



Presentation is mainly on  
IVS 2025, very small portion of RICS 2025  
and RVOESMA opinions

This is an endeavour to understand

# Why so early?? IVS 2025 SAYS

- *The updated IVS was published on the 31st January 2024, with an effective date of 31 January 2025 for valuations performed on or after this date. The IVSC permits early adoption from the date of publication. When undertaking valuations or valuation reviews with a retrospective or historical valuation date, the valuer should document the editions of IVS that*
  - *(a) they have relied upon, and*
  - *(b) are applicable at the valuation date.*

# Why updated IVS?

- *Address changes in global markets and global valuation, including the increased use of technology and the abundance of available data sources.*
- *Describe roles and responsibilities of specialists and service providers increasingly use by valuers in the performance of valuations.*
- *Align the IVS with the valuation processes that valuers perform to provide clarity, understandability and relevance to stakeholders, including financial institutions, investors, and regulators.*

# Why updated IVS?

- *Create standards which allow for new types of assets or liabilities and expand the application of valuations into areas such as environmental, social and governance (ESG).*
- *Provide consistent requirements across all assets and liabilities.*
- *In order to produce an IVS compliant valuation, the valuer needs to comply with the laws and regulations in their country. IVS 100 Valuation Framework para 40.04 to para 40.05 states the following in relation to this issue:*

## Are IVS consistent with the prescribed valuation laws of INDIA

- *“40.04 If legal, statutory, regulatory and/or other authoritative requirements appropriate for the purpose and jurisdiction of the valuation conflict with IVS, such requirements should be prioritised, explained, documented, and reported in order to remain compliant with IVS.*
- *40.05 If there are any legal, statutory, and regulatory or other authoritative requirements that significantly affect the nature of the procedures performed, inputs and assumptions used, and/or value(s), the valuer must also disclose the specific legislative, regulatory or other authoritative requirements and the significant ways in which they differ from the requirements of IVS (for example, identifying that the relevant jurisdiction requires the use of only a market approach in a circumstance where IVS would indicate that the income approach should be considered).*
- *40.06 Any other deviations would render the valuation not compliant with IVS.”*

# Codes, Standards and Guidelines....the nuances

- *Rules/codes are set to reduce the noise/ambiguity etc.*
- *To understand between Rules and Standard : The **Rule/code** is meant to reduce the scope of discretion for who uses this while standard grants the scope of discretion.*
- *The **Rule/code** has an very important feature that reduces the role of judgment. Rule can restrict someone from doing something or instruct to do something. Eg Speed limits etc. It is expected that the Valuers must follow the rule without deviation.*

# Codes, Standards and Guidelines....the nuances

- *The valuers have to follow the code where the code exists. Code, which is a set of rules, it is placed to reduce the noise. It is seen that where the Rules/Codes are set noise has to be reduced severely.*
- ***Standard** is different. When standards are followed, often valuers have to work to specify the meaning of open ended terms. So, often, valuers has to use the term 'reasonable', 'feasible', 'prudently'. But, The standards, if set without specifying details may lead to noise. Standard is based on underneath ethics.*

# Codes, Standards and Guidelines....the nuances

- *There is, however, a somewhat poorly defined conceptual difference between guidelines and standards, in that standards are seen as more strictly enforceable, while something called a guideline has more of the feel of advice or guidance that might be reasonably not followed in every relevant situation.*
- *The difference between these is that standards are high in authority and limited in application, whereas design guidelines are low in authority and are more general in application.*
- *Rule / Code : If there is a speed limit of 100km/hr on a highway, and if a driver drives above 100km/hr, police would catch, but, standard would say that prudently, one shouldn't drive above 100km/hr.*



# **INTERNATIONAL VALUATION STANDARDS**

## **Effective 31 January 2025**

### **IVS GENERAL STANDARD**

***IVS 100 Valuation Framework***

***IVS 101 Scope of Work***

***IVS 102 Bases of Value***

***IVS 103 Valuation Approaches***

***IVS 104 Data and Inputs***

***IVS 105 Valuation Models***

***IVS 106 Documentation and Reporting***

# INTERNATIONAL VALUATION STANDARDS Effective 31 January 2025

## Asset Standards

- *IVS 200 Businesses and Business Interests*
- *IVS 210 Intangible Assets*
- *IVS 220 Non-Financial Liabilities*
- *IVS 230 Inventory*
- *IVS 300 Plant, Equipment and Infrastructure*
- *IVS 400 Real Property Interests*
- *IVS 410 Development Property*
- **IVS 500 Financial Instruments**

# IVS 2022

- **General Standards**
- IVS 101 Scope of Work
- ~~IVS 102 *Investigations and Compliance*~~
- IVS 103 Reporting
- IVS 104 Bases of Value
- IVS 105 Valuation Approaches and Methods
- + new addition in IVS 2025

# IVS 2022

- **Asset Standards** *all are almost same*
- IVS 200 Businesses and Business Interests
- IVS 210 Intangible Assets
- IVS 220 Non-Financial Liabilities
- IVS 230 Inventory
- IVS 300 Plant and Equipment
- IVS 400 Real Property Interests
- IVS 410 Development Property
- IVS 500 Financial Instruments

# What IVS says on **Must** and **Should** in IVS2025

- *IVS has a two-tiered hierarchy showing which standards are required through the use of must and should.*
- *The IVS Glossary provides the following definitions for must and should:*
- *10.19 Must: Actions or procedures that are mandatory.*
- *10.25 Should: The valuer is expected to comply with requirements of this type unless the valuer can demonstrate that alternative actions are sufficient.*

# What IVS says on Must and should in IVS2025

- *Furthermore IVS 100 Valuation Framework section 40.01 and 40.02 states the following in relation to Compliance:*
- *40.01 In order to be IVS compliant, the valuation must meet the requirements of the General Standards, the Appendices, as well as Asset Standards, if applicable.*
- *40.02 IVS consist of mandatory requirements that must be followed in order to state that a valuation was performed in compliance with IVS.*

IVS says : General Standards that are applicable across all valuations, and Asset Standards that relate to specific valuation disciplines.

Appendices, which are part of International Valuation Standards, provide additional information for certain concepts articulated.

## An IVS-compliant valuation

- All IVS General Standards,
- Asset Standards and
- Appendices must be followed.

10. **Valuer Principles**

**Ethics**

- The *valuer* must follow the ethical principles of integrity, objectivity, impartiality, confidentiality, competence, and professionalism to provide a non-biased *valuation* and to promote and preserve the public trust.

