

Innovation in After Market

Zafer Kasikara – 3M Turkey / Industrial Business Group
Country Business Leader

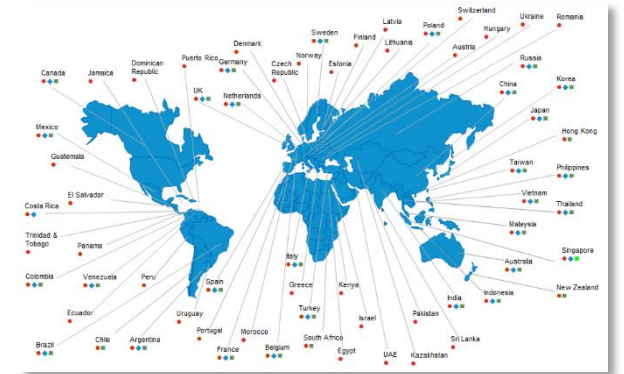
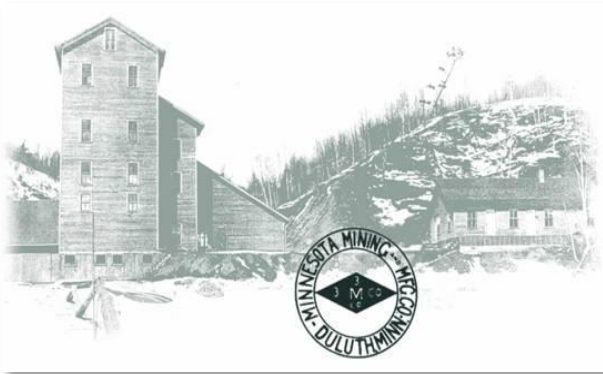
27th May 2016



Agenda

- **3M – Who we are ?**
- **3M Science. Applied to Life™.**
- **Market Trends in Automotive After Market**
- **3M Innovation to answer Market Trends**

Minnesota Mining & Manufacturing



- Established in 1902 in Minnesota , USA
- 100% Public Company with +100B\$ Market Capitalization
- 32B\$ Sales Revenue , 65% from international operation
- Operation in +70 Countries & R&D Lab in 36 Countries

Our Vision

3M Technology Advancing Every Company
3M Products Enhancing Every Home
3M Innovation Improving Every Life



Enabling Customer Success: Our Five Market-leading Business Groups

Through our five market-leading business groups, we turn our ideas into ingenious products and solutions that make life better for our customers and end-users every day



Consumer

Simplifying life and work



Industrial

From purification to aerospace —
changing how industry works



Electronics & Energy

Enabling the global power and
telecommunications networks and the
world's electronic devices



Safety & Graphics

Keeping you safe, your world secure, and
enhancing visual communication and
interactivity



