate economic activity
- Seamlessly integrate key trade infrastructure to facilitate export growth and new industry development in NSW over the short, medium and long-term

- Seamlessly integrate key trade infrastructure to facilitate export growth and new industry development in NSW over the short, medium and long-term
- Explore examples whereby governments, industry and the private sector have collaborated to create world-leading airfreight interfaces.

The key recommendation of the concept study is to progress engagement and collaboration between government, industry and the private sector to explore the reports key findings, refine the concept identified and determine the next steps to progress its development.

Summary of key findings

<p>1 The need driving an ILH Airfreight Interface</p>	<p>Lack of specialised facilities for key products that move via airfreight</p>	<p>Access constraints to airside operations for key targeted industries at KSA</p>	<p>Lost time delays & costs due to inefficient processes, infrastructure and systems</p>	<p>Create an asset to enhance Australia's trade competitiveness</p>
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<p>2 Industries with high potential to increase competitiveness from access to a 24/7, greenfield airport</p>	 <p>Fresh Meat & Produce</p>	 <p>High Value animal exports</p>	 <p>Medicine & Medical Products</p>	 <p>Aircraft Maintenance</p>
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<p>3 ILH Airfreight Interface attributes</p>	<p>The identified high potential industries require dedicated and specialised supporting facilities which are currently limiting NSW's potential for growth.</p>			
	<p>End to end cold storage & treatment facilities</p>	<p>High value animal weighing & processing facilities</p>	<p>Shared use of key trade enabling infrastructure</p>	<p>Digital connectivity</p>

<p>4 Optimal ILH Airfreight Interface Concept planning and configuration</p>		<p>The Northern Road as the main road link for freight from the Aerotropolis, WPC and wider NSW</p>	<p>Dedicated and specialised operational channels for ambient, cold chain and live products.</p>	<p>The Concept should be located within proximity of the entry and exits points of WSI.</p>
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<p>5 Regulatory and fiscal interventions identified</p>	<p>Following research over 5,400 'economic precincts' around the world, the study found there is the potential for Government to stimulate global competitiveness enhance providence, attract early investment and accelerate precinct activation through a variety of regulatory and fiscal levers.</p>
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Introduction

Australia's freight task is growing and changing with the NSW freight component set to grow by 28 per cent by 2036. The NSW Freight and Ports Plan 2018-2023 is a call to action for government and industry to work together to make the freight system more efficient, more accessible, safer and more sustainable for the benefit of producers, operators, customers and communities across NSW.

"It'd be ideal if the cold chain was tailored to specific products; not merely generic temperatures."
Stakeholder comment Workshop 2

Australian exports of perishable products are forecast to grow over the next 10 years driven by increasing demand from Asian Markets. This includes current major importers China, Korea and Japan as well as emerging markets in India, Indonesia and Vietnam. These products are time and temperature sensitive. Through

consultation, constraints at Kingsford Smith Airport (KSA) were identified that limit the opportunity for these key commodities to meet the growth in demand.

The growing demand for freight is straining existing infrastructure and affecting service levels along the supply chain. Distribution activities continue to move west in response to rising land costs together with a growing population and improved transport infrastructure in Western Sydney.

To accommodate the expected growth of the freight task, Australia will need to build capacity through both infrastructure investment, as well as the efficient use of existing infrastructure assets across all modes.

"If we could import and export goods at all hours, that would be a real game changer; we'd address a lot of our current limitations if we could do that."
Stakeholder comment Workshop 2



Emirates SkyCentral - multi-zone, temperature-controlled cool chain facility (Source: Emirates)



Smart Glass Green House – Source Hortidaily

“There’s scope for us to use unique scientific identifiers to make screening less labour intensive and more efficient. A lot of the documentation could be digitised, too..”

Stakeholder comment Workshop 2

In May 2021, WSI embark on Australia's first co-designed cargo precinct process aimed at bringing together the air cargo community and creating supply chain efficiencies that will allow Australia to connect and compete with the global market.

Stage 1 of the WSI Cargo Precinct intends to facilitate movement of 220,000 tonnes of cargo annually through approximately 75,000 sqm of cargo terminals that are designed to grow in a modular format without interrupting cargo (or passenger) operations.

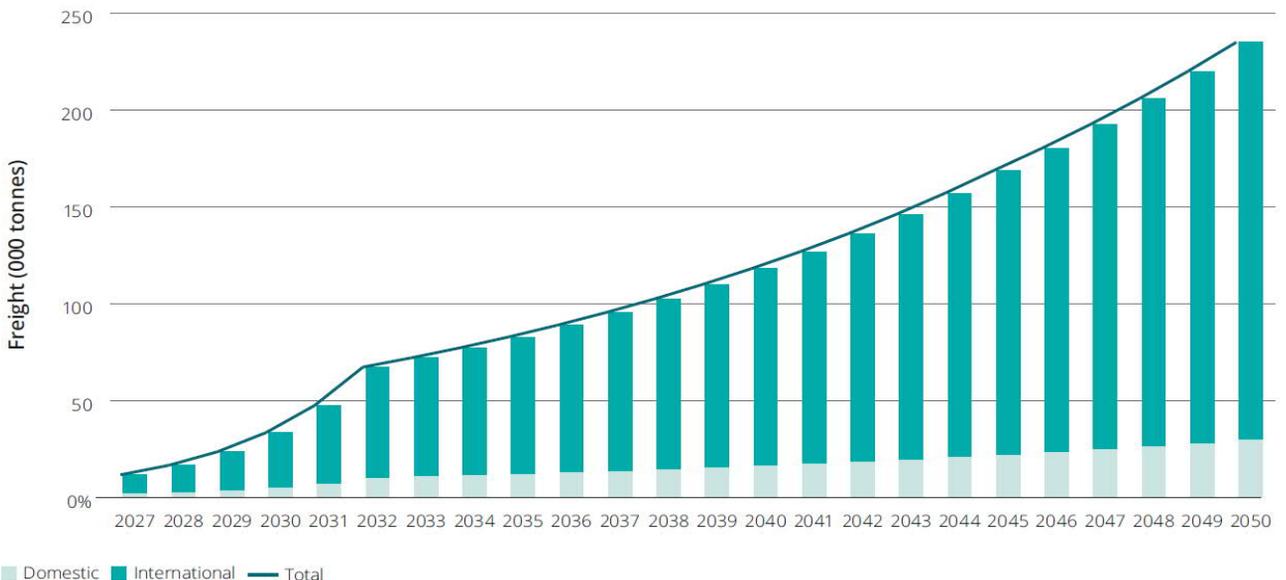
The Agribusiness Precinct is situated on the western edge of the Aerotropolis directly adjoining the WSI Cargo Precinct.

It has been envisaged by the WPCA that the Agribusiness Precinct could play a key role in servicing the increasing national and international demand for high-quality fresh food. It will enable the delivery of high quality fresh produce and value-added food from NSW from local paddocks and producers to international plates in under 36 hours.

An Integrated Logistics Hub (ILH) aims to facilitate fast, efficient and cost effective access to existing markets as well as opening up new markets with the opportunity to improve the global competitiveness of Australia's supply chain. The ILH concept has received strong support from across and is now part of the Agribusiness Precinct vision as is set forth in the Draft Aerotropolis Precinct Plan.

The significant \$20 billion investment under the Western City Deal presents an opportunity to increase NSW's trade competitiveness with many existing major logistics providers already servicing both local and international markets from single sites located in Western Sydney.

WSI outbound freight ('000 tonnes) based on passenger aircraft forecast: FY27 to FY50 (Source Deloitte)



Integrated Logistics Hub Airfreight Interface Concept

Improved access to international trade gateways, enhanced access to the first and last mile of the freight task, enhanced digital infrastructure availability, and timely freight infrastructure provision is needed to ensure infrastructure investments drive the efficiency and productivity gains industry need to meet our growing freight task now and into the future.

As with any major gateway – port or airport operation – there is a need for ancillary services and capabilities to function and support the movement of imported and exported cargo.

The ILH concept supports economic and jobs growth by meeting current challenges and constraints of industry and by addressing policy outcomes.

The ILH concept could embed world-leading global trends in supply chains from the start of operations including:

- The increasing need for agility and resilience
- Fulfilment centres placed on or adjacent to airports
- Using blockchain, big data and analytics throughout the supply chain to improve visibility, product security and integrity
- Embedding automation and robotics in processes and handling to improve efficiency.

