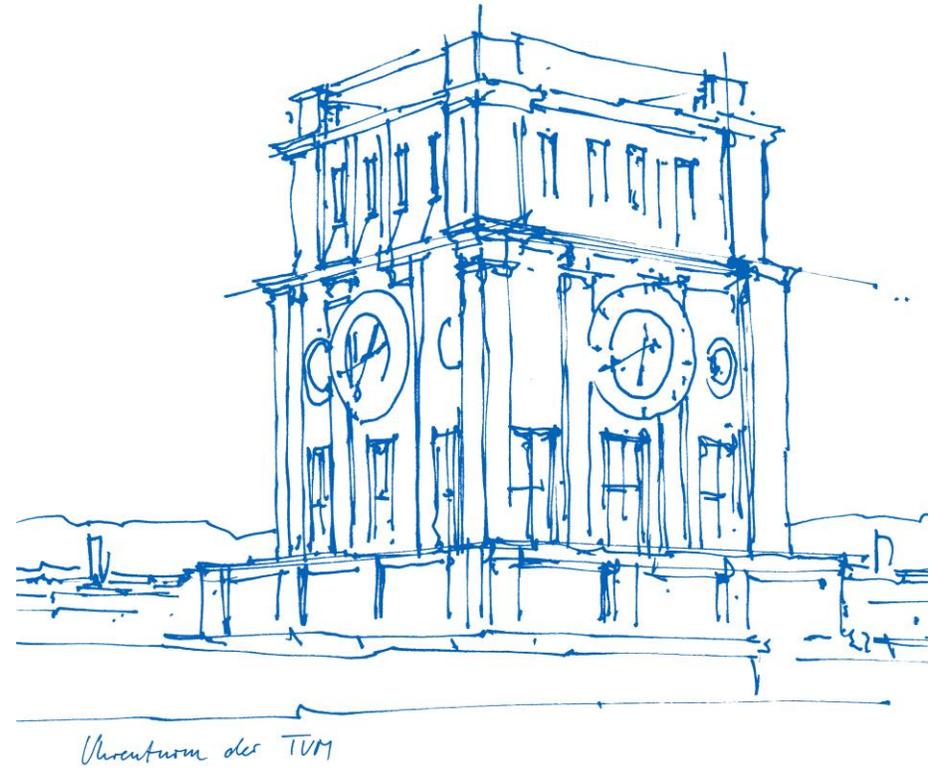# Property, Plant, and Equipment (PPE)

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Chair of Financial Accounting

Initial Measurement I

The Bavarian car manufacturer WMB AG purchased a building on February 2, 20X1. The purchase price was 3,570,000€ (incl. 19% VAT). WMB negotiated a cashback of 2% of the purchase price in case they pay the amount within 14 days. The WMB AG transfers the purchase price on February 10, 20X1. A certifying notary charges fees of 23,800€ (incl. 19% VAT). The WMB AG has to pay a real estate transfer tax of 150,000€. An internal employee was busy searching a suitable building for 50 hours by assessing various alternatives and her wage is on average 50€ per hour. Moreover, the WMB AG has to do some refurbishment work to use the building to rent it out (directly attributable costs for the work: 200,000€, production overheads for the work: 10,000€). The useful life of this building is 20 years.

Determine the cost of purchase of the building. What are the correct booking entries at the time of purchase?

Initial Measurement I

Purchase price: 3,000,000€ (excluding VAT)

(-) Purchase price reductions: 3,000,000€*0,02=60,000€
(+) Directly attributable costs:
   23,800€*100/119=20,000€ (notary)
   150,000€ (non-refundable tax)
(+) Directly attributable costs for refurbishment: 200,000€ (no overheads!)

Cost of the investment property: 3,310,000€

D: Investment Property 3,310,000€ C: Bank 3,310,000€

Initial Measurement II

The management of WMB AG built a new manufacturing plant in South-Korea. To decide where to build this plant, the WMB AG conducted a feasibility study in several countries, which cost 160,000€.

Moreover, WMB AG purchased a new machine for the plant. The machine will be installed by the supplier. One employee of WMB AG has the job to supervise the installation. Due to the high complexity of the machine, it lasted one month to install. The salary of the employee including all side costs for this month is 14,000€.

Which of the costs have to be recognized as costs of the respective asset?

- The cost of the feasibility study cannot be recognized since the outcome of the study might have been not to build the subsidiary in South-Korea. Therefore, the costs are not directly attributable.
- Since the employee has the job to solely supervise the installation of the new machine, the costs of the employee are directly attributable and, thus, have to bee recognized.

