



Infrastructure, Plant and Machinery Valuation

 **Beca**

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**PLANT &
MACHINERY**
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Where have I been?



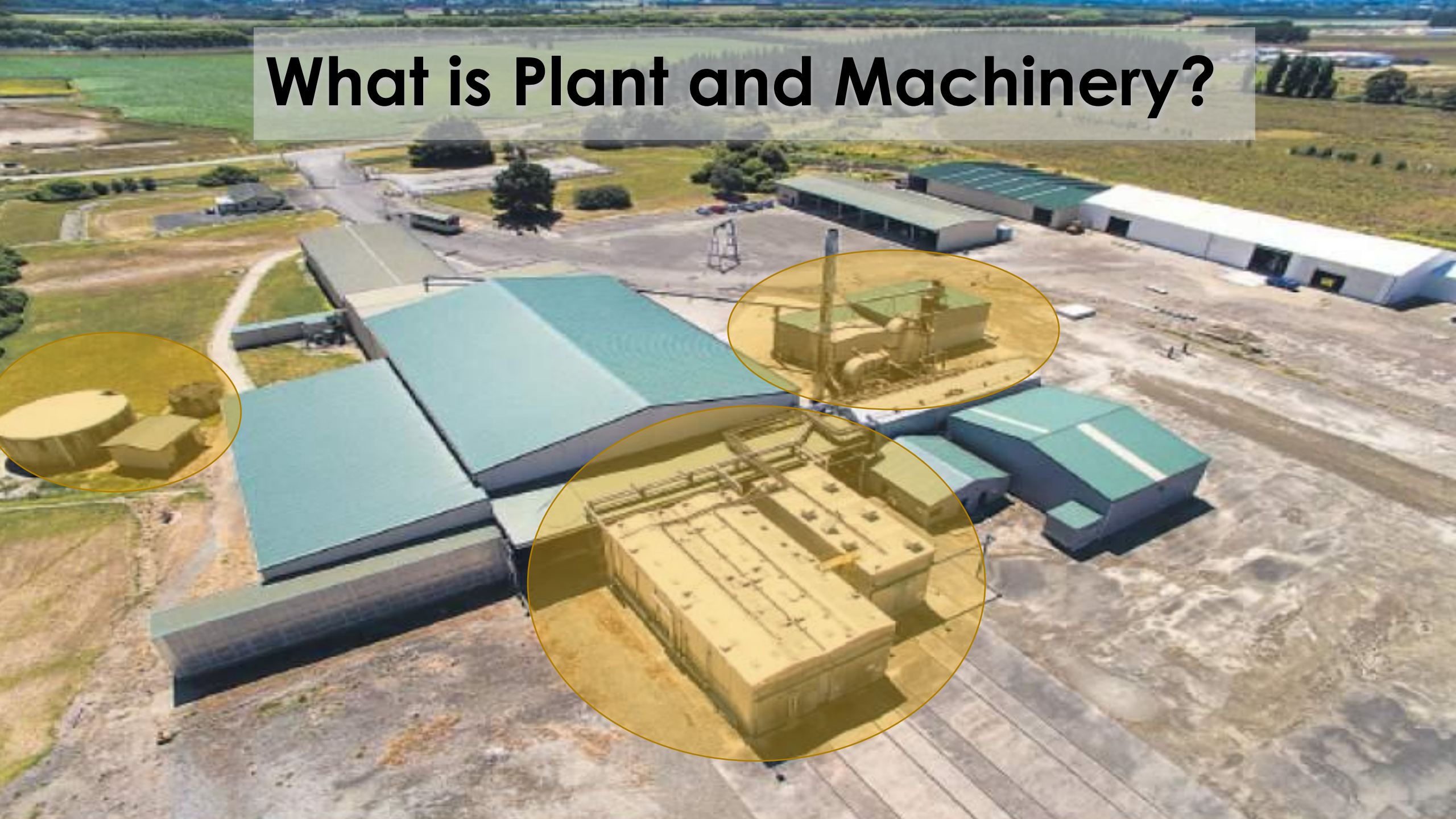
Harcourts



What is Plant and Machinery?



What is Plant and Machinery?