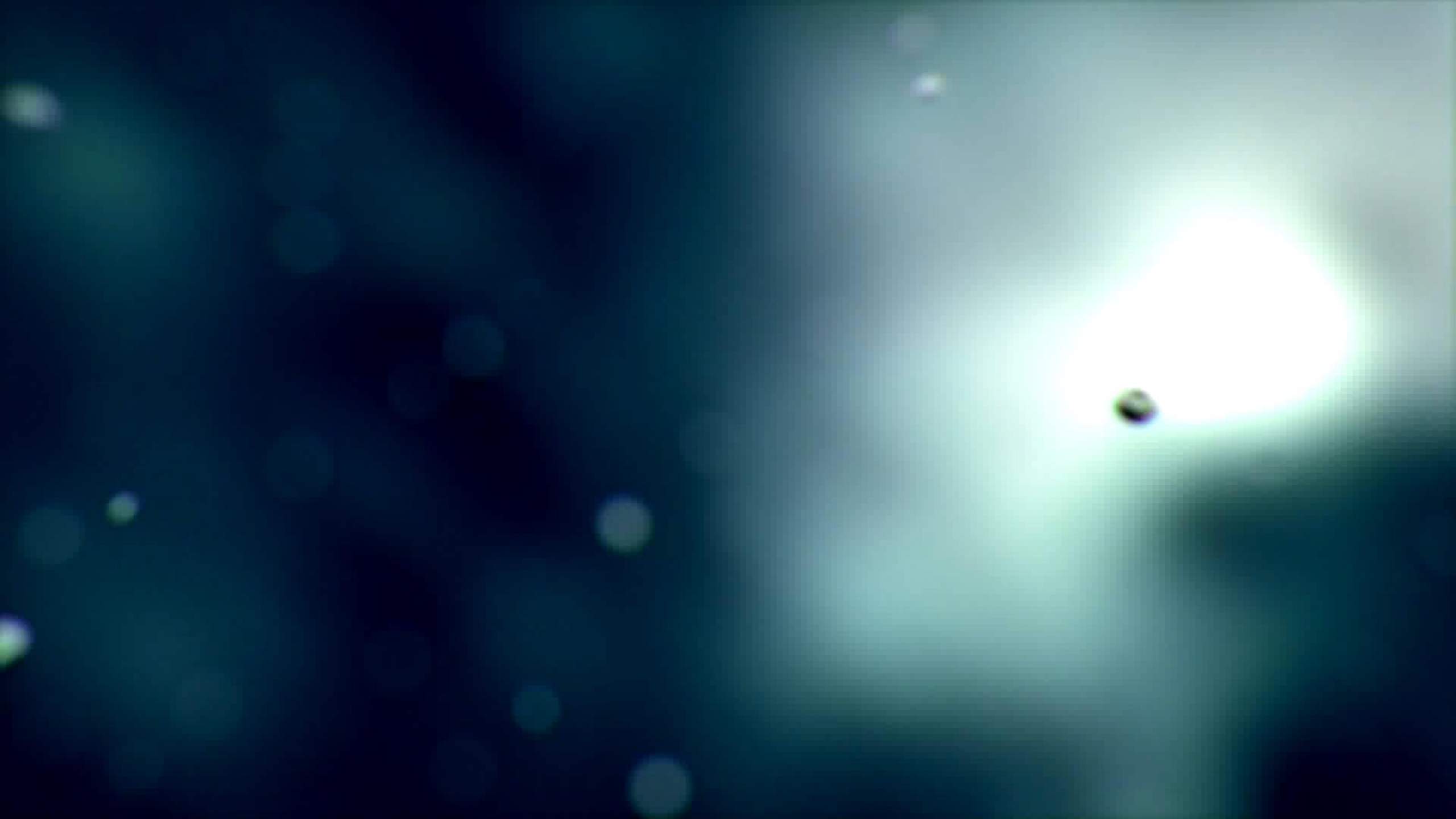
Health Care

Promoting health and improving
quality care

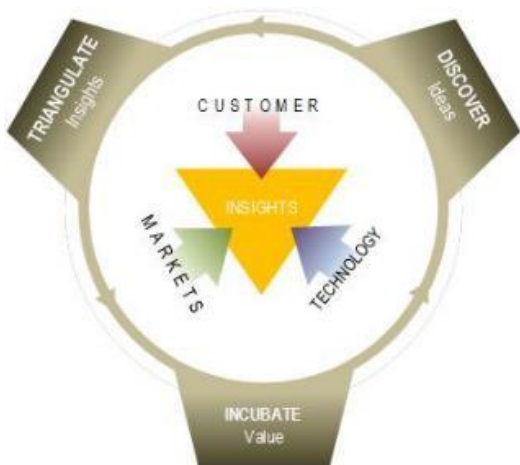
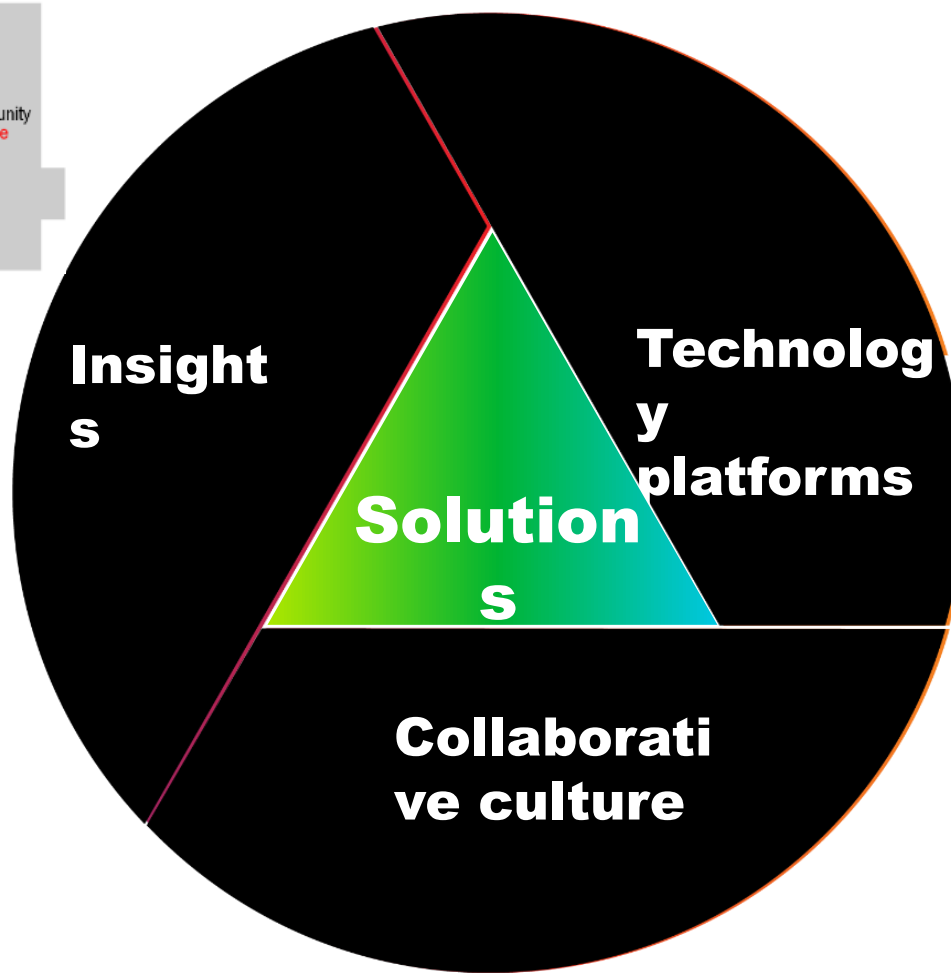
3M Science. Applied to Life.™

Innovation is at the core of 3M





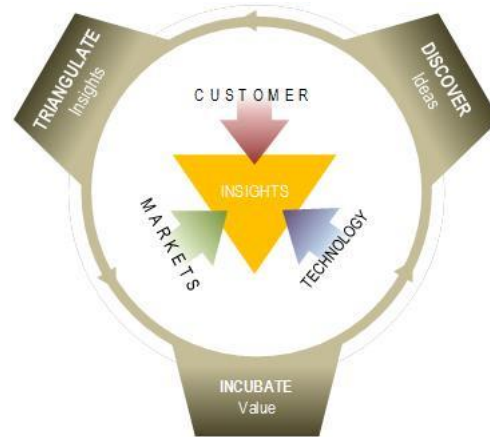
This is how we apply science to create solutions



Ab Abrasives													Md Medical Data Management
Ad Adhesives	Fi Films											Mf Mechanical Fasteners	
Am Advanced Materials	Fl Fluoropolymers											Ec Energy Components	
Ce Ceramics	Nt Nanotechnology											Ac Acoustic Control	
Co Advanced Composites	Nw Nonwoven Materials	Mo Molding	Pe Predictive Engineering & Modeling	Rp Radiation Processing	An Analytical	Fc Flexible Converting & Packaging	Pr Process Design & Control	Bi Biotech	Fe Flexible Electronics	Mi Microbial Detection and Control			
Do Dental & Orthopedic Materials	Po Porous Materials & Membranes	Mr Micro-replication	Pm Polymer Processing	Su Surface Modification	As Application Software	In Inspection & Measurement	Se Sensors	Dd Drug Delivery	Im Imaging	Tt Track and Trace			
Em Electronic Materials	Sm Specialty Materials	Pd Particle & Dispersion Processing	Pp Precision Processing	Vp Vapor Processing	Es Electronics & Software	Is Integrated Systems & Design	We Accelerated Weathering	Di Display	Lm Light Management	Wo Wound Management			
Materials		Processing			Capabilities			Applications					

