

Reshaping the Munitions Base

A View From Industry

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Purpose

Provide a perspective from industry on Army transformation and the munitions industrial base

Can the existing munitions base conform to support next-generation munitions that are smarter, more accurate, more lethal, and longer range?

Current Reality About the Munitions Base: The Good News

- ✓ JMC focus on ammunition and its impact on readiness has heightened the level of Army leadership's awareness of industrial base issues
- ✓ PEO Ammunition provides single point responsibility and leadership for our business
- ✓ PEO is developing an industrial base transformation strategy
- ✓ Spiral/block development /upgrade approach being implemented
- ✓ Workforce of dedicated people, passionate about doing what's right for the soldier
- ✓ Successful consolidation of the industry; fewer suppliers, but more viable
- ✓ Focus on precision munitions for the Objective Force (but we need more focus on fund!)
- ✓ Partnering is the way business gets done

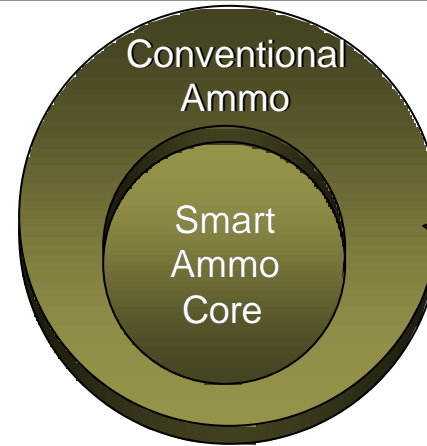
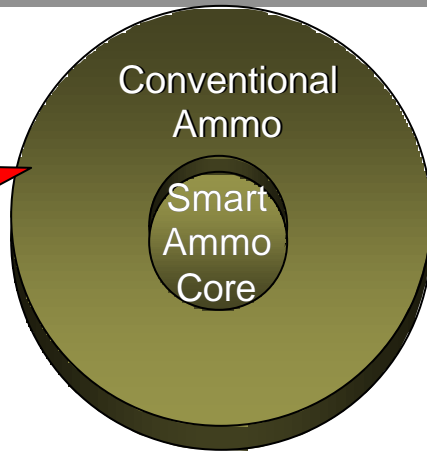
Current Reality About the Munitions Base: The Bad News

- Ammunition production base in 10th year of decline
- Excess Army plant capacity; redundant capabilities across plants
- AAPs with marginal capability to manufacture precision munitions
- Single product / competence AAPs
- Older plants with high fixed operating cost
- Can't afford replenishment cost
- Business model doesn't incentivize industry operators to make capital investments in Army owned plants

“Insanity is doing things exactly the same yet expecting a different outcome”

Albert Einstein

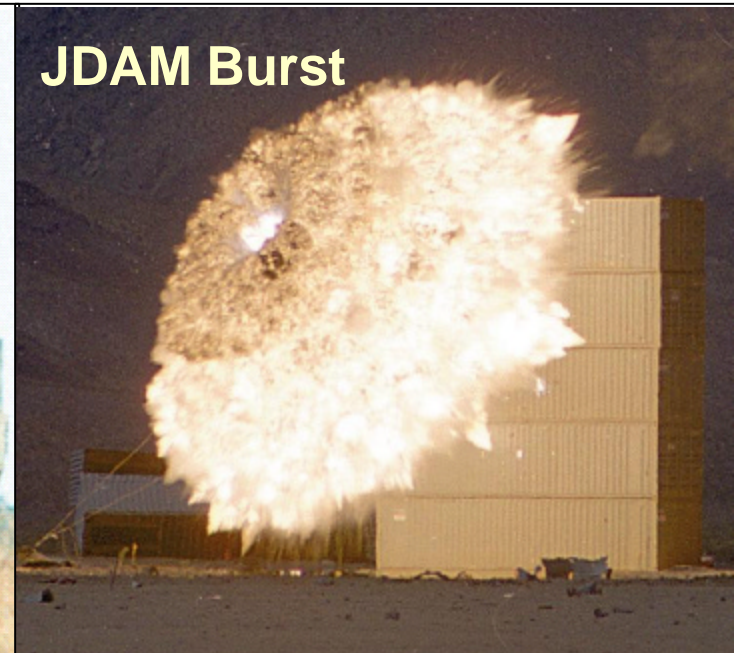
We Don't Need (and Cannot Afford) Smart Bombs For Every Target