The greenfield nature of the ILH concept opportunity allows for the possibility of a step change in the end-to-end supply chain of time sensitive freight by using a combination of technology, product tracking, pre-clearances as well as more up to date provision of critical information to bio-security and customs authorities.

Multi-access shared facilities are a key feature of world-class airfreight interface examples around the world in terms of driving efficiencies and reducing costs through co-located large-scale export enabling infrastructure, systems and services.

The ILH Airfreight Interface Concept Study is a progressive complementary study to the initial ILH Scoping Study. Its purpose is to examine the catalytic opportunities to facilitate early precinct activation, economic growth and investment attraction by leveraging the seamless connectivity of an ILH.

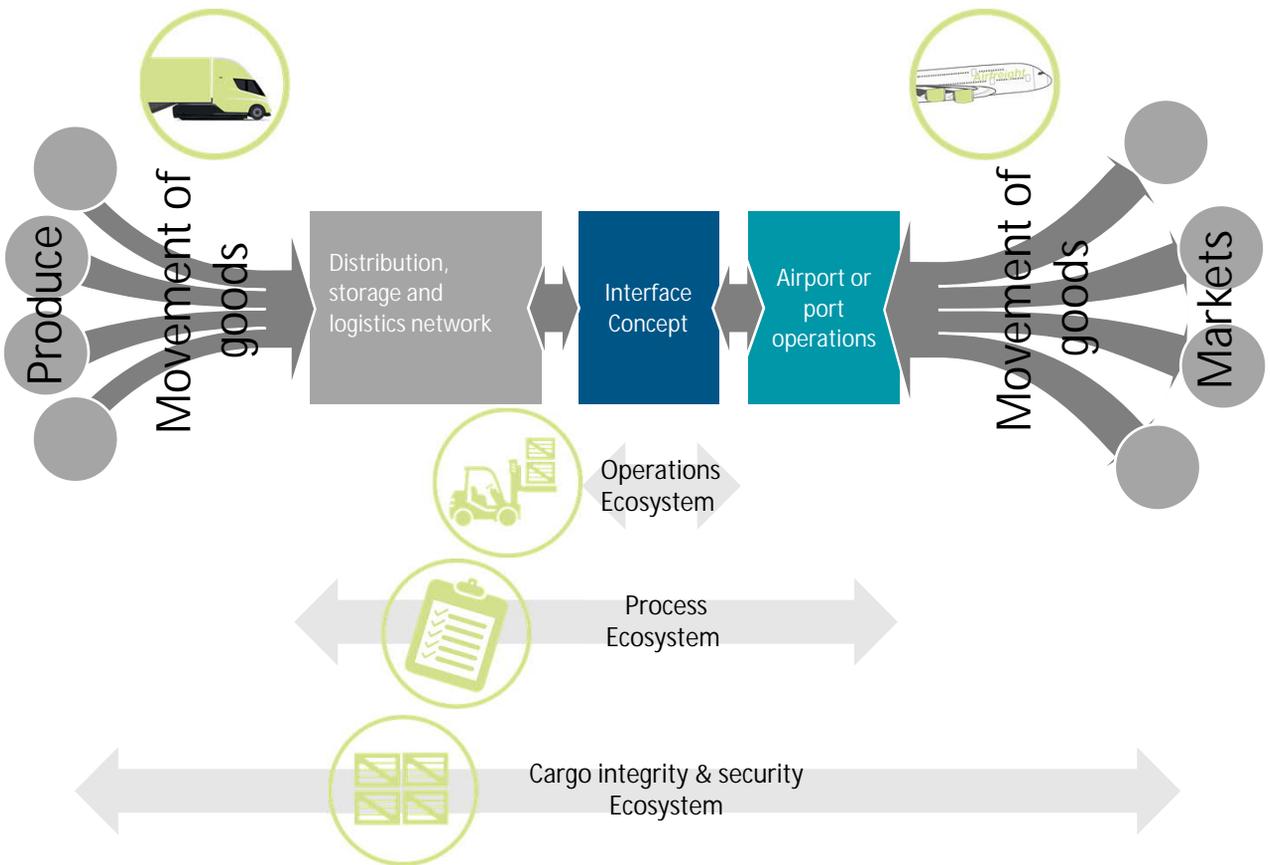
The ILH Airfreight Interface Concept (the Concept) was developed through extensive engagement, research into world-leading examples and analysis of NSW's constraints and opportunities.

The Concept is envisaged to supercharge NSW trade competitiveness by creating a secure, streamlined and highly efficient landside logistics operation with specialised and dedicated channels for ambient, cold chain and live products, and shared use of key assets and infrastructure.

The Concept will accelerate trade opportunities for high value time sensitive NSW products by expediting the cross boarder speed-to-market movement of product to both domestic and international markets.



World-leading airfreight supply chain concepts



 <p>Movement Ecosystem</p> <p>More efficient movement of vehicles improves the flow of goods and services through the end to end airfreight supply chain. This includes the surrounding road network.</p>	 <p>Process Ecosystem</p> <p>Improves processing systems enables rapid information transfer reducing the time taken for products to move through the end to end airfreight supply chain, particularly duplication processes at checkpoints.</p>	 <p>Cargo, Integrity, Security Ecosystem</p> <p>Improved integrity and security of cargo creates safety and trust in the movement of the goods and services through the end to end airfreight supply chain, and provides surety around origin, contents and destination.</p>	 <p>Operations Ecosystem</p> <p>Improved operational efficiency increases the capacity of the end to end airfreight supply chain to handle goods and services, particularly within its warehousing or sorting facilities.</p>
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The Concept seeks to provide immediate added competitive advantage by addressing current constraints facing high potential export focused NSW industries, specifically:

- A lack of specialised facilities such as cold storage and high value animal processing facilities which constrain competitiveness in target markets
- Constraints to accessing airside operations for target industries
- Lost time and delays due to inefficient processes and lack of real time visibility of goods.

The Concept has the potential to accelerate investment into the ILH by generating export freight volumes for identified high potential industries by embracing and potentially piloting emerging technologies and by creating a competitive export supply chain for NSW producers and suppliers.



Key Finding 1

Problem definition: The need driving an ILH Airfreight Interface Concept in Western Sydney

The study included research into examples of international gateways and investment policy settings & incentive arrangements to support their establishment

This study included a desktop review examining the concepts, overarching drivers and features of similar facilities around the world providing similar supply chain efficiency to those proposed in the Concept. It also considered how the role of Government will change over time to enable greater use of technology and data in the supply chain. The study consisted of the following four components:

- **Emerging technology review of applications** which could be delivered as part of an Concept development in Western Sydney. Specifically, if technology platforms could streamline processing times, deliver value to the movement of time sensitive goods through provenance, and maintain both product condition and security
- **Review of supporting infrastructure for target industries** to investigate what physical infrastructure assets WPCA could consider investing in. This built off research undertaken in the previous ILH study and further stakeholder consultation to determine the recommended initial industry focus and the shared facilities they require
- **Research into designated economic attractors** accompanying major gateways used by Governments globally to incentivise volume and investment. The study drew out key considerations for Government to consider in Western Sydney
- **Investigate regulatory and fiscal incentives** which could be used to attract investors and operators.



