UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 8-K

CURRENT REPORT
Pursuant to Section 13 OR 15(d) of The Securities Exchange Act of 1934

Date of Report (Date of earliest event reported) March 17, 2009

Brush Engineered Materials Inc.

(Exact name of registrant as specified in its charter)

Ohio	001-15885	34-1919973
(State or other jurisdiction of incorporation)	(Commission File Number)	(IRS Employer Identification No.)

6070 Parkland Blvd., Mayfield Hts., Ohio	44124
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code 216-486-4200

Not Applicable
(Former name or former address, if changed since last report.)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Item 7.01 Regulation FD Disclosure

On March 17, 2009, Brush Engineered Materials Inc., an Ohio corporation (the "Company"), updated the "Current Investor Update," a slide presentation on its website, a copy of which is attached hereto as Exhibit 99.1. This slide presentation shows the Company's corporate strategy and the financial results through the fourth quarter of 2008.

Item 9.01 Financial Statements and Exhibits

Exhibits:

Exhibit Number	Description of Exhibit
99.1	Current Investor Update

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Brush Engineered Materials Inc.

March 17, 2009

By: *Michael C. Hasychak*
Michael C. Hasychak
Vice President, Treasurer and Secretary

Exhibit 99.1

Forward-Looking Statements

These slides contain "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. These statements involve known and unknown risks, uncertainties and other factors that could cause the actual results of the Company to differ materially from the results expressed or implied by these statements, including health issues, litigation and regulation relating to our business, our ability to achieve profitability, significant cyclical fluctuations in our customers' businesses, competitive substitutes for our products, risks associated with our international operations, including foreign currency rate fluctuations, energy costs and the availability and prices of raw materials and other factors disclosed in periodic reports filed with the Securities and Exchange Commission. Consequently these forward-looking statements should be regarded as the Company's current plans, estimates and beliefs.

The Company does not undertake and specifically declines any obligation to publicly release the results of any revisions to these forward-looking statements that may be made to reflect any future events or circumstances after the date of such statements or to reflect the occurrence of anticipated or unanticipated events.

BRUSH ENGINEERED MATERIALS

Brush Engineered Materials Inc. Profile

- Publicly traded since 1956: NYSE-listed since 1972
- Founded 1931 as Brush Beryllium Company, recently celebrated 75th anniversary
  - Building off earlier pioneering technical work at Brush Laboratories
  - Initial scope was development of commercial markets
- With onset of WW II and post war period, significant growth in defense and eventually, aerospace applications
- Mid-70s: major expansion of new commercial markets including automotive electronics, telecommunications and computer
- Today, commercial markets represent over 90% of revenues*

*See 2008 Revenue by Market

BRUSH ENGINEERED MATERIALS

Brush Engineered Materials Inc. Profile

- A leading manufacturer of high performance specialty engineered materials and services … *an enabling materials technology company*
- Four segments…with operations, service centers and major office locations in North America, Europe and Asia
- Serving long-term growth oriented global markets from consumer electronics to heavy mining equipment

BRUSH ENGINEERED MATERIALS

Brush Engineered Materials – Core Competency

A common approach to markets and a common culture across our operating companies

- Collaborating with customers worldwide to solve material application challenges … *with a focus on enabling technology and services*
- "Own" a Niche orientation … non-commodity
- Focus on global growth and service
- Constantly looking ahead to realign product and service portfolios towards favorable trends … targeted to achieve strong profitable growth
- Employees who are *passionately* focused on exceeding customer expectations

BRUSH ENGINEERED MATERIALS

Overview

- Company: Brush Engineered Materials Inc. founded 1931, publicly traded since 1956
- NYSE Ticker: BW
- Shares Outstanding: Approximately 20.1 million at 12/31/08
- Market Cap: Approximately $256 million at 12/31/08
- Component of: S&P Super Composite 1500, Russell 2000 S&P Small Cap 600
- Annual Revenue: $910 million @ 12/31/08
- Diluted EPS (GAAP): $0.89 which includes certain non-operating items. The operating run rate is $1.44*
- Debt to Total Capitalization: 11% at 12/31/08

*See Reconciliation of Non-GAAP Financial Measures

BRUSH ENGINEERED MATERIALS

2008 Recap

- Sales of $910 million
- Diluted earnings per share of $0.89* (GAAP)
- Acquisition of assets of Techni-Met, Inc. for $86.5 million
  - Techni-Met produces precision precious metal coated flexible polymeric films used in a variety of high-end applications, including diabetes diagnostic test strips.
- Contract with Government to build new beryllium pebbles plant
- Perpendicular media product qualifications progressing

*Includes certain non-operating items. The operating run rate is $1.44. See Reconciliation of Non-GAAP Financial Measures.

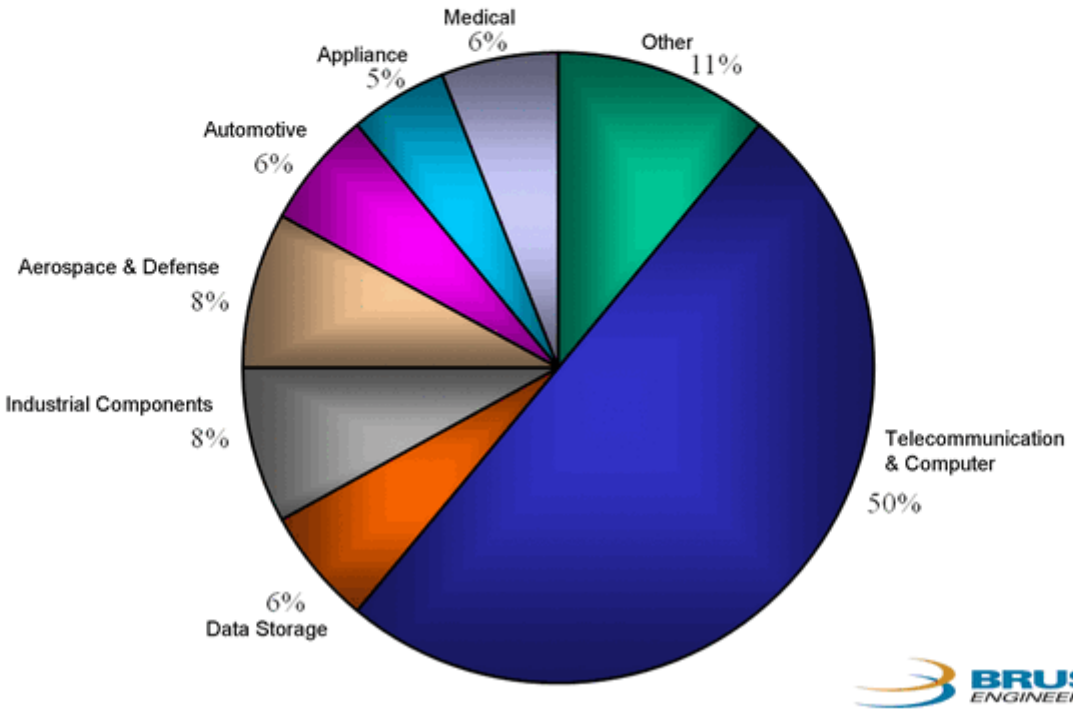
BRUSH ENGINEERED MATERIALS

Reconciliation of Non-GAAP Financial Measures

	Fourth Quarter Ended		Twelve Months Ended	
	Dec. 31, 2008	Dec. 31, 2007	Dec. 31, 2008	Dec. 31, 2007
GAAP Diluted EPS	($0.16)	0.60	$0.89	$2.59
Benefit on sale of ruthenium inventory	0.00	0.00	0.00	(0.70)
Lower of cost of market ruthenium inventory charge	0.30	0.02	0.50	0.15
Loss on sale of a subsidiary	0.00	0.00	0.00	0.02
Accounts receivable correction related to 2007	0.00	($0.04)	0.09	(0.09)
Discrete tax items & other	0.00	0.00	(0.06)	0.00
Non-recurring purchase accounting costs	0.00	0.00	0.02	0.00
Litigation settlement in 2007	0.00	(0.27)	0.00	(0.27)
Non-GAAP Operating Run Rate	$0.14	$0.31	$1.44	$1.70

Global Leader in High Performance Engineered Materials

2008 Revenue by Market



BRUSH ENGINEERED MATERIALS

Strength in Challenging Times

Balance Sheet as of 12/31/08

- Revolver
  - $240 mm committed facility, matures November 2012
  - More than $200 million in availability

Markets

- Market Strength
  - Stronger position in medical, defense, optics and solar
  - Market diversification in wireless and photonics, telecommunication and computer, oil & gas, heavy equipment and aerospace

Advancing the World's Technologies

- Strong customer collaboration … providing enabling technology solutions and service

- Materials that meet design challenges requiring
  - Strength
  - Electrical conductivity
  - Weight reduction
  - Reflectivity
  - Reliability
  - Miniaturization
  - Corrosion resistance
  - Thermal conductivity

- Targeting profitable growth applications in growing markets

BRUSH ENGINEERED MATERIALS

Typical End Uses

Notebook computers & network servers

Defense

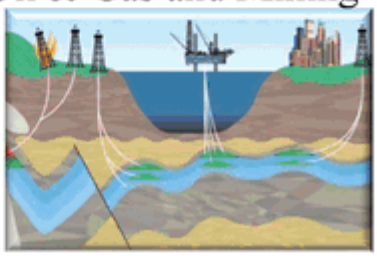
Cellular phones, i-Pods™ and other wireless communication devices

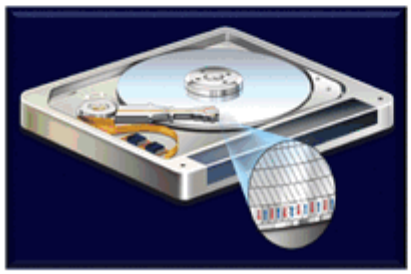
Electronic components in cars and trucks

Commercial Aerospace

Medical Devices

Industrial products for Oil & Gas and Mining





Data Storage

BRUSH ENGINEERED MATERIALS

Applications - Cell Phones

Grounding Clips and Audio Jacks (Alloy):

- Brush 60
- Alloy 25/190/290

Internal Antenna Contacts (Alloy):

- Brush 60/17410
- Alloy 25/190/290

Internal Electronics (WAM):

- Thin Film Materials – Power amplifiers, SAW and BAW devices, filters, and IC's
- Frame Lid Assemblies for SAW
- Thin Film Material for backlight applications using LED technology
- Shield Cleaning

Micro Mezzanine Connectors for LCD Screen (Alloy):

- Brush 60

Battery Contacts (Alloy):

- Brush 60
- Alloy 25/190/290

I/O Connector Contacts (Alloy):

- Brush 60/17410
- Alloy 25/190/290

Other Cell Phone Applications:

- **Circuit Board and IC Inspection** (Electrofusion/ Be Products):
  - PF-60 Be; IF-1 Be; AlBeMet 162
- **RoHS Compliance Assurance** (Electrofusion):
  - PF-60 Be; IF-1 Be

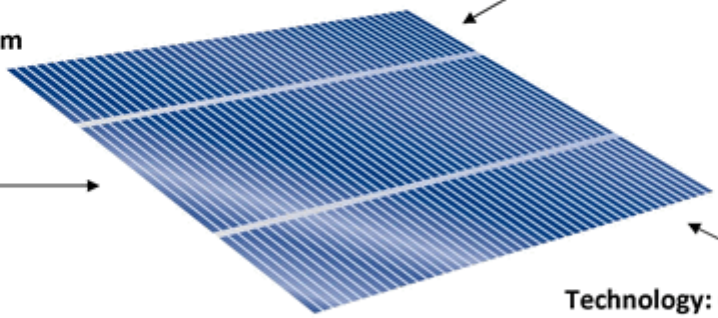
BRUSH ENGINEERED MATERIALS

Applications – Photovoltaic (Solar)

Technology: Crystalline Si
Thin Film Materials:
SnO_2, TiO_2, Si, Si3N4, ITO

Technology: Cadmium Telluride (CdTe)
Thin Film Materials:
ZTO, ZnSn, NiV, ZnTe,
Sb2Te3, Ti, Cr, CdTe,
CdS, Cd2SnO4, Zn2SnO4
Mo, Al, Cu

Technology: Copper Indium Gallium Selenide (CIGS)
Thin Film Material:
CuInGaSe, AZO (Al2O3),
AZO (Al), NaF, ZnO, In2S3,
CuInSe2, CuSe
Cu2Se, ITO, CdS,
CuGa Alloys, CuInGa Alloys
Mo, (ZnMg)O, In2Se3, ZnS
Ru



Technology: Concentrator Photovoltaic (CPV)
Thin Film Materials:
Ti, TiW, Pt, Au, Ag

Micro Electronic Packaging Products:
Bonding Ribbon - Au & Ag
Lead-free Solders
Metalized BeO Substrates

Technology: Amorphous Silicon (Si)
Thin Film Materials:
TCO, AZO(Al2O3),
AZO(Al), GZO(Ga2O3)
Ag, Ag Alloys, Al, NiV,
Ni, Ti

Applications – Oil & Gas

Wellhead Control Equipment (Alloy):
- Brush Alloy 25
- ToughMet® 3

Structural Rig Components (Alloy):
- ToughMet® 3

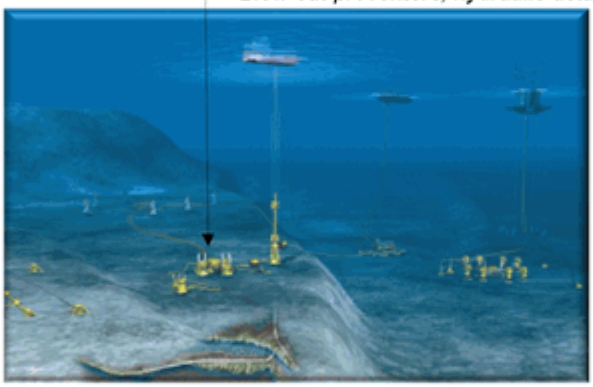
Drill Bits (Alloy):
- Brush Alloy 25
- ToughMet® 3

Directional Drilling Equipment (Alloy):
- Brush Alloy 25
- ToughMet® 3

MWD, LWD, MPT Systems

Under Water Wellhead Equipment (Alloy):
- Brush Alloy 25
- ToughMet® 3

Blow out preventers, hydraulic actuators



Other Oil & Gas Applications:
- **In Situ Elemental Analysis** (Electrofusion):
  - PF-60 Be; IF-1 Be
- **Down Hole X-Ray Inspection** (Electrofusion):
  - PS-200 Be

Applications – Aerospace

Flight Attendant Jumpseat spring (Alloy):
- Alloy 25

Avionics/Electrical Systems (Alloy):
- Alloy 25

Airframe (Alloy):
- Alloy 25

Flight Control Mechanisms (Alloy):
- Alloy 25
- ToughMet® 3

Horizontal Stabilizer & Rudder Attachments (Alloy):
- Alloy 25

Wing Attachments (Alloy):
- Alloy 25

Landing Gear Attachments (Alloy):
- Alloy 25
- ToughMet® 3

Engine and Pylon Attachments (Alloy):
- Alloy 25
- ToughMet® 3

Doors & Hatches (Alloy):
- Alloy 25
- ToughMet® 3

Hydraulic Systems (Alloy):
- Alloy 25

Safety Slide Mechanism (Alloy):
- Alloy 25

Fuel Systems (Alloy):
- Alloy 25

Landing Gear Components (Alloy):
- Alloy 25
- ToughMet® 3

Other Aerospace Applications:
- Baggage Inspection (Electrofusion):
  - PF-60 Be
- Nondestructive Evaluation (Cracked Component Detection) (Electrofusion):
  - PF-60 Be

Applications – Medical

Seizure Control (WAM/TFT):

