We strive to ensure the efficient use of resources and to protect the environment. This is a common thread that runs through the technologies, process solutions, and applications of the Advanced Materials (AM) business. Lightweight components made of aluminum that reduce car fuel consumption are manufactured on production cells from our Die Casting business area; vacuum-coated architectural glass for building facades produced on systems from Leybold Optics make buildings more energy-efficient; and battery electrode slurry produced on Grinding & Dispersing equipment increases the range of electric vehicles.

The spectrum of applications covered by the three business areas is wide. It ranges from ultra-fine-grade pigments for analog and digital printing inks, to pastes for electronic components as well as components for cosmetics and agrochemicals, to electrode slurries for lithium-ion batteries. With our technologies, our customers produce coatings for sensors, lenses for eyeglasses and cameras alike, solutions for displays such as mobile phone screens, and applications in precision optics for lasers or LiDAR (light detection and ranging). And on the light-metal casting side, applications for engine blocks, oil pans, transmission housings, structural components, and typical e-mobility-related components such as battery or electronic controller housings. Varied as these markets may be, there is one driver they share: the demand for improved mobility. Approximately 60% of the AM business stems from the automotive industry, with electro mobility becoming an ever more important growth driver. The business areas not only supply the technologies and systems, but also process expertise, including a global network for testing, training, consultation, and a wide range of services.
Six examples of Bühler Advanced Materials process technologies

Aluminum to die-cast parts, pigments to cosmetics:

Pigments and chemical materials

- Storage and conveying
- Weighing and dosing
- Mixing and pre-grinding
- Wet grinding
- Conditioning and let-down
- Potting, packaging
- Paint and inks, coatings, cosmetics, agrochemicals

Resin

- Lens design
- Surfacing
- Polishing
- Cleaning
- Hard coating
- Antireflective coating
- Edging
- Framing
- Eyeglasses

Film

- Film manufacturing and primary slitting
- Film metallocizing
- Slitting
- Top coating
- Printing
- Surface cross-linking
- Laminating
- Diaper filling
- Food packaging material

Acrylic acid

- Purifying
- Polymerization
- Drying
- Grinding
- Continuous mixing and dispersing
- Filtering
- Storage and degassing
- Electrode slurries for batteries

Active material, conductive additives, binder, and solvent

- Material handling
- Liquid and powder dosing
- Binder dissolving
- Cutting
- Casting
- Trimming
- Marking

Aluminum, magnesium

- Melting
- Dosing
- Die-cast components