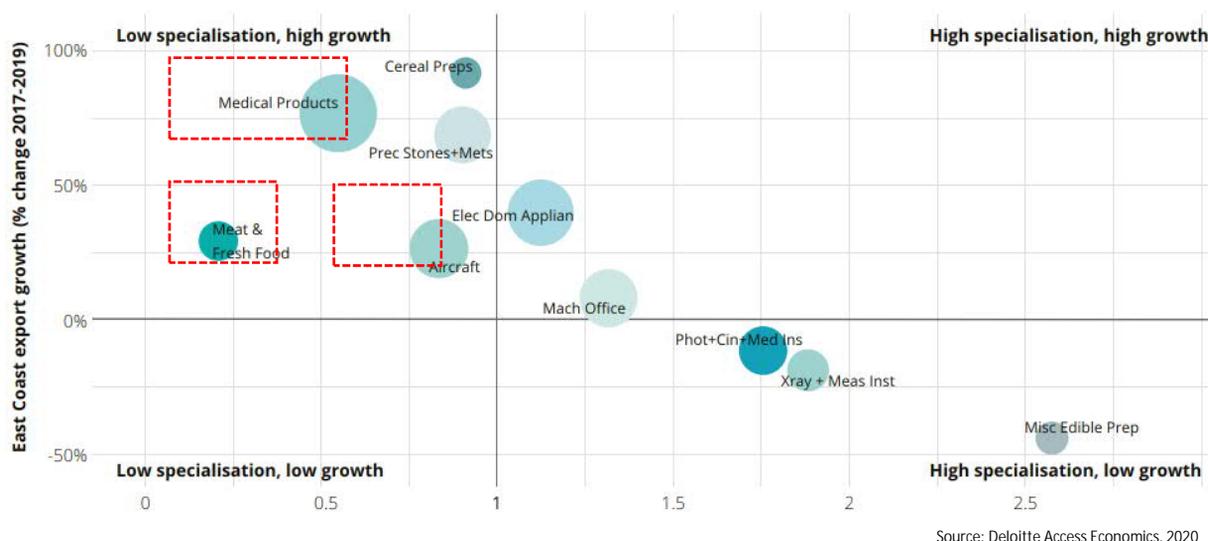
The study identifies the challenges the ILH Airfreight Interface Concept seeks to solve and the opportunity it seeks to create.



Key Finding 2

Identified opportunity to address lack of specialised facilities for key products

The key first mover high growth potential NSW industries require specialised supporting facilities which are currently limiting NSW's potential for growth.



The study identified that a focus on servicing the industries that have specialisation relative to the other east coast airports will achieve the greatest benefit from a the 24/7 curfew-free airport. This will facilitate critical mass to be gained around the airport and the surrounding freight and logistics network in Western Sydney.

The ILH Scoping Study identified time sensitive industries such as Fresh Meat & Produce, Medical Supplies and High Value Animals (which due to current NSW limitations travel via Melbourne). Aircraft maintenance, repair and overhaul companies (MRO's) were also identified. The key airfreight commodity groups that currently transit through NSW are outlined in the figure above. Crucially, these industries:

- Are forecasted to experience demand growth in key export markets
- Have existing limits to competitiveness relative to Victoria and Queensland.



Fresh Meat and Produce

Despite NSW's strong meat industry, NSW has a low specialisation relative to the East Coast, with air freight exports of fresh meat low compared to Victoria and Queensland. With demand increased from the UAE and South East Asia, the value of fresh meat has grown by 25% between 2017 and 2019. Given its proximity to production points in regional NSW could present a lower cost option to access high-growth fresh meat export markets.

Other time sensitive fresh food products such as sea food, fresh fruit and veg, have been included given their similar cold storage requirements to fresh meat.



Medical Products

Exports of medical products, grew by 77% between 2017 and 2019 across the major east coast cities, in large due to demand from the US, the major destination of Australian medical exports. Medical products represent a significantly smaller proportion of total exports by value from Sydney than they do from the rest of the east coast.



High value animal exports

Current limitations in NSW restrict the ability to export live animals (such as thorough bred horses, companion animals, breeding stock, livestock and zoo animals). Insufficient hard stand areas, a single weighing facility, no dedicated live animal facility or amenities block for staff hygiene and administrative facilities are just some of the issues limiting the capacity to export live animals efficiently. This forces importers/exporters to truck to/from Melbourne increasing stress on animals. By providing better planned end to end supply chains, there is an opportunity to support growth in high value animal exports.



Aircraft maintenance facilities

An aerospace maintenance facility has been outlined in the ILH Scoping Study as a key opportunity for NSW. Currently, Sydney has very low specialisation in aircraft parts which has been a growing industry in the last three years. The Concept has the potential to support both these industries and enable external investment.

Design Principles & Channels

Channel 1: Cold Chain

Product groupings: Food & Drink, Plants & Flowers, Chemicals & Pharma

This area supports perishable products and requires temperature-controlled warehousing, with multiple temperature zones for the different product requirements.

Challenges

- Provenance – while Australian products are highly regarded and in high demand, there is also an industry of counterfeit product labelling inferior product eroding consumer confidence in Australian products.

Pain points

- Inability to track where product has been mishandled or stored at an incorrect temperature leading to spoilage or rejected product
- Lack of capacity for cold store allowing for “cold store buffering” when there is a disruption (e.g. flight delays, process delays)

- Curfews impact time to market and curfews in the surrounding road network impact the first and last mile.

Requirements

- Temperature controlled warehousing with multiple temperature zones including cool, cold and freezing
- An irradiation facility for the processing of some food, flower and medical products
- Secure zones for high value products such as Chemicals and Pharma, tobacco and alcohol
- Significant energy and water requirements.



Temperature Controlled Pharmaceuticals
(source – AIT World Wide)

CASE STUDY

Fresh and value-added food

Fresh Park
Venlo Netherlands

A desktop study was undertaken to benchmark and understand emerging trends and industry leading facilities globally. These Global case studies demonstrate the potential opportunities a streamlined WSI airfreight interface and supply chain solution in Western Sydney could deliver those targeted NSW industries identified in this study.

Freshpark Venlo is a 121ha business park focused on agri-food companies and suppliers and is a major distributor of the worlds fresh produce.

Located in the Netherlands, fresh fruit and vegetables is delivered to JFK airport from harvest in 48 hours by one of the tenants, ZON.

While not directly attached to an Airport, its features are a case study in end-to-end integrated temperature controlled logistics for fresh and value added food.

It has direct access to the motorway network and with efficient connections to rail (<1km), ports (Rotterdam 170km and Antwerp 140km), barge ports and the Eindhoven (64km) and Dusseldorf Airports (75km).

Key Features:

- Logistics Hotspot
- Opportunities for property development
- Provision of Flexible Warehousing
- Support Services
- Private Food Park
- Production region.

Temperature controlled Logistics is a key feature of the park enabling end-to-end temperature controlled logistics.

Quality Standards are a prerequisite in the food business and all buildings for lease meet specific certification and standards. This enables market entry for new tenants and provides a competitive advantage.



Channel 2: Ambient

Product groupings: General Merchandise & Apparel, Technology & Instruments

This area would require warehousing designed to integrate automated handling machinery, conveying systems and processing plants as required by the industry groups. Due to varied types of work, different levels of lighting would be required depending upon if the processes were manual or automated.

Challenges

- The areas around key port and airport infrastructure in eastern Sydney have unsuitable sites to meet the needs and scale of contemporary Distributions Centres
- The cost of owning or leasing warehousing/ industrial sites in proximity to these existing operations are expensive.

Pain points

- Customs not cleared before arrival. Current AQIS is common across all product categories whereas certain products or known suppliers could be precleared before arrival reducing congestion at the airport and reduce delays

- Pick up/drop off process are not designed for container efficiency
- Currently there isn't an integrated CTO environment for holding and security of products.



Requirements

- Warehousing integrating automation
- Specialist handling facilities for non-standard items such as parts and equipment, vehicles, commodities that don't fit in ULDs
- Utilities including power, technology/ communications infrastructure and management of waste
- Security for high value products including precious metals and stones.

Channel 3: High Value animals

Product groupings: Live animals

Live animals require specialised facilities and storage pens for the handling of high value live animals. This would include environmental controls for heating and cooling and waste disposal. The needs of each species are specific and unique. The facility would need zoned climate control to suit different species ranging from horses and breeding stock through to companion animals, zoo animals and live bees. To effectively manage disease control, species and consignments will need to be separated, and dedicated staff wash and change facilities provided.

Challenges

Provenance and tracking animals is poor or non-existent at destination markets once the animals have landed. In some cases, animals have been forwarded to other countries under false paperwork.

Pain points

- There is insufficient space for the trucks to unload live animals at existing airfreight facilities in NSW

- There is no dedicated animal facility in Sydney. Currently animals are unloaded in the logistics hardstand area and loaded to the crates in amongst other freight operations
- Current airfreight facilities currently do not have any amenities block (for staff hygiene) or a designated office space for completing documentation
- There is not enough designated space for live animals at current airfreight facilities in NSW with appropriate shade, shelter and separation from other freight movements or other animals.

Requirements

- Specialist storage pens that can be adapted to the species in transit
- Environmental controls to suit the species in transit
- Zoning of the different areas for Quarantine and disease control
- Dedicated staff wash and change facilities.