**Competency**

- The *valuer must* have the technical skills, knowledge and experience required to appropriately complete a *valuation*.

**Compliance**

- The *valuer must* disclose or report that IVS were used for the *valuation* and that they complied with those standards in performing the *valuation*.

**Professional Scepticism**

- The *valuer must* apply an appropriate level of *professional scepticism* at every stage of the *valuation*.



## • Valuation Process Quality Control

The controls help ensure that *valuations* are performed objectively, transparently, without bias and in compliance with IVS, having regard to the *intended use, intended user, the asset and/or liability* being valued and the complexity of the *valuation*.

1. The controls *should* assess the judgements made during the *valuation* including their reasonableness and freedom from bias in determining the *value*.
2. The controls *should* be documented. The documentation *should* contain sufficient detail to allow another *valuer*, applying *professional judgement*, to understand the effectiveness of the controls.

# Valuation Process Quality Control

1. There *should* be periodic assessment of the controls to ensure that their integrity and completeness are appropriate as of the *valuation date*. The periodic assessment *should* be documented.
2. If the *valuer* is able to address *valuation risk* they may then perform monitoring procedures with respect to their own compliance and control policies and procedures.

## What RICS says in 2025

- Valuation Risk assessment and
  - Quality control
  - Both are existing in Valuation of Financial Instrument.
- 
- *An automated valuation model (AVM), can produce an IVS-compliant valuation’.*
  - *An AVM output that has not been subject to the application of professional judgement by a*
  - *valuer is also not compliant with these standards.*

## VALUATION PROCESS QUALITY CONTROL

- *The valuer must ensure that quality controls over data, assumptions, adjustments, and inputs exist throughout the valuation. This includes data, assumptions, adjustments and inputs that are internally sourced and acquired externally from service organisations and specialists.*
- ***The valuer must consider whether data, assumptions, adjustments, or inputs are significant to the valuation and the resulting value when determining the efforts to perform quality controls.***
- *The valuer should use data and inputs that are as contemporaneous as possible to the valuation date.*
- *A) In case of absence of timely data, the valuer should consider data that can be reasonably believed to approximate the data that would have been timely. For example, the valuer's judgement determines which is the best proxy of the valuation date.*

## VALUATION PROCESS QUALITY CONTROL

- *B) If data, assumptions, adjustments, or inputs are not as of the valuation date, the valuer must assess if these are suitable, as well as the need for the additional quality controls. For example, historical data may be appropriate to develop inputs for a specific financial instrument. The valuer should assess that such data is relevant for the intended use.*
- *C) For recurring valuations, the valuer must reassess data, assumptions, adjustments, or inputs as of any valuation date to determine if they continue to be suitable. There is no consistent timeframe at which data, assumptions, adjustments or inputs might not be suitable since it will depend on the data being used and the market conditions at the time of their derivation and their use in the valuation. For proxies, whether the degree of similarity remains valid should be assessed.*

## QUALITY CONTROL questionnaires may be like...

### Pre - Assignment stage---- The Checklist

1	Try to determine the conflict of interest, if any.
2	Determining the scope of work.
3	Checking of background of the client.
4	Also, assessment of risk in doing the valuation job including ability of paying valuer's fee.
5	Condition regarding the use of valuation report.
6	Check the competence to deliver the job.
7	Time limitation.
8	Capacity limitation.
9	Finding information sources
10	The general terms of an assignment
11	Issues, those may be agreed between a valuer and a client , though at the outset– those may vary from one assignment to the next.

## QUALITY CONTROL

### • TECHNICAL DUE DILIGENCE---- The Checklist

1	There shouldn't be any deficiency like estimating the remaining life of the asset.	Remaining useful life of an asset is the main point for computing Value of that particular asset.
2	Whether the site or surrounding area have any adverse effect on the technical aspects of the asset.	Checking some points for Advising HABU falls under technical due diligence
3	Whether the property is suitable for the client's intended use	Suitability of the use of the intended users- is a must consideration for the valuer
4	Understanding on Wrong doing 1	Intentional biased report generated by a valuer
5	Understanding on Wrong doing 2	Inadvertent wrong done by a valuer
6	Understanding on Wrong doing 3	Negligence by a valuer. Ignoring data or information
7	Understanding on Wrong doing 4	Without authority signing a valuation report.
8	Does the RVM know about the ambiguous area in a generated report. Or the grey area of a report.	A report must avoid unnecessary jargons. A robust format on quality assurance for report writing must be used A report should be Complete, Adequate, Reasonable, Relevant and Appropriate. Grey report, leads the clients to an uncertainty, ambiguous decision..
9	Does the RVM advise on any restrictions or problems likely to be encountered in adapting the property for the intended user.	if occupation by the client is for long time or contemplated, the Technical Due Diligence process would advise on any restrictions or problems likely to be encountered in adapting the property for the intended use.
10	Does the RVM indicate significant physical defects or any statutory non-compliance in the report, if any?	Identification of significant physical defects or any statutory non-compliance which might affect the value of the property in the market. If it is not done or a new avenue for a purchaser to extend negotiations may open regarding certain technical issues.

## QUALITY CONTROL

- VALUATION PROCESS---- The Checklist

1	Does the valuer make assumptions considering the purpose of valuation.	Purpose wise the valuation of an asset gets change. In doing valuation, it is sometimes seen that the confusion in addressing the issue. The purpose cognition, linked with the assumption or valuation process (ie adopting appropriate basis, approach/methodology ) are lacking.
2	Does the valuer visit the site ? If not, why and how a valuer overcome the problem.	Site visit is a must for the valuers of L&B and P&M. Unless a very special situation, which prevents the site visit even in that case number of steps a valuer has to take to confront the very special situation
3	Does the valuer declare on the extent of investigation	Detailed extent of investigation to be declared in the generated report.
4	Does the valuer write the definitions of Basis, Approaches and Methodologies and does the report shows the adherence of any standard ?	The Value/Values, which are used in the report must have reference from IBC or any other international standard. The approaches, methods etc. all must have reference from any International standard. However, the IVS have requirements that apply from the outset and throughout the valuation process.
5	Does the RVM understand that for using Depreciated Replacement Cost method a proper statement to be given with the report.	Depreciated Replacement Cost : The current cost of replacing an asset with its modern equivalent asset less deductions for physical deterioration. A DRC valuation is deterioration and all relevant forms of obsolescence and optimisation is used when useful /relevant comparison is NOT available. So, before adopting the DRC method (includes indexation)the valuer will need to be satisfied that there are no transactions involving similar asset in similar use or location that could provide sufficient evidence to do valuation.



