



MICHIGAN

Embracing a Dual Horizons Approach

An Interview with Andrew N. Liveris,
Chairman and Chief Executive Officer, The Dow Chemical Company

EDITORS' NOTE A 40-year veteran of Dow and recognized global business leader, Andrew Liveris' career has spanned roles in manufacturing, engineering, sales, marketing, and business and general management around the world. During more than a decade as Dow's CEO, he has led the company's transformation from a cyclical chemicals manufacturing company into a novel enterprise – one powered by science, driven by innovation, and delivering solutions to the world.



Andrew N. Liveris

An international advocate for the criticality of manufacturing to the long-term health of national economies, Liveris is the author of *Make It in America*, a book which presents a comprehensive set of practical policy solutions and business strategies to achieve the company's vision of an 'Advanced Manufacturing' economy. He has been selected by U.S. President-Elect Donald J. Trump to lead the American Manufacturing Council and previously served as Co-Chair of U.S. President Obama's Advanced Manufacturing Partnership steering committee. In addition to his work at Dow, Liveris' breadth of experience and expertise is broadly represented across business, government, academic, and nonprofit sectors. He sits on the Board of Directors of IBM, is Vice Chair of the Business Roundtable, an Executive Committee Member and Past Chairman of the U.S. Business Council, and a member of the U.S. President's Export Council and the Australian government's Industry Growth Centres Advisory Committee. Liveris serves on the Board of Trustees for the Herbert H. and Grace A. Dow Foundation, California Institute of Technology, and the United States Council for International Business. Born in Darwin, Australia, Liveris attended the University of Queensland in Brisbane, graduating with a bachelor's degree (first-class honors) in Chemical Engineering. He is a Chartered Engineer and a Fellow of The Institute of Chemical Engineers as well as a Fellow of the Australian Academy of Technological Sciences and Engineering.

COMPANY BRIEF Dow (dow.com) combines the power of science and technology to passionately innovate what is essential to human progress. The company is driving innovations that extract value from material, polymer, chemical,

and biological science to help address many of the world's most challenging problems such as the need for clean water, clean energy generation and conservation, and increasing agricultural productivity. Dow's integrated, market-driven, industry-leading portfolio of specialty chemical, advanced materials, agrosiences, and plastics businesses delivers a broad range of technology-based products and solutions to customers in approximately 180 countries and in high-growth sectors such as packaging, electronics, water,

coatings, and agriculture. In 2015, Dow had annual sales of nearly \$49 billion and employed approximately 49,000 people worldwide. The company's more than 6,000 product families are manufactured at 179 sites in 35 countries across the globe. On June 1, 2016, Dow became the 100 percent owner of Dow Corning Corporation's silicones business, a global company with sales of greater than \$4.5 billion in 2015, 25 manufacturing sites in nine countries, and approximately 10,000 employees worldwide.

Dow is the industry leader. What makes the company so special and is the key to its consistent success?

Transformation is part of our DNA at Dow. A decade ago, we made the bold decision to reinvent the company for the fifth time in our history. We recognized that a global commodities-focused business model was volatile and unsustainable, so we set out to transform Dow into an enterprise that generates returns in the short-term, while building a platform for success and long-term growth. We are 120 years young. We are a company of entrepreneurs. We are not afraid to take measured risks to better the enterprise for all of our stakeholders.

A recent major milestone aligned to this strategy was the ownership restructure of our successful 73-year joint venture, Dow Corning. Adding silicone-based technology to our chemistry toolbox has delivered tremendous value and fully aligns to our market strategy to go narrower and deeper in attractive end-markets.

Today, Dow's portfolio is integrated and diversified, comprised of the right mix of value-add businesses that are selling into targeted growth markets around the world. We're also in the midst of our sixth reinvention, undergoing one of the largest mergers ever in our sector

in order to create three new industry-leading companies, including the new Dow.

It's our ability to evolve and embrace a dual horizons approach – delivering short-term successes while building toward a long-term vision – that helps drive Dow's success.

Would you highlight Dow's business and your outlook for growth as you look to the future?