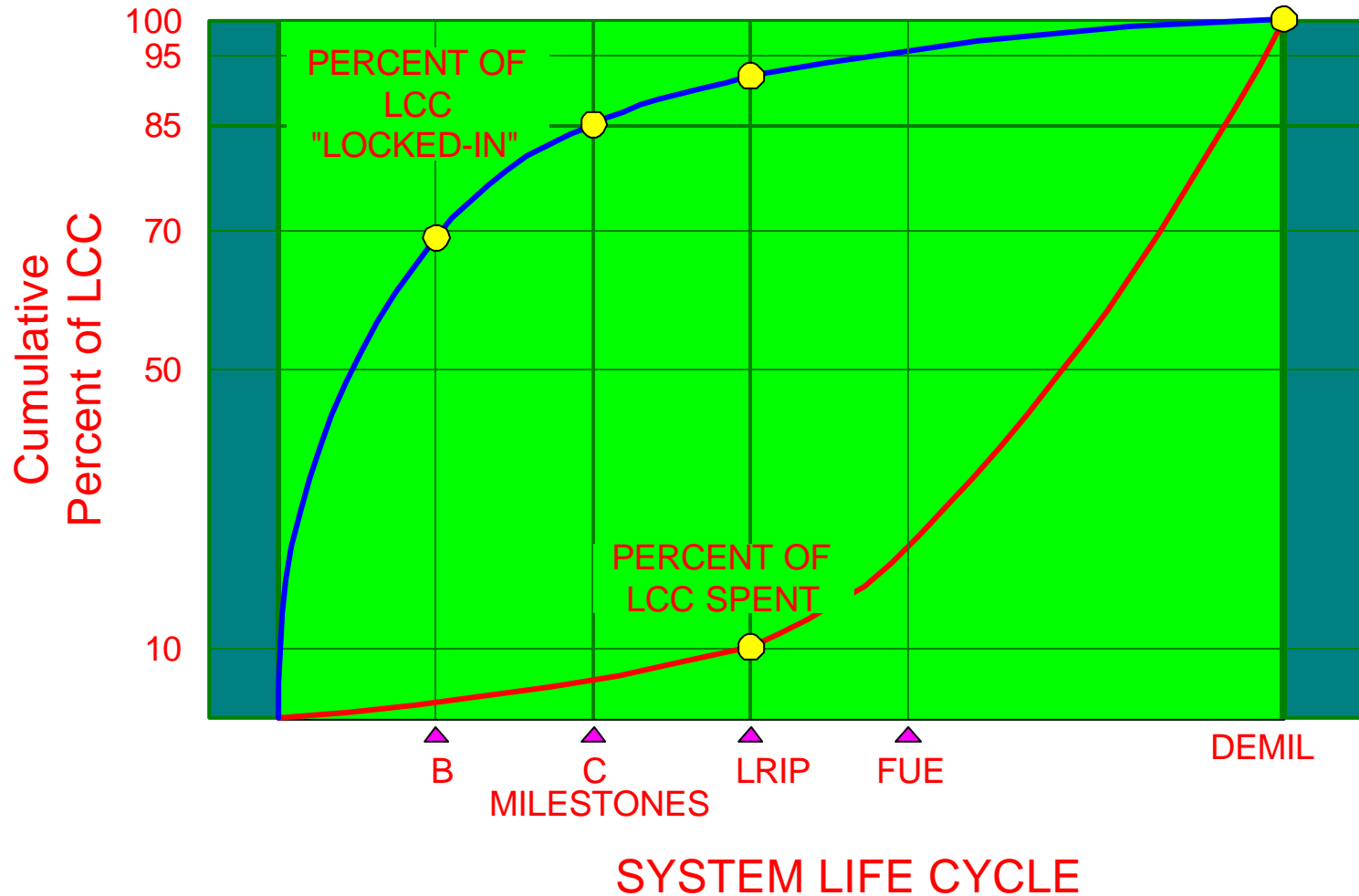
Paveway vs. Truck



JDAM Burst

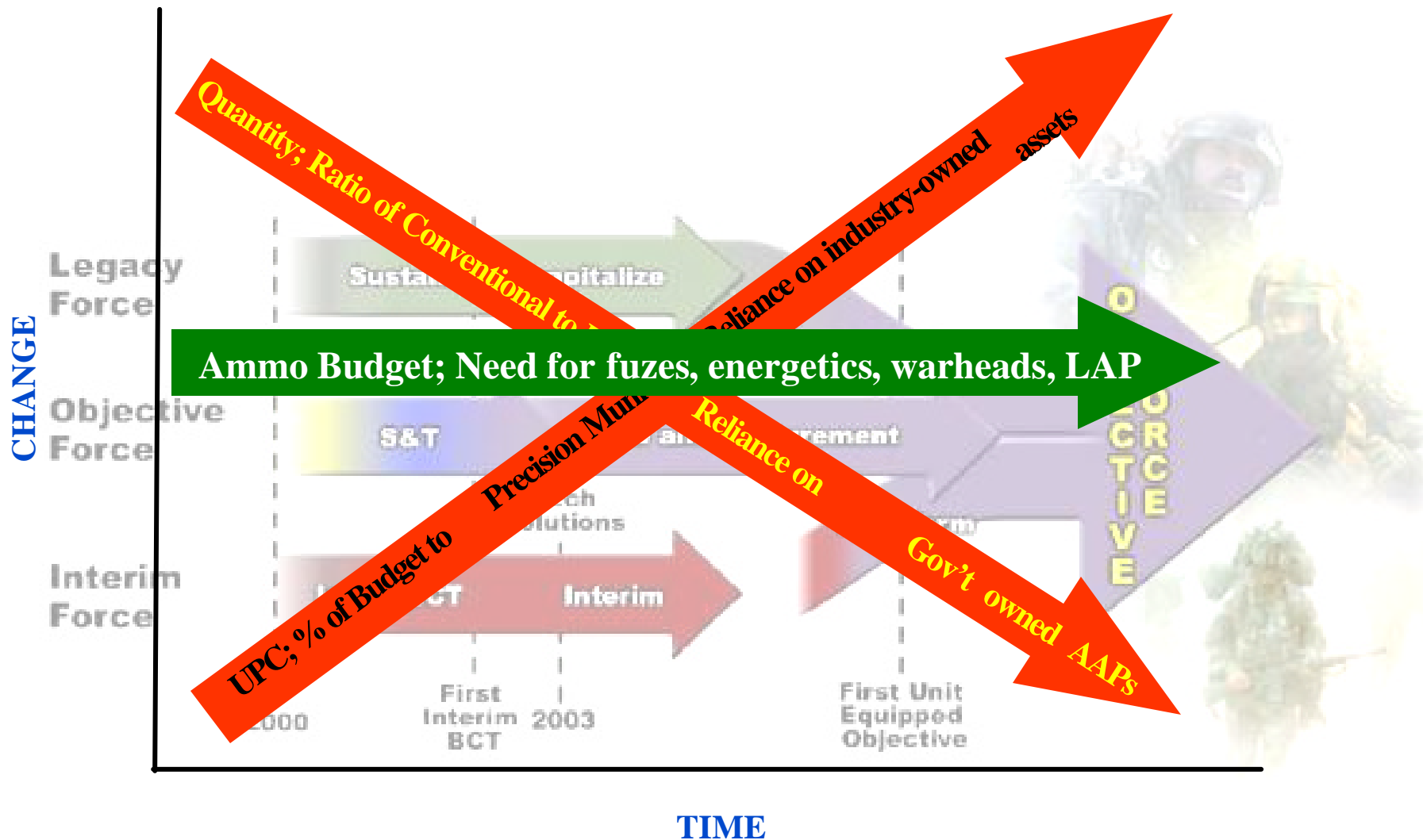


We Need To Start Thinking About Life Cycle Cost Early



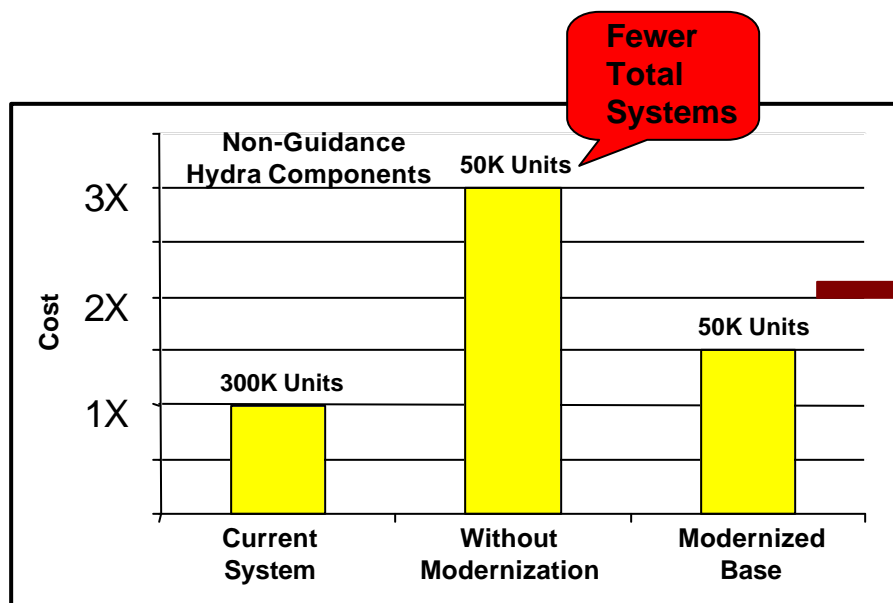
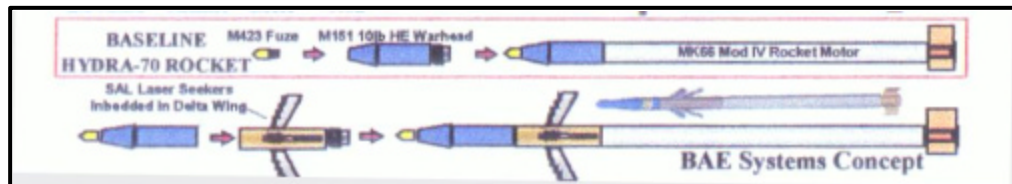
Design Drives LCC; Not Manufacturing

Challenge to the Base: Getting Aligned With Transformation



