



François Fraudeau

A Message from the CEO

The ever-changing landscape of the agriculture industry is both exciting and intimidating. With this flexibility, every company, producer and customer can have significant and lasting impact on the future. Novus takes its role in defining the parameters of food production very seriously, with consideration outside of its own productivity and profitability to ensure a lasting and thriving industry for all.

At Novus, we work to supply the needs of producers working to feed the world. Our nutritional feed ingredients are constant catalysts in creating more efficient and productive businesses. We strive to be the helping hand to production as it takes each step forward with new products and processes. As our global population grows and develops, it is increasingly important to meet customer demand and be creative in our ability to solve problems.

Novus works to develop solutions in time with the revelation of issues instead of remaining content with current success. Throughout 2016, we have seen some of our most innovative and forward-thinking projects

come to fruition, set out a trajectory for tackling new challenges and celebrated our past accomplishments as a company. Each of these efforts has marked our progress towards continually sustaining our industry, while simultaneously illuminating potential avenues for exploration and improvement.

The level of commitment we have to make sustainability a central priority rather than a guideline is what makes the Novus way of business unique. We believe that setting high standards for ourselves not only benefits our own objectives, but also serves to move the industry forward.

We thank you for your interest in our annual Novus Sustainability Update and invite you to learn more about what drives our business.

François Fraudeau
President and Chief Executive Officer

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2016

Sustainability Update



NOVUS®

SOLUTIONS SERVICE SUSTAINABILITY™

NOVUS INTERNATIONAL

Who we are

Novus International, Inc. is a privately owned animal health and nutrition company that distributes innovative product solutions to over 100 countries worldwide. Built on the concepts of efficiency and creative solutions, Novus's ambitious vision to help feed the world remains central to its business and sustainability strategies.

To Novus, sustainability is more than renewable energy sources and mitigating pollution. Sustainability is a framework for continually improving and advancing the industry. In many ways, Novus's existence alone is an act of sustainability by pursuing the goal to improve others' abilities to efficiently produce protein to meet the growing population's needs.

Employees

At its heart, Novus is driven by forward-thinking people and a shared determination to better the industry. Novus's operations include corporate offices, research and development laboratories and manufacturing facilities in more than 35 countries, as well as field staff in an additional 60 countries. In total, Novus has over 770 employees stationed on almost every continent. A culture of sustainability is instilled in each individual from Novus's research scientists to finance specialists to the salespeople and technicians spanning the globe.

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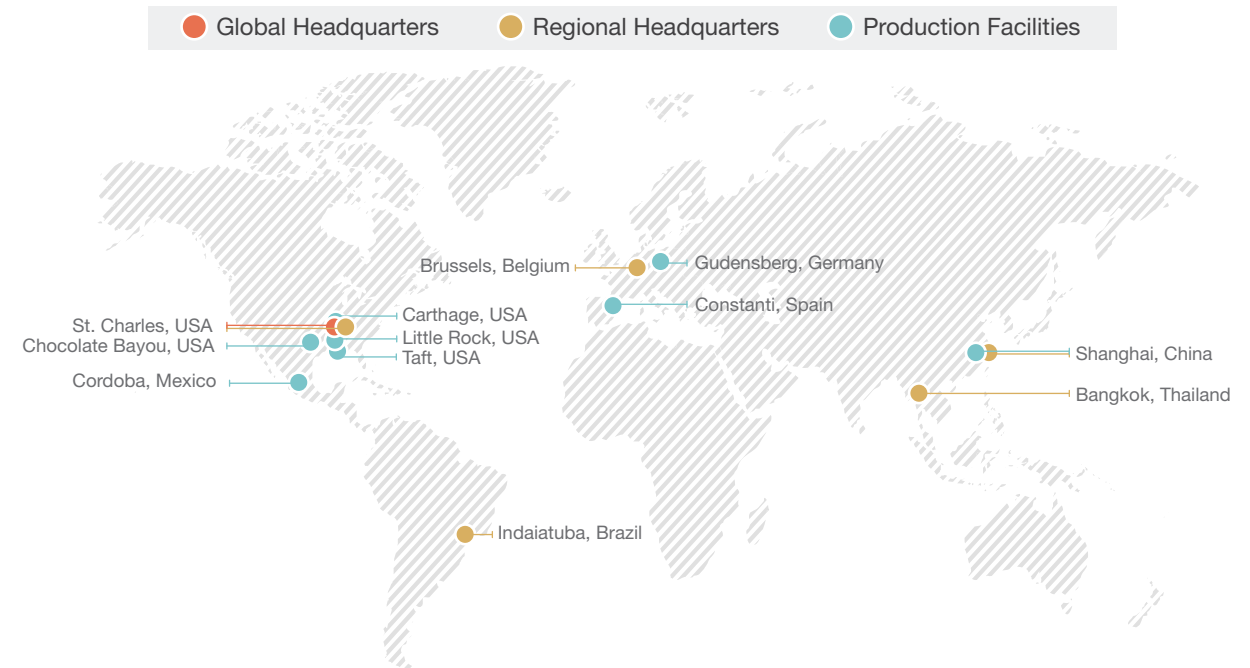
Corporate offices,
research and development
laboratories and
manufacturing facilities