# Valuation Process Quality Control

**Valuation risk :** The possibility that the *value* is not appropriate for its *intended use*.

**Risk in selling the property which has Environmental issues:** The additional risk of investing in, financing, buying and/or owning property attributable to its environmental condition.

**This risk is derived from perceived uncertainties**

- **the nature of the contamination, whether increasing**
- **estimates of future remediation costs and their time frame**
- **potential for changes in regulatory requirements**
- **liabilities for clean-up (onus of buyer, seller, third party);**
- **other environmental risk factors, as may be relevant.**
- **The physical changes for increasing environmental contamination risk for the gaps between valuation date and inspection date**

The *valuer should* conclude that the level of *valuation risk*, subject to controls in place, is appropriate given the *intended use, intended user*, the characteristics of the *asset* or *liability* being valued and the complexity of the *valuation*.

## QUALITY CONTROL to mitigate valuation risk

The use of *data*, assumptions, adjustments and *inputs* inherently presents *valuation risk*.

- *Valuation risk* may arise due to:
  - the use of inappropriate *data*, assumption, adjustments or *inputs*, or
  - the misapplication of *data*, assumptions, and adjustments or *inputs*.
- There are two types of *valuation risk* for *data*, assumptions, adjustments and *inputs*.
  1. Those that are transparent and operational
  2. those that are generally related to assumptions made by the *valuer*.

In developing *inputs*, any *significant valuation risk* should be mitigated by quality control.

- The possibility that the *value* is not appropriate for its *intended use*.

## Use of a Specialist or Service Organisation (The valuer is sceptic)

If the *valuer* does not possess the necessary technical skills, experience, *data* or knowledge to perform all aspects of a *valuation*, it is acceptable for the *valuer* to seek assistance from a *specialist* or *service organisation*, providing this is agreed and disclosed.

Prior to using a *specialist* or *service organisation* the *valuer* must assess and document the knowledge, skill and ability of the *specialist* or *service organisation*.

Relevant factors include but are not limited to: The specialist must have experience in the type of work performed.

# Specialist

They may have a) professional certification, licence, or professional accreditation of the *specialist* or *service organisation* in the relevant field, b) reputation and standing of the *specialist* or *service organisation* in the particular field.

When a *specialist* or *service organisation* is used, the *valuer* must obtain an understanding of the process and findings to establish a reasonable basis to rely on their work based on the *valuer's professional judgment*.

## IVS 100 Valuation Framework

- Compliance

In order to be IVS compliant, the *valuation must* meet the requirements of the General Standards, the Appendices, as well as Asset Standards, if applicable.

1. IVS consist of mandatory requirements that *must be* followed in order to state that a *valuation* was performed in compliance with IVS.
2. Certain aspects of IVS do not direct or mandate any specific action but provide *fundamental principles and concepts* that *should* be considered in undertaking a *valuation*. If legal, statutory, regulatory and/or other authoritative requirements appropriate for the purpose and *jurisdiction* of the *valuation* conflict with IVS, such requirements *should* be prioritised, explained, documented, and reported in order to remain compliant with IVS... [Departure in 2020](#).

This section requires the *client* and *valuer* to agree the scope of work for a *valuation* or *valuation review* which is suitable for an intended user.

**This covers both Valuation and Valuation review.**

**The scope of work mustn't be over restrictive to be IVS compliant**

*asset(s)* and/or *liability* must be clearly identified.

*The clients*; the person, persons, or entity who appoints the *valuer* for a given *valuation*.

Responsibility of the client :The *client* is responsible for the accuracy and completeness of that information... IVS 2025

## IVS 101 Scope of Work

*intended use* (if any): the reason for which a *valuation* is developed.

*intended user* (if any); any party, as identified, by the *client* in the scope of work as a user of the *valuation*.

the *valuer*: The *valuer* may be an individual, group of individuals, or an individual within an entity, regardless of whether employed (internal) or engaged (contracted/external), possessing the necessary qualifications, ability and experience to execute a *valuation* in an objective, unbiased, ethical and competent manner. The *valuer must* disclose any potential conflict of interest or bias.

## IVS 101 Scope of Work

- *valuation* currency: The currency for the *valuation* and the final valuation report or conclusion *must* be established.
- *valuation date*: The *valuation date must* be stated. If the *valuation date* is different from the date on which the *valuation* is reported, then that date *should* also be stated. *This is very important for valuation under IBC*
- *basis/bases of value* used: As required by IVS 102 *Bases of Value*, the *valuation must* be appropriate for the *intended use*. The source of the definition of any *basis of value* used *must* be cited or the basis explained.
- the nature and extent of the *valuer's* work and any limitations thereon: Any limitations or restrictions on the inspection, enquiry and/or analysis in the *value must* be identified.



## IVS 101 Scope of Work

- the nature and sources of information upon which the *valuer* relies: The nature and source of *significant* information upon which the *valuer* relies and *significant* verification or controls to ensure the accuracy of that information.
- special assumptions: any agreed **special assumptions** that are known prior to the *valuation should* be recorded in the **scope of work**.
- *specialist*: the use and role of a *specialist*. *Already discussed*

## IVS 101 Scope of Work

- *Environmental, Social and Governance factors: Any requirements in relation to the consideration of significant environmental, social and governance factors.*
- In 2004 report from the United Nation – titled **Who Cares Wins\*** – carried what is widely considered the first mainstream mention of **ESG**. In the modern context this report inclined in encouraging all business stakeholders to embrace ESG in long-term. This inclination meant heavily in long term
- **The Security and Exchange Board of India** has made **ESG** reporting mandatory for the top 1000 listed Companies from 2022-23. SEBI also has Business Responsibility and Sustainability Report (BRSR\*).

# ENVIRONMENT SOCIAL AND GOVERNANCE

Together Establish A Framework



## Environment

ESG adoption for better growth of business and sustainability. ESG, including ethical environment is essential for rational use of resources and sustainable business operations. Companies can consume less energy and water and produce less waste by adopting ESG. These types of cuttings in operation can lead to less carbon emissions and finally less harm to the environment.

Using renewable energy or more efficient systems, saving money through cost cutting and meeting goals are the main focus of ESG considerations.



