



Ideaction.2021
Shining a Light on FM



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Cliftons Sydney Spring Street



**FM's Bottom Line: improving cost prediction
and embracing life cycle costing**

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1. Global Challenges, Standardisation & Opportunities
2. International Construction Measurement Standard (ICMS), 3rd edition (Nov. 2021)
3. RICS' Professional Statement in Cost Prediction, Global, 1st edition (Nov. 2020)
4. AIQS' Information Paper: Life Cycle Cost Analysis, 1st edition (due early 2022)



Today content is made possible with the assistance of:



FM's Bottom Line:

what if inconsistent, undisciplined or just left to chance ...



... imagine a world without FM standards ... or consistent Cost Prediction

FM's Bottom Line:

or using standards to create and maintain ...

- a common language
- consistent reporting
- greater transparency
- increased confidence through reduced risk
- ability to performance benchmark
- data capture, costing, analysis and forecasts


... a means of improving Cost Prediction and embracing Life Cycle Costing



ISO 41000 series

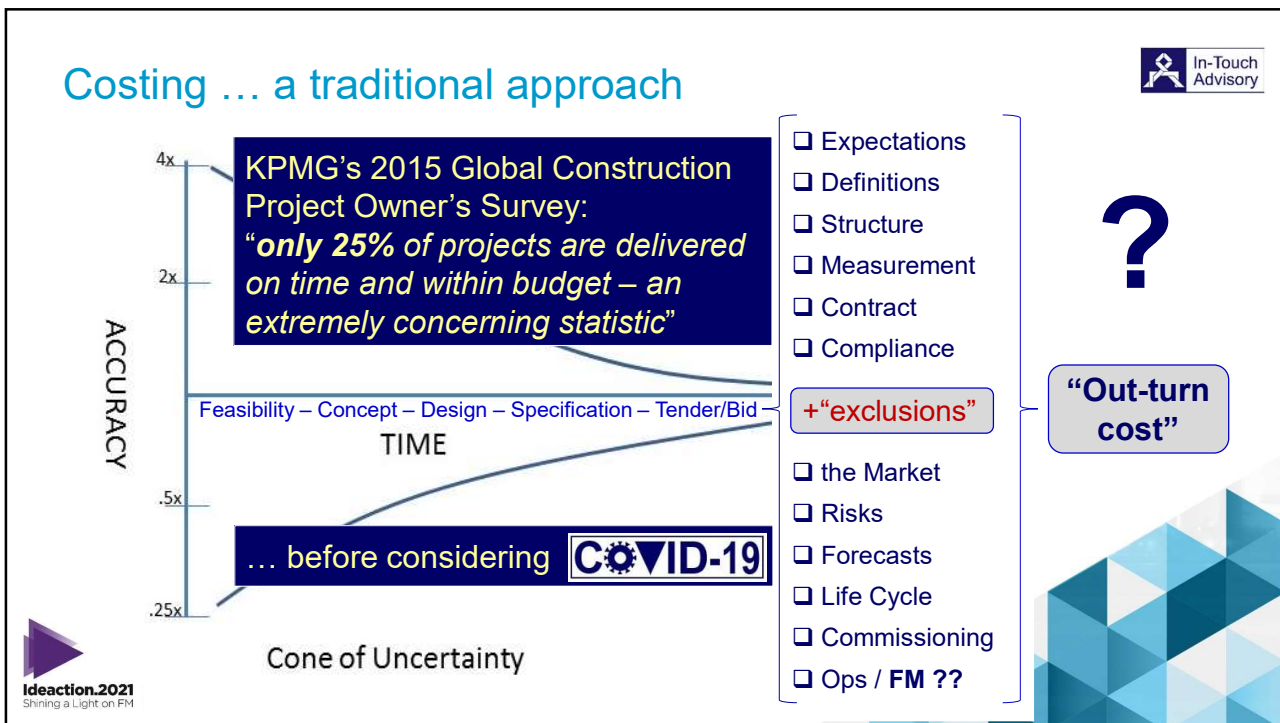
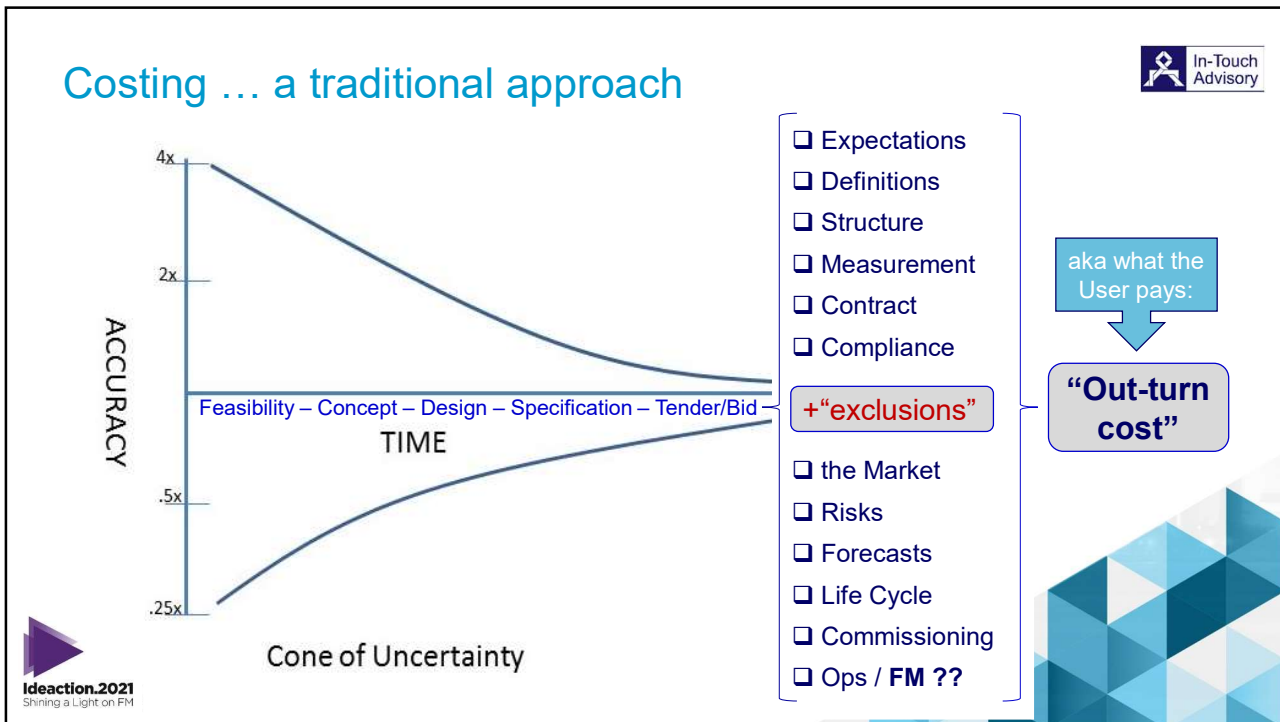
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Not directly related to this presentation, but international FM standards are worth checking: <https://committee.iso.org/home/tc267>
Identical adoption of the first four by Standards Australia in July 2019.