770



Employees stationed
around the world

Novus's Vision, Mission and Core Values unify the diverse group of highly educated and motivated individuals working at Novus. These principles guide employees in their day-to-day duties and larger ambitions. Even after 25 years in business, these cornerstones have remained unchanged.



Vision: To help feed the world affordable, wholesome food and achieve a higher quality of life.



Mission: To make a clear difference in sustainably meeting the growing global need for nutrition and health.

Core Values:

1

We seek excellence from every employee. We encourage, expect and support alignment, diversity, individual growth, initiative and teamwork.

2

We strive to provide products with demonstrable value. Our research focuses on leading-edge concepts, and we are committed to supplying preferred products and services.

3

It is critical that we maximize long term customer satisfaction. Whether related to products, services or innovation, we must always anticipate our customers' needs and exceed their expectations.

4

We protect our employees, the public and the environment. Specifically, we make health, safety, security and environmental considerations a priority in everything we do.

5

We act with integrity. We treat all of our stakeholders—including employees, customers, suppliers, business partners, our owners and the public—in a fair and ethical manner.

What we do

Novus's existence is a sustainability success story. All of its products are designed to deliver an economic advantage to feed and animal protein producers while preserving resources.

Each product platform contributes to this in at least one of four ways:



Bolstering **animal performance/productivity**



Reducing the cost of production or cost of feed



Improving quality and marketability of the final consumer product



Reducing the environmental impact of animal production

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These intrinsically future-focused criteria allow Novus to create cutting-edge solutions that can have lasting effects on producer bottom lines while also contributing to conscientious production practices. While Novus's product portfolio is complex and varies by world region, all of these offerings can be broken into five Core Platforms: **Methionine, Organic Trace Minerals, Feed Enzymes, Eubiotic Solutions and Pigments and Feed Quality.**

Methionine

- Necessary for protein synthesis to ensure efficient growth
- Liquid sources reduce the energy needed for feed production

alimet[®] MHA[®] MFP[®]

Organic Trace Minerals

- Impacts meat and egg quality, feed conversion and growth rates as well as offspring development
- Helps to increase bone strength and reduce chances of infection over competitors, improving animal welfare
- Minimizes environmental pollution from animal production

MINTREX[®] MAAC[®]

Feed Enzymes

- Improves the digestibility of nutrients
- Reduces the cost of feed
- Allows for the use of local raw materials

CIBENZA[®]

Eubiotic Solutions

- Supports gut health
- Provides an alternative to antibiotic use

Activate[®] Avimatrix[®] NEXT[®] ENHANCE[®] Provenia[®] SPORULIN[®]

Pigments & Feed Quality

- Fights mold, bacteria and oxidation in feed ingredients
- Prevents nutrient degradation and spoilage
- Helps improve meat quality and marketability
- Allows producers to meet consumer preferences

**CANTHACOL[®] celortek[®] Formycine[®] SANTOQUIN[®]
SOLIS[®] toxiban[®] XAMACOL[®] XAROCOL[®]**

Why we do it

“Feeding the world is no small task, and we ensure our customers have the best tools at their disposal to achieve this goal. We pride ourselves on putting the service of our customers and our shared objective first.”