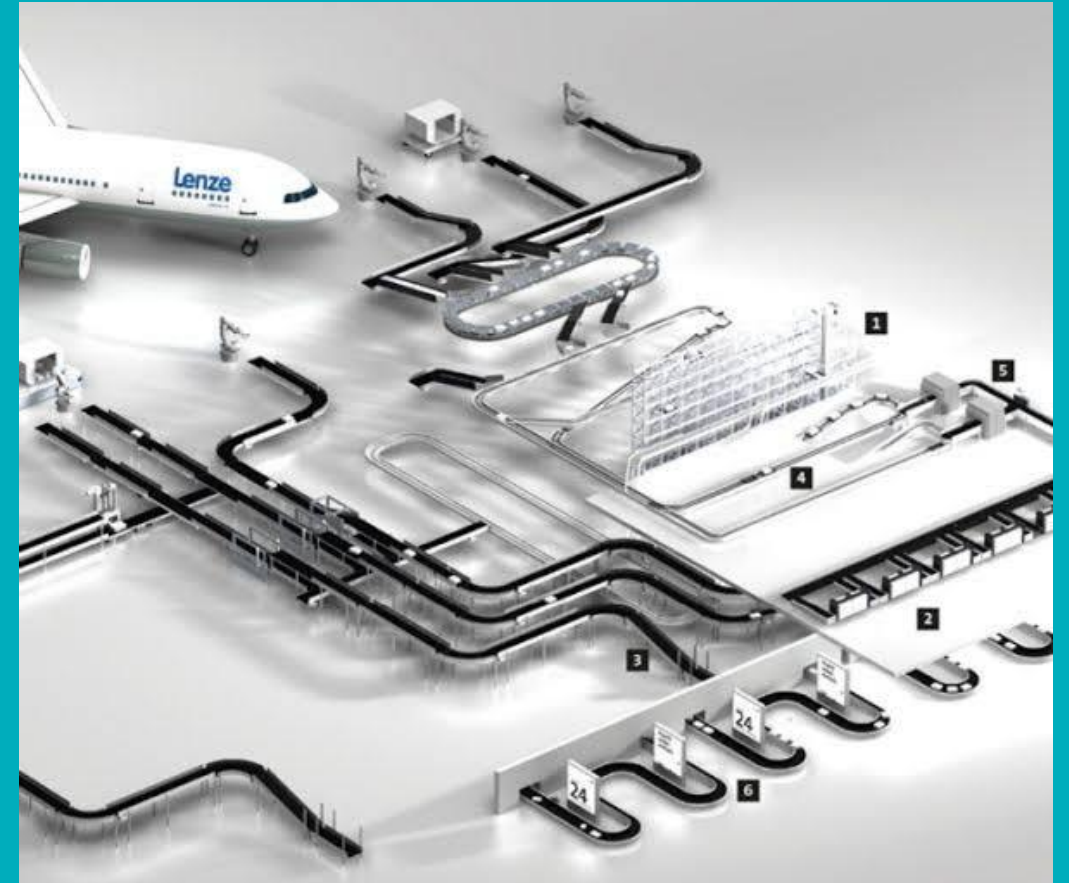


IVS300 What is plant and equipment?

IVS 20.1

- Items of plant and equipment (which may sometimes be categorised as a type of personal property) are **tangible assets** that are usually held by an entity for use in the manufacturing/production or supply of goods or services, for rental by others or for administrative purposes and that are expected to be used over a period of time.