• Thin Film Deposition Implantable Electrode – Parkinson's disease (R&D) -

X-Ray Mammography (Electrofusion):

• IS-50M Be

Subcutaneous Glucose Analysis (WAM/TFT/ Techni-Met)

• Thin Film Coatings – Electrode monitoring device

External Glucose Analysis

(WAM/TFT/Techni-Met):

• Subcutaneous sensors for glucose measurement

Insulin Pump (Alloy):

• EMI Shielding
• Electrical Terminals in Connectors
• Mechanical Chips
• Connector Systems for equipotential grounding

Dental X-Ray (Electrofusion):

• PS-200 Be

Cardiac Rhythm Management (TMI):

• Electronic Interconnects/Components
• Niobium/Titanium Electron Beam Weld

Other Medical Applications:

- **CT Scan** (Electrofusion): PF-60 Be; PS-200 Be
- **Bone X-Ray** (Electrofusion): PF-60 Be
- **Ultrasonic Scalpels** (Be Products): S-200F Be
- **Advanced Drug Delivery Components** (TMI): Clad Stainless
- **Hypodermic Components** (TMI): Multigauge Stainless
- **Diagnostic Electronic Components** (TMI): Gold Plating
- **Anesthesia Monitoring Components** (TMI): Gold Plating
- **Biopsy Instruments** (TMI): Electron Weld Beam Stainless
- **Cauterizing Electronic Scalpel** (TMI): Clad Stainless

BRUSH ENGINEERED MATERIALS

Investment Highlights and Strengths

- Global Leader in High Performance Engineered Materials
- Unique Status as Fully Integrated Provider of Beryllium-Containing Products
- Broad Metallurgical Capabilities in Precious and Non-precious Metals
- Global Sales and Distribution Network
- Sales Based on End User Specifications
- Niche Oriented Product Offerings
- Strong Value Proposition in Served Markets
- Strategic Customer Relationships
- Significant Technical Capabilities
- Positive Long-term Market Trends
- Strong Growth in New Products, a culture of Innovation
- High Barriers to Entry
- Capacity to Support Profitable Market Growth
- Strong Balance Sheet
- Strong Cash Flow

BRUSH ENGINEERED MATERIALS

Brush Engineered Materials Inc.
Organized into Four Separate Reportable Segments

- Advanced Material Technologies and Services

  Advanced Material Technologies and Services consists of Williams Advanced Materials Inc. (WAM)

- Specialty Engineered Alloys

  The Specialty Engineered Alloys segment consists of Alloy Products which includes bulk and strip form copper-based alloy products, hydroxide and the Company's line of ToughMet® materials

- Beryllium and Beryllium Composites

  The Beryllium and Beryllium Composites segment consists of Beryllium Products including beryllia ceramic manufactured by Brush Ceramic Products Inc.

- Engineered Material Systems

  The Engineered Material Systems segment is comprised of Technical Materials, Inc.

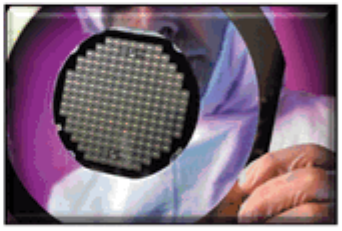
BRUSH ENGINEERED MATERIALS

Advanced Material Technologies and Services
Q4 2008 Sales: $94.9 million

Williams Advanced Materials (WAM)

$94.9 million; 48%

- Precious, non-precious and specialty metal products for high reliability applications
- Products include precious and non-precious metal vapor deposition targets, frame lid assemblies, clad and precious metal preforms, high temperature braze materials, ultra fine wire, sealing lids for the semiconductor/hybrid markets and specialty inorganic materials
- Industries served include magnetic and optical data storage, semiconductor, performance film, wireless, photonics, precision optics and medical



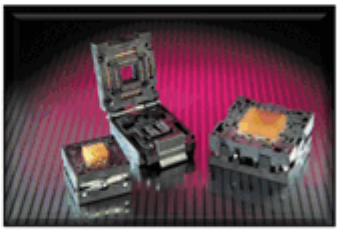
BRUSH ENGINEERED MATERIALS

Specialty Engineered Alloys
Q4 2008 Sales: $68.0 million

Alloy Products

$68.0 million; 35%

- Copper and nickel-based alloy materials, most of which incorporate beryllium
- Strip products are used in electronic connectors including PDA's, wireless communications equipment, notebook and network computers and automotive electronics that require high strength, formability and electrical conductivity
- Bulk products are rod, bar, tube and plate products for heavy equipment and aerospace bushings and bearings, oil & gas components and plastic mold materials where strength, corrosion and wear resistance, thermal conductivity and lubricity are critical performance requirements



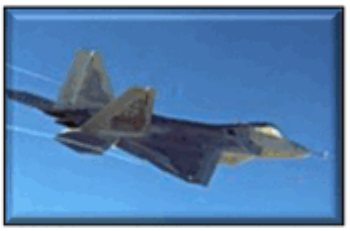
BRUSH ENGINEERED MATERIALS

Beryllium and Beryllium Composites
Q4 2008 Sales: $17.9 million

Beryllium Products

$17.9 million; 9%

- Pure beryllium and aluminum-beryllium composites for a variety of high-performance applications in the defense, space, industrial, scientific equipment, electronics (including acoustics), medical, automotive electronics and optical scanning markets, where stiffness, strength, lightweight, dimensional stability, reflectivity and x-ray/nuclear properties are critical.



BRUSH ENGINEERED MATERIALS

Engineered Material Systems
Q4 2008 Sales: $12.0 million

Technical Materials, Inc. (TMI)

$12.0 million; 6%

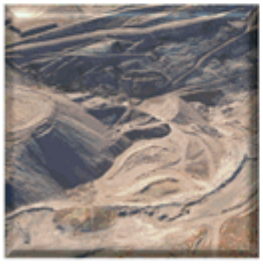
- Engineered material systems, including clad, plated and electron beam welded metals used in demanding connector applications
- Combines precious and non-precious metals in strip form for use in complex electrical components for telecommunications and computer systems, data storage, automotive electronics, semiconductors, energy, defense and medical applications

BRUSH ENGINEERED MATERIALS

Fully Integrated Beryllium Producer

- Beryllium and beryllium alloys are critical to many high performance applications
  - Strong
  - Lightweight
  - Good formability
  - High reliability
  - Thermal and electrical conductivity
  - Corrosion and wear resistant
- Operate the only active bertrandite ore mine in the developed world
  - 7,500 acres in Juab County, Utah
  - Approximately 100 years of proven reserves

Bertrandite Ore Mining & Extraction



Delta, UT

Casting, Rolling & Finishing

Elmore, OH

Thin Gauge Rolling & Finishing

Reading, PA

Service & Distribution Centers

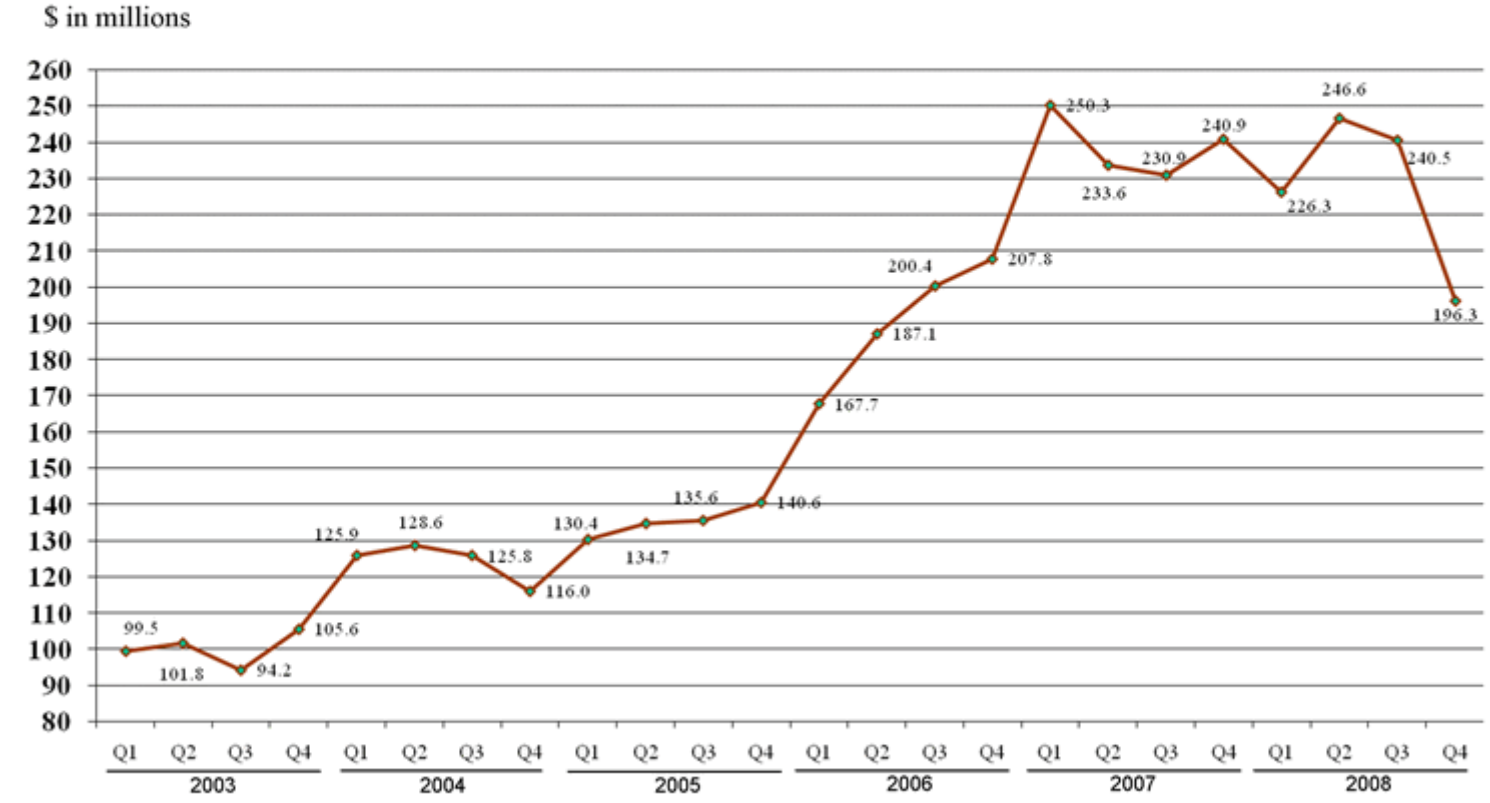
Global Network

Key Financial Statistics

$ in millions	2005	2006	2007	2008
Sales	$541.3	$763.1	$955.7	$909.7
EBIT	19.5	43.8	84.5	28.1
Interest	6.4	4.1	1.8	2.0
Taxes	(4.7)	(9.9)	29.4	7.7
EPS	0.92	2.45	2.59	0.89
G.P.%	20.3%	21.2%	20.6%	16.7%
O.P.%	3.6%	5.7%	8.8%	3.1%
Depreciation & Amort.	21.7	24.6	23.9	33.8
Capital Spending*	13.8	15.5	30.1	27.9
Debt	57.2	49.0	35.5	41.8
Cash	10.6	15.6	31.7	18.5
Debt/Total Cap.	21%	15%	9%	11%

*Net of reimbursements under government contracts in 2007 and 2008

Historical Revenue by Quarter



Long-term Positive Market Trends

- Electronic component manufacturers are being driven by end user demands to produce products that are smaller, lighter, faster and have more functionality
- Increased electronic component performance characteristics require materials that have enhanced mechanical, electrical and thermal properties
- Opportunity for growth in thin film physical vapor deposition (PVD) products in the data storage, semiconductor, solar and medical markets
- Increasingly rigorous material requirements in the aerospace, defense, oil & gas and renewable energy markets continues to drive growing demand for high performance copper alloys

Capacity to Support Profitable Market Growth

Well-positioned to support rapid sales growth with minimal incremental cash investment

- Operating with available excess capacity in Alloy Products
- WAM's Brewster, New York facility doubled its capacity in 2007
- Brush Wellman Inc.'s Elmore, Ohio facility is partnering with the U.S. Department of Defense for the construction and start up of a $90.4 million primary beryllium facility. Brush Wellman's contribution for this expansion, including the research and development, technology, land, buildings and ongoing operations is valued at $23.2 million. Construction began in July of 2008 and is expected to be completed in April 2010.

Our ongoing value creation initiatives are focused in three key areas

Growth

- Expanding and diversifying the revenue base
  - Targeting profitable niche growth applications in growing markets
  - New product innovation and service
- Ongoing global expansion
- Strategic acquisitions, fast accretion

Margin Improvement

- Lean Sigma-driven operating efficiency improvement
- New higher value added products
- Cost reductions

Fixed and Working Capital Utilization

- Inventory turn improvement
- Lean Sigma-driven factory utilization gains

New Products - Growing Applications

Product	Market	Driver	Division
PVD Magnetic Media	Hard Disk Drive	Increase Storage capacity	WAM
PVD – UMB	Consumer Electronics	Miniaturization	WAM
PVD - Evap Pro™ III	Compound Semi-conductor	Miniaturization	WAM
Chamber Service	PVD Customers	Service demands	WAM
PVD - Visilid	Optics	IR Wavelength	WAM
Eco-Ru™ Sputtering Target	Hard Disk Drive	Lower of Cost Ownership	WAM
Thin Film	Medical	Lower Cost of Ownership	WAM
Thin Film	Solar	Building Integrated & Photovoltaic	WAM

New Products - Growing Applications

Product	Market	Driver	Division
Precious Metal Rod	Medical	Miniaturization	WAM
PVD Solar Materials	Solar	Thin Film Solar (cost/watt)	WAM
Alloy 390 Strip	Portable Electronics	Miniaturization and Reliability	Alloy
ToughMet®	Oil &Gas, Aerospace, Heavy Equipment	Reliability	Alloy
Li Ion Battery Interconnects	EV, HEV and commercial battery packs	Increasing energy density	TMI
Clad Stainless-Aluminum Strip	Hard Disk Drive Capacity	Increase Storage	TMI

New Products - Growing Applications

Product	Market	Driver	Division
Truextent™ speaker domes	Professional Audio	Improved acoustic performance	Be
High purity beryllium	Semi-conductor	Increase lifetime	Be
AlBeWeld fabricated Structures	Defense and aerospace	Improved cost and delivery	Be

Balance Sheet

($ in millions)

	2004	2005	2006	2007	2008
Balance Sheet Debt**	$ 72.5*	$57.2	$48.9	$35.5	$41.8
Debt to Debt Plus Equity	26%	21%	15%	9%	11%

*2000 Balance Sheet debt includes major equipment lease

**Note - Excludes precious metal consignment and other leases of:	$30.2	$55.5	$72.1	$80.0	$104.1

Segment Sales Review

$ in millions

	2006		2007		2008	
	$	%	$	%	$	%
Advanced Material Technologies and Services	$343.4	45%	$519.9	54%	$466.4	51%
Specialty Engineered Alloys	275.6	36%	290.0	30%	299.9	33%
Beryllium and Beryllium Composites	57.6	7%	60.5	6%	63.6	7%
Engineered Material Systems	68.7	9%	70.9	7%	65.9	7%
Other	17.8	3%	14.4	3%	13.9	2%
TOTAL	$763.1	100%	$955.7	100%	$909.7	100%

BRUSH ENGINEERED MATERIALS

Segment Earnings

$ in millions

	2006	2007	2008
Advanced Material Technologies and Services	$30.5	$59.4	$10.3
Specialty Engineered Alloys	7.9	7.6	5.8
Beryllium and Beryllium Composites	7.4	7.8	8.4
Engineered Material Systems	2.7	4.7	5.9
Other	(4.7)	5.0*	(2.3)
TOTAL	$43.8	$84.5	$28.1

* The Other segment earnings of $5.0 million in 2007 is primarily due to a gain in Q4 recorded as a result of a legal settlement

BRUSH ENGINEERED MATERIALS

Brush Engineered Materials Inc.
Organized into Four Separate Reportable Segments

- ***Advanced Material Technologies and Services***
- Specialty Engineered Alloys
- Beryllium and Beryllium Composites
- Engineered Material Systems

Advanced Material Technologies and Services (Williams Advanced Materials Inc.) Vision

- Globally Recognized High Quality/Technology Supplier of Products and Services for "State Of The Art", Emerging and Leading Edge Markets and Industries.

