

Innovative Bonding Solutions

Ozan Dagli
3M – Senior Application Engineer

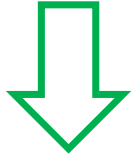
04.12.2018

Global Megatrends



Shifting Demographics

- Urbanizing populations
- Aging



Smart cities
Customisation
Individualisation



Reimagining Natural Resources

- Managing Climate Risk
- Using Less to Do More



Sustainability
Renewable Energy Resources
More Efficient Products



Evolving Economic Landscape

- Shortage of resources
- Increasing consumption
- Shift/Changes in Markets



Shift in Production
Volatile Markets



Technological Breakthroughs

- Big Data and Advanced Analytics
- Internet of Things (IoT)
- Evolved Manufacturing



AI / Machine Learning
Industry 4.0
3D Printing

Global Megatrends in Automotive



Shifting Demographics

- Urbanizing populations
- Aging



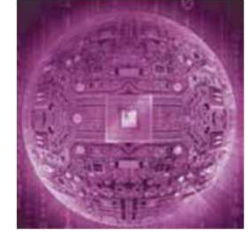
Reimagining Natural Resources

- Managing Climate Risk
- Using Less to Do More



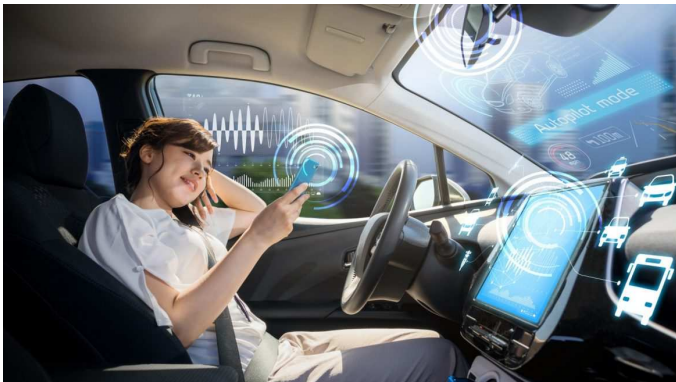
Evolving Economic Landscape

- Shortage of resources
- Increasing consumption
- Shift/Changes in Markets



Technological Breakthroughs

- Big Data and Advanced Analytics
- Internet of Things (IoT)
- Evolved Manufacturing



Transportation Industry

Alternate Powertrains
Weight Reduction
Smaller Vehicles
Autonomous Drive
Aerodynamics
Redesign



Global Megatrends in Appliance



Shifting Demographics

- Urbanizing populations
- Aging



Reimagining Natural Resources

- Managing Climate Risk
- Using Less to Do More



Evolving Economic Landscape

- Shortage of resources
- Increasing consumption
- Shift/Changes in Markets



Technological Breakthroughs

- Big Data and Advanced Analytics
- Internet of Things (IoT)
- Evolved Manufacturing

Appliance Industry



Green Materials
Energy Efficiency
Noise Reduction
Visual appearance / Customisation
Smart Connectivity / IoT / Digitalization
Multi-functional Appliances



How Plastic Industry reacts?

BE INNOVATIVE

BE COMPETITIVE

Additive Usage

Designs with Thinner Walls

PP Usage

Engineered Plastics

Automated Processes



Bonding Solutions

Additive Usage

Designs with Thinner Walls



USW, Mechanical Attachment



Tape Usage



Why Tape?

- Material Flexibility
- Simple Processing
- Design Freedom
- Weight & Cost Reduction



Dubai, Burj el Arab

Bonding Solutions

PP Usage



Flame
Corona
Plasma treatment
Adhesion Promoters



Why Primerless Tape?

- Reduced System Cost
- Lean, Simple Process
- Enhanced Quality
- Improved EHS



Bonding Solutions

Engineered Plastics



Attachment Force needed



Why Structural Adhesives?

