

DEX **Network**

Workshop no. 3

Entrepreneurship and Innovation Series

Exploring New Avenues for Entrepreneurship, Innovation, Value Addition and Consumer Satisfaction in the Dairy Industry

REPORT

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DEX Network

NETWORK FOR THE EXCHANGE OF KNOWLEDGE AND EXPERTISE IN THE UK AND IRELAND DAIRY SECTORS

DEX Network is delighted to invite you to a workshop on Entrepreneurship and Innovation:

EXPLORING NEW AVENUES FOR ENTREPRENEURSHIP, INNOVATION, VALUE ADDITION AND CONSUMER SATISFACTION IN THE DAIRY INDUSTRY

A panel of speakers will address the following topics:

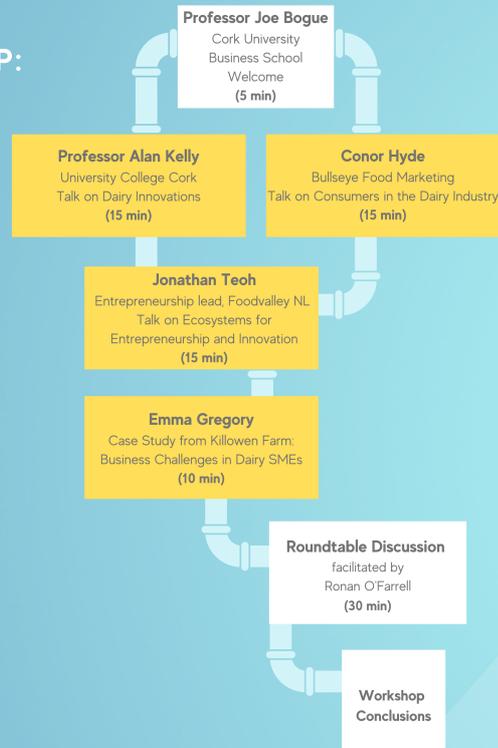
- Novel technologies and new product development as a means of value addition in the Dairy Industry
- Consumer insights and changing demands in relation to dairy products
- Entrepreneurship ecosystems and innovation in the Agri-food Sector: The case of Foodvalley NL in the Netherlands
- Business challenges in relation to innovation and value addition for SMEs in the Dairy Industry

DEX TIME!



Wednesday
8th December 2021
10:00 am - 11:30 am
Online

STRUCTURE OF THE WORKSHOP:



The DEX Network is a unique community among researchers on the Island of Ireland and the UK with a focus on innovation, sustainability, value addition and digitalisation within the dairy sector. The Network acts as a platform that helps mitigate against market shocks through facilitating the exchange of knowledge and expertise and identification of skills and capability needs of the sector across the UK and Ireland. Through a series of Workshops, the DEX Network strives to:

-  Develop a sustainable network of international social science researchers to identify common research priorities,
-  Promote the sharing of research ideas and new methodologies in relation to knowledge exchange for innovation within the dairy farming sector (in the context of significant market changes),
-  Build multi-actor networks with non-academic partners to inform research priorities, thus ensuring the sustainability and utilisation of the network in the long-term.

DEX NETWORK FOUNDING MEMBERS:



Dairy Evolution NeXt Network

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Workshop Overview

The third DEX Workshop titled *Exploring New Avenues for Entrepreneurship, Innovation, Value Addition and Consumer Satisfaction in the Dairy Industry* was hosted by Professor Joe Bogue and Dr Lana Repar at Cork University Business School, University College Cork on Wednesday 8th of December 2021 between 10:00 am and 11:30 am in an online format via Microsoft Teams. This Workshop built on the content of the two previous Workshops hosted by Ulster University (*Collaboratively Building a Sustainable Future for the Dairy Industry*) and Dundalk Institute of Technology (*Policy and Support*). The focus of this Workshop was on identifying current trends and future opportunities for entrepreneurship and innovation in the dairy sector.

