



**GLOBAL<sup>TM</sup>  
DAIRY  
TRADE.**

# **ANNUAL REPORT 2017**

**[globaldairytrade.info](http://globaldairytrade.info)**

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## Global Dairy Trade 2017 Highlights

Global Dairy Trade Highlights for 2017	GDT Events Highlights for 2017	GDT Marketplace Highlights for 2017
<b>200th</b> Trading Event	<b>\$2.1 billion</b> USD traded	<b>3,400</b> Completed listings
<b>1st</b> Buyers' Conference Singapore – 9 November	<b>41</b> Products Offered	<b>13</b> Registered sellers
<b>US</b> Lactose Pool Launched December	<b>509</b> Registered bidders	<b>263</b> Registered buyers

# Director's Report



Eric Hansen  
Director  
Global Dairy Trade

**Creating new connections for buyers and sellers of dairy products is a key tenet of Global Dairy Trade's growth strategy. In 2017, we developed new services, attracted new buyers and sellers to our online trading platforms, and prepared the way for further enhancements and expansion of our role in the future.**

While Global Dairy Trade is best known for its price discovery role, we view our purpose more broadly. It is to provide trading platforms and information that enhance the confidence of buyers and sellers to trade in global and local dairy markets. We aim to do this by:

- Being the most credible and comprehensive provider of prices across all core dairy ingredients and major supply regions;
- Providing the most opportunities for buyers and sellers to connect and access trading opportunities; and
- Being the best source of real time global and regional data that helps people to understand market conditions.

The services we provided this year and future solutions we are developing, will continue to support the needs of our customers and stakeholders during a period of continuing price volatility.

### Telling the story of globally traded dairy through data

After more than two years of global milk prices remaining below sustainable levels for farmers in key dairying regions, there was a lot of interest in robust, verifiable data about the globally traded dairy market.

One product in particular generated international headlines and commentary. A significant increase in global demand for butter was reflected in a price surge, with the GDT Events price index for butter up more than 115 percent year-on-year by mid-July. While butter prices reduced by 26 percent during the fourth quarter of 2017, they ended the year above their long-term average.

Prices for powders, however, have been relatively flat, and began falling during the final months of 2017.

By completion of Trading Event 202 on 19 December, there had been a 13 percent decline in the GDT Price Index over the course of the year.

Despite variable product demand, 96 percent of offered quantity was sold in 2017, amounting to more than 650,000 MT, compared to 636,000 MT the prior year.

GDT Events had an average of 163 active bidders participating in each Trading Event. Whole Milk Powder is the largest volume offering in any year, and in 2017 attracted more than 231 successful bidders.

### More buyers, more sellers, more ways to connect

The inaugural GDT Buyers' Conference was held in Singapore in November.

It was great to meet with GDT participants and provide an opportunity for them to connect with each other.

Across both our online trading platforms — GDT Events and GDT Marketplace — we gained new sellers and buyers.

In addition to GDT Events gaining its first seller from Central Europe — Polish Dairy — we broadened the platform's scope of activity by establishing the first multi-seller pool for US lactose. This important development was in response to feedback from buyers and sellers who told us that they wanted a more up-to-date, reliable measure of the market price than is available through price surveys. We look forward to working with our stakeholders to identify other dairy products and markets where the multi-seller pool concept would add value.

Eighteen months since its launch, GDT Marketplace is on a strong growth path. There has been a significant increase in the number of products listed and number of sellers. At launch in June 2016, there was one seller. By the end of 2017 GDT Marketplace had 13 registered sellers.

### Future developments

The global dairy market is constantly evolving, as are the needs of our customers.

Just as our multi-seller lactose pool addresses requirements relating to the US market, we are also considering new ways to better meet the needs of European buyers and sellers. Preliminary feedback from customers in that region indicates that there could be merit in having local representation in-market, and a trading platform tailored to specific European requirements.

We are exploring the possibility of working with the European Energy Exchange (EEX) to set up and operate an auction mechanism for dairy products originating in Europe.

Another priority is the significant upgrade of the GDT Events platform, with the first phase of development scheduled for 2018. The upgrade will improve the customer experience by providing modern digital features and greater flexibility for users, such as making it easier to bid via smart phone or through the auto-bid facility.

Gaining early input from bidders is critical for the success of a project of this scale and ambition. This year, we have visited and completed in-depth interviews with 20 customers across China, South East Asia, the Middle East, Europe, USA, and South America. Their excellent input has informed the design of the new generation platform. Thank you also for the feedback provided by attendees of the GDT Buyers' Conference in November.

Global Dairy Trade was formed in 2008 to open up new opportunities for dairy trading. In 2018, as we approach the 10-year anniversary of formation, we will continue to search for more progressive ways to forge business connections for our customers and stakeholders, and promote efficient and fair trade in dairy and derivative markets globally.

Eric Hansen  
Director, Global Dairy Trade

## Growth of GDT Events

**GDT Events publishes credible, market-based reference prices for core dairy ingredients derived from twice-monthly online auctions. The platform provides an efficient and safe way for businesses to trade generic, large-volume products.**

During the nearly 10 years it has operated, GDT Events has facilitated the trade of more than US\$21 billion cumulative value of dairy products to buyers from over 80 countries.

More than 40 specifications of dairy ingredients are now offered and more than 6.3 million MT (14 billion pounds) of dairy ingredients have been traded — enough to fill 400,000 twenty-foot shipping containers.

Global Dairy Trade's growth strategy means we are always looking for new ways to enhance GDT Events' services, expand its role in online trading, and provide additional choices for those using the platform.

In 2017 we took some important steps towards expanding and improving the scope and quality of GDT Events' services.

Work has begun on a significant platform upgrade for GDT Events, which will provide the latest digital features and greater user flexibility. The first phase of the new generation platform is scheduled to begin in 2018.

In September, GDT Events' first multi-seller pool was announced. Three of the leading US lactose producers registered to participate in the pool, including Agropur Inc, Hilmar Ingredients and Valley Queen Cheese. Several other leading dairy producers have expressed interest in joining in 2018.

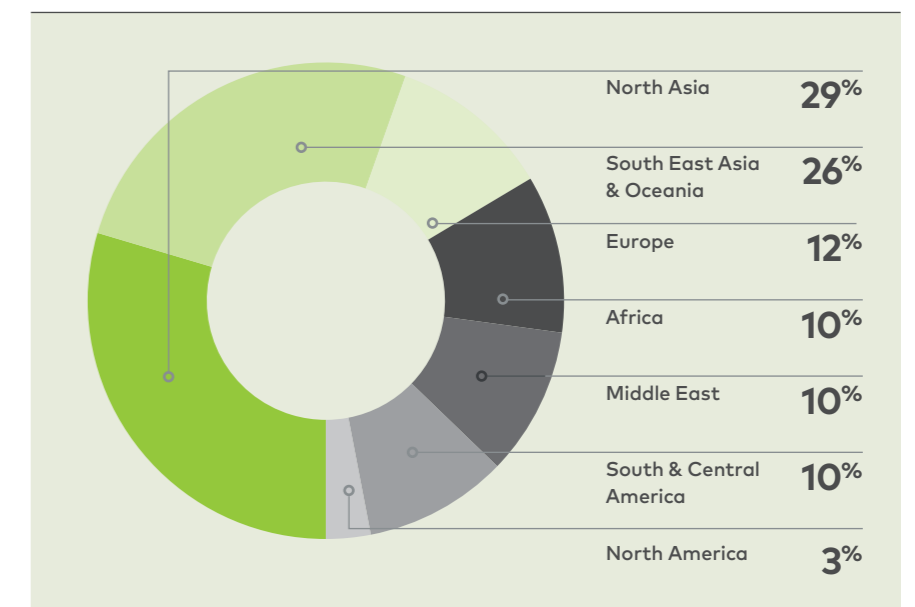
This service was established following consultation with US dairy buyers and sellers, exploring the feasibility of creating a multi-seller pool to offer supply of standard product specifications on GDT Events. While the identity of sellers participating in the pool is published, some individual information will remain confidential, such as whether a seller is participating in a particular Trading Event, or each seller's offer quantities. The first GDT Trading Event in which the lactose multi-seller pool participated was held on 5 December 2017.

Central Europe has become an increasingly important dairy region. Since it entered the European Union in 2004, Poland's dairy sector has developed at a rapid pace. It is now the fifth largest producer of milk in the EU.

In October, we welcomed Polish Dairy to GDT Events, offering a range of ingredients products aggregated from Polish producers. The company is initially offering skim milk powder and lactose, and participated in its first Trading Event on 21 November 2017.

Finding ways to better meet the needs of buyers and sellers of dairy products originating in Europe is the purpose of an agreement announced with the European Energy Exchange (EEX). The Letter of Intent provides for Global Dairy Trade and EEX to evaluate the possibility of setting up and operating an auction mechanism that would offer price discovery for dairy products originating from established European supply regions. Consultation with European stakeholders is underway and will continue into 2018.

### GDT Events Participating Bidders by Region



## Growth of GDT Marketplace

**GDT Marketplace acts like a global shop front, connecting buyers and sellers and allowing transactions of any dairy product at any time, with no minimum quantity constraints.**

In 2017, GDT Marketplace gained significant traction with its promise of providing a flexible, convenient 24/7 online trading platform attracting new buyers and sellers of dairy ingredients.

Here is how a typical transaction works. A seller lists 20MT of butter at a fixed price, and indicates they are willing to sell in quantities as low as 1.2MT (one full pallet) in specific markets. The seller includes as much or as little documentation and detail as they consider appropriate. Approved buyers who accept those terms can click to make the purchase. Contracting information such as insurance and freight rates specific to each buyer is contained within each listing. Other sellers might not specify a price, but instead offer product to would-be buyers by way of a tender.

GDT Marketplace grew strongly during 2017, with a significant increase of buyers and sellers over the year. At year end the platform had 263 registered buyers and 13 registered sellers from USA, Western Europe, Oceania, and Asia.

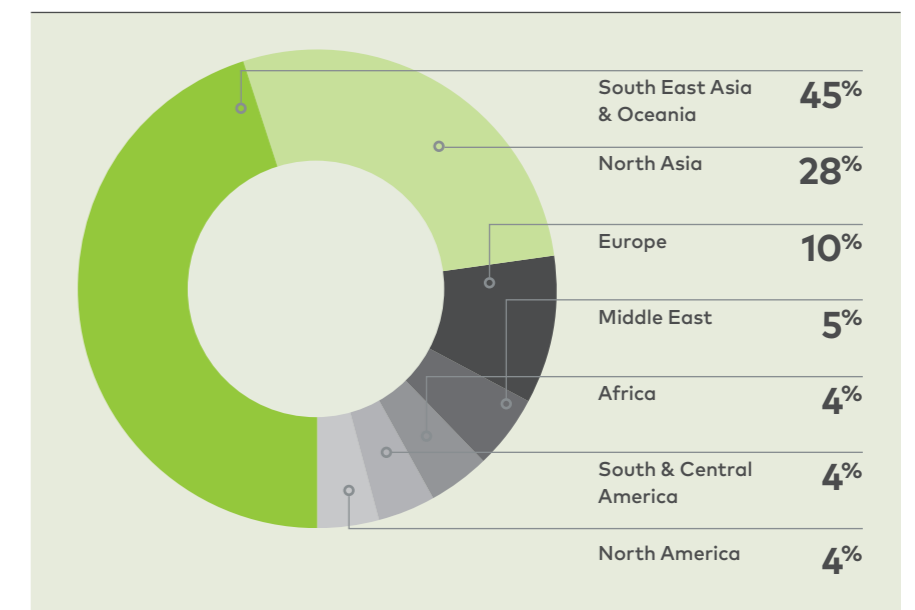
More than 3,400 listings were completed during 2017 across a broad product range from generic ingredients like whole milk powders and cheese to more specialist offerings such as flavoured milk powders, organic products, and calcium caseinates used in sports nutritional products.