CASE STUDY

High value animal movements

Animal Lounge
CargoCity Frankfurt Airport - Germany

Frankfurt Airport has developed a unique approach to animal transport with a 4000m² animal "lounge" featuring 42 large animal stalls and 18 individually climate controllable chambers to enable transportation in comfort for a range of animals. Modular segmented design facilitates complete separation to control disease spread and provide noise attenuation.

The Animal lounge is integrated to the digital systems for the fast tracking and tracing of animals

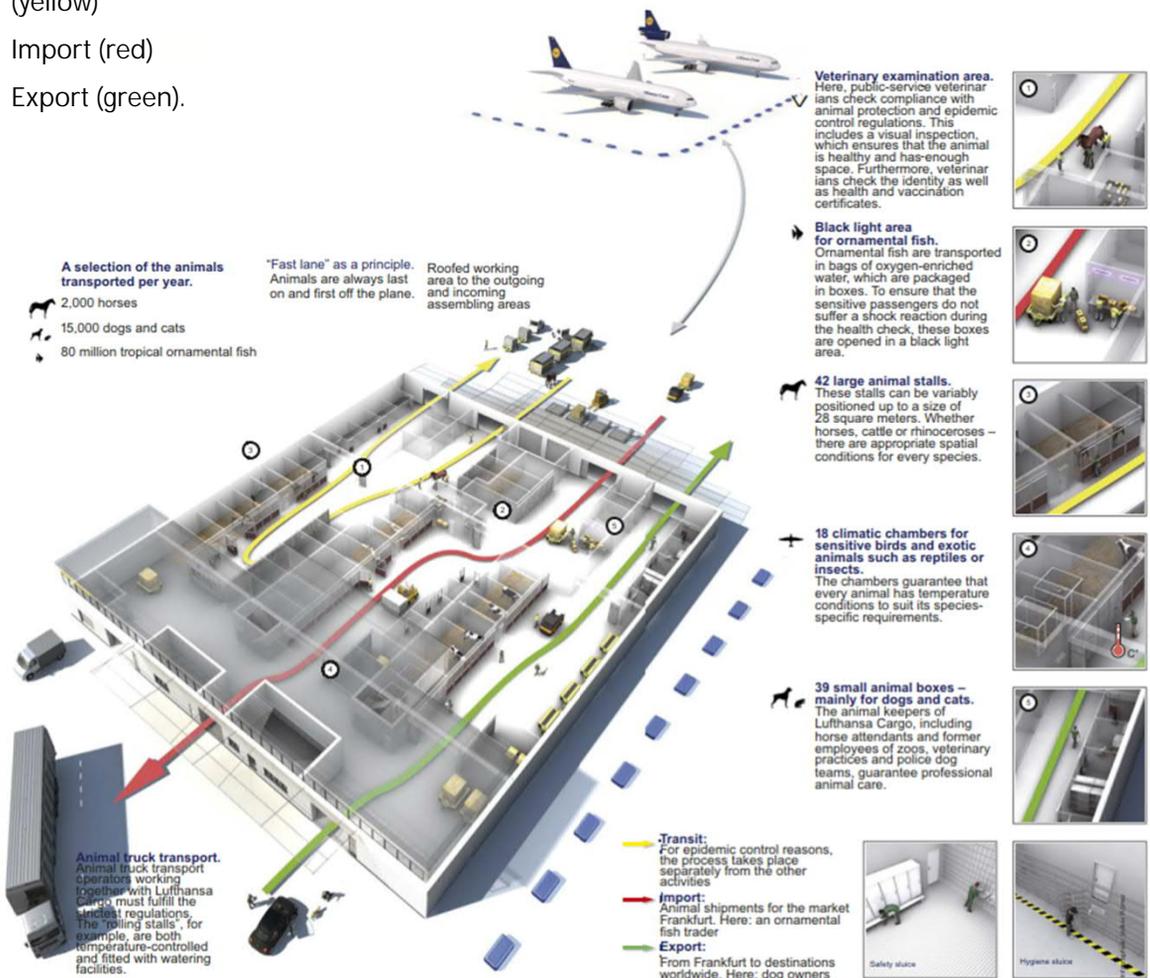
There's a choice of 3 routes for pets entering the Lounge (see diagram below):

- Import, Export and Transit. Epidemic Control (yellow)
- Import (red)
- Export (green).

Based on the Lufthansa Cargo network, pets entering the Lounge might be coming from one of 360 destinations in over 100 countries.

Safety and cleanliness are very important concerns at the Animal Lounge with each animal keeper has 2 lockers for their clothes and belongings located in the "hygiene sluice" to ensure that diseases are not carried into or out of the facility.

The Animal Lounge is designed for bulk shipping of animals as well as small specialised consignments (e.g. pets, breeding stock). Each year more than 110 million animals travel safely via Frankfurt Airport.

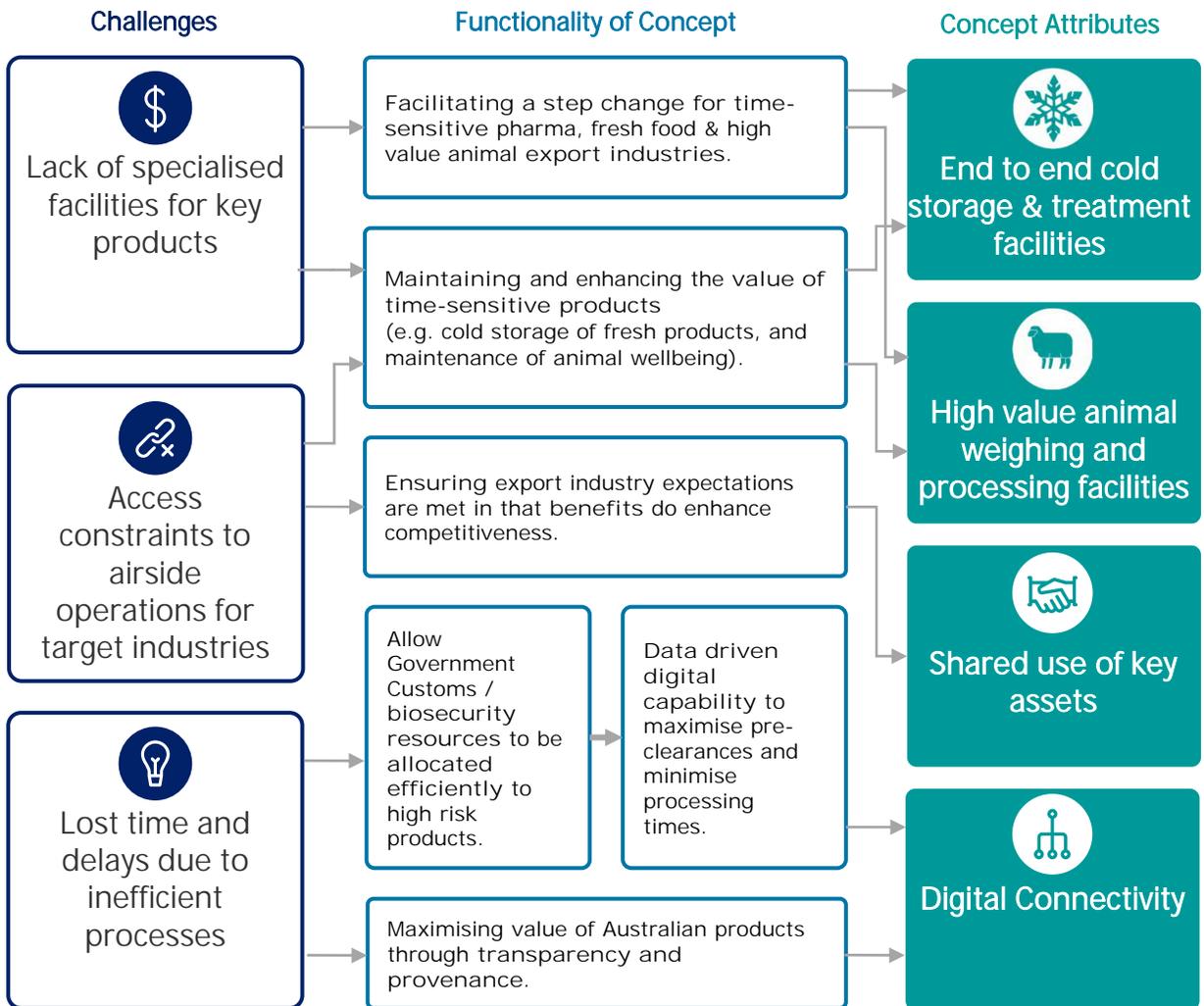




Key Finding 3

What functionality the Concept should have?