—Scott Hine, Vice President-Products & Solutions and Chief Innovation Officer

From its inception, Novus has striven to uphold high standards for sustainability in order to best serve its stakeholders.

In 2013, Novus introduced the Novus Sustainability Priorities Compass to reflect the most important areas of focus according to stakeholders. Each category was selected as a top priority for the following stakeholder groups:



Customers



Employees



Owners



Suppliers, distributors, business partners



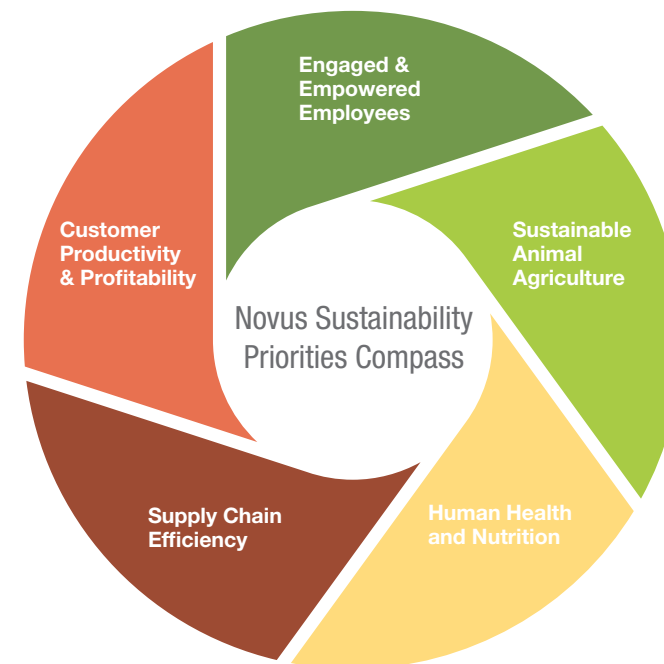
Industry, community, environment



Consumers



The Compass serves as the guiding framework that allows for priority alignment on future objectives. As a complement, Novus defined three key areas to bring the Compass to life: People, Processes and Products. These areas bring the Compass ideals down to ground level and provide tangibility to actionable projects within the business.



People

Anything and everything that affects the management, operations and development of people working inside and outside Novus



Processes

Adjustments or new additions to the methods used while conducting business at Novus



Products

The creation or improvement of the various nutritional and functional feed ingredients Novus offers

HOW WE REPORT

Novus International utilizes the Global Reporting Initiative's G4 Standards in its sustainability reporting. As a privately owned company, Novus is not required to complete a sustainability report or track its sustainable business projects. However, as a matter of respect and transparency to its stakeholders, Novus allocates significant resources annually to these projects and their reporting. The company welcomes feedback from stakeholders on these reports at all times.

Overview

In 2016, Novus made great strides towards its sustainability goals by starting, advancing and completing key projects.

Top priorities for 2016 were optimizing production, cultivating sustainable people and advocating for the industry.

Optimizing Production

Reducing Inputs

Identifying Product Impacts

Minimizing Waste

Curtailling Shipping Impacts

Rail Fleet Improvements

Cultivating Sustainable People

Novus Fund Expansion

Workplace Safety

Sparking Employee Empowerment

Novus Graduate Scholars Expansion

Novus Internship Program

Advocating for the Industry

Project Horizon

Equity Equivalent Investment Program

Reducing Pollution

Improving Energy Tracking

Industry Collaboration



Optimizing Production

A common priority in the animal health and nutrition industry is optimizing production. Producers run their businesses to achieve the highest quality end product using the least inputs.

The same principle is applied to Novus's manufacturing processes in order to improve the business and its sustainable practices. Novus's products are created to serve as solutions to producer problems and that includes lessening their environmental impact during creation and application.



