# GLOBAL TRENDS IN INDUSTRIAL OEM COATINGS

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**There is a need for a fundamental knowledge of the customers' total economic equation to prevent a repeat of the last decade with regards to losing value and losing growth opportunities. Don't underestimate the value of new technology in improving productivity; it is equal in importance to labor costs. More importantly, don't undersell your value!**

Global demand for Industrial OEM coatings reached 6.4 million tons, representing a value of $19 million in 2002. The sector accounts for 27% of global coating production within which transportation is the largest end-use as can be seen in Fig. 1.

**Fig. 1: Geographic distribution of industrial coatings 2002**
**6.4 million tons and $19 million**

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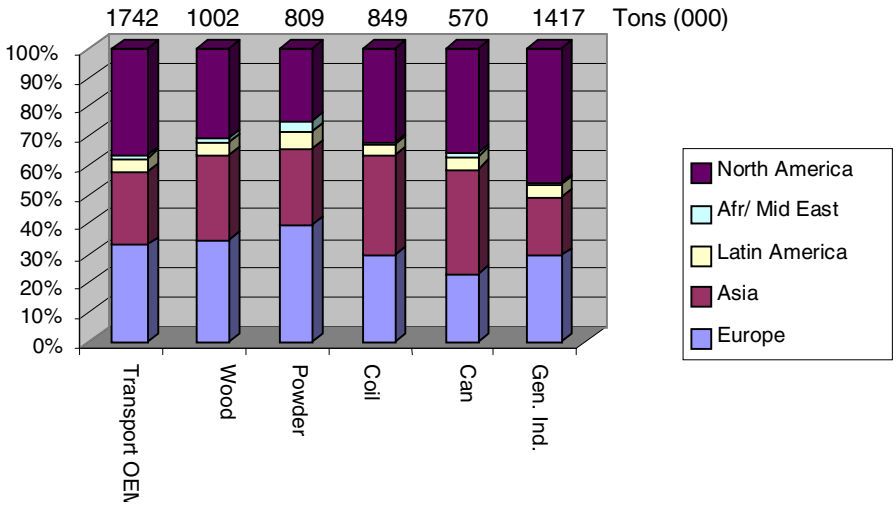


The recent economic recession felt predominantly in North America and Europe exposed a rather thorny issue relative to the exportation of manufacturing production and corresponding jobs to developing nations, specifically China. In fact, China has been referred to by some as the "manufacturing plant" for the world. Therefore, this paper attempts to examine the degree of geographic and the corresponding implications on developed nations.

We begin by looking at the entire sector of industrial coatings (including OEM, heavy duty maintenance and special purpose coatings), where Fig. 2 illustrates that Asia, to no one's surprise has been the primary benefactor of this shift. Since 1993, Asia's ten year Industrial Coatings output grew at an astonishing pace of nearly 12% compared with a global growth of 2.9% for the same time period.

**Fig. 2: Industrial coatings growth (1993: $21.2bn, 2002: $28.3bn);**

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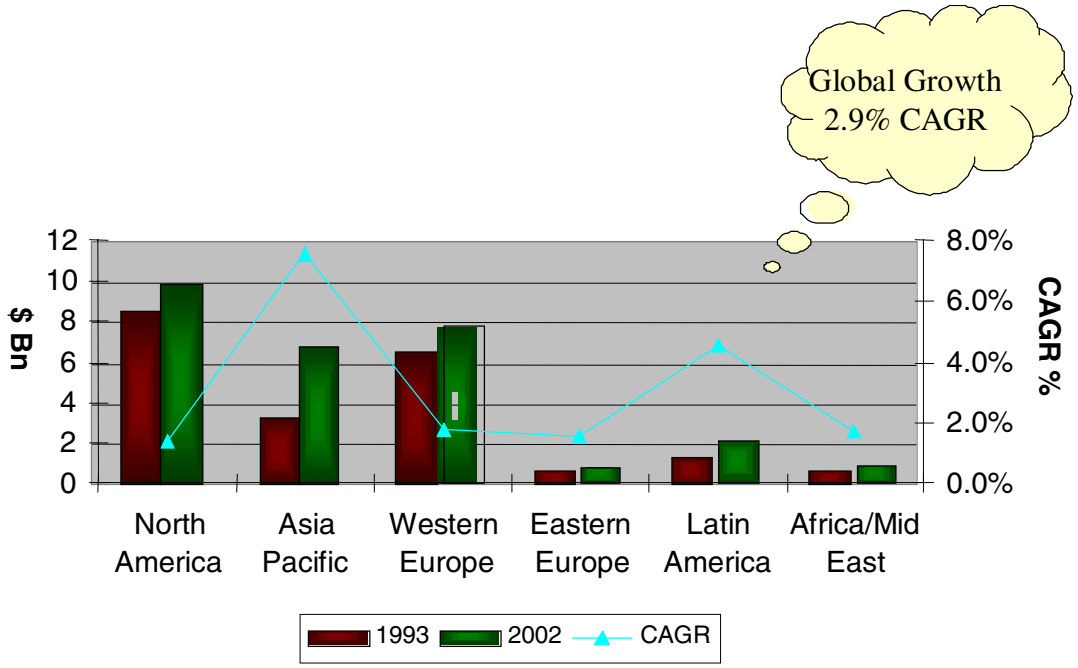


