KTS NEWSLETTER

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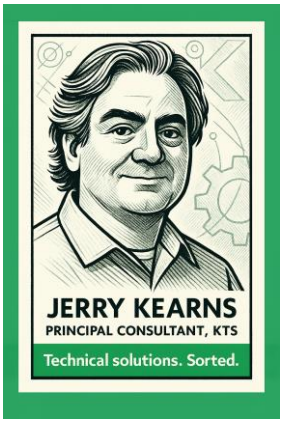


In this issue of the KTS Newsletter, we have:

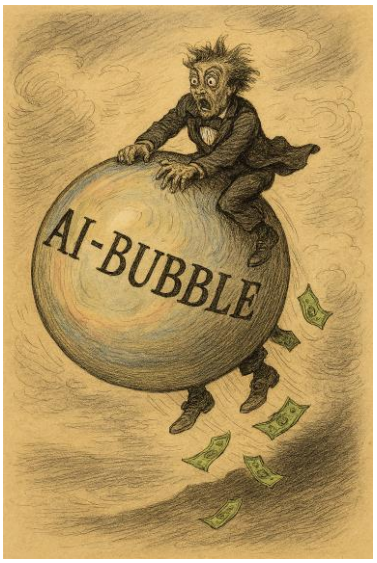
KTS LATEST

We've reached that time of year again – digging out the tinsel, writing out the Christmas cards, lights up, nights out. Tis the season when . . . our musical talents are in high demand: the school where Mrs. KTS works sent out an S.O.S. for an accompanist for their upper school nativity; and we've put together a relatively ambitious program for our own choir, too. Ranging from classical carols to pop, from a capella to elaborate organ scoring. Something for everyone.

This issue of the KTS Newsletter aims to offer something for everyone, too. We review recent government announcements on the Energy Profits Levy and infrastructure investment. In **Market Watch**, we compare two companies in engineering and mining with high revenue-to-market capitalisation ratios in the search for value. There's a guest article regarding the use of AI in materials management, and Buzz explains heuristics in **Maths Corner**.

But first, we look beneath the surface of AI-company valuations and ask: is what we see evidence of a speculative bubble?

SPECIAL REPORT: The AI Speculative Bubble



If you've been following KTS News, you'll maybe get the impression that I think the advent of Artificial Intelligence is a big deal. Turns out, I'm not the only one. If you have a look at the US share indexes, AI-related stocks are rampant. On the S&P 500, seven of the top ten companies by value (and all the top 5) are strongly linked with the development of AI. The "Magnificent Seven" represent 35% of the total value of the S&P 500. They are (in reverse order of size): Tesla (you thought they just made cars, right?), Meta (a.k.a. Facebook), Amazon, Microsoft, Alphabet (Google), Apple, and Nvidia. Even two of the other three in the top ten are AI enablers (Broadcom and the semiconductor manufacturer TSMC).

Valuations of AI stocks have sky-rocketed over recent years, to the extent that there are dark murmurings about an AI-bubble. Values, it is said, have been over-inflated by hyperbole and unrealistic expectations to such a degree, that the bubble will inevitably burst.

Super high valuations

- **Valuations 101**: the market capitalization of a company at any given time is the number of issued shares times the current share price (market capital = no. shares x share price). It's not linked to revenue or turnover or profits – only to what the last person who bought a share was prepared to shell out for a piece of the pie. Of course, the share price *SHOULD* (and often does) reflect performance; but at other times, it is pure sentiment.
- **Nvidia**: This year, the valuation of Nvidia has topped $5-trillion dollars, making it the most valuable company in the world. Ever. $5,000,000,000,000.00. It is fair to suggest Nvidia have been performing. Their current valuation is set against real revenues that are doubling year-on-year for the third year running. Not only that, but relatively speaking, they are operating with huge margins and paying out dividends of about 4 cents per share. All the same, the projected revenues for 2025 of $225-billion give a valuation-to-earnings ratio of about x22. For reference, the highest non-AI stock, Saudi Aramco have a ratio of about x4 and paid dividends at 9 cents per share (dollar equivalent).

The dot.com bubble – compare and contrast: In 1999, six of the S&P 500 top-ten were tech companies: Microsoft, Intel, Cisco Systems, Lucent, IBM and Oracle. Together these represented (at peak) about 20% of the total value.

