KROLL™

The Valuations Skills Crisis: Why Accuracy and Resilience Are at Risk

Why Certain Valuation Methodologies Now Pose a Material Risk to Insurers and Insureds

Foreword

Insurance valuations have long been a core element of placing property risks, allowing underwriters to assess exposure, risk managers to test scenarios, and claims handlers to honour the promises made in the policy.

However, over time, the methods used to produce insurance valuations have changed. A drive for speed, consistency and efficiency over engineering-led judgement has influenced the approach of many valuers, even when assessing industrial and energy assets. The result is a growing disconnect between declared values and the realities of reinstatement, with implications that extend well beyond the headline sum insured.

This paper explores how the profession arrived at this point, and why the distinction between what Kroll describes as 'Basic' and 'Expert' valuation methods has become so important. While the two approaches can appear similar on the surface, they produce fundamentally different outcomes when values are used to support underwriting decisions, Estimated Maximum Loss (EML) and Probable Maximum Loss (PML) analysis, and claims settlement.

Sitting at the centre of that difference, is the role of engineering-led expertise. Accurate insurance valuations depend on understanding how assets are designed, constructed, modified and operated, as well as spending sufficient time on site to verify what is actually there. Without that grounding, values risk being built on partial information, historical data or assumptions that do not hold up to scrutiny when a loss occurs.

As assets become more complex and scrutiny of declared values increases, the margin for error narrows. Getting valuations right is not simply a technical exercise - it plays a fundamental role in ensuring the right cover is in place, for the right risks, at the right time. This paper sets out why an expert, engineering-led approach remains the best way to achieve that level of confidence.

> **"Over more than 30 years valuing assets, I've seen a clear shift towards modelling approaches replacing engineering-led expertise. That shift introduces real risk for clients. At Kroll, we believe insurance valuations must be grounded in technical judgement to be truly fit for purpose."**
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> — **Antony Attwell**, Managing Director and Insurance Valuation Leader at Kroll.

How valuations have changed and their impact

Insurance valuations are facing a quiet but potentially significant crisis. Over the last two decades, the discipline has drifted steadily toward commoditisation, with many firms relying on modelling, basic asset register manipulation or simple cost-to-capacity metrics to produce reports. The result is a market where valuations look clean and data-driven on paper but bear limited resemblance to the costs clients could face in a loss.

> **For The Sake of Speed And Efficiency**
> "What began as a search for speed and efficiency has quietly hollowed out the technical foundation of insurance."

Underinsurance, which has plagued insurance claims for many years, illustrates the scale of the problem perfectly. According to research by insurance broker Gallagher, nearly half of all UK commercial properties are thought to be undervalued, with shortfalls commonly reaching 40% or more. If that level of error exists in standard commercial property, the exposure is likely to be far greater in energy and other complex asset classes, where bespoke equipment and unique design specifications make an overreliance on modelling and asset registers even more hazardous.

The challenge is that many clients don't fully realise how far the methodology has moved: "Clients aren't necessarily aware of the difference," says Antony. "But without the technical grounding of an engineering-led survey, valuations risk becoming increasingly detached from reality."

This skill erosion is now one of the biggest structural issues facing the sector. Research conducted by the Royal Institution of Chartered Surveyors (RICS) on hundreds of RICS surveyors around the world found that:

87% **feel the skills gap is having an impact on the profession**

27% **believe the impact is critical**

59% **said the profession must prioritise the development of skills across the sector**

Against that backdrop, the demands of an engineering-led valuation stand out sharply. Such an approach requires discipline, a structured training pathway, technical understanding of how insurance valuations are used, and the judgement to assess anomalies, and recognise when the data doesn't make sense. By contrast, many modelling-focused valuers depend too heavily on the asset register, don't understand the issues within and spend too little time on site to develop this depth of understanding.

"They do go on site but not for long enough to get under the skin of the assets they are valuing. Less experienced valuers tend to use this method and may be unaware there is another approach to conducting valuations. The two approaches are fundamentally different." says Antony.

The difference between these two approaches only really becomes clear when a claim is made and those at the sharp end of claims management are seeing the issue rear its head on a regular basis.

"In a recent discussion with a senior loss adjuster, I asked how often he sees claims with no valuation attached. He said he saw it quite often but more alarmingly; he added, that even **when valuations are in place, they are often wrong**," says Antony.