Workshop Objectives

- Provide an overview of progress in technology and new product development in the dairy sector
- Examine consumer trends and how they impact demand for dairy products
- Learn from an international example of developing an entrepreneurial ecosystem
- Understand innovation aspects from the perspective of dairy SMEs
- Explore future opportunities and challenges in the dairy industry through a panel discussion

The Workshop was held online and recorded. The recording is available [here](#).

Workshop Participants

A total of 50 participants registered for the Workshop from which 24 participants were from Republic of Ireland, 16 from the United Kingdom, 6 from Vietnam, and one from the United States, Italy, the Netherlands and Israel. The registered participants had very diverse job titles including 26 in academic roles (professors, readers, lecturers, researchers and PhD students), 11 in industry roles (directors, managers, leads, executives and technologists) and 5 in institutional roles (governance, inspectorate, and business and policy advisors). Eight students also registered for the Workshop.

The registered Workshop participants were from:

- Ulster University Business School
- University of Exeter
- Munster Technological University
- Letterkenny Institute of Technology
- College of Agriculture, Food and Rural Enterprise (CAFRE)
- University of Palermo
- Vietnam National University of Agriculture
- Dansko Foods
- Cottagequinn Farms
- Dale Farm
- Bord Bia
- Ulster Farmers Union
- Love Irish Food
- South East Cork Area Development (SECAD)
- Department of Agriculture, Environment and Rural Affairs (DAERA)
- Food Standards Agency
- Cork City Council
- Enterprise Ireland and other.



Synopsis of Presentations

Professor Alan Kelly, School of Food and Nutritional Sciences, University College Cork, Cork

“Novel technologies and new product development as a means of value addition in the Dairy Industry”

Factors affecting food development include: (i) consumer demands and trends (e.g. health, convenience and personalised nutrition), (ii) regulation (e.g. reducing salt intake), (iii) new ingredients (e.g. whey), (iv) specific demands (e.g. military, space and exports), (v) emerging threats and (vi) new technologies (e.g. high-pressure processing and 3D printing). Food processing is about solving problems and making food safe, last longer, and preserving nutritional and aesthetic quality. Many processes that we use for processing milk are ancient and have been used for thousands of years. However, the key is to understand what consumers want and do not want. The problem with processing is that consumers might have a negative perception of processed foods (e.g. full of chemicals and preservatives). Consumers want fresh, natural, long shelf-life, safe and variety of foods. So, this is driving the innovation in processing technologies. One of the trends that has been increasing in popularity is minimal processing: How do we process food to have the least change to fresh food while ensuring safety? This is particularly relevant for dairy products and while we need food processing to ensure that food is safe and we have varieties, consumers often have negative perceptions on processing. The challenge is to innovate in processing technologies and, in recent years, we saw cold pressure process and 3D printing as new ways of approaching food processing. However, obstacles with processing can reflect in consumers' refusal of products due to flavour or nutritional impairment (e.g. the case with heat processing). The big question in search of novel solutions remains how to ensure safety of the food, especially fresh food, while not compromising on taste and fresh-like characteristics. The technology used in processing food is likely to be expensive but since October 2014 there is a HPP tolling system in operation in Dublin as one of the options. Food processing technologies continue to evolve, driven by multiple factors.

Mr Conor Hyde, Bullseye Food Marketing, Cork

“Consumer insights and changing demands in relation to dairy products”

Top new dairy product claims include the following:

✓Vegetarian ✓Sustainable/Ethical ✓Environmental ✓Local ✓Free From ✓No Sugar
✓Allergen free ✓Functional ✓Vitamins/Minerals ✓No Additives ✓Low fat ✓Protein