- **Microsoft in the dot.com bubble**

If Nvidia are the touchstone of the current AI-tech-wave, then that was Microsoft during the dotcom bubble of 1998 – 2000. In 1999, Microsoft achieved a market valuation of $580-billion – roughly $1-trillion in today's money. When the bubble burst, it lost more than half its value and didn't get back to dotcom boom valuations until about 2016 / 2017 (i.e., if you had bought a share in 1999, you paid a premium that you didn't recoup for nearly 20 years). But at least it not only survived, but eventually re-captured all its lost value and then some (current valuation is 3 times what it was in 2017).

- **Amazon**

Amazon and Microsoft are big success stories that emerged through the wreckage of the dotcom crash. But they are also cautionary for wave riders. $1,000 dollars invested in Amazon in 1999 was worth $40.00 three years later, as the valuation of the company went from $26-billion in 1999 to a low of $4-billion in 2001. (Now, of course, its value has soared, but the pay-off took patience and nerve, and plenty may have lost their shirts on the way).

Then . . .

All the same, if you base your historical review of the dotcom bubble only on Microsoft and Amazon, you might not think there was a bubble at all, just a bit of turbulence. Choppy waters. But the speculation bubble was real and there were casualties.

- **Pets.com**

An on-line retailer of pet supplies, pets.com had a market valuation when it went public in February 2000 of $82.5-million. It raised over $110-million in start-up capital. Yet it had burned through the lot within a year (including $1.2-million spent on a single Superbowl advertisement). It was filing for bankruptcy by year end.

- **Boo.com**

On-line fashion retailer Boo.com raised about $125-million in November 1999 from the likes of JPMorgan and Goldman Sachs. Boasting a website featuring 3D models, virtual dressing rooms, and an avatar assistant, most users in 1999 were dial-up and found the site painfully slow and nearly unusable. Turns out, it was all style and elegance. The emperor had no clothes. It was all gone in 18 months.

- **Webvan**

Pioneering online grocery Webvan raised $800-million in venture capital and had an IPO valuation in November 1999 of $4.8-billion. They invested heavily in infrastructure (they spent about $1-billion with my old friends at Bechtel). But they needn't have bothered. The margins weren't there. Each dollar sale cost them $2.50. The model was untested and badly managed. Its vertically integrated supply chain with robotic systems, conveyor belts, and refrigeration was far ahead of its time but financially unsustainable. It had passed its sell-by date within 18 months.

None of these three (pets.com, boo.com, or webvan) were inherently wrong. Online retail is part of everyday life now. Teemu and Shein, Tesco and Sainsbury's, Uber eats and Deliveroo. The problem is, when you start off with a sky-high valuation, you're battling gravity with a world of expectation on your shoulders. So, some of the second-tier enterprises came crashing to earth when the bubble burst.

And now …?

- **Palantir**: Named after a seeing stone in the Lord of the Rings, this specialist in data analysis is a spin-off from the CIA and as befits such a deep state origin, it has access to lucrative US government contracts, which it has successfully leveraged into the private sector. However, with market capitalisation reaching $400-billion in 2025, set against revenues below $4-billion, you don't need to be a wizard to spot that they are over-priced. They are in a similar position to where Amazon were, 25 years ago. Their business model is good, their operations profitable. They'll survive. But surely some sort of valuation adjustment is just around the corner.

- **CrowdStrike**: This cybersecurity firm produced similar revenue generation to Palantir (just less than $4-billion), but its market capitalisation value of $128-billion still looks high. Like webvan did back in the day, they are investing heavily in R&D. Are they too focused on growth? Could be.
- **Cloud Constellation / SpaceBelt**: This isn't a listed company, but one of many AI-inspired start-ups that to this untrained eye have all the hallmarks of a speculative bubble. Its USP is a project to develop data centres in outer space. This has attracted about $100-million investment. If this is what the smartest guys in the room are throwing their money at, well, good luck. Did anyone say, "boo!"?

Closing Note

So, is this an AI revolution or just another round of collective breath-holding before gravity reasserts itself? Probably a bit of both. The technology is extraordinary; the valuations, even more so. Some firms will soar, and some will discover — like Webvan — that elegant ideas don't always pay the bills. What matters is separating substance from sizzle. And as the AI era accelerates, that distinction will only get more important. Stay curious, stay sceptical, and keep your feet on the ground — even if some start-ups insist the future is in outer space.