Increasing Production Capacity

In 2015, Novus acquired an intermediate material manufacturing facility from Dow Chemical. This site is now fully integrated into the Novus system and integral to the manufacturing of ALIMET® feed supplement. The next step of the expansion project, which is on schedule for completion in 2020, will include the construction of a new production facility in the U.S. Gulf Coast region.

"We have developed a culture of continual improvement and are constantly improving our technologies, supply chain and services for our customers."

—David Dowell, Vice President-Global Operations



Reducing Inputs

The initial appeal of "less is more" is obvious, and applying this idea to the manufacturing industry could lead to significant benefits for the environment even beyond producer bottom lines. **Novus's enzyme products help animal producers reduce the amount of inputs needed for their operation while maintaining, or even improving, performance.** Years of research led to the development and constant improvement of Novus's enzyme platform. When these products are used, feed ingredients can be more easily digested by the animals, thus reducing the overall feed required for optimal performance. When animal feed intake is optimized, more land and resources can be repurposed for other needs required by the population. In 2016, Novus continued to fund research into its enzyme products' uses and attributes in order to develop future opportunities to reduce feed inputs.




Identifying Product Impacts

When considering sustainable products, a great deal of focus is placed on the final output. Novus has tasked itself with looking inward. A Life Cycle Assessment was initiated in 2015 on a key Novus product and continued over the course of 2016. This study looked beyond the final output and instead shifted focus to the impacts along the route to the customer. This enables Novus to identify "hot spots" or areas for improvement in the production cycle. **In 2017, Novus will utilize this data to illuminate future projects to reduce any negative impacts during the cycle and further reduce Novus's impact on the environment in manufacturing.**



Minimizing Waste

Animal feed already accounts for 70 percent of total input costs for a producer. When contamination or spoilage occurs within a feed supply, significant losses are felt by the producer and the animal if not identified early. **Novus has multiple feed quality products available that work to minimize waste by combating oxidation, mold and mycotoxins among others.** These products help minimize feed spoilage, protecting the producer and environment from unnecessary losses.

70% 
Animal feed accounts for 70 percent of producer total input costs

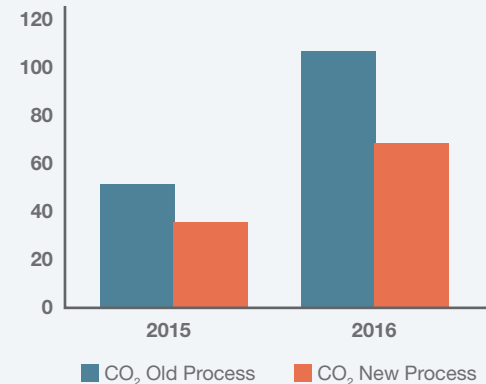


Curtailing Shipping Impacts

The 2015 Novus Sustainability Report shared the objective to optimize costs and reduce the environmental impact of its global shipping operations. Quickly, a pilot project using CIBENZA® DP100 enzyme feed additive was put in place. **Adjusting the shipping logistics for just one product allowed Novus to make significant reductions in cost and emissions.** The environmental impact of shipping that product to one key region was reduced by over 38 percent. Approximately 48 metric tons (MT) of CO₂ emissions were saved since the project's outset, 33 tons in 2016 alone.

Novus plans to expand this process to shipments of the product to additional regional warehouses, further magnifying the impact. In addition, a larger supply chain optimization study will be chartered in 2017 to review opportunities for other financial and environmental improvements.

Reduction of CO₂ Emissions from CIBENZA® DP100 Shipping Optimization Project



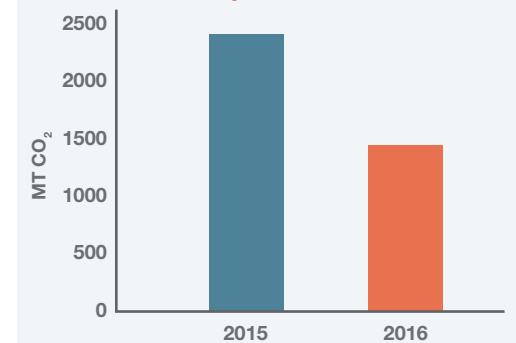
48 MT
of CO₂ emissions saved
since the project's outset




