

A GLOBAL
BALANCING ACT

DAIRY SUPPLY & DEMAND

TETRA PAK® DAIRY INDEX

AN ANNUAL NEWS AND INFORMATION
SOURCE ABOUT THE DAIRY INDUSTRY

Issue 7 - October 2014



EXECUTIVE SUMMARY

The latest Dairy Index from Tetra Pak, which tracks facts and figures in the global dairy industry, has found that total global demand for milk is set to overtake the available supply with a persistent gap over the next decade. Even though the supply of milk is set to increase during this period, it will not match the rise in demand.

Global consumption of dairy products, including milk, cheese and butter, is expected to rise by 36% during the next decade, reaching in excess of 710 million tonnes of liquid milk equivalent by 2024.

Booming demand, fuelled mainly by population growth, rising prosperity and urbanisation in Africa, Asia and Latin America, will likely outstrip supply, creating a deficit within the next 10 years that will almost inevitably be met by climbing prices.

Combined with changing consumption habits and shifting global demographics, our industry is in the throes of transition, with dairy companies increasingly looking beyond their own domestic markets to the wider global landscape, be it to source or to sell. It is a new, interconnected world, which we believe will present opportunity and challenge in equal measure.

As milk producers in established markets look for new ways to respond to a boom in demand in the developing world,

they are facing the mirror challenge of falling consumption at home. In Europe and in North America, for example, changing lifestyles and dietary requirements have caused a significant shift in traditional consumption habits. Milk sales in the United States are at their lowest level for 30 years, while white milk consumption in western Europe has fallen 0.8% in the last three years.

To maintain a viable business in these markets, and drive value into the sector, dairy producers are shifting towards value-added products that deliver extra nutrition, flavour or other lifestyle benefits, which have greater consumer appeal.

This includes products that meet the rising preference among consumers in developed nations for snacking, 'deskfasting' (eating breakfast at work) and 'on-the-go' consumption, creating considerable opportunity for innovation, both in terms of the product and the package.



Meanwhile, rapidly rising demand in many less-established markets for milk products towards the more basic end of the spectrum is creating greater incentive for local dairy companies to increase their own production. To sustain high quality raw milk supply, these companies are reaching out to the export countries to form partnerships. At the same time, however, with competition for raw milk becoming ever-more fierce, and traditional milk exporting countries reaching production capacity, developing nations are coming under increasing pressure to invest in greater self-sufficiency. In doing so, of course, they will need to address challenges related to the environment, natural resources and the availability of expertise.

Several markets have already begun that journey. For example, despite its hot and arid climate, more than half of Saudi Arabia's domestic milk consumption is now met from local supply, and it has built a strong export business to countries across the Middle East.

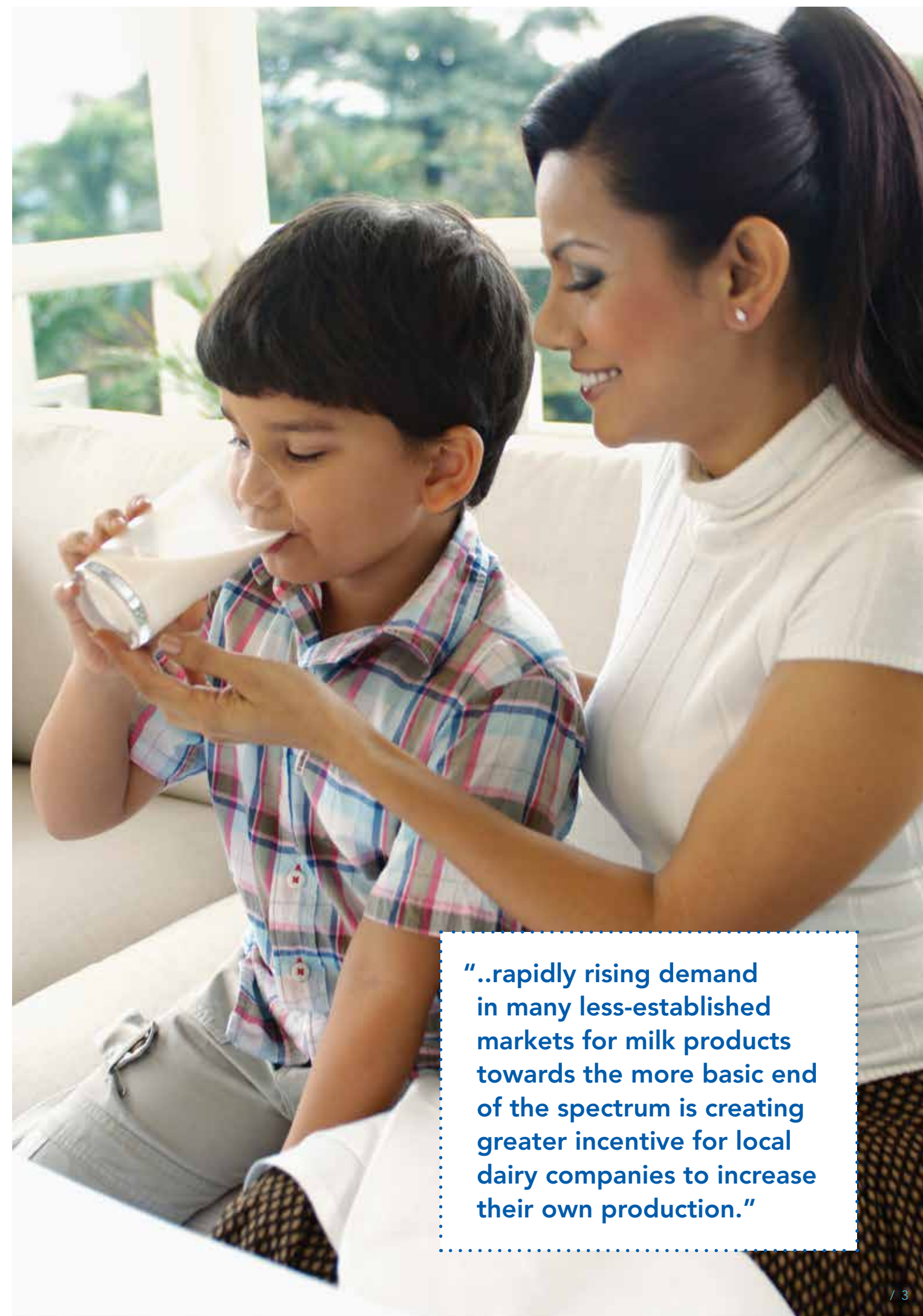
In parallel, more and more companies in emerging geographies are looking for ways to "stretch" milk, combining it with other ingredients such as juice, cereals, nuts or other ingredients to create new products and formulations.

Taken as a whole, the outlook for the global dairy industry remains extremely strong, particularly for companies that are able to tailor their operations to serve both the booming demand in developing markets, and address the need for exciting new products among consumers in mature geographies.

