

Super-Globalism: Strategies For Maintaining a Robust Industrial Base Through Technological, Policy and Process Improvement

"As a colleague once said: 'They [industry] craft their global strategies based on assumptions of political and economic stability for a given region. Further, they boldly sally forth in search of new business opportunities with the complete confidence that should catastrophic and potentially employee/executive endangering destabilization occur in that country, the President will send in the Marines.'"

Everyone, from the learned to the layman, will agree that the US is at war. Indeed, the terror conflict, recently punctuated by the attacks in Saudi Arabia and the confrontation with Iraq, confirms this belief. But there is another war of much farther-reaching import and impact: Economic war. And worse, *the country is losing.*

The rise of Asian economic powerhouses led by Japan, and having been joined in earnest by China, is a recognized threat, although the recognition was too long in coming, particularly on the part of the US auto industry. This contention is born out by the fact of recent reports (*[A Profit Rich Toyota Threatens The Big Three; The Detroit News](http://www.detnews.com/2003/insiders/0305/16/a01-154360.htm)* <http://www.detnews.com/2003/insiders/0305/16/a01-154360.htm>) indicating that Toyota is now possessed of the financial wherewithal to acquire not only GM, but Ford and DaimlerChrysler as well.

This is an astounding turn of developments; clearly indicating Toyota has put its profound learning capabilities (*[Site search: "Hyperintelligence"](#)*) to good use. Even more astounding are the relentless efforts by the EU-supported AIRBUS Industrie to usurp the global dominance of the aerospace industry by US-based Boeing, Lockheed-Martin and Northrop-Grumman. AIRBUS will, in fact, deliver more commercial

aircraft than Boeing this year, and according to sources, gives them the momentum to achieve their goal of industry leadership by 2020. One frustrated executive lamented that "they may very well beat that time table by several years."

Verifying a perception of growing EU member nation insularity and a dismissive air towards the Americans, AIRBUS/EADS just announced their decision to not use Pratt & Whitney powerplants for the new A400M Turboprop airlifter. The capabilities of this craft fall between the venerable C-130 Hercules – which it hopes to replace in Air Force inventories around the world -- and the Boeing C-17 Globemaster III.

Globalization vs. Globalocalization

Thanks to ever advancing communications capabilities, fueled in no small measure by the Internet, the world has indeed become one big neighborhood. But does the emergence of what we will identify as "*super-globalism*" mean that national sovereignty and the prerequisite protection and perpetuation of one's own industrial base go away in the interest of bowing at its altar? Many executives are firm in their belief that they must become and remain international corporate citizens with no singular loyalties or alliances. The *National Security Act of 1947* begs to differ, however.

It states simply that "*Economic security is national security.*"

Most within the hierarchy of industry, when queried, believe that national security is the domain of the military and has nothing to do with how they conduct business. After all, they first and foremost have an obligation to deliver continuous profitability to their stakeholders.

True. *But only in a finite sense.*

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Knudsen Knew What He Knew

Then GM President William S. Knudsen (father of Semon "Bunkie" Knudsen) understood intuitively the inextricable linkage between a healthy industrial base, economic security, and national security at least six years before The National Security Act was written -- as the country came to grips with the frightening realization that thousands of miles away, but still too close to home, Pearl Harbor was a smoldering ruin.

Over the vehement objections of Chairman Alfred P. Sloan, he accepted a commission as a Three Star Lt. General in the Army, and then immediately embarked on transforming the industrial monolith known as General Motors into the core means by which the country could produce the necessary materiel' for a protracted war with the Axis powers. This ability to sustain far flung forces for long periods is what a recently presented paper by the *Society of Manufacturing Engineers (SME)* "*Total Lifecycle Management: A Different Approach to War*" in both their magazine and site (www.sme.org) calls "*The rear battle*".

Written by Pentagon Consultant Dr. Sheila Ronis, it drives home the point of the critical nature of industrial base sustainability: "Winning wars", she writes, "requires fighting and winning three battles, simultaneously. This is true for a lifecycle product team and the Pentagon.