The most relevant claims in the dairy sector evolve around: (1) Free-from, (2) Mental wellbeing, (3) Local, (4) Authentic and transparent, (5) Gut health, (6) Environmentally friendly, (7) Plant-based and (8) Protein. Simply labelling a dairy product as natural is not enough anymore and consumers prefer to see claims such as additive-free, gluten-free, lactose-free, sugar-free, non-GMO and minimally processed. Furthermore, dairy products can be marketed to address some of the key pain points of modern consumers such as stress and tiredness as they can aid relaxation, reduce stress levels and improve the overall mental wellbeing. Consumers also put more emphasis on proximity, origin and provenance, meaning that dairy products grown and produced by local people within the county are going to become increasingly important. As consumers' concerns over their health and wellbeing grows, so does the demand for transparency related to safety, quality, formulation and packaging of dairy products. There are different technologies available to track a product, such as the QR codes and blockchains, but the story about a brand will also be important for consumers. An increasing body of research suggests a strong connection between the gut and the brain and more consumers are aware of and accept probiotics in their diet. This is a particularly attractive segment where dairy products can be recognised as the ones actively boosting health. Dairy brands will also have to consider putting environmental credentials at the core of their brand positioning. Plant-based dairy alternative trend continues to grow and dairy producers need to consider offering alternatives to their dairy products. Some consumer segments choose dairy alternatives instead of their regular milk or yoghurt. However, there is a growing demand for proteins and launches of dairy drinks in Europe with high or added protein claims has been increasing from 10% of launches in 2017-18 to 14% of launches in 2020-21.

Mr Jonathan Teoh, Entrepreneurship lead at Foodvalley NL, the Netherlands

“Entrepreneurship ecosystems and innovation in the Agri-food Sector: The case of Foodvalley NL in the Netherlands”

Foodvalley is the international and independent platform for ground-breaking innovations that enable the transition to a sustainable food system. Its mission is to shape the future of food together. Foodvalley’s vision is to encourage tasty, affordable, healthy and sustainable food with respect for animals and the planet.

The platform applies a three-step approach:

1. Impact society = Identifies the necessary impact for society for the next 10 years on the three transitions.
2. Ambitious ecosystem = Contribution to structural system change on a societal level and identification of the key activities of the ecosystem.
3. Interventions = What needs to be done to enable the ecosystem to scale up innovation more quickly.

Key activities of Foodvalley are divided into (i) Innovation Fields (protein shift, circular agri-food and food and health) and (ii) Innovation Support (global connections, entrepreneurship, talent, shared facilities and ecosystem intelligence). As mentioned in the presentation from Conor Hyde, there is a notable shift towards protein and one of the projects of the Foodvalley platform is to ensure futureproof protein consumption and production around the world for all. Other interesting projects involve co-creating sustainable and competitive fruits and vegetables value chains in Europe (Co-Fresh), supporting ground-breaking innovations that will help people make the healthy choice the easy choice, personalised nutrition and circular agri-food where agriculture and food are connected in re-designed circular chains. Shared facilities are important part of Foodvalley support related to (i) development and demonstration and (ii) scale up and production activities. Currently there are around 50 facilities available (and more are coming), ranging from test-kitchens to pilot-plants and production facilities. These facilities are available for use by external users to help them innovate faster and encourage collaboration.

Ms Emma Gregory from Killowen Farm, Co. Wexford

“Business challenges in relation to innovation and value addition for SMEs in the Dairy Industry”

Killowen Farm has a long history of dairy farming - for 9 generations. The company is a family-run, farm-based yogurt manufacturer from Co. Wexford founded in 2004 by the Dunne Family. The products are made daily, exclusively from the milk of the Dunne Family pedigree herd of 240 cows. The main products from Killowen Farm are their award-winning yogurts and cream cheese. The products are made in small batches daily and one of the most important advantages for Killowen Farm is that their product ingredients travel meters and not miles. Sustainability has always been at the centre of company's operations and the products are made using local ingredients. The Blackstairs Mountains create a unique environment for the cows, which are grass fed, and the milk used for production is only sourced from the company's own herd where animal welfare is taken very seriously. Another key selling point is their authentic single origin yogurt with only quality ingredients and without preservatives or additives. From a branding perspective, 'Keeping the core of who we are' is very important to Killowen Farm as well as clearly communicating the point of difference of their yogurts and cheese. Digital technology is recognised as both a benefit and a challenge when it comes to SMEs. It can make marketing easier as the companies can use social media platforms to increase their reach, make their voice heard and get a branding message out. However, the lack of training, fear, no dedicated person or support needed for digital media marketing can sometimes represent obstacles to more effective use of this available technology by the SMEs in the dairy sector.