Fonterra NZMP, our foundation seller at launch, continued to expand their product range on offer and 12 new sellers joined during the course of the year. Dairygold, a dairy supplier based in Ireland, was the first seller to join GDT Marketplace in 2017 and in April one of our early GDT Marketplace buyers also became a seller. Leading Singapore-based milk powder blending manufacturer, Asian Blending, announced its decision that it would offer premium chocolate and vanilla flavoured milk powders on GDT Marketplace. It cited the platform's reputation for providing a reliable, safe and secure way of conducting business as one of the reasons for deciding to register as a seller.

A few months later, the range of products on offer on GDT Marketplace expanded further when additional dairy ingredient suppliers announced their participation: Greenfields Ireland Ltd, representing suppliers from Ireland; Cayuga Milk Ingredients, a dairy co-operative from New York State, USA; Milligans Food Group Ltd, a New Zealand supplier of food ingredients; and CROPP Cooperative, a USA based supplier of organic dairy ingredients. Amul, a long-standing seller on GDT Events, also began offering product on GDT Marketplace in Q4. There are also many sellers who are in the onboarding stage or are listing privately.

Feedback from those using GDT Marketplace is that they value the platform's convenience and flexibility. Buyers value the opportunity to browse a wide range of dairy ingredients, seek new supply sources, and connect directly with sellers to ask questions. They also like being able to secure product immediately when approved for listings, access a new layer of pricing information, and gain visibility of forward supply.

### GDT Marketplace Registered Buyers by Region



# GDT Insight

**GDT Insight's purpose is to provide traders, analysts and dairy market participants with data from GDT Events that provides a rich understanding of market conditions.**

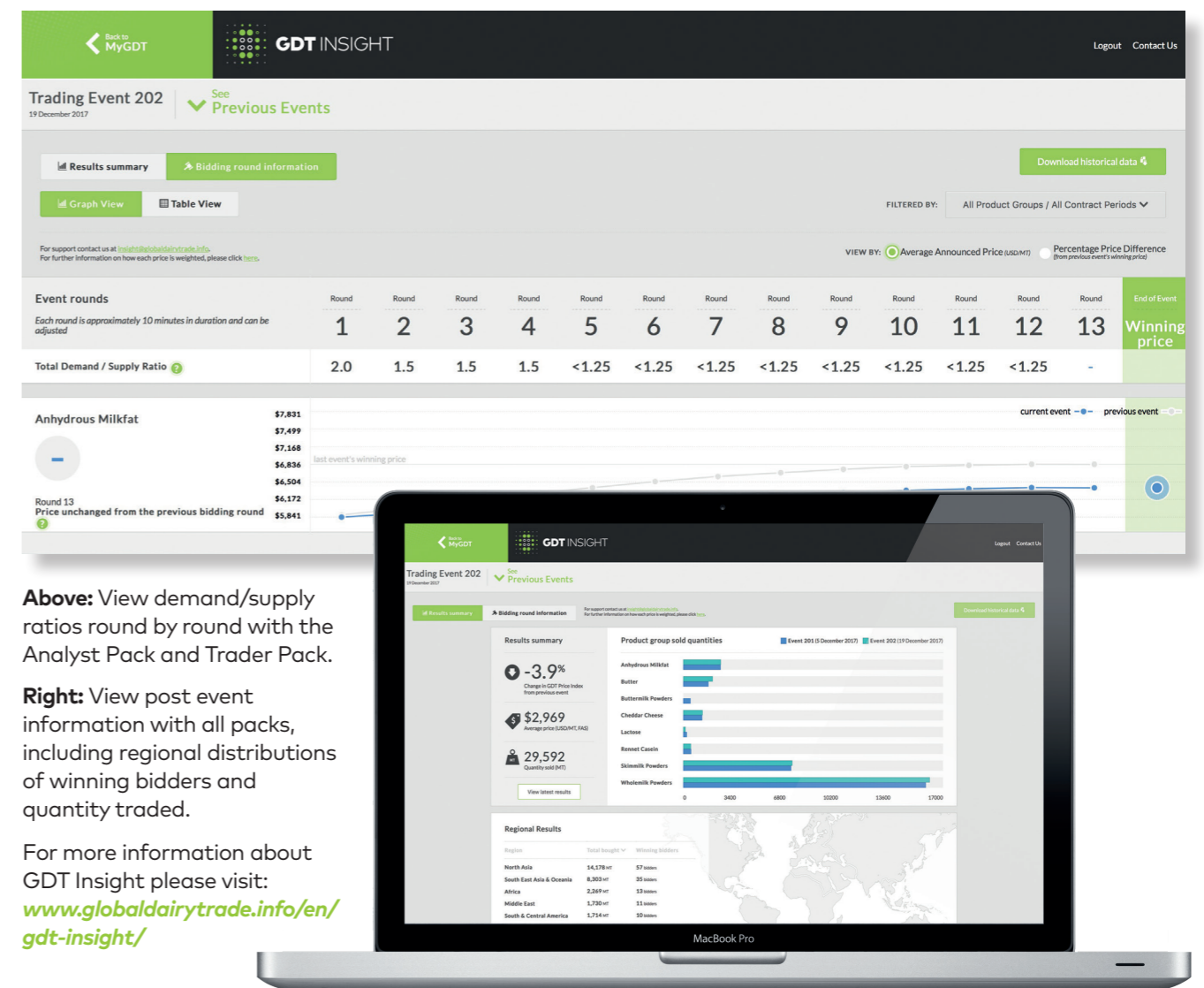
The subscription-only service was launched in 2016, and is offered at three levels of detail and price.

The Market Pack, which suits dairy buyers, sellers and commentators, provides after-the-event summary data that helps to identify trends at a glance. It provides visibility of traded quantities and the number of buyers by region, showing which markets are active during a specific Trading Event. It also provides data on the average price and traded quantity by product group, contract period and sellers.

The Analyst Pack, which suits analysts, commentators, fund managers and traders of derivatives and commodities, provides round-by-round data during each Trading Event delayed by 10 minutes, as well as the information in the Market Pack. Subscribers can gain market insights from round-by-round demand/supply ratios by product group, filter the information they need, and compare progress with the equivalent stages of the previous Trading Event. They can also review and analyse information with the online dashboard and comprehensive data file downloads.

The Trader Pack suits traders of currency, derivatives and commodities who are making time critical decisions. It includes the features of the Market Pack, plus the round-by-round Analyst Pack, with the added feature of no time delay. Subscribers can see each Trading Event unfold live, from their own insights and act immediately.

Feedback from subscribers has been positive. They value the data in supporting well-informed decisions, and appreciate the ability to gain a competitive advantage by accessing real time insight into emerging shifts in the GDT Price Index.



**Above:** View demand/supply ratios round by round with the Analyst Pack and Trader Pack.

**Right:** View post event information with all packs, including regional distributions of winning bidders and quantity traded.

For more information about GDT Insight please visit: [www.globaldairytrade.info/en/gdt-insight/](http://www.globaldairytrade.info/en/gdt-insight/)

# Connecting the GDT community

**Global Dairy Trade connects buyers and sellers of dairy products from more than 80 countries around the world through its online platforms: GDT Events and GDT Marketplace.**

This year for the first time, we provided the opportunity for businesses to further deepen their connections by meeting face-to-face with each other at our inaugural GDT Buyers' Conference. The event, held alongside the NZX Global Dairy Seminar brought together buyers and sellers from around the world with our own senior team, and members of the GDT Events Oversight Board during a series of presentations and networking sessions.

The conference was an invaluable opportunity to build business relationships. Buyers from 45 companies were able to meet with representatives from 12 sellers on GDT Events and GDT Marketplace.

Long-standing sellers on GDT Events — Fonterra NZMP, Arla, and Amul — were joined by Agropur and Hilmar from the recently formed US lactose pool. GDT Events' newest individual seller Polish Dairy also attended.

There was an equally strong turnout of GDT Marketplace sellers, with representation from Asian Blending, Cayuga Milk Ingredients, Dairygold, Greenfields, Milligans Food Group, and Fonterra NZMP.

The conference started with a comprehensive update on GDT Events and GDT Marketplace. This was followed by a networking session so buyers could engage directly with sellers to learn about their products. The conference agenda also included an overview on the GDT Events Oversight Board, and details on a major upgrade of the GDT Events platform.

Global Dairy Trade plans to stage further buyer conferences in different regions in the future.



# Oversight Board Chairman's Report



Bill Shields  
Chairman GDT Events  
Oversight Board

**The primary role of the GDT Events Oversight Board is to provide assurance that the trading platform operates within established rules and that we review those rules from time to time to ensure that they safeguard effective price discovery for major dairy ingredients.**

As detailed in last year's Annual Report, the Oversight Board had approved in October 2016 new governance principles for monitoring the operation of GDT Events. These were adopted to ensure that the conduct of the auction platform is consistent with best practice governance for providers of market-based reference prices.

The Oversight Board has now operated within these principles for over a year and it is pleasing to confirm that they are enhancing its monitoring role. The principles provide for regular audits and reviews, as well as for transparency on the methods used in the price discovery process. Importantly, the principles maintain anti-trust compliance, imbed market surveillance practices, and ensure that any conflicts of interest can be identified and disclosed.

The market surveillance requirements are outlined in Governance Principle 7 which places the following obligations on Global Dairy Trade:

- To maintain an appropriate monitoring regime to provide assurance that relevant GDT Trading Event Rules are complied with, and that reasonable methods to mitigate the risk of seller or bidder collusion are in place;
- Global Dairy Trade must provide a summary report annually of its market surveillance conclusions to the Oversight Board.

GDT Events' current control framework comprises a combination of system and manual controls, audits and active surveillance. These controls are documented and discussed at bi-monthly internal compliance committee meetings.

The 2017 surveillance assessment did not raise any material concerns regarding the behaviour of GDT Events participants.

There is also provision for an independent rulings panel to adjudicate on any disputes. The fact that the panel has not been called on is further testimony to the value of our governance principles.

As a result of the adoption of these governance principles and their enhancement of our oversight role, participants on GDT Events and stakeholders who use the prices determined by the platform can have confidence in both the processes involved and the outcomes.

The Oversight Board also has an important role to play in consulting on, considering and voting on rule changes designed to further enhance the transparency of operations and to enable additional services to be provided.

In August, the Board voted on changes to allow sellers to offer to supply standard product specifications in multi-seller pools on GDT Events. This paved the way for the launch of the US Lactose Pool in December this year.

It also voted on changes to cessation notifications. This introduces six months' notice of any decision to discontinue the GDT Events platform. It also requires seller's to provide six months' notice of their intention to cease offering products on GDT Events where that seller's winning prices are used to settle financial instruments. The benefit of this change is that it provides greater certainty to

buyers and the financial markets on ongoing supply.

A third change enhances the reporting of winning prices. Global Dairy Trade has increased the number of prices it can publish, reducing instances of "n.p." (not published) due to the winning prices being the same as starting prices. It now publishes prices that are deemed to be "market determined" because there has been sufficient bidding at some point during the Trading Event to cause the price for the product to increase above its starting price. This applies even if the subsequent demand response results in the price rolling back to the starting price. This rule change further strengthens the systems and processes used to ensure GDT Events provides credible reference prices for globally traded dairy ingredients.