Source: Adapted from ISO 41001: 2018

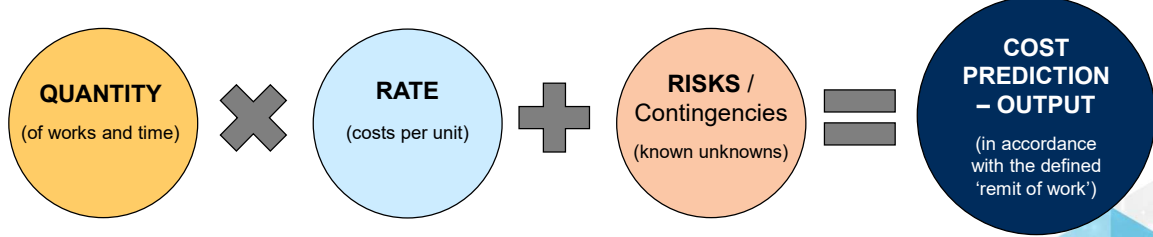
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Cost Prediction



“... encompasses *estimating, cost planning, benchmarking* across the **project life cycle** for *clients, consultants and contractors* on both **buildings and infrastructure**”



ISO 31000:2018 defines risk as the “*effect of uncertainty on objectives*”.

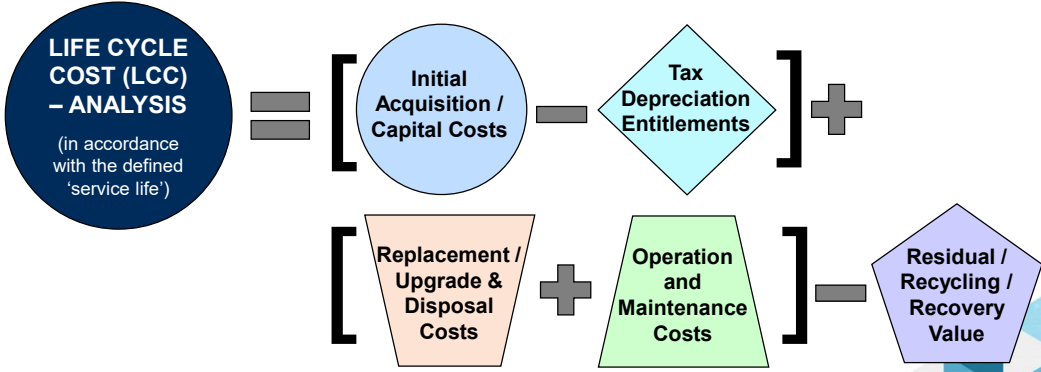


Source: RICS' GPSCP (2020)

Life Cycle Cost



“Cost of an **asset** or its parts *throughout* its **life cycle**, while fulfilling the **performance requirements**”



LCC = (AC - TD) + (OC + RC) – RV

Plus: Adjustments for the time value of money in terms of Net Present Value (NPV) or Annual Equivalent Value (AEV).

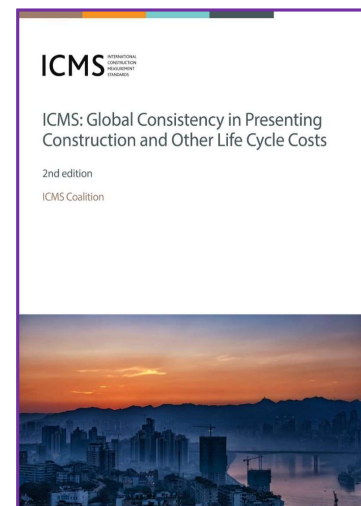


Source: AIQS' IP-LCC (2022)

International Construction Measurement Standard (ICMS)



- ❑ **ICMS Coalition** formed in 2015, now with 47 cost professional bodies worldwide.
- ❑ **ICMS** scope covers buildings and civil engineering assets.
- ❑ **ICMS#1** released July 2017, *capital cost focus*.
- ❑ **ICMS#2** released September 2019, *plus LCC*.
- ❑ Focus on constructed assets so that **cross-boundary costs** can be consistently benchmarked and cost differences identified.
- ❑ Standards for measuring, reporting and **benchmarking** of construction project cost and life cycle costs.



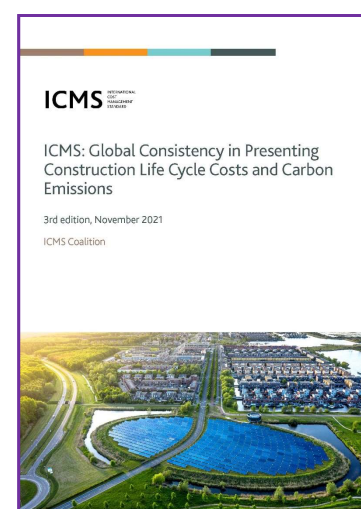
Free: <https://icms-coalition.org/>



International Construction Management Standard (ICMS)



- ❑ What next? **ICMS#3**
- ❑ Public consultation (July – Sept 2021), published November 2021:
 - Name change
 - Carbon emissions
 - Five new project types
- ❑ **ICMS#3** will provide ... *“a common reporting framework for capital costs, life cycle costs and carbon emissions”* ... recognises interrelationships to improve decision making ... *“about the design, construction, operation and maintenance of the built environment that optimises environmental sustainability”*.