Panel Discussion

The panel discussion was moderated by Mr Ronan O'Farrell and all the speakers participated in it. The key focus of the discussion was to identify new avenues for the dairy sector regarding technological innovation, value addition, entrepreneurial ecosystems and consumer satisfaction.

Key opportunities were identified for the dairy sector. While there is still a long way to go with technology in terms of consumer acceptance of innovation such as 3D printing, shared facilities for different technologies used for developing new dairy products is a viable option especially since the equipment often represents too high an expense for the SMEs. With consumers needs oriented towards health and wellness, new ingredients and value propositions for dairy products could drive developments in this area, with gut health, protein demand and local origin leading the way. Creation of dairy sector ecosystems or hubs along the island of Ireland could be a successful model of bringing stakeholders together and providing the needed support to enable innovation. Bringing ecosystems with different pillars and identification of where the highest added value lies could help in finding new areas for innovation and strategic decisions to stay ahead of the curve.

One of the key challenges remains Brexit with related contracts and ever-changing legislation, which hit the SMEs particularly hard. This is coupled with the fact that 70% of consumed yogurts are imported, which makes the competitive landscape for dairy SMEs difficult. In many cases, it is still important to educate consumers about the benefits of dairy products and spell it out clearly on the packaging as there is not enough consumer awareness yet on what these products can do for gut health. Vegetarian/vegan and plant-based trends are posing a threat to dairy producers who will have to adapt to the growing demand from consumers to offer dairy-free options, transparency around production processes and sustainability. This means that dairy producers will need to redesign their packaging and story-telling, and put more emphasis on various accreditations that make a difference in the consumers' mind.

The future of the dairy sector will be in integrating different stakeholders into ecosystems/hubs to support innovation and give access to SMEs to needed resources. In order to effectively compete on the market, dairy products will need to clearly communicate added value and the company's story on their packaging.