This year we have also continued to review our governance framework and consider how future conduct might be enhanced for the benefit of all stakeholders.

As a first step, in November the Oversight Board voted to change our Charter to replace the current two-year term for Board members with a three-year term.

This is designed to increase membership continuity and enable the Board to build up relevant experience and knowledge over the longer term.

The Oversight Board continues to benefit from the collective knowledge of our buyer, seller and financial market members. All members have contributed to discussions on how the credibility of price discovery can be enhanced, and to the transparency and credibility of Global Dairy Trade's operations more broadly by drawing on their extensive understanding of both the physical and financial dairy markets.

My sincere thanks go to the members of the Board for their contribution this year. I know each of them is deeply committed to our oversight role and to maintaining confidence in the trading platform.

**Bill Shields**  
Chairman, GDT Events  
Oversight Board



# GDT Events Oversight Board – Member Representatives



**Bill Shields**  
CHAIRMAN

Bill is a Director of Queensland Treasury Corporation, and serves on the Audit Committee and Funding and Markets Committee. Previously he held senior economist and director roles at companies such as Macquarie Bank, Reserve Bank of Australia and the International Monetary Fund and the Treasury in Canberra.



**Blair Cole**  
DAIRYAMERICA

Blair has been the Sales Director for DairyAmerica's Asia Pacific markets since 2014. He has held several positions in commodity businesses including Business Development Manager Brands, Regional Sales Manager Ingredients and Manager Origination.



**Kishoresinh Jhala**  
AMUL

Kishoresinh is the Chief Operating Officer of Gujarat Co-operative Milk Marketing Federation Ltd (GCMMF). Mr. Jhala joined GCMMF in 1986 and has assumed various responsibilities in sales and marketing over the last 30 years, including the role of Chief General Manager.



**Nick Morris**  
NZX

Nick joined NZX in 2016. He has a background in currency markets having worked at BNZ in a variety of FX related roles. Prior to this Nick worked as a macro-economic analyst at Medley Global Advisers. As Head of Derivatives Nick leads the development of NZX's derivatives market including NZ Milk Price Futures & Options, commodity and equity derivatives.



**Thomas Carstensen**  
ARLA

Thomas is the Senior Vice President of Milk and Trading at Arla Foods amba, where he has had overall responsibility for Arla Foods amba's global B2B activities, milk planning and sourcing within dairy raw materials since 2010. Thomas joined Arla Foods amba in 1983 and has held several management positions including the Business Unit Director for Arla Foods Ingredients and a four-year position in the Middle East.



**Naval Sabri**  
OLAM INTERNATIONAL

Naval is the Vice President of Dairy Operations at Olam International Limited. Naval has been associated with Olam for the last 11 years and has worked in various roles in Africa, the Middle East, South America and Asia covering dairy sourcing, trading, processing and marketing of dairy ingredients and consumer products.



**Robert Chesler**  
INTL FCSTONE

Robert is the Vice President of the Foods Group and Head of Dairy Products within the FCM Division of INTL FCStone Financial Inc. Robert has focused on dairy price risk management since 2004. Today his global team operates throughout 40 offices worldwide servicing clients with market analysis, advisory and execution.



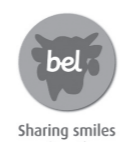
**Nigel Brunel**  
OM FINANCIAL

Nigel is the Director of Institutional Commodities for OM Financial Ltd. He has over 30 years' experience in financial markets – mainly in derivatives. His responsibilities include managing the Auckland, Wellington and Sydney dealing rooms and he sits on the management team. His main dealing focus day to day are the Dairy, Carbon and Power markets.



**Didier Messein**  
FROMAGERIES BEL S.A.

Didier is the Global Sourcing Manager Proteins for Fromageries Bel. The range of responsibilities he has held since 1997 cover Area Sales Management and both buying and purchasing roles.



**Josh Sigmund**  
FONTERRA

Josh is the Director, Ingredients Sales & Operations Planning. For the past 17 years, Josh has worked in the New Zealand dairy industry and with Fonterra since its establishment in 2001. During this time, he has held roles across the value chain including manufacturing, product development, category management, and sales and operations planning.



**Roberto Bustamante**  
GLORIA S.A.

Roberto is the Logistics Corporate Director of Gloria S.A. (Peru) and General Manager of Lechera Andina SA (Ecuador). He is highly experienced in the fields of logistics and operations management, international financial trade tariffs and bi-national agreements.



**PT Joseph**  
KUWAIT DANISH DAIRY COMPANY

# Financial Markets

**Over 200 Trading Events and almost 10 years of operation, GDT Events stands secure as a provider of trusted and credible market-based reference prices for globally traded dairy products.**

GDT Events data are enabling dairy producers, buyers and sellers to better understand and identify market trends by tracking prices, volumes and buyer participation by region, historically or following each Trading Event.

Global Dairy Trade's development in 2008 broke new ground by providing the first means of discovering the true market prices of dairy commodities. At the same time GDT Events opened the door to the development of financial tools to enable the management of price risks on internationally traded dairy commodities, such as NZX's Dairy Derivatives which became available from 2010.

These tools brought dairy in line with other commodities. Dairy futures and options allow purchasers and manufacturers to effectively mitigate risk in the same way as buyers have used commodity futures for sugar, coffee and cocoa for many years to smooth price fluctuations using long and short-term contracts.

Derivatives provide another window into pricing between Trading Events or beyond the contract periods available on GDT Events. For example, GDT Events provides prices for product

shipped in five months, where the futures market provides prices out to 18 months. This enables those managing risk to take a longer term view.

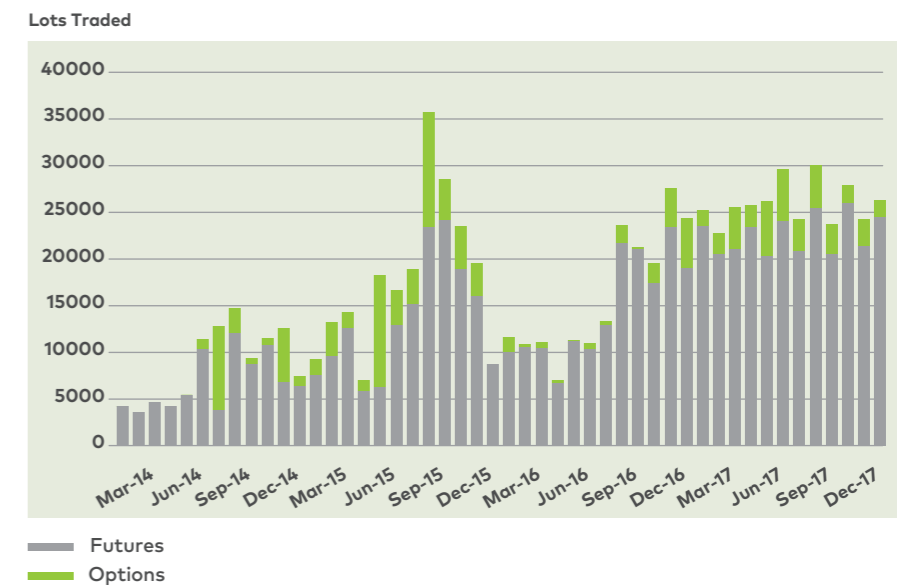
In 2017 the NZX dairy derivatives market expanded its global reach with a 60% increase in unique end users participating in its market. This included trading from Oceania, Asia, Europe, North and South America. In addition to this, countries as far afield as Uruguay, Norway, Nigeria and Costa Rica have started trading NZX dairy derivatives reinforcing the growing global reach of dairy futures and options contracts.

NZX continued to extend its product suite in 2017, with the addition of Skim Milk Powder (SMP) Options which were released in December, allowing traders greater flexibility to manage dairy commodity price risk. NZX now has eight dairy derivative contracts, including SMP, Whole Milk Powder (WMP), Anhydrous Milk Fat (AMF) and Butter (BTR) futures contracts, and SMP and WMP option contracts. In 2016, NZX also launched NZ Milk Price Futures & Options, which are liquid milk contracts. Six of these eight contracts are cash settled using GDT Events' robust settlement pricing.

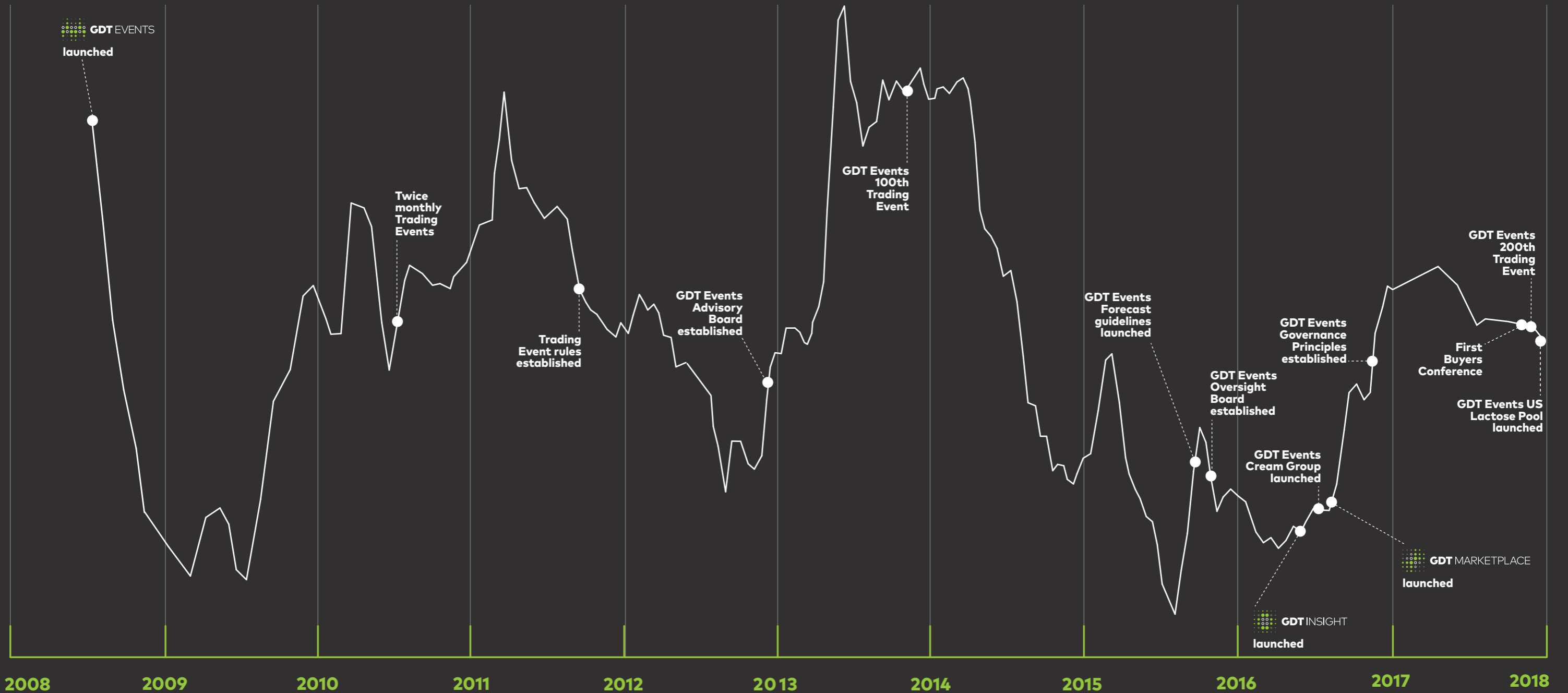
Also in 2017 the NZX dairy derivatives market achieved its highest trading year on record with trading volumes up 57% on 2016 to 311,675 lots. In November, trading on the market topped USD\$1 billion in annual notional value traded for the first time. The growing demand for price risk management tools was also reflected in the record attendance at NZX's annual Global Dairy Seminar in Singapore. GDT and NZX collaborated at the 2017 seminar holding an inaugural GDT Buyers' Conference ahead of NZX's annual event.