## Social

At present the business houses, who displaying a clear commitment to ESG conduct consistently outperform business houses those do not display ethical conduct.

Attracting talented people to join organizations and the business houses who are looking at ESG properly, has ethical values can retain the talented people if they are taking care of its employees being equally dedicated in taking care of the organization.



## Governance

- Good governance
- Transparency
- Accountability
- Control
- Governance



ENVIRONMENT SOCIAL GOVERNANCE

## IVS 101 Scope of Work

- 1) Standard: IVS says : A10.06: ESG Factors and ESG regulatory environment should be considered in valuation to the extent that they are measurable and would be considered reasonable by the valuer applying professional judgement
- 2) Implementation of ESG has the advantages and have good effect in the valuation.

## IVS 101 Scope of Work

A clear description of how the *valuation* results will be reported or a sample of the deliverable that will be supplied to the *client*.

Restrictions on use, distribution and publication of the report: where it is necessary or desirable to restrict the use of the *valuation* or those relying on it, the *intended users* and restrictions *must* be clearly communicated.

IVS compliance: a statement that the *valuation* will be prepared in compliance with IVS *must* be disclosed in the scope of work and that the *valuer* will assess the appropriateness of all *significant inputs*. If, during the course of a *valuation*, it becomes clear to the *valuer* that the scope of work will not result in an IVS-compliant *valuation*, this *must* be communicated to the *client* in writing.

## IVS 101 Scope of Work

- The scope of work *must* be established and agreed between the *client* and the *valuer* in writing prior to the completion of the *valuation* report. Any changes to the scope of work prior to the completion of the *valuation must* be communicated and agreed upon in writing.
  - If, during the course of a valuation engagement, it becomes clear that the scope of work will not result in an IVS-compliant *value*, the *valuation* will not comply with IVS.
- 
- Valuation Process Review and Value Review Requirements are also there in IVS 101

## IVS 102 Bases of Value (IVS 104 of 2017 to 2022)

This section requires the *valuer* to select the appropriate *basis* (or *bases*) of *value* and follow all applicable requirements associated with that *basis* (or *bases*) of *value*, whether those requirements are included as part of this standard (for IVS-defined *bases of value*) or not (for non-IVS-defined *bases of value*).

A **premise of value** or assumed use describes the circumstances of how an *asset* and/or *liability* is used.

- (a) highest and best use,
- (b) current use/existing use,
- (c) orderly liquidation, and
- (d) forced sale.

## IVS 102 Bases of Value (In IVS 2017 to 2022)

Most *bases of value* reflect assumptions that may include but not be limited to one or more of the following characteristics, such as;

hypothetical buyer or seller,  
known or specific parties,  
members of an identified/described group or  
potential parties,  
whether the parties are subject to particular  
conditions or motivations at the assumed date  
(eg, duress), and/or  
an assumed knowledge level.



## IVS 102 Bases of Value

IVS-defined *bases of value* are (the definitions and details are given in the appendix);

- (a) *Market value*
- (b) *Market rent*
- (c) *Equitable value*
- (d) *Investment value/worth*
- (e) *Synergistic value, and*
- (f) *Liquidation value*

## IVS 102 Bases of Value

### Entity-Specific Factors... (additional factors to be considered)

- (a) additional *value* or reduction in *value* derived from the creation of a portfolio of similar *asset(s)*,
- (b) unique synergies between the *asset(s)* and other *asset(s)* owned by the entity,
- (c) legal rights or restrictions applicable only to the entity,
- (d) tax benefits or tax burdens unique to the entity, and
- (e) an ability to exploit an *asset* that is unique to that entity.

### Synergies

1. Synergies refer to the benefits associated with combining *assets* and/or *liabilities*. When synergies are present, the value of a group of *assets* and/or *liabilities* is greater than the sum-of-the-values of the individual *assets* and *liabilities* on a stand-alone basis. Synergies typically relate to a reduction in *costs*, and/or increase in revenue, and/or a reduction in risk.

# IVS 102 Bases of Value

## Assumptions

In addition to stating the *basis of value*, it is often necessary to make one or multiple assumptions to clarify either:

- the state of the *asset* in the hypothetical exchange, or
  - the circumstances under which the *asset* and/or *liability* is assumed to be exchanged.
- Such assumptions can have a *significant* impact on *value*.

## IVS 102 Bases of Value

- Also
  - (a) an assumption that an *asset* and/or *liability* employed in a business is transferred as a complete operational entity,
  - (b) an assumption that an *asset* and/or *liability* employed in a business are transferred without the business, either individually or as a group,
  - (c) an assumption that an individually valued *asset* and/or *liability* is transferred together with other complementary *asset(s)* and/or *liability(ies)*, and
  - (d) an assumption that a holding of shares is transferred either as a block or individually.
- All *significant* assumptions *must* be reasonable under the circumstances, be supported by evidence and be relevant having regard to the *intended use* for which the *valuation* is required in order to provide an IVS-compliant *valuation*.

- **Special Assumptions**

- Special assumptions are often used to illustrate the effect of possible changes on the *value* of an *asset*.
  - (a) an assumption that a property is freehold with vacant possession,
  - (b) an assumption that a proposed building had actually been completed on the *valuation date*,
  - (c) an assumption that a specific contract was in existence on the *valuation date* which had not actually been completed, and
  - (d) an assumption that a financial instrument is valued using a yield curve that is different from that which would be used by a participant.

## IVS 102 Bases of Value

- **Allocation of Value**
- Allocation of *value* is the separate apportionment of *value* of an *asset* on an individual or component basis.
  - (a) follow any applicable legal or regulatory requirements,
  - (b) set out a clear description of the *intended use* of the allocation,
  - (c) consider the facts and circumstances, such as the relevant characteristic(s) of the item(s) being apportioned,
  - (d) adopt appropriate methodology(ies) in the circumstances.

## IVS 102 Bases of Value: Appendix

- *IVS-Defined Basis of Value*
- **Market Value definition**
- *Salient points of Market Value*
- The concept of *market value* presumes a *price* negotiated in an open and competitive market where the participants are acting freely.
- The *market value* of an *asset* will reflect its **highest and best use**
- The nature and source of the *valuation inputs must* be consistent with the *basis of value*, which in turn *must* have regard to the *valuation intended use*.
- The *data* available and the circumstances relating to the market for the *asset* being valued *must* determine which *valuation method or methods* are most relevant and appropriate.