The more disturbing trend for coating manufacturers is the loss of "value" during that same time period. Table 1 reflects a comparison of the value-ratio of industrial coatings shipments to total shipments of manufacturing components in the U.S. from 1993-2002. Indeed, one can plainly see that the value-in-use of coatings lost ground in the last decade, declining at a rate of 1% annually.

**Table 1: Comparing industrial coatings to total manufacturing shipments in the US**

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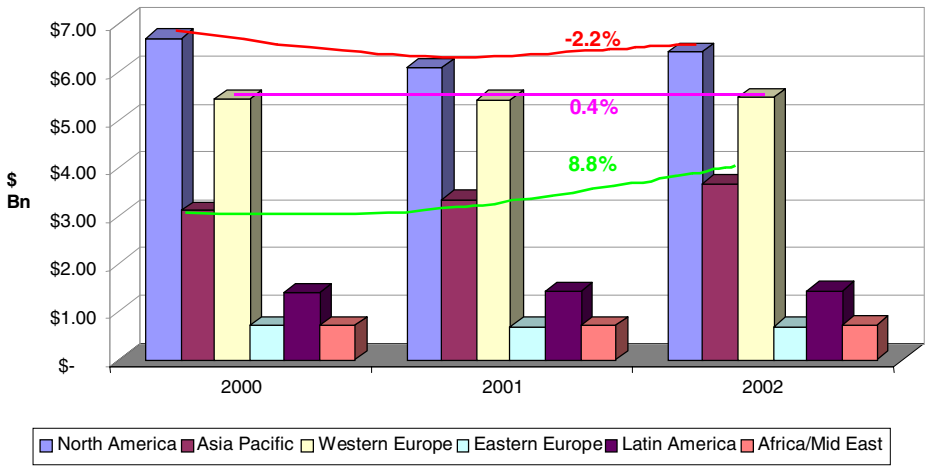
| *$ Value in (Bn)* | | 1993 | 2002 | CAGR |
|---|---|---|---|---|
| *Mfg Shipments* | $ | 298.5 | 385.8 | 2.6% |
| *Industrial OEM Coatings* | $ | 5.1 | 5.9 | 1.4% |
| *Ratio OEM Ctgs/ Total Mfg.* | | 1.7% | 1.5% | -1.2% |
| *All Industrial Coatings* | $ | 8.6 | 9.9 | 1.4% |
| *Ratio IND Ctgs/ Total Mfg.* | | 2.9% | 2.6% | -1.1% |

While the pursuit of manufacturing sectors to low labor rate markets is not a recent development, it was greatly masked by the economic growth in the nineties, fueled by unprecedented growth of financial markets and over valuation of e-commerce opportunities. Once the recession became fully engaged revealing the weakness of the manufacturing state-of-the-union, it became painfully obvious that the Western Industrial Giants had been napping. One need only refer to the more recent trends since the beginning of the recession, to reveal the disparity of the manufacturing sector in western economies.

As Fig. 3 reveals, while industrial OEM coatings in the rest of the world declined or remained relatively flat, Asia, fueled primarily by China's growth saw a nearly 9% growth.

**Fig. 3: Geographic shifts in industrial OEM coatings**

**(Source: The QuemQuest Group, Inc. All rights reserved.)**




So, how do we stem the tide not only of value loss, but of opportunity loss as well? We believe the answer lies in understanding your customers' total economic equation. As markets mature and segments become commoditized, labor rates play an ever increasing role in economic feasibility calculations. However, one must not ignore the fact that technology, specifically advances related to optimizing the supply chain, i.e. *productivity*, plays an equally important role. Yet coatings manufacturers have not exhibited the discipline of charging the OEM producers for the value they deliver, e.g. Table 1. Rather, they grant such productivity improvements as the price of retaining the OEMs business.

It is in this context, that we caution the Industrial OEM coatings producers not to undersell their value. I would like to offer the following case study as an illustration of this point:

Case Study: The U.S. Machinery and Equipment sector produced 857 million square feet of coated surface area in 2002. The total value-add of surface applications is illustrated in Fig. 4 (includes labor, depreciation, and cost of capital).