As knowledge and demand for price risk management tools develops, growth in the NZX dairy derivatives market is on track to accelerate in 2018. This will be aided by the extension of market trading hours to 20 hours from 14 hours, and the addition of calendar spread functionality. The reliability of GDT Events as a pricing mechanism will also ensure continued growth in NZX's product suite.

## NZX Dairy Derivatives Volume



To learn more about NZX Dairy Derivatives please visit: [www.nzx.com/derivatives](http://www.nzx.com/derivatives)



# The History of Global Dairy Trade

## KEY MILESTONES

The white line in the diagram above maps the GDT Price Index since launch of GDT Events in 2008 and identifies the key milestones along the way.

GLOBAL DAIRY TRADE SELLERS			
GDT EVENTS		GDT MARKETPLACE	
Jul 2008	Fonterra NZMP	Jun 2016	Fonterra NZMP
Apr 2012	Arla	Mar 2017	Dairygold
Jun 2013	Amul	Apr 2017	Asian Blending
Apr 2015	Arla Foods Ingredients	Oct 2017	Greenfields representing Irish sellers
Nov 2017	Polish Dairy	Oct 2017	Milligans Food Group Ltd
Dec 2017	Agropur Inc <sup>1</sup>	Nov 2017	CROPP Cooperative
Dec 2017	Hilmar Ingredients <sup>1</sup>	Dec 2017	Amul
Dec 2017	Valley Queen Cheese <sup>1</sup>	Dec 2017	Cayuga Milk Ingredients
Total registered sellers: 8		Total registered sellers: 13*	

<sup>1</sup> US Lactose Pool  
\* Total includes sellers in the onboarding phase or that are listing privately

## GDT Event Statistics to 31 December 2017

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The following pages  
present GDT Event  
statistics to  
31 December 2017.

Please note, GDT Event Statistics  
includes data from GDT Events,  
but does not include data from  
GDT Marketplace.

Further information is  
available through GDT Insight  
[www.globaldairytrade.info/en/gdt-insight/](http://www.globaldairytrade.info/en/gdt-insight/)

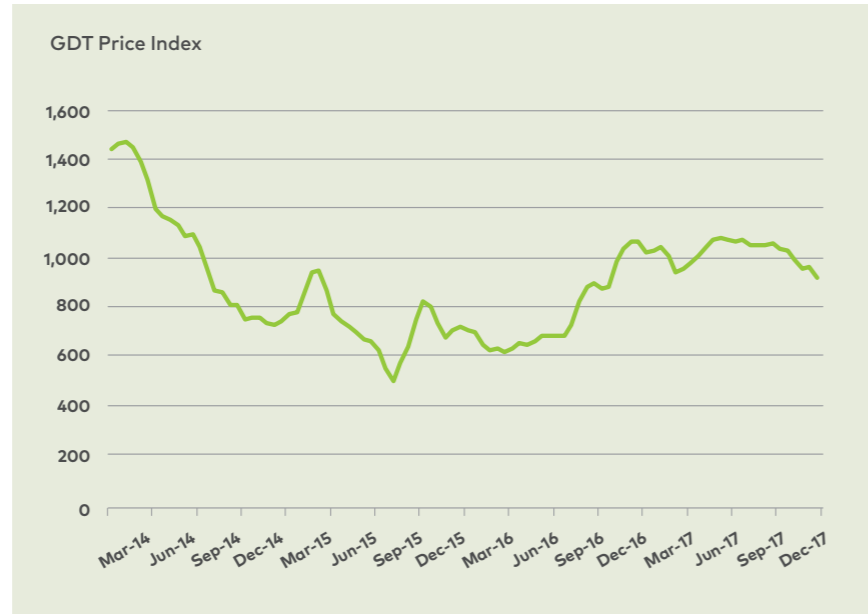
For any queries please contact  
[help@globaldairytrade.info](mailto:help@globaldairytrade.info)

## GDT Price Index

The average GDT Price Index in 2017 was 32% higher than 2016, reaching a 36-month high in June. The year end Index value of 935 fell below the long term average of 999.

This chart shows how the prices of products traded on GDT Events have evolved over time, where price changes are weighted by quantities sold.

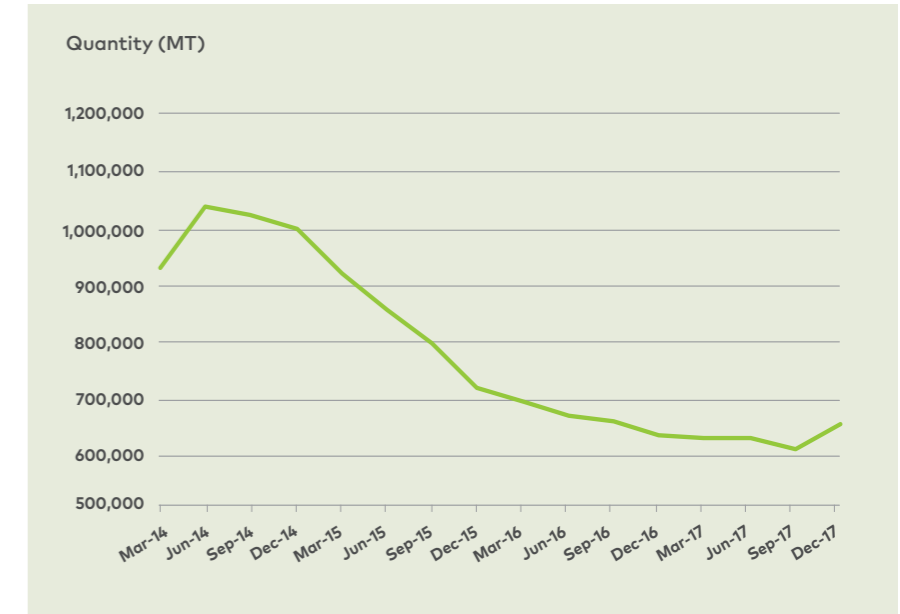
Further information on the GDT Price Index is available at [www.globaldairytrade.info/en/gdt-events/how-gdt-events-work/reference-material/](http://www.globaldairytrade.info/en/gdt-events/how-gdt-events-work/reference-material/)



Date	GDT Price Index	Date	GDT Price Index
Jan-16	718	Jan-17	1,034
Jan-16	708	Jan-17	1,040
Feb-16	656	Feb-17	1,054
Feb-16	638	Feb-17	1,020
Mar-16	646	Mar-17	955
Mar-16	628	Mar-17	972
Apr-16	641	Apr-17	987
Apr-16	666	Apr-17	1,018
May-16	656	May-17	1,055
May-16	674	May-17	1,089
Jun-16	697	Jun-17	1,096
Jun-16	696	Jun-17	1,086
Jul-16	694	Jul-17	1,082
Jul-16	693	Jul-17	1,084
Aug-16	739	Aug-17	1,067
Aug-16	833	Aug-17	1,063
Sep-16	898	Sep-17	1,066
Sep-16	913	Sep-17	1,075
Oct-16	885	Oct-17	1,050
Oct-16	898	Oct-17	1,039
Nov-16	1,001	Nov-17	1,003
Nov-16	1,046	Nov-17	969
Dec-16	1,082	Dec-17	973
Dec-16	1,076	Dec-17	935

## 12-month Quantity Traded

12-month quantity traded rose to 654,404 MT in 2017.



Date	12-month Quantity Traded (MT)	Date	12-month Quantity Traded (MT)
Mar-14	932,886	Mar-16	697,888
Jun-14	1,038,204	Jun-16	673,219
Sep-14	1,025,216	Sep-16	661,358
Dec-14	1,000,947	Dec-16	636,401
Mar-15	921,748	Mar-17	631,023
Jun-15	859,119	Jun-17	633,885
Sep-15	798,609	Sep-17	613,417
Dec-15	719,810	Dec-17	654,404

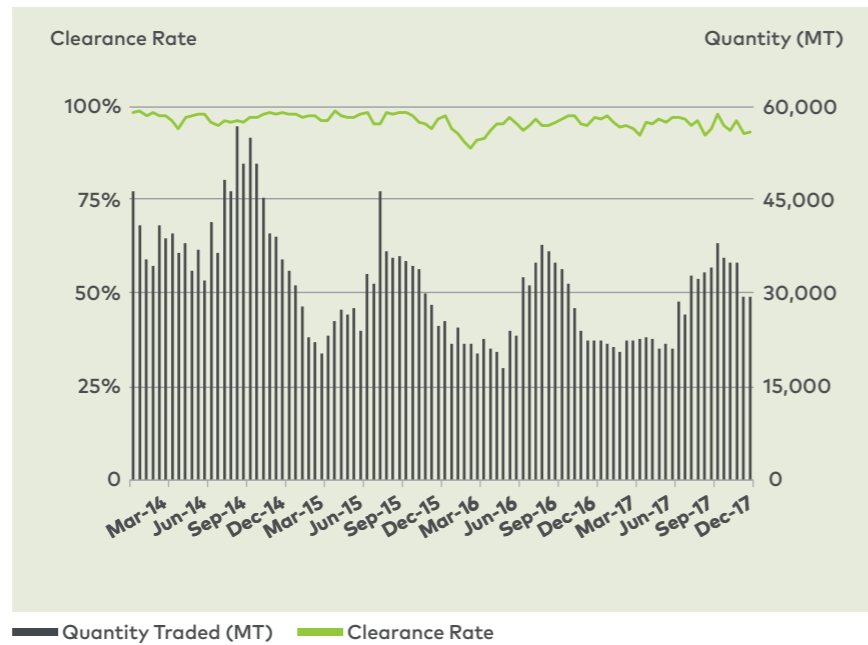
## Clearance Rate

### Over 2017, GDT Trading Event average clearance rate was 96%

This chart shows that the clearance rate is robust during peaks and troughs in trading quantity.

The clearance rate is quantity traded divided by maximum supply offered.

