Executive Summary: The Future of Dairy

Dairy Management Inc.™

Prepared for the Innovation Center for U.S. Dairy®

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INNOVATION CENTER FOR U.S. DAIRY®

HEALTHY PEOPLE • HEALTHY PRODUCTS • HEALTHY PLANET

Background

The Research and Insights Committee of the Innovation Center convened a task force to explore growth opportunities for the dairy industry overall. As part of this discovery, the task force determined the United States dairy industry can no longer count on significant increases in gross domestic product and population expansion to drive domestic growth. Cost-savings/gains driven by infrastructure and production efficiencies and consolidation also will be harder to come by. Therefore, the need to look longer term to the future of dairy is critical. For these reasons, the task force commissioned a study to address the following objective and scope:

> Identify five- to eight-year opportunities to drive the growth of dairy/dairy-based products in the United States through the identification of macro trends AND a greater understanding of data-based key elements (e.g., food/eating behaviors, demographic shifts, cohort groups, retail channel shifts, foodservice perspective, etc.) that have potential to affect dairy sales. (For the purposes of this endeavor, dairy includes milk/dairy beverages, cheeses, yogurts, frozen dairy and dairy as an ingredient or a component.)

GfK Strategic Innovation — a leading global strategic planning, consumer insights and trends firm with more than 30 years of experience in developing and assessing new products worldwide — assisted the team. The task force-led analyses looked broadly at consumer need states, marketing, innovation, population shifts, regulatory factors, dairy industry leader opinions, etc., to uncover the greatest growth opportunities across key categories and assess risks industrywide. The output will serve as a strategic roadmap for the industry at large to drive innovation and ensure long-term viability of dairy categories.

The team also felt it critically important not only to assess need evolution and innovation within dairy categories but also outside of dairy categories.

Outside IN: Identify News/trends/technology seeded outside of dairy

Key Findings

1. The U.S. dairy market will be marked by increasing rates of change driven by key macro forces.

- Escalation of uncertainty over politics, economy, supply and product prices will result in an increasing shrinkage of traditional middle-income Americans, and in turn, will drive declines of midpriced brands, retailers, etc., and create more polarized definitions of value. The dairy industry must address the evolving definitions of value (both low-end and premium) to provide solutions for consumers at all levels.
- The U.S. consumer will be increasingly diverse and more globally aware (aging population, growing Hispanic, extending to a more diverse youth demographic, nontraditional and ethnically mixed households). The changing face and resultant health conditions of American consumers will require the dairy industry to employ more multifaceted segmentation, micro-targeting and addressing of personalized needs (health and otherwise) in its product formulation, benefit package and messaging offerings.
- “Smart” technologies will continue to explode. Consumers will demand unprecedented levels of information, transparency and point-of-purchase decision-making capabilities enabled by everyday, sophisticated digital technology. Also, smart technology will alter and raise consumers’ expectations of retail to more of an “experience.” Again, dairy industry and retailers should have products, packaging, information and channel options to address these needs.

2. Motivation for purchasing behavior is generally derived from four overarching macro “states” of Wellness, Gratification/Enjoyment, Convenience/Freedom and Safety/Peace of Mind.

Each of these macro states can be further dimensionalized according to specific needs within. (See below.) The key is that innovation evolves in fairly predictable waves under these four states.