Free: <https://icms-coalition.org/>



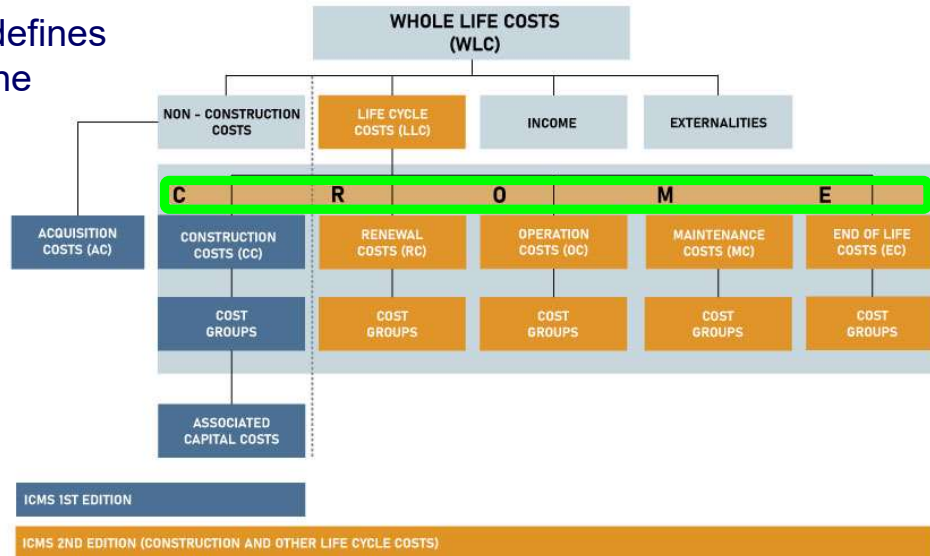
Source: ICMS Coalition release, November 2021



ICMS 1st ed. versus 2nd ed. footprint

ICMS#2 (2019) defines **C.R.O.M.E.** as the new framework:

- Construction
- Renewal
- Operational
- Maintenance
- End of Life



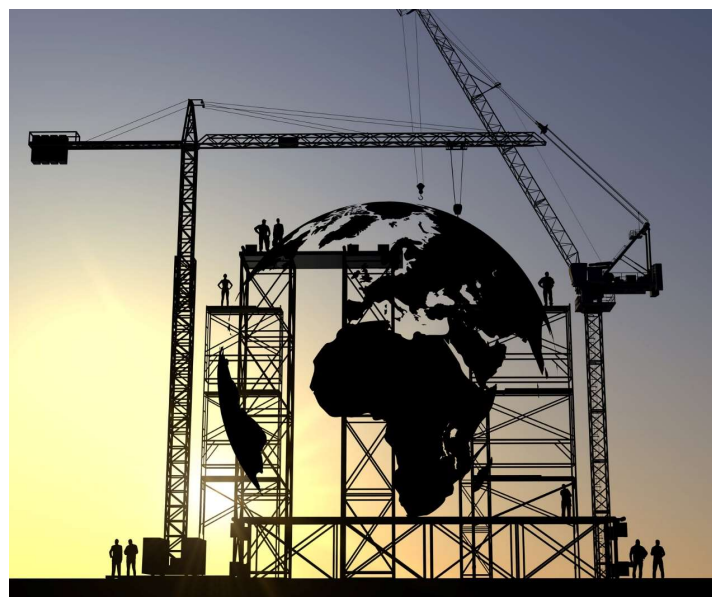
Source: ICMS#3, 2021



RICS' Cost Prediction Professional Statement, Global



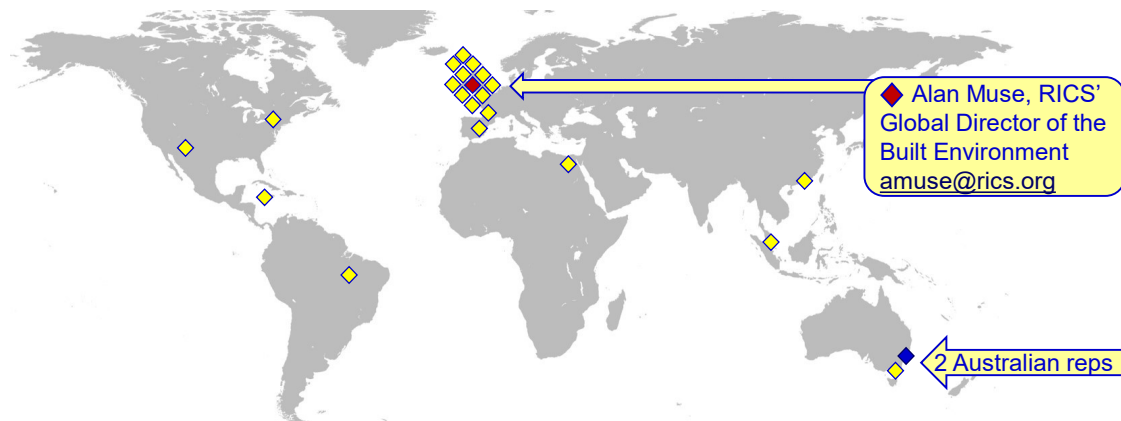
*“Different markets and construction sectors undertake **cost prediction** in different ways. This professional statement elicits the **key principles** from these various approaches to **signpost best practice** from around the world”.*