- Williams will Create a "Unique" Business Model with its Central Focus being to Relentlessly Strive for Product Differentiation through a Combination of Technology, Services and Quality, Providing "Remarkable" Solutions.

- Our Business Values and Corporate Integrity will be the Cornerstone of the way we relate to our Customers, Partners, Suppliers, the Communities we Reside and most Importantly our Employees.

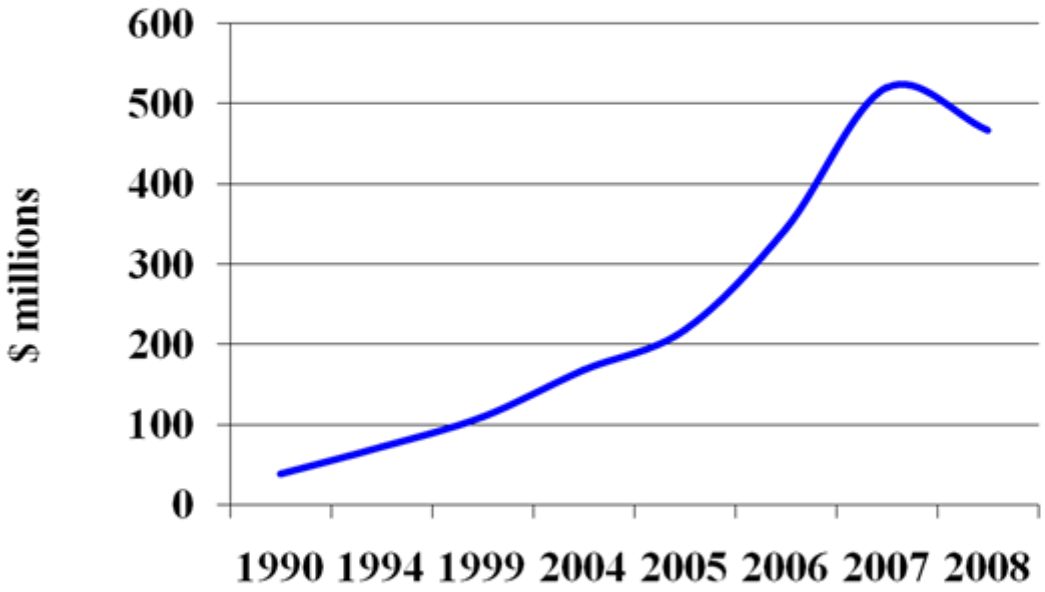
Williams
ADVANCED MATERIALS

What We Do

Williams Advanced Materials develops, manufactures and markets materials, thin film deposition technology and services of unique value for the Magnetic and Optical Data Storage, Medical, Wireless, Photonics, Semiconductor, Optics, Security, Hybrid Microelectronics, Defense and Performance Coating industries. We also have identified key segments on emerging technologies such as Photovoltaic, Solid State Memory, Flexible Cable, and Nanotechnology. Williams' products are primarily based on specialty and unique materials and thin film processes used in high reliability and performance applications.

Williams
ADVANCED MATERIALS

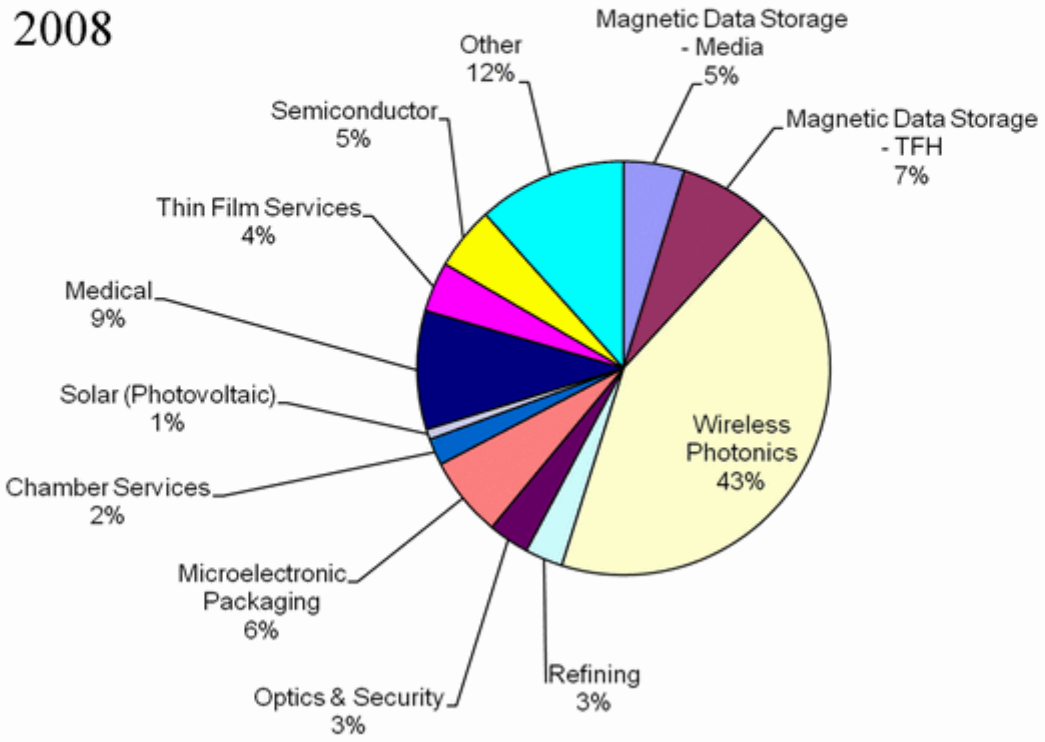
Sales History



2008
$467 Million

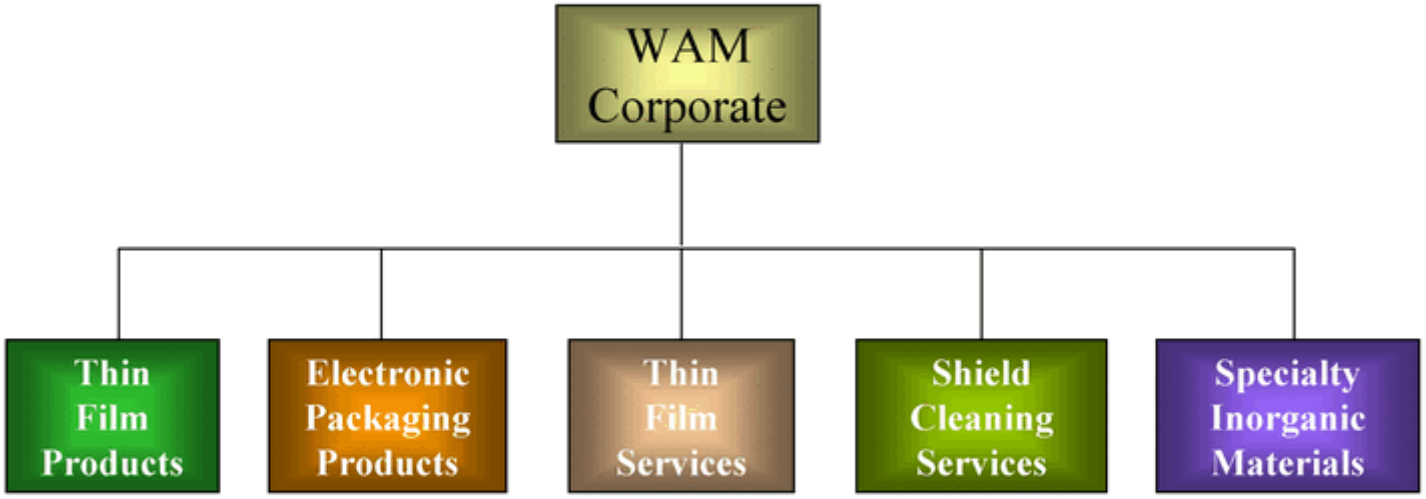
Williams
ADVANCED MATERIALS

Revenue by Market



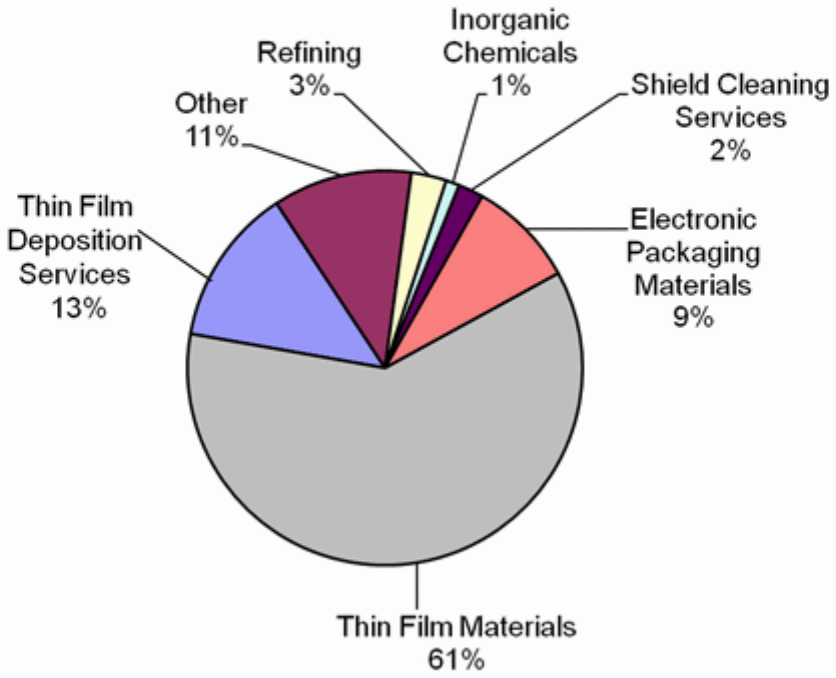
Williams ADVANCED MATERIALS

2008 Business Structure



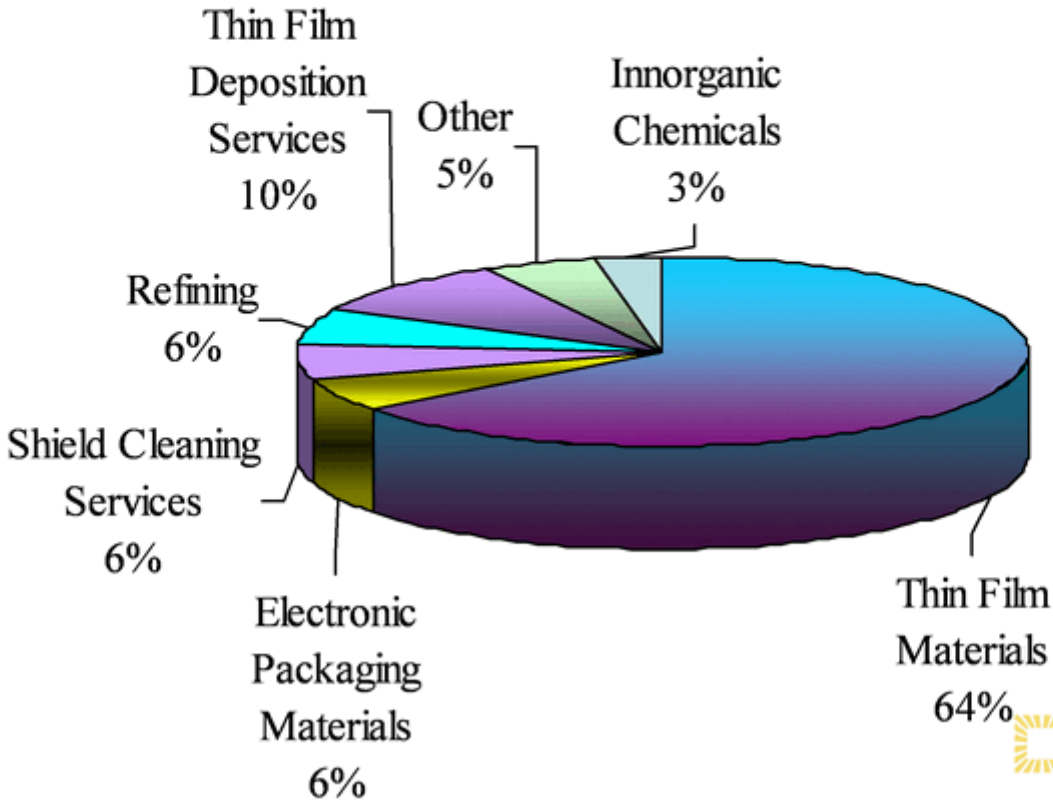
Williams ADVANCED MATERIALS

Product Mix 2008



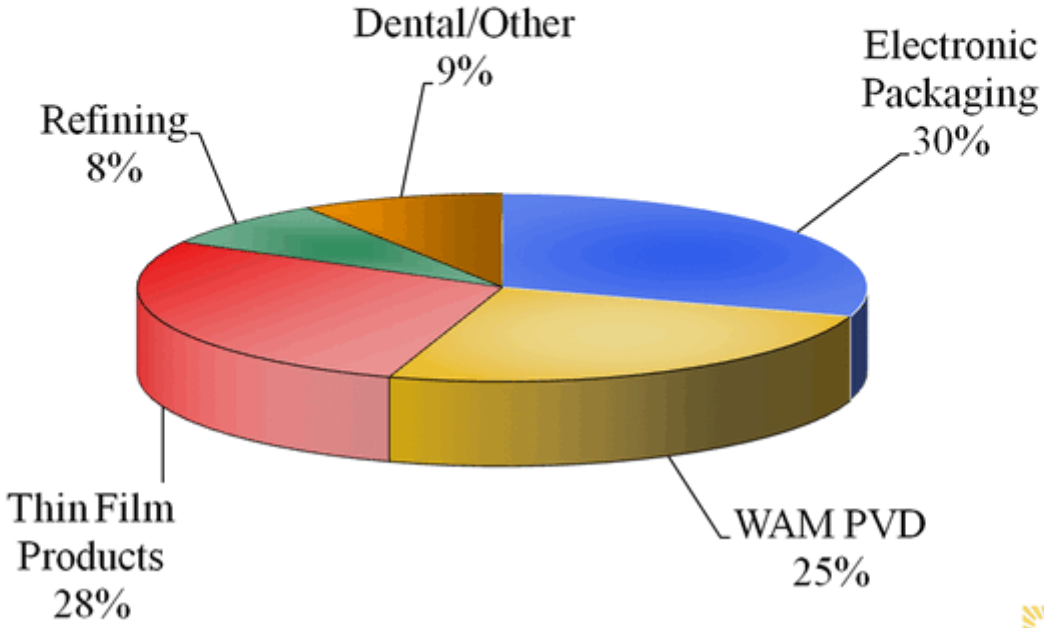
Williams ADVANCED MATERIALS

Product Mix
2007



Williams ADVANCED MATERIALS

Product Mix
2003



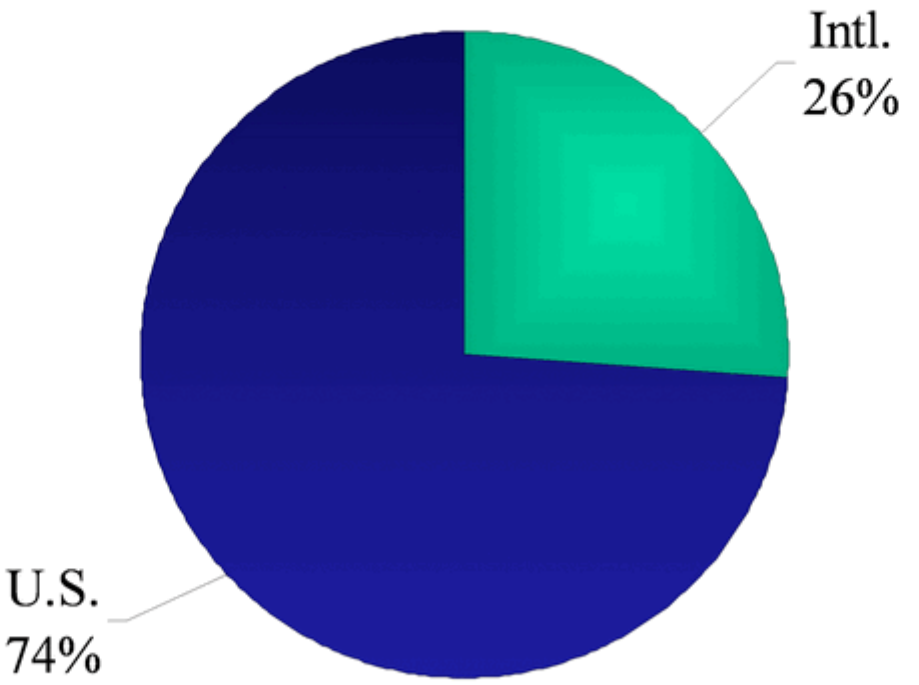
Williams
ADVANCED MATERIALS

Augmentation History

▪ Williams Precious Metals Acquired in	1987
▪ Advanced Materials Technology	1989
▪ Hydrostatics Inc.	1994
▪ Pure Tech Inc.	1998
▪ Wheatfield (Greenfield)	1998
▪ Semi Alloys Inc	2001
▪ Honeywell FLA (Technology)	2003
▪ OMC Scientific Ireland	2004
▪ Thin Film Technology	2005
▪ CERAC inc.	2006
▪ Suzhou, China (Greenfield)	2007
▪ Louny, Czech Republic (Greenfield)	2007
▪ Techni-Met	2008