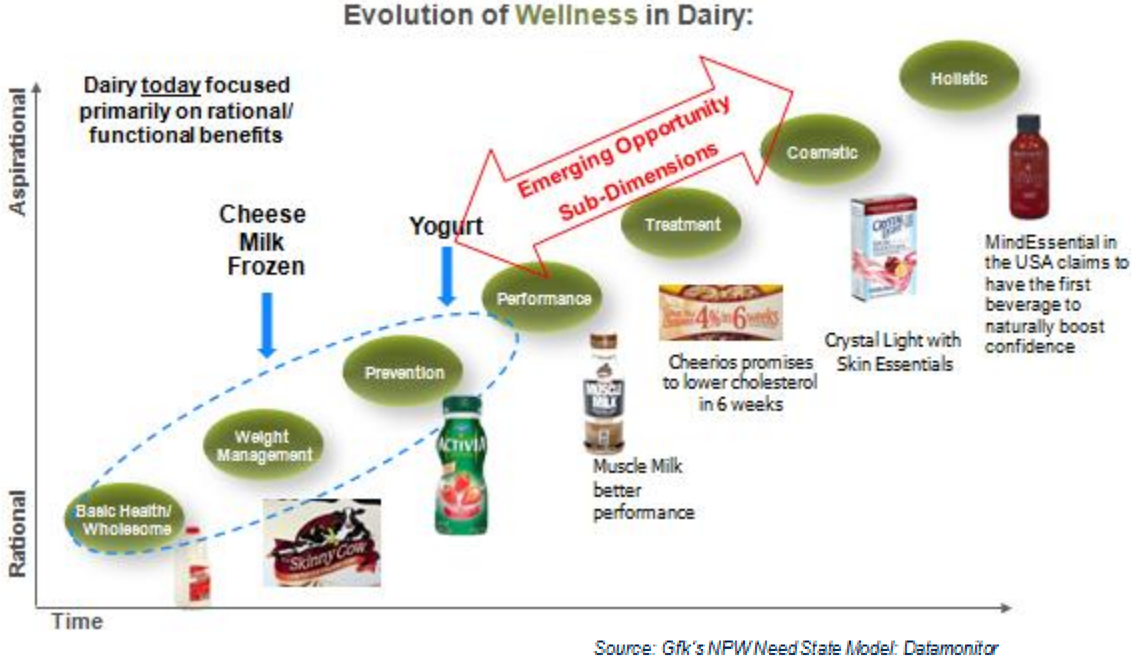
3. Dairy innovation will need to move beyond core messaging and benefit delivery to fusions of benefits that deliver more effectively on these evolving, multidimensional needs.

Currently, most dairy categories (especially fluid milk) address only the most basic of consumer needs. This, coupled with a movement on the part of consumers, retailers, shoppers, etc., to be less tolerant of “unnecessary” compromises, yet more open to less traditional solutions, will create new opportunities for dairy products to address these more complex needs.

The positioning of key dairy categories within these macro “states” are illustrated on the following two pages.

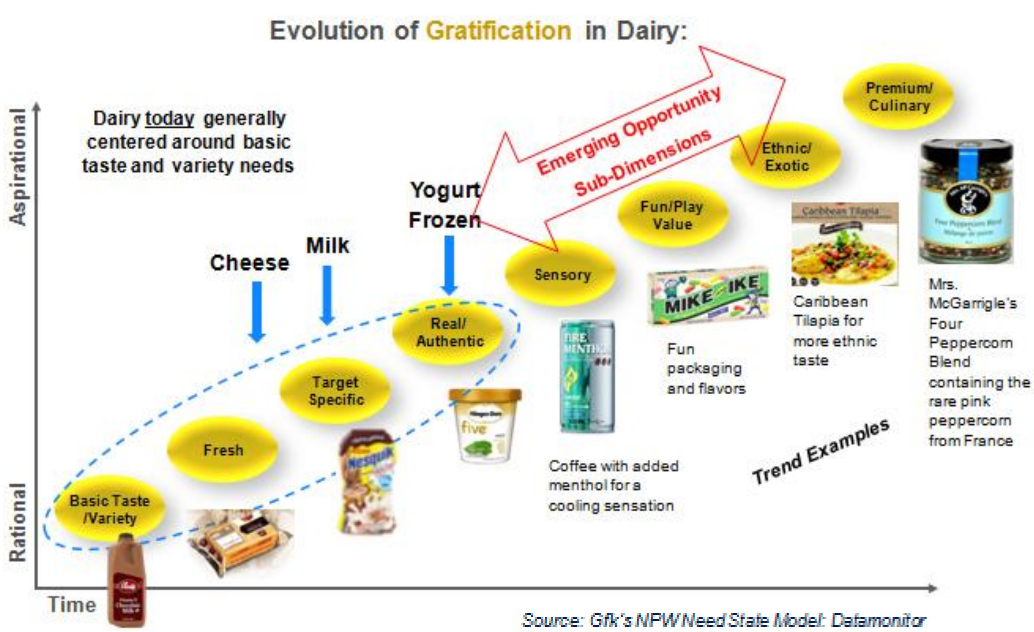
Evolution of Wellness in Dairy

Current needs addressed by dairy categories are fairly rational, with a significant amount of emphasis on inherent "goodness" and some basic weight management claims. Dairy has the opportunity to tap more advanced dimensions, including new ways to talk about weight management and then prevention and performance, ultimately to address cosmetic and holistic desires.