Rail Fleet Improvements

Novus produces over 320,000 metric tons of ALIMET® feed supplement at its plant in Chocolate Bayou, Texas, USA. A majority of this product is shipped to customers around the world, but a significant portion is also shipped to the Novus facility in Little Rock, Arkansas, USA for manufacturing MHA® and MFP® feed supplements as well as MINTREX® chelated trace minerals. With regular shipments between these facilities, it was determined that the company could work to reduce the environmental impact of this process while also reducing total costs. A project was chartered in 2016 to expand Novus's fleet of railcars to replace the traditional trucks being used. **In just one year, the CO₂ emissions associated with this shipping route were reduced by 40 percent (almost 1,000 metric tons), delivering substantial financial savings along the way.** Based on this success, Novus logistics experts are identifying similar opportunities to pursue in 2017.

Reduction of CO₂ Emissions from Converting Certain ALIMET® Truck Shipments to Railcars



40% 
CO₂ emissions associated
with one shipping route were
reduced by 40 percent





25 YEARS OF *Sustainable* BUSINESS

*This year marked an important milestone for the business –
Novus's 25th anniversary.*

In recognition of this tremendous accomplishment, Novus leadership chose to honor the achievements of employees with celebratory events all around the world. This occasion was a true celebration of the progression of the company. The events served as a time of reflection on the longevity of the Vision and Core Values, as these principles have truly stood the test of time and remained relevant in today's ever-changing industry.



Celebrations were held in each of the five geographic regions of the company to both thank Novus employees for their hard work and welcome the next chapter for the company as it looked to the future. Employees were treated to gala dinners, musical performances, professional sporting events and more.

At Novus's headquarters in St. Charles, Missouri, USA employees were greeted on the anniversary with tokens from some favorite Missouri businesses. Numerous events were enjoyed with coworkers throughout the week, including a grand celebration at the Sheldon Concert Hall with a concert from singer Rick Springfield.

Novus also celebrated with customers and industry stakeholders at similar gatherings held at industry tradeshow and conferences to show support for those indirectly contributing to Novus's success. Reaching this milestone is a reflection of the confidence that its customers have in its solutions and services.

Cultivating Sustainable People

Novus's leadership understands that a key component of delivering the best work is the best people. Whether Novus employees arrive with two or 20 years of experience, developing a workforce that is not only motivated but also driven by a unified goal requires active consideration.

Programs that ensure employees are stimulated and challenged at work while providing resources to help in their personal lives have proven invaluable to Novus employees and have been significant in Novus's overall success. The principle of sustainability is presented to employees as a guiding light to be considered in all aspects of their roles. The culture of sustainability is the background for all other workforce initiatives and creates opportunities in several portions of the business, and 2016 was a year of expansions, achievements and new projects.

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"It takes forward-thinking people who are dedicated to a unified goal to really take on and accomplish projects with this much global impact."

—Barbara Stampfli-Savill, Vice President & Chief People Officer



Workplace Safety

Novus can again boast an above average safety record in its seven finished goods manufacturing facilities. This is driven by the company's willingness to go above and beyond required regulations to ensure Novus safety policies and processes are best in class. ***In 2016, Novus's Arkansas, USA, manufacturing facility worked toward implementing an even higher level of safety standards by participating in the U.S. Occupational Safety and Health Administration's Voluntary Protection Program.*** This program recognizes employers and workers in private industry who have exemplary safety and health management systems. In order to apply, employees and managers in all parts of the facility must work in cooperation to identify and reduce risks to produce a safe and healthy workplace. Then, a company must be rigorously inspected by OSHA; only about 100 new sites are approved each year across the country. A final decision on Novus's certification is expected in early 2017.