Example: APKWS Will Replace Hydra 70 As Part Of the Army's Transformation Move to Precision Capability

APKWS Uses Same Propellant, Fuze & Warhead Assembly



- Modernization will reduce cost of propellant, warhead, fuze
- Right-sized facilities
- Flexible manufacturing
- Quality / Six Sigma

Limit Impact to other programs buying from same base

The Industrial Base Must Be Modernized To Maintain An Affordable Cost Structure as Quantities Drop From Conventional Levels

Transformation of an Industry: Bethlehem Steel vs. Nucor



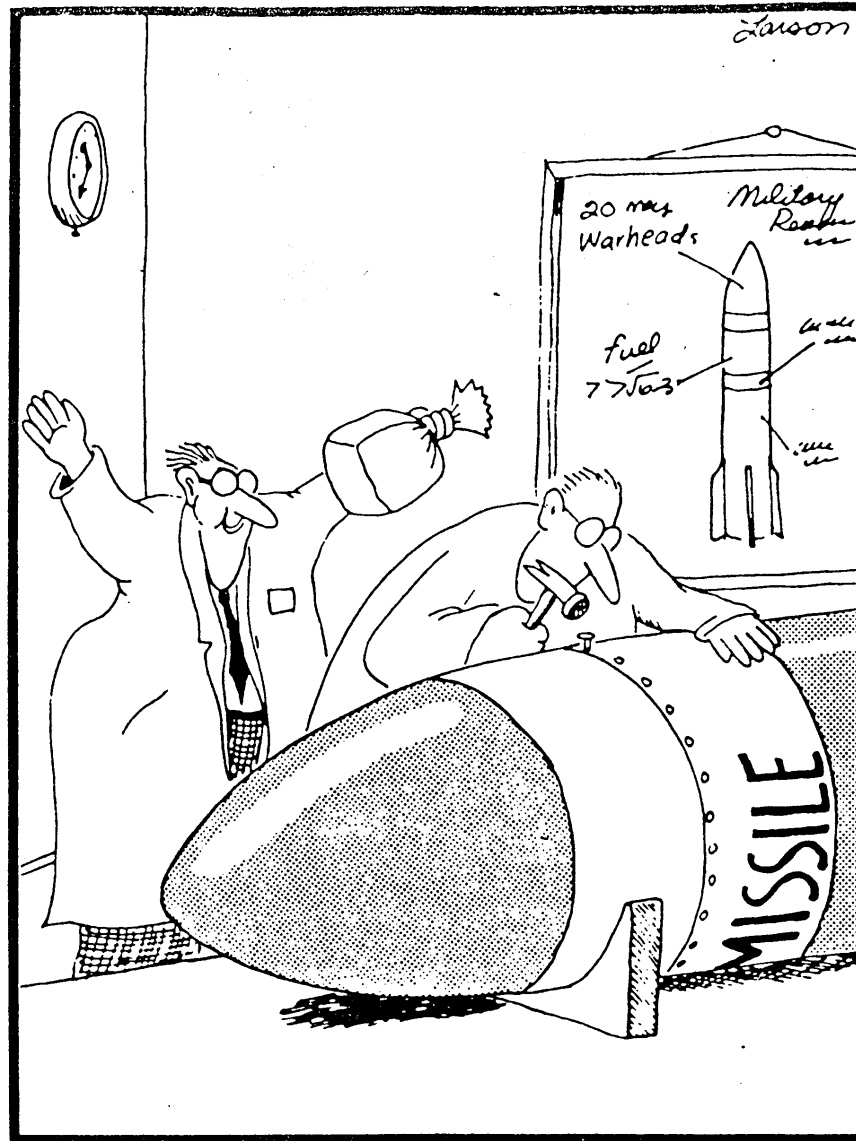
- Declining sales / high cost “death spiral”
- Batch process / huge capacity
- Few products on dedicated lines
- *Refused to change*