Source: RICS' GPSCP, 2020

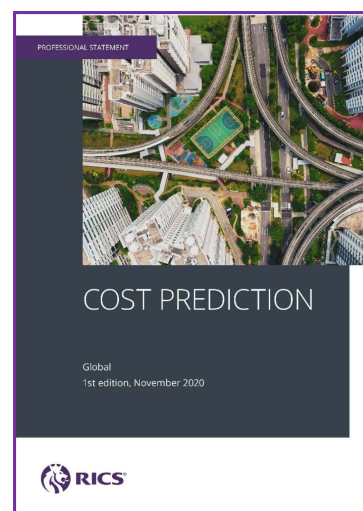
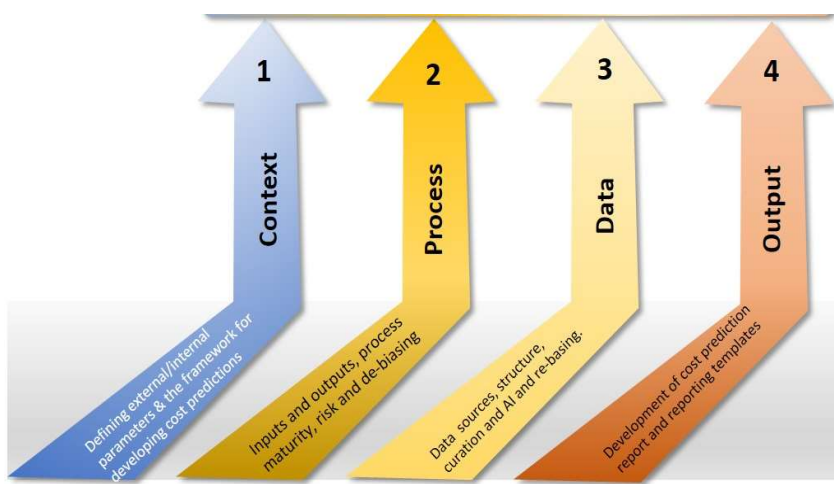


RICS' Cost Prediction Professional Statement, Global



- ❑ 22 participants from 12 countries
- ❑ East & West calls over two (2) years
- ❑ Three (3) workshops in London
- ❑ Additional research and consultation
- ❑ ICMS based, then ICMS2 alignment
- ❑ Report released **November 2020**

RICS' Cost Prediction Professional Statement, Global




Free: <https://rics.org>

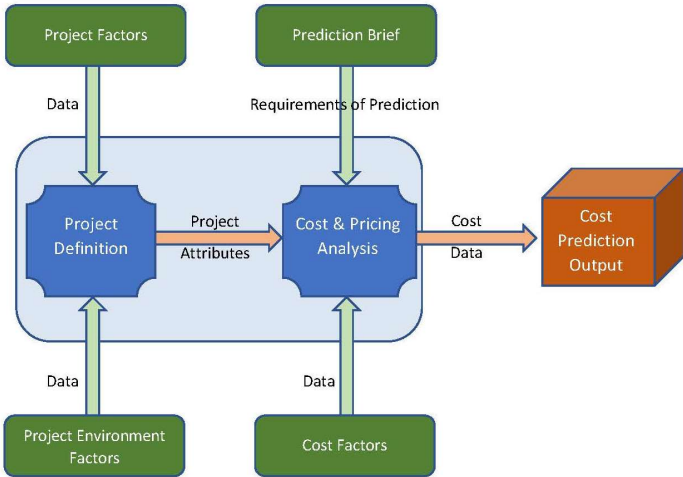
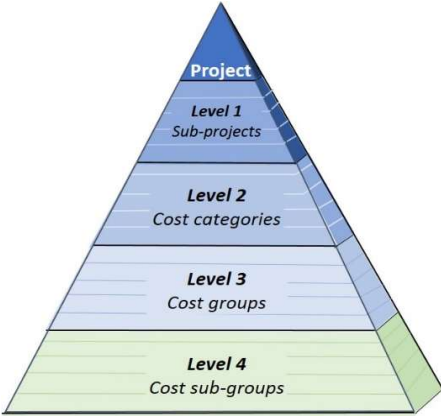
Source: RICS' GPSCP (2020)