"The near battle is where the troops are engaged in daily combat. For a team engaged in product development, the near battle is in the daily designing, developing, engineering, and manufacturing of the product. The near battle can be described as a product being made and sold in the marketplace on a day-by-day basis in competition with global competitors.

"The rear battle is the infrastructure, or foundation needed to support a continuous near battle. This includes enablers in the environment such as well-educated and trained people, including leadership, well-designed processes, and the development and inculcation of doctrine or governing and operating principles and the associated accountabilities required.

"The deep battle is the infrastructure needed to fight future battles. For product teams, this is the investment in future infrastructures, such as R&D or advanced manufacturing, the development of process,

holistic management and the skills and learning which are required for the future of all employees – or soldiers.

"The rules of war say that all three battles must be fought at the same time, so leadership must align itself, the behavior of all its people and the organization's capability as the three battlefields are planned for, strategies are determined, and executed. The three battles are viewed as a system."

Conversely, the utilization of war strategies and tactics by a company or a country seeking dominance in a given industrial sector demands a response in kind. Failure to do ensures the ignominy of defeat.

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Action Required

The time for hand wringing is over, and action is required considerably beyond the much-discussed strategic and tactical solutions served up like yesterday's soup by the principals of the automotive and aerospace industries. Of course, Wall Street tries gallantly to shore up its much besieged and nearly destroyed walls that once stood as evidence of competence and confidence.

Thankfully, talent and capability abounds in industry, government and the financial district. Moreover, the difficulties facing corporate America have not gone unnoticed -- even if too many presumably responsible individuals within industry have not demonstrated a propensity or a predisposition for taking a leadership role.

We are reminded of engineer/inventor Dr. Barnes Wallis whose ideas for what have proven to be predecessors of today's "smart weapons" helped spare England from the unthinkable: surrender to the multi-pronged and massively implemented strategies of *Operation Sea Lion*

by Germany's *Wehrmacht* on the ground, its *Luftwaffe* in the skies and its *Kriegsmarine* on the seas.

Dr. Wallis is best known for developing the "Dam Buster" spinning bomb carried by RAF No. 617 Squadron Lancasters, under Wing Commander Guy Gibson. The May 16/17th 1943 raid breached the Moehne and Eder dams and damaged the Sorpe in the Ruhr industrial valley, causing massive, albeit temporary, disrupting of manufacturing and hydroelectric operations. He was also responsible for the incredibly strong geodetic aircraft structure design deployed in the construction of Vickers-Armstrong Wellington bombers. Curiously, his unique, if not radical departures from accepted design disciplines initially caused his peers to consign him to the realm of the crackpot. This, despite his brilliance.



Dam Buster: 60 years ago, RAF No. 617 squadron pulled off one of the most celebrated attacks in history flying the Avro Lancaster. A MK III of No. 207 Squadron shown. Photo courtesy of ED 627 Memorial site and RAF Museum Hendon.

Consider Frank Whittle as well, a pioneer in jet propulsion and whose work in England had reached an advanced state as early as 1935, endured similar indignities. His German counterparts at Junkers aircraft engines did take his work seriously and sooner, resulting in an airborne shock to allied defensive/offensive sensibilities. And it came in the guise of the 30mm cannon-armed, 540 mph *ME-262 Schwalbe* jet fighter. Undeniably, a quantum leap in aeronautical technology that forced the Allies to accelerate -- no pun intended -- their own *Gloster Meteor* and *Bell AirComet* programs.



Aeronautical paradigm: World's first operational Jet Fighter, the Messerschmitt ME-262 Schwalbe (Photo: unknown)

Fortunately, history has demonstrated repeatedly that in times of crisis, the right people, the right processes, and right policies seem to present themselves. It is quite necessary, however, to recognize, accept and exploit their value, whether a Wallis, a Whittle or a Winston Churchill.

State Of The Industry

Taking stock of the country's current state of affairs from an economic, political and industrial standpoint, it's safe to say, *"We're not in Kansas any more, Toto"*. GM, despite valiant efforts to maintain marketshare through incentives, understands that its coffers are not inexhaustible and they must seriously rethink their marketing and production strategies. And to a certain extent, they are doing just that; what with the hiring of a retired Toyota quality control executive.