Customer-inspired innovation

Spec-in businesses – Key account focus

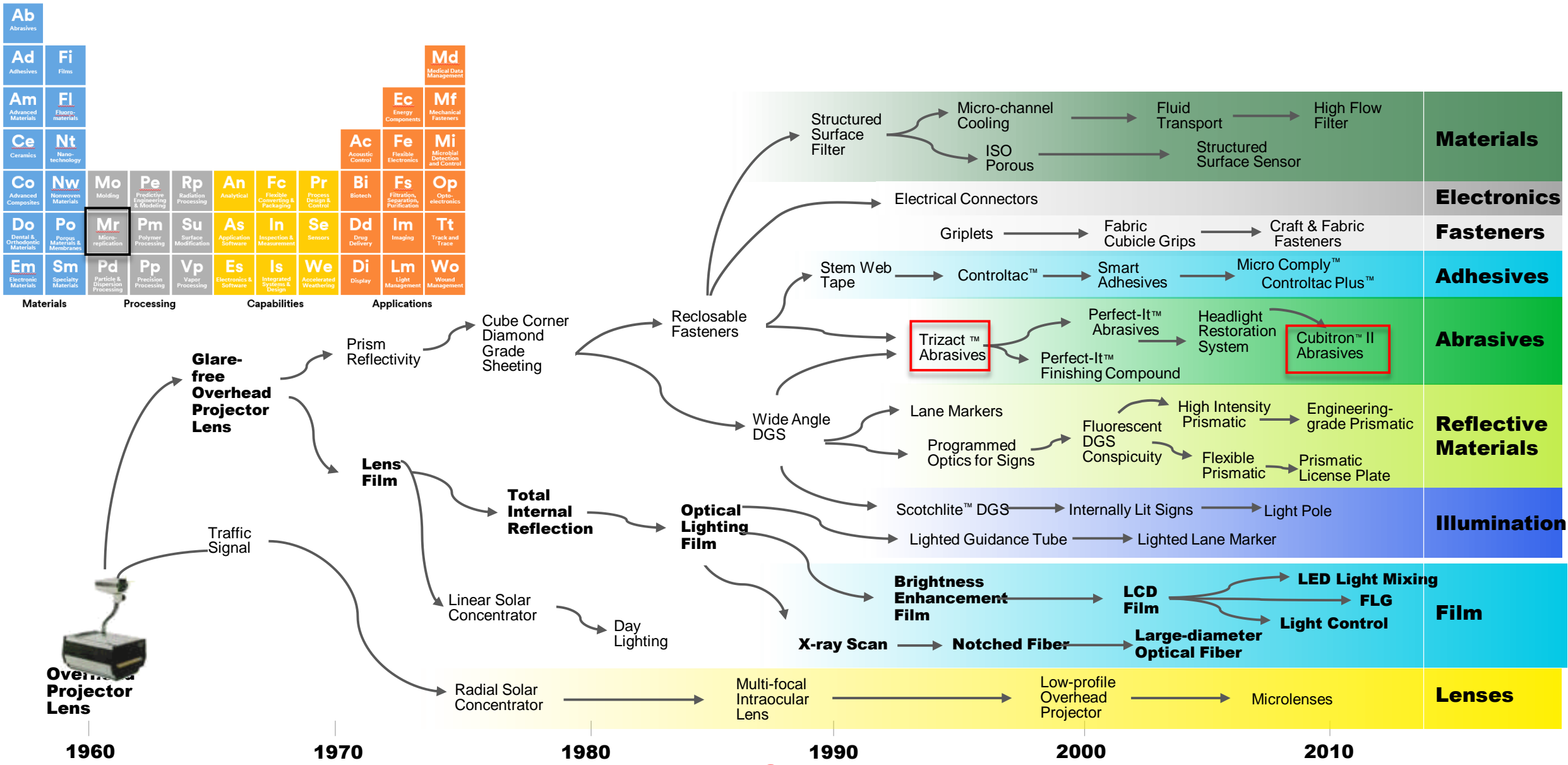


Insights 2 Innovation (i2i)

Consumable / Distributor businesses – End-user focus



Migration of Microreplication Technology





The Science behind Fixing Teeth and Cars

It just takes imagination and persistence to look for answers in unexpected places, and the spirit of collaboration to get your questions answered. The 3M technical team and a fellow scientist in the 3M dental division saw the opportunity to efficiently mix putty-like dental impression material to perfect the mixing of the auto body filler used for repairing car dents. With 3M, you can minimize waste and avoid mess.

Better quality repair.

Less waste.