Evolution of Gratification in Dairy

Although dairy plays across some lower-level gratification needs, most marketplace efforts have been fairly minimal, with the exception of yogurt and frozen to some degree. Dairy has the opportunity to better advance against fresh, real and authentic, and to address exotic/global and culinary needs.



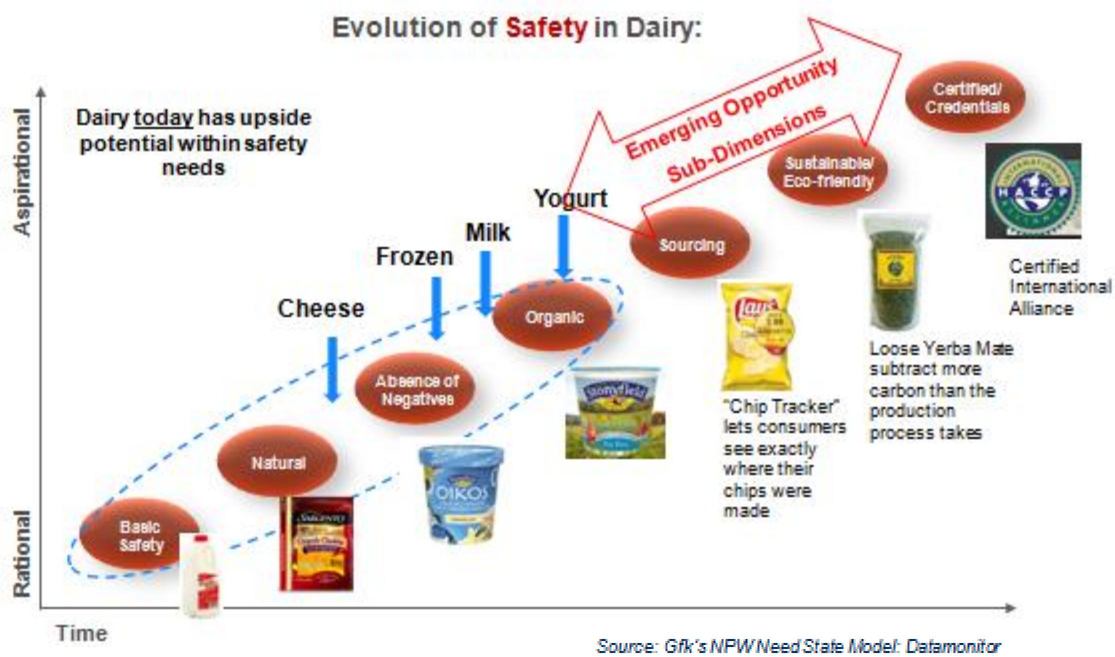
Evolution of Convenience in Dairy

Convenience begins with less fuss and mess and moves toward portability. There is also opportunity to deliver on more aspirational convenience needs within dairy — including longer-lasting, occasion-specific, complete and customization — as well as further support for “on the go.”

Evolution of Safety in Dairy

Meeting basic safety needs is an ante for any food category. However, dairy as a whole has opportunities to offer more aspirational and emotional safety needs; e.g., more “natural,” absence of negatives, sustainable sourcing, certified or credentialed.

Consumer safety needs often cross over into personal and environmental wellness, which dairy categories certainly can capitalize upon.



4. In this evolving environment, the U.S. dairy industry has significantly different opportunities to better meet these varying needs across categories.

The evolution and future health of specific dairy categories are dependent on the current levels of “commoditization” of the category — price-driven private/store label, distribution, marketing and innovation investment, competition and substitution (as defined and exhibited by consumers).

	Milk	Cheese	Frozen	Yogurt
$ Sales *	**$11.1**	**$9.6**	**$4.1**	**$4.4**
Volume Sales	2.9B gallons	2.0B pounds	3.6B pints	2.3B pints
Penetration	96%	96%	85%	28%
% Branded	27%	52%	75%	85%
% Private Label	73%	48%	25%	15%
Retail	76%	38%	n/a	97%
Foodservice	13%	36%	n/a	3%

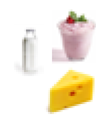
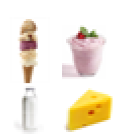
*=Based on FDMx

5. Based on the rigorous assessment of macro trends, evolution of consumer needs and current state of development of key dairy categories, 20 whitespace opportunity areas have been identified to frame and focus industry innovation.