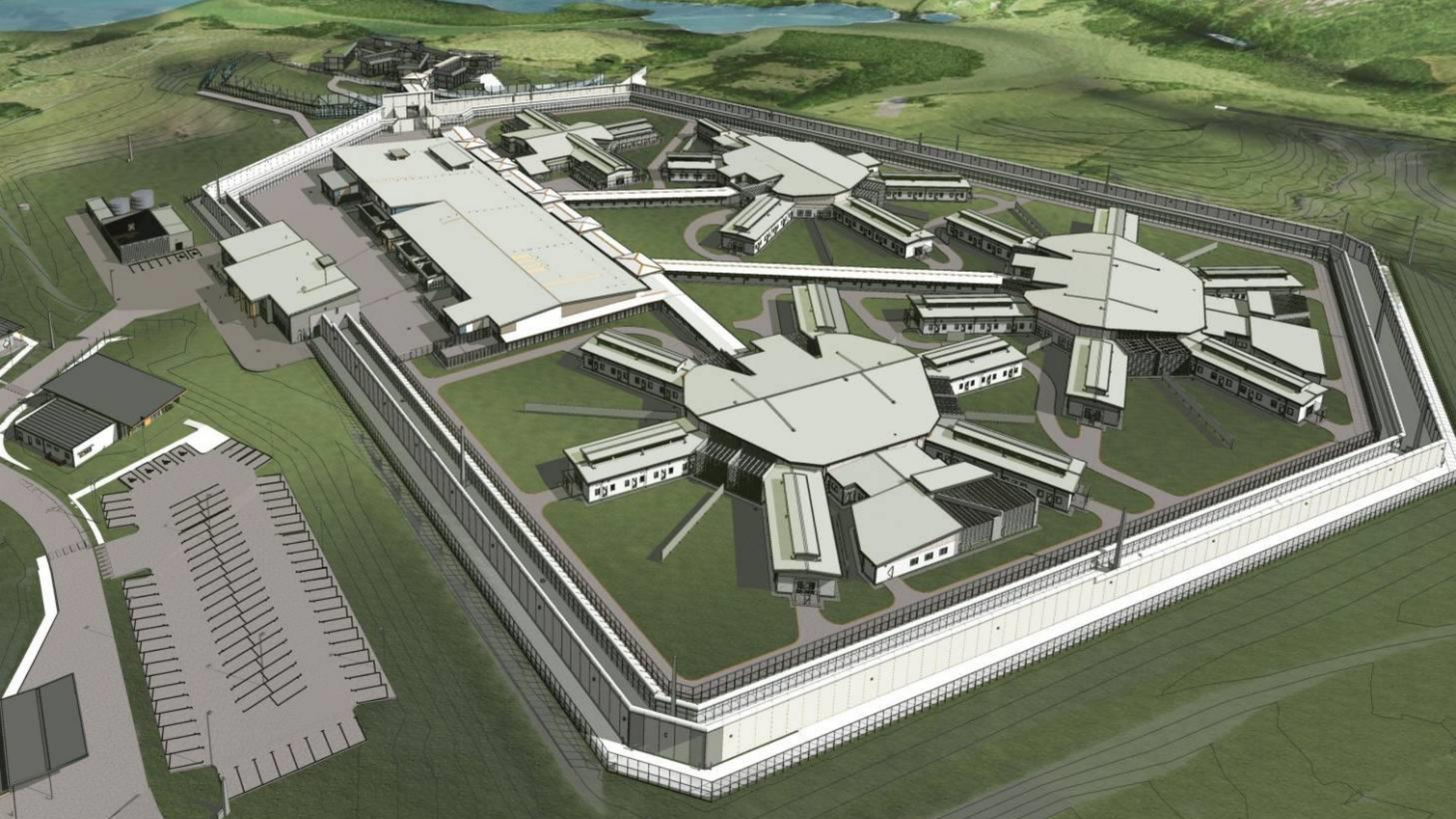
















LOCATION MAP

www.nzta.govt.nz/waterviewtunnel



International Valuation Standards (IVS)

Effective 31 January 2020



International Valuation Standards Council

IVS 300 Plant and Equipment

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10. Overview

10.1. The principles contained in the General Standards apply to valuation of plant and equipment. These standards provide specific guidance on the application of the principles of valuation to plant and equipment. The General Standards apply to valuations to which the standards apply.

20. Introduction

- 20.1. Items of plant and equipment (which *may* sometimes be categorised as a type of personal property) are tangible assets that are usually held by an entity for use in the manufacturing/production or supply of goods or services, for rental by others or for administrative *purposes* and that are expected to be used over a period of time.
- 20.2. For lease of machinery and equipment, the right to use an item of machinery and equipment (such as a right arising from a lease) would also follow the guidance of this standard. It *must* also be noted that the "right to use" an *asset* could have a different life span than the service life (that takes into consideration of both preventive and predictive maintenance) of the underlying machinery and equipment itself and, in such circumstances, the service life span *must* be stated.
- 20.3. *Assets* for which the highest and best use is "in use" as part of a group of *assets must* be valued using consistent assumptions. Unless the *assets* belonging to the sub-systems *may* reasonably be separated independently from its main system, then the sub-systems *may* be valued separately, having consistent assumptions within the sub-systems. This will also cascade down to sub-sub-systems and so on.
- 20.4. Intangible *assets* fall outside the classification of plant and equipment *assets*. However, an intangible *asset may* have an impact on the *value* of plant and equipment *assets*. For example, the *value* of patterns and dies is often inextricably linked to associated intellectual property rights. Operating software, technical data, production records and patents are further examples of intangible *assets* that can have an impact on the *value* of plant and equipment *assets*, depending on whether or not they are included in the

20.5 Considerations

- (a) Asset related**
- (b) Environment related**
- (c) Economic related**





20(a) Asset related

- Asset technical specification
- Remaining life
- Asset condition
- Obsolescence
 - Physical
 - Functional
 - Economical
- Location
- Leasing alternatives
- Effect of complementary asset i.e. attached to building/other machine
- Other costs (Contracts)

20(b) Environment related

- Location to (finite) raw material and market of product
- Impact of environmental or legislation that restricts utility
- Impact of radioactive substances or toxic waste



Oil and gas— in twilight years?



20(c) Economic-related

- Potential profitability of asset
- Demand for product manufactured
- License to operate certain machines in certain countries may be restricted
- Potential other use of asset (highest and best use)