## IVS 102 Bases of Value: Appendix

- *IVS-Defined Basis of Value*

- **Market Rent**
- **Equitable Value**
- **Investment Value/Worth**
- **Synergistic Value**
- **Liquidation Value**

an orderly transaction with a typical marketing period, or  
a forced transaction with a shortened market period.

### **Fair Value (International Financial Reporting Standards) (IFRS)**

- **No other definitions are given like** Other Basis of Value – Fair Market Value
- (Organisation for Economic Co-operation and Development (OECD))
- Other Basis of Value – Fair Market Value
- (United States Internal Revenue Service)
- Other Basis of Value – Fair Value (Legal/Statutory) in different jurisdictions

## IVS 103 Valuation Approaches

market approach,  
income approach, and  
cost approach.

### **IVS 103 Valuation Approaches: Appendix**

**Not going deep**

**Market Approach Methods**

**Income Approach Methods**

**Cost Approach Methods**

## IVS 103 Valuation Approaches and Appendix

- identify the units of comparison that are used by participants in the relevant market,
- identify the relevant comparable transactions
- perform a consistent comparative analysis of qualitative and quantitative similarities and differences between the comparable *assets* and the subject *asset*
- make necessary adjustments, if any, to the valuation metrics to reflect differences between the subject *asset* and the comparable *assets*,
- apply the adjusted valuation metrics to the subject *asset*, and
- if multiple valuation metrics were used, reconcile the indications of *value*.

## IVS 103 Valuation Approaches and Appendix

- The *valuer should* choose comparable transactions within the following context:..... *There are 7 points in IVS 2025*
- The *valuer should* analyse and make adjustments for any *significant* differences between the comparable transactions and the subject *asset*.
  - material characteristics (age, size, specifications, etc),
  - size adjustments,
  - size of the stake (partial or majority),
  - relevant restrictions on either the subject *asset* or the comparable *assets*,
  - geographical location (location of the *asset* and/or location of where the *asset* is likely to be transacted/used) and the related economic and regulatory environments,

## IVS 103 Valuation Approaches and Appendix

The *valuer should* analyse and make adjustments for any *significant* differences between the comparable transactions and the subject *asset*.

- profitability or profit-making capability of the *assets*,
- historical and expected growth,
- yields rates,
- types of collateral,
- unusual terms in the comparable transactions,
- differences related to marketability and control characteristics of the comparable and the subject *asset*,
- differences in *ESG* considerations, and
- ownership characteristics (eg, legal form of ownership, amount percentage held).

## IVS 103 Valuation Approaches and Appendix

- **Guideline publicly-traded comparable method given in IVS**
  - (a) the valuation metrics/comparable evidence is available as of the *valuation date*,
  - (b) detailed information on the comparable is readily available in public filings,
  - (c) the information contained in public filings is prepared in accordance with accounting, regulatory and legal standards.

## IVS 103 Valuation Approaches and Appendix

- Discounted Cash Flow (DCF) Method
  - (a) choose the most appropriate type of cash flow for the nature of the subject *asset* and the *valuation* (ie, pre-tax or post-tax, total cash flows or cash flows to equity, real or nominal, etc),
  - (b) determine the most appropriate explicit period, if any, over which the cash flow will be forecast,
  - (c) prepare cash flow forecasts for that period,
  - (d) determine whether a terminal value is appropriate for the subject *asset* at the end of the explicit forecast period (if any) and then determine the appropriate terminal value for the nature of the *asset*,
  - (e) determine the appropriate *discount rate*, and
  - (f) apply the *discount rate* to the forecasted future cash flow, including the terminal value, if any.



## IVS 103 Valuation Approaches and Appendix

- **Explicit Forecast Period should be considered by a valuer**
  - the life of the *asset*,
  - a reasonable period for which reliable *data* is available on which to base the projections,
  - the minimum explicit forecast period which *should* be sufficient for an *asset* to achieve a established level of growth and profits, after which a terminal value can be used,
  - in the *valuation* of cyclical assets, the explicit forecast period *should* generally include an entire cycle, when possible, and
  - for finite-lived *assets* such as most financial instruments, the cash flows will typically be forecast over the full life of the *asset*.
- **Terminal Value should be considered by a valuer prudently.**

## IVS 103 Valuation Approaches and Appendix

- IVS is suggesting that *The valuer* may apply any reasonable method for calculating a terminal value.
  - market approach/exit value (appropriate for both deteriorating/finite-lived *assets* and indefinite-lived *assets*).
  - salvage value/disposal cost (appropriate only for deteriorating/finite-lived *assets*).
- **Gordon growth** model/constant growth model.
- a formula used to determine the intrinsic value of a stock based on a future series of dividends that grow at a constant rate.
- IVS is also suggesting on *Salvage Value/Disposal Cost, Discount Rate, Historic operating and financial performance of asset, Comparable asset, Industrial performance, Risk associated with ESG... etc....*

- **Cost Approach Methods**

- replacement cost method: a method that indicates *value* by calculating the *cost* of a similar *asset* offering equivalent utility,
- reproduction cost method: a method under the *cost* that indicates *value* by calculating the *cost* to recreating a replica of an *asset*.
- summation method: a method that calculates the *value* of an *asset* by the addition of the separate *values* of its component parts.

## IVS 103 Valuation Approaches and Appendix

- *Depreciation/Obsolescence. (understanding)*

### physical obsolescence

- The physical life is how long the *asset* could be used before it would be worn out or beyond economic repair, assuming routine maintenance but disregarding any potential for refurbishment or reconstruction,
- The economic life is how long it is anticipated that the *asset* could generate financial returns or provide a non-financial benefit in its current use.
- Incurable physical obsolescence

### functional obsolescence

- excess capital cost, which can be caused by changes in design, materials of construction, technology or manufacturing techniques resulting in the availability of modern equivalent *assets* with lower capital costs than the subject *asset*, and
- excess operating cost, which can be caused by improvements in design or excess capacity resulting in the availability of modern equivalent *assets* with lower operating costs than the subject *asset*.

## IVS 103 Valuation Approaches and Appendix

- **Economic obsolescence**
  - adverse changes to demand for the products or services produced by the *asset*,
  - oversupply in the market for the *asset*,
  - a disruption or loss of a supply of labour or raw material,
  - the *asset* being used by a business that cannot afford to pay a market rent for the *assets* and still generate a market rate of return, and
  - adverse changes in the *environmental, social and governance* characteristics of the subject *asset*.
- A30.15 says In the context of the **cost approach**, “**depreciation**” refers to adjustments made to the estimated *cost* of creating an *asset* of equal utility to reflect the impact on *value* of **any obsolescence affecting the subject asset**. **This meaning is different** from the use of the **word in financial reporting or tax law** where it generally refers to a method for systematically expensing capital expenditure over time.