Williams
ADVANCED MATERIALS

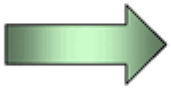
International/Domestic Revenue 2008



Williams
ADVANCED MATERIALS

Thin Film Products

- **PVD Materials**
  - Precious Metal Target Materials
  - Non-Precious Metal, Cermets, Ceramics
    - Vacuum Induction Melting
    - Hot Pressing
    - Vacuum Hot Pressing
    - Hot Isostatic Pressing
  - EVAPro™ Grade Evaporation Materials
  - Localized Target Bonding
- **Chamber Services**
  - Shield Cleaning and Conditioning
  - Arc Spraying – Electro-polishing
  - PM Refining and Upgrading
  - Logistics Support



Buffalo

Brewster

Milwaukee

Wheatfield

Singapore

Taiwan

Santa Clara

Ireland

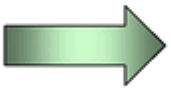
Suzhou, China

Louny, Czech

Williams ADVANCED MATERIALS

Packaging Materials

- FLA/Combo-Lid®
- Seam Seal/Microlid™
- Preforms
- Clad Materials
- Braze Materials
- Ni Alloys
- Dental
- Packages (Zentrix)



Buffalo

Singapore

Wheatfield

Buellton

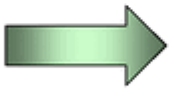
WAM Taiwan

WAM Philippines

Williams ADVANCED MATERIALS

Engineered Thin Films

- Various Deposition Technologies
- Optical Films
- Hybrid Thin Films
- Web Coatings
- CVD Coatings
- Slitting
- Sensors Manufacturing
- Microelectronics Windows



Williams
ADVANCED MATERIALS

WAM Headquarters

Buffalo, NY USA –

- 100,000 Sq. Ft. overall, 6,500 Sq. Ft. of clean-room, state-of-the-art machining/ milling/rolling/stamping/ cladding centers, target bonding, high purity refining/recycling, metals casting & automated plating
- Full analytical capabilities, product Research & Development.

Williams
ADVANCED MATERIALS

Specialty Alloys Operations

Wheatfield, NY

- 30,000 Sq. Ft. with volume vacuum casting, rolling, annealing, powder atomizing and machining. 10 acres for expansion.
- Shield metal recovery and cleaning / Clean room packaging

Williams ADVANCED MATERIALS

Williams Thin Film Products Operations

Brewster, NY USA –

- 80,000 Sq. Ft. with vacuum melting, hot-pressing, milling, hot & cold rolling, automated machining, grinding, powder metallurgy lab, particle sizing and target bonding capabilities.
- Dedicated R&D staff and capabilities to support rapid new product development in key markets.

Williams ADVANCED MATERIALS

Techni-Met

Windsor, CT

- 2 facilities - total of 75,000 sq. ft.
- 48 employees – two (2) shift operations.
- High Value Added Precision Coated Materials.
- Continuous Vacuum Deposition of Inorganic Materials onto Rolls of Flexible Polymeric Films and other Substrates.

Williams ADVANCED MATERIALS

CERAC

Milwaukee, WI

- Subsidiary of WAM
- Physical Vapor Deposition (PVD) materials for ophthalmic, optic and performance applications.
- Specialty Inorganic Materials
- Unique technologies in chemical and powder processing

Williams ADVANCED MATERIALS

Thin Film Technology (TFT)

Buellton, CA

- Subsidiary of WAM
- Thin film coating and substrate patterning.
- Visi-Lid™ supply chain management.
- Capabilities: Electron Beam Evaporation, DC/RF Magnetron Sputtering, Photolithography (Substrate Patterning), Dicing, Tooling design, In House Machine shop

Williams ADVANCED MATERIALS

Suzhou - China

Suzhou, China

- 20,000 Sq ft.
- Target & Evaporation materials manufacturing, Target bonding services, Distribution, Warehousing, Sourcing, MgF manufacturing and packaging
- Located near Shanghai Airport and close to many technology centers located in Eastern China.
- Markets Serve: Semiconductor, UBM, Security and Optics

Far East Operations

Singapore

- Target bonding, bonding wire production, Combo-Lids®. assembly

Subic Bay, Philippines

- Combo-Lids®, low-cost lids and preform - assembly, inspection and packaging.

Taoyuan County, Taiwan

- Target bonding, evaporation materials & bonding wire.

Williams ADVANCED MATERIALS

OMC - Limerick

Limerick, Ireland – OMC Scientific, Ltd.

- Subsidiary of WAM
- Provides precision parts cleaning and reconditioning services for film Physical Vapor Deposition (PVD) customers in Europe.
- Unique technology applied to opportunities in North America and Asia.
- Efforts focused in the semiconductor, magnetic media and other technology based markets.

Williams ADVANCED MATERIALS

OMC- Czech

Louny, Czech Republic

- Provides precision parts cleaning and reconditioning services for film Physical Vapor Deposition (PVD) customers in central and eastern Europe
- State of the art cleaning, stripping and packaging operations
- Machining capabilities for Optical Media and other PVD segments
- Markets Serve: Semiconductor, Compound Semiconductor, UBM, MEMS, Data Storage

Global Service and Support

- **Sales and Applications Engineering support**

Buffalo, New York	Tokyo, Japan
Brewster, New York	Taoyuan, Taiwan
Tucson, Arizona	Singapore
Santa Clara, California	Manila, Philippines
Buellton, California	London, England
Milwaukee, Wisconsin	Seoul, Korea
Dallas, Texas	Limerick, Ireland
Windsor, Connecticut	Shanghai, China

- **Representative**

Italy	France	China
Germany	Israel	India

Williams ADVANCED MATERIALS

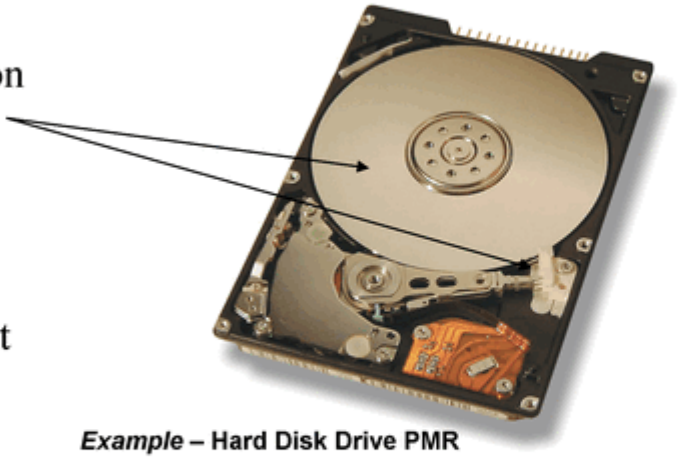
New Product and Technology Development

- Optical Filters
- Bio-Sensors
- Materials for Thin Film PV (Solar): Cu(I)Ga(S), CdS, CdTe, TCO Materials, etc
  - Ag Alloys for Solar backside contact
- New Cleaning Methods for Shield Cleaning & Material Reclamation
- Magnetic Data Storage
  - Media Materials; Oxide Gen II and Eco-Ru
  - Head Materials Heusler Alloys & FePt
- Flexible Solar Cells

Williams ADVANCED MATERIALS

Key Markets – Magnetic Head and Media

- Sputtering Targets/ Evaporation Materials (Precious Metals, Alloys, Non-Precious Metals, Alloys, Magnetic Materials, Heusler Alloys and Oxides)
- Chamber Services complement materials offering.



Example **– Hard Disk Drive PMR Material Stack**

Recording Layer	CoCrPt + Oxide
Orient Interlayer	Ru
Soft Underlayer	Iron & Cobalt Based Alloys
AFC Layer	Ru
Soft Underlayer	Iron & Cobalt Based Alloys
Substrate (Glass or Aluminum)	

Williams ADVANCED MATERIALS

Key Markets – Wireless and Photonics

Thin Film and Packaging materials for varied wireless and photonic applications including RF Power Amplifiers, HBT's, SAW Devices, Light Emitting Diodes (LEDs), Laser Recorders and Micro Electro Mechanical Systems (MEMS)

Williams ADVANCED MATERIALS

Key Markets - Thin Film and Electronic Packaging Materials & Services

Night Vision (Defense)

Thin Film Deposition Services

- Coated Infrared Optics
- Hermetic Windows for FPA Packaging
- Flexible Interconnects

Williams Thin Film Materials

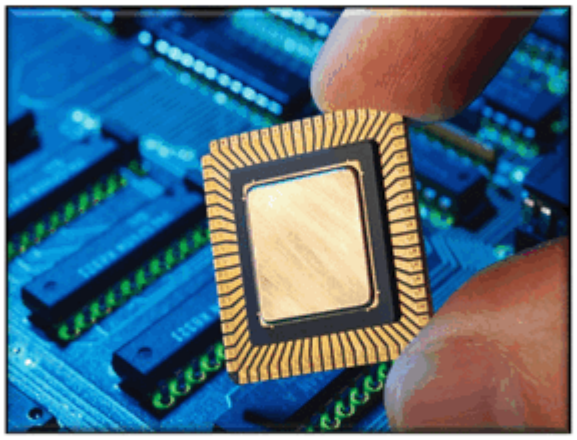
- Sputtering Targets for FPA Manufacturing
- High Purity Infrared Coating Materials

Electronic Packaging Materials

- Precision Machined Components
- High Purity Solder Materials

Key Markets – Semiconductor Packaging

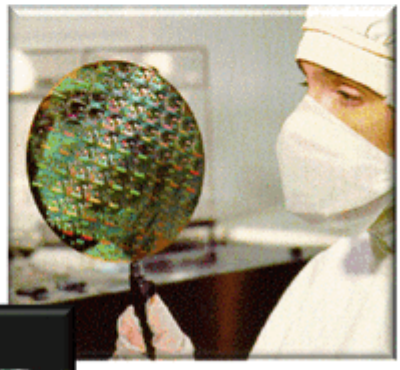
- High reliability semiconductor packaging materials.
- Applications focused in space, military and satellite market segments.

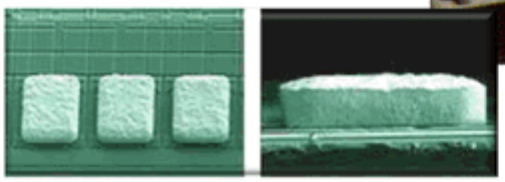


Williams ADVANCED MATERIALS

Key Markets – Semiconductor Wafer Fabrication

- Thin film materials and chamber services for silicon wafer and UBM (Under Bump Metallization) technologies.
- Numerous commercial and military microelectronic applications.





Williams ADVANCED MATERIALS

Optics Markets

- **Security**
  - ZnS, MgF_2, SiO_2
- **Laser optics**
  - ThF_4, YF_3, SiO_2, Ge
- **Communications**
  - SiO_2, Ta_2O_5, Nb_2O_5,
  - LaB_6 Cathodes
- **Ophthalmics**
  - SiO_2, Al_2O_3, Ti_3O_5, Cr-SiO

Williams ADVANCED MATERIALS

Opto-Electronic Markets

- **Resistor material for hybrid circuits**
  - Cr-Si, W-Ti
- **Projection Display Products**
  - HfO_2, Cr, SiO_2, MgF_2
- **Clear conductive coatings**
  - ZnO
- **Data Storage**
- **Photovoltaics (Solar)**
  - CdS, CdTe, Cu-In-Ga-Se

Williams ADVANCED MATERIALS

Specialty Inorganic Markets

- **Protective coatings for aerospace applications**
  - $TiB2$, B_4Si
- **Defense Applications**
- **Semiconductor gas precursors**
  - Zn_3As_2
- **Data Storage**
- **Medical devices**
  - V_2O_5
- **Specialty Batteries**
  - Li_2O, CoS_2

Williams ADVANCED MATERIALS

Key Markets - Defense Applications

Aerospace

Thin Film Technology

▪Large Area Coating of Irregular Shaped Flight Components

▪ Coatings on Composite Materials

▪ Thin film hybrid circuits

▪ Specialty Engineered Films

Williams Thin Film Products

▪Sputter & Evaporation Materials for critical surfaces

Williams Advanced Materials

▪ Hermetic Combo Lids

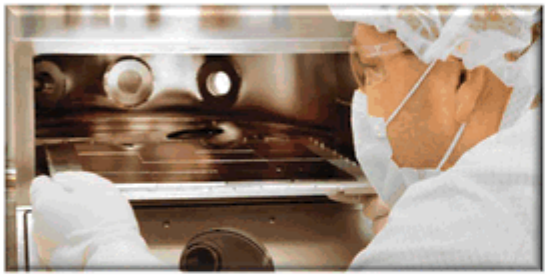
▪ High Purity Solder Materials

▪ Precision Machined Components

Key Markets - Medical (Sensor) Applications

Thin Film Deposition Services

- Batch Sensor Electrode Manufacturing
- Roll to Roll Strip Sensor Manufacturer
- Metal Deposition and Precision Slitting

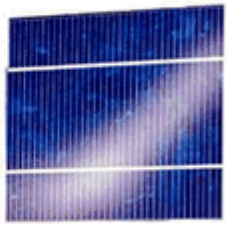


Williams Thin Film Products

- Sputter & Evaporation Materials for Sensor Manufacturing
- Refining and Recovery
- Shield Cleaning Services