Valuation Approaches and Methods

- Market Approach
- Income Approach
- Cost Approach

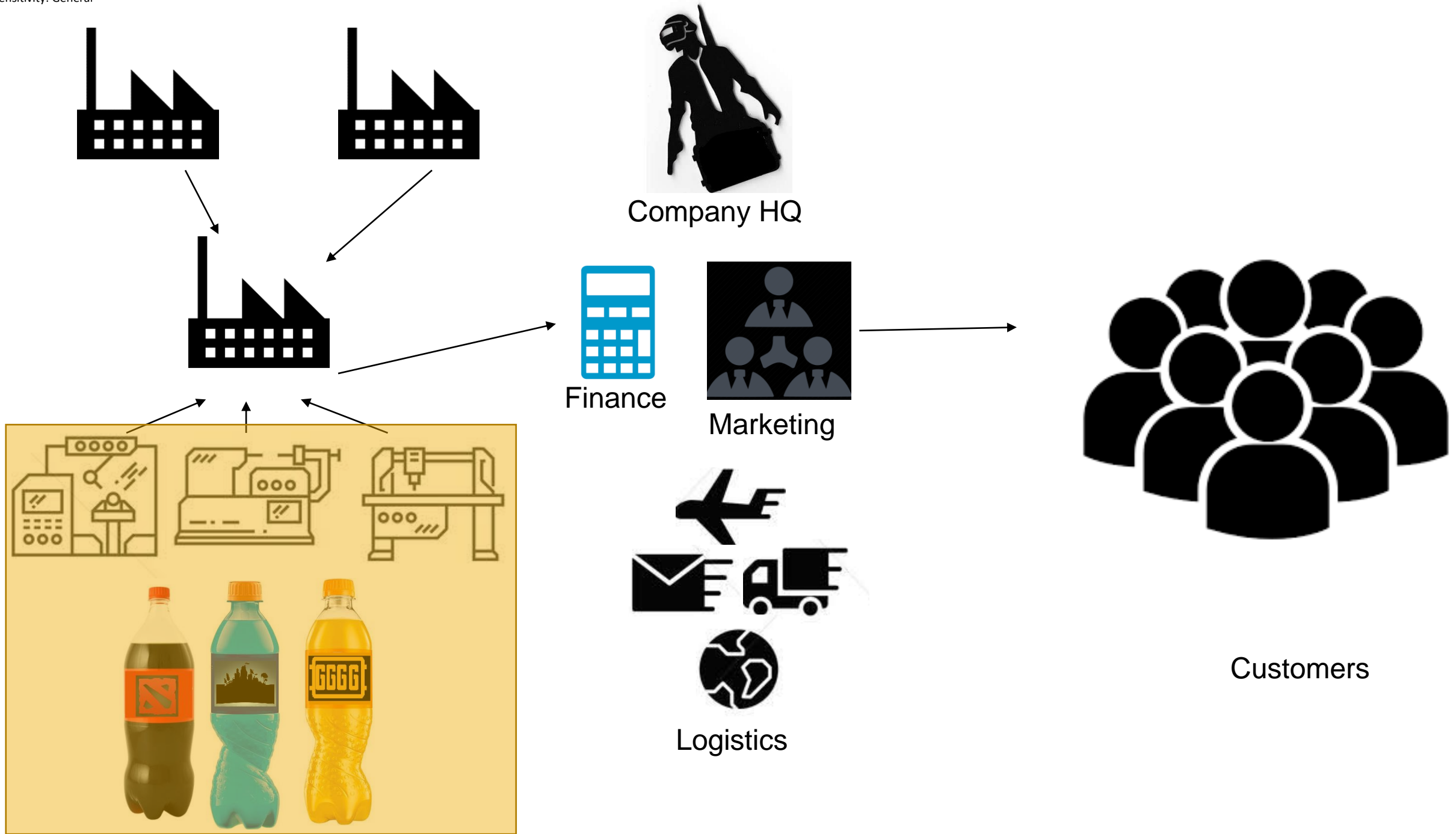


50.1 Market Approach

- For classes of plant and equipment that are homogenous, eg, motor vehicles and certain types of office equipment or industrial machinery, the market approach is commonly used as there may be sufficient data of recent sales of similar assets.

60.1 Income Approach

- The income approach to the valuation of plant and equipment can be used where specific cash flows can be identified for the asset or a group of complementary assets, eg, where a group of assets forming a process plant is operating to produce a marketable product.



70.1 Cost Approach

- The replacement cost is the cost of obtaining an alternative asset of equivalent utility; this can either be a modern equivalent providing the same functionality or the cost of reproducing an exact replica of the subject asset. After concluding on a replacement cost, the value should be adjusted to reflect the impact on value of physical, functional, technological and economic obsolescence on value.
- Seatainer Terminals Ltd v The Valuer General (N.S.W) 1974

Specialised assets

- Can be rare and not often constructed
- Consider using indexation of the commodity and currency to assess current cost
- Special consideration should be observe for sources of indices to use

Deficiencies in indices:

- Based on historical data
- Composed of a weighted sample
- Obsolete methods and components
- Human error (evidence in revisions of stats indices)
- Delay in publications (may require forecasting)

Does not consider

- Changing design criteria
- Site and weather conditions
- Regional price variations
- Contract conditions
- Excluded components