Subsequent Measurement I

The Florida Group purchased a building for 10,000 T€ (excluding VAT) at the beginning of the fiscal year 20X1. The estimated useful life of the building is 50 years, and the Florida Group pays in cash. The building is used as an investment property, and it is assumed that there will be no residual value at the end of its useful life. An independent expert assesses the value of the building at the end of the fiscal year 20X1 and concludes that its value is 11,800 T€. At the end of the fiscal year 20X2 there is no change in the value of the building. At the end of the fiscal year 20X3, an independent expert again evaluates the property and confirms that the fair value remains unchanged. Florida Group demonstrates strong negotiation skills and manages to sell the building for 12,000 T€. After long discussions, the Florida Group accepts the offer, and the selling price is paid in cash.

a) The Group applies the fair value model. What are the booking entries for the fiscal years 20X1-20X3?

b) The Florida Group applies the cost model. The initial costs shall be straight-line depreciated over the useful life of 50 years. What are the booking entries for the fiscal years 20X1-20X3? (Please also perform depreciation in 20X3)

Subsequent Measurement I

a) Fair value model

20X1:
Purchase: D: Investment Property   C: Cash 10,000T€
Fiscal year-end: D: Investment Property   C: Income 1,800T€

20X2:
no booking entries.

20X3:
Selling: D: Cash 12,000T€   C: Investment Property 11,800T€
                                          C: Income 200T€

Subsequent Measurement I

b) Cost model

20X1:

Purchase: D: Investment Property   C: Cash 10,000T€

Depreciation: D: Depreciation   C: Investment Property 200T€ (10,000T€/50 = 200T€)

20X2:

Depreciation: D: Depreciation   C: Investment Property 200T€

20X3:

Depreciation: D: Depreciation   C: Investment Property 200T€

Selling: D: Cash 12,000T€   C: Investment Property 9,400T€

                          C: Income 2,600T€

Subsequent Measurement II

- **Depreciation Methods**
  - **Straight-line**
  - **Diminishing balance**
  - **Sum of units/machine-hours**

Subsequent Measurement II
Straight-line vs. Diminishing Balance

- **Cost of the asset: 11.000€**

- **Residual value: 1.000€**

- **Useful life: 5 years**

- **No significant change anticipated over useful economic life**

- **Dimishing balance formula:** $1 - \sqrt[n]{Residual\ value/Cost}$

- **Change from diminishing balance method to straight-line if…**
  $Diminishing\_Factor * Net\_Book\_Value_{t-1} < Straight\_line\ depreciation$

Subsequent Measurement II
Straight-line vs. Diminishing Balance

	Straight-line	Diminishing Balance (Factor: 0,38)	Difference
Cost of the asset	11.000	11.000	
Depreciation (t1)	2.000((11k-1k)/5)	4.180	2.180
Net book value	9.000	6.820	
Depreciation (t2)	2.000	2.592	592
Net book value	7.000	4.228	
Depreciation (t3)	2.000	1.607	-393
Net book value	5.000	2.622	
Depreciation (t4)	2.000	996	-1.004
Net book value	3.000	1.625	
Depreciation (t5)	2.000	618	-1.382
Residual value	1.000	1.008	

Subsequent Measurement II
Machine Hours

- **Cost of the asset: 11.000€**
- **Residual value: 1.000€**
- **Useful life: 5 years**
- **Total machine hours over lifetime: 2.000**

Year	Machine hours
01	500
02	400
03	600
04	300
05	200
Total	**2000**

Subsequent Measurement II
Machine Hours

Year	Calculation	Depreciation
01	=(11.000-1.000)/2.000*500	2.500€
02	=(11.000-1.000)/2.000*400	2.000€
03	=(11.000-1.000)/2.000*600	3.000€
04	=(11.000-1.000)/2.000*300	1.500€
05	=(11.000-1.000)/2.000*200	1.000€
Total		**10.000€**

Subsequent Measurement III

The management of the Bavarian car manufacturer WMB AG purchases a new, low CO_2 emission machine on 01.01.20X1. This machine is initially measured at purchase cost of 780,000€. The useful life is 8 years and the company applies the cost model (straight-line depreciation). At the end of year 20X2, the machine suffers overvoltage damage and can therefore only retrieve a maximum of 80% of its previous output in the future. After the damage, the fair value of the machine is 450,000€. In case the machine gets sold, additional costs of 6,000€ arise. The estimated value in use is 431,000€.

What are the booking entries on 31.12.X1, 31.12.X2 and 31.12.X3? Assume that the machine is considered to be a CGU.