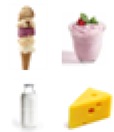
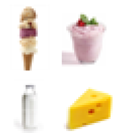
The opportunity areas resulted from a holistic view of innovation — taking into account all phases of the supply chain — from macro forces through post-consumption behaviors — and have applicability for all distribution channels. These transcend all key dairy categories, demographic targets, macro consumer need states, as well as growth potential. Whitespace areas are further defined as focused “dig sites” and are not the final solution. Additional work is required to bring to market, either collectively by industry or by individual organizations.

Wellness/Gratification	Basis for Interest	Opportunity*	Categories
Powered by Dairy Making dairy the go-to food/beverage for people who want more physical or mental energy	• '08 energy drink market $4.8B • Functional drinks estimated to grow to $19B by 2013 (160% v. '08) • 63% concerned about a lack of energy • Only 29% of consumers strongly agree that they are familiar with protein naturally found in milk; only 25% (top 2 box) familiar with whey protein	Tier 2	
Zen Nation Using dairy as a way to help stressed-out Americans feel more rested and relaxed	• Relaxation drinks projected growth area for Coca-Cola, Pepsi, etc., to grow 300+% (60% worried about negative effects of stress) • 44% agree they live a stressful life, look to simplify	Tier 3	
Continuously Delight Kids Making dairy products, especially milk, a tasty, fun treat for kids so they consume dairy into adulthood	• Taste rules, and is the reason 86% say they choose their food/ beverage • Kids' milk drinking, especially teens, is declining; 13-17 yr. olds down 9.7% • Adults are more likely to drink milk if they drank it as a kid, and especially as a teen	Tier 2	
Convenience/Gratification/Wellness			
Dairy Beverage Reinvented Reinventing and repositioning fluid/bottled milk to meet emerging needs of consumers	• Flat milk sales for the last 30 years • Consumption of milk has been on a steady downward trend since 1945 • Milk under-indexes on all the major beverage consumer needs: thirst, energy, relaxation	Tier 1	
Grazing on Dairy As people move from the 3-meals-a-day norm to more snacking, make dairy the healthy, fun and satiating snack of choice	• Snacking increasing; in-home snacking projected to grow 18% by 2020 • Snacking is a ~$90B category and projected to increase • 87% of people snack between meals; kids snack twice as often as adults	Tier 1	
Convenience/Gratification/Wellness			
Creating New Segments Creating new forms and segments within dairy to provide holistic solutions for tomorrow's consumers	• Disruptive growth comes from creating new segments	Tier 1	
Dairy Dating "Marry" the benefits of dairy and other categories to create unique fusions that deliver superior taste, wellness and convenience benefits all in one	• Dairy alone struggles to combine key need states of taste, wellness and convenience • Other categories have specific strengths that complement dairy • Cheese has been most successful (e.g., pizza) at fusions	Tier 2	

*Opportunity Size: Tier 1: potential of greater than $1B, Tier 2: $1/2B-$1B, Tier 3: under $1/2B

	Basis for Interest	Opportunity*	Categories
Take Me Home Tonight As ready-to-heat/eat meals are increasingly viewed as "home cooking," making sure dairy is a part of these meal solutions	• 50% consider ready-to-eat main dishes part of a "home-cooked meal" • 41% say "was easy to prepare or get" is No. 2 reason for what they eat, after taste • NPD predicts one of the fastest growing behaviors in next 10 years is carry-in/consumed at home	Tier 3	
Fresh Taste Guaranteed Preserving the naturally fresh taste of dairy longer through production technology and/or packaging	• By 2020, couples and homes with children will be the only household types to decline as a % of total U.S. households — leading to slower consumption and potentially greater waste • One-third of dairy is lost in the U.S. due to spoilage: 20% at home, 12% at retail • Block forms especially of ethnic "refresher" cheeses high in spoilage; e.g., queso	Tier 3	
Best Supporting Actress Enhancing the flavor of foods and increasing dairy intake by including dairy and dairy ingredients in foods you don't expect to see it in	• Two-thirds of Americans are calcium deficient, 70% vitamin D • About one-third don't like taste of milk, about half prefer other beverages over milk • 20% increase in total menu mentions of cream cheese on restaurant menus, Greek yogurt ingredient usage up	Tier 3	
Wellness			
Gen Zoom Linking dairy to disease prevention and healthy aging, for a happier and more active life	• Dairy can help prevent top growing diseases • Concerns re: sodium/fat/cholesterol → consuming less cheese and milk • Even among core consumers, many do not realize milk's preventive health benefits.	Tier 1	
Smart 'n' Fit Making people aware of all the benefits of dairy as they work to manage their weight, stay fit and remain healthy	• 75% of Americans are concerned about their weight • Weight management market is $61B in 2011; growing • 57% see health as a status symbol and evolving definitions	Tier 1	
Gratification			
Going Gourmet Taking dairy from everyday to gourmet: making dairy a culinary treat for special occasions	• In 2010, specialty food sales were $70B/7% growth in bad economy; gourmet cheese is No. 1 item • Specialty cheese is projected to be $17B by 2014 • 63% of adults buy gourmet foods, up from 56% in 2008; about 75% of 18 to 34 buy gourmet	Tier 1	