INDUSTRY REVIEW: Clean Jam Tomorrow

🛢 Oil & Gas

Overall, the UK's Autumn budget was neutral for oil and gas. Any faint hopes that the Energy Profits Levy would be scrapped, or new licenses would be issued, or there would be any positive support for the industry at all, were quietly extinguished. But at least it didn't make it any worse. Right?

Energy Profits Levy (EPL) – Recent Changes

- The so-called "windfall tax" on oil and gas profits, originally introduced in May 2022, will now remain in place **until March 2030**, (unless energy prices crash and producers can't be squeezed any further).
- The levy means the combined headline tax rate on upstream oil and gas activities stays at **78%** (including Ring Fence Corporation Tax and Supplementary Charge).
- The **Decarbonisation Investment Allowance** that permits companies to offset windfall tax through investment in decarbonisation projects remains for now.
- **A rose by any other name . . . :** From 2030, the EPL will be replaced by the **Oil and Gas Price Mechanism (OGPM)**:
  - **40% headline tax** as the permanent regime, plus:
  - **Additional 35% surcharge** when oil exceeds **$90/barrel** or gas exceeds **£0.90/therm**.
- The stated **Policy Objective** is for revenue from EPL to support the **transition to clean energy**, energy security, and protection against future price shocks.
  In other words, it is **punitive**, potentially deterring investment, accelerating decommissioning, and risking jobs in the North Sea sector.

North Sea Future Plan

- Introduced in the **Budget**, the **North Sea Future Plan** includes proposals for a **North Sea Future Board**: a governance body to oversee implementation of the plan and stakeholder engagement.
- Part of the plan, **Transitional Energy Certificates** allow **limited new oil and gas production** near existing fields and infrastructure **without new exploration licences**.
- Designed to ensure an **"orderly and prosperous transition"** while maintaining energy security. It really means either a **managed decline** or a **disorderly retreat.**
- Paired with commitments to **grow clean-energy industries** (offshore wind, hydrogen), and including a **National Jobs Service** to help workers transition to renewables and advanced manufacturing. Really? Give me a call!

🏗️ Infrastructure & Nuclear

KTS issue # 2 examined the recently announced nuclear power station at **Wylfa** on Anglesey. This time around, we look at UK government commitments to infrastructure upgrades. In the context where National Grid are forecasting a **50% increase in electricity demand by 2035**, **Ofgem has approved a £28 billion investment programme (2026–2031)** to upgrade and maintain Britain's energy networks—both gas and electricity.

- **£17.8 billion** will go towards maintaining and reinforcing the **gas transmission and distribution networks**.
- **£10.3 billion** to strengthen the **electricity transmission network**, improving reliability and expanding capacity to support electrification and clean energy integration.

⚡ Electricity Grid Upgrades

- The programme includes **80 major transmission projects**, such as new overhead lines, substations, offshore links, and associated works.
    - Adding **3,500 km of new circuits** and upgrading **4,400 km of existing lines**.
    - Enabling connection of up to **126 GW of clean generation**, enough to power millions of homes.
    - Cut constraint payments to wind farms by two-thirds and reduce unabated gas use to around 5%.

✅ Gas Grid Upgrades

- Investment focuses on **maintaining resilience and safety** as UK Continental Shelf production declines and the system adapts to lower-carbon fuels.

📈 MARKET WATCH

Ever appreciative of a bargain, KTS considers two stocks this week, which are projecting low price-to-earnings ratios (forward P/E). That is, their share price is cheap relative to other listed companies, based on their expected earnings per share.

Endeavour Mining

Endeavour Mining is a **London-headquartered gold producer**, operating primarily in **West Africa**.

With a forward P/E of about 10.6, it is expected to be amongst the most profitable companies on the index next year. However, it is highly sensitive to changes in the price of gold. And I don't know about you, but to me, Endeavour's main areas of operation (Burkina Faso, Côte d'Ivoire, Senegal, Mali) just scream, "red flag".

I might regret this, because Endeavour has had a real good year, and could continue to grow strongly, but £35.00 per share still feels too high for me. If you want to bet on this market, just buy gold.

Babcock International

Babcock International is an **engineering and defence services company**, focused on **marine, nuclear, land, and aviation sectors**. It manages **UK naval bases**, supports the **nuclear submarine fleet**, and provides civil nuclear services.

Babcock's defence focus and nuclear expertise provide resilience in the face of the same market headwinds in the engineering sector that have crushed Wood Group (see KTS Issue #1 and #2). In fact, government commitments to defence and nuclear almost guarantee a good few years ahead for Babcocks. Anything around £12.10 per share is good value.