The Concept model would complement, support and enhance the supply chain operations across Western Sydney, Greater Sydney region and Regional NSW, whilst addressing a number of today's challenges for NSW exporters and importers.



Priority attributes of world-leading airfreight interfaces

End-to-end cold storage & treatment facilities

The Concept would provide multi-user cold storage facilities from dedicated hardstand entry for cold storage goods to the point of airside loading and unloading. This will support the end to end supply chain for the first and last mile and acting as a staging facility to support other facilities along the supply chain. This would enable seamless transition of fresh food and pharma goods with minimal time outside of cold storage. These cold storage facilities at the Concept would be intended to complement the broader cold stored supply chain by providing the first and last mile of the chain, noting that many industry participants would have complementary facilities both up and downstream in the supply chain.



End-to-end cold storage for Pharma (source Emirates)

High value animal weighing and processing facilities

Dedicated shared user live animal facilities would be provided in the Concept for seamless transition of high value animals through to airside with minimal time and loss of weight and/or health. It is suggested this should include a minimum of two weighing facilities, a dedicated animal transfer facility including appropriate shelter and storage for animals awaiting loading; and a staff hygiene & amenities block.



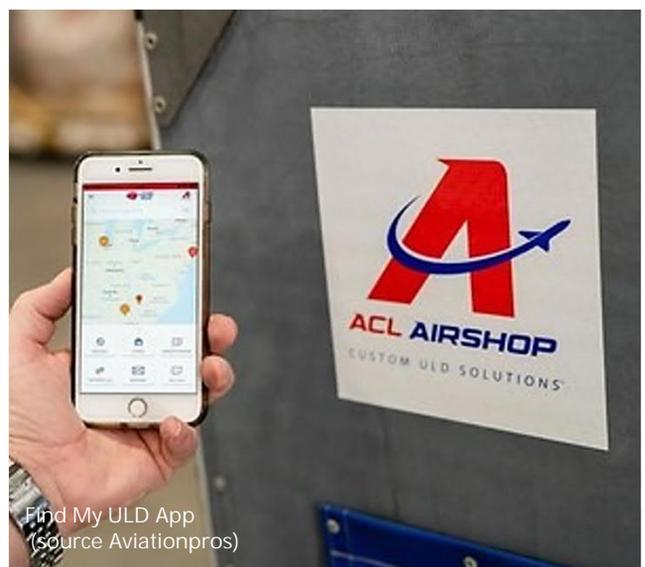
Dedicated animal handling facilities Pharma (source Lufthansa)

Key infrastructure assets for shared industry use

The separation of key industries' supply chains should occur by including differing hardstand spaces for cold storage, high value animals and ambient products including aircraft maintenance to enable streamlined and expedited treatment for differing product categories. Additionally, customs and biosecurity check points should be provided to goods without pre-clearance to assist in processing times. These assets should all be multi-user facilities for industry participants across each product type.

Digital connectivity

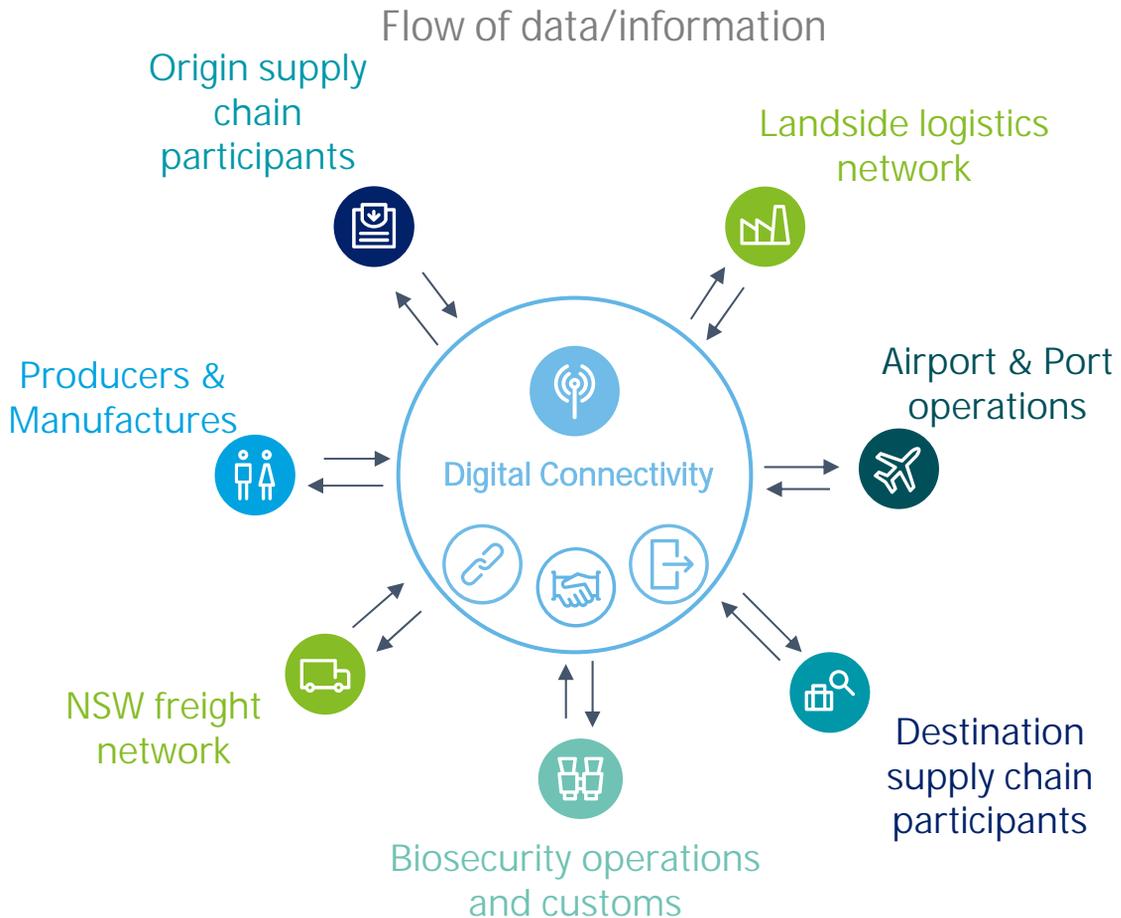
Digital supply chain connectivity is a critical enabler by supporting the ability to efficiently receive and distribute critical information across both public and private sector stakeholders. It should provide Government agencies with greater visibility of oncoming processing demands. Improved visibility should benefit the private sector via maximising pre clearances, fast tracking time sensitive goods through to airside and improving the process of packing and unpacking goods into Unit Load Devices (ULDs), all minimising time to market. Additionally, it should provide consumers with real time end to end visibility of high value time sensitive increasing product value via provenance.



Find My ULD App (source Aviationpros)

A step-change in process and technology

The ILH concept must be technologically advanced and highly flexible, minimising process costs and maximising speed-to-market for industry participants across all current supply chain capabilities. Simultaneously, the ILH airfreight interface concept should introduce new supply chain capabilities that offer additional attraction to industry to flow product through NSW. i.e. end-to-end, guaranteed food provenance tracking; paperless, single-step, export & import customs clearance; and a step-change improvement in the application of circular economy principle. Having the right technology (infrastructure, platform or systems) to support the operational requirements of the market which may be specific to individual organisations or products will need to be considered.



A **Cargo or Trade Community System** as part of the Concept is an integrated system that would enable both the ILH and partner information assets to deliver efficiencies, have real-time visibility and to respond to events as they happen. From an industry perspective, it would be incumbent on Government to establish the platform as well as maintain ownership and control to ensure widespread private and public sector use and the security of the data.

Key Attributes

- Collect & aggregate information
- Partner electronic collaboration
- Collaborative planning
- Supported decision making
- Optimisation
- Predictive Insights
- Autonomous supply chain.