Key Takeaway Points

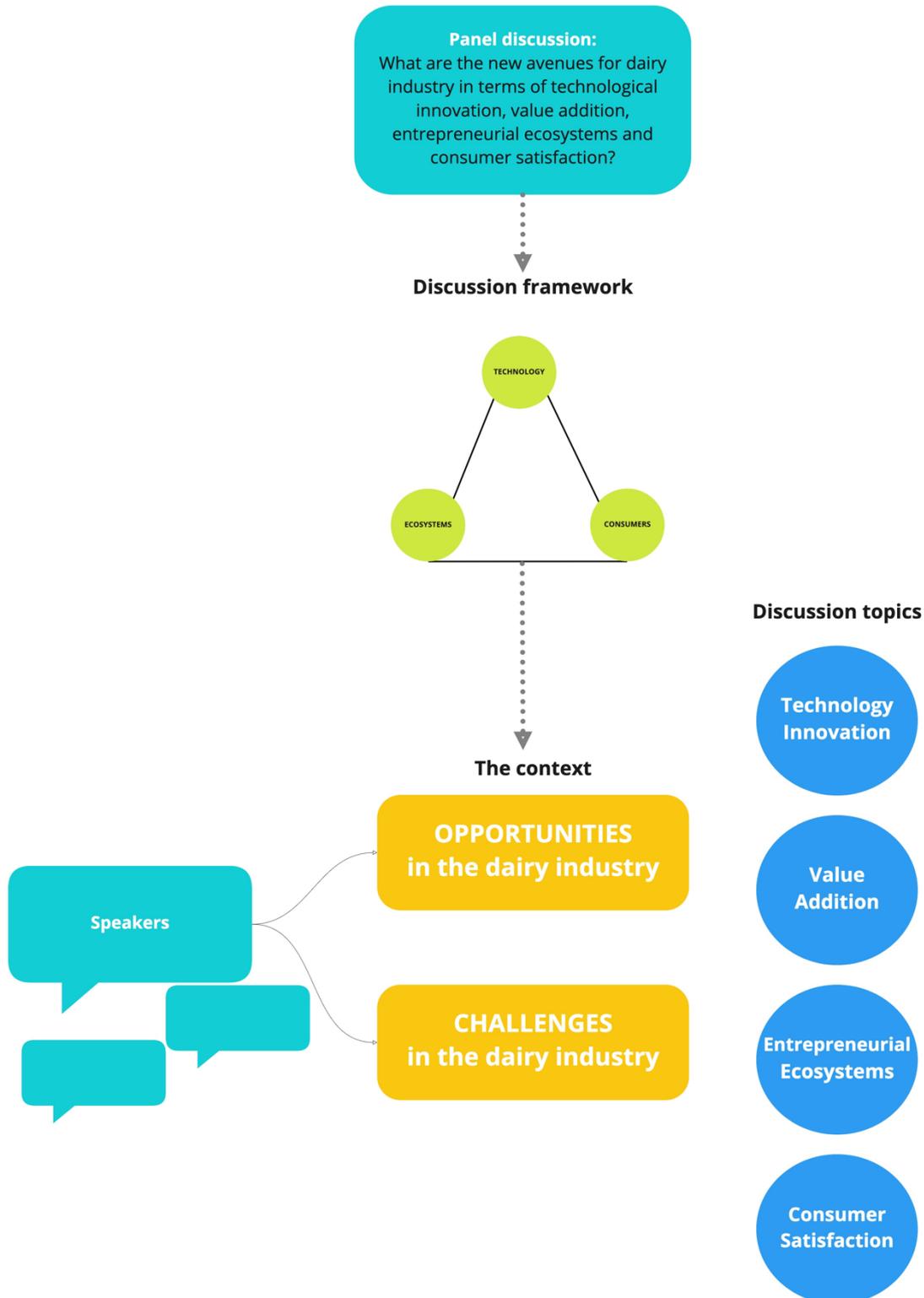
- The global dairy sector is facing many challenges, such as increasing production costs, sustainability requirements and consumer interest in plant-based substitutes. Market challenges will result in the need for dairy farmers and producers to rethink their business models and develop new sustainable, innovative and market-oriented solutions for uncertain business conditions and policy changes. We have seen many challenges and shocks to food systems, and in particular in the dairy sector, such as Brexit and Covid-19. The key question is how we rise to the challenges of the future and harness the opportunities. Innovation, value addition and entrepreneurship will play a key role in mitigating against the challenges within the dairy sector.
- Challenges of cost, scale, regulation, competition with existing processing technologies (i.e. heat) and consumer acceptance remain the key barriers.
- When it comes to consumer demand and the key drivers, it is likely that the most significant dairy new product development opportunities will emerge in the area of gut health, functional foods, making dairy products as drinks for pre- and post-workout, considering “hero” farmers (farmers as the greatest brand asset), sustainability and animal welfare, organic and local.
- The way forward for innovation in the dairy sector could potentially be in forming strong entrepreneurship and innovation ecosystems on the island of Ireland. The key to success will be organising the support that members of such ecosystems need to thrive.
- Key challenges for dairy SMEs include Brexit (still), competing with larger firms for space, lack of marketing monies, distribution and penetration, and increasing costs for materials, proper testing, Covid-19 related expenses and similar.
- One avenue that could potentially assist dairy SMEs related to new product development is engaging more with colleges and students with knowledge in food science and marketing to leverage insights and development in new ingredients and marketing techniques.