Are you tracking any other players in oil and gas, pharmaceuticals, mining or infrastructure? Drop me a note on LinkedIn and I can investigate.

🐾 BUZZ'S MATHS CORNER: Heuristics versus Rigor

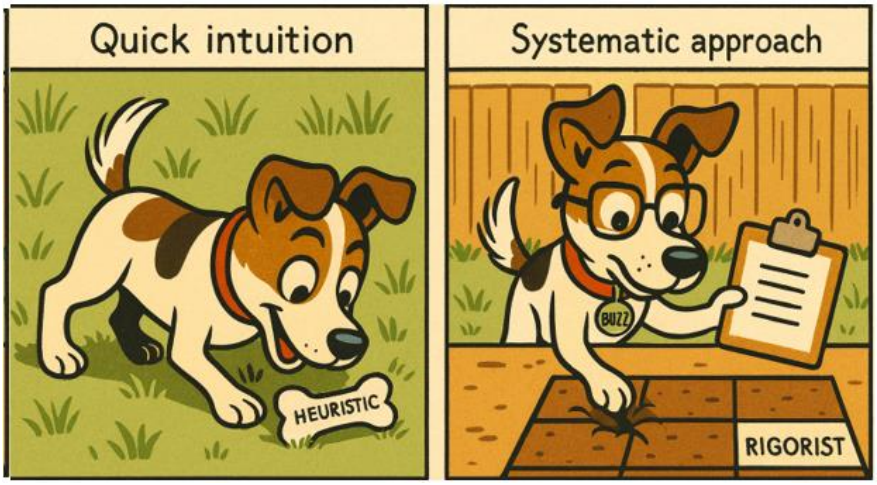
Buzz's Buried Bone

For some reason, that I can't really remember now, I buried a bone in the garden. Not only that, but I forget where I buried it. And I want it back. Now.

The Rigorist Approach

Well, I could search every square inch of the garden systematically. No guessing, no shortcuts. I need to define limits and units of measurement. But eventually, I'm going to find every bone I ever buried, however long it takes.

✅ *Complete, precise, but slow.*



The Heuristic Approach

Or . . . I could sniff around the usual spots where bones tend to be. It's quick, based on experience and patterns. Chances are, I'm going to find that bone fast.

✅ *Fast, practical, "good enough."*

What's a Heuristic?

A heuristic is a rule of thumb—a shortcut that uses experience or patterns to solve problems quickly when a perfect solution isn't practical.

In maths and computing, heuristics help when exact algorithms are too slow or too complex.
Example: Instead of calculating exact shortest routes, use "follow the main road" as a heuristic.

💡 **Did You Know?**
AI often uses heuristics to quickly filter huge data sources before applying deeper algorithms—just like Buzz sniffing out promising spots before digging deeper!

GUEST ARTICLE

🔩 A role for Artificial Intelligence in Bulk Material Management

The following article addresses a real issue in EPC (Engineer, Procure, Construct) projects, where traditional approaches can lead to major budget overruns. Reproduced with thanks from guest writer Mr Ankit Dagbar, an industry expert in bulk materials management.

🛑 The Silent Budget Killer in EPC: Buying the Gross MTO.

If you are treating bulk material procurement (piping, cabling, steel) the same way you treat tagged equipment, you are already behind schedule. Bulk management is a volume game, where small percentage errors equate to massive dead capital. The goal isn't just to buy; it's to manage the "Delta" between the Engineering Baseline and Field Reality.

Here is the lifecycle strategy for a "Zero Inventory" target:

1️⃣ Pre-Project: The "Parametric" Phase (Before the Drawings) How do you estimate when the model is empty? You don't guess—you benchmark. Use Parametric Estimation. Analyze historical norms (for example, kg of steel per m^2, or cable length per Input/Output point). Establish your baseline ratios and contingency buffers before the first line is drawn.

2️⃣ During Project: The Art of Dynamic Netting

A common pitfall is issuing Purchase Orders based on the raw Material Take Off (MTO) dump – unfiltered straight from the model. The Expert approach uses a dynamic netting algorithm:

$$Net\ Requirement = (Gross\ MTO \times Growth\ Factor) \times (1 + Cut\ Factor) - (Free\ Stock + Hard\ Allocation)$$

Growth Factor: constitutes a diminishing contingency as design matures (FEED vs. IFC).