CASE STUDY

Air Cargo Community System

Fair@Link
CargoCity Frankfurt Airport - Germany

Frankfurt Airport is collaborating across the freight and logistics industry to drive digitisation through their cargo community system FAIR@Link.

Today, FAIR@Link represents one of the most advanced airport cargo community systems in the world. The data platform allows secure and immediate electronic data exchange between all companies and public authorities involved in the process chain. FAIR@Link has unified interfaces and accelerated processes achieving more efficient use of transport infrastructure. FAIR@Link is a software product developed by Dakosy, a German software company offering digital software solutions for international freight forwarding, customs processing and supply chain management. German Customs is already connected to Fair@Link and have already begun to integrate the local EU border checkpoints for plant protection and veterinary examinations, as well as the German Federal Office for Agriculture and Food.

Digital Licence Plate Recognition System

Airport is trialling a new digital visitor register integrated to the Fair@Link system. The new process will allow visitors to self-register



Digital Licence Plate Recognition (source Air International)

through an on-line portal or self-service terminals at the airport access gates. To register the visitor's first name, surname and vehicle license plate are required.

Registered visitors will then be able to access the CargoCity via dedicated lanes where cameras cross reference the pre-registered the license plate and automatically grant access to the operational area.

The truck arrivals recorded in FAIR@Link will be automatically transferred to the new digital visitor registration system and no longer need to be entered separately.



Key Finding 4

Optimal Concept Size

The Concept would enable the efficient and secure flow of goods to/from the broader ILH and NSW freight network operations as well as activating the initial start-up of the ILH.

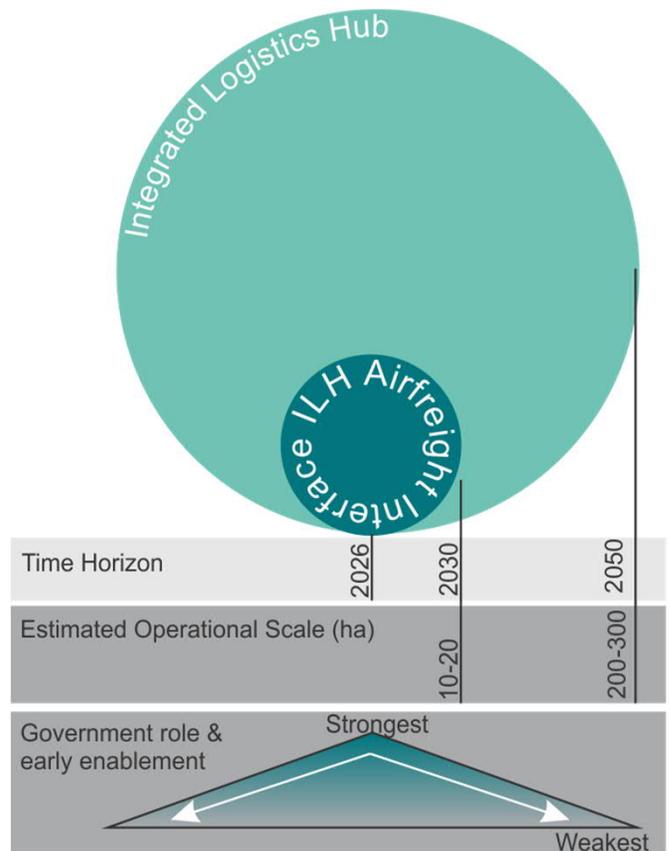
A preliminary view of the potential size requirements of a site that could service industry's needs and form the foundation of a world class precinct connecting to global markets has been undertaken. The Concept is the first activation step towards developing the broader ILH concept.

The preliminary view triangulated estimations through three approaches.

Cargo demand driven estimate – analysis of major commodity and product groups, the potential growth rates for key exports in particular and used those rates to calculate forecast potential growth on current KSA's volumes for those commodities over the next 30 years under low, medium and high growth international trade scenarios.

Tenant driven demand estimate – undertaken to derive a possible site size required for the facility based on a range of footprints, and number of potential businesses operating from the site.

Comparable site assessment – developed through identifying other examples of logistics parks and facilities that had some comparable elements i.e. supported major gateways and in particular airports, handling express cargo, perishables, animals etc. Over 20 other sites were identified and assessed, in addition to the case studies. Data was collected, where available, for the characteristics including total land area and warehousing; size of area dedicated to particular cargo; total volume of associated airport and years in operations (to reflect level of maturity).



The Concept and the broader ILH network are interdependent. Governments involvement is greatest in early enablement and then diminishes over time as industry and the private sector assume greater roles and interests in the ILH.

CASE STUDY

Pharma, medical and complementary medical products

The Flexport
Liege Airport - Belgium

Operating from Liege Airport, The Flexport® dispatches medicines, pharmaceutical products, organs and stem cells by road and by air. It is at the cutting edge of the demands of the pharmaceutical industry and offers unprecedented opportunities for development, at the heart of Europe. Its services are certified by IATA. Currently ~2500 tonnes are handled through the facility per day.

Key features

- Dedicated infrastructure for medicines and Pharmaceutical products
- 3mins from the motorway with connectivity to Amsterdam, Paris and Frankfurt
- Cargo service 100% dedicated to biotechnologies
- Works with 4 partners and operators who manage all on ground logistics
- Aircraft park on the "floating line", less than 30 metres from the warehouses. This is to avoid the goods being exposed to tilting or to changes in temperature
- The SACO automatic roller system for ULD enables the total load of a Boeing 747 to be transferred from the tarmac to the warehouse and to the trucks in under 4 hours.



Components

- Warehousing
- Airport Services
- Customs
- 16,000sqm dedicated to storing, dispatching medical and pharmaceutical products
- Monitoring systems for storage areas and goods (temperature, humidity, lighting, pressure, tilting etc)
- Goods control area
- Parking and loading
- Multiple entries and exits.

This is the first phase of a planned 470ha precinct that will accommodate all types of logistics.





Key Finding 5

Summary of regulatory and fiscal interventions identified in background review

Governments utilise regulatory and fiscal policy to attract investment and anchor tenants into precincts on the basis of identified growth opportunities. These are shown below with potential applicability to Western Sydney.

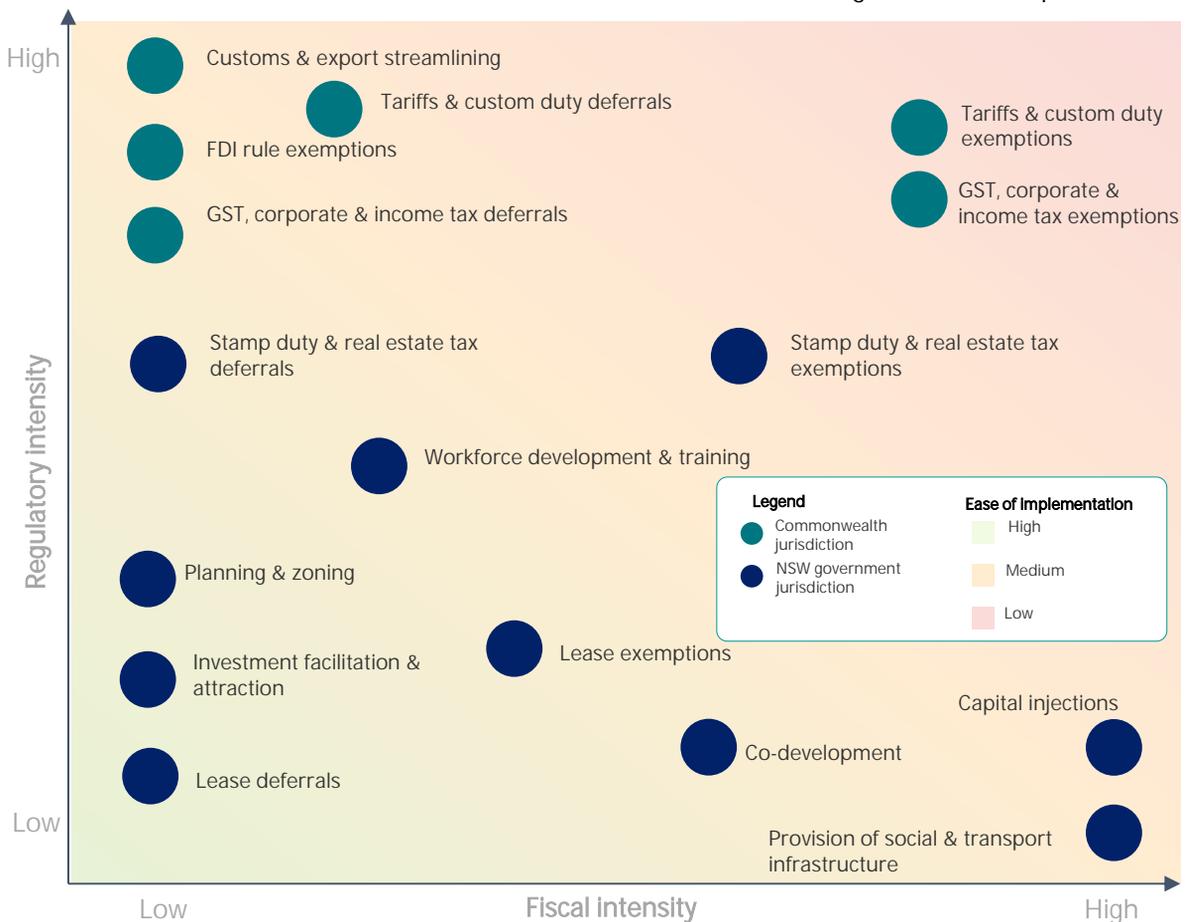
The Concept study considered a number of fiscal and regulatory interventions which can be used by Governments to stimulate private sector investment. Including:

- Qualitatively, which interventions are more or less challenging from a regulatory perspective or fiscally burdensome on Governments
- Government jurisdiction roles respectively.

These are outlined in the figure below.

Based on research into the some 5,400 'economic precincts' around the world, the study concluded there is the potential to stimulate global competitiveness enhance providence, attract early investment and accelerate precinct activation through a variety of levels.

However, these were not found to be a 'silver bullet' in terms of all successful airfreight interfaces around the world. The below illustration demonstrates the various regulatory and fiscal incentives, their ease of implementation and in terms of an Australian context, the level of government responsible.



CASE STUDY

Shannon Free Zone (SFZ), Ireland

Shannon Airport - Ireland

The Shannon Free Zone (SFZ) was founded in 1959 and was formerly the world's first Free Trade Zone. The Irish Government initially established SFZ to attract aircraft to refuel at Shannon Airport.

Since 2003, the Irish Government determined that incentives were no longer required, and that investors and tenants could be attracted without government intervention.

The SFZ still functions as an Industrial Park, featuring over 170 companies predominantly in the aviation, ICT, engineering and pharmaceutical sectors. It covers 2.43m² of land with 200 buildings including 7 million ft² of buildings for manufacturing, distribution and offices.

Shannon Airport features unique customs regulation to maximise cargo thoroughfare

- Irish National Policy designates Shannon Airport as the main airport for cargo in Ireland
- Shannon Airport possesses a pre-clearance agreement with the USA for immigration and private aircraft
- Shannon Airport also does not possess curfew or limits.

The Shannon Free Zone leverages adjacency to Shannon Airport to develop its aviation industry cluster.

It hosts companies such as GE Capital Aviation Services in the international finance/leasing sector, Lufthansa in the aircraft maintenance, repair and overhaul sector and TNT and DHL in the logistics/storage distribution sector. To manage the cluster and drive business development, The International Aviation Services Centre (IASC) was created, working with over 40 aviation companies in SFZ.

Shannon Group, a private holding company, is responsible for managing, operating and developing the SFZ and Shannon Airport.

Its subsidiary Shannon Commercial Properties is responsible for managing the Shannon Free Zone proper while the IASC is focussed on development of the Aviation Business Cluster.

Previously, Shannon Development, a government owned and operated entity was responsible for managing the SFZ, as well as enterprise support, employment deployment and tourism for the broader Shannon region.

The Shannon FTZ exemplifies the usage of incentives to drive economic development in the short and medium term, transitioning to soft pull factors in the long term, once a critical mass has been established, both in volume and reputation of tenants. It now supports over 7,000 jobs and features €3 billion generated in trade every year; 90% in exports.



Key Finding 6

Concept configuration and location

The basis of the relationship and process of air cargo supply chain mapping, the study examined a number of different combinations as to how the Concept would connect the Integrated Logistics Hub to the the Agribusiness Precinct, the Aerotropolis, Greater Sydney and Regional NSW.

The concept configuration would ideally:

- 1. Have streamlined and dedicated operational channels for ambient, cold chain and live products.**
- 2. Access to value added activities and/or storage.**
- 3. Undergo biosecurity and customs checks before exiting or entering the interface area.**
- 4. Once goods are within the interface area it is feasible they would be within a bonded area.**
- 5. Take advantage of shared facilities and infrastructure.**

The ideal configuration, is shown on page 23. This arrangement has been devised to focus on streamlining operational channels for time sensitive products prior to export via air. It aims to increase speed to market through dedicated supply chain operational channels for ambient, cold chain and live product.

The Concept is likely to be most optimally located within the Agribusiness Precinct with good connectivity to The Northern Road, and within proximity to the to the entry and exit point of WSI.

The Concept is less likely to duplicate assets between the broader ILH and NSW freight distribution network, and the WSI Cargo Precinct. It is also considered likely to be particularly favourable for pre-cleared cold storage and ambient goods given it provides the shortest path from connecting infrastructure to the entry and exit point of WSI.

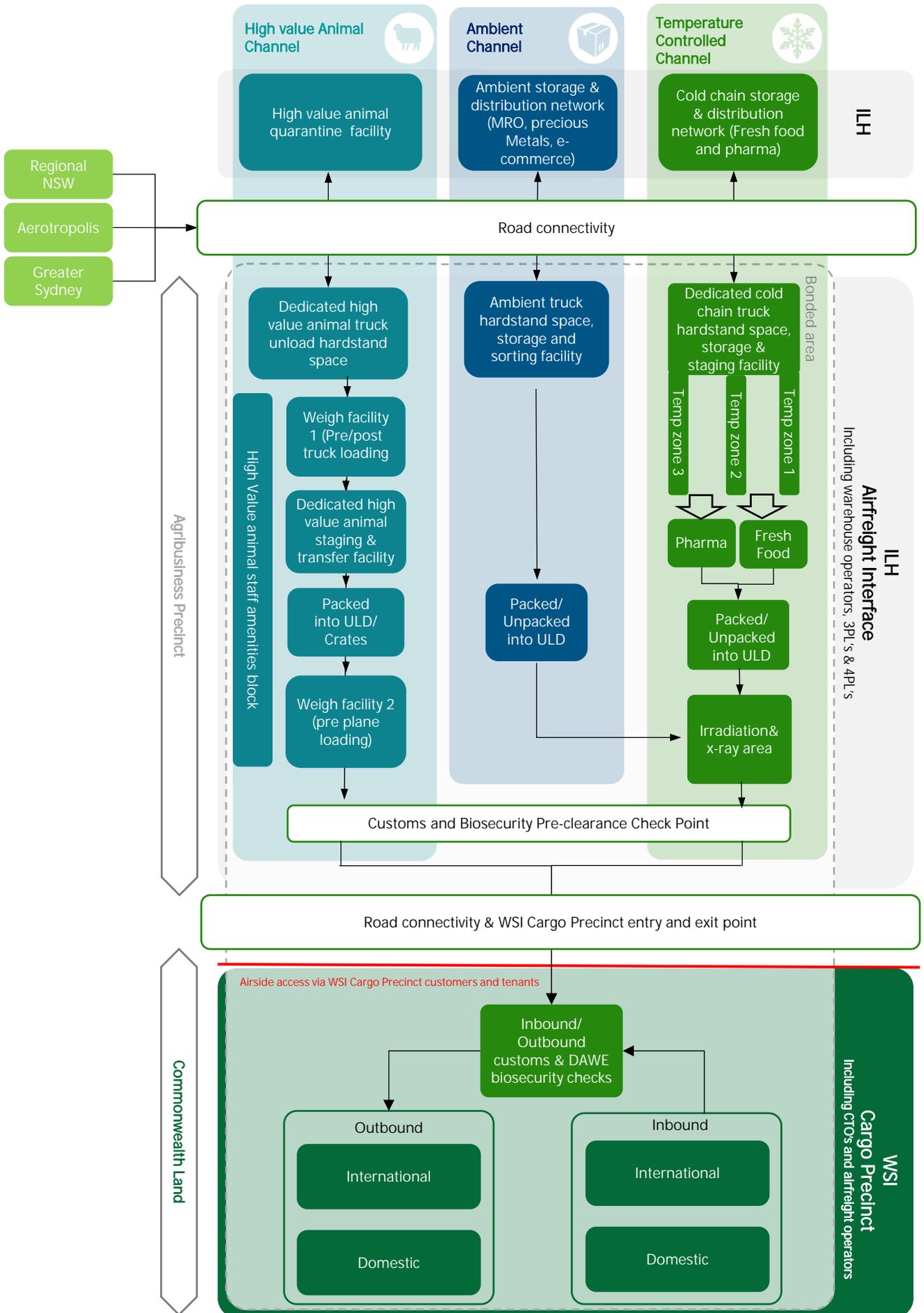
Optimising the scale of shared user facilities and infrastructure will be important to balance the competitive advantage of the Concept with overall value for money, and to create competitive advantages in terms of lowering operation costs and increasing speed to market connectivity.