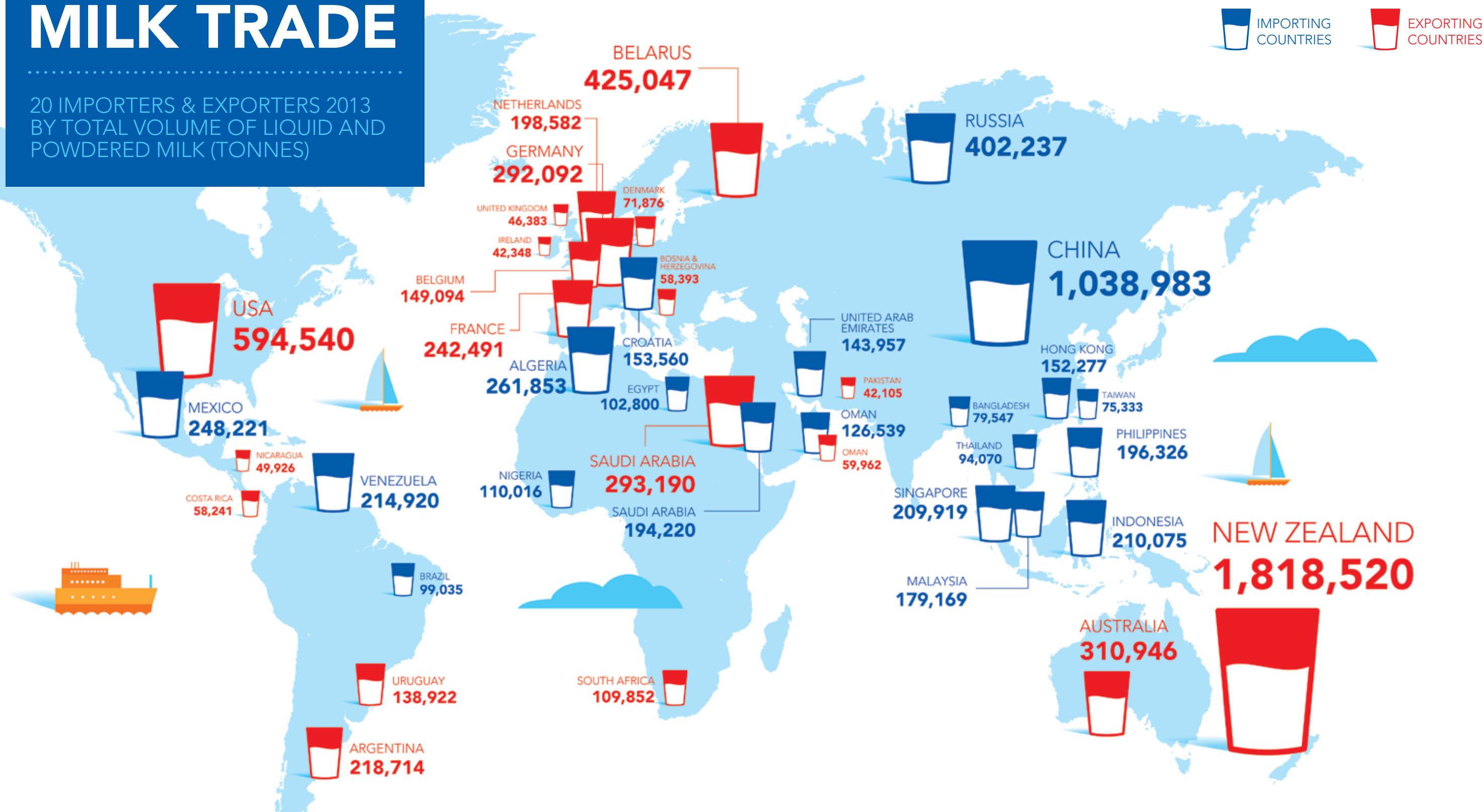
Through increased technical knowledge, expertise and commercialisation, markets in the Middle East, such as Saudi Arabia, have already successfully worked to decrease their reliance on milk imports in a drive towards self-sufficiency.



"..rapidly rising demand in many less-established markets for milk products towards the more basic end of the spectrum is creating greater incentive for local dairy companies to increase their own production."



20 IMPORTERS & EXPORTERS 2013 BY TOTAL VOLUME OF LIQUID AND POWDERED MILK (TONNES)



Russia	28.4%	Brazil	14.4%
China	21.5%	Bangladesh	10.3%
Venezuela	15.8%	United Arab Emirates	6.7%
Egypt	15.8%	Hong Kong	6.3%
Croatia	15.6%	Oman	5.0%

Nicaragua	35.9%	Germany	11.6%
Bosnia and Herzegovina	24.1%	Belarus	9.0%
South Africa	22.4%	Costa Rica	8.7%
Pakistan	17.5%	United States of America	6.9%
Saudi Arabia	12.5%	New Zealand	6.6%

THE CHANGING GLOBAL LANDSCAPE

Globalisation in the dairy industry will accelerate in the coming years, with significant impact on domestic and international trade as more consumers add dairy to their daily diet for health, convenience and nutrition.

Global white milk consumption is forecast to rise by 1.8% CAGR between 2013 and 2016, from around 212 billion litres to around 223 billion litres, exceeding the growth of 1.2% CAGR between 2010 and 2013.

However, the expected increase in demand from places like India, China, the Middle East and Africa is unlikely to be met locally, with production in these markets predicted to rise more slowly.

What's more, supplies from traditional milk export countries will struggle to keep pace with this growing demand, creating a supply/demand gap within the next decade.

Through this period, dairy companies will continue to enjoy major growth opportunities. However, the rising demand for healthy, nutritious and convenient products, together with the squeeze on milk supplies and inevitable price-rise consequence, points clearly to the need for greater product innovation.

RAW MILK PRODUCTION SET TO RISE GLOBALLY

The next decade will create unprecedented challenges and opportunities. Booming demand will accelerate globalisation in the industry, with cooperation and consolidation more important than ever in order to secure sustainable supplies of milk and stable profits for dairy producers.

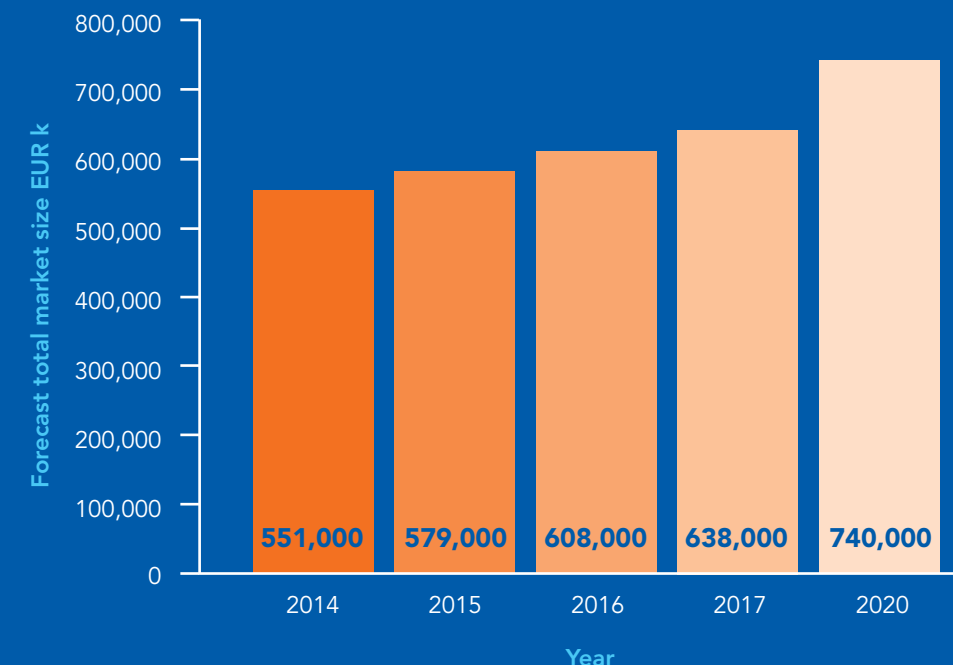
In April 2015, the EU is set to lift its milk quotas, which have restricted production for more than 30 years. It is expected that European dairy companies will use this to take advantage of new export opportunities which will in turn create increased global production. Even today, EU member states are beginning to exceed their individual quotas. Austria, Germany, Denmark, Poland and Cyprus all exceeded their production quotas for 2012/2013 and were subject to EU fines.¹

Global white milk consumption is forecast to rise by **1.8%** CAGR between 2013 and 2016

¹ http://europa.eu/rapid/press-release_IP-13-895_en.htm



TOTAL MILK POWDER PROCESSING CAPACITY INVESTMENT



Source: Tetra Pak Cheese & Powder Systems

While, in general, the number of dairy farms is expected to shrink across the region, the size of farms will grow in an effort to boost milk production in the face of consolidation. As a result, the 28 countries of the EU are expected to increase raw milk production by 11% from 2012 to 2023, with the biggest growth in countries like Ireland, the Netherlands, France and Poland.