Commercial pressures have had a significant part to play in this drift, with lower cost methods becoming widely utilised as technology (and modelling) started to play an increasingly prominent role in the profession. And as technology gave the impression of being a faster, more efficient method of conducting valuations, prices started to come down, encouraging more firms to embrace modelling over the more time intensive and costly engineering-led approach.

However, this shift towards efficiency and the slide towards commoditisation hasn't been intentional: "This wasn't done deliberately but valuers, under significant pricing pressure and often with limited exposure to underwriters, didn't understand that what they were producing via the modelling method wasn't as accurate as it should be," says Antony.

Whatever the intentions behind the use of modelling, the cumulative effect is clear, engineering-led valuation expertise has been increasingly sidelined, and the gap between declared and true reinstatement values continues to widen.

This paper explores how the profession reached this point, the differences between what Kroll now refer to as 'Basic' and 'Expert' valuation methods, and why an engineering-led approach (Expert) is essential for delivering accurate sums insured. This approach is essential to enable credible Estimated Maximum Loss (EML) and Probable Maximum Loss (PML) analysis and provide confidence that the right cover is in place, for the right risks, at the right time.

Modelling is a risky shortcut
Modelling is putting clients at risk— it is not fit for the purposes of insurance.

Plotting the path to the present day

The profession's shift away from engineering-led valuations did not happen overnight. It unfolded gradually, beginning in the early 2000s when digital tools arrived promising faster, cheaper ways to generate seemingly robust valuations. The efficiencies were seductive, but the unintended consequence was a steady erosion of the judgement, engineering insight and critical thinking and skills that underpin an accurate insurance valuation.

"Thirty years ago, nobody was relying on asset registers to complete valuations but by the early 2000s, with the advent of the internet and the widespread use of computers, it started becoming more common," says Antony.

Since then, modelling has become the prevailing approach as it made valuations simpler to run, easier to present, and far more cost efficient to produce. As delivery times shortened and fee pressures intensified, these tools began to displace engineering expertise even in sectors where they were never an appropriate substitute, such as complex industrial, infrastructure and energy assets. What changed was not just the method, but the mindset. As the use of modelling driven valuations spread, the need for engineering judgement diminished and **experienced valuers who once challenged every anomaly, were replaced by practitioners whose job was to input data, rather than interrogate it**.

"The knowledge I was taught has, to a large degree, been put to one side. **The models look defendable because they use statistics and raw data, but without the engineering training, it is very difficult to spot any errors in the valuation**," says Antony.

Without a foundation of technical expertise, model outputs began to be accepted at face value, and the slide from expertise to expediency accelerated.

Less accurate, less granular and less bespoke

The shift was reinforced by the data feeding the models. Asset registers became the default data source, and while they are rich in detail, the data they hold is often outdated with limited relevance to true reinstatement costs. In 2025 Kroll's FAIR (Fixed Asset Inventory and Reconciliation) team calculated that on average 16% of the assets inventoried were ghost assets, and worse, 27% of the assets on-site we not even on the FAR.

"Relying on asset registers turns historical accounting data into assumed reinstatement reality."

"Relying on asset registers has always been a far less accurate approach as they're historical documents designed for accounting, not insurance," says Antony. "'Rubbish in, rubbish out' still holds true. As knowledge has become increasingly focused on modelling and efficiencies, this shift has reduced the ability to draw on the combination of physical and visual experience that engineering-led surveyors possess. As a result, issues are identified less often, and even when they are, the expertise needed to address them is diminishing."

Modelling Risk – The Danger of Cost-to-Capacity

Facilities with identical output are rarely identical to reinstate.

Cost-to-capacity modelling assumes plants are interchangeable, yet differences in age, construction, layout, utilities and expansion history can materially alter reinstatement costs.

When a single "representative" plant is used as the basis for modelling, site-specific concentrations of value are concealed. This creates exposure to underinsurance and partial-loss shortfalls and, critically, invalidates Estimated Maximum Loss (EML) analysis by modelling losses against an assumed facility that does not exist in reality.

These limitations are rarely visible in a spreadsheet but become critical when valuations are relied upon for loss modelling and underwriting decisions.