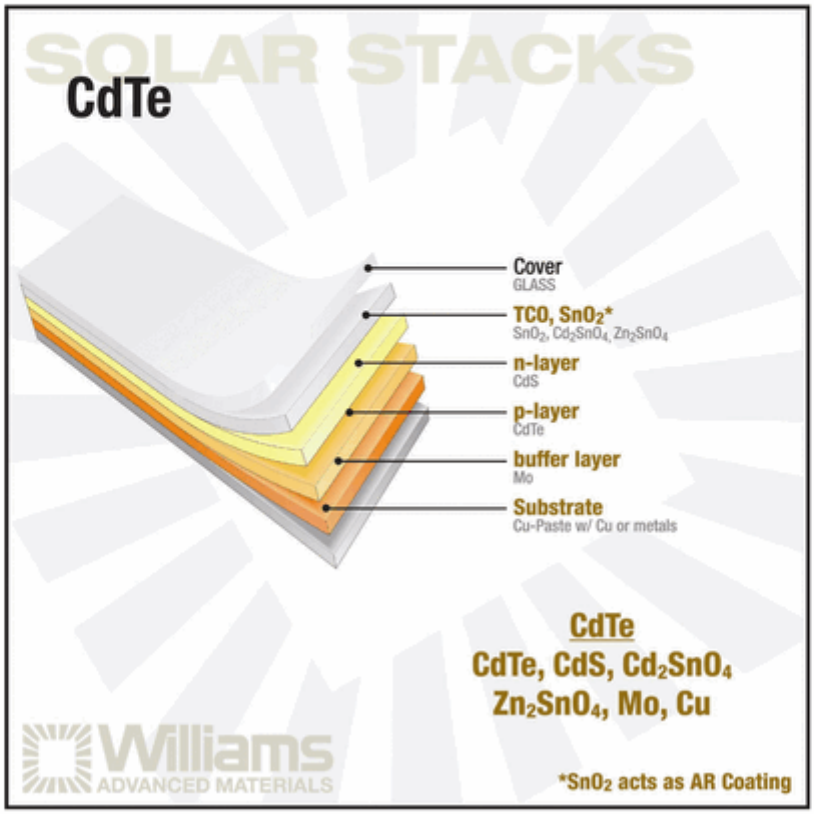
Photovoltaic Solar Applications

- **Thin Film Materials**
  - **Targets and Evaporation**
  - CIG(S), CdTe, CdS, AZO, GZO, Ag, Ti, Al, CuGa
- **Thin Film Deposition Services**
  - TCO Coatings (ITO)
  - R&D Thin Film Stack Development
- **Chamber Services**
  - PVD, PECVD Shield Sets
  - Added Value Services

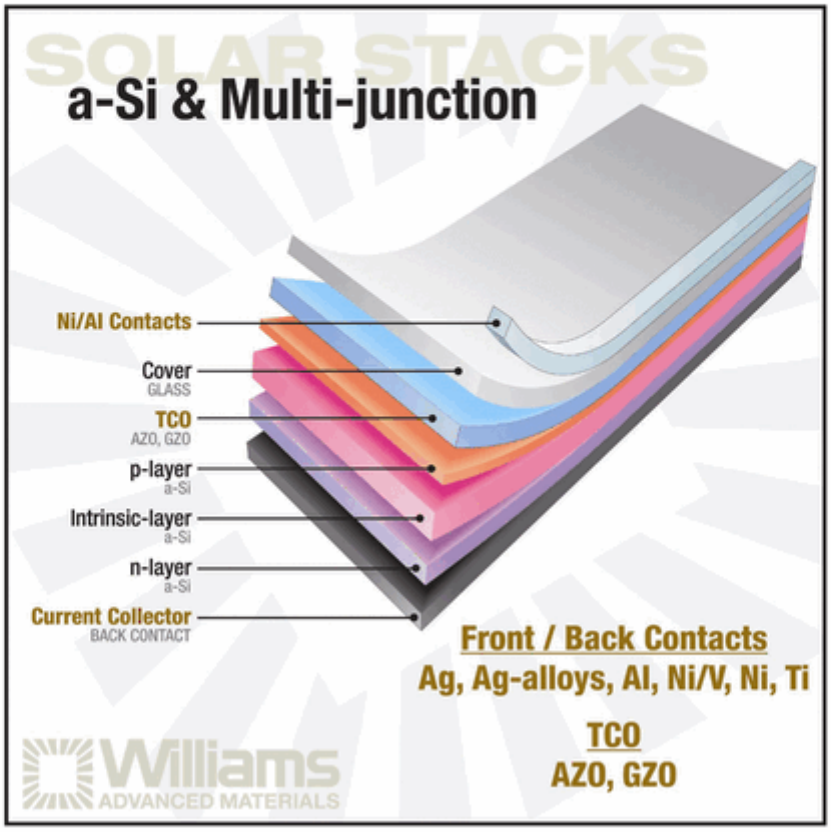


Williams ADVANCED MATERIALS

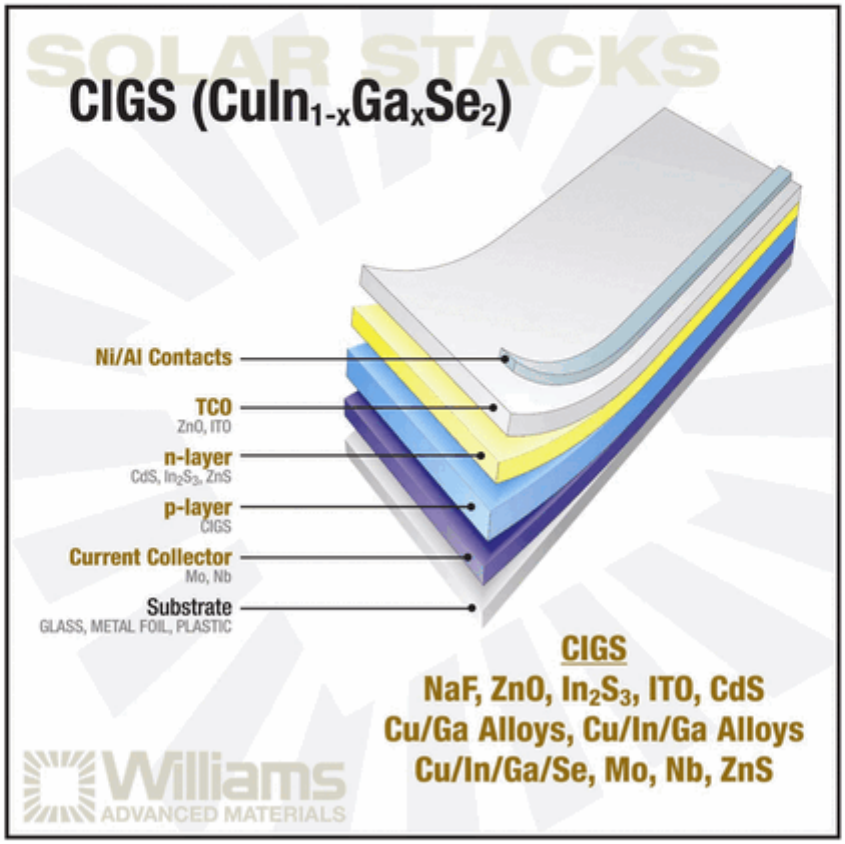
Solar Stacks: CdTe



Solar Stacks: amorphous Si



Solar Stacks: CIGS (CuIn1-xGaxSe2)



Global Chamber Services Value Package

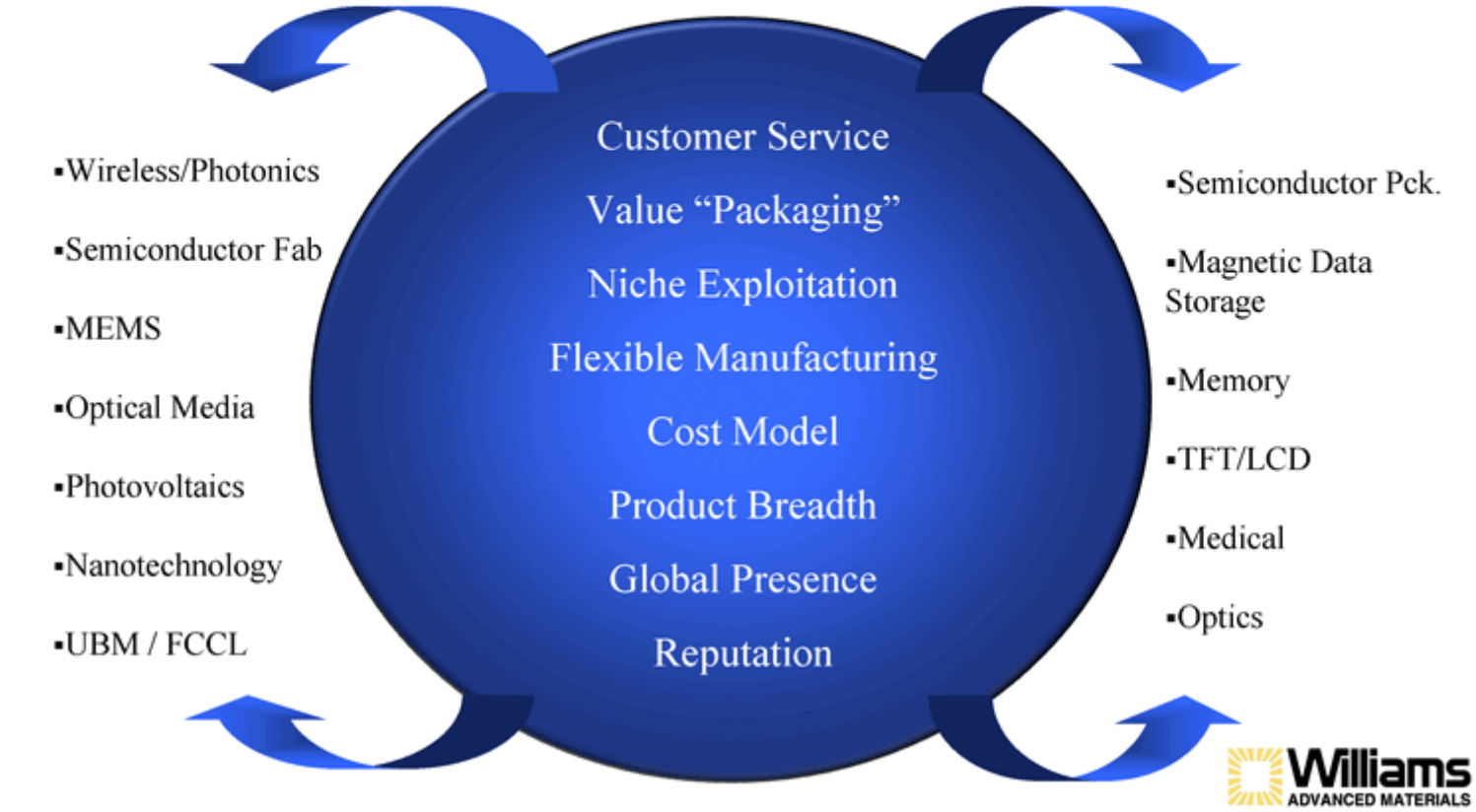
- **Shield Cleaning Services Improve raw material utilization, precious metal recovery and equipment uptime improvements**
- **Mechanical and chemical recovery techniques**
- **Shield Surface treatment capabilities**
- **Clean Room environment and packaging**
  - Ultrasonic cleaning with particle count monitoring
  - Drying a.k.a. baking a.k.a. out gassing
  - Clean room packaging
  - SPC Data collection
- **Custom final packaging**
- **Precious Metal Management**
- **Logistics support**

Williams ADVANCED MATERIALS

Chamber Services/Refine

Williams
ADVANCED MATERIALS

Distinctive Competencies



Williams ADVANCED MATERIALS

New Horizons

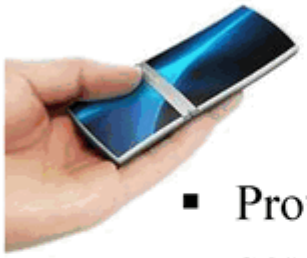
- TDP, Solar — Rotatable Targets
- FCCL
- Medical Sensors
- Global Chamber Services
- Optical Sensors Fabrication
- Solar Energy-packaging, inorganic compounds, metal/ alloy solutions
- Flexible Solar Solutions
- OLED Displays
- IR Coatings and Packages

Williams
ADVANCED MATERIALS

Brush Engineered Materials Inc.
Organized into Four Separate Reportable Segments

- Advanced Material Technologies and Services
- ***Specialty Engineered Alloys***
- Beryllium and Beryllium Composites
- Engineered Material Systems

Brush Specialty Engineered Alloys & Brush Resources Vision



- Provide ***technical expertise*** and ***flexible services*** to deliver value through ***innovative, practical engineered material solutions***.
- Our ***products and services*** coupled with our ***global distribution and logistics network*** are relied upon by our customers making us their ***trusted growth partner***.

BRUSH WELLMAN ALLOY PRODUCTS

Brush Specialty Engineered Alloys & Brush Resources Mission

Safely and ***reliably*** provide the ***highest quality***, ***innovative*** products and services, ***fast*** and ***on-time*** to all customers, when they want them at the ***lowest possible cost.***

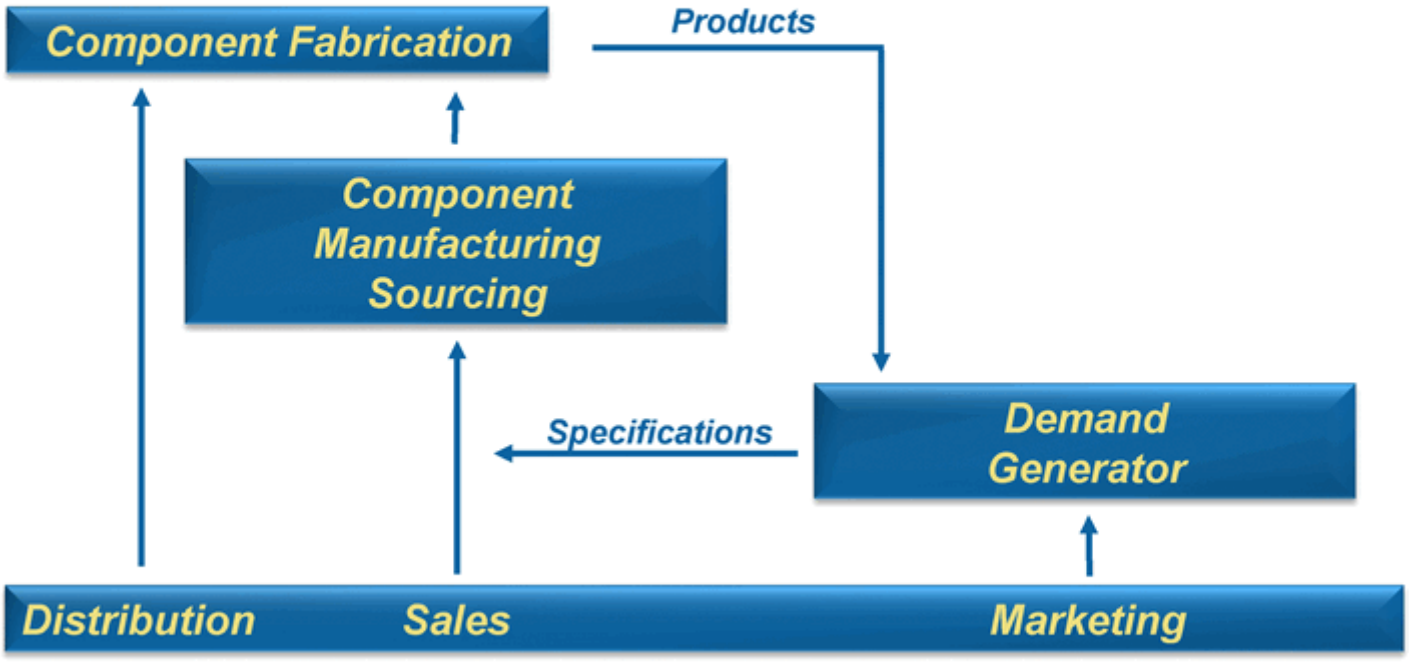
BRUSH WELLMAN ALLOY PRODUCTS

Specialty Engineered Alloys (Alloy Products) Operations Strategy—Lean Sigma

- ***Safety*** practices to provide an injury and illness free workplace
- ***Lean Manufacturing*** to reduce cycle times, further increase capacity, and provide industry leading service to our customers
- ***Six Sigma*** to provide industry leading product quality and to reduce costs
- ***Supply Chain Management*** to provide exactly what is needed, when it's needed, to where it's needed in exactly the right quantity
- ***Total Productive Maintenance*** to provide industry leading equipment reliability