The European dairy industry is however facing the challenge that milk production will soon exceed processing capacity. The European Commission reported in May 2014 that European processing capacity in Europe was operating at saturation point. For dairy companies to truly benefit from an expansion of domestic supply and capture the growth of the global market, rapid investment in additional dairy processing capacity is a key requirement.

Meanwhile, top exporting markets such as New Zealand, Australia and the USA are also gearing up to increase production in order to meet the rising demand from Asia and the Middle East.

As dairy companies respond to anticipated expansions in milk production, the total market for milk powder processing equipment is expected to enjoy growth of 5% CAGR between 2014 and 2020. This will take the market from a current size of €551 million to €740 million.

SUPPLY AND DEMAND OVER THE NEXT DECADE

Milk production, prices and imports have risen steadily in recent years to meet growing demand across Asia, Africa and Latin America.

To secure future supplies, dairy companies in developing markets will need to seek cooperation and consolidation with exporters of the developed markets.

As top milk exporters in developed countries reach their production and processing limits, developing countries reliant on imports will also need to invest more to boost their milk self-sufficiency. In doing so, they must overcome the challenges of climate, limited availability of land, water, feed and cattle and dairy expertise.

Meanwhile, in an effort to make milk stretch further and get more value per litre sold, dairy companies will need to make the most of milk's versatility by using it in innovative ways in new products and formulations. This will include combining milk with other ingredients such as juice and cereal, and tapping into milk alternatives, such as whey.

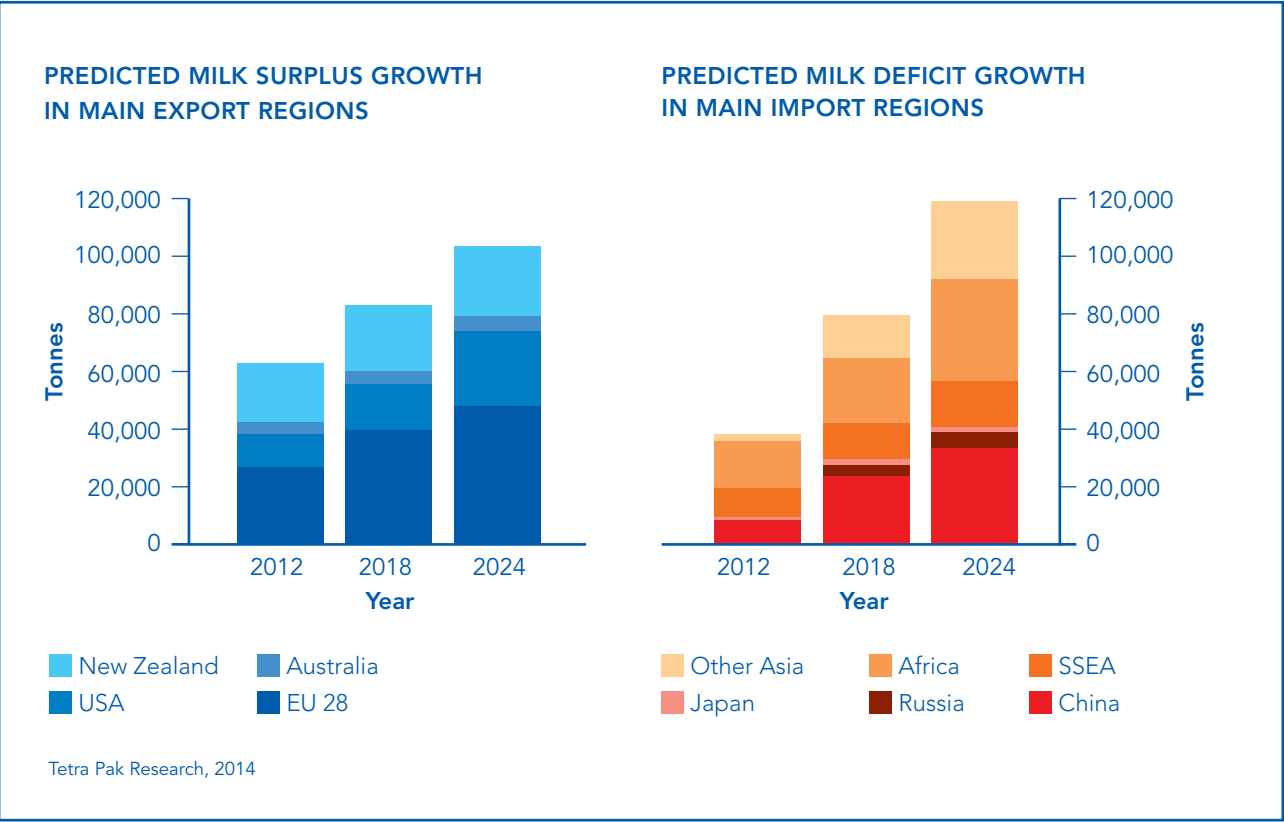
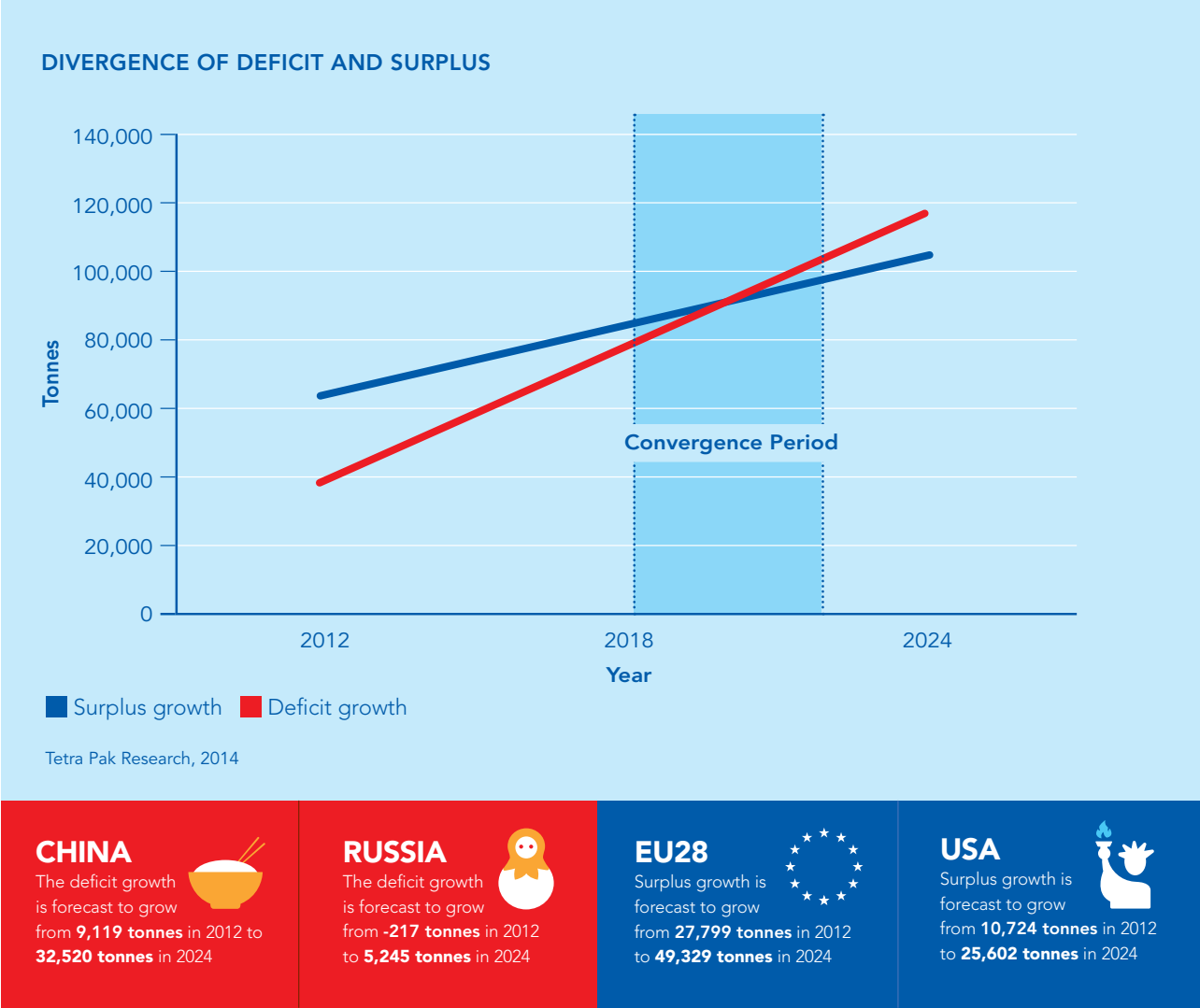
In an indication of how the situation is evolving, between 2011 and 2013 global milk supply was slightly ahead of demand. However, by 2018 supply will struggle to meet demand due largely to growth from Asia and Africa, where production is limited by physical constraints such as the climate.