Commercial pressures accelerated the trend as desktop and Basic valuations allowed firms to offer lower prices and faster delivery, creating the illusion that all valuation services were broadly equivalent. In reality, the gulf between methods widened. Engineering-led valuations require more time spent on site, independent visual equipment verification, geographic breakdowns and direct engagement with the design aspects of the asset. Eventually this will be automated, but as Antony stresses, the sector is not there yet.

"Models are cheaper and quicker, but they're also less accurate, less granular and less bespoke to the asset being valued," he says. "And when fees for the two different approaches look comparable, clients don't realise the methods being employed are completely different."

Hollowing out the technical foundation

Although insurers have a vested interest in valuations being forensic and accurate, they have limited ability to influence this trend. They rely on accurate values and credible EML and PML estimates but are rarely the ones paying for valuations, so their influence tends to be indirect, particularly in placements with multiple follow markets. As a result, the level of scrutiny insurers expect is often not reflected in what is commissioned.

"This skill erosion is now one of the biggest structural issues facing the insurance valuation profession."

Despite their lack of influence, they are aware of the impact. Recent analysis from Aviva suggests that around half of UK businesses may be underinsured, with two in five property policies carrying at least one premises underinsured by 20% or more, and 40% of locations having neglected to update their sums insured in three years. Aviva has described underinsurance as "an existential threat to businesses of all sizes across the UK".

Underinsurance often results in the 'average clause' being applied to claims payments and it's worth remembering why and how the Property Damage Valuation and Average Clause (LMA 5514) came about. It was introduced by insurers as an incentive to help buyers avoid the underinsurance trap, stating that if an asset is insured for less than its true reinstatement cost, any claim payment can be reduced proportionately. Rather than being a punitive measure, it is designed to encourage regular, accurate valuations to ensure the cover bought, matches the exposures faced.

However, if underinsurance is an issue in standard commercial property risks, it is likely to be a much larger one for complex assets such as energy facilities and large industrial plants. Unlike commercial property, these kinds of assets rarely feature in underinsurance surveys and that absence is revealing. These are some of the most complex, high value assets in the market, yet there is little sector wide visibility on valuation accuracy. The issue in complex assets is not lack of underinsurance; it is a lack of dependable data, the result of shortcut methods that conceal the true scale of incorrect valuations beneath a veneer of efficiency. What began as a search for speed and simplicity has ultimately hollowed out the technical foundation of the professionals who carry out insurance valuations. Modelling based on asset registers helped the industry scale, but at the cost of the engineering insight needed to produce accurate, defensible figures, particularly for large, bespoke or energy related assets.

"Experienced valuers who once challenged every anomaly have been replaced by practitioners trained to input data, not interrogate it."

Shortcuts have become the go to option, and the result is a growing disconnect between declared values and real world exposure. To close that gap, it's essential to understand how Basic and Expert valuation practices compare.

Basic vs Expert – two methods, two very different outcomes

In today's market, two fundamentally different approaches to insurance valuation coexist. On the surface they look similar with both involving a site visit, a final report, and a set of numbers that appear defensible. But beneath that surface, the methods diverge significantly. One is fast, generic and heavily reliant on historical data. The other is more thorough, forensic in approach and grounded in engineering judgement. **The gap between the two is the gap between the assumed and actual reinstatement value.**

"On the surface the two approaches look similar. In reality, the difference is fundamental."

The Basic approach - fast, familiar but fundamentally flawed. The Basic method typically involves a short site visit, often a day or two, to confirm broad asset categories, understand the layout and gather general plant information. But that's where the hands on assessment stops.

The valuer typically relies on information provided by the client, particularly the financial asset register, with minimal independent verification of what is physically on site. While these registers may seem comprehensive, they were created for accounting and often include values distorted by historic project costs such as outdated tender prices, non-insurable items, design costs, engineering charges, and discounts that would never apply in a reinstatement scenario. When this kind of data is used uncritically, the result is a valuation built upon unverified assumptions rather than reality and the truth.

Relying on asset registers also risks missing costs that should be included, such as current list prices for critical equipment, modern installation costs, labour, local market factors and replacement costs for assets that have changed significantly since installation.

The result may look tidy, organised and data led, but in reality, it rests upon logic that rarely stands up to scrutiny.

Large projects are priced as if every component were newly installed, original tender discounts distort the declared values, and key reinstatement complexities are overlooked.