BRUSH WELLMAN ALLOY PRODUCTS

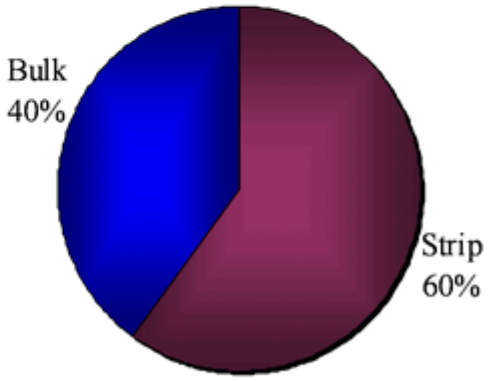
Sales Based on End User Specifications



BRUSH WELLMAN ALLOY PRODUCTS

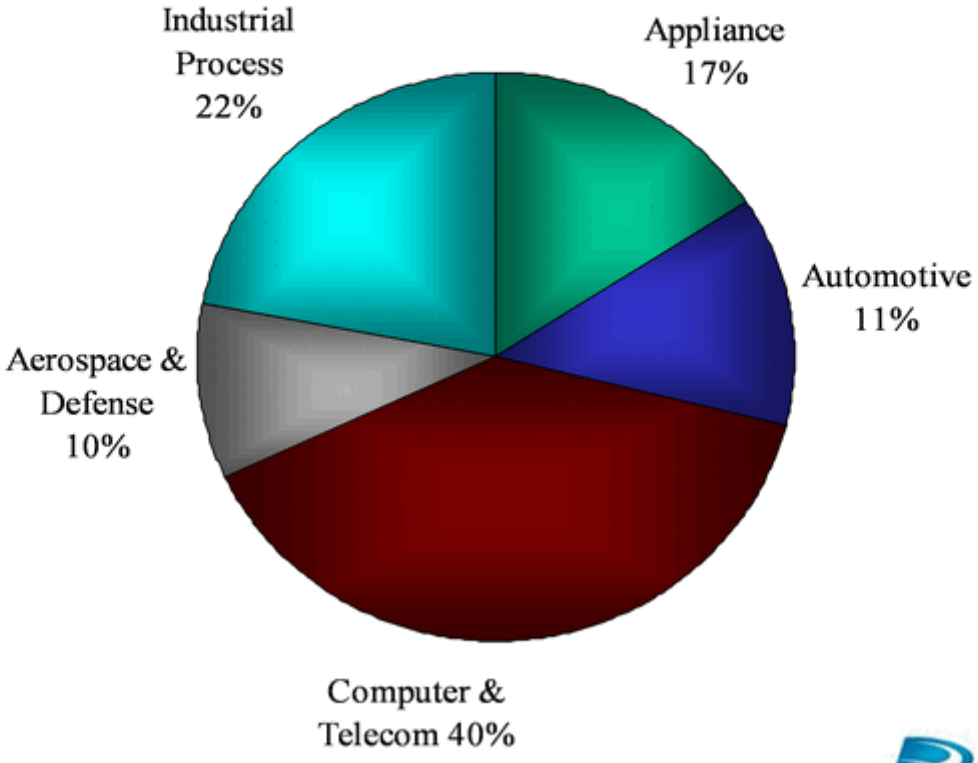
Brush Specialty Engineered Alloys

- The primary business within the Specialty Engineered Alloys Segment, Alloy Products sales for the year 2008 were $292 million.
- Manufactures and sells copper and nickel based alloy systems and components metallurgically tailored to meet customers' specific performance requirements
- Product families:
  - Strip products include thin gauge precision strip and thin diameter rod and wire. These products provide a combination of high strength, formability and electrical conductivity for connectors, contacts, switches, relays and shielding used in mobile communications devices, wireless communications equipment, storage area network systems, data networking equipment, servers, notebooks, netbooks, plasma & LCD HD televisions, medical electronics, appliances, and automotive electronics.
  - Bulk products include rod, bar, tube and plate. These products are known for superior strength, corrosion and wear resistance, thermal conductivity and lubricity. Applications include bearings and bushings for aerospace and heavy equipment, resistance welding components, oil & gas drilling components, plastic mold tooling and telecommunications housing equipment.



BRUSH WELLMAN ALLOY PRODUCTS

Alloy Products Revenue by Market Year 2008

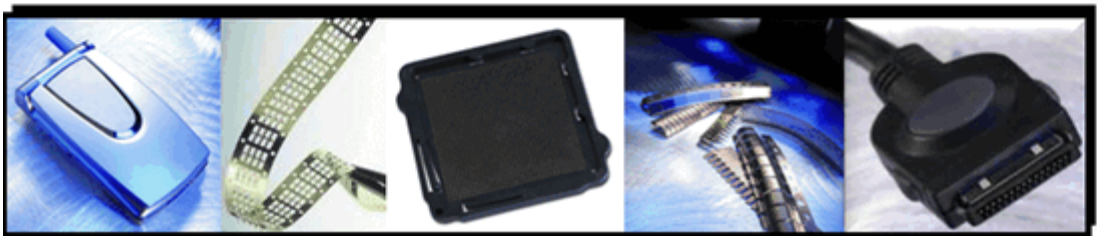


BRUSH WELLMAN ALLOY PRODUCTS

Strip Alloy Applications

(strength, conductivity, spring characteristics)

- Automotive electronics
- Appliance switches
- Pressure Responsive Devices
- Fire Extinguisher Sprinkler Heads
- EMI Shielding
- Current Carrying Springs and Relays
- Integrated Circuit Sockets
- Electrical and Electronic Connectors in Mobile Handsets, PDAs, Base Stations, Storage Area Networks, Servers, Notebooks, Netbooks, Plasma & LCD HD Televisions and Medical Electronics



BRUSH WELLMAN ALLOY PRODUCTS

Strip Products - Strategy

- **Maintain focus on major end-use markets**
  - Computer
  - Telecommunications (mobile & Infrastructure)
  - Automotive
  - Appliance
  - Military
  - Medical
  - Consumer electronics

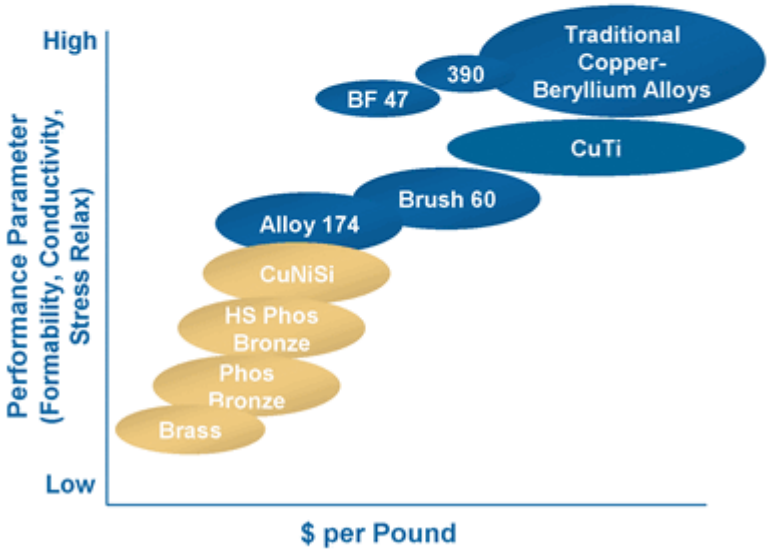
- **Defend leadership in traditional alloy strip, rod & wire**
  - Reduce total cost of manufacture to allow penetration of mid-range alloy applications
  - Enhance product properties to provide additional value to customers
- **Introduce new alloys to meet needs of targeted market opportunities**
- **Geographic Growth**

BRUSH WELLMAN ALLOY PRODUCTS

Strip Products Strong Value Proposition

Copper-beryllium alloys, while premium priced, provide best-in-class performance

Competitive Alloy Comparison



Note: Blue denotes Brush Engineered Materials' alloys; beige represents competitive materials.

Brush Value Proposition

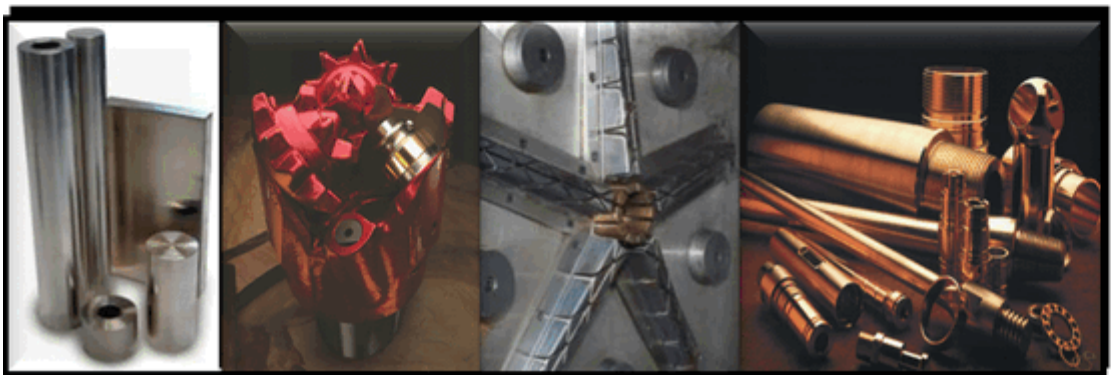
- Unique, high-performance materials
- Technical design capabilities
- Outstanding service center network
- Global marketing, sales and distribution

BRUSH WELLMAN ALLOY PRODUCTS

Bulk Alloy Applications

(strength, corrosion resistance, non-galling, conductivity)

- Aircraft Bushings
- Heavy Equipment Bearing and Wear Applications
- Oilfield well drilling, completion and production equipment
- Plastic Injection & Blow Molds
- Power Generation
- Tooling for Metalworking
- Undersea/Marine Hardware for Telecom & Instrumentation
- Welding Electrodes & Dies



BRUSH WELLMAN ALLOY PRODUCTS

Bulk Products - Strategy

- **Maintain focus on traditional end-use markets**
  - Aerospace
  - Oil & Gas
  - Plastics
  - Power Generation
  - Resistance Welding
  - Undersea

- **Introduce new alloys or product forms to meet needs of targeted market opportunities**
- **Focus on new non-traditional growth markets**
  - Bearings, Heavy Equipment & Mining, Marine, advanced Oil & Gas well components, Offshore & Downhole technology, and Pumps
- **Grow Existing business in finished and semi-finished components**
  - Offer design assistance and one-stop shopping to end users
- **Geographic Growth**
  - Expand commercial operations in Asia Pacific (including India) and Eastern European markets, improve customer awareness and distribution

BRUSH WELLMAN ALLOY PRODUCTS

MoldMAX® Alloys for the Plastics Industry

Our engineers use infrared imaging at the customers' facility to pinpoint where MoldMAX® will provide the maximum benefit.

Value Proposition

- Provides molders with 20-40% increase in productivity
- Capital avoidance due to increased productivity
- Enables improved quality of molded parts
- ROI < 3 months

Technical advantages

- Hardness of steel with the thermal conductivity of copper
- Fast machining rates
- High polishability

BRUSH WELLMAN ALLOY PRODUCTS

Lorain Casting Facility
Spinodal and EquaCast® Technology-Winning!

High performance copper based engineered materials:

- Strength and hardness is comparable to copper beryllium products
- Thermal conductivity

The value proposition differentiates:

- Corrosion resistance
- Superb tribological properties (low friction, excellent wear resistance) adding value in reliability, uptime, and maintenance savings
- Machinability and design simplicity adding cost benefits to offset increased material costs
- Casting capability including size, shapes, tubes and quality
- No EH&S issues

Developing applications in markets where we are strong:

- Drilling Equipment, Aircraft Parts, Mold Tooling

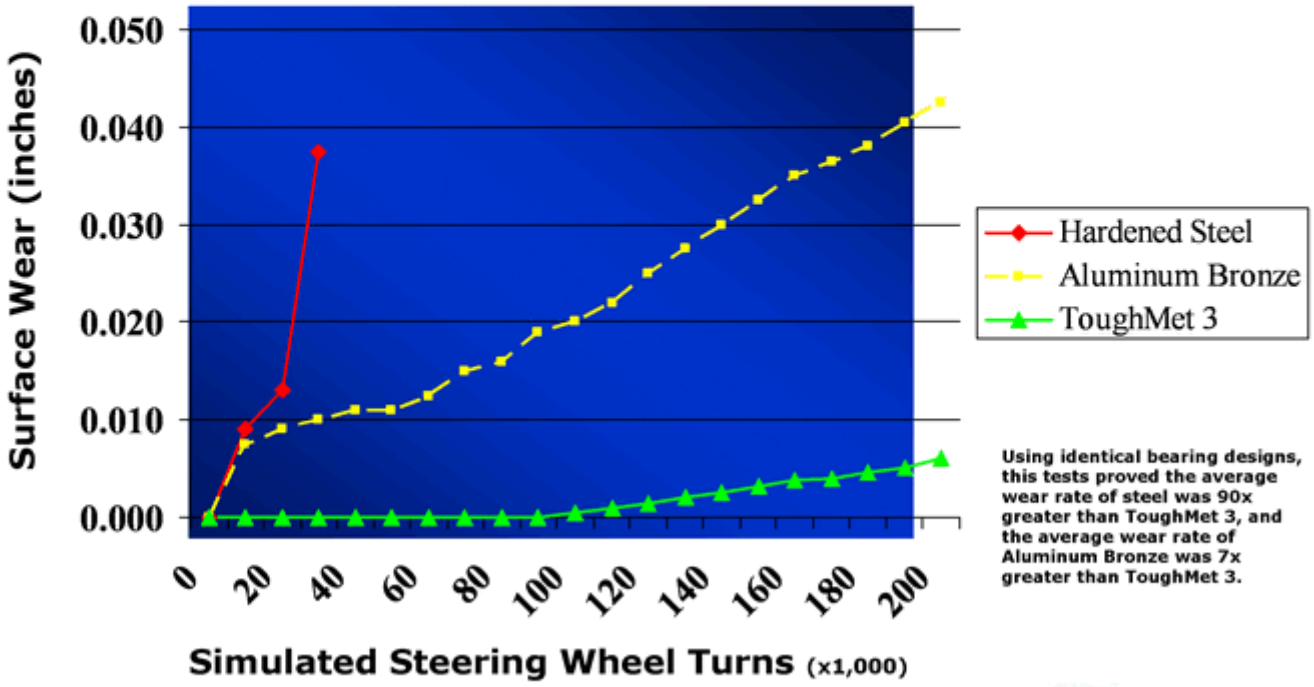
Developing markets/applications where technology is strong:

- Oil Well Completion Equipment, Mining, Heavy Equipment, Drivetrain Components, Hydraulic Systems, Engine Bearings, Semiconductor Fabrication

Lorain Technology: Expanding market and application reach

BRUSH WELLMAN ALLOY PRODUCTS

ToughMet® Outlasts Conventional Bearing Materials in 300-ton Mining Truck Steering Test



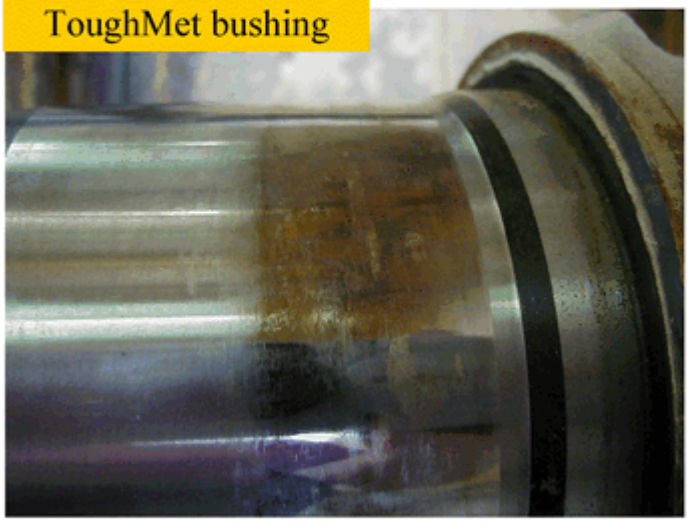
Using identical bearing designs, this tests proved the average wear rate of steel was 90x greater than ToughMet 3, and the average wear rate of Aluminum Bronze was 7x greater than ToughMet 3.

