Arkema considers innovation as a strategic pillar in its growth strategy and its contribution to sustainable development. The Group innovates to develop products and solutions and continually improve their performance. Innovation relies on commercial excellence to anticipate market trends and to develop today the products that the company's customers will need tomorrow. It contributes to Arkema's operational excellence by providing the production facilities with new technologies and processes that enable the Group, as a responsible chemicals producer, to produce its products safely and competitively while limiting its environmental footprint. Innovation is expressed in all its forms, both incremental and disruptive, to create sustainable solutions in manufacturing technologies, products and their uses. Through their diversity and skills, all employees contribute to innovation at Arkema.

This growth through innovation is based on:

- **A portfolio of projects whose cornerstone provides solutions to tomorrow's key economic and social challenges** (goals set by the United Nations). The portfolio is organized into six research platforms:
  - bio-based products;
  - lightweight materials and design;
  - new energies;
  - water management;
  - electronics solutions;
  - home efficiency and insulation.
All the projects are assessed using sustainability criteria and together make up the range of new solutions to develop the Group's three business segments (High Performance Materials, Industrial Specialties, and Coating Solutions).
With these projects, each one boosted by technological platforms generating innovative production methods, the Group is fostering innovation through eodesign.

- **Production technologies and products backed by robust intellectual property** with a view to protecting the innovations developed by the company through patents. This promotes the Group's products and brands with its customers and allows it to be recognized as one of the most innovative players in the profession. Arkema's portfolio of patents and brands stands as an essential asset in its business.

- **An incubator** for the commercial development of products resulting from disruptive projects. These projects stand apart through:
  - their future-looking vision of trends in technologies and markets;
  - substantial project risk but with strong value added in the event of success;
  - the structuring role of the themes selected for Arkema's business;
  - a well-balanced project portfolio between products whose marketing is initiated in under five years and those with longer time-to-market periods.

- **A collaborative innovation ecosystem** that leads to development of innovative solutions by utilizing the fundamental knowledge of academic research and cooperation with industrial partners (customers, suppliers, other chemists). This open innovation takes the form of participation in industrial endowments, laboratories shared with renowned research bodies, collaborative public-private research efforts, and industrial partnerships. The ecosystem includes working with, in some cases, investing in start-ups and innovation firms, as well as technological acquisitions.

- **The development of digital expertise and technology** including data management and digitization, modeling, software and the corresponding computing power, algorithms and their interpretation. These technologies boost the efficiency of innovation in the Group's operating and industrial processes and in the development of new processes, products and materials.

- **A tailored organization system** integrating needs analysis through the contributions of all stakeholders. The Research and Development department, the Scientific Committee (composed of Sustainable Development department, Arkema's Process department, the Intellectual Property department, the Business Units' global R&D departments, scientific departments and the departments of the Group’s main R&D centers) and research centers in three regional hubs (Europe, North America and Asia) are the fundations of this system. The scientific and technological knowledge of R&D is further strengthened by world-renowned scientific advisors from the academic world.

**Christian Collette**
R&D Vice President

May 2018