RICS' Cost Prediction Professional Statement, Global



❑ Examining cost planning and control techniques





❑ ICMS #2 alignment



Source: RICS' GPSCP (2020)

RICS' Cost Prediction Professional Statement, Global

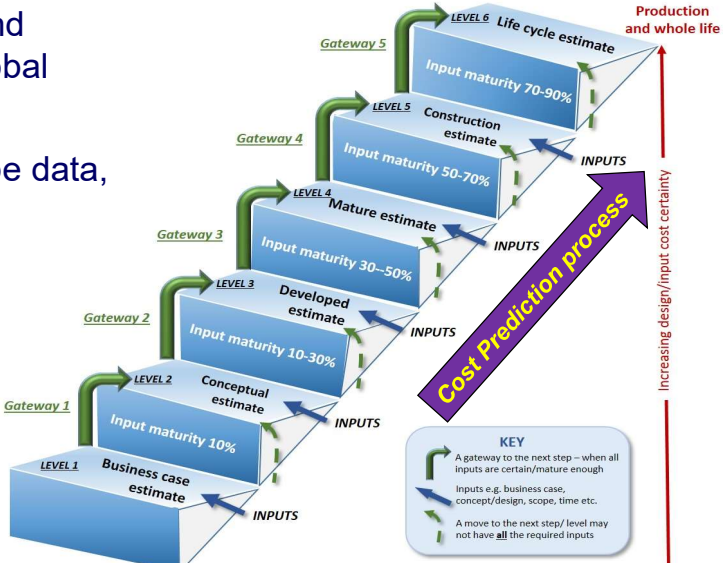



❑ A common framework and process language for global cost prediction.

❑ Progressive inputs can be data, information, productivity, construction materials, methodology or timing.

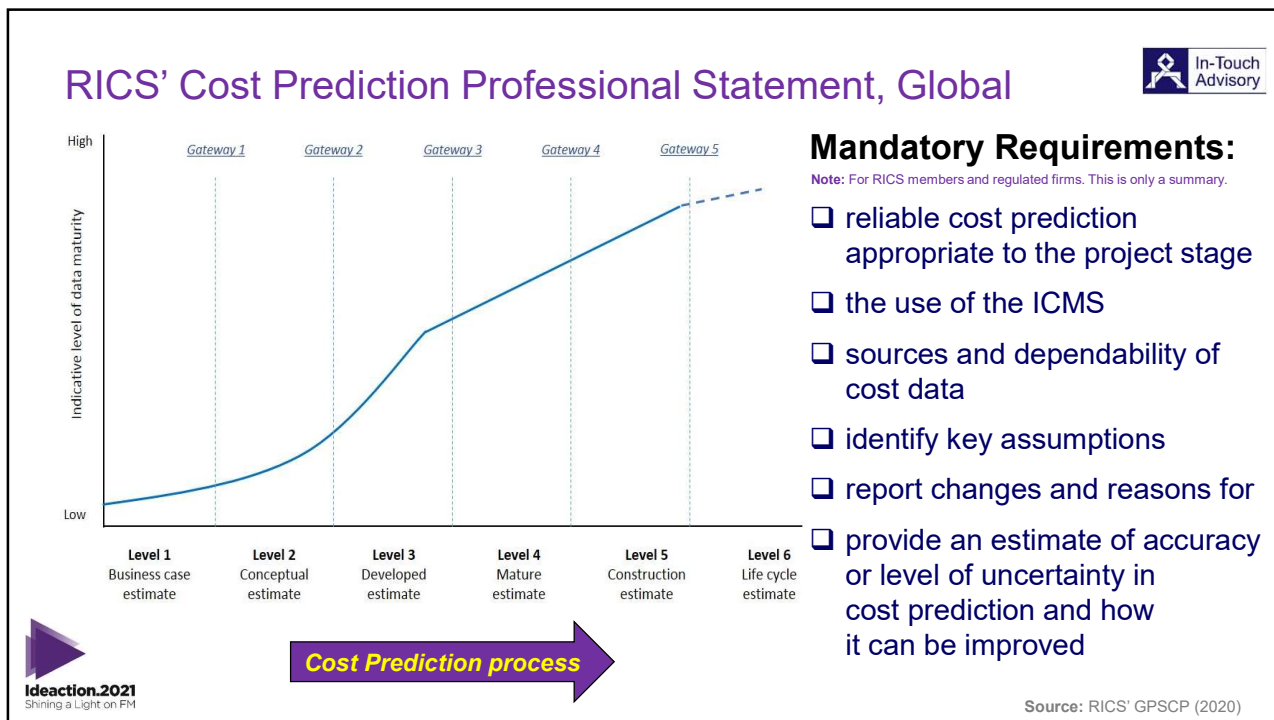
❑ WOL considerations throughout.