- New technology
- Continuous flow process /
- “Mini-mill” capacity
- Modernized plants
- *Changed everything they did*

Our Industry Is Ready To Change

Some Questions From The Industrial Base

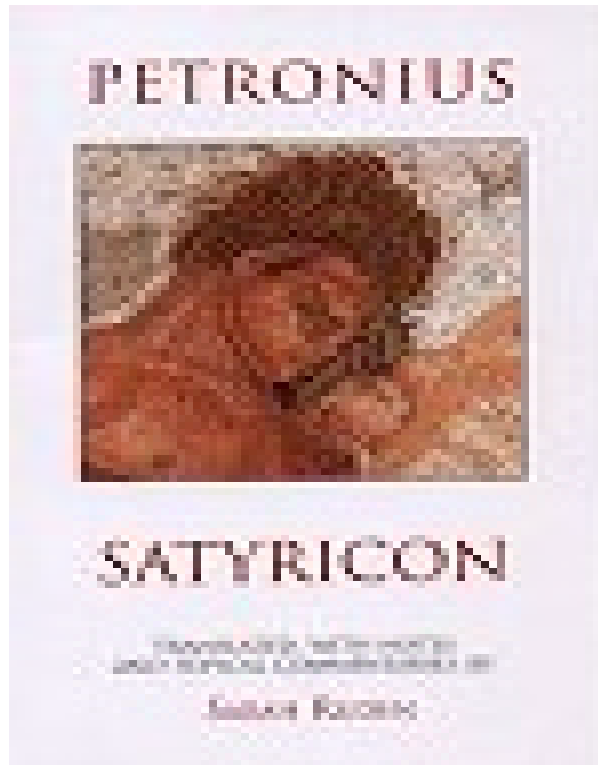


Is It Just Another Reorganization ?

“We trained hard – but it seemed that every time we were beginning to form up into teams, we would be reorganized.

I was to learn later in life we tend to meet any new situation by reorganizing, and a wonderful method it can be for creating the illusion of progress while producing confusion, inefficiency and demoralization.”