70.3 Cost-to-Capacity Method

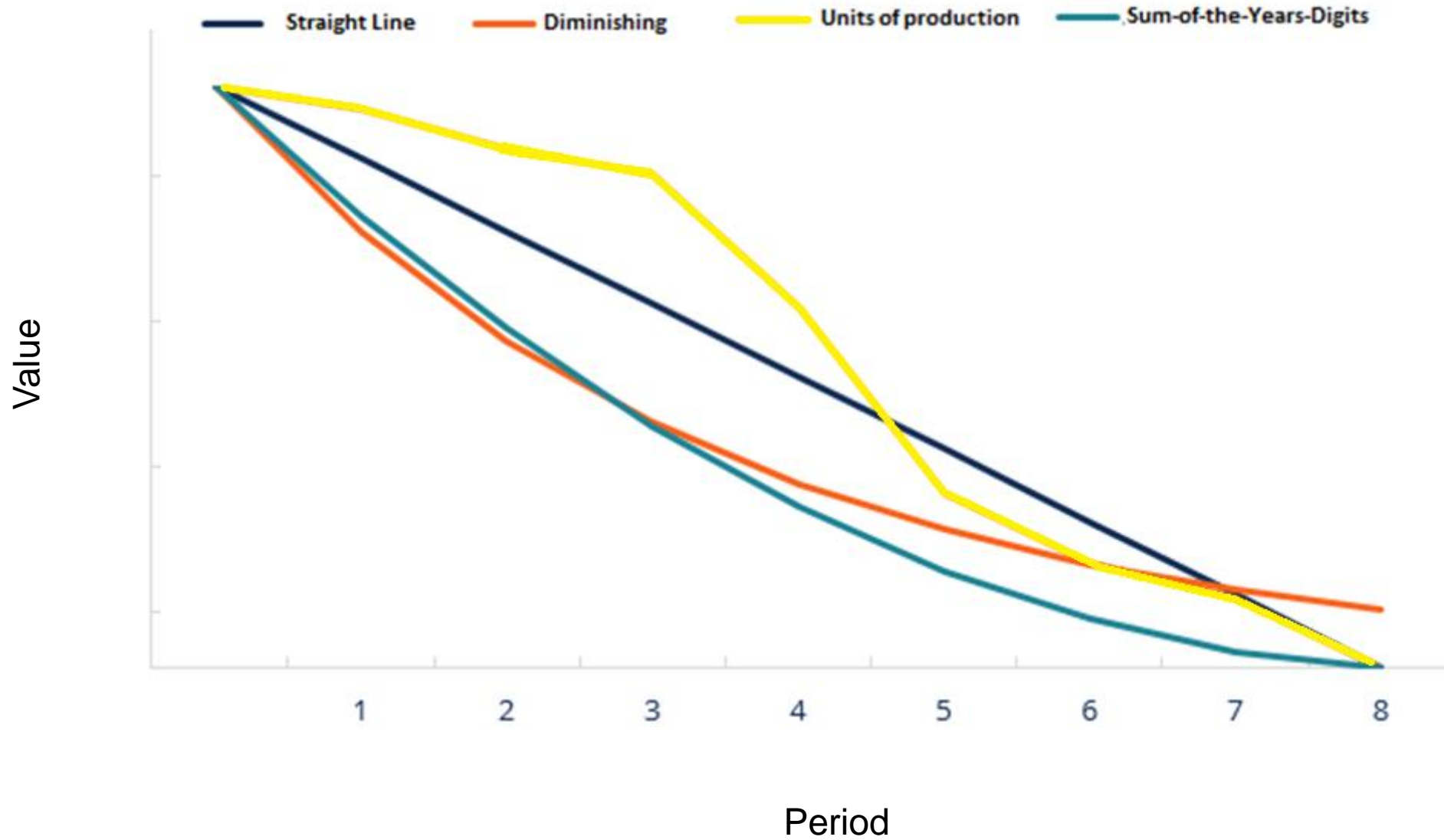
- The replacement cost of an asset with an actual or required capacity can be determined by reference to the cost of a similar asset with a different capacity.
- Not always linear correlation



80.2 Depreciation Obsolescence

- **Physical Obsolescence:** Any loss of utility due to the physical deterioration of the asset or its components resulting from its age and usage
- **Functional:** Any loss of utility resulting from inefficiencies in the subject asset compared to its replacement such as its design, specification or technology being outdated
- **External or Economic Obsolescence:** Any loss of utility caused by economic or locational factors external to the asset. This type of obsolescence can be temporary or permanent

Depreciation profiles



Orderly Liquidation vs Forced Sale

Premise of Value

- An orderly liquidation describes the value of a group of assets that could be realised in a liquidation sale, given a reasonable period of time to find a purchase (or purchasers), with the seller being compelled to sell on an as-is, where-is basis.
- The term “forced sale” is often used in circumstances where a seller is under compulsion to sell and that, as a consequence, a proper marketing period is not possible









Typical P&M valuer?



Share of the New Zealand economy

Gross domestic product, industry growth and contribution to growth, December 2020 quarter