"Without geographic breakdown and engineering verification, credible EML and PML analysis is impossible."

Geographic reporting breakdowns are also often missing, replaced by aggregated figures that cannot support meaningful EML and PML analysis, a particular issue for complex assets where design can account for a large proportion of the project cost.

There is a place in the market for Basic – where a benchmark of the sums insured is required or where time is limited, the basic approach can be adequate, but with the view that the expert approach will be applied for the following year's renewal, for example.

The Expert approach - evidence, engineering and accuracy. The expert approach begins with an entirely different mindset and assumes the asset register is unreliable, and it is treated as just one of many data sources that all require checking, cleaning and reconciliation.

The site work undertaken in an Expert Valuation is extensive. Instead of one or two days, a team may spend a week or more on site, depending on the complexity of the operation. They will examine things like production lines, utilities, control systems, structures, fit out, auxiliary equipment and any modifications made since installation.

The Kroll team identify what equipment is actually present and whether it aligns with what the technical information is telling them. The team will focus solely on assets that can be insured, disregarding non-insurable items. They will also review major projects, expansions, and rebuilds to determine which costs are relevant and which are specific to the project and not insurable.

This method also recognises that reinstatement values are geographically reported. Equipment housed in different buildings, blocks or areas of the site require distinct allocation to produce credible EML and PML models. An Expert Valuation makes clear how value is distributed across a site, breaking it down building by building and area by area, minimising the risks that come with having items reported throughout or grouped in yards, detail that a register based valuation can't replicate.

Using a consistent methodology means assets are valued on the same basis wherever they are located, with differences arising only from real local cost factors such as labour, currency or supply chain conditions. This removes distortions caused by legacy accounting practices or historical investment decisions.

"**An Expert Valuation isn't just about finding a number, it's about being able to justify it**, and knowing our valuations have supported actual claim scenarios is a big boost to that," says Antony. "Without spending time on site, understanding how assets were built, looking only at insurable assets and costs, effectively not considering non repeatable ones, and verifying what is actually there, you are potentially starting from the wrong place."

The difference between the two approaches is fundamental. **Basic Valuations rely on assumptions that often don't survive scrutiny in a claim, while Expert Valuations rely on evidence, engineering and verification**. When the stakes are high and the assets are complex, only one approach produces values that insurers, brokers and clients can trust.

The Kroll method – precision through engineering, technology and training

Accurate insurance valuations depend upon more than data collection. They rely on engineering insight, sector specific knowledge and rigorous verification, qualities that have become increasingly rare as Basic Valuation methods have gained ground. Kroll's approach restores that technical foundation, combining deep expertise with advanced digital tools to deliver valuations that stand up to scrutiny. Many firms assessing complex assets approach them as if they were simply another form of commercial property or simple plant and machinery. That assumption is flawed because energy facilities, for example, are complex, bespoke environments where design lifecycles, degradation rates, construction methods and non-insurable components differ sharply from conventional property.

"Accuracy in valuations is not a cost; it is an investment in resilience."

RICS, the professional body for chartered surveyors, reinforces this point, warning that valuers in the renewable energy sector must have "sufficient current local, national or international knowledge of the sector" before accepting instructions. Without that understanding, risks such as ageing equipment, process design costs and geographic exposure can be easily misvalued.

More than 200 valuers across 34 countries contribute live intelligence from site visits, supplier discussions and project reviews, all of which feed into Kroll's powerful cost databases and proprietary valuation tools. The result is a consistently applied methodology that captures the true nature of industrial facilities, rather than relying on financial records or template driven assumptions.

Valuers spend considerable time understanding each asset with every major piece of equipment, phase of construction, dependency and design element taken into account. This allows for the identification of insurable assets, redundant plant, obsolete kit, and construction specific costs (such as project design, engineering charges or tender discounts) that should never be considered in the reinstatement value.

A variety of digital tools are used to enhance the work valuers do on site, not replace it. Each valuation includes current equipment pricing, recent rebuild data and the small but important changes that come from day-to-day operations. Because this information is constantly refreshed by teams working across dozens of facilities and countries, the underlying cost base stays very close to what a reinstatement would realistically involve, rather than relying on historic figures or assumptions. Using the same logic everywhere keeps portfolios aligned, with differences driven only by labour, materials and other genuine local conditions.