Subsequent Measurement III

20X1:

Fiscal year-end: D: Depreciation C: PPE 97,500€

20X2:

Carrying amount: 780.000-97.500 (year X1) – 97.500 (year X2) = 585.000

Recoverable amount: fair value less cost to sell vs value in use

Fair value less cost to sell: 450.000-6.000 = 444.000

Value in use: 431.000

Recoverable amount=444.000

Impairment=585.000-444.000 = 141.000€

Fiscal year-end:

D: Depreciation C: PPE 97,500€

D: Impairment 141.000 C: PPE 141.000

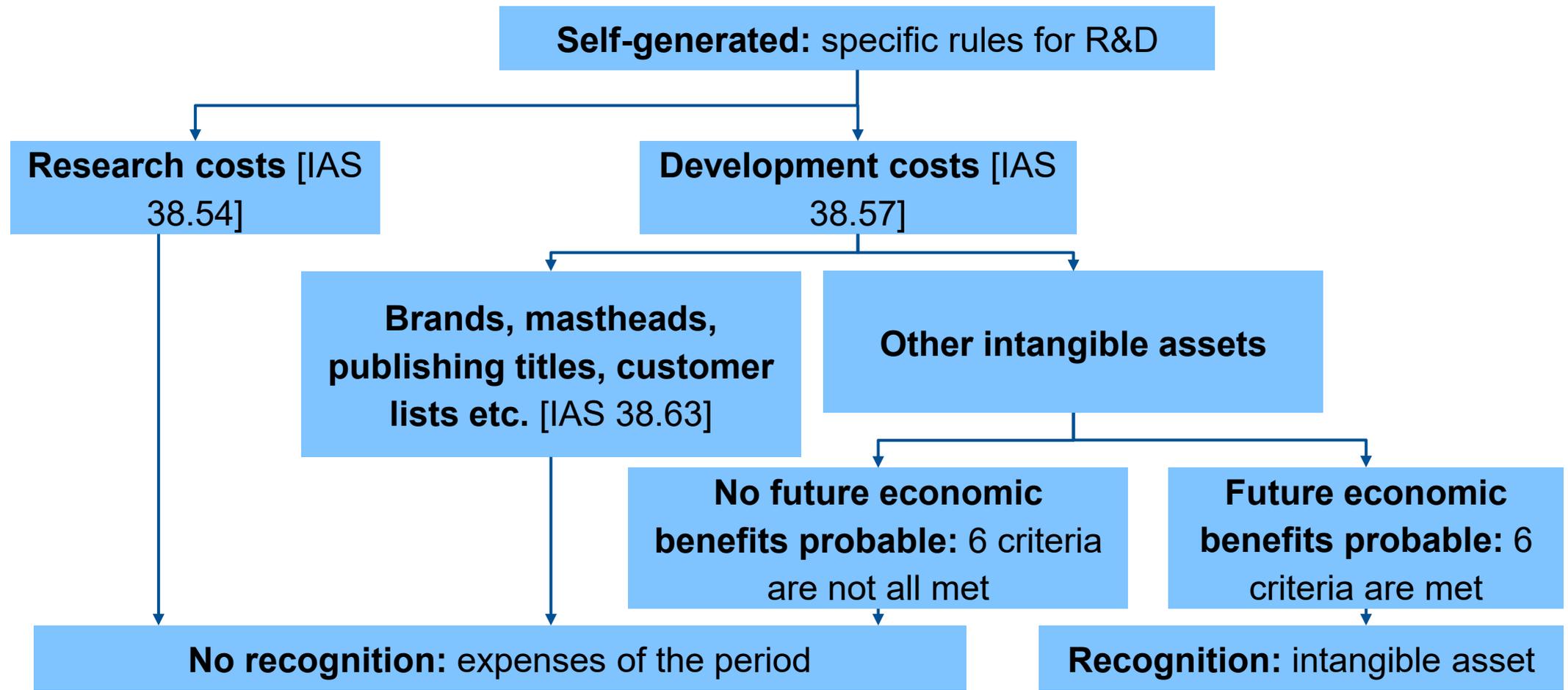# Subsequent Measurement III

20X3:
444,000/6=74,000

Fiscal year-end: D: Depreciation C: PPE 74,000€

Next Lecture – Intangible Assets (IA)

Examples of Intangible Assets:

- Patented technologies

- Trademarks

- brand names

- Licenses

- Software

- Databases

- Internet domains

- Audiovisual materials

- Customer data

Next Lecture – Recognition of Self-generated Intangible Assets

Self-generated: specific rules for R&D

Research costs [IAS 38.54]