❑ Design is an input, **not the input.**





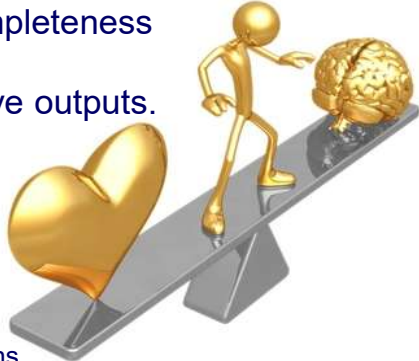
Source: RICS' GPSCP (2020)



RICS' Cost Prediction Professional Statement, Global




- Direct correlation between design info / data completeness and costing accuracy by level
- Minimising risk, uncertainty and bias ... to improve outputs.
- Intuition v's Rational reasoning:
 - **Optimism bias** - a tendency to underestimate the cost and overestimate the benefits or favourable outcomes.
 - **Anchoring bias** - a tendency to rely too heavily, or "anchor", on one piece of information when making decisions.
 - **Confirmatory bias** - a tendency to focus on, remember or search for information in a way that confirms preconceptions.
 - **Unconscious bias** - a bias that we are unaware of, and which happens outside of our control.




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Source: RICS' GPSCP (2020)




RICS' Cost Prediction Professional Statement, Global

- ICMS provides standardised cost classification
- Recognition of cost data sources, attributes and integrity



- ISO 31000:2018 defines risk as the “*effect of uncertainty on objectives*”
- Focus on **the process** and the **out-turn cost** / final account targets

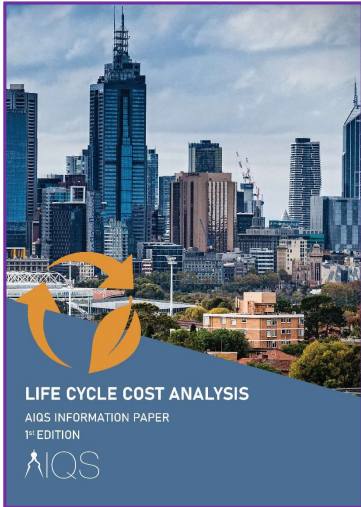


Source: RICS' GPSCP (2020)



AIQS' Information Paper Life Cycle Cost Analysis

- AIQS & In-Touch Advisory** undertook research and industry consultation into LCC taking account of the:
 - ISO 15686-5: 2017 Buildings and constructed assets, Service Life Planning - Part 5: Life-cycle costing.
 - ICMS 3rd edition (2021).
 - AIQS' Australian Cost Management Manual: Vol.1, (4th ed).
 - AS ISO 41000 series of Facility Management standards and AS ISO 55000 series of Asset Management standards.
 - Other leading publications and relevant guidelines.
- New, concise and practical guidance.
- Report due for release **early 2022**.





... for a limited time



Free: <https://aiqs.com.au>

Source: AIQS' IP-LCC (2022)

AIQS' Information Paper Life Cycle Cost Analysis

C R O M E
 CONSTRUCTION COSTS RENEWAL COSTS OPERATION COSTS MAINTENANCE COSTS END OF LIFE COSTS

DESIGNER CONSTRUCTOR FM EXPERT

CONSTRUCTION THINKING / FM THINKING DESIGN THINKING / FM THINKING DESIGN THINKING / CONSTRUCTION THINKING

ICMS 2nd ed (2019) defines **CROME** as the new framework.