## IVS 104 Data and Inputs

- **IVS 104 *Data and Inputs*** deals with the selection and use of *data* to be used as *inputs* in the *valuation*. The aim of the *valuation* is to maximise the use of relevant and *observable data* to the degree that it is possible.

### Introduction

***Data and inputs*** are used in developing *values* for all types of *assets* and *liabilities*.

***Data and inputs*** should be based on factual information (such as measurements or published *prices*), but often include reasoning and analysis in order to arrive at an *input* to be used in the *valuation*.

The *valuation* should maximise the use of ***observable data***.

***Observable data*** is defined as information that is readily available to market participants about actual events or transactions that are used in determining the *value* for the *asset* or *liability*.

### A valuer must be intelligent and sceptic

The *valuer* is responsible for assessing and selecting the *data*, assumptions and adjustments to be used as *inputs* in the *valuation* based upon *professional judgement* and *professional scepticism*.

## IVS 104 Data and Inputs

### • Use of a Specialist

- If the *valuer* does not possess all of the necessary *data* to perform all aspects of the *valuation*, it is acceptable for the *valuer* to engage a *specialist*.
- **Pre – assignment** Prior to using a *specialist* or *service organisation*, the *valuer* must ensure their capabilities meet the requirements of the *intended use* and *must* document their capabilities.
- The *valuer* must apply **professional judgement to choose the inputs** used in the *valuation*. The characteristics of relevant *data* are:
  - **accurate**: *data* are free from error and bias and reflect the characteristics that they are designed to measure.
  - **complete**: set of *data* are sufficient to address attributes of the *assets* or *liabilities*,
  - **timely**: *data* reflect the market conditions as of the *valuation date*
  - **transparent**: the source of the data can be traced from their origin.

## IVS 104 Data and Inputs

- **Input Selection**
- *Inputs must be selected from relevant data in the context of the asset or liability being valued, the scope of work, the valuation method, and the valuation model.*
- *Inputs must be sufficient for the valuation models using professional judgement.*
- *When valuing portfolios or groups of similar assets or liabilities, inputs should be selected appropriately across those portfolios or groups of assets.*
- *If significant inputs are inadequate or cannot be sufficiently justified, the valuation would not comply with IVS.*



- **Data and Input Documentation**
- The source, selection and use of *significant data* and *inputs* *must* be explained, justified, and documented.
- Documentation *must* be sufficient to enable the *valuer* applying *professional judgement* to understand why specific *data* was determined to be relevant and *inputs* were selected and were considered reasonable.
- The form and location of documentation may vary based on the scope of work.

## IVS 104 Data and Inputs: Appendix

- Environmental, Social and Governance (ESG) Considerations
- The impact of *significant ESG factors should* be considered in determining the *value* of a company, *asset* or *liability*.
- **On Environment**
  - (a) air and water pollution,
  - (b) biodiversity,
  - (c) climate change (current and future risks),
  - (d) clean water and sanitation,
  - (e) carbon and other gas emissions,
  - (f) deforestation,
  - (g) natural disaster,
  - (h) resource scarcity or efficiency (eg, energy, water and raw materials),
  - (i) waste management.

## IVS 104 Data and Inputs: Appendix

- Examples of **social factors** may include but are not limited to the following:
  - (a) community relations,
  - (b) conflict,
  - (c) customer satisfaction,
  - (d) data protection and privacy,
  - (e) development of human capital (health & education),
  - (f) employee engagement,
  - (g) gender equality and racial equality,
  - (h) good health and well-being,
  - (i) human rights,
  - (j) working conditions,
  - (k) working environment.

- Examples of **governance factors** may include but are not limited to the following:
  - (a) corporate governance,
  - (b) donations,
  - (c) *ESG* reporting standards and regulatory costs,
  - (d) executive remuneration,
  - (e) institutional strength,
  - (f) management succession planning,
  - (g) partnerships,
  - (h) political lobbying,
  - (i) rule of law,
  - (j) transparency,
  - (k) whistle-blower schemes.
- A10.06 *ESG* factors and the *ESG* regulatory environment *should* be considered in *valuations* to the extent that they are measurable and would be considered reasonable by the *valuer* applying

## Valuer's Eye from ESG angle – Real asset

- High ESG score/ratings helps to increase the value of real properties.
- These properties often have lower costs towards borrowing as their risks are lower.
- They usually have high occupancy rate, can charge higher rent, and keep tenants longer for the ethical environment.
- They provide a healthier and more eco-friendly setting. Over time, buildings with strong ESG features are less affected by new laws.
- They often gain from incentives for their eco-friendly nature.
- This leads to a good demand and presence in the market better financial results, raising the property's value.

## Valuer's Eye from ESG angle – Plant and Machinery

- **Effect in plant & Machines**

- In plant & Machines, let's take example of vehicle, which has passed in pollution test can fetch better value than a pollution failed vehicle. The value even depends on the rating of carbon dioxide (CO<sub>2</sub>), hydrocarbons (HC), carbon monoxide (CO), oxides of nitrogen (NO<sub>x</sub>) and other emissions of a vehicle.
- Machines which are eco-friendly, have a lower impact on the environment throughout their life cycle. Right from from the raw materials used in their manufacturing, to their design, transport to the end-user, their length of use and their recycling capacity. From making disturbance in neighbourhood by making sound pollution to non-compliance with the new law every point affects the value. The improper governance also has huge effect on value, while on the contrary they usually can fetch good value for the ethical environment in which they are being used. They provide a healthier and more eco-friendly setting. Over time, plant & Machines with strong ESG features are less affected by new laws. Risk becomes lower. They often gain from incentives for their eco-friendly nature.

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## Valuer's Eye from ESG angle – Financial Assets

- The job is almost similar as ESG investor. Looking at the company from an ESG angle.
- Understanding the extent to which companies' core business revenues are aligned to the Sustainable Development Goals, and by extension have the potential to contribute to real-world sustainable outcomes, is the next frontier of sustainability analysis. This is done through machine learning process of ESG. The strength and weakness are analysed from the view of ESG and look forward for sustainable eco-friendly growth. Total behaviour of the Company towards ethics that treats with auditors to shareholders, employees to clients.

