Let’s Pretend: Subject Matter Illiteracy and the Rare Earth Industry

written by Jack Lifton | July 5, 2026

“The greatest enemy of knowledge is not ignorance, it is the illusion of knowledge.” — Stephen Hawking

There is an old children’s game called “Let’s Pretend.” Everyone agrees to suspend reality for a while and behave as though imagination were fact. It is an innocent pastime for children.

It is a dangerous way to build an industrial economy.

For the better part of two decades, I have watched governments, investment bankers, institutional investors, consultants, and mining promoters play an elaborate version of “Let’s Pretend” with the rare earth industry. The game changes costumes every few years, but the script remains remarkably consistent.

Let’s pretend that finding a rare earth deposit creates a rare earth business. Let’s pretend that financing replaces operating experience. Let’s pretend that a feasibility study is equivalent to industrial production. Let’s pretend that an engineering flow sheet is the same thing as a reliable commercial process. Let’s pretend that because a company can raise hundreds of millions of dollars, it therefore possesses the knowledge required to build and operate one of the world’s most technically demanding supply chains.

None of these assumptions survives contact with industrial reality.

The problem is what I have come to call subject matter

illiteracy. Subject matter illiteracy does not imply a lack of intelligence. Quite the contrary. Many of the people involved are exceptionally capable within their own professions. Investment bankers understand capital formation. Lawyers understand corporate structure. Mining financiers understand securities markets. Government officials understand public policy.

What they often do not understand is how difficult it is to produce commercial quantities of separated rare earth oxides, high-purity metals, specialty alloys, or qualified permanent magnets that meet the exacting standards of automotive, aerospace, electronics, and defense manufacturers.

The rare earth industry is not simply another branch of mining. It is a specialized manufacturing industry whose first step is mining. That distinction has been lost repeatedly by people who know how to finance projects but have never operated one.

The result is a second form of illiteracy—experience illiteracy.

Industrial experience cannot be purchased by issuing stock. It cannot be accelerated by government grants. It cannot be manufactured through press releases. It is accumulated over decades by engineers, metallurgists, chemists, operators, and production managers who have spent their careers solving problems that rarely appear in feasibility studies or investor presentations.

Every operating plant develops its own institutional memory. Every production campaign uncovers problems that no consultant anticipated. Every commercial process becomes successful because experienced people learn to recognize, diagnose, and solve thousands of operational challenges.

That knowledge rarely appears on a balance sheet. Yet it is

often the most valuable asset a company possesses. The financial markets generally value mineral resources more highly than operating knowledge because they can be measured and presented in attractive graphics. Experience is harder to quantify. The irony is that one creates headlines while the other creates products. History has demonstrated this repeatedly.

The rare earth boom of 2010 produced an extraordinary number of ambitious announcements. Around the world, companies promised integrated supply chains, downstream manufacturing, independent separation capacity, alloy production, and magnet manufacturing. Governments embraced these announcements as strategic necessities. Investors rewarded them with extraordinary market valuations.

Most of those ventures no longer exist in recognizable form. The problem was not a lack of mineral resources. It was a shortage of industrial knowledge. Many believed that capital could substitute for competence. It never has.

Meanwhile, the comparatively small community of people who actually knew how to separate, refine, reduce, alloy, and manufacture rare earth products continued to do what they had always done—solving engineering problems rather than promoting financial narratives.

That difference explains far more about the industry's history than most investors appreciate. The financial community has a natural tendency to believe that successful executives are interchangeable. A talented mining executive can surely build a chemical processing company. An accomplished steel executive can surely oversee rare earth metallurgy. A successful investment banker can surely assemble the necessary expertise after financing is complete.

Sometimes that happens. Usually, it does not. Industrial

knowledge is domain specific. Competence does not automatically transfer from one industry to another.

Rare earth processing combines mineral beneficiation, hydrometallurgy, solvent extraction chemistry, metal production, alloy manufacturing, powder metallurgy, and advanced materials science. Few industries require mastery of so many unrelated disciplines before a commercial product reaches a customer.

The customer, incidentally, remains the most neglected participant in almost every discussion of critical minerals. **For years, I have argued that industries are built backward from the OEM—not forward from the mine.** That is not a slogan. It is an observation based on decades of watching manufacturing industries succeed or fail. An automobile manufacturer does not care how many millions of tons of ore exist beneath the ground. It cares whether qualified magnet material will arrive on schedule, at specification, at competitive cost, every single time. Procurement departments create supply chains. Mines merely supply them.

Yet much of today's public discussion begins with deposits rather than customers. That inversion explains why so many announced "mine-to-magnet" strategies have struggled to achieve commercial success. A supply chain begins with a customer's willingness to purchase. Everything else is infrastructure assembled to satisfy that decision. This is why experience remains the industry's most undervalued asset.

When I evaluate a rare earth venture, I am naturally interested in the deposit. I am equally interested in the flowsheet. But before either of those, I want to know who has actually operated a comparable plant, who has sold qualified products to demanding industrial customers, who understands procurement, and who has spent enough years making mistakes to avoid repeating them.

Those questions rarely dominate investment presentations. They should.

The rare earth industry does not suffer from a shortage of geological opportunity. It suffers from a persistent tendency to confuse financial sophistication with industrial competence. They are not the same. Capital is necessary. Experience is indispensable. One can purchase equipment. One cannot purchase judgment.

Until governments, investors, and financial markets become more literate in the practical realities of industrial production, they will continue to reward stories that sound plausible while overlooking organizations that quietly accumulate the experience necessary to build lasting businesses. The children’s game ends when everyone agrees to stop pretending. The rare earth industry has not yet reached that point.

For the sake of Western industrial competitiveness, I hope it does.