The global import of liquid and powdered milk (excluding trade among the EU countries) is expected to be driven by China during 2014-2024. This is based on the fast increasing domestic demand and trust in the quality of imported products. China is poised to double its share of global milk imports in the next ten years.

However, it is expected that a focus on 'home-grown' milk in China could emerge over the coming years, with the industry and the government encouraging the consumption of locally-produced dairy products. This barrier could pose a future risk to markets which are currently heavily reliant on exports to countries like China.

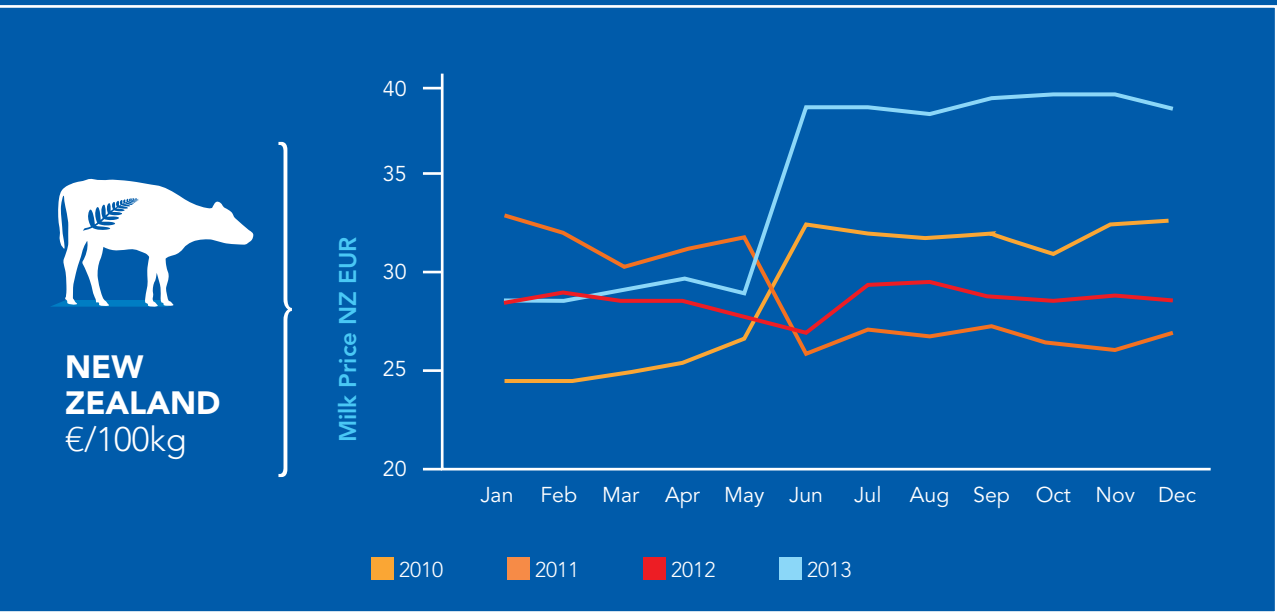
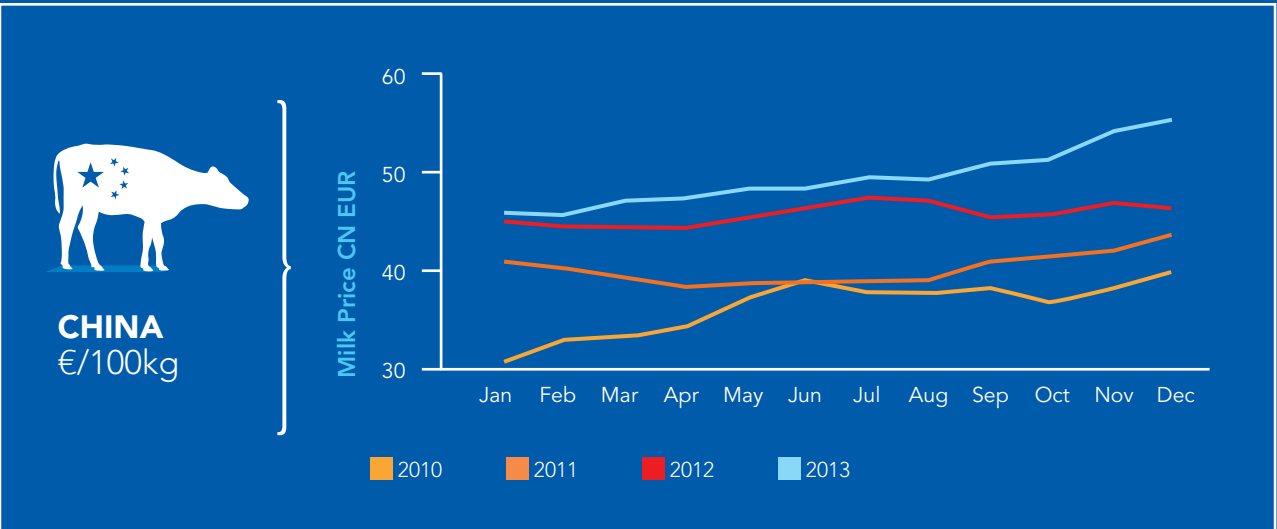
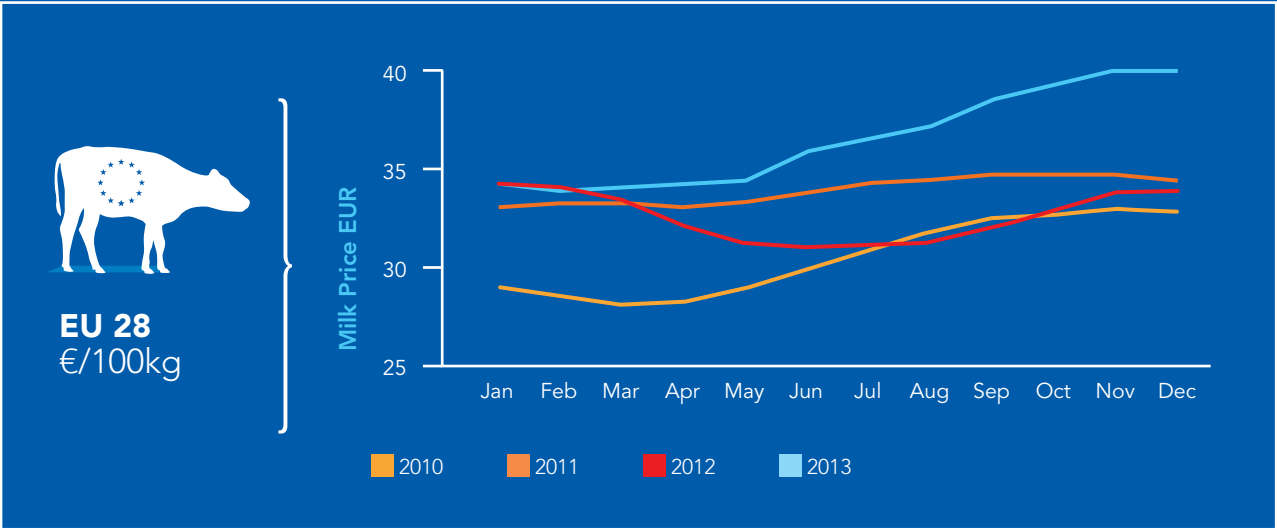
Over the next ten years, it is expected that there will be an increase in supply of, and demand for, milk and dairy products in Africa. For example, in Nigeria the population is set to grow by 20 million people by 2018, providing a high potential for market growth. Despite increasing business confidence, the high costs and unreliability of electricity, weak infrastructure and increasing taxation may lead to further reliance on imports, particularly from the EU.