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# Framework, Model and Methodology

- A **framework** is a set of guidelines or recommendations that serve as a useful guide. The English **Magna Carta**, which guarantees the rights of individuals to justice and lays the principle that everyone is subject to the law, is a historical social/legal framework.
- **Model** — A model is a small or large copy of an object. A model is a simplified representation of **reality** and a theoretical description of how something works. Models are used to understand complex systems, make predictions, or guide decision-making.
- **Methodology** — A method is a systematic and specific way of accomplishing something via a series of steps. Methods recommend and describe mainly theoretical detail the procedures and techniques. A methodology generally consists of a series of steps that is followed to collect data, analyze information, or opine on results.



## IVS 105 Valuation Models

- **IVS 105 *Valuation Models*** addresses the selection and use of *valuation models*
- to be used in the *valuation* process.
- **No model without the *valuer* applying *professional judgement*, for example an *automated valuation model (AVM)*, can produce an *IVS-compliant valuation*.**

### Introduction

- *A valuation model* converts *inputs* into outputs used in the development of a *value*, whereas a *valuation method* is a specific technique to develop a *value*.
- *Valuation models* must be suitable for the *intended use* of the *valuation* and consistent with *inputs*.
- *Valuation models* can be developed internally or sourced externally from a *specialist* or *service organisation*.

## IVS 105 Valuation Models

*Valuation models used must be tested to ensure accuracy of the output is*

- *appropriate for the intended use,*
- *basis of value and the assets and/or liabilities being valued.*

In all cases the *valuer must apply*

- *professional judgement and*
- *professional scepticism*

*in the selection and use of valuation models and the application of inputs used in the valuation model.*

## IVS 105 Valuation Models

- Use of a Specialist
  1. If the *valuer* does not possess all of the necessary *valuation models* to perform all aspects of the *valuation*, it is acceptable for the *valuer* to engage a *specialist* or *service organisation* to provide a *valuation model*.
  2. Prior to using a *specialist* or *service organisation*, the *valuer must* assess and document their capabilities.

## IVS 105 Valuation Models

- **Characteristics of Appropriate Valuation Models**

- *valuation model* is appropriate
- fit for purpose
- The *valuer must apply professional judgement* to balance the characteristics of a *valuation model* in order to choose the most appropriate *valuation model*.
  1. The characteristics of appropriate *valuation models* are shown below:
    - (a) **accuracy:** the *valuation model* is free from error and functions in a manner consistent with the objectives of the *valuation*,
    - (b) **completeness:** the *valuation model* addresses all the features of the *asset* and/or *liability* to determine *value*,
    - (c) **timeliness:** the *valuation model* reflects the market conditions as of the *valuation date*,
    - (d) **transparency:** all persons preparing and relying on the *valuation model must* understand how the *valuation model* works and its inherent limitations.

## IVS 105 Valuation Models

- Valuation Model Selection and Use

- The *valuation model should* be selected in the context of the *intended use, basis of value* and the *asset* and/or *liability* being valued.
- *Valuer must* assess the *valuation model* in order to determine that the *valuation model* is fit for its *intended use*.
- The *valuer must* understand the way the *valuation model* operates.
- The *valuation model should* be tested for functionality and outputs *must* be analysed for accuracy.
- Any *significant* limitations *should* be identified, along with any potentially *significant* adjustments.
- *Valuation models* used over time *should* be maintained, monitored, assessed, and adjusted to ensure that they remain appropriate, accurate and complete.
- If *significant* limitations have been identified or adjustments required then these *must* be explained, justified, and documented.
- If *significant* limitations or adjustments cannot be sufficiently justified, the *valuation* would not comply with IVS.

## • Valuation Model Documentation

- support for the selection or creation of the *valuation model*,
- description of the *inputs* and outputs,
- *significant inputs*, limitations, and
- quality control procedures and results.

## IVS 106 Documentation and Reporting

- Valuation reports and documentation are a critical and defining feature of IVS, which collectively assist in creating consistency, professionalism, transparency, comparability, and trust in *valuation* to serve the public interest.
- An IVS-compliant *valuation must* have sufficient documentation and reporting to describe and provide transparency to the *intended user* on the *valuation approach(es)*, *valuation methods*, *inputs*, *valuation models*, *professional judgement*, and resultant *value(s)*.
- The results of a *valuation* or *valuation review must* be documented and reported in writing
- Documentation and reporting requirements apply regardless of whether the *valuer* is employed by the *client* or externally engaged by the *client*.
- Documentation *must* be maintained throughout the *valuation* and *must* describe the *valuation* and the basis of conclusions made.
- Reporting *must* be provided to the *client* in writing

## IVS 106 Documentation and Reporting

### Documentation

- Documentation is the written record of the *valuation* or *valuation review* and may include communications with the *client*.
- Documentation *must* be maintained to describe the *valuation* or *valuation review* and *must* be sufficient to describe the conclusion reached by the *valuer*.
- Documentation *must* be adequate to allow the *valuer* applying *professional judgement* to understand the scope of the *valuation*, the work performed, and the conclusions reached.
- Documentation *should* include but is not limited to communications with the *client*, alternative methods explored, additional *data* and *inputs* considered, risks and biases addressed, *professional judgement* used, and the *valuation* quality control procedures followed.
- In all cases, documentation *should* describe the *valuation* or *valuation review* and how the *valuer* managed *valuation risk*.
- The *valuer must* keep a copy of any report issued on the *value* and a record of the valuation work performed for a period in accordance with legal, regulatory, authoritative or contractual requirements relative to the *intended use*.



## IVS 106 Documentation and Reporting

### • Valuation Reports

Valuation reports *must* provide,

1. in sufficient detail, a clear and well- structured description of the **basis** for the conclusion of *value*.
2. Reference other documents. These documents may include but are not limited to scope of work, internal policies, and procedures.
3. Reports *should* include all information with a **clear description** of the **scope of work, the work performed, professional judgements** made and the basis for conclusions reached.