The Concept allows value added activities and storage to occur whilst at the same time, goods would remain within the Concept such that when goods are transported to the entry and exit point of WSI, they are already inspected and then can be fast-tracked through the WSI Cargo Precinct customers and tenants. This may reduce touch points whilst inside the WSI Cargo Precinct reducing the possibility of handling damage to sensitive products.



(source Atlas Air)

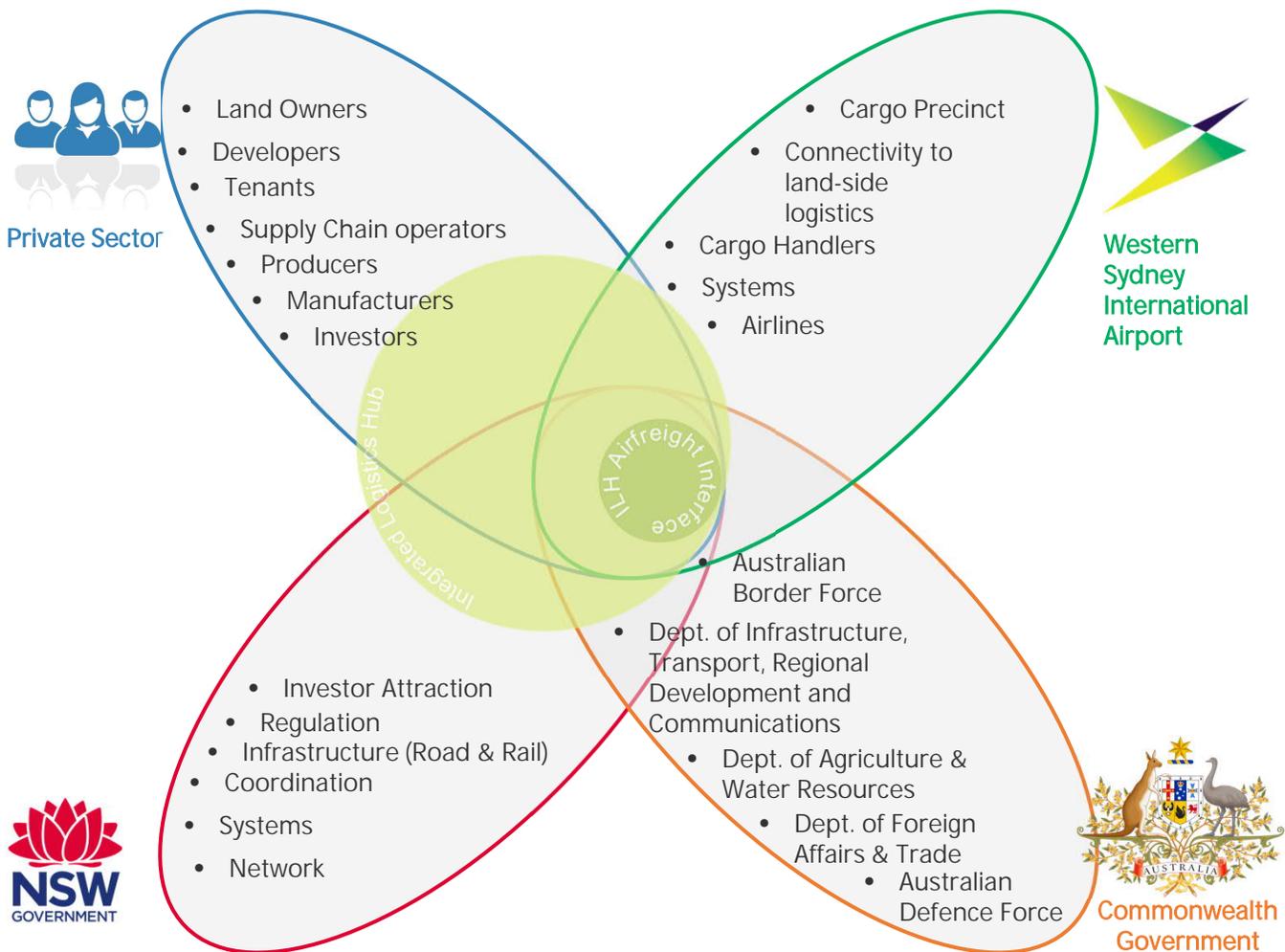
Concept configuration



Key Recommendation

Governments, industry and the private sector collaborate to explore and refine the concept with a view to drive early precinct activation, economic growth and jobs by focusing on:

- Enabling high growth potential industries currently constrained in NSW to enhance their export trade competitiveness
- Physical traffic and transport infrastructure that supports the optimal movement of freight into and out of key infrastructure
- Enabling infrastructure (supply chain/regulatory) that streamlines airfreight flows into and out of the airport
- Connected systems and government processes to allow regulators to effectively and efficiently discharge import/export responsibilities
- Key stakeholder engagement to activate the precinct early and bring world-leading business and talent to Western Sydney
- Informed, strategic coordinated and streamlined planning that facilitates targeted sector establishment and accelerated economic growth through increased exports.



Industry & Government Stakeholder engagement

WPCA and Deloitte have undertaken extensive industry and government engagement for both the Integrated Logistics Hub (ILH) and the Air Freight Interface Concept (AFI). The participation of stakeholders in workshops and one-on-one interviews, and the provision of input and data into the studies, has greatly assisted in preparing recommendations. As such, key stakeholders are acknowledged below.

Organisation	ILH	AFI
Abu Dhabi Airport	●	
Aldi	●	
Americold	●	
Aramex	●	
Australian Border Force		●
Australian Defence Force	●	
Australian Federation of International Forwarders	●	
Australian Food & Grocery Council	●	
Australian Live Exporters Council	●	
Australian Logistics Council	●	
AWE	●	
BizCubed	●	
City Deal Implementation Western Sydney Unit - DITRD	●	●
Coles	●	
Commonwealth Treasury		●
CSIRO-Data 61	●	
Customs Brokers & Forwarders	●	
Council of Australia	●	
DB Schenker	●	
Department of Primary Industries	●	
DFAT		●
DHL Express	●	
Export Council of Australia	●	
FedEx/TNT	●	
FTA	●	
General Electric	●	
GPT	●	
Greater Sydney Commission	●	
Hitachi	●	
iMOVE Australia	●	
Infrastructure Australia	●	
Kmart & Target	●	
Linfox	●	

Organisation	ILH	AFI
Lynch Group	●	
Meat and Livestock Association	●	
Menzies Aviation	●	
MHI	●	
Mitsui & Co	●	
Mitsubishi Heavy Industries	●	
Moorebank Intermodal Terminal	●	
NGC	●	
NSW Farmers		
Moorebank Intermodal Terminal	●	
NUW Alliance	●	
Protected Cropping Australia	●	
Qantas Freight	●	
QUBE	●	
Roads Australia	●	
Samsung SDS	●	
Sheffield		
Siemens	●	
Steritech	●	
Stockland	●	
Suez	●	
Sydney Fish Markets	●	
Sydney Markets Limited		
Symbion	●	
TAFE NSW	●	
TfNSW	●	●
University of Sydney		
VDM Partners	●	
Vitex	●	
Western Sydney University	●	
Woolworths	●	

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