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Ford's position has been so tenuous that one wonders if anything short of the resurrection and re-assumption of control by Henry Ford II will revitalize the company. The company's biggest problem, according to insiders, is an absolute disconnect between the executive suite and the

so-called "middle kingdom", a element of middle management bent on maintaining their power and position regardless of who is in control at the top.

"A torrent of leaked documents and revelations of internal discussions are all but directly responsible for the near destruction of the company's reputation during the Explorer/Firestone controversy, noted a source close to the company. "This group was so bent on removing [former CEO] Jacques Nasser that they didn't care if the company ceased to exist in the process. And it didn't begin with Nasser. Predecessor Sir Alex Trotman was so convinced that the second generation Taurus/Sable was sabotaged at the design for manufacturability level -- in the aftermath of an incredible amount of TGW, Things Gone Wrong -- that he issued an internal memo in late 1994 to department heads which was rather direct: 'If I go down [because of the quality problems] you'll go down with me.'

"Until Ford removes this internal and traitorous problem, forward movement will be continually stifled."

This reality tends to overshadow their impending Centennial celebrations, appropriate though they may be. It is worth noting however, that Ford is still the world's second largest industrial company with extraordinary assets in both infrastructure and human resources. Truth to tell, Wall Street should be taken to task for not in some way addressing the company's outrageously low share values. Instead, they stand pat behind quasi-noble utterances of the company's fate being left in the hands of "market forces."

“Ironically, the Japanese may be more cognizant of the importance of sustaining the US industrial base than GM or Ford.”

DaimlerChrysler, although still considered part of the Big Three, is alas, *no longer an American company*. "American" defined as, "With whom and where do your loyalties lie in a time of war?" Ditto for Toyota, who, through masterful application of long-term market/product development strategies with roots dating to the 17th century, has become a de facto part of the American fabric. It is the epitome of arrogance, to be sure, for any industry executive to deny the brilliance of Toyota's plan and its execution.

Ironically, the Japanese may be more cognizant of the importance of sustaining the US industrial base than GM or Ford.

“GM and Ford have dictated that at least 10 percent of their production would come from China-based manufacturing facilities,” says Dennis Virag, President of the Automotive Consulting Group in Ann Arbor, Michigan. It should strike them as odd that neither Toyota or Honda have any plans for following suit, and instead are concentrating on boosting production here.”

Government Concerns of Industrial Base Fragility Spawn Potential Solutions

It is easy to dismiss the above statements as jingoistic and overly nationalistic; that is not the case here. We only articulate what is an accurate statement, and one most certainly demonstrable within the context of history.

It is this concern, born of historical precedent, that demands retention and maintenance of a strong industrial base. It is the driver behind multiple technology transfer programs and public/private business developmental strategies. All are designed to expand the infrastructure through the crafting of new architecture.

Stellar examples of the aforementioned programs include The *Argonne National Laboratories Transportation R&D Center* (www.anl.gov) and other facilities within the national lab system as means to effect technology transfer to the private sector, in this case the auto industry and its suppliers. In an industry that has grown increasingly competitive and in the interest of preserving US corporate competence and vitality, Federal resources worth hundreds of millions are brought to bear.

It is up to US industry to take advantage of this extraordinary opportunity, and they have been frustratingly – if not maddeningly – slow to accept. As much as certain senior managers would like to believe it, the collective R&D resources of the auto industry cannot match the national system. GM, Ford and Chrysler did not – their contributions to the program nevertheless acknowledged – send us to the moon; NASA did.

"The program is very appealing to all parties involved -- the Air Force, the commercial operators, the manufacturer and the American taxpayer. The Department of Defense gets much needed additional airlift capability during a war or contingency and access to more of the most capable cargo aircraft on the market today when they truly need them. The successful operators gain the opportunity to exploit the rapidly developing heavy outsize/oversize markets."

Another very creative program that brings together the resources of the United States Air Force, the aerospace industry and air cargo operators is the *Commercial Application of Military Airlift Aircraft* or CAMAA.