Development costs [IAS 38.57]

Brands, mastheads, publishing titles, customer lists etc. [IAS 38.63]

Other intangible assets

No future economic benefits probable: 6 criteria are not all met

Future economic benefits probable: 6 criteria are met

No recognition: expenses of the period

Recognition: intangible asset

Next Lecture – Research vs. Development cost

Research costs	Development costs
• Activities aimed at obtaining **new knowledge** • **Search** for applications of research findings or other knowledge • Search for product or process alternatives • Formulation and design of possible new or improved product or process alternatives	**Application** of research findings or other knowledge for the production of new/substantially improved materials, products, processes or services **before the commencement of commercial production/use**

If an entity **cannot distinguish** research phase and the development phase: entire project treated as being in the **research** phase [IAS 38.53]

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Next Lecture – Probable Economic Benefits

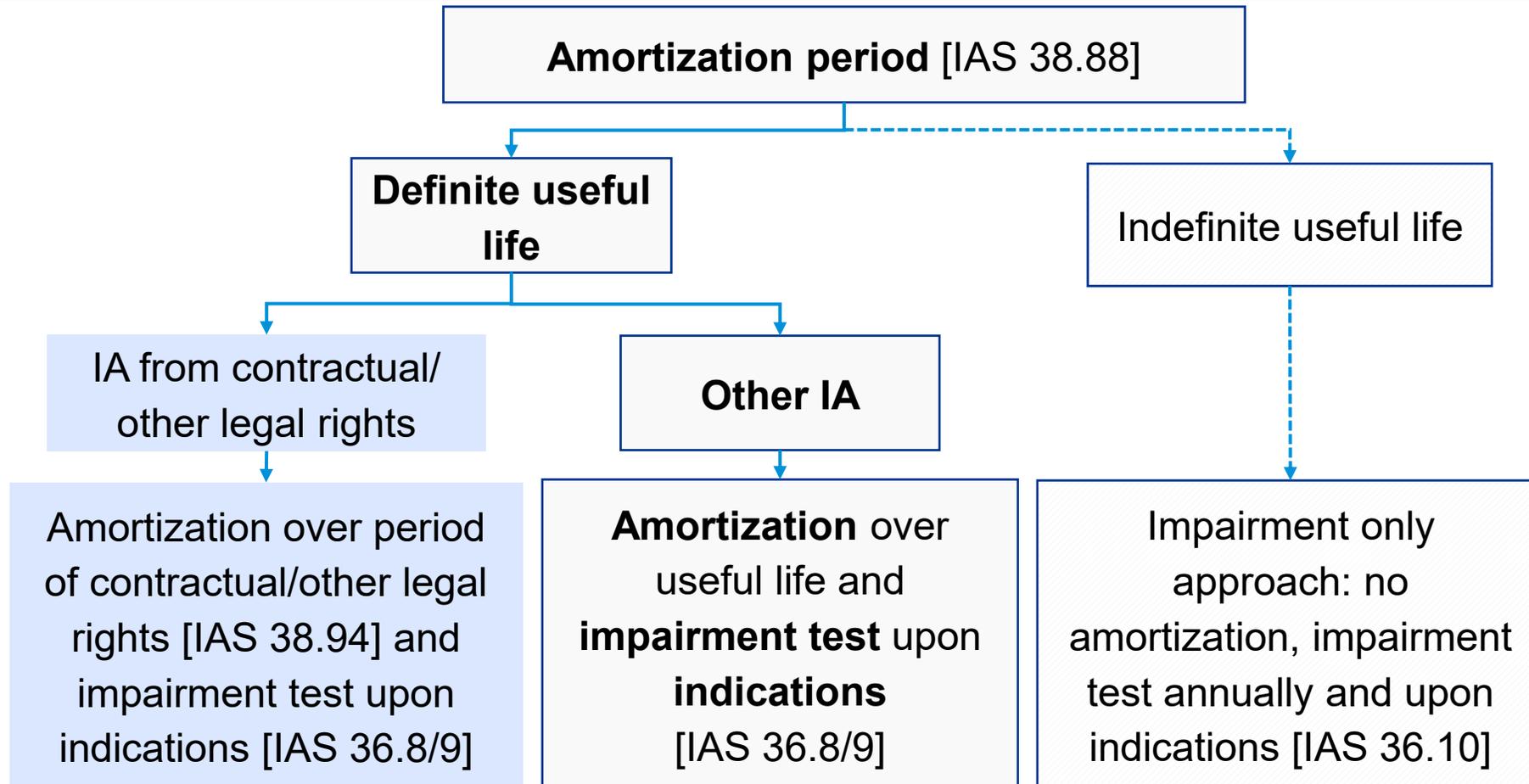| **Future economic benefits not probable:**	**Future economic benefits probable:**
not all 6 criteria met	all 6 criteria are met [IAS 38.57]

One of the criteria is not met

All 6 criteria are met:

(1) **technical feasibility** of completing the intangible asset for use/sale.