The Novus Fund Expansion

Novus employees around the world are encouraged to support charities and initiatives of their choice with the company matching their donations as an act of support. In 2016, the Novus Fund Charitable Contributions Committee updated the policies to allow for increased employee contribution matching, which doubled the capacity of Novus's charitable giving. In 2016, almost \$100,000 was given by employees and matched by Novus. In addition, 828 volunteer hours were matched with a financial gift to the cause. ***This improvement greatly expanded the impact Novus employees made in their communities and the world.***

\$100,000



Novus increased employee nonprofit contribution matching to \$100,000 per year

HUMAN HEALTH AND NUTRITION

While Novus's primary business is centered on animal health and nutrition, a particular part of Novus's business focuses on human health. ESM Technologies, LLC, a joint venture partner of Novus, provides an innovative solution to what would otherwise be a waste product of the food industry. In 2016, ESM Technologies converted over 979 tons of raw eggshells destined for landfills into human health supplements which support bone and joint health. This is a 10 percent increase from 2015. The only byproduct of this 100 percent natural manufacturing process is steam.



Sparking Employee Empowerment

“Engaged and Empowered Employees” is a key element of the Novus Sustainability Priorities Compass that includes numerous efforts from encouraging employees to live a healthy lifestyle to offering assistance with legal counsel and mental health support. In 2016, Novus welcomed over 100 new employees to the company in roles ranging from accounting to technical service. Novus hired more new employees than 2015, while reducing turnover by 1 percent.

100 

**new employees
were welcomed
in 2016 in roles
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technical service**

Novus aimed to boost the empowerment of these individuals from the very beginning and ensure employees feel welcomed and motivated at the outset of their career with Novus. To accomplish this, a new onboarding process was developed by the Global Human Resources team, informed by feedback from over 100 recently-hired employees, people managers, thought leaders, interns and external consultants. The new process will include elements to encourage engagement and inclusion even before their first day at a Novus office. Global HR achieved their goal of program design in 2016 and plans to begin rollout in 2017.

NOVUS INTERN PROJECT WINNERS MAKE LASTING IMPACT

In 2016, Novus interns in various roles were split up into teams to tackle issues facing Novus or the industry and presented their solutions to the organization. One of the issues presented was the need for an onboarding process that would be both informative and encouraging for new employees hired in the widely varying roles at Novus. Novus leadership believed the 2016 intern project winners had created a practical solution with potential for success. The actual framework the interns developed in their project eventually informed the new Global HR Onboarding Process which will be implemented in 2017.



Novus Graduate Scholars Expansion

For over a decade, Novus has partnered with top agricultural universities in China to offer outstanding students an opportunity to enhance their knowledge with a research internship at Novus headquarters. Novus Graduate Scholars have gone on to make cutting-edge discoveries in the industry and some have even returned to Novus for employment and continued research. In 2016, the program was expanded to include Nigeria. **Three master's students from Federal University of Agriculture in Abeokuta, Nigeria will be joining the program in its inaugural year for Africa in summer 2017.** Nine students from the Chinese universities will join them after going through a competitive selection process.

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Novus Internship Program

In 2016, Novus hosted 23 interns from around the world in the headquarters office. These individuals held positions in various departments from research to finance, all receiving valuable insight into the agriculture industry and animal nutrition business. **New for 2016 was the “Intern Summer Challenge,” where interns were divided into teams and given specific business-relevant projects to work on collaboratively.** Teams presented their projects to the organization at the conclusion of the program, and a winning team was selected based on development of their idea. This was a pilot project to bring additional experience to the internship by presenting cross-functional projects, which is critical to success at Novus.

Advocating for the Industry

“Sustainability means many different things to many different people. What is important is identifying where you can make a difference.”

—Jake Piel, Sustainability Manager

Sustainability is more commonly attributed to environmental protection initiatives such as energy reduction and water conservation, but Novus takes a much wider approach to its efforts. To Novus, this also means ensuring the animal industry itself is sustainable.

Through changing consumer perceptions and regulatory shifts, Novus aims to advocate on behalf of the industry and facilitate its continued improvement. In some cases, this means environmental stewardship by Novus and in others it means working collaboratively across the industry to accomplish larger goals.



