Our portfolio is rich with innovative products and we are a leader in sustainable innovation. We invest significantly in R&D to drive growth through innovation, create more profitable, safer, and more sustainable products and processes, develop our own capabilities, and improve the way we work. We believe that being open to the ideas and enthusiasm of outside collaborators will help our company achieve its maximum potential and lead the way to a more sustainable chemical industry. We therefore work closely with customers to develop solutions that meet their changing needs and forge partnerships with external parties such as startups whose unique ideas complement our experience, resources, and business needs.

Through initiatives which span our entire business, we are pushing new frontiers in:

### Biomass to chemistry

- **Working towards independence from fossil feedstocks**
- **Using partnerships to innovate & manage risks**
- **Developing novel, bio-based solutions**

**For example:**
- With Itaconix we are developing several applications using their bio-based polymers
- With Renmatix we are developing bio-based additives for paints and construction materials
- With Photanol we are developing a new, low-cost intermediate made from CO₂ and sunlight

### Resource efficient polymer technologies

- **Helping drive the transition to circular chemistry**
- **Helping customers produce polymers sustainably**
- **Developing new, sustainable polymer solutions**

**For example:**
- We continuously develop new ways for Expancel microspheres to deliver resource efficiencies to customers
- Our Continuous Initiator Dosing technology makes PVC production more affordable, safer, and more sustainable
- We are working with partners to develop an advanced facility to convert household waste to chemicals

### Green electrochemistry

- **Creating sustainable raw materials using green energy**
- **Co-developing products & markets with partners**
- **Innovating traditional processes**

**For example:**
- Our ‘e-flex’ technology enables us to automatically align chlorine production with (renewable) electricity supplies
- We are investigating electrochemical processes to convert waste salts into useful raw materials for customers
- We are involved in a number of partnerships in the area of large-scale production and use of green hydrogen