Primary



Goods-producing

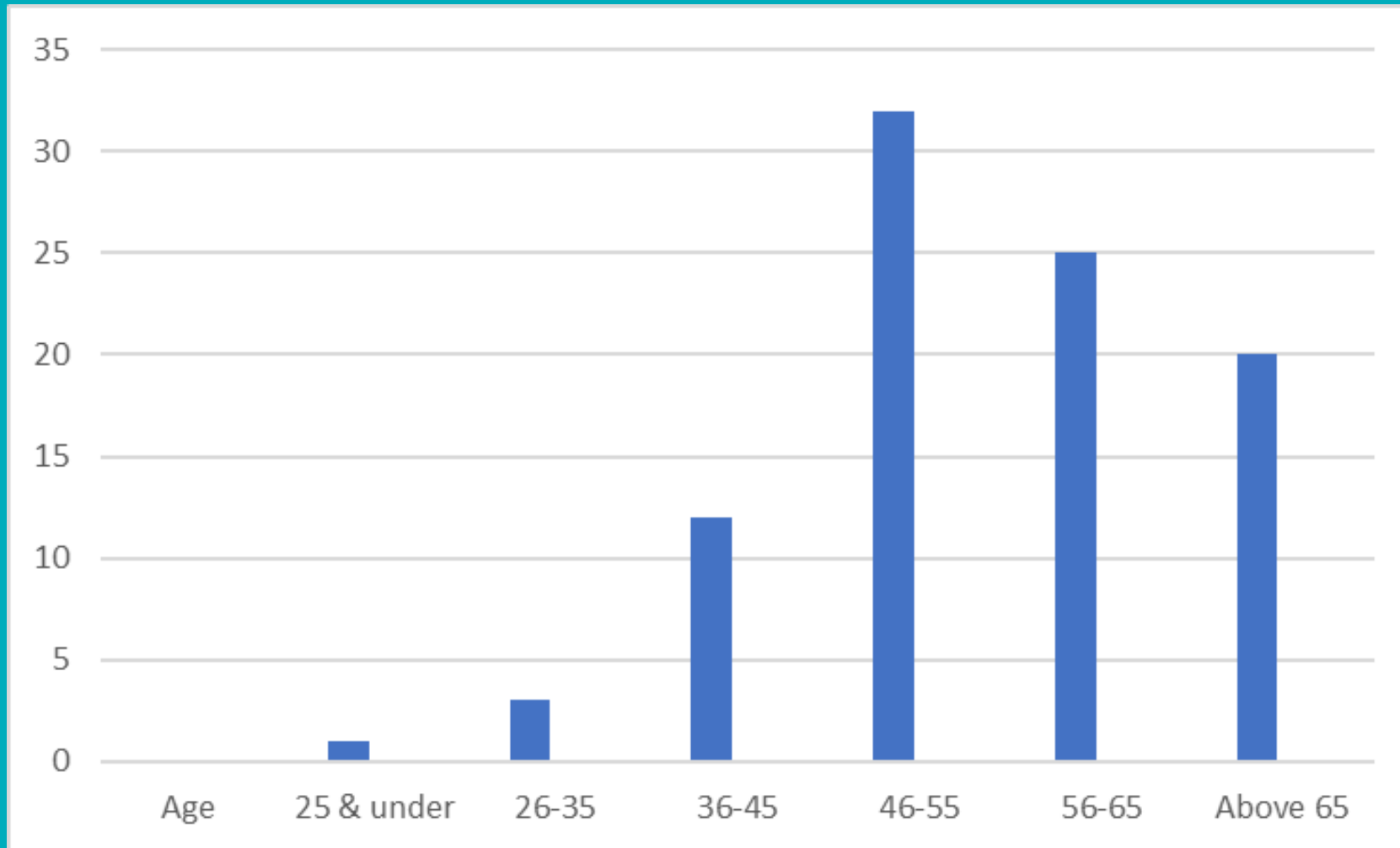


Services

Source: Stats NZ



PINZ IPM Valuers Age Distribution



AECOM