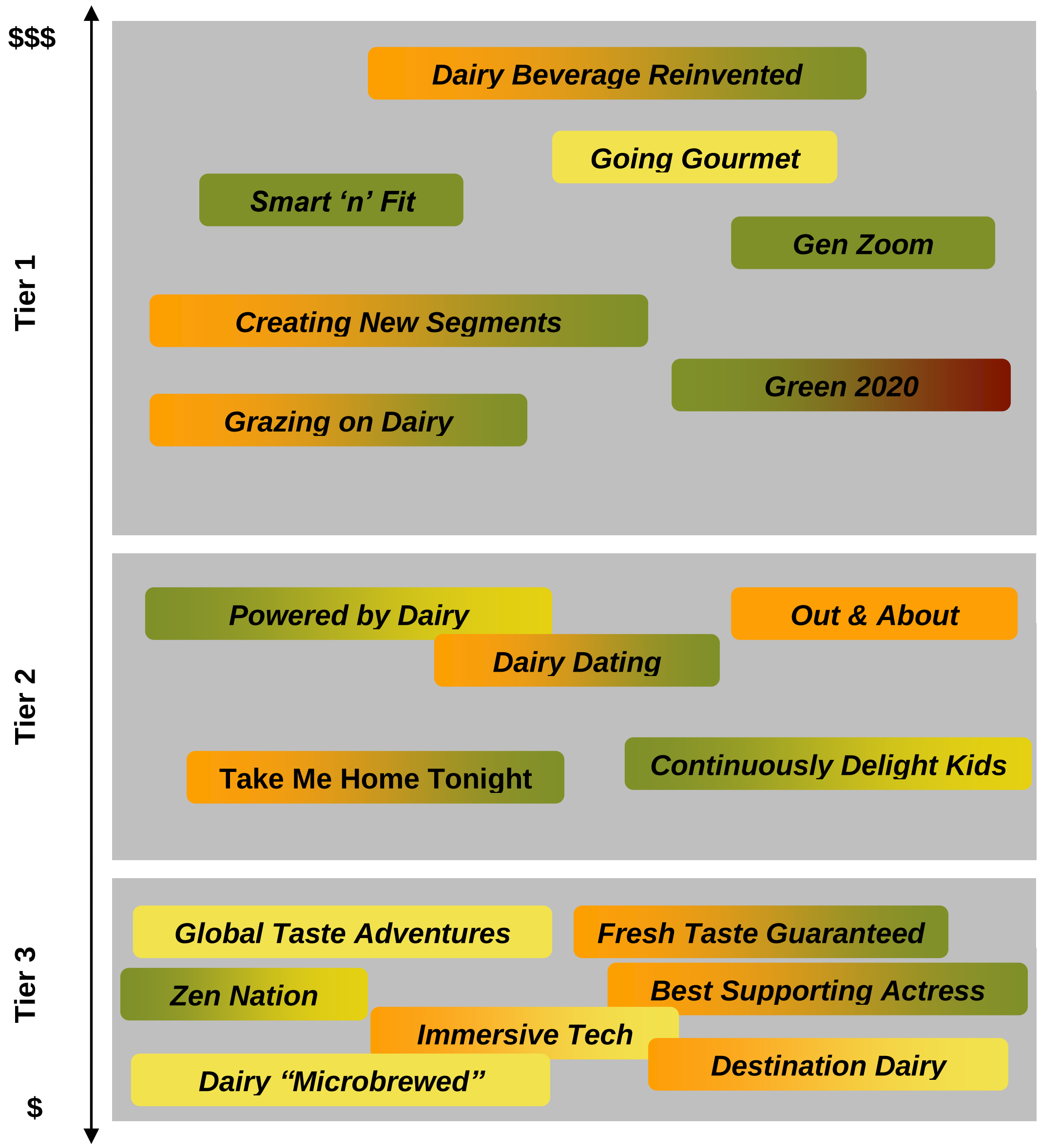
*Opportunity Size: Tier 1: potential of greater than $1B, Tier 2: $1/2B-$1B, Tier 3: under $1/2B