A release issued in December of 2000 outlined the strategy: "The U.S. Air Force and The Boeing Company announced today that they issued a Request for information proposing a new public/private acquisition strategy for a portion of the nation's required airlift capacity using the BC-17X, a derivative of the Air Force C-17.



Most versatile airlifter in the world: Boeing's C-17 Globemaster III *Boeing image*

"The RFI outlines a way to efficiently fulfill the nation's airlift requirements with highly capable commercial outsize and oversize aircraft and to expand a new segment of the air cargo market. This strategy could ultimately save the Air Force and the taxpayer several billion dollars in life cycle costs." Air Force and Boeing officials further stated that they "...envision commercially owned and operated BC-17X aircraft that can be profitable in the commercial market while supporting Department of Defense airlift requirements" and noted that "The program is very appealing to all parties involved -- the Air Force, the commercial operators, the manufacturer and the American taxpayer.

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A notable feature of the initiative is that it includes both government funding and private financing to help get the commercial operation off the ground.

Despite obstacles, including State Department approval of a special dispensation allowing the BC-17X, currently on the weapons list, to fly to certain countries like China, the program maintains its momentum. Further, the FAA has to issue a commercial use certification; i.e., FAR 121 for cargo operations and a FAR 36 airworthiness certificate.

The strong potential for establishing a new global industry component is being proven by Russian air cargo operators utilizing one of the largest operational airlifters in the world, the Antonov AN-124. Current generation aircraft can carry up to 120 tons of heavy and outsize cargo like oilrigs, sections of assembly lines, D8-class Bull Dozers, satellites and aircraft sections.

A Ukraine-based entity, AirFoyle, with operations in Houston, has made itself virtually indispensable to the oil, gas and aerospace industries. The Longshoremen strike of last year provided yet another opportunity to prove the viability of augmenting existing supply chain transport methods with air. GM, Ford and Hyundai all resorted to air-based supply to keep production plants humming during the strike, and reportedly even moved some finished vehicles to dealer locations.

Properly implemented, the potential for the airborne movement of heavy and outsized goods around the globe is significant. As such, we will continue to follow its progress.

Helping Hands: Covert and Overt



William S. Knudsen, GM President 1937-40
(GM archival photo)



Hermann Goering (USHMM)

According to *Knudsen: A Biography* (1947, McGraw-Hill) written by Norman Beasley, Bill Knudsen, while visiting Germany in 1938 to inspect Opel operations, was invited to Luftwaffe Chief Hermann Goering's Karin Hall hunting lodge to discuss important matters. Accompanied by GM's German distributor Edward Winter, who took copious notes, Knudsen was no doubt a bit taken aback by Goering's directness. "Herr Knudsen," he said, "You know that we are industrializing our military and we expect Opel and you as President of GM to help." Goering then proceeded to show him detailed drawings of the Allison V-12 engine (an intelligence coup for the Germans, since it was becoming the core powerplant for the US Army Air Forces pursuit aircraft under development, inclusive of the P-38, P-39, P-40 and later, early variants of the P-51) and inquired if GM would build them in Germany. "We will produce this," Goering continued, "and we'll get 1250 horsepower out of it." Allison would only be getting 1100 hp in the non-turbosupercharged version for the next four years.

"I'll have to take it up with the Board of Directors," Knudsen replied, dodging the question. He knew that Adolph Hitler was fully prepared to nationalize GM facilities sooner (ultimately, they did in 1940) if he gave the wrong answer at the wrong moment.

What the biography doesn't say is that upon his return to the US, Knudsen went directly to President Franklin Delano Roosevelt, and advised him that "Clearly, Hitler is going to war against his neighbors and probably us."

The President heeded Knudsen's warning, and as a result, the country was much better prepared for war than it would have been.

"I can't imagine anyone today or then," notes an analyst colleague, "doing anything similar. It's why Knudsen was appointed directly by the President. Astute individuals of Knudsen's caliber are needed in the corporate world now."

Unfortunately, Sloan's anger was expressed in his ordering the expunging of all reference to Knudsen in the official archives of GM, an order not quite carried out. Nevertheless, it took nearly 60 years for GM to officially acknowledge his major contributions to company and country during the D-Day anniversary festivities. This was done through a special recognition ceremony attended by family and friends.