REPORT contains

- agreed scope of the work,
- *assets* and/or *liabilities* being valued,
- the identity of the *valuer*,
- *client*,
- *intended use*,

## IVS 106 Documentation and Reporting

- *intended users*, if applicable,
- valuation currency(ies) used,
- *valuation date(s)*,
- *basis/es of value* adopted,
- the *valuation approach(es)* adopted,
- *valuation method(s)* or *valuation model(s)* applied,
- sources and selection of *significant data* and *inputs* used,
- *significant environmental, social and governance* factors used and considered,
- *significant* or special assumptions, and/or limiting conditions,
- findings of a *specialist* or *service organisation*,
- *value* and rationale for *valuation*,
- IVS compliance statement,
- the date of the report (which may differ from the *valuation date*).

In all instances the valuation report *must* be sufficient to describe the conclusion reached and be considered reasonable by the *valuer* applying *professional judgement*.

## IVS 106 Documentation and Reporting

- In all instances the valuation report *must* be sufficient to describe the conclusion reached and be considered reasonable by the *valuer* applying *professional judgement*.
- **Valuation Review Reports**
  - A *valuation review* must convey the following, at a minimum:
    - agreed scope of the *valuation review*,
    - *assets* and/or *liabilities* reviewed,
    - the identity of the *valuation reviewer*,
    - the identity of the *client*,
    - *intended use*,
    - *intended users*, if applicable,
    - *significant* or special assumptions and/or limiting conditions pertaining to the *valuation* reviewed,
    - the use of a *specialist* or *service organisation* if used, as part of the *valuation review*,
    - procedures undertaken and the documentation reviewed,
    - the *valuation reviewer's* conclusions about the work under review, including supporting reasons, and
    - the subject of the review,
    - the date of the valuation review report,
    - the version of IVS that is applicable to the review.
- **NO value opinion on review**

## IVS 230 Inventory in asset standard

- The principles contained in the General Standards apply to *valuations* of inventory and *valuations* with an inventory component. This standard contains additional requirements for *valuations* of inventory.
- **What is inventory ?** Inventory broadly includes goods which will be used in future production processes (ie, raw materials, parts, supplies), goods used in the production process (ie, work-in-process), and goods awaiting sale (ie, finished goods).
- This standard focuses on *valuation* of inventory of physical goods that are not real property.
- While the book value of inventory only includes historical *costs*.
- The profits earned in the production process, which reflect returns on the *assets* utilised in manufacturing (including working capital, property, plant, and equipment, and *intangible assets*), are not capitalised into book value. **The essential or intrinsic value does not reflect in historical cost.**
- **Thus,** the *market value* of inventory typically differs from, and is usually higher than, the book value of inventory.

## IVS 230 Inventory in asset standard

- It is the *valuer's* responsibility to understand the *intended use* of a *valuation*. It is also the *valuer's* responsibility to understand whether the inventory *should* be valued separately or grouped with other *assets*.
- Inventory valuations are done
  - includes but is not limited to:
    - (a) financial reporting purposes
    - (b) tax reporting purposes.
    - (c) litigation, in instances such as shareholder disputes, damage calculations and marital dissolutions (divorce),
    - (d) general consulting, collateral lending, transactional support engagements and **insolvency**.

## IVS 230 Inventory in asset standard

- IVS is suggesting that

For Bases of Value..... IVS 102. and

For Valuation Approaches and Methods..... IVS 103

## Market Approach

inventory of commoditized products,

or

inventory in which a market exists for the inventory at an interim stage in the production process.

The direct market approach is not applicable in most instances because for the peculiarity.

## IVS 230 Inventory in asset standard

- The *valuer* must comply with IVS 103 in **Market Approach**
- Information is available on arm's-length transactions involving identical or similar inventory on or near the *valuation date*, and
- Sufficient information is available to allow the *valuer* to adjust for all *significant* differences between the subject inventory and those involved in the transactions.
- **Top-Down Method**
- **Estimate the selling price:**
- The *valuer* should rely on direct observations of selling prices when the information is available.
- However, such data is often not available and the selling price is often estimated by applying an appropriate gross profit margin to the net book value of finished goods at the product level or the aggregate level.
- Typically, the projected gross profit margin in the period the inventory will be sold is used;

## IVS 230 Inventory in asset standard

- **estimate the costs to complete (for work-in-process only):**
- Completion costs should include all the expenditures directly or indirectly remaining to be incurred after the *valuation date* in bringing the work in progress inventory to its finished condition.
- *Costs to complete should* be adjusted.
- **subtract the costs of disposal**
- Try to determine accurate cost of disposal
- Try to determine the costs of procurement and manufacturing expenses have typically already been incurred for finished goods inventory.
- *Costs of disposal should* be adjusted to remove expenses benefitting future periods.
- **Subtract the profit allowance on the completion effort (for work-in-process only) and the disposal process:**
- **Consider any necessary holding costs**
- *When utilising the top-down method, the valuer should consider whether sufficient data are available to appropriately apply the necessary steps. If sufficient data are not available, it may be appropriate to apply other methods or techniques.*



## IVS 230 Inventory in asset standard

- **Bottom-Up Method**

- Another method is suggested.

- **Cost Approach:** The replacement *cost* method is the primary method for the *valuation* of raw materials inventory.

- The *valuer must comply with [IVS 103 Valuation Approaches](#)*

- (a) the book value may need to be adjusted to FIFO basis, This means that older inventory will get shipped out before newer inventory and the prices or values of each piece of inventory represents the most accurate estimation.
- (b) if raw material *prices* fluctuate and/or the inventory turnover is slow, the book value may need to be adjusted for changes in market prices,
- (c) the book value of raw materials may also be decreased to account for **obsolete and defective goods**,
- (d) the book value may also need to be decreased for shrinkage, which is the difference between inventory listed in the accounting records and the actual inventory due to theft, damage, miscounting, incorrect units of measure, evaporation, etc,
- (e) **the book value may need to be increased for any costs incurred in connection with raw material preparation (eg, purchasing, storage and handling).**

# IVS 103 A30.15 SAYS

- In the context of the cost approach, “depreciation” refers to adjustments made to the estimated *cost* of creating an *asset* of equal utility to reflect the impact on *value* of any obsolescence affecting the subject *asset*. This meaning is different from the use of the word in financial reporting or tax law where it generally refers to a method for systematically expensing capital expenditure over time.

A30.16 Depreciation adjustments are normally considered for the following types of obsolescence, which may be further divided into sub-categories when making adjustments:

- (a) physical obsolescence: any loss of utility due to the physical deterioration of the *asset* or its components resulting from its age and usage,
- (b) functional obsolescence: any loss of utility resulting from inefficiencies in the subject *asset* compared with its replacement such as its design, specification or technology being outdated,
- (c) 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.