Project Horizon

Novus prides itself on providing holistic solutions, rather than simply offering a plethora of products. Today's market for animal production has changed significantly over the past few years, and adapting to these changes has proven challenging for producers. One challenge is the shift toward antibiotic-free production. Many companies are rushing to offer a “silver bullet approach” to replace antibiotics, but Novus has taken a different route. In 2016, Project Horizon was launched by Novus North America. The project leverages Novus's vast internal knowledge of animal gut health and invests in research and development of products and applications for current products to help producers navigate through this change. **Customers and Novus technicians worked hand-in-hand to find customized solutions to commit to the consumer's demand for antibiotic reduction while also sustaining a profitable business with healthy, productive animals.** As a result, many products which have proved valuable to maintain animal health and performance in antibiotic-free programs.



Equity Equivalent Investment Program

The Novus Africa team set out to assist young people and current small farm operators with developing their agriculture skills and building capacity for a more prosperous future. The Equity Equivalent Investment Program (EEIP) was created to serve each of these groups in a unique way, while serving to bolster the agriculture industry in Africa. The student side of the program works to mentor and train students to increase their employability. EEIP focuses on heightening their core skills to prepare them for a future in agribusiness. The other side of the program works with farmers or suppliers (including women and small contract farmers) to create means for successful business expansion and offers invaluable advice and assistance.

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Reducing Pollution

With commercial agriculture continuing to expand, related pollution is a growing concern. The management of manure on farmland is an opportunity for producers to reduce their environmental impact. In many cases, manure is collected and turned into compost for use in fertilizing crop land. But, high levels of certain nutrients in manure can be problematic to land and water supplies such as zinc, copper and manganese (trace minerals many livestock require as supplemental nutrition). **Novus's MINTREX® trace minerals help producers manage this potential risk by having proven higher bioavailability, meaning more minerals are able to be absorbed by the animal and less are excreted into the environment.** Reduced mineral excretion by the animal is better for the animal's health and reduces negative impacts on the environment.



Improving Energy Tracking

Tracking energy use is a key way to ensure current initiatives and processes are producing the desired results. To improve Novus's accuracy in this, a new energy tracking system is being deployed. An online computer software was chosen in 2015 to allow for improved reporting of manufacturing environmental sustainability data. In 2016, the tool was developed and began a training schedule for rollout to Novus's seven manufacturing facilities in 2017. ***This technology will allow for more streamlined data reporting for trend analysis, impact assessments and capital project modeling among other opportunities.*** Novus aims to utilize this new data to further inform future sustainable projects in its manufacturing processes.



A new system will compile manufacturing data from Novus's 7 facilities.

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Industry Collaboration

Novus is a member of and holds leadership positions in several organizations and institutions focused around agriculture, health and nutrition, and the food industry. ***These collaborative groups include members from all aspects of each respective industry and bring accountability and organization across each sector.*** These groups include:

- International Food & Agri-business Management Association (IFAMA)
- European Union Association of Specialty Feed Ingredients and their Mixtures (FEFANA)
- Specialty Feed Ingredients Sustainability Project (SFIS)
- Food & Agriculture Organization (FAO)
- American Feed Industry Association (AFIA)
- Sustainability Consortium

THE SUSTAINABILITY CONSORTIUM

Novus continued membership in The Sustainability Consortium in 2016. The consortium is a collection of multi-sector companies who develop tools to improve the sustainability of consumer goods. As a member of the Food, Beverage and Agriculture working group, Novus works alongside food producers, retailers and consumer groups to ensure sustainability challenges are addressed at all levels of the supply chain. In 2016, Novus representatives happily shared insights into its material projects during speaking engagements and knowledge-sharing webinars and will continue its involvement into 2017.



What's Next for Novus

In 2016, new projects were launched, others advanced, and more seen through to achievement. Novus customers, business partners and employees can be proud that Novus's 25th year as a company brought a number of notable successes.

Novus leadership continues to set an even-higher bar for sustainable business practices and integrity within the company, and 2017 has several ambitious initiatives already in progress. By continually improving its reporting, assessment and performance on sustainable projects, Novus aims to continue being one of the most sustainably-focused companies in the animal agriculture industry.