 **Turners**

**Kiwi
bank.**

WSP | OPUS



BAYLEYS



 **Beca**



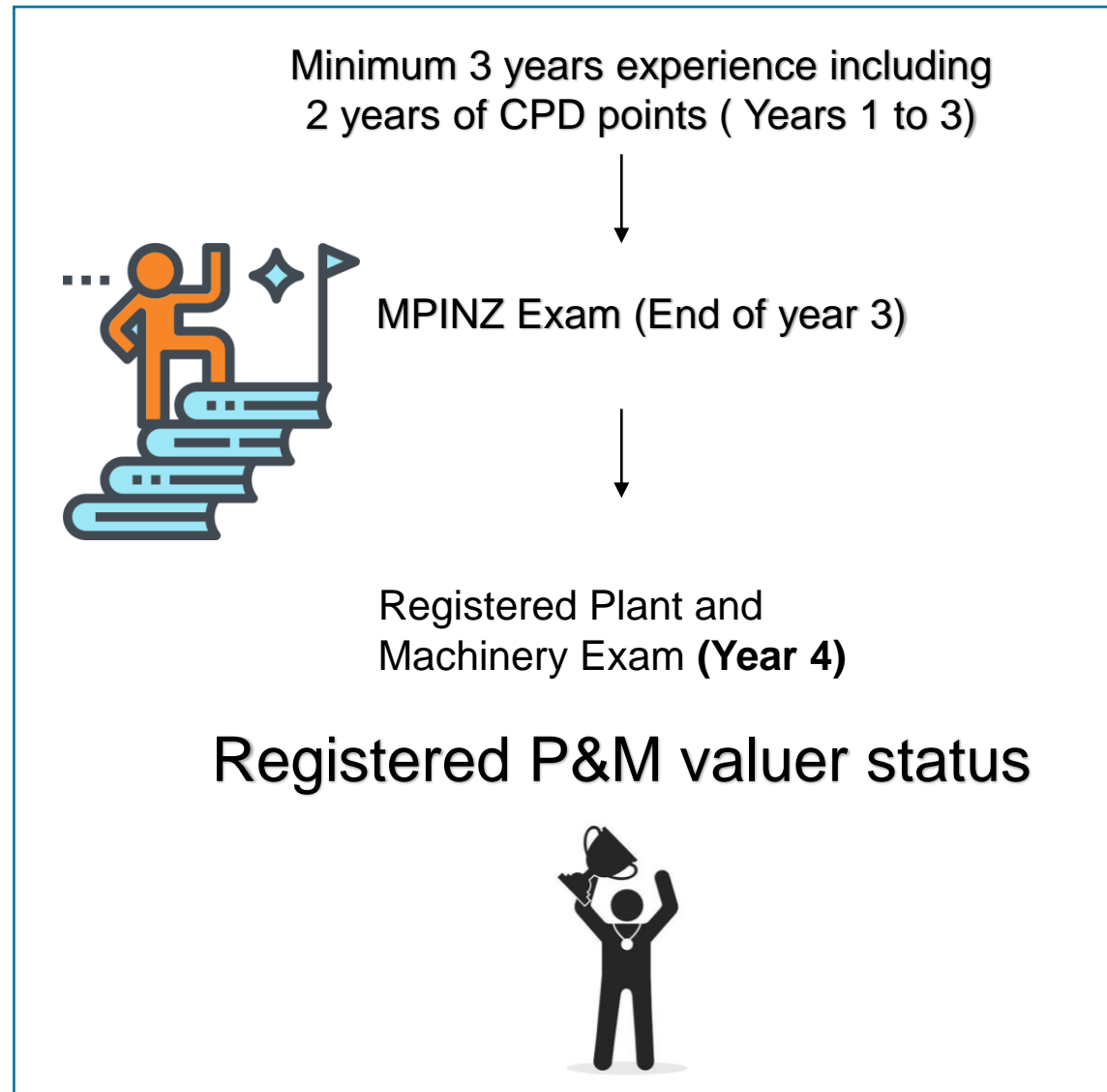
ASB

 **Westpac**



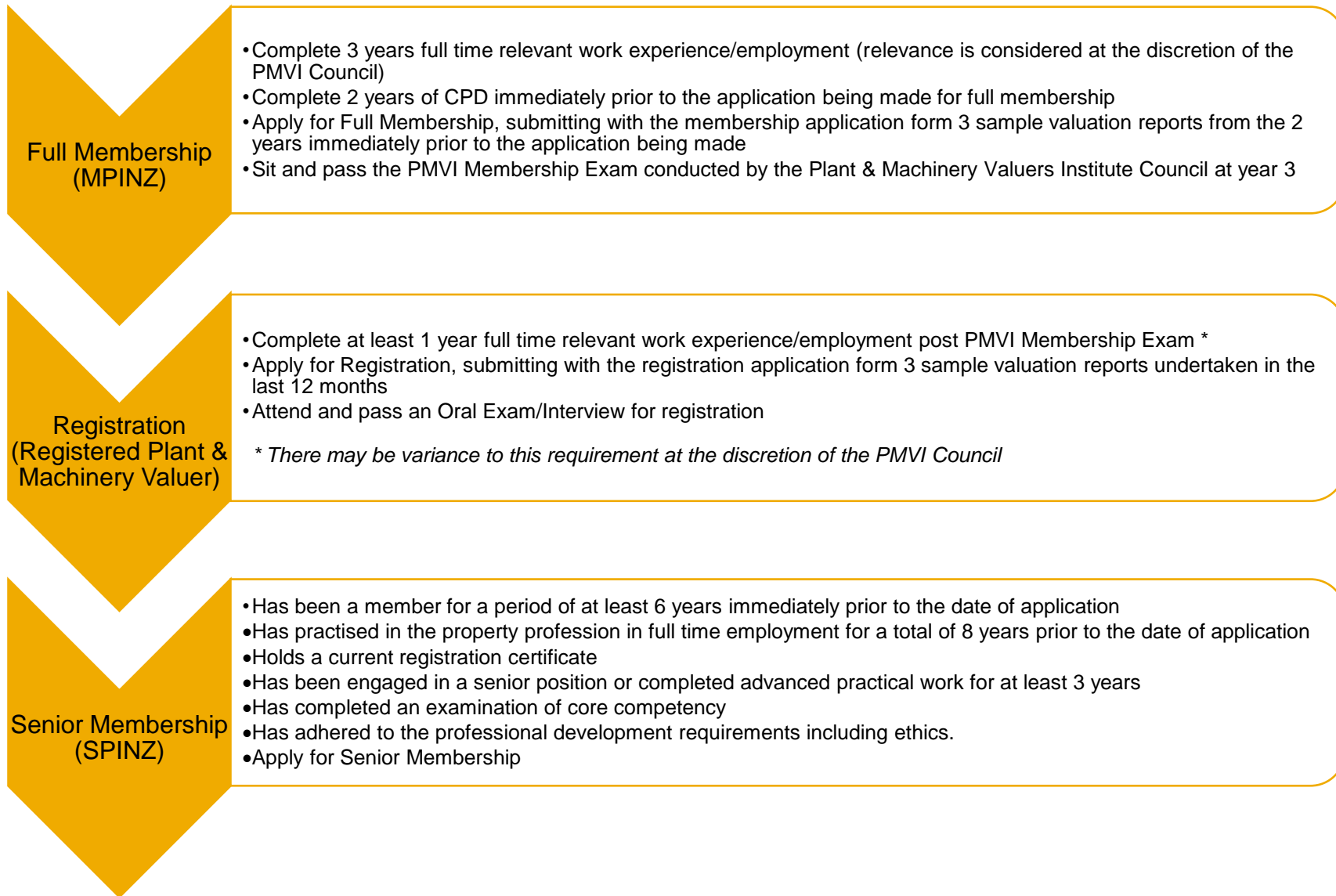