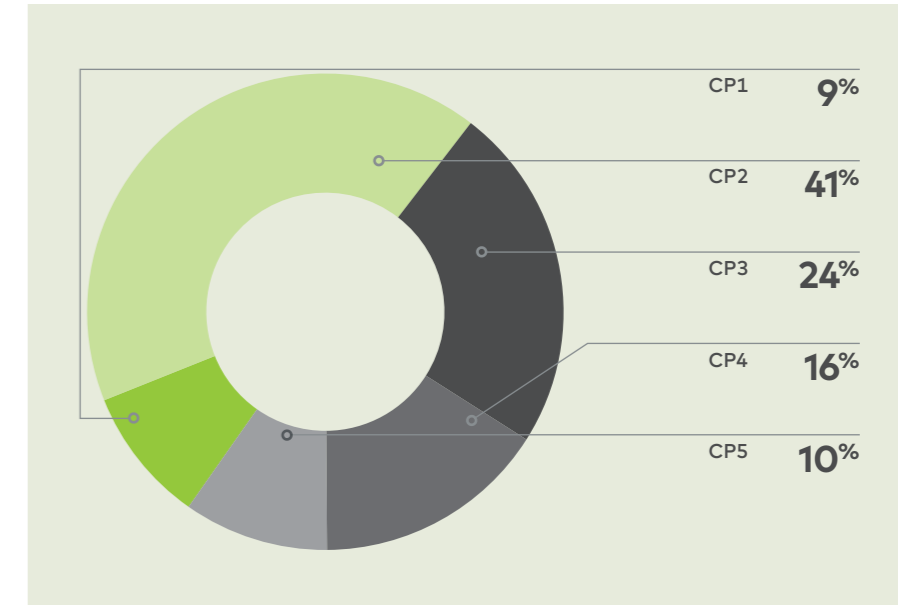
Maximum supply has been adjusted for the Cream Group to avoid double counting available quantity.



Date	Quantity Traded (MT)	Clearance Rate	Date	Quantity Traded (MT)	Clearance Rate
Jan-16	25,671	98%	Jan-17	22,396	97%
Jan-16	21,930	94%	Jan-17	22,030	98%
Feb-16	24,474	93%	Feb-17	21,273	96%
Feb-16	22,021	91%	Feb-17	20,479	95%
Mar-16	21,880	89%	Mar-17	22,328	95%
Mar-16	20,406	91%	Mar-17	22,498	94%
Apr-16	22,682	92%	Apr-17	22,642	93%
Apr-16	21,206	94%	Apr-17	22,927	96%
May-16	20,615	96%	May-17	22,633	96%
May-16	18,113	96%	May-17	21,236	97%
Jun-16	24,046	98%	Jun-17	22,004	96%
Jun-16	23,089	96%	Jun-17	21,171	97%
Jul-16	32,500	94%	Jul-17	28,574	98%
Jul-16	31,348	95%	Jul-17	26,688	97%
Aug-16	34,928	97%	Aug-17	32,768	95%
Aug-16	37,766	95%	Aug-17	32,260	97%
Sep-16	36,748	95%	Sep-17	33,501	93%
Sep-16	35,086	96%	Sep-17	34,117	94%
Oct-16	33,937	97%	Oct-17	37,990	98%
Oct-16	31,525	98%	Oct-17	35,669	96%
Nov-16	27,735	98%	Nov-17	35,072	94%
Nov-16	23,902	96%	Nov-17	35,042	97%
Dec-16	22,472	95%	Dec-17	29,514	93%
Dec-16	22,321	98%	Dec-17	29,592	94%

## Quantity Traded by Contract Period, 2017

In line with previous years, the most active contract period was CP2, which is the contract period used as settlement for NZX Dairy Derivatives.



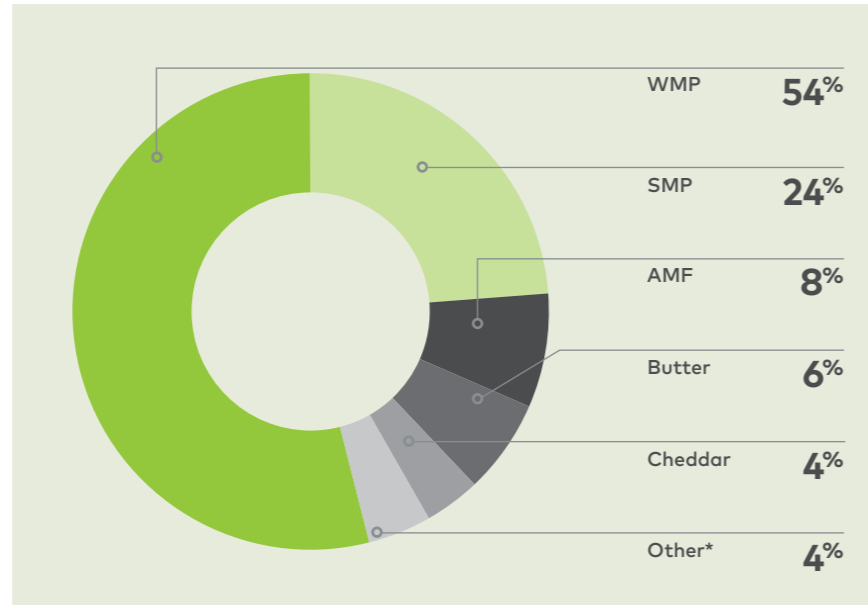
Contract Period*	Quantity Traded (% of Total)
CP1	9%
CP2	41%
CP3	24%
CP4	16%
CP5	10%

\* Contract Period (CP), refers to the month when product is shipped. Product traded in CP1 is shipped in the month after the Trading Event when it was purchased, CP2 is shipped two months after, etc.

## Quantity Traded by Product Group, 2017

The main milk powders, WMP and SMP, accounted for 78% of quantity traded.

AMF, Butter and Cheddar represented a further 18% of sales.



Product Group	Quantity Traded (% of Total)
WMP	54%
SMP	24%
AMF	8%
Butter	6%
Cheddar	4%
Other*	4%

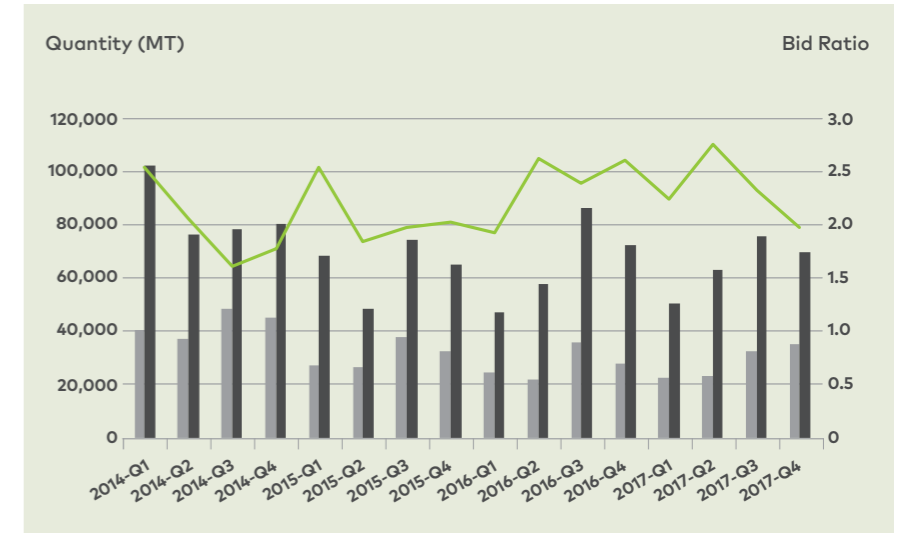
\*Other includes BMP, Lactose and RenCas

## Quarterly Average Supply and Demand

2017 bid ratios peaked in Q2 and declined in the second half of the year as supply increased. The bid ratio averaged 2.3 for the year.

The bid ratio is calculated by dividing first round bidding demand by maximum supply.

Maximum supply has been adjusted for the Cream Group to avoid double counting available quantity.



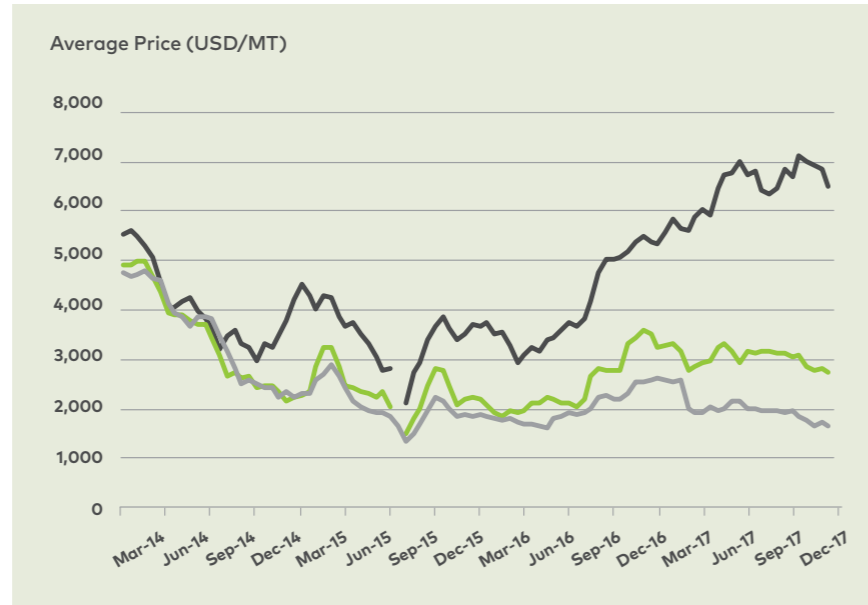
■ Quarterly Average Maximum Supply (MT)  
■ Quarterly Average First Round Bidding Demand (MT)  
— Bid Ratio

Date	Quarterly Average Maximum Supply (MT)	Quarterly Average First Round Bidding Demand (MT)	Bid Ratio
2014-Q1	40,206	102,673	2.6
2014-Q2	37,240	76,793	2.1
2014-Q3	48,622	78,435	1.6
2014-Q4	45,102	80,300	1.8
2015-Q1	26,977	68,767	2.5
2015-Q2	26,317	48,575	1.8
2015-Q3	37,606	74,168	2.0
2015-Q4	32,180	65,397	2.0
2016-Q1	24,472	47,309	1.9
2016-Q2	21,936	57,584	2.6
2016-Q3	35,943	86,166	2.4
2016-Q4	27,544	72,171	2.6
2017-Q1	22,536	50,558	2.2
2017-Q2	22,810	63,086	2.8
2017-Q3	32,389	75,516	2.3
2017-Q4	35,116	69,650	2.0

## Average Price: AMF, SMP and WMP

Average prices in 2017 were higher with AMF up 58%, SMP up 3% and WMP up 25%. AMF reached an all time high of \$7,119 USD/MT in October.

This chart shows average AMF, SMP and WMP prices across all product specifications and sellers for short-term contract periods (CP1 and CP2), weighted by quantity traded.