**Fig. 4: The total value-add of surface applications**

**(Source: The ChemQuest Group, Inc. All rights reserved.)**

| Metal Forming Value Add ($/ft2) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Mill Oil | Hot Roll Lube | Cold Roll Lube | Stamping Lube | Corrosion Preventative | Draw ing Oil | Cutting/Milling Oils and Coolants | Total Metal Forming Value Add | Metal Forming Value Opportunity (000) |
| 16% | 3% | 9% | 45% | 10% | 4% | 13% | $ 0.001 | $ 910 |

| Surface Treatment Value Add ($/ft2) | | | | | | | |
|---|---|---|---|---|---|---|---|
| Hand Sand | Abrasive Blast | Solvent Wipe | Hot Water Wash | Alkaline Wash | Acid Etch | Total Surface Treatment Value Add | Surface Treatment Value Opportunity (000) |
| 7% | 55% | 10% | 4% | 6% | 2% | | |
| | Dry-In-Place | Zinc Phosphate | Iron Phosphate | Galvanize | | | |
| | | | | Hot Dip | Electro | | |
| | 6% | 1% | 3% | 5% | 1% | $ 0.056 | $ 48,345 |

| Painting Value Add ($/ft2) | | | | | |
|---|---|---|---|---|---|
| E-Coat | Primer | Midcoat | Topcoat | Total Painting Value Add | Total Painting Value Opportunity (000) |
| 1% | 37% | 1% | 62% | $ 1.088 | $ 932,473 |

As can be seen, by summing the total value-add of metal forming fluids, surface treatments and coatings, the total value add equates to $1.15 per square foot. That translates to a total economic equation of nearly $982 million in value-add. Likewise, any technology enhancements that improve productivity would be calculated from this pool of value.

For example, upon closer examination, one observes that as an OEM processes a ton of steel (1 ton = 2,000 sq. ft), it costs the OEM $112 (multiplying $ 0.056 X 2,000) per ton to remove two cents (multiplying $ 0.001 X 2,000) of prepare the surface and remove metal forming fluids. Recently, a ton of cold rolled steel in the U.S. sold for an average of $475.

***To summarize our calculation so far:***

*A typical OEM producer pays:*
$ 475 per ton of cold rolled steel = 2,000 sq. ft. of coated surface;

*Further, it costs an OEM:*

$1.15 per sq. ft. of value-add to prep and paint the surface for a total cost of $2,300 per ton ($1.15 X 2,000).
Let us now assume that a hypothetical OEM coatings company introduces a new technology that improves productivity by 1%. A simple calculation reveals that the coatings company liberated $230 in value:
1% X $2,300 = $23 per ton.

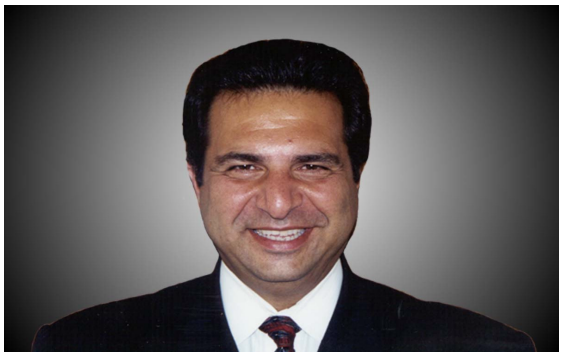
Given that one gallon of paint at 50% solids, and applied at one mill coating thickness at 50% transfer efficiency typically covers 400 sq. ft. of surface area and assuming a typical price of a urethane coating at $30 per gallon, we are able to calculate:

It requires 5 gallons of paint to coat one ton of steel; @ Cost of paint = $30 X 5 = $150 per ton.

We conclude by pointing out that by liberating $23 per ton of additional value, our hypothetical coating company delivers a 15% ($23/$150) value-add for each 1% productivity improvement to its OEM producer customer. Therefore, its new unit price needs to reflect some portion (hopefully one third to one half given the cost of substitution as well as the cost of customer motivation to switch) of the liberated value-add.

NOTE: This article is based on a presentation to the Industrial Coatings Committee of the NPCA (National Paint and Coatings Association, USA)

# About the Author



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Dan joined The ChemQuest Group, Inc. in 1996 from the Rohm & Haas Company where he was most recently European Director, Industrial Coatings. Prior to R&H, he spent thirteen years with Unocal Polymers where his career took him from technical service positions to Director of Marketing. He directed the sale of the Unocal Polymers Business to Rohm & Haas, working closely with Morgan Stanley, numerous attorneys, as well as the FTC. His entire career has been dedicated to the Coatings and Adhesives Industries. His particular strengths lie in strategic assessment and value creation on behalf of clients. He holds degrees from Wabash College (BS Chemistry) and William & Mary (MBA).
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