 **aurecon**

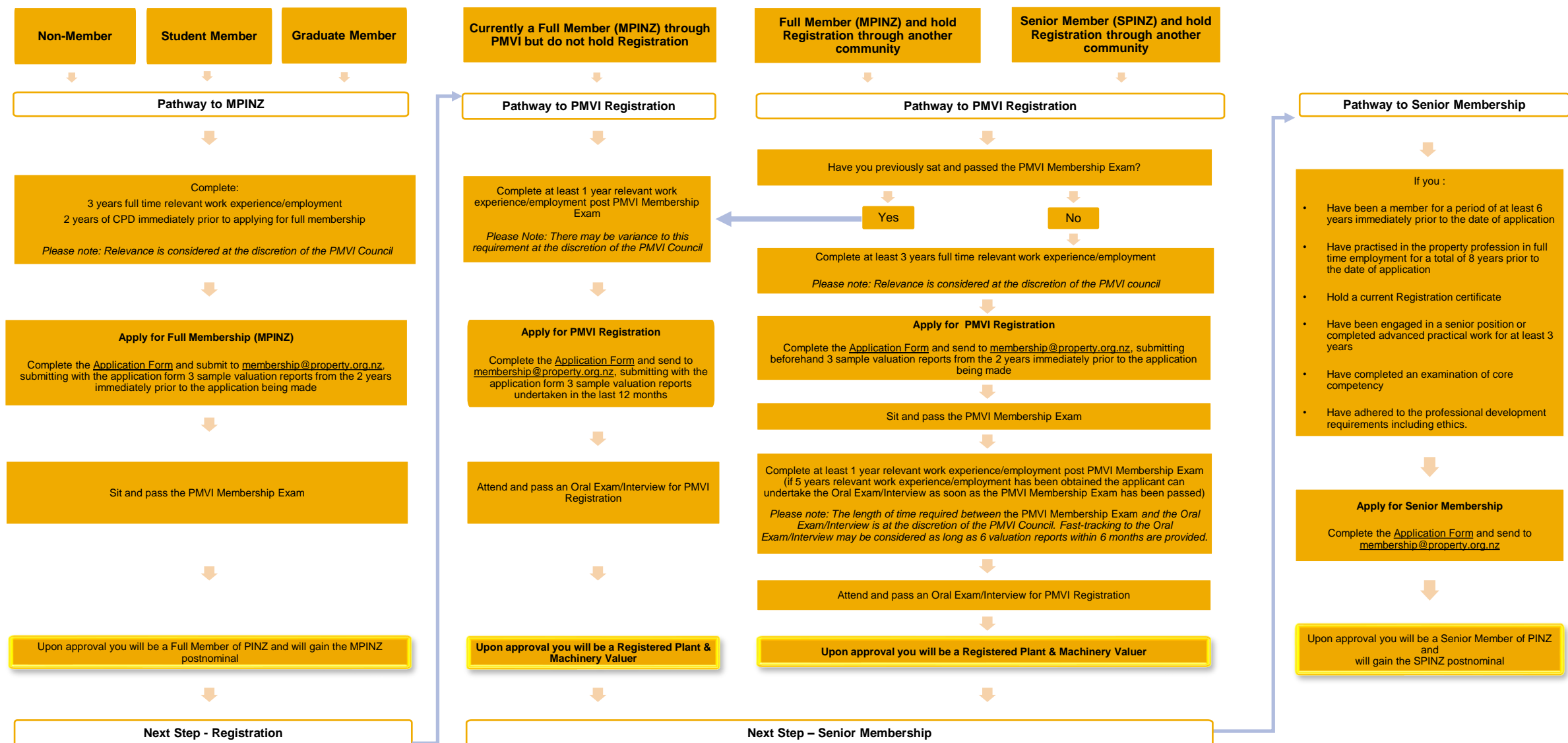
PINZ pathway to IPM Valuer Registration



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Questions?