Cut Factors: Accounting for kerf (cutting) loss, nesting efficiency, and fit-weld buffers.

Hard Allocation: Linking specific heat numbers to specific spools to prevent "ghost inventory."

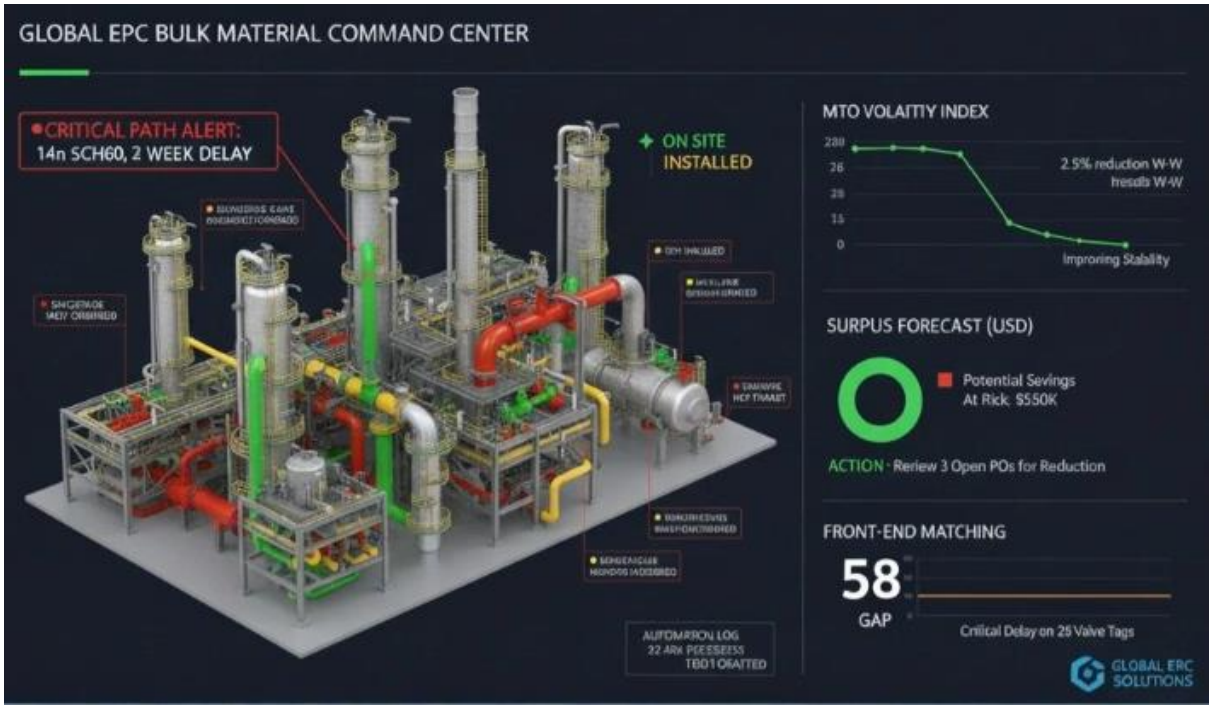
3️⃣ The Digital Magic: 4D & Automation

🤖 Excel trackers are static. Modern procurement requires a **Unified Data Environment**.

✔️ 4D Visualization: Link your procurement status to the 3D Model (Navisworks/Synchro). Colour-code the plant: Green (On Site), Red (Not Ordered).

✔ Power BI (Microsoft's business analytics and data visualization platform): Move to "Exception-Based Reporting." Don't track what's going right; track the MTO Volatility Index.

✔ RPA Bots: Automate the "Allocation Logic." When an ISO revision hits (Rev A ➞ Rev 0), let the bot check stock and draft the Top-Up Order automatically.



4 Post-Project: The Clean Break

Don't wait for demobilization. Negotiate "Buy-Back Clauses" for standard fittings upfront and transfer critical bulk items to Operations & Maintenance as start-up spares.

💡 The Takeaway: Smart procurement isn't about negotiating price; it's about optimizing flow. Stop buying "Just in Case" and start buying "Just in Time."

👇 Discussion for those in the trade: How does your team handle the "Design Growth Factor" during the transition from 60% to 90% model review?

🔧 . . . and finally . . .

We wish all our readers a very Merry Christmas and Happy New Year. Watch this space for some exciting developments in 2026.