More broadly, the top 20 milk importing countries around the world are expected to account for 33% of global imports by 2024, up from 27% in 2013.



FARM GATE PRICE FOR MILK

While prices have dropped for most of 2014 so far, this is not expected to be a sustained trend.



Source: International Farm Comparison Network (IFCN)



PRICE VOLATILITY SET TO CONTINUE

A number of factors have contributed to driving the price of milk upward significantly in import regions in recent years. Between 2000 and 2011, the cost of milk production almost tripled, while supply constraints and strong demand have also had an impact.

In 2013, EU prices rose from around €34 per 100kg to just under €40, while in New Zealand they jumped by almost €10 in the same period.

By comparison, prices in the USA were relatively steady in 2013, growing slightly from €34 to €36. However, the American market saw more dramatic fluctuations in all of the preceding three years.

Prices are notoriously difficult to predict and there has been significant variation in the market. Weather, change in the climate and the price of other commodities all play a significant role in the cost of production and processing.

While prices have dropped for most of 2014 so far, this is not expected to be a sustained trend. Prices are predicted to continue to increase over the next ten years as demand booms at a time of shrinking supplies.

EXPORTERS ADAPTING TO CHANGE

While milk exporting countries look to embrace the high growth in demand from the rest of the world in the next decade, the industry will also need to adapt to what is happening closer to home.

Evolving consumer habits have led to a decline in consumption in some of the world's largest markets. It will therefore be important for the industry to focus on producing a wide variety of products to increase return beyond the base price of raw milk in order to remain successful in sophisticated markets.

DECLINING CONSUMPTION

Last year, milk sales in the United States fell to their lowest point since 1984. Less than 50% of adults now drink milk and whole milk consumption has fallen by half in the past three decades.

Busy lifestyles are changing consumption patterns over the course of the day. There is a notable shift away from the traditional three main meals concept (breakfast, lunch, and dinner) towards a more modular eating culture (i.e. more regular consumption throughout the day).

As breakfast becomes a speedier affair for time-poor consumers in developed economies, the switch from ‘deskfasting’ (eating breakfast at work) to ‘on-the-go’ eating continues to gain momentum. This trend is leading to a notable impact on milk consumption in many of these markets:

- With more than half of all milk consumed at breakfast time in the **United States**, a decline in the number of people eating breakfast at home has dented demand. Liquid Dairy Products (LDP) consumption in the United States is set to fall by 0.8% between 2013 and 2016 with white milk demand falling by 0.9%.
- **Australia** is also rapidly becoming a nation of breakfast skippers. Four out of 10 full-time workers now eat breakfast ‘on-the-go’ and a third of mothers regularly skip breakfast to get children ready for school. As a result, LDP consumption in the country is seeing only modest

growth, with demand expected to rise by just 1.7% CAGR in the three years to 2016. This is despite continued economic growth and an expanding population.

- The **UK’s** LDP consumption is forecast to rise by just 0.4% CAGR between 2013 and 2016 with flavoured milk showing the strongest growth with a projected increase in demand of 2.4%. This is being fuelled by increased on-the-go consumption and breakfast skipping at home, which more than one in four adults do.
- In **New Zealand**, LDP will fall by 0.3%, led by declining consumption of white milk and flavoured milk.
- Between 2013 and 2016, consumption of white milk in **Western Europe** is set to fall by 0.3% following a drop of 0.8% between 2010 and 2013.

As consumers increasingly turn to snacking for both convenience and nutritional reasons, opportunities also exist for manufacturers to position yoghurt drinks as convenient, filling, and healthy snack alternatives that meet both lifestyle and dietary requirements.

These changing consumer lifestyles are also leading to a change in the type of products being consumed. According to Datamonitor, 45% of consumers globally find products that come in the format of a drinkable snack appealing. It is no surprise therefore that global spending on snacking products and new product innovation in this category rose steadily over the past few years.

ADDING VALUE

In many developed countries, consumption will continue to decline modestly. However, overall levels will remain high, as dairy companies take advantage of demand for other liquid dairy products such as flavoured milk, drinking yoghurt, milk and juice blends and cereal products, which offer convenience and nutrition for time-stretched consumers.

With white milk increasingly viewed as a commodity due to aggressively low pricing by retailers, dairy companies are looking for new ways to add value, such as differentiated packaging and highlighting functional and nutritional benefits.

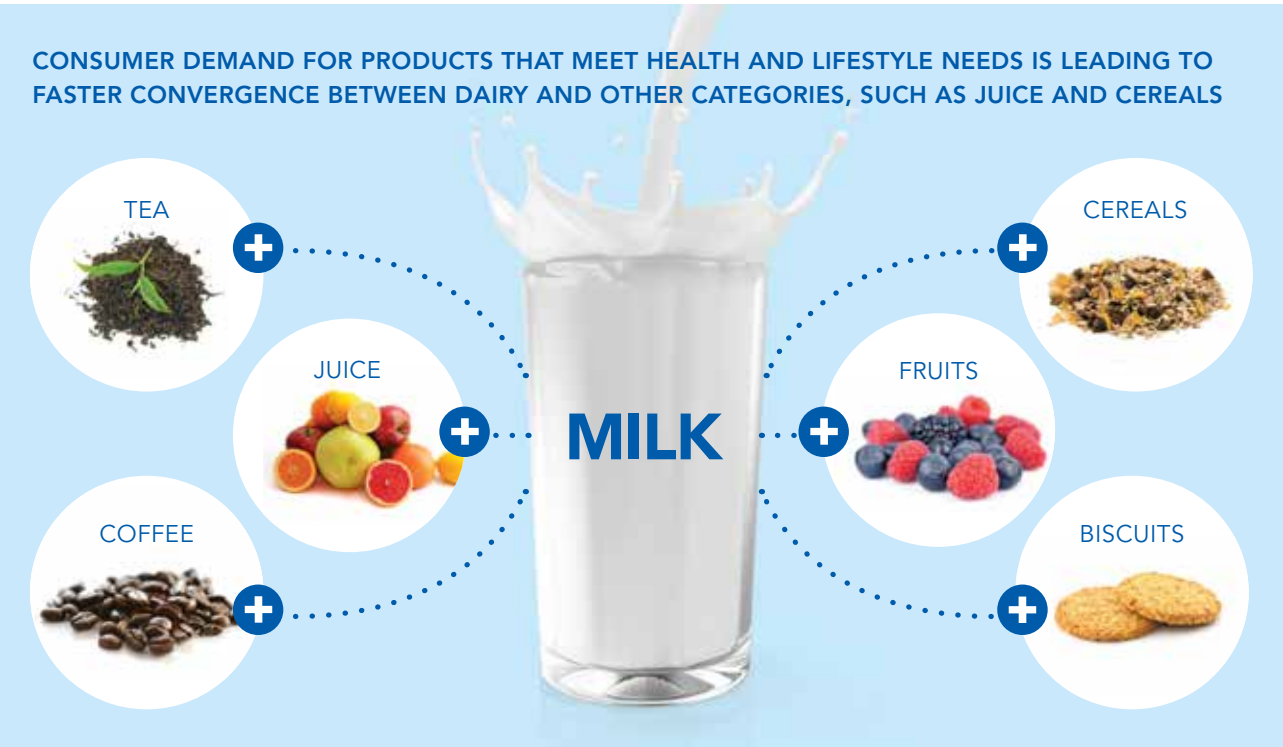
For example, in the USA there is promising growth in functional and differentiated dairy products that meet people’s health and lifestyle needs, including organic milk, dairy alternatives and dairy products with a value-added nutritional focus. Smoothies, lattes and breakfast shakes are also creating opportunities for growth. Among functional products, demand is growing for sports milk and drinks designed to help people manage their weight. Protein-enhanced nutritional drinks sold in portion packs, such as Premier Nutrition, are targeting health-conscious adults.