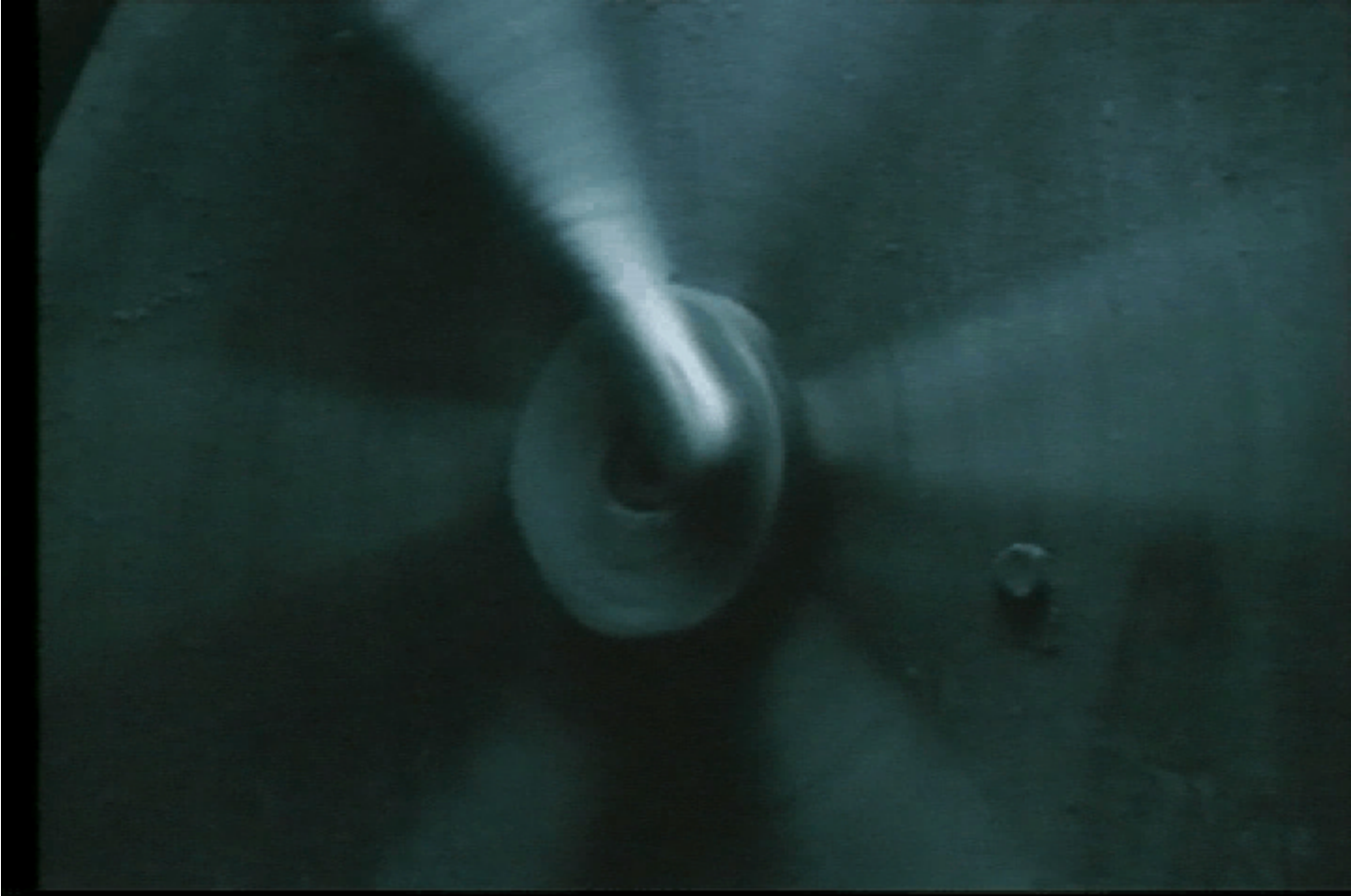
Petronius Arbiter – 66 A.D.



Why Is There a Munitions Industrial Base?

There is a theory which states that if ever anyone discovers what the *munitions industrial base* is for and why it is here, it will instantly disappear and be replaced by something even more bizarre and inexplicable. There is another theory which states this has already happened. (A slightly modified quotation from ***The Hitchhikers Guide to the Galaxy***)

Why Are We Here ?



Some Answers From the Industry Perspective

- ***Can the existing munitions base conform to support next-generation munitions?***
 - Yes
 - Precision munitions will continue to rely on the current base for explosives, propellants, fuzes, and warheads
 - Precision munitions unlikely to have needs for certain high-volume manufacturing processes (large caliber projectile bodies; steel deep drawn cartridge cases; grenade metal parts)
- ***Will there be an evolutionary transition or must a new base be established?***
 - The base will continue to evolve in order to address the changing mix of smart and conventional munitions; but there will continue to be a mix
 - Munition prime contractors will need to establish supply chains for critical electronic components (MEMS inertial devices; motors; batteries)
 - Starting with the right design: simple, lethal, affordable

Evolutionary Change: Balanced Affordability and Readiness