Reflecting the realities of modern assets

Instead of issuing a single figure for an entire facility, Kroll valuations are broken down by building and/or by area, mirroring how a loss would unfold in real life. This structure shows where value sits across the site and where that value is concentrated, which is essential for credible EML and PML work. Mapping this visually brings the distribution of

risk to life and shows how individual assets contribute to the overall picture, allowing insurers and risk managers to understand the site in practical, rather than theoretical, terms.

The Real Risk of Uncertainty
"Convenience may reduce fees, but it increases uncertainty — and uncertainty is the real risk."

Detailed independent equipment listing, reconciliation against technical documents, and disregarding non-insurable components creates a transparent audit trail for claim defensibility: if a loss occurs, the valuation provides an itemised understanding of what was present on site. Independent verification such as this limits the potential for claims disputes and ensures that reinstatement values better reflect realistic, repeatable costs rather than optimistic tender prices or historical accounting entries.

Complex assets including Energy, present particular challenges that the Basic approach cannot fully address. Construction pricing often reflects one off tender conditions and commercial decisions unlikely to be replicated after a major loss. In addition, economies of scale at the time of construction, shifts in technology, site expansions, turnarounds and age related degradation all influence real world reinstatement costs and must be accounted for in any valuation. The engineering-led approach takes account of these dynamics in a way that asset register based modelling cannot.

The result is valuations that combine sector expertise, rigorous engineering analysis and continually updated intelligence. The Kroll approach scales globally, adapts to local conditions and delivers results that reflect the realities of modern assets, especially in energy and complex risks, where complexity and bespoke design leave little room for error.

Why it matters – accuracy, confidence and real value

Accurate valuations determine whether cover is appropriate, premiums reflect real exposure and claims can be settled without dispute. When values are based on internal estimates, construction stage costs or incomplete site information, the risk of underinsurance, the application of average and incorrect EML and PML modelling increases. Insurers are already scrutinising declared values more closely, particularly as underinsurance continues to surface even in straightforward commercial property, so for industrial assets, a defensible, engineering-led valuation removes uncertainty and gives all parties confidence in the numbers.

CASE STUDY 1

A petrochemical client initially rejected Kroll's valuation, preferring its own lower internal figures but a subsequent review by an independent risk engineer confirmed that those internal values were materially understated. When Kroll revisited the site, the updated valuation increased the sum insured by more than 50%. Six months later, the client suffered a loss exceeding $100m. The declared values based on Kroll's work were within 10% of the reinstatement cost, ensuring the claim was paid in full, but had the internal figures been used, the average clause would have applied, resulting in a significant financial loss for the client.

CASE STUDY 2

An energy company relied on construction-phase costs to set its insured values, having secured favourable pricing from a long-standing contractor. Kroll's valuation, carried out at start-up, placed the reinstatement values 30–40% higher than the build costs. When a loss later occurred, the claim aligned with Kroll's figures, ensuring the full amount was recoverable. The gap reflected the difference between a commercial construction tender and the true cost of reinstating a complex, bespoke facility following a loss.

Expert, engineering-led valuations provide clarity during a claim, reduce the scope for dispute and support credible underwriting decisions for complex assets.

Quality over convenience

Insurance valuations matter most when things go wrong, as at that point, every figure in the report is tested: sums insured, EML and PML, the treatment of non-insurable items, and how value is distributed and calculated across a site. If those numbers are built on partial information or unexamined assumptions, the consequences surface quickly through the application of average, disputes or uncertainty in the claim. Paying for accuracy isn't a cost, it's an investment in resilience.

An Expert Valuation is one that is crafted properly, by people who understand the industry they are assessing and can translate its quirks, processes and design choices into a defensible insurance position. That level of detail supports risk managers, strengthens underwriting confidence and gives organisations clarity on the exposures they are actually carrying.

For organisations commissioning valuations, a few simple checks should help distinguish genuine expertise from convenience:

- What method will the valuer use, and what exactly will be done on site?
- How does the valuer ascertain and separate insurable and non-insurable costs?
- Can they provide real examples of where their valuations have supported a claim?
- Have their values ever replaced previous reported figures, and why?
- How will the value be allocated across the site and will it support EML and PML estimates?

When every figure counts, only an engineering-led valuation provides the confidence needed to stand behind it: at placement, throughout the policy period and when a loss occurs.

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