	Basis for Interest	Opportunity*	Categories
Global Taste Adventures Advancing the American palate by mainstreaming dairy-based ethnic foods	• The Hispanic population is expected to represent 20% of population in 2020, 27% of kids • Dairy is a big part of unacculturated Hispanics' diets, but decreases as they become more acculturated • 90% of Americans regularly eat ethnic foods at home or in restaurants	Tier 3	
Dairy "Microbrewed" Bringing the innovation, uniqueness and craftsmanship of microbreweries to dairy	• Total craft beer market now represents about $8B/10% CAGR • Total artisan/specialty cheese market is now a $14B category and expected to be $17B by 2014	Tier 3	
Convenience/Gratification			
Immersive Tech Merging the physical and digital world through interactive experiences that allow for constant conversation and co-creation with consumers	• By 2020, population with a smartphone will DOUBLE to 70% of the U.S. population • 70% of consumers use smartphones while shopping • Augmented reality projected to grow exponentially to almost 13x the current size today by 2020	Tier 3	
Destination Dairy Reinventing the shopping experience for dairy by merging convenience and technology in a welcoming environment	• Consumers currently search for the best shopping experience, of which the actual purchase is only a small part • Shoppers spend three to five times more time in the household chemicals aisle than in the dairy aisle to purchase cheese • After a major redesign, the produce aisle is the No. 1 factor in choosing a grocery store	Tier 3	
Convenience			
Out & About Making it easy for people to buy and consume dairy, especially milk, whenever and wherever they are	• About half of adults eat out more than 3x/week; 12% more than 7x/week • Each day, about 25% of Americans eat at a fast food restaurant • Breakfasts carried from home expected to grow to 19% by 2018	Tier 2	
Safety			
Green 2020 Making the link between happy, healthy cows and sustainable practices to great-tasting/better-for-you dairy	• 65% of people think dairy from grass-fed cows tastes better than grain-fed • 50% believe there are too many hormones in milk; 72% are concerned • 39% say chemicals in foods are the most important food safety dimension, up 9% vs. '09	Tier 1	
Safety ASSURED! Reassuring consumers about the safety of dairy	• 57% of consumers say they're concerned or very concerned about the safety of food • 53% percent of consumers agree that food safety will become integral to sustainability in the next 10 years	Risk Avoidance/ Ante in Category	

*Opportunity Size: Tier 1: potential of greater than $1B, Tier 2: $1/2B-$1B, Tier 3: under $1/2B

The dig sites were preliminarily sized using very broad brush approaches with the intent to provide the relative potential of each. The areas were then bucketed into tiers. This does not reflect incrementality, merely absolute size. Tight refinement of the size of the opportunity would be a critical step in any subsequent work.

Tier 1: Greater than $1B
Tier 2: $ ½B - $1B
Tier 3: Under $ ½B



Although all these areas have the potential to further unlock insights to expand the consumption and/or usage of dairy products and ingredients, the level of resources required and corresponding risks vary greatly, as does the potential payoff.

Conclusion

In summary, the U.S. market represents billions of dollars of unrealized potential for dairy products. The road map developed in this Future of Dairy initiative serves as a guide for innovation to drive growth of dairy and dairy-based products. The opportunity areas span many current categories, consumer targets, messages, etc., yet also may lead to "new to the world" combinations or categories to address consumers' ever-evolving needs. The degree of difficulty, risk level, resource requirements and time frames may vary greatly for each, as will the potential rewards.

Now is the time to see the future of dairy and seize it. The industry will be well-served to utilize the insights from this rigorous analysis and assessment to identify and activate growth opportunities. To this end, the Innovation Center is identifying and acting upon the highest priority opportunities via pre-competitive, collaborative efforts. Organizations are encouraged to individually explore and dig into the road map, and resources are available from the Innovation Center to assist in these efforts. Please contact the Innovation Center at futureofdairy@usdairy.com for more information.