In-Touch Advisory

The ICMS (2019) CROME approach as a relationship framework of the significant contributors to the facility life cycle (Designer, Constructor and Facility Management (FM) Expert)

Courtesy of Anil Sawhney, Construction Journal (November-December 2019) article.

Source: AIQS' IP-LCC (2022)

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AIQS' Information Paper Life Cycle Cost Analysis

'Service Life' defined:

- ❑ Period of time after practical completion that a constructed asset or facility, or its elements and component parts, meet(s) or exceed(s) the performance requirements.
- ❑ The life cycle 'onion' is only a graphical representation of the concept of differential life expectancy of building elements and the component parts within a constructed asset or facility.

INTERNAL FINISHES, LOOSE FURNITURE & EQUIPMENT (10 YEARS)

INTERNAL FABRIC, FITMENTS & SPECIAL EQUIPMENT (20 YEARS)

BUILDING SERVICES & PLANT (30 YEARS)

EXTERNAL FABRIC & FINISHES (40 YEARS)

STRUCTURE (80 YEARS)

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Source: AIQS' IP-LCC (2022)

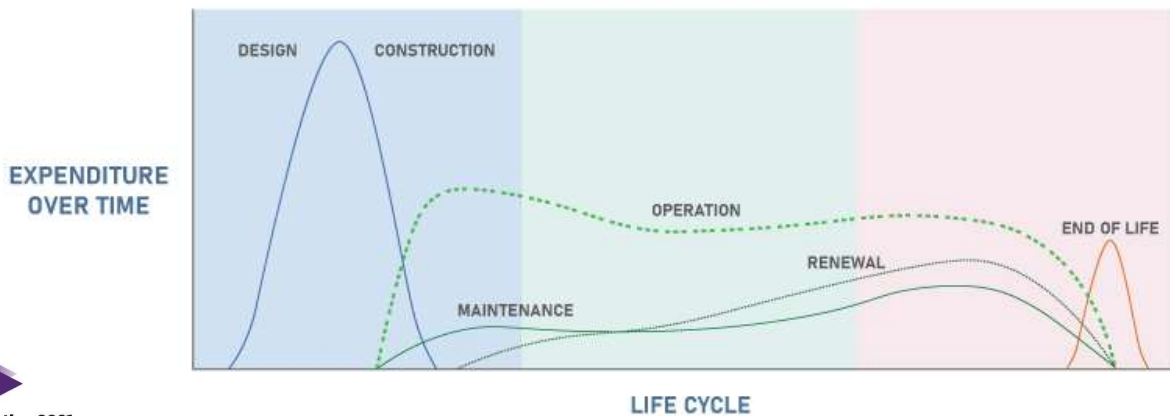
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AIQS' Information Paper Life Cycle Cost Analysis



'Life Cycle' defined:

- The time interval between a product's recognition of need or opportunity and its disposal.



Source: AIQS' IP-LCC (2022)

AIQS' Information Paper Life Cycle Cost Analysis



'Service Life' and the prospect of premature **obsolescence**:

- **Physical: condition-based.**
- **Economic:** *too expensive to maintain.*
- **Functional:** *ceases to function as intended.*
- **Technological:** *no longer superior to alternatives.*
- **Statutory or legal:** *compliance-based.*
- **Social:** *cultural, behavioural and fashion changes.*
- **Environmental:** *related to trans-generational equity, eg. pursuing a circular economy or achieving carbon neutrality.*



Individually or in combination **obsolescence = Loss of competitiveness in terms of higher operating costs or lower performance efficiencies.**



Source: AIQS' IP-LCC (2022)

AIQS' Information Paper Life Cycle Cost Analysis



SUSTAINABLE DEVELOPMENT GOALS



UN's 17 Sustainable Development Goals (SDGs) are a call for action by all countries to promote prosperity while protecting the planet.

<https://sdgs.un.org/goals>



Source: AIQS' IP-LCC (2022)

FM's Bottom Line: improving cost prediction, and embracing life cycle costing



"Prediction is difficult, especially about the future"



Niels Bohr, 1885-1962
The Danish physicist who made foundational contributions to understanding atomic structure and quantum theory, for which he received the Nobel Prize in Physics in 1922.

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Reflections and questions please to: Stephen.Ballesty@in-touchadvisory.com

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