Processors in the UK are also under pressure to mitigate the lower price for standard white milk. With the EU quotas lifting in 2015, there will be added pressure to find new avenues for growth in the form of value-added milk.

Thankfully for those operating in the UK, liquid dairy product consumption is actually growing, as consumer habits towards milk are evolving. This has led to a high level of new dairy product launches such as snacks, breakfast drinks, caffè lattes, yoghurt drinks and indulgent milks. These products have expanded usage occasions designed to suit changing lifestyles.

Similar examples from other parts of the world include:

- In **Germany**, demand for flavoured milk is forecast to rise by 0.4% in 2013-2016 thanks to growing demand for coffee-flavoured beverages.
- In **New Zealand** 1.2% growth in baby and toddler milk and 4.3% growth in consumption of drinking yoghurt is forecast.
- In **Australia**, consumption of drinking yoghurt, flavoured milk and white milk is forecast to grow by 3.0%, 2.0% and 1.7% respectively fuelled by growing demand for lactose-free milk and A2 milk, which doesn’t contain A1 casein proteins (Cows’ milk contains different types of protein – including ‘A1’ and ‘A2’. These two proteins digest quite differently from each other and the presence of A1 protein can result in discomfort after drinking milk).



“..dairy companies will take advantage of demand for other liquid dairy products such as flavoured milk, drinking yoghurt, milk and juice blends and cereal products, which offer convenience and nutrition for time-stretched consumers.”



IMPORTERS DRIVING DEMAND

Net importers of milk will predominantly drive the growth in demand over the next decade. Markets in Asia, Africa and South America have a very positive view of milk and the nutritional benefits it provides, which will help to promote growth in consumption.

However, the challenge for these markets will be to ensure that they are able to secure the supply of milk to meet this demand. Some countries are working to grow domestic production as they work to become less reliant on imports in a drive towards self-sufficiency. In other markets the local dairy industry is partnering with companies from export markets to secure a high quality supply.

MILK IS "GOOD"

The perception of milk is nuanced around the world. In Western countries, milk is seen as a routine part of everyday consumption. However, in Greater China and South East Asia it is strongly associated with children's growth and health.

Similarly in many developing countries, such as Colombia, Venezuela, India, Pakistan and Kenya, milk is seen as very nutritious and almost synonymous with food as a means of feeding the body.

The "natural goodness" of milk appeals to those seeking simple steps to optimal nutrition, and there is an opportunity to capitalise on the growing interest in protein.

THE AMBIENT VEHICLE

While the bulk of exports have traditionally been milk powder, exports of branded UHT milk to Asian countries like the Philippines, Vietnam, Singapore, Malaysia and Papua New Guinea have grown steadily in the last 15 years. Across Asia Pacific as a whole, the statistics reflect this with the consumption of ambient milk set to grow by 3.1% CAGR from 2013 to 2016.

In Indonesia, demand for liquid, ambient milk is being fuelled by the growing purchasing power of the country's booming middle class as its economy and population grows.

In China, with the origin of milk playing an important role, more affluent Chinese consumers are willing to pay a premium for liquid packaged milk from countries that offer farm-fresh milk from pasture-reared cows.

Imported UHT milk mostly targets this premium segment which is where there is value to be generated by exporters in a major growth market such as China.

This growth of liquid UHT milk is supported by significant investment by dairy companies in export countries such as Australia, New Zealand and Ireland.

Saudi Arabia: milk from the desert

Saudi Arabia has set the standard as it has worked to reduce its reliance on milk imports. Despite its hot and arid climate, it now produces more than half of its own milk and its dairy companies are enjoying thriving demand at home and abroad. With a dairy herd of around 130,000 cattle and some of the largest and most modern dairies in the Middle East, Saudi Arabia has emerged as a major dairy producer in a matter of decades.

OVERCOMING THE RAW MILK SUPPLY ISSUE

Investment by the oil-rich country since the 1970s to boost self-sufficiency in food, ranging from milk and eggs and meat, has turned it into a major producer of dairy, exporting to countries like Yemen, Iraq, Jordan and Syria.

At home too, demand is strong. Saudi Arabia is expected to see LDP demand climb by 4.3% CAGR between 2013 and 2016 with baby and toddler milk, sweetened condensed milk and flavoured milk performing strongly.

White milk is also set to grow by 4.7% CAGR from 2013 and 2016 to almost 1.2 billion litres. While ambient milk still claims the biggest share of consumption, chilled milk is growing faster.

FALLING IMPORTS IN RECENT YEARS

Demand for flavoured Laban, traditional cultured milk, is also strong with demand set to rise by 1.6% CAGR in the three years to 2016, while flavoured milk consumption is set to rise by more than 5%.

Consumers are also becoming increasingly conscious about health and healthy eating habits whilst at the same time demanding products with greater differentiation, whether it's nutrient-enriched dairy, lactose-free products or flavoured milk appealing to children.

With a growing young population, dairy companies are seizing the opportunity to increase sales to children by promoting products such as flavoured milk and Laban as fun.

For example, Alsafi Danone – a joint venture between French food giant Danone and Saudi Arabian dairy company Alsafi – has placed a major focus on producing flavoured milk for the domestic market while another Saudi dairy, Almarai, produces strawberry-flavoured Laban with special probiotic culture beneficial to digestive health.

Other countries seeking to boost their self-sufficiency in milk should look to Saudi Arabia as an example of how to succeed.



Last year, Irish dairy company Glanbia, which exports to over 130 countries and employs 4,900 people, said it would build a new UHT facility in Monaghan to produce long-life liquid milk and cream suitable for export to emerging markets, such as China and the Middle East.

The plant has started to manufacture a range of standard and fortified UHT milk and cream products, including export versions of Glanbia's market dairy leading brand, Avonmore Milk.

In addition, to secure the supply of dairy to places such as China, strategic partnerships between dairy companies based in countries where demand is high and companies from traditional dairy producing markets is becoming increasingly common. For example, in April 2014 a strategic supply agreement was announced between Australian based Pactum Dairy Group and China's Bright Dairy. The partnership includes a \$45m investment by Pactum in a UHT aseptic dairy beverage facility in the northern Victorian city of Shepparton to produce high value added dairy beverages for consumers in China and South East Asia.

OTHER LIQUID DAIRY PRODUCTS

The rising demand in 'milk deficit' markets, combined with scarcer supplies of milk, will create unprecedented challenges in the next decade as dairy companies try to meet this demand.

One way to do this will be to 'stretch' the milk content of some beverages by combining milk with other contents such as nut proteins and juice.

Milk importing countries are expected to see substantial growth in the consumption of other liquid dairy products over the next three years. Following the trend in developed markets, drinking yoghurt and flavoured milk will experience a significant increase in demand.

Chilled drinking yoghurt will grow by 7.6% in Asia Pacific between 2013 and 2016, while ambient drinking yoghurt will grow by 26% in the same period. In South Asia, where there is only chilled drinking yoghurt, consumption will increase by a substantial 41.3%.

In the flavoured milk category, Africa will see the biggest change, with 7.1% growth across the continent, rising to 12.4% in North Africa. Both Asia Pacific and Latin America will experience increases of more than 4% (4.1% and 4.5% respectively).

For exporters who aim for sustainable business success in the developing markets, it is also important to recognize the need for a strong product offering with added value. In Ireland, for example, where 84% of dairy output is exported, there is an increasing focus on adding value to dairy that sells on the international markets. This includes dairy products in the nutrition, consumer foods and infant formula categories, as well as ingredients traded globally, such as enhanced powders and cheeses.