BRUSH WELLMAN ALLOY PRODUCTS

ToughMet® Bushings Protect Steel Mating Parts.

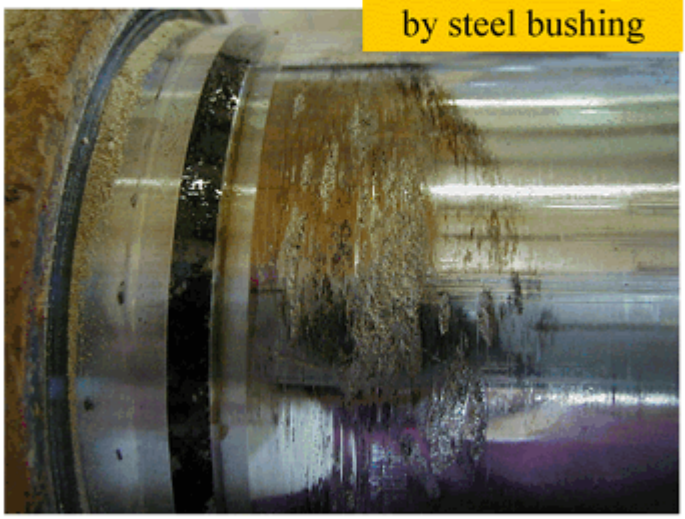
Example: Lubrication failure on bulldozer undercarriage

Steel pin protected by ToughMet bushing



Left side pin after 500 running hours against ToughMet 3 CX105 bushing.

Steel pin damaged by steel bushing



Right side pin after 500 running hours against hardened steel (HRC 50) bushing.

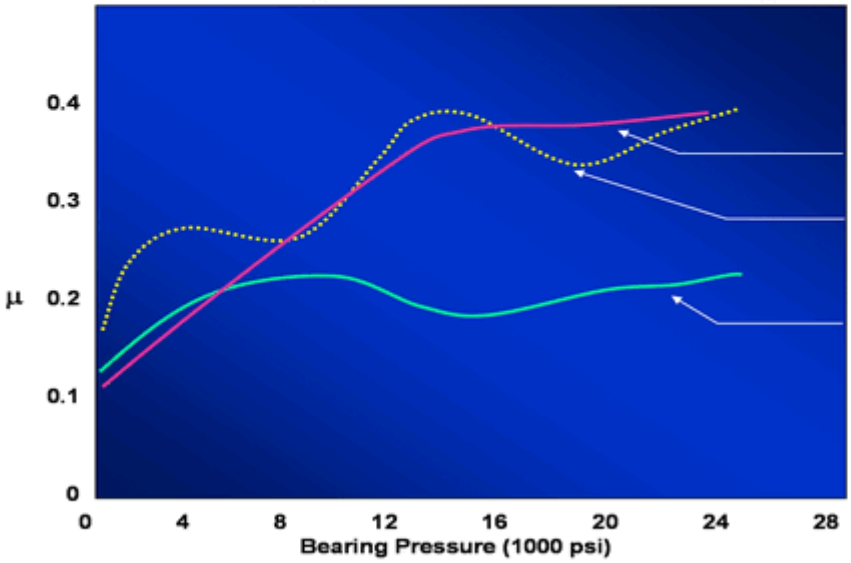
Pin hardness = HRC60.

BRUSH WELLMAN ALLOY PRODUCTS

ToughMet® Industrial Components Results:

ToughMet® Alloy Bushings Provide Superior PowerEfficiency Performance

in a Comparison of Dynamic Coefficient of Friction μ vs Bearing Pressure for Three Bearing Materials



CuBe Rockwell C 38

AlNi Bronze Rockwell C 28

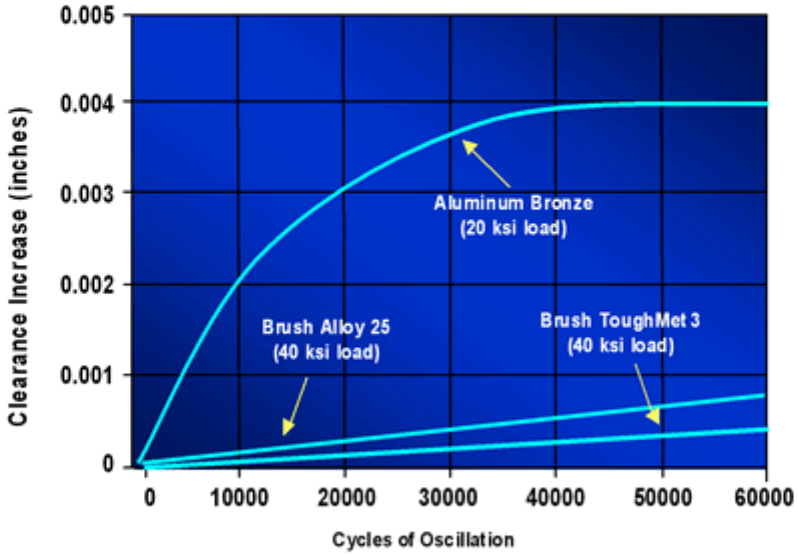
CuNiSn Spinodal
Rockwell C 34

R.S. Black, Honeywell
W.D. Nielsen
1996

BRUSH WELLMAN ALLOY PRODUCTS

Significantly Higher Durability has been Confirmed for ToughMet®

Comparative Sleeve Bearing Wear Tests.



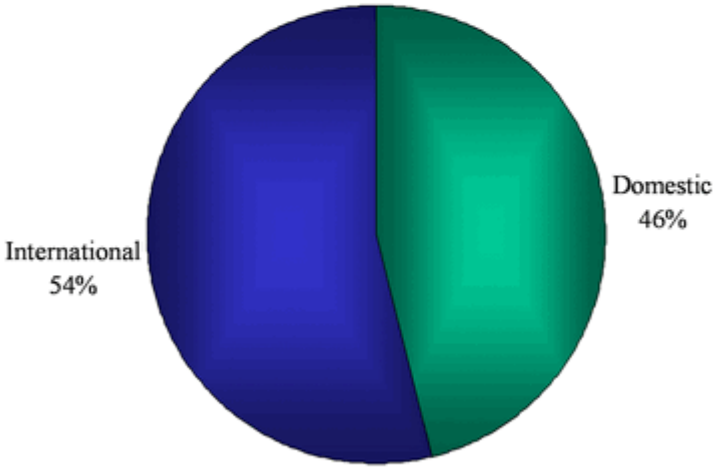
Battelle

BRUSH WELLMAN ALLOY PRODUCTS

Brush International, Inc.

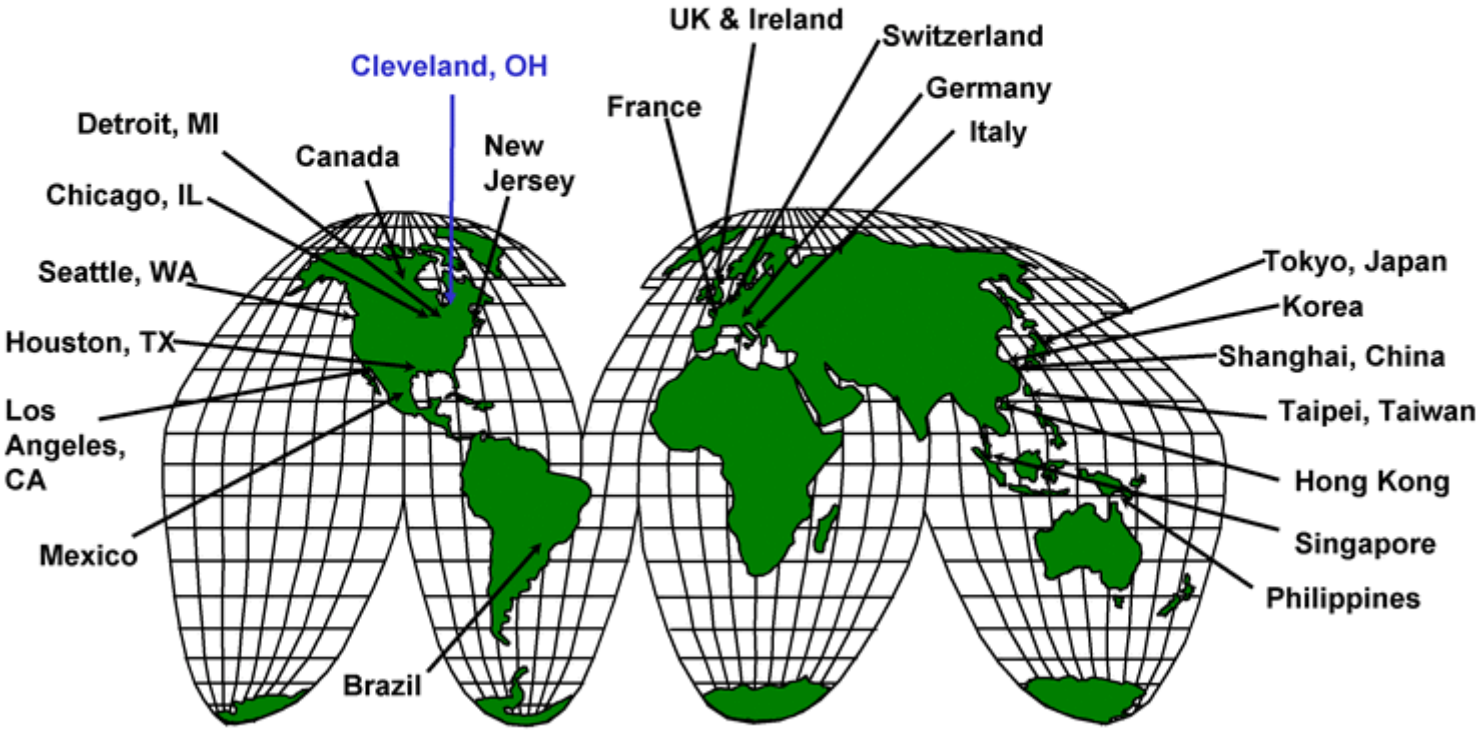
- Brush International Inc. is a wholly owned subsidiary of Brush Engineered Materials
- Service centers in Germany, England, Japan and Singapore
- Representative offices in Korea, China and Taiwan
- Primary focus on the distribution of alloy products while providing local support to other Brush Engineered Materials' subsidiaries operating internationally

Alloy International/Domestic Revenue Year 2008



BRUSH WELLMAN ALLOY PRODUCTS

Global Sales and Distribution Network



Global Reach..... Local Service

Brush Engineered Materials Inc.
Organized into Four Separate Reportable Segments

- Advanced Material Technologies and Services
- Specialty Engineered Alloys
- ***Beryllium and Beryllium Composites***
- Engineered Material Systems

Beryllium and Beryllium Composites Comprises two business units

- Brush Beryllium Products
- Brush Ceramic Products

BRUSHWELLMAN
ENGINEERED MATERIALS

Brush Beryllium Products

Products

Beryllium Metal	-	One of the lightest metals known
	-	Family of vacuum hot and hot/cold isostatically pressed powder-derived metals
AlBeMet™	-	Family of lightweight alloy composites
	-	Extruded, rolled sheet and hot isostatically pressed powder-derived metals

BRUSHWELLMAN
ENGINEERED MATERIALS

Brush Beryllium Products

Products - Cont.

E-Materials	- Family of low expansion, lightweight electronic packaging materials
	- Composites of beryllium metal and beryllium oxide
Beryllium Oxide/ Chemicals	- Ceramic-grade beryllium oxide powder
	- Specialty beryllium-containing chemicals

BRUSHWELLMAN
ENGINEERED MATERIALS

Brush Beryllium Products

Facilities

Elmore, Ohio

Fremont, California

BRUSHWELLMAN
ENGINEERED MATERIALS

Brush Beryllium Products
Key Product Attributes

- Be/AlBeMet™
  - Light Weight (Density)
  - High Stiffness (Elastic Modulus)
  - High Thermal Conductance/Capacity
  - Low Thermal Expansion
- Be
  - Transparent to X-Rays
  - Neutron Reflector

BRUSHWELLMAN
ENGINEERED MATERIALS

Brush Beryllium Products

Primary Competition…Alternative Materials

- Organic Composites (e.g. Carbon epoxy)
- Silicon carbide
- Metal Matrix Composites (e.g. Al - silicon carbide)
- Pyrolytic graphite
- Aluminum (high strength grades)

BRUSHWELLMAN
ENGINEERED MATERIALS

Major Defense/Aerospace Applications for Brush Beryllium Products

Optics

Optical substrate and support structure for visual and infrared target acquisition systems (fighter aircraft, helicopters, unmanned aerial vehicles, tanks), surveillance systems and astronomical telescopes.

Satellites

Structures and sensors for defense and commercial telecommunications satellites.

Electronics

Electronic packaging for defense avionics, radar and electronic countermeasures systems for helicopters and fighter aircraft. Applications include circuit boards, covers and packages.

BRUSHWELLMAN
ENGINEERED MATERIALS

Major Commercial Applications for Brush Beryllium Products

X-ray Windows

Radiographic tube components for medical diagnostic (x-ray, mammography, CAT-scan), industrial and scientific equipment.

Optical Scanners

Mirrors for laser scanners used in reprographic and other high-performance laser applications.