Alfred P. Sloan, Chairman of General Motors 1937-56
(GM archival photo)

"It was some of the most sophisticated technology I'd ever seen," he said. "And the stunning thing is that it wasn't prototypical, it was production ready. Apparently, the tape had been removed right out of MITI by US intelligence operatives."

Fast forward to 1991 in Japan's Narita airport. An analyst, on his way back home following the Tokyo Motor Show, is handed a package by an intelligence agency operative known to him, with instructions that the tape within is viewed by industry principals. The tape contained, in Japanese, driving footage of vehicles equipped with advanced technology such as Laser Radar Warning Systems, Drive-by-wire and Adaptive Cruise Control. "It was some of the most sophisticated technology I'd ever seen," he said. "And the stunning thing is that it

wasn't prototypical, it was production ready. Apparently, the tape had been removed right out of MITI by US intelligence operatives."

The tape was presented as instructed to GM, Ford and Chrysler. The extent to which they took this "heads up" seriously can be discerned through observation of their market and financial position versus that of Toyota and Honda. If there is any doubt about the viability of this report, you need look no further than Lexus RX330.



Lexus RX330: A seamless integration of advanced vehicular technologies

Next Steps Towards US Industrial Base Solidification

According to "*Automotive Supplier Business Performance Trends: Lessons To Be Learned*" a well defined analysis presented last year by the Automotive Consulting Group, the difficulties being experienced by the auto industry and its suppliers is presented with unblinking specificity. An excerpt is presented here, but the entire file may be downloaded for the next two weeks. Beyond that time frame, copies may be obtained from ACG for a modest fee. [ACG PDF Download](#)

"The North American automotive industry concluded the year 2001 with the second highest US vehicle sales in history," says ACG's Virag and colleagues. "This is quite an accomplishment in view of fears over a deepening recession lingered throughout the year and the September 11 incidents were sure to have catastrophic consequences for the economy.

"The high level of vehicle sales was supported by several factors. First, consumer's confidence remained relatively strong through mid-September despite a malaise in the business economy. Second, despite a sharp decline in consumer confidence after September 11, zero-percent financing and "patriotism purchasing" offset the negative impact of the event to a large extent. Third, low interest mortgage rates and capital erosion in the stock market encouraged consumer spending. Fourth, aggressive manufacture incentives boosted vehicle sales throughout the year.

“The zero-percent financing campaign turned out to be a great marketing maneuver for the Big-3 automakers, especially General Motors who led it. The campaign appealed to patriotism, and created the psychological incentive to consider a vehicle purchase by offering symbolic no-interest loans. Actual economic incentives were offered through cash-back options. Many consumers found that buying a vehicle was an emotionally and financially sound action.

“Despite the robust vehicle sales, automotive suppliers are gravely ailing. The 2002 Business Performance Analysis reveals that the median revenue of forty-three publicly traded automotive suppliers declined by 11.6%, from \$2.5 billion in 2000 to \$2.2 billion in 2001. Furthermore, the median profitability (EBIT/revenue) plummeted by 54.4% from 6.4% of revenue in 2000 to a new ten-year low of 2.9% in 2001. Of the 43 companies studied, 32 experienced revenue decline and 37 companies saw their margins fall in 2001.

“Behind the suppliers plight is the sharp decline in North American vehicle production in North America, including US, Canada and Mexico, dropped by 1.8 million units, or 10.2%, from 17.7 million in 2000 to 15.9 million in 2001. The North American automotive industry produced 1.3 million fewer vehicles than it sold in the US. The difference came from the previous year’s inventory, imports from Asia and Europe, and order backlog.

“Domestic automakers continue to lose sales and market share, and the reduced production of 1.9 million vehicles in 2001 was largely taken out from their plants. The Big-3 accounted for 75% of North American vehicle production in 2000, yet their combined production loss in 2001 was 1.5 million, or 88% of the total decline experienced by the industry.