DAIRY HUBS PROMOTE SELF-SUFFICIENCY

With many dairy processors in developing countries relying on imported milk powder and the bulk of milk in these markets produced by smallholders, growing demand is creating greater incentives to secure sustainable milk supplies through improved productivity rates and commercialisation.



CONCLUSION

The dairy industry is approaching one of its most transformational eras. As a traditionally domestic focused industry, it is now facing the challenges and opportunities posed by ever increasing globalisation. Dairy companies today need to take a world view of the supply of milk and the demand of consumers.

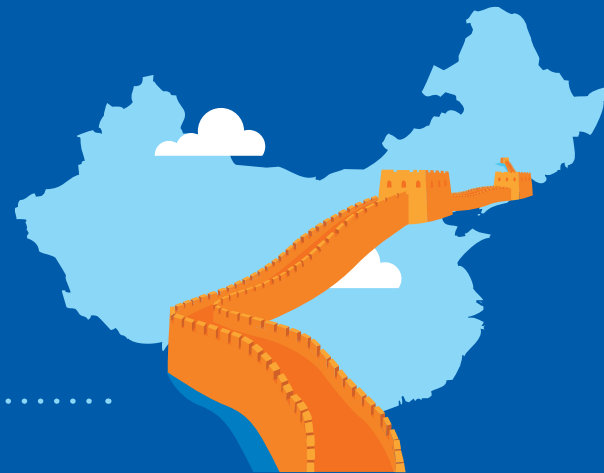
For dairy companies in developed export markets, meeting the demand from rapidly growing emerging markets offers a huge opportunity. However, to ensure long-term success, these producers need to balance the 'quick wins' of exporting to fast-growing economies against the need to continue to grow their domestic markets. This means understanding and adapting to changing consumer demographics, behaviours and lifestyles. Product diversification, innovation and brand differentiation will be crucial.

On the other hand, dairy companies in import markets must overcome the challenge of securing a sustainable, high quality milk supply. Those who are getting it right are doing so in two ways: increasing investment in domestic dairy farming, and partnering with companies in the export market. As businesses realise the positive effects of these collaborations, we are likely to see greater consolidation in the industry, perhaps even across borders. At the same time, companies are also working on product innovation to reduce the pressure on the milk supply.

In the context of these considerable global developments, the reaction of dairy companies over the next few years will have a significant and long-term impact on the future of the global dairy market.



COUNTRY SPOTLIGHT CHINA



Securing supply in a rapidly evolving market

CHINA STEPS UP MILK SELF-SUFFICIENCY DRIVE

China's rapid economic growth, urbanisation and booming milk consumption have created unprecedented opportunities for domestic and foreign dairy companies to offer new products to new consumers in the world's most populous nation. Milk is strongly perceived as a healthy and nutritious addition to the daily diet.

China's ever growing appetite for dairy has also confronted the world's second biggest economy with the challenge of closing the gap between the amount of milk it produces and the amount of milk its more than 1.35 billion people consume. To do so, it is looking at home and abroad to ensure a steady supply.

At home, China is encouraging the creation of bigger and more productive dairy farms. This has led to increased self-sufficiency, which stood at 86% last year. In the first half of 2014, the previous shortage of raw milk has been eased due to this higher milk production, which has also been fuelled by favourable temperatures, abundant feed supply and the effects of historical investment by the big dairy farms in their production methods.

At the same time, slowing economic growth has also reduced domestic demand, thereby resulting in the shortage of raw milk becoming less prevalent. Despite this, in the long run it is predicted that China will face raw milk supply shortages, albeit with short-term fluctuations.

Abroad, the Chinese government is encouraging its dairy companies to expand through acquisitions and partnerships, securing dairy expertise, experience, land and milk as far away as France and New Zealand.

Imports continue to grow with China poised to double its share of global milk imports in little more than a decade

from around 6% in 2013 to around 12% by 2024, according to food and drinks consultancy Zenith International.

No matter where the milk comes from, dairy consumption is set to boom in China well into the next decade with ambient milk sold in portion packs dominating the market. More than 80% of liquid dairy products sold in China are ambient with portion packs accounting for 93% of sales.

DIVERSIFICATION AND TRADING UP

Chinese dairies – such as Inner Mongolia Yili, Mengniu Dairy and Bright Dairy – have been making the most of growing demand by offering a greater variety of dairy products, including growth categories such as ambient yoghurt and premium flavoured milk.

With health-consciousness growing, Chinese consumers are increasingly “trading up” to buy premium dairy products ranging from ambient organic milk to other liquid dairy products (OLDP) such as premium flavoured milk and ambient drinking yoghurt.

Bright Dairy, for example, is enjoying booming demand for its ambient drinking yoghurt Mosili'an, China's first ambient yoghurt product. Yili and Mengniu too have seen strong demand for dairy beverages, including premium flavoured milks.

Booming demand for trading up and diversification has also created opportunities for foreign dairy companies like New Zealand's Fonterra to sell its flagship Anchor brand of UHT milk in China or Japan's Meiji to sell its yoghurt there.



SECURING SUPPLY

China's milk deficit has also created opportunities for exporters in Germany, Ireland and New Zealand among others, to sell more milk at a time when demand is modest or falling at home.

“With the milk production outputs increasing in Oceania and in the EU, it is estimated that the flow of dairy products...from these two regions to China will be at unprecedented levels in the coming years,” said Zenith International.

In 2013, more than 70% of China's milk import needs were met by New Zealand. Germany, the United States, Australia and France met most of the remaining demand.

“China's milk and milk powder imports will grow aggressively during 2014-2018, averaging 15% or more annually, before slowing down to under 10% annual growth during 2019-2024,” according to Zenith International.

“Even with estimated growth of 5% in domestic milk production in 2013, the supply demand gap keeps widening in China, opening doors for more and more imports.”

The Chinese government has created incentives to invest in sustainable growth of dairy farming. The industry is moving from family-owned, backyard-style farming to professionally managed, large scale farms, boosting the quality and availability of Chinese milk.

China is responding positively to the increased demand for milk. New dairies providing increased domestic production and partnerships with suppliers in exporting countries are helping to secure future supply. Furthermore, as consumer tastes for milk develop there is a growing demand for a variety of products, particularly those with health benefits, which has created further opportunities for local and foreign producers.

COUNTRY SPOTLIGHT USA



Seizing opportunities at home and abroad

TAKING THE EXPORT INITIATIVE

The USA is the second biggest milk producing country in the world after New Zealand. In 2013, 91.4million tonnes of milk were produced, a 1.8% increase on 2012 levels.

The exporters among these producers experienced an outstanding 2013 with exports hitting a record \$6.1billion. This was partially due to reduced competition from traditional key suppliers such as the EU (for economic reasons) and New Zealand (because of severe drought) but more importantly, US dairy products have become more competitive at a time when global demand for dairy products has increased.

As a result, the export outlook for the US dairy industry is positive, with most growth expected to derive from growing markets such as Mexico and China, facilitated by trade agreements to support US export activity.

RESPONDING TO DECLINING DOMESTIC CONSUMPTION

In contrast to the export story, traditional white milk consumption (drinking, in cereal, cooking) is declining within the USA as consumer lifestyles change and other product innovation options become available. This has created a long-term decline in consumption of 1-2% per year since the 1970s, according to the US Department of Agriculture.

These lifestyle changes include the ongoing decline of eating breakfast at home, as well as other milk consumption occasions. As many as 42 million Americans now skip breakfast entirely.

Increasingly, we are seeing an on-the-go culture, with consumers turning to alternative beverages and to non-white milk products. Younger people in particular are consuming less milk than previous generations, but other products, such as flavoured milk and creams are seeing growing demand.

To combat this decline dairy processors are focusing on innovation and developing other liquid dairy products (OLDP), which are predominantly targeted at younger adults, who are more likely to be open to new products, especially at a time when their milk consumption is lower than other groups. One example of this is through the convergence of categories, such as milk and juice or milk and cereal, which are emerging across the US market and proving popular with consumers.