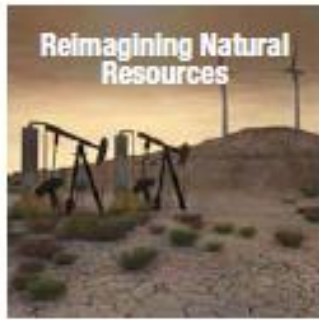
More productivity.



- Reduce reworks through virtual pinhole elimination
- Reduce waste levels through "filler on demand" system
- Increase productivity using 3M's advanced nozzle to mix as-you-go

The background consists of a complex, abstract pattern of overlapping triangles and polygons in various shades of green, ranging from light lime green to dark forest green. The shapes are irregular and create a dynamic, faceted appearance.

Market Trends in Automotive After Market as We see



Productivity & Efficiency

Sustainability



Weight Reduction → New Materials

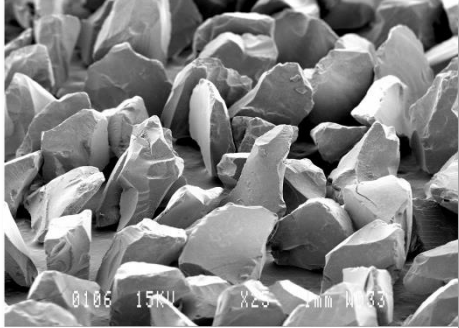
Safety



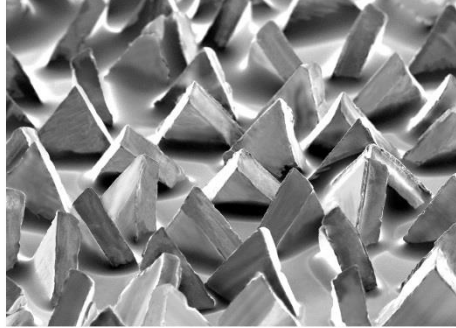


Productivity & Efficiency

- High Speed : New Customers want to wait less than 2 days
- Less material more output : Cost down pressure from customer
- Direct Cost Improvement : Labors cost increase and educated manpower limitations



Geleneksel zımparaların mikroskop altında görüntüsü

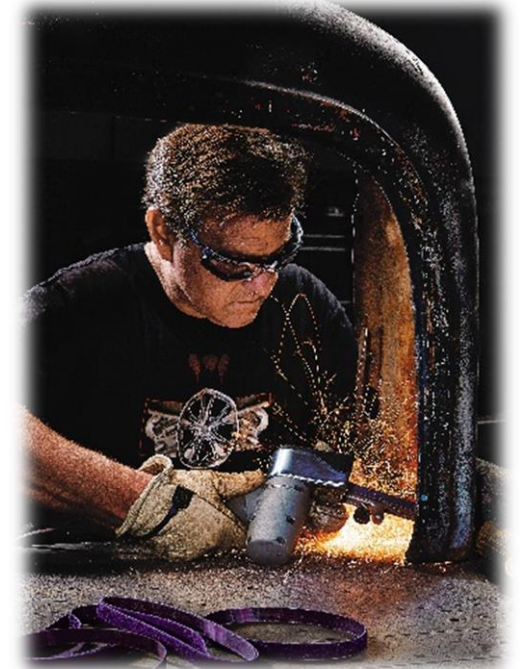
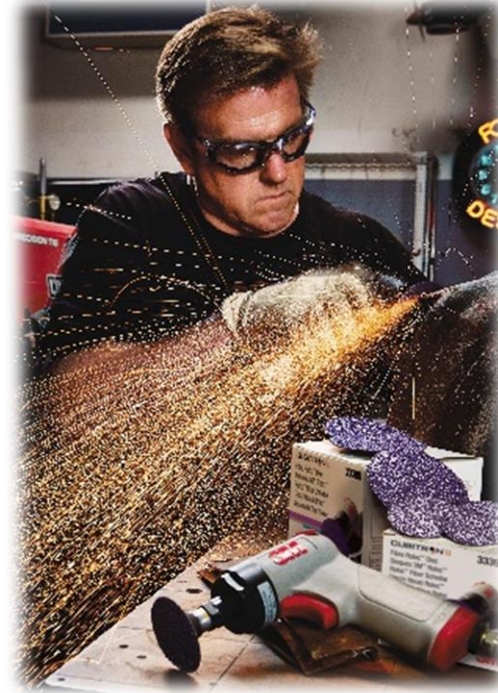


Cubitron™ II zımparaların mikroskop altında görüntüsü

Klasik Zımpara



Cubitron™ II Zımpara



Sustainability

- Less Waste & Less / No Chemical Pollution to save the environment
- Less Energy consumption



3M™ PPS™ Sisteminin vakum etkisi ile tabancayı ters tutarak bile boya atabileceğinizi biliyor muydunuz ?