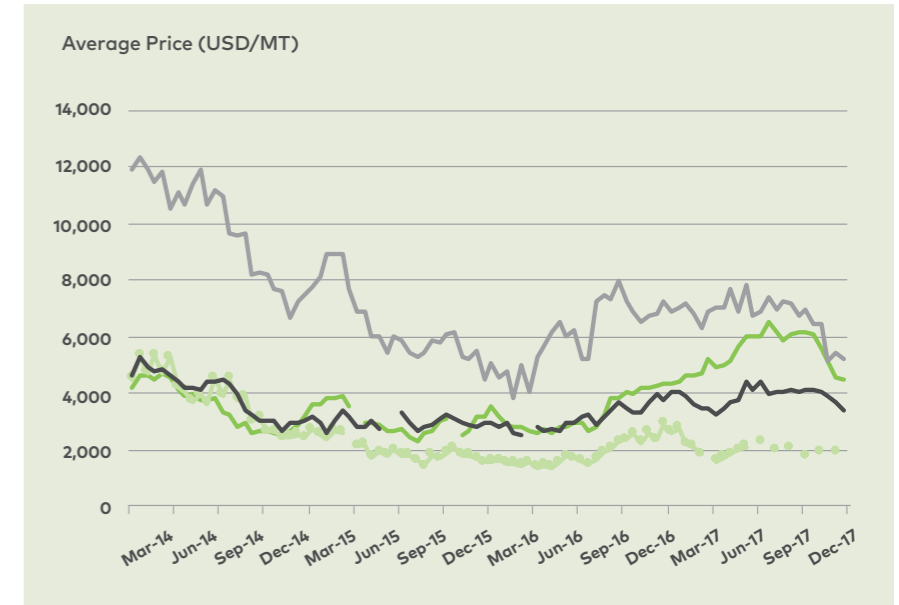
— AMF — SMP — WMP

Date	AMF (USD/MT)	SMP (USD/MT)	WMP (USD/MT)	Date	AMF (USD/MT)	SMP (USD/MT)	WMP (USD/MT)
Jan-17	5,341	2,623	3,243	Jul-17	6,714	2,025	3,149
Jan-17	5,551	2,571	3,275	Jul-17	6,791	2,001	3,143
Feb-17	5,828	2,558	3,305	Aug-17	6,406	1,953	3,174
Feb-17	5,652	2,586	3,170	Aug-17	6,362	1,950	3,149
Mar-17	5,606	2,020	2,764	Sep-17	6,472	1,949	3,122
Mar-17	5,887	1,926	2,856	Sep-17	6,846	1,922	3,141
Apr-17	6,050	1,912	2,945	Oct-17	6,674	1,959	3,052
Apr-17	5,916	2,035	2,984	Oct-17	7,119	1,850	3,073
May-17	6,455	1,971	3,259	Nov-17	7,014	1,789	2,852
May-17	6,732	1,996	3,322	Nov-17	6,917	1,666	2,793
Jun-17	6,765	2,162	3,161	Dec-17	6,828	1,743	2,823
Jun-17	7,020	2,175	2,951	Dec-17	6,514	1,657	2,742

## Average Prices: Butter, BMP, Cheddar and RenCas

Average prices in 2017 were higher with Butter up 64%, BMP up 10%, Cheddar up 24% and RenCas up 12%. Butter reached an all time high in July of \$6,537 USD/MT.

This chart shows average Butter, BMP, Cheddar and RenCas prices across all product specifications and sellers for short-term contract periods (CP1 and CP2), weighted by quantity traded.



— Butter — BMP — Cheddar — RenCas

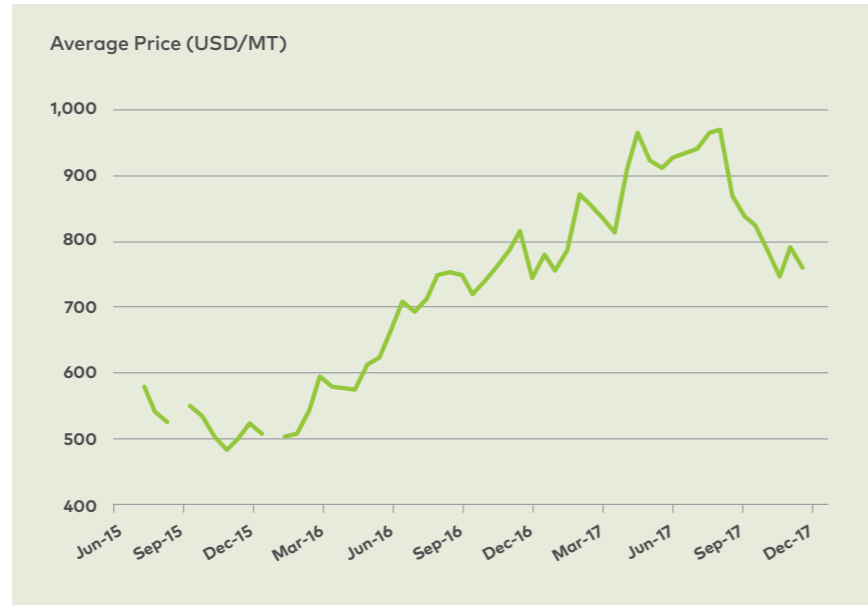
Date	Butter (USD/MT)	BMP (USD/MT)	Cheddar (USD/MT)	RenCas (USD/MT)	Date	Butter (USD/MT)	BMP (USD/MT)	Cheddar (USD/MT)	RenCas (USD/MT)
Jan-17	4,345	2,617	4,031	6,893	Jul-17	5,977	2,262	4,405	6,845
Jan-17	4,400	2,765	4,010	6,997	Jul-17	6,537	-	3,976	7,417
Feb-17	4,632	2,207	3,860	7,189	Aug-17	6,134	2,000	4,076	6,975
Feb-17	4,592	2,090	3,571	6,780	Aug-17	5,861	-	4,024	7,253
Mar-17	4,720	1,858	3,453	6,277	Sep-17	6,089	2,024	4,116	7,186
Mar-17	5,206	-	3,453	6,859	Sep-17	6,119	-	4,044	6,708
Apr-17	4,944	1,576	3,261	7,043	Oct-17	6,186	1,758	4,112	6,985
Apr-17	4,971	1,720	3,436	7,045	Oct-17	6,084	-	4,123	6,451
May-17	5,104	1,860	3,643	7,653	Nov-17	5,599	1,916	4,028	6,411
May-17	5,671	1,980	3,721	6,867	Nov-17	5,108	-	3,871	5,167
Jun-17	5,974	2,108	4,413	7,828	Dec-17	4,529	1,877	3,704	5,408
Jun-17	6,022	-	4,117	6,699	Dec-17	4,462	-	3,354	5,172



## Average Price: Lactose

The average price of lactose was 22% higher in 2017 and reached an all time high of \$971 USD/MT in June.

This chart shows average lactose prices across all product specifications and sellers for short-term contract periods (CP1 and CP2), weighted by traded quantity.



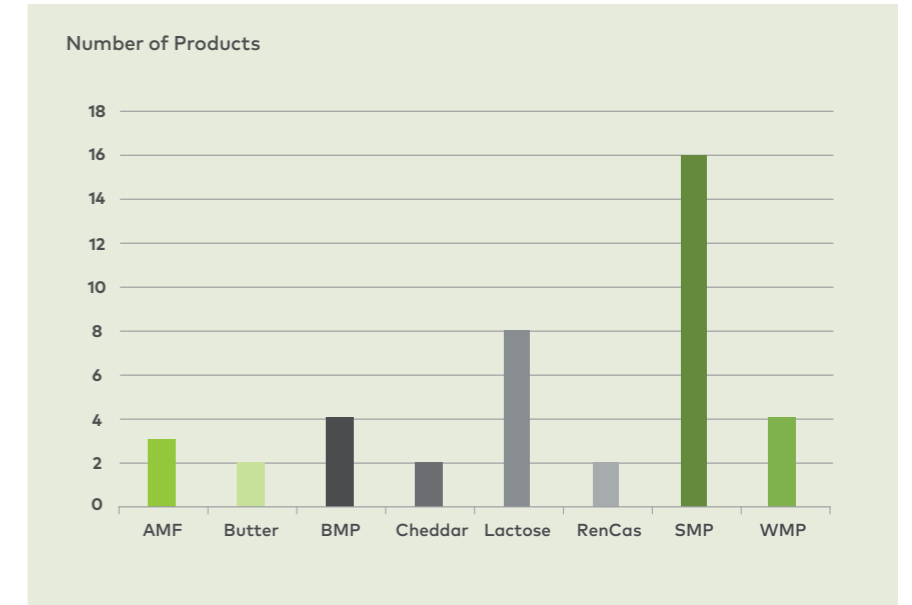
Lactose

Date	Lactose (USD/MT)	Date	Lactose (USD/MT)	Date	Lactose (USD/MT)	Date	Lactose (USD/MT)
Jan-16	594	Jul-16	750	Jan-17	836	Jul-17	839
Jan-16	579	Jul-16	721	Jan-17	813	Jul-17	825
Feb-16	577	Aug-16	741	Feb-17	910	Aug-17	787
Feb-16	574	Aug-16	763	Feb-17	966	Aug-17	747
Mar-16	613	Sep-16	787	Mar-17	924	Sep-17	791
Mar-16	624	Sep-16	815	Mar-17	913	Sep-17	759
Apr-16	661	Oct-16	744	Apr-17	927	Oct-17	-
Apr-16	708	Oct-16	780	Apr-17	935	Oct-17	-
May-16	693	Nov-16	755	May-17	941	Nov-17	-
May-16	713	Nov-16	787	May-17	967	Nov-17	-
Jun-16	750	Dec-16	873	Jun-17	971	Dec-17	-
Jun-16	754	Dec-16	857	Jun-17	869	Dec-17	-

## Products Offered, 2017

Registered sellers and products increased over 2017. The largest increase was seen in the lactose product group, rising from 3 to 8 products offered. The largest offering is in the SMP product group due to the large number of supply regions.

This chart shows the number of product specifications offered per product group.

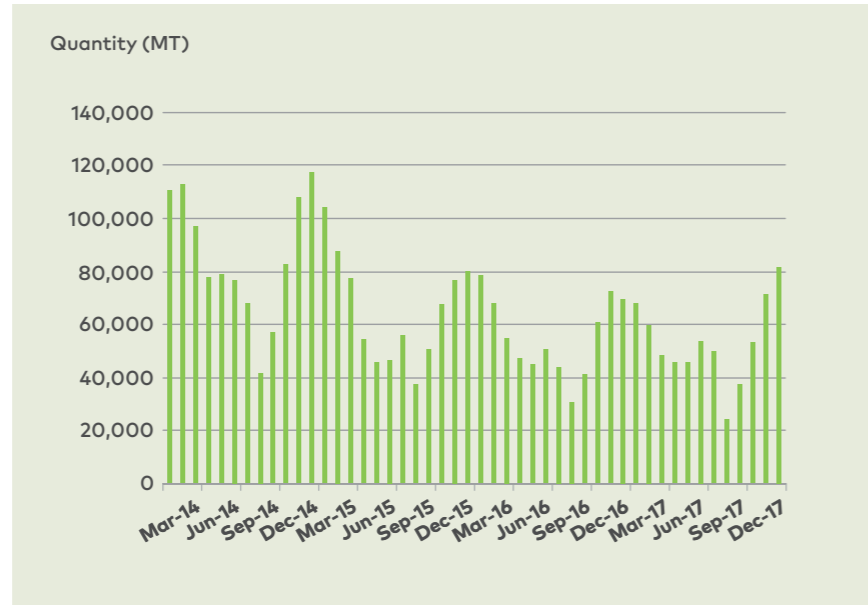


Product Group	Products
AMF	3
Butter	2
BMP	4
Cheddar	2
Lactose	8
RenCas	2
SMP	16
WMP	4

## Shipment Profile

The seasonal pattern shows peak shipment quantities around the end of each calendar year.

This chart shows the seasonal profile of shipments for all products traded on GDT Events from 2014 to 2017.