Motion control

Structural components for high-precision semiconductor processing and industrial robotic equipment

Acoustics

High performance speaker components

BRUSHWELLMAN
ENGINEERED MATERIALS

Major Applications, New Products and Platforms

Brush Beryllium Products

Product	Market
New AlBeMet Products	Defense
Fabricated Products	Defense
Acoustic	Speakers
High grade Be foil	Medical x-ray

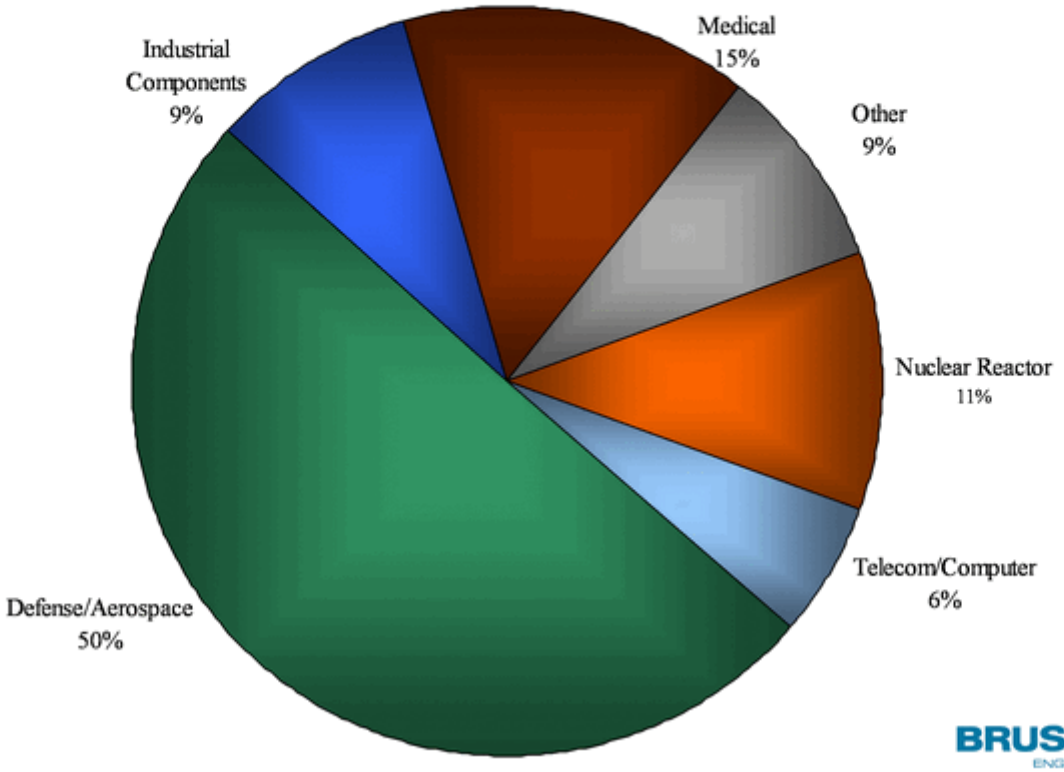
BRUSHWELLMAN
ENGINEERED MATERIALS

Beryllium Products
Brush Ceramic Products

- Located in Tucson, Arizona
- Products
  - Ceramic substrates used in commercial and military packaging applications
  - Ceramic laser bores for gas lasers used in medical and industrial applications
  - Machined ceramic components used in military, oil and gas, semiconductor and microwave applications

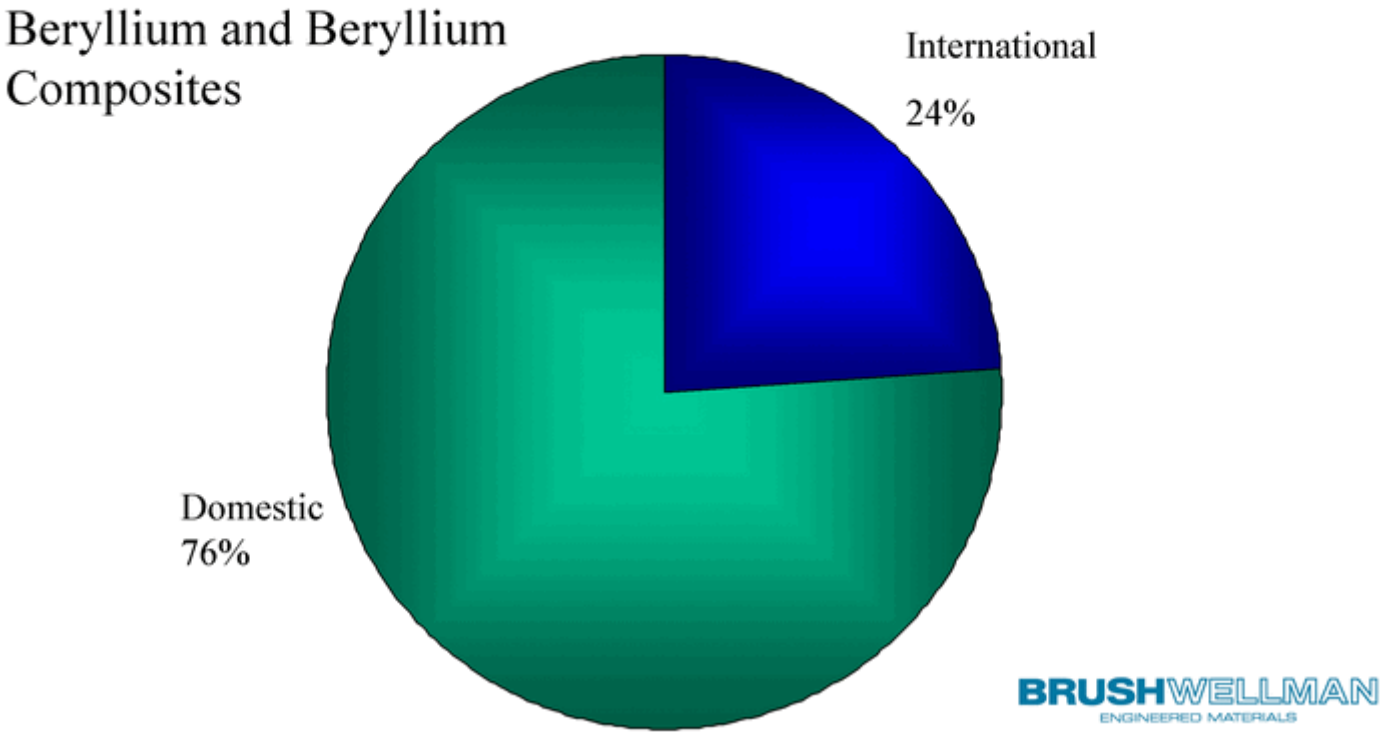
BRUSHWELLMAN
ENGINEERED MATERIALS

Beryllium and Beryllium Composites
2008 Revenue by Market



BRUSHWELLMAN
ENGINEERED MATERIALS

International/Domestic Revenue 2008



Brush Engineered Materials Inc.
Organized into Four Separate Reportable Segments

- Advanced Material Technologies and Services
- Specialty Engineered Alloys
- Beryllium and Beryllium Composites
- ***Engineered Material Systems***

Engineered Material Systems (Technical Materials Inc.) - 2008

"Providing engineered metal strip products to leading technology manufacturers around the world."

Market History

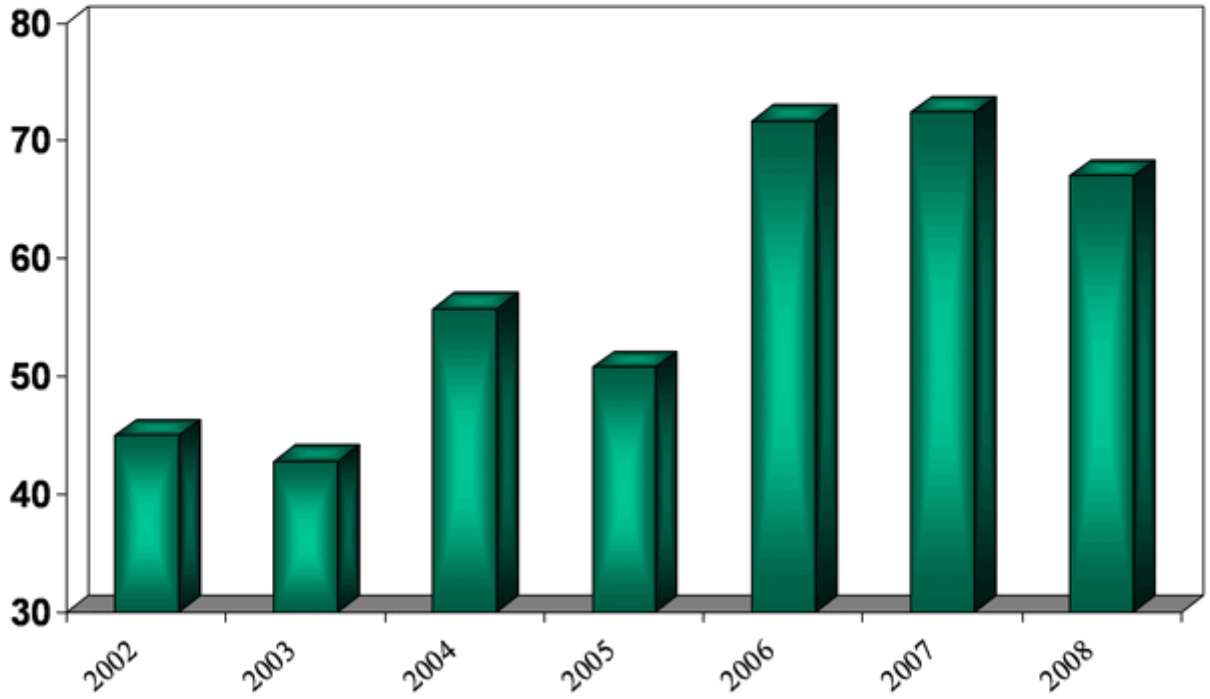
- Founded in 1968, TMI's continuous clad and inlay technology produced high-reliability connector and switch materials for the telecom industry.
- Today TMI's products are used throughout the world by virtually all major technology markets. As a leader in reel-to-reel composite metals engineering, TMI differentiates itself through proprietary process technologies.
- TMI worldwide sales continue to increase and in 2008 additional inroads were made in Europe and Asia.
- In 2008, New Product Sales accounted for approximately 37% of TMI's sales volume.

TMI Process Technologies

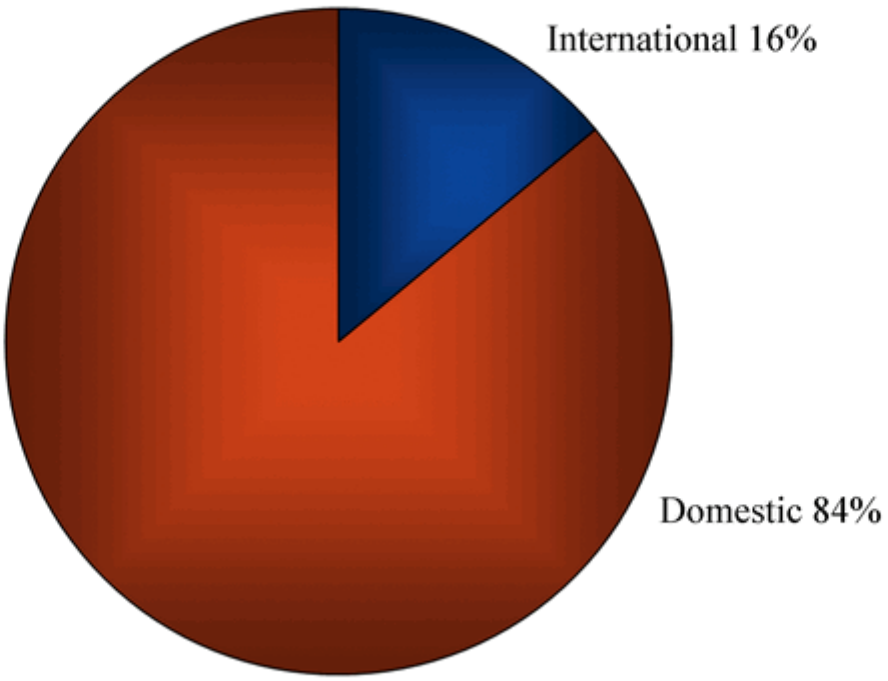
- Cladding
  - Inlay
  - Micro Laminates
- Electroplating
  - Gold, Silver, Base Metals
  - Selective and Overall Coatings
- Fabricated Components
- Profiling
  - Milling
  - Skiving
- Continuous Electron Beam Welding
- Lead-Free Solder Coatings

TMI Historical Sales

$ in millions



International/Domestic Revenue 2008



Our Vision

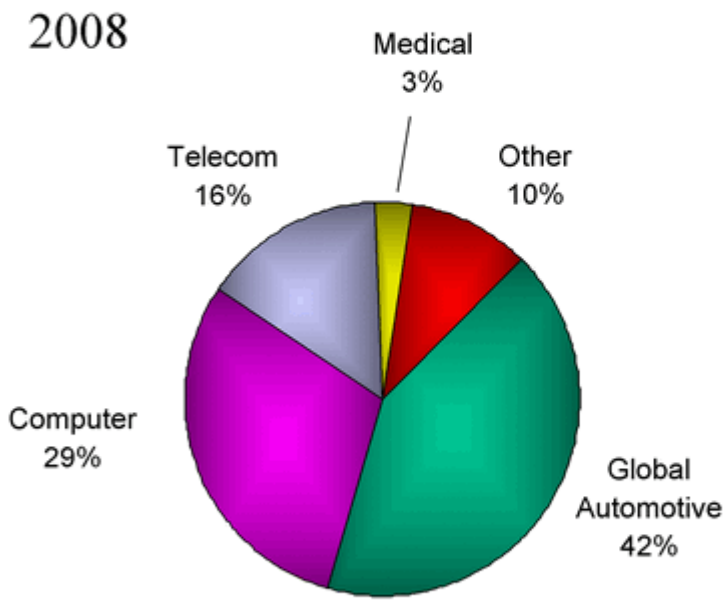
- To be a leader in creating innovative engineered material solutions and services that make our customers competitive in global markets.

Technology Leader

- Quality
  - ISO 9001-2000, Certified by Bureau Veritas
  - ISO 14001, Certified by TÜV
  - Unique Tolerance Capabilities
  - Extensive Digital and Vision-Controlled Processing
- Engineering
  - Metallurgical Design
  - Technical Customer Support

Our Major Markets

- Global Automotive
- Telecom
- Computer
- Medical
- Other



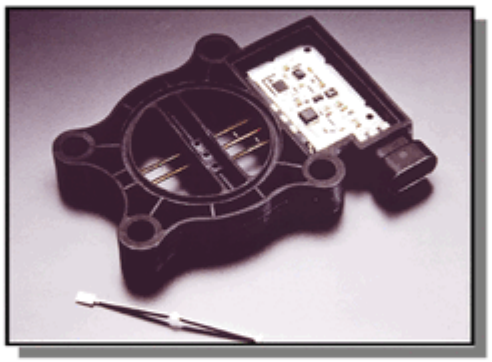
Strategic Growth Markets

- Alternative Energy Systems
- Power Electronics
- Hybrid & Electric Vehicle Materials
- Hard Drives
- Medical Devices

Application: Energy

- High-Performance Lithium Battery Materials
- Solar Cell Interconnects
- High-Temperature Fuel Cell Materials

Application: Automotive Electronics



- *High-Reliability Connector and Leadframe Materials*
  - Safety Devices
  - Engine Performance Sensors
  - Hybrid & Plug-In Components
  - Power Electronics

Application: Computer

- *Hard Drive Suspension Materials*
  - Stainless and Aluminum Composites
  - Precision Surface and Thickness Controls

Application: Medical

- *Precision Stainless Composites*
  - Ultra-Precision Toleranced Cutting Materials
  - Electron Beam Welded and Clad Interconnects
  - Electroplated Drug Delivery Electronics
  - Niobium, Tantalum, and Titanium Specialty Materials

Application: Consumer Electronics

- Leadframes for Digital Camera Sensors
- Cell Phone Passive Components
- Specialty Clad Materials

2009 Growth Strategy

- Focus on Clad, Electroplate and Electron Beam Weld Product Development in High-Growth Niche Markets
- Continued Expansion of Unique Process Capabilities for Value Add Growth
- Continue to Expand TMI's Presence in the Far East and Europe
- Continued Emphasis on New Strategic Markets

Beryllium Health and Safety

Brush has continued to make progress on issues related to beryllium health and safety

- Improved worker protection programs in place
- Rates of sensitization down among new workers
- Strong focus on regulations related to beryllium exposure

BRUSH ENGINEERED MATERIALS

Litigation

	Total Cases Pending	Total Plaintiffs (including spouses)
12/31/07*	9	31
3/28/08	8	30
6/27/08	8	30
9/26/08	9	36
12/31/08	9	36

*One case (involving one plaintiff) had been voluntarily dismissed by the plaintiff during the fourth quarter of 2007, but the Company was not made aware of this until 2008.

BRUSH ENGINEERED MATERIALS