(2) **intention to complete** it

(3) **ability** to use/sell

(4) future **economic benefits** from sale (existence of a market) or from use (usefulness)

(5) availability of adequate technical, financial and other **resources**

(6) ability to **measure reliably** the expenditure

Next Lecture – Subsequent Measurement of Intangible Assets (IA)

Subsequent Measurement

Revaluation Model

fair value at revaluation date less subsequent amortization and impairment losses

Cost Model

cost less any accumulated amortization and any accumulated impairment losses
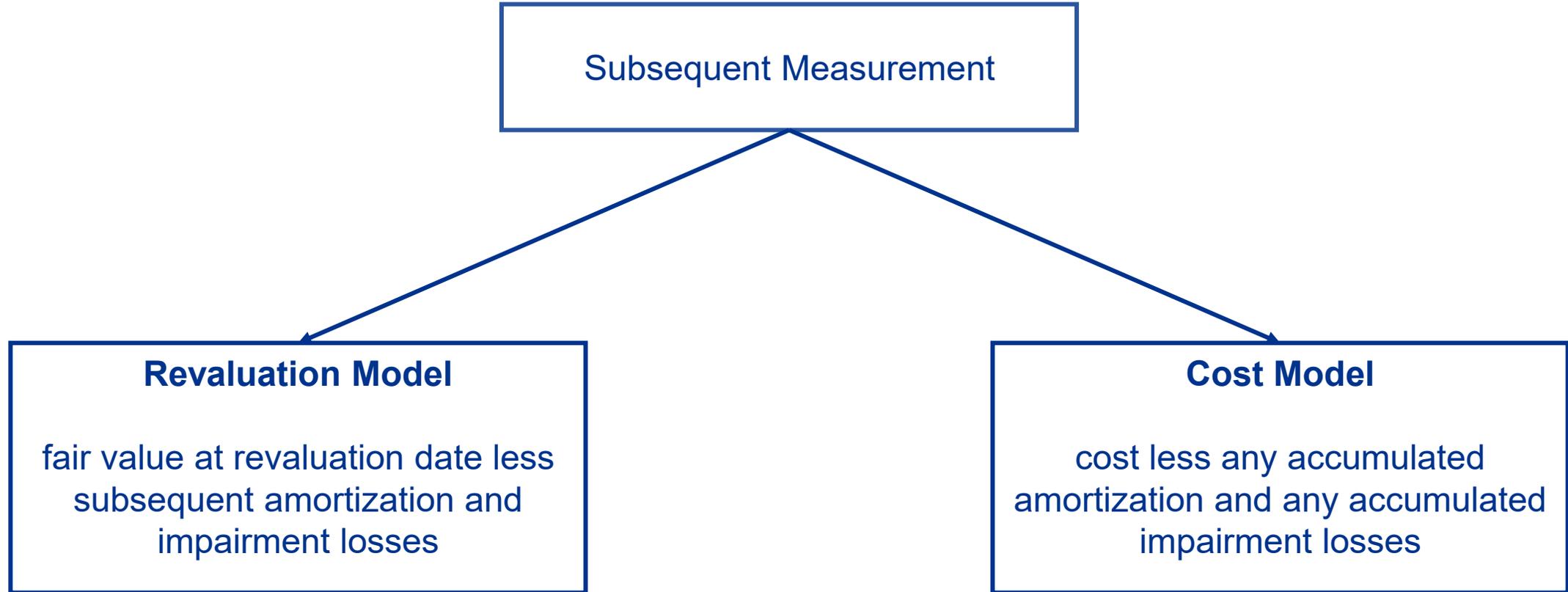
The chosen model must be applied **consistently to an entire class of assets**

Next Lecture – Definite and Indefinite Useful Life

Amortization period [IAS 38.88]

Definite useful life

Indefinite useful life

IA from contractual/ other legal rights

Other IA

Amortization over period of contractual/other legal rights [IAS 38.94] and impairment test upon indications [IAS 36.8/9]

Amortization over useful life and **impairment test** upon **indications** [IAS 36.8/9]

Impairment only approach: no amortization, impairment test annually and upon indications [IAS 36.10]

Q&A