Month	Quantity Shipped During Month (MT)	Month	Quantity Shipped During Month (MT)
Jan-14	110,673	Jan-16	78,615
Feb-14	112,629	Feb-16	67,945
Mar-14	96,983	Mar-16	54,867
Apr-14	77,759	Apr-16	47,409
May-14	78,957	May-16	44,843
Jun-14	76,844	Jun-16	50,504
Jul-14	67,819	Jul-16	43,879
Aug-14	41,605	Aug-16	31,041
Sep-14	57,103	Sep-16	41,007
Oct-14	82,546	Oct-16	60,650
Nov-14	108,134	Nov-16	72,288
Dec-14	117,424	Dec-16	69,848
Jan-15	104,014	Jan-17	68,168
Feb-15	87,878	Feb-17	59,825
Mar-15	77,353	Mar-17	48,418
Apr-15	54,512	Apr-17	45,373
May-15	45,609	May-17	45,851
Jun-15	46,444	Jun-17	53,682
Jul-15	55,746	Jul-17	49,857
Aug-15	37,218	Aug-17	24,040
Sep-15	50,531	Sep-17	37,226
Oct-15	67,500	Oct-17	53,121
Nov-15	76,811	Nov-17	71,408
Dec-15	80,242	Dec-17	81,456

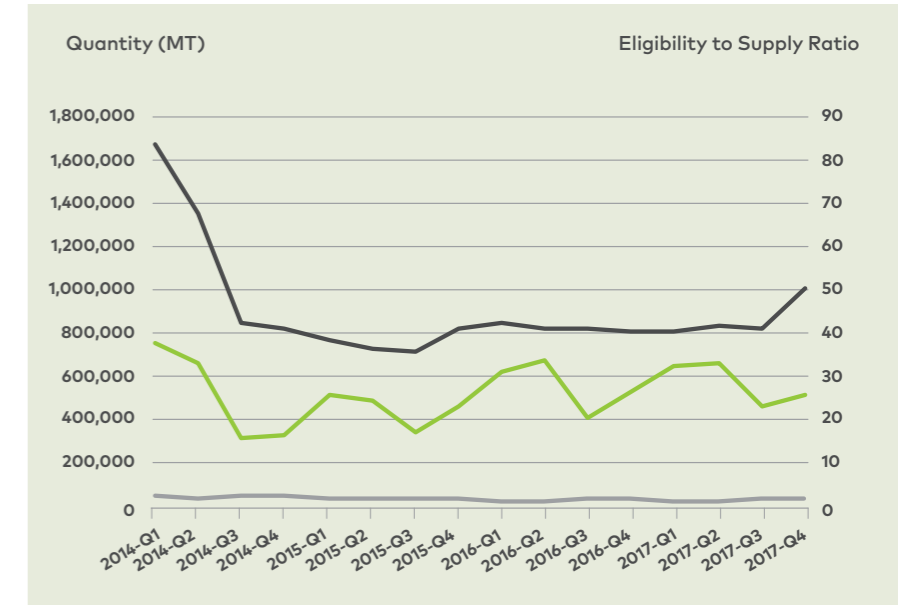
## Bidder Eligibility and Maximum Supply

The average eligibility to supply ratio was 32 over 2017, indicating that bidders potentially could bid 32 times supply.

The eligibility to supply ratio indicates how much eligibility in MT is available per MT of supply.

Each seller determines which bidders can purchase their products by assigning eligibility (the maximum quantity they are willing to sell to each bidder). Quarterly average eligibility represents the quarterly average maximum quantity all bidders could bid across all products.

Maximum supply has been adjusted for the Cream Group to avoid double counting available quantity.



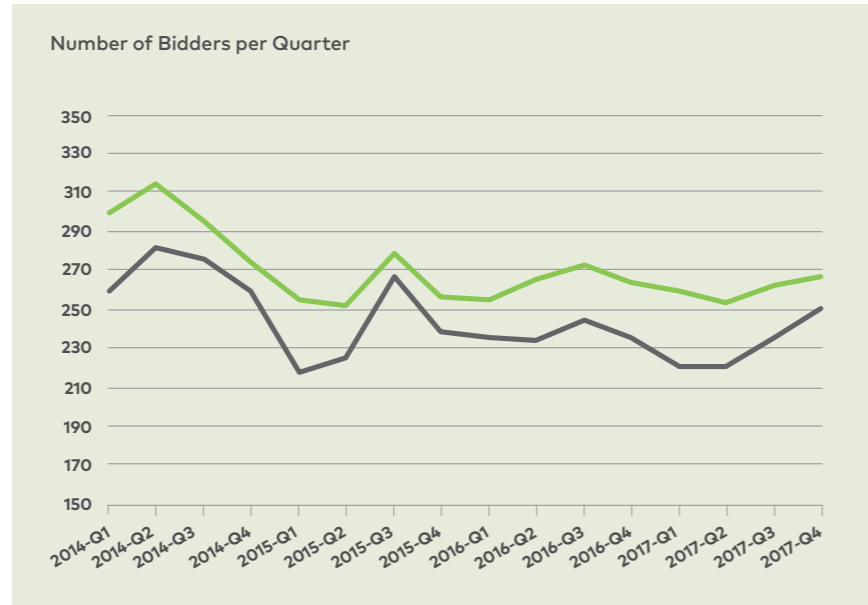
Eligibility to Supply Ratio  
 Quarterly Average Maximum Supply (MT)  
 Quarterly Average Eligibility (MT)

Date	Quarter Average Eligibility (MT)	Quarterly Average Maximum Supply (MT)	Eligibility to Supply Ratio
2014-Q1	1,671,745	40,206	42
2014-Q2	1,355,784	37,240	36
2014-Q3	838,402	48,622	17
2014-Q4	816,275	45,102	18
2015-Q1	758,188	26,977	28
2015-Q2	718,773	26,317	27
2015-Q3	713,545	37,606	19
2015-Q4	820,845	32,180	26
2016-Q1	844,187	24,472	34
2016-Q2	815,013	21,936	37
2016-Q3	819,060	35,943	23
2016-Q4	803,817	27,544	29
2017-Q1	805,854	22,536	36
2017-Q2	831,710	22,810	36
2017-Q3	823,374	32,389	25
2017-Q4	1,001,694	35,116	29

## Participating and Winning Bidders

**Participating bidders per quarter were stable during 2017, averaging 260 across 2017. Winning bidders averaged 232.**

This chart shows quarterly participating bidders and winning bidders. Participating bidders are unique bidders who placed a bid in round 1 of a Trading Event. Winning bidders are participating bidders that won product.



— Participating Bidders  
— Winning Bidders

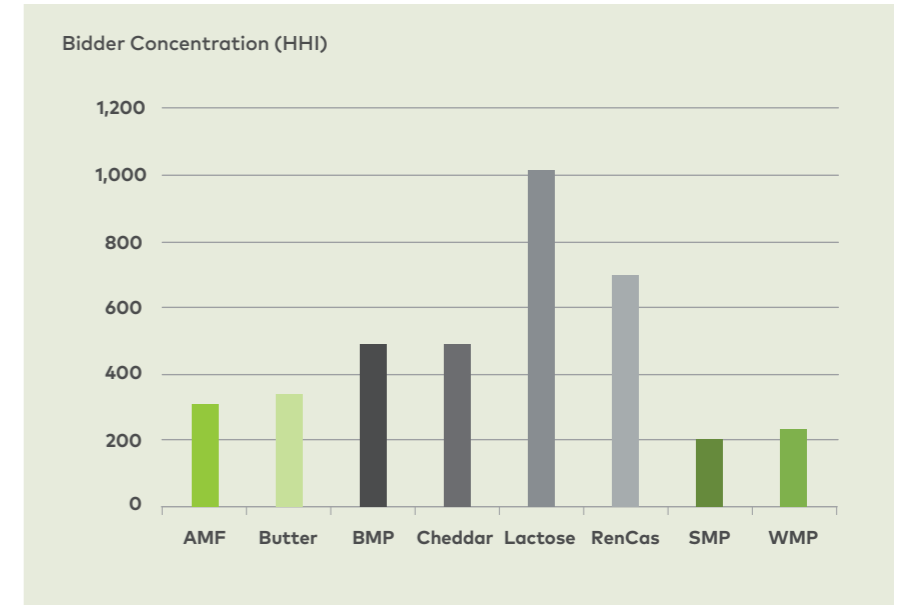
Date	Participating Bidders	Winning Bidders	Date	Participating Bidders	Winning Bidders
2014-Q1	300	259	2016-Q1	254	236
2014-Q2	315	282	2016-Q2	265	234
2014-Q3	295	276	2016-Q3	272	244
2014-Q4	274	259	2016-Q4	263	235
2015-Q1	254	217	2017-Q1	259	221
2015-Q2	252	225	2017-Q2	253	220
2015-Q3	278	267	2017-Q3	262	236
2015-Q4	256	239	2017-Q4	267	251

## Bidder Concentration

**All product groups meet generally accepted thresholds for unconcentrated markets.**

GDT calculates bidder concentration using the Herfindahl-Hirschman Index (HHI). The HHI is calculated as the sum of squares of each bidder's proportional annual purchase (x100), within each product group.

The Horizontal Merger Guidelines (2010) published by the US Department of Justice and US Federal Trade Commission indicated that an HHI below 1,500 is regarded as unconcentrated.

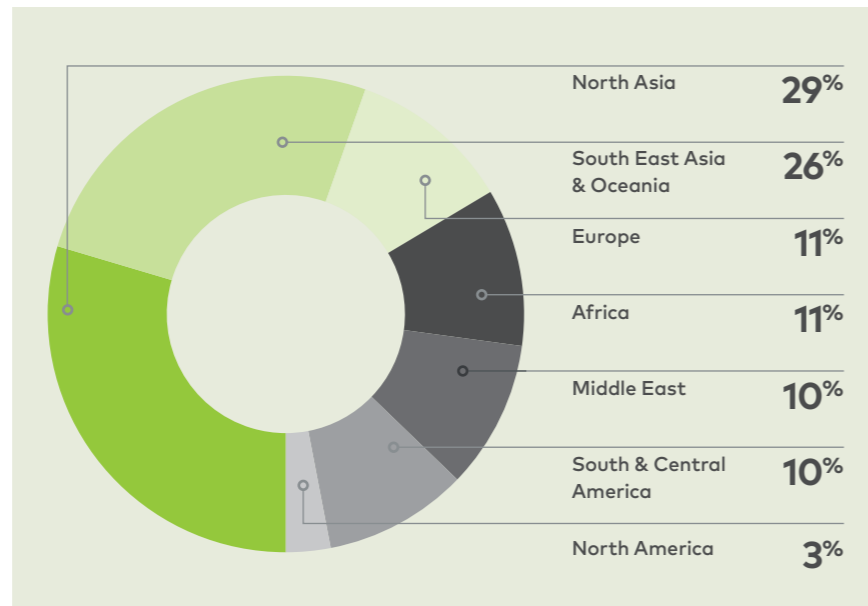


Product Group	Bidder Concentration (HHI)
AMF	309
Butter	341
BMP	491
Cheddar	488
Lactose	1,016
RenCas	705
SMP	209
WMP	234

## Participating Bidders by Region, 2017

Consistent with previous years, North Asia and South East Asia & Oceania were the most active regions, comprising over 50% of total participating bidders.

Except for North America, the remaining regions are of similar size between 10-11% each.