PPS™ Sisteminin düzenli kullanımıyla:
%15'e varan boya
%60'a varan tiner
%55'e varan işçilik tasarrufu elde edersiniz.



3M





Weight Reduction → New Materials

- New Materials : Aluminum & composites
- New technology Paints & Adhesives : Different repair process needed



Aluminum Repair Procedures
Aluminum Repair Matrix

	Corrosion Prevention and Protection	Surface Preparation	Metal Working
Personal Protective Equipment	Wear latex, nitrile or fabric gloves dedicated to aluminum repair to prevent surface contamination from skin contact. See #1 below. <i>Please note that you need to read and understand each product label and SDS for important health and safety information regarding PPE. This section relates only to non-cross-contaminating surfaces, not to the full PPE gear required for each type of repair.</i>		
Shop Environment	Use segregated repair areas for aluminum repairs according to OEM recommendation and follow all OSHA guidelines.		
Hand Tools	Use separate hand tools designed for aluminum repairs (e.g., hammers, dollys, clamps, files, drill bits, saw blades, etc.). HEAT USAGE: Heat is recommended when straightening aluminum to avoid over stretching and cracking of the panel. Aluminum has a much lower melting point than steel and care must be taken to avoid permanent damage. Generally, a propane torch is sufficient to reach the 400°F area. It's best to follow OEM recommendations for specific temperatures.		
Pneumatic Tools	Use air tools dedicated to aluminum repairs OR tools that have been thoroughly cleaned with compressed air to remove any steel particles. See #2 below.		
Abrasives	Use separate piece of abrasive on dissimilar substrates. See #2 below.	Do not use grinding or sanding abrasives coarser than grade 80.	
Adhesives	Apply and spread adhesives to cover all prepared metal surfaces. Use wipes dedicated to aluminum substrates. Erase proper squeeze out and tooling of squeeze out to cover all metal surfaces.	Prepare bonding surfaces using grade 80 abrasive or equivalent Scotch-Brite™ abrasive grade. See #4 below.	Use caution when heating the panel near bonded joints. See #5 below.
Sealers	Follow standard surface preparation procedures. Use wipes dedicated to aluminum substrates. Apply tight coat into seam. Tool to match OEM appearance.	Follow product use recommendations for DTM or non-DTM seam sealers.	
Coatings	Follow standard surface preparation procedures. Use wipes dedicated to aluminum substrates. Apply 3M® Rust Fighter-1 to panel interior prior to final assembly.	Remove loose debris, abrade and properly clean prior to coating application.	Apply 3M® Rust Fighter-1 to panel interior prior to final assembly.
Filler & Glaze	Follow standard surface preparation procedures. Use wipes dedicated to aluminum substrates. Apply filler or glaze within 1 hour. See #4 below.	Prepare surface using grade 80 abrasive or equivalent Scotch-Brite graded abrasives. See #4 below.	

Visit www.3M.com/0810en for more SOPs and videos.

Note: Statements and recommendations within this matrix should be considered general practices. Follow specific OEM recommendations, when they exist.

- 1 Skin contact with open substrates can leave contamination that leads to corrosion.
- 2 Cleaning tools thoroughly and using separate abrasive will help prevent the possibility of galvanic corrosion caused by incidental contact of dissimilar metals.
- 3 To de-bond 3M™ Panel Bonding adhesive, panel must be heated to above 400°F.
- 4 Oxidation forms immediately on exposed aluminum. Accumulated oxidation is detrimental to bond strength. After 1 hour of exposure, re-abrade aluminum surface to maximize bond strength.
- 5 Panel bond adhesive degradation begins at 300°F or higher. Use caution and heat indicators to monitor panel temperature when applying heat near bonded joints.

3M



Safety

- Comfortable , User Friendly
- High Protection



1st in the market :
Gas Filter with Indication



Thank you