Dow has achieved four full years – 16 consecutive quarters – of year-over-year operating earnings growth and margin expansion, during which time we have also delivered three consecutive years of volume growth. We accomplished all of this in the face of a persistently slow-growth global economic environment, and we have delivered these results while investing in long-term, sustainable development and driving our strategy to go narrower and deeper into attractive markets. Through a combination of self-help and innovation, we are outpacing the commodity cycle and have the right portfolio mix to grow, a portfolio of all seasons, if you like. We have become a stable earnings growth company in a slow-growth world.

Post-merger, we will be more narrowly focused than ever before – with more than 90 percent of our revenues concentrated in four growth areas where demand for our differentiated solutions is increasing. The Dow that will emerge will have a deep science capability in materials and polymers with world-leading positions in packaging, transportation, infrastructure, and consumer markets.

Dow's growth investments are another key component of our long-term growth. Sadara, our joint venture with Saudi Aramco in Saudi Arabia, coupled with our investments on the U.S. Gulf Coast, to capitalize on cost-advantaged feedstocks will fuel our innovation and earnings potential for decades to come.

Dow is known to have a culture of innovation. How do you maintain the innovative edge at your size and scale?

We have done this by investing from the ground up in people. We have rewired our entire enterprise to recommit to R&D, to drive an innovation centric enterprise, and to build an agile entrepreneurial culture at scale.

As a result, Dow's innovation pipeline is unmatched. Our strong university collaborations, fellowship programs, and world-class laboratories attract some of the most impressive researchers across the globe.

Our emphasis on developing sustainable solutions to pressing, global challenges sets the stage for our 7,500 scientists working in our R&D labs around the world. We have made significant investments in R&D. During a 10-year time frame, we have improved experimental productivity tenfold, enabling us to bring more solutions to market faster. In 2015, our R&D engine delivered 667 U.S. patents, the seventh year-over-year increase and a new record for the company. These results demonstrate that our size and scale are assets in terms of our ability to deliver innovations that the market wants and needs.

Dow has focused on building a diverse and inclusive workforce. Would you discuss these efforts and how critical diversity is to your company culture?

Diversity and inclusion (D&I) are at the core of Dow's values. We at Dow believe in bringing one's whole self to work. We value and celebrate difference. An environment where employees feel safe and supported is a matter of fundamental human rights. It's also critical to unlocking the full potential of our employees in order to drive performance, retention, and innovation for positive business outcomes.

Our D&I strategy is driven by our seven Employee Network Groups consisting of more than 170 chapters worldwide. These executive-supported employee groups are designed to support our employees' professional development across many different backgrounds, including LGBT individuals and allies to veterans and employees with disabilities. Many of these groups have formed strategic partnerships with external organizations to drive progress and change outside of Dow.

Corporate responsibility and community engagement are a major emphasis for Dow. Why is this so critical and how do you focus your efforts in this regard?

There's no denying that business and society are intertwined. At Dow, we recognize the need to address growing global challenges, such as climate change, energy, water, food, and social issues, to help create a sustainable society, economy, and planet. We are, and will remain, a company of communities. We have a people-centric culture that makes us a citizen of wherever we operate and live.

Since we started our sustainability journey in 1995, we have expanded Dow's strategic focus from reducing the company's footprint and delivering value to customers and end-users through our handprint of innovations, to broadening our efforts to include leading the development of a blueprint for a sustainable planet and society. Our 2025 Sustainability commitments are beyond what one organization can do alone though, which is why we are collaborating with businesses, governments, and communities to help recognize, value, and incorporate nature into long-term goals, decisions, and strategies.

Dow is headquartered in Michigan. Would you discuss Dow's long and deep commitment to Michigan?

You don't fool with a company's DNA. Our values, ethics, and respect for community and people are driven from where we were founded. Much has changed in the world, but that underlying foundation is still valued and it's a massive competitive advantage wherever we go. People like to work with good people. Dow people have a common value system deeply rooted on where we started. I feel a very personal connection to the state of Michigan, and the Great Lakes Bay Region specifically. All of our leaders have felt that, and I believe it has made Dow the enterprise we are today and the one we will be tomorrow.