Workshop Summary

Third DEX Workshop titled '*Exploring New Avenues for Entrepreneurship, Innovation, Value Addition and Consumer Satisfaction in the Dairy Industry*' was hosted by Professor Joe Bogue and Dr Lana Repar at Cork University Business School, University College Cork on Wednesday 8th of December 2021 from 10:00 am to 11:30 am online via Microsoft Teams. The focus was on entrepreneurship and innovation in the dairy sector. The participants first heard from the guest speakers covering technology, new product development, consumer trends, ecosystems design and SMEs experiences. This was followed by a panel discussion where the guest speakers discussed in more detail the future of the dairy sector and what we can expect.

The Workshop panel discussion identified some key opportunities and challenges in the area of technology, new product development and innovation, value addition, consumer needs, and entrepreneurship in the dairy sector. It builds on the findings from the two previous DEX workshops related to exploring sustainable business models and various policies and supports for the dairy sector. The dairy sector will have to capitalise on the emerging consumer trends with unique offerings that will clearly communicate product benefits through strong labelling and brand stories. Also, the creation of sustainable entrepreneurial ecosystems or hubs with supporting facilities could advance innovation in the sector. There is a space for more collaboration between the SMEs, universities, researchers, students, government bodies and industry representatives to make the dairy sector on the island of Ireland more sustainable, agile, innovative and competitive.

Entrepreneurship and Innovation: Exploring New Avenues for Entrepreneurship, Value Addition and Customer Satisfaction



DEX Contact Info



Welcome to DEX Network

Community of researchers, industry and policy stakeholders across Ireland and the UK focused on innovation, sustainability, value addition and digitalisation in the Dairy Industry.



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DEX Network
<https://www.linkedin.com/company/dex-network/>



DEX Workshop no. 3 Speakers and Contributors

Professor Alan Kelly
University College Cork

Alan Kelly is a Professor in the School of Food and Nutritional Sciences at University College Cork. His teaching responsibilities include food processing and preservation, dairy product technology and new food product development. He leads an active research group on the chemistry and processing of milk and dairy products and has published over 200 research papers, review articles and book chapters and supervised over 25 MSc and PhD students to completion. His research involves many national and international collaborations.



Conor Hyde
Managing Director at Bullseye Food Marketing

Conor has over 25 years' sales and marketing experience and held senior Marketing Manager positions with Golden Vale/Kerry and Dairygold Co-op. He has successfully managed five of Ireland's top 100 grocery brands including: Dairygold, EasiSingles, Galtee cheese, Golden Olive, and Charleville Cheese. Conor is an approved business mentor with Bord Bia, Enterprise Ireland, the Local Enterprise Office, BIM and the Irish Exporters Association.



Jonathan Teoh
Entrepreneurship Lead at Foodvalley NL

Jonathan Teoh is an Entrepreneurship Lead at Foodvalley NL. His role includes searching the world for innovative ideas, talented entrepreneurs and promising start-ups and scale-ups, and facilitating them in the business processes that are crucial to success. In 2008 he co-founded the Dutch espresso bar 'Doppio Espresso'. He successfully built and scaled-up this food service company into a top 3 espresso bar chain in the Netherlands.



Emma Gregory
Commercial Sales and Marketing Manager at Killowen Farm

Emma Gregory is Commercial Sales and Marketing Manager at Killowen Farm. Killowen Farm is situated at the foot of the Blackstairs Mountains in Co. Wexford, and it is an award-winning company most known for its natural yogurts without preservatives or additives. Killowen Farm is a proud verified member of the Origin Green sustainability programme by Bord Bia. Sustainability has always been at the heart of Killowen Farm as well as healthy products.



Ronan O'Farrell
University College Cork

Ronan O'Farrell is a Lecturer in Entrepreneurship and Innovation in the Department of Food Business and Development, Cork University Business School. His research interests include entrepreneurship and innovation in food firms, and he teaches food marketing and consumer behaviour; enterprise management and development; and NPD and food innovation. He has worked in the Food Industry as a food marketing, business model innovation and NPD ideation consultant providing support to food enterprises of all sizes and stages of development since 1998. Ronan facilitated the panel discussion during this DEX Workshop.