- Improved Adhesion Force
- Air-Cured
- Design Flexibility





Aerospace



Interior and exterior of planes



Electronics



Secure films in electronic devices



Health Care



Dental fillings and restorations, and medical tapes and dressings



Automotive



Body side panels and door trims



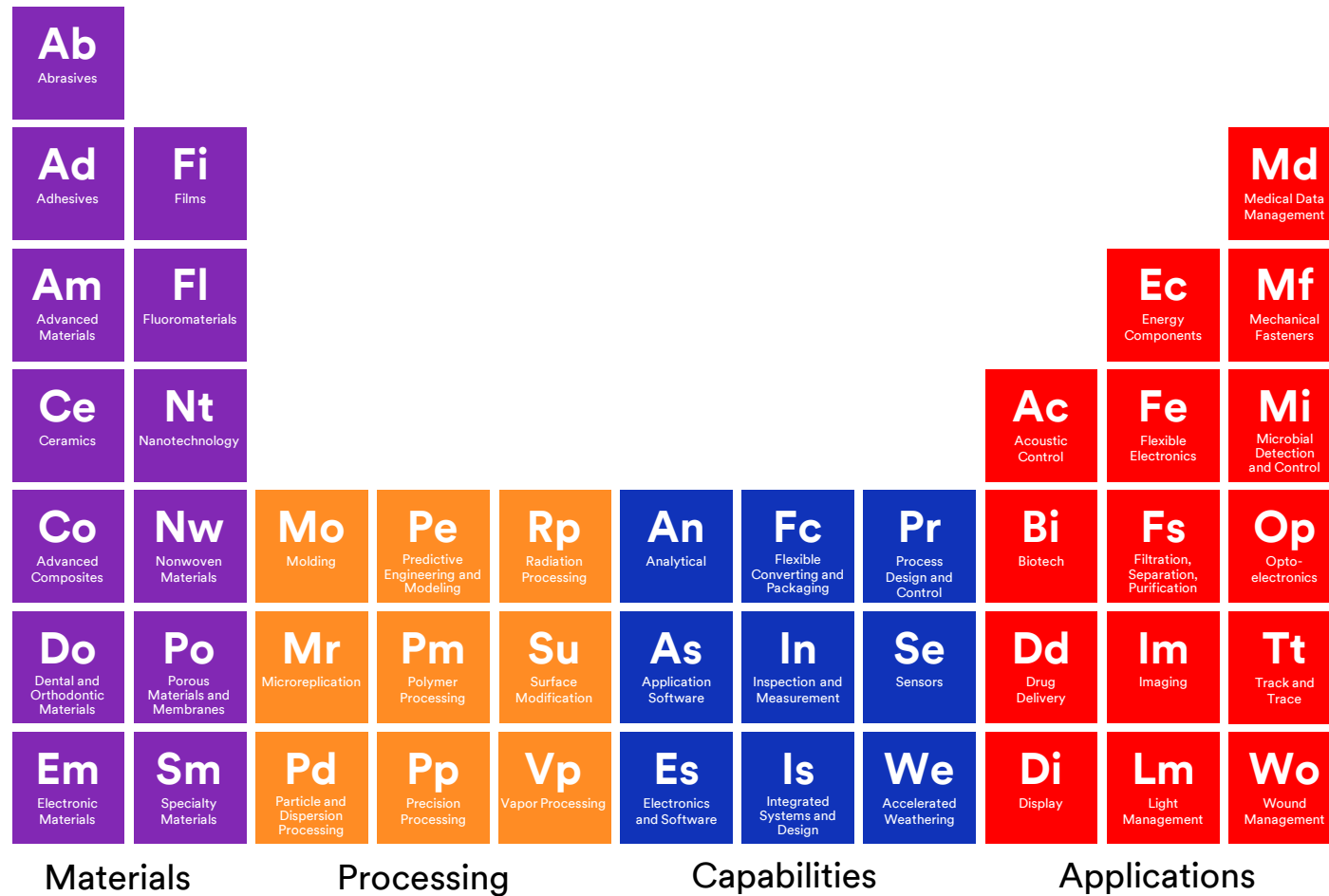
Retail/Consumer

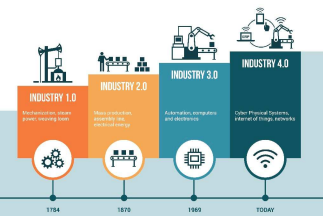


Post-it® notes and Scotch® tapes



46 core technology platforms





3M™ AUTOMATED TAPING SYSTEM

FLEXIBLE & SIMPLE ROBOTIC AUTOMATION FOR 3M™ ATTACHMENT TAPE

Jointly
Developed by



ECKHART

3M Science.
Applied to Life.™



Thank you!