We refer to our hometown of Midland, where Dow was founded 120 years ago, as the "City of Modern Explorers." Dow employs more than 8,500 people in the Great Lakes Bay Region, creating a responsibility and commitment for us to make this an attractive area for new and existing businesses to operate, in addition to a safe community with valuable opportunities for employees and their families.

We have always strived to be a good neighbor and valuable partner through our Global Citizenship strategy. We collaborate with organizations, provide strategic funding, and put the human element to work in two commitment areas: building the workforce of tomorrow and innovating for global solutions.

Much of what we are able to achieve is a result of our employees' strong engagement. Dow people naturally seek opportunities to impact the well-being of their communities through volunteering. An example is our effort to promote Science, Mathematics, Engineering, and Technology (STEM) education that is largely made possible by our network of employee STEM Ambassadors. In 2015, we unleashed over 1,600 Ambassadors across the world with almost 200 contributing their passion and expertise in Michigan, spending more than 2,000 hours reaching almost 18,000 students and 300 educators.

What do you see as the strengths of Michigan from a business perspective?

Clearly its people, skilled workforce, commitment to science and engineering, and the underlying strengths of Midwest values.

I've experienced firsthand the unique benefits and support Michigan brings to Dow. We've seen volatile markets impact businesses in this state and around the world. Michigan and its people are resilient though. Our state continues to be an attractive place for companies to establish roots, deliver innovations, and grow, in part because of the work business leaders across the state are doing to support workforce and economic development. This collaborative spirit and commitment to community well-being and economic success will ensure that Michigan remains a relevant industrial powerhouse and a competitive place to operate. An example of that commitment is our new Midland, Michigan-based innovation center announced in December. The innovation center will be focused on combining existing chemistries with new technologies derived from the ownership restructuring of Dow Corning's Silicones business, as well as future technologies, and will

support approximately 200 research and development jobs in Michigan.

As we move forward, we'll work to keep Michigan competitive against other states in order to attract and retain world-class companies and high-paying jobs. We'll continue to take into account the social and economic interests of the state and the communities we work in while accelerating the company's growth.

How important is a strong public/private partnership (PPP) when it comes to addressing the needs and challenges facing Michigan?

Collaboration is essential to solving any and all of the critical challenges our world faces. These challenges provide an opportunity for innovation and growth, and when we work together to identify and implement solutions, everybody wins.

One of the most critical collaborations is with the state government. We need a competitive environment. We need policies that attract investment. We need a user-friendly civil service.

The other areas of PPP are in charity and philanthropy. Since 1983, Habitat for Humanity has been a strategic collaboration that has turned our sustainable products and employee passion into positive community impact – and last year we celebrated our 50,000th build in Freeland, Michigan. This partnership contributes to the availability of affordable housing for families in the state and across the nation, along with 31 other countries around the world.

Additionally, our partnership with FIRST Robotics supports Dow's efforts to promote STEM education and build the workforce of tomorrow. FIRST inspires children to pursue careers in STEM through hands-on project-based learning experiences as well as mentorship opportunities with Dow employees. This partnership has helped FIRST grow its presence in the state and enabled our employees to share their expertise and passion in valuable ways while sparking student interest in STEM careers.

It's through collaboration with public organizations like these that we're able to see the holistic picture of challenging problems that face our communities, positioning us to have the most positive, sustainable impact possible.

How do you define the key traits of effective leadership in business today?

To be a successful leader, one needs to have energy, passion, and judgement, and be willing to reinvent themselves as the company grows and changes. Continuous learning is essential as is embracing feedback and criticism as a leader, and especially as a CEO. Truly effective leadership also depends on strong, genuine relationships across stakeholder groups.

In today's world, traveling at the speed of light, where every tangible resource is ubiquitous and commoditized, time is precious. One has to show up and nurture relationships. They have to lead their troops in the trenches from the trenches. They have to align their people around a rock-solid strategy in order to beat back short-term challenges and stay focused on delivering in the long-term. Today more than ever, leadership is followship with fellowship. ●