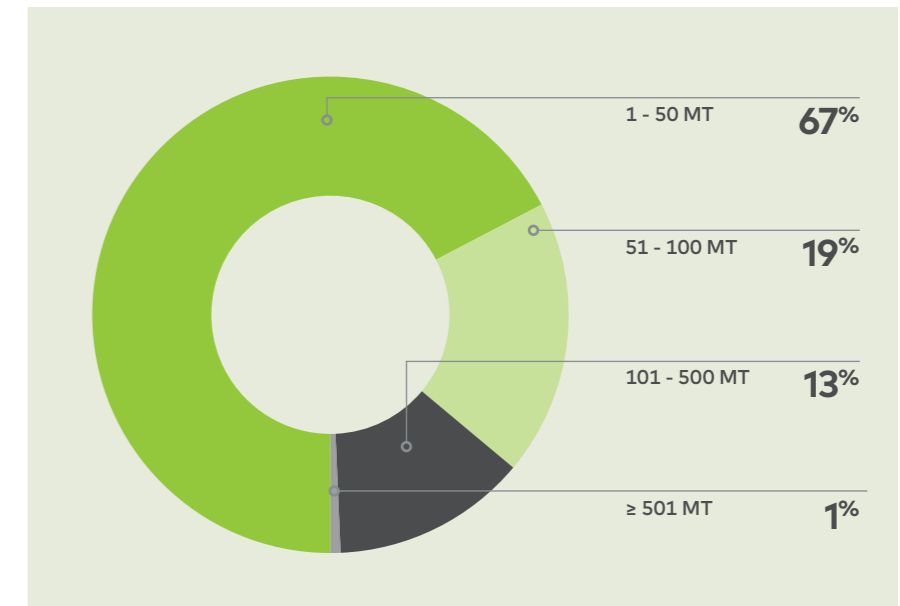


Region	Participating Bidders (% of Total)
North Asia	29%
South East Asia & Oceania	26%
Europe	11%
Africa	11%
Middle East	10%
South & Central America	10%
North America	3%

## Distribution of Transactions by Size, 2017

Two thirds of transactions occurred in the 1-50 MT category, indicating a wide variety of transactions across product groups and contract periods.

This chart shows the number of transactions by size as a share of the total number of transactions during 2017.

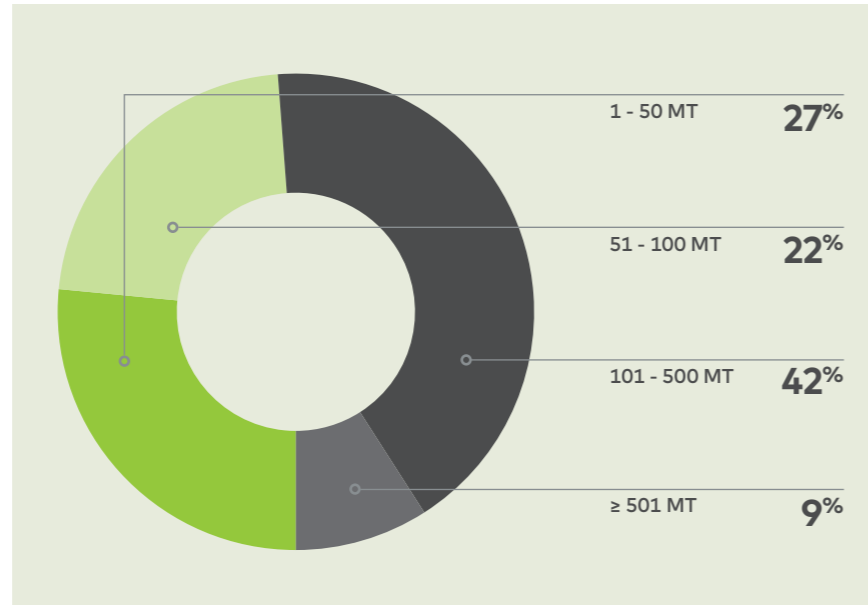


Transaction Size Category	Distribution of Transactions
1 - 50 MT	67%
51 - 100 MT	19%
101 - 500 MT	13%
≥ 501 MT	1%

## Distribution of Quantity Traded by Size, 2017

The largest category of quantity traded was the 101-500 MT range.

This chart shows the quantity traded by size as a share of total transactions during 2017.

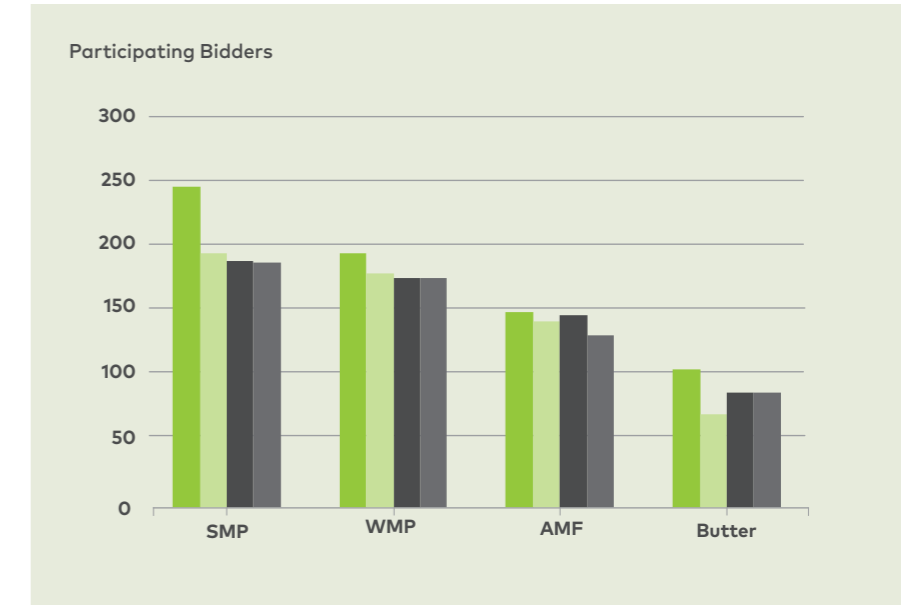


Transaction Size Category	Distribution of Transactions
1 - 50 MT	27%
51 - 100 MT	22%
101 - 500 MT	42%
≥ 501 MT	9%

## Participating Bidders: SMP, WMP, AMF and Butter

SMP remains the most active product group for bidders, followed closely by WMP and AMF.

This chart shows the number of bidders who actively bid on each product group in at least one Trading Event over the calendar years 2014-2017.

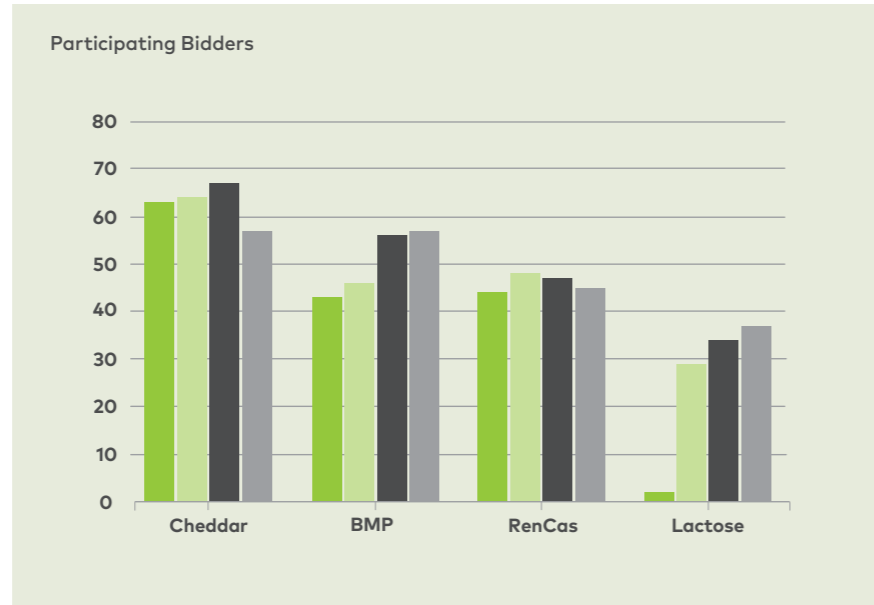


	2014	2015	2016	2017
SMP	244	193	188	187
WMP	194	178	175	175
AMF	149	142	146	131
Butter	105	71	87	88

## Participating Bidders: Cheddar, BMP, RenCas and Lactose

### The resurgence of Lactose continues from 2015.

This chart shows the number of bidders who actively bid on each product group in at least one Trading Event over the calendar years 2014-2017.

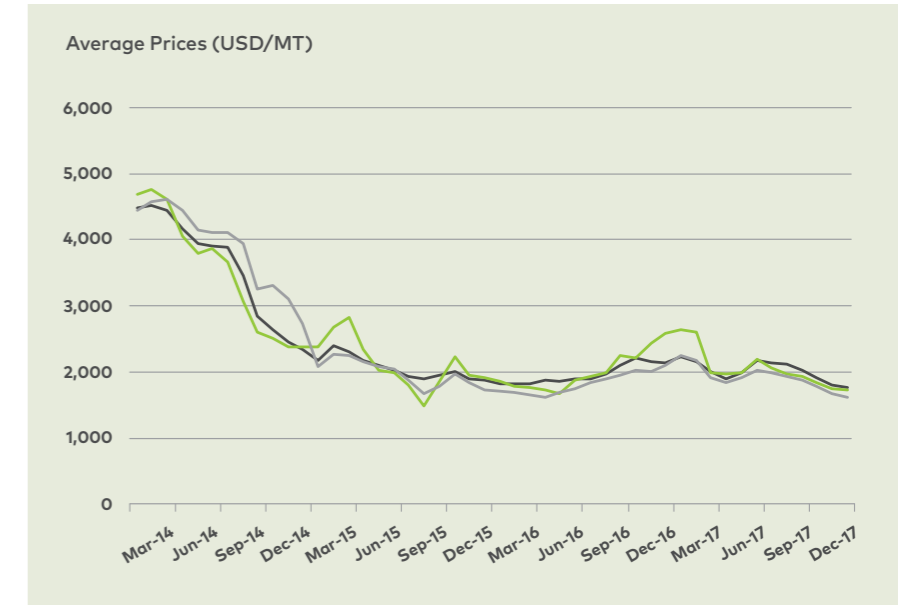


	2014	2015	2016	2017
Cheddar	63	64	67	57
BMP	43	46	56	57
RenCas	44	48	47	45
Lactose	2	29	34	37

## Prices by Region: SMP

### SMP prices across regions follow similar trends and cycles.

This chart shows average monthly SMP prices from GDT, European Commission and USDA.



Date	Europe (USD/MT)	GDT (USD/MT)	USA (USD/MT)	Date	Europe (USD/MT)	GDT (USD/MT)	USA (USD/MT)
Jan-16	1,830	1,862	1,714	Jan-17	2,235	2,638	2,254
Feb-16	1,829	1,777	1,693	Feb-17	2,154	2,594	2,180
Mar-16	1,826	1,766	1,662	Mar-17	2,010	1,992	1,908
Apr-16	1,870	1,724	1,614	Apr-17	1,897	1,978	1,843
May-16	1,867	1,668	1,685	May-17	1,992	1,990	1,920
Jun-16	1,904	1,884	1,743	Jun-17	2,176	2,186	2,017
Jul-16	1,894	1,932	1,844	Jul-17	2,146	2,059	1,984
Aug-16	1,962	1,995	1,891	Aug-17	2,113	1,967	1,931
Sep-16	2,096	2,256	1,944	Sep-17	2,031	1,932	1,881
Oct-16	2,209	2,206	2,023	Oct-17	1,913	1,847	1,784
Nov-16	2,161	2,437	2,010	Nov-17	1,798	1,754	1,666
Dec-16	2,144	2,592	2,102	Dec-17	1,767	1,723	1,617

Source: EU Commission, USDA

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## Abbreviations

GDT	Global Dairy Trade
CP	Contract Period
MT	Metric Tonne
AMF	Anhydrous Milk Fat
BMP	Butter Milk Powder
RenCas	Rennet Casein
SMP	Skim Milk Powder
WMP	Whole Milk Powder
EU	European Union
USDA	United States Department of Agriculture

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