“Even at a time of globalization, the Big-3 automakers are undoubtedly the foundation of the North American automotive industry, and their performance profoundly affects suppliers. The sharp drop in profitability of North American suppliers is closely related to their erosion in market position.

“...if there is any substance to information from Washington sources that a recent Department of Defense study considers the US auto industry “irrelevant” to long-term core defense capabilities strategy because of its continuously eroding position, then they should be concerned. Quite concerned, actually”.

The blunt conclusion derived from this ACG work, is that supplier profitability and viability are as much indicators of the health of the industry as the Dow, NASDAQ and S&P 500 are indicators of market health. Ignore the early and continuous warnings of crumbling infrastructural integrity and disaster is sure to follow.

The US auto industry is in far graver danger than it will ever acknowledge. Yet, there is still considerable assistance available from which it can benefit.

True enough, GM, Ford, Boeing, Lockheed-Martin and Northrop-Grumman form the main foundation and core of the country's industrial base. But if there is any substance to information from Washington sources that a recent Department of Defense study considers the US auto industry “irrelevant” to long-term core defense capabilities strategy owing to its continuously eroding position, then they should be concerned. Quite concerned, actually.

One senior official went so far as to say that “There is no leadership or vision in the US auto industry. They verify continually that national security is not their concern.”

This concern is an echo of that raised nearly six years ago during a National Defense University/Pentagon Symposium on National Security. A paper presented during that conference entitled *“Economic Security is National Security”* by Dr. Ronis, pulled no punches: “U.S. corporations,” she said, “increasingly act as large social systems with a global focus. But, if we were to ask the CEO's of the Fortune 500 to describe the issues which are on their minds on any given day, “national security” would not be among them. Many global corporations do not believe that they owe allegiance to any

stakeholder except their stockholders, and sometimes, their customers.

“This attitude has changed profoundly since the end of the Cold War. Does this have an impact on the national security of the United States? Certainly. In the post Cold War environment, economic security is national security, but the national security community does very little about it. A new vision of national security is needed. It needs to encompass cooperation between government and all its stakeholders, including, but not limited to, industry.

“Lacking economic security or a viable market based economy, the USSR disintegrated. It disintegrated rapidly, broadly, and precipitously. That disintegration created a new world order in which concern about regional challenges to national security replaced the global threats and counterbalances of the Cold War. Clearly, the reduced tensions of this new world have helped new democracies advance. Traditional democracies, such as the United States have also benefited. These developed nations have had economic security due to their market based economies, and can now devote more resources than during the Cold War period, to addressing such global problems as the environment, overpopulation, technology transfer, and infrastructure development.

“Two questions, however, continue to nag at economic and national security planners despite the reduced tensions, advances in human rights and stability in many of the world's economies: Why did almost no one in the West foresee the Soviet disintegration, and could similar chaos descend upon the United States by 2010 or 2015?

“The answer to the first question is best left to historians. But, what about the second question?

“It is our understanding,” says a Washington source, “that the government is prepared to assign Toyota and Honda status as full-fledged components of the country’s industrial base through perhaps a quasi-Americanization arrangement.”

“This discussion is an attempt to lay out the issues surrounding the second question because the kind of chaos experienced in the Soviet Union was due to a collapse in its economic viability. Could the West

be in danger of such a collapse? The failure to study such issues could put the West at increased risk from some presently unforeseen danger which could creep up and do damage to the West's economy."

Prescient words, no doubt, but the country's current economic state of affairs seems poised to provide specific – though unwelcome – answers considerably sooner than expected or projected.

The core concern at this juncture is GM and Ford, and whether they truly understand where they exist in the prevailing order.

"It is our understanding," says a Washington source, "that the government is prepared to assign Toyota and Honda status as full-fledged components of the country's industrial base through perhaps a quasi-Americanization arrangement. With it comes the privileges of being American car companies forming a new industrial core. For all intents and purposes, they are already performing this function from the standpoint of vehicles produced in North American plants and up to half of their profits being generated from this market."

For GM and Ford, still the first and second largest industrial corporations on the planet, and Boeing as the leading producer of military and commercial aircraft, the clock, is indeed ticking.

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