Yoghurt and smoothies are other examples of products gaining traction domestically. Per capita, yoghurt consumption has nearly doubled in the past decade, which has driven large scale investments, such as PepsiCo and Muller opening a new yoghurt factory costing \$350million in June 2013. Meanwhile, smoothies are also set for strong growth in the next two years as an alternative to 100% fruit juice options. This is a reflection of the fact that the sector can prosper if it hits a competitive price point and offer benefits that appeal to parents.

The breakfast shake product space is also emerging, with products such as Post's Goodness to Go, General Mills' B'Fast and Kellogg's Breakfast to Go. There is certainly potential for further growth in this area.

Nutritional benefits are driving the value-added category, which has seen consistent growth in recent years across adult and kids' nutrition, sports nutrition and weight management sectors. With 62% of Americans exercising

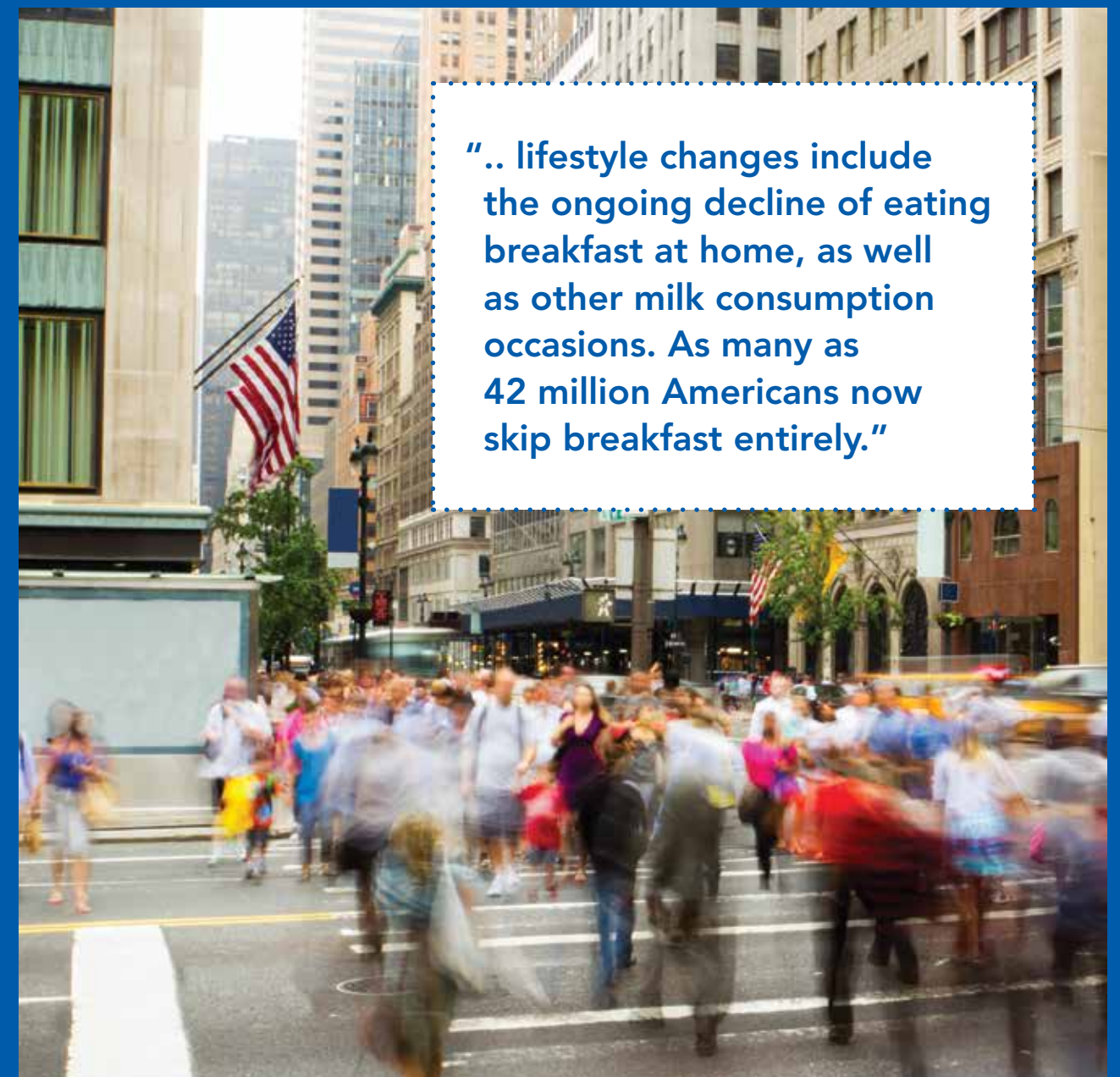
weekly for fitness and 61% choosing healthy food to lose weight, milk products with added health benefits represent a significant opportunity for the industry. Protein has become the focus of communication for milk in the United States.

Milk PEP, the industry organisation that ran the iconic 'Got Milk' campaign has, in recent years, transferred to a 'Milk for Life' campaign that promotes its protein benefits.

The nutritional message has been further supported by changing attitudes towards essential fatty acids, which

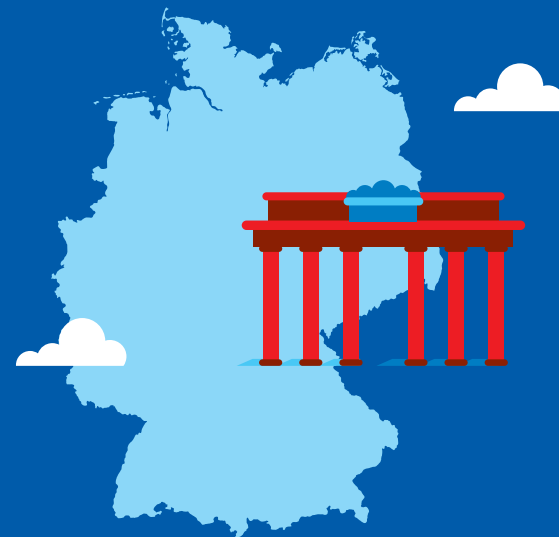
have been shown to support healthy immune functioning, growth and repair.

There is no doubt that the United States has faced a very challenging home market in recent years as demand has fallen. However, with new nutritional messaging and innovation around product types and consumption occasions, there are positive signs for the domestic market. As an exporter the United States is leading the way following an excellent 2013 and is taking full advantage of the demand in emerging markets.



".. lifestyle changes include the ongoing decline of eating breakfast at home, as well as other milk consumption occasions. As many as 42 million Americans now skip breakfast entirely."

COUNTRY SPOTLIGHT GERMANY



How Germany captured the export advantage

ASIAN DEMAND FUELS GERMAN GROWTH

Germany, already the biggest milk producer in the European Union (EU), has increased its milk supply by more than 10% in the past decade and is gearing up to produce even more milk for export once EU quotas on milk production are lifted in 2015.

With domestic demand for LDP having fallen by 0.8% between 2010 and 2013, Germany's dairy companies are increasingly turning their eyes east to lucrative export markets like Asia and the Middle East to make the most of demand abroad.

China is now Germany's biggest export market outside the EU. Although China is striving to boost domestic production it also needs imports to close a growing gap between supply and demand.

By the end of 2012, around 80 milk brands were imported into China. Half of the top 10 brands, including Oldenburger and Suki, used milk from German origin. Those top 10 brands accounted for around 67% of milk imported into China in 2012, according to Chinese customs statistics.

Leading German dairy companies are successfully highlighting the "Made in Germany" credentials of their exported brands to China. Approaches vary from establishing local sales organisations, to completing Joint Ventures and partnering with major Chinese distributors. In doing so, German brands are establishing a good in-store presence and are reaping the awards of rising online sales for milk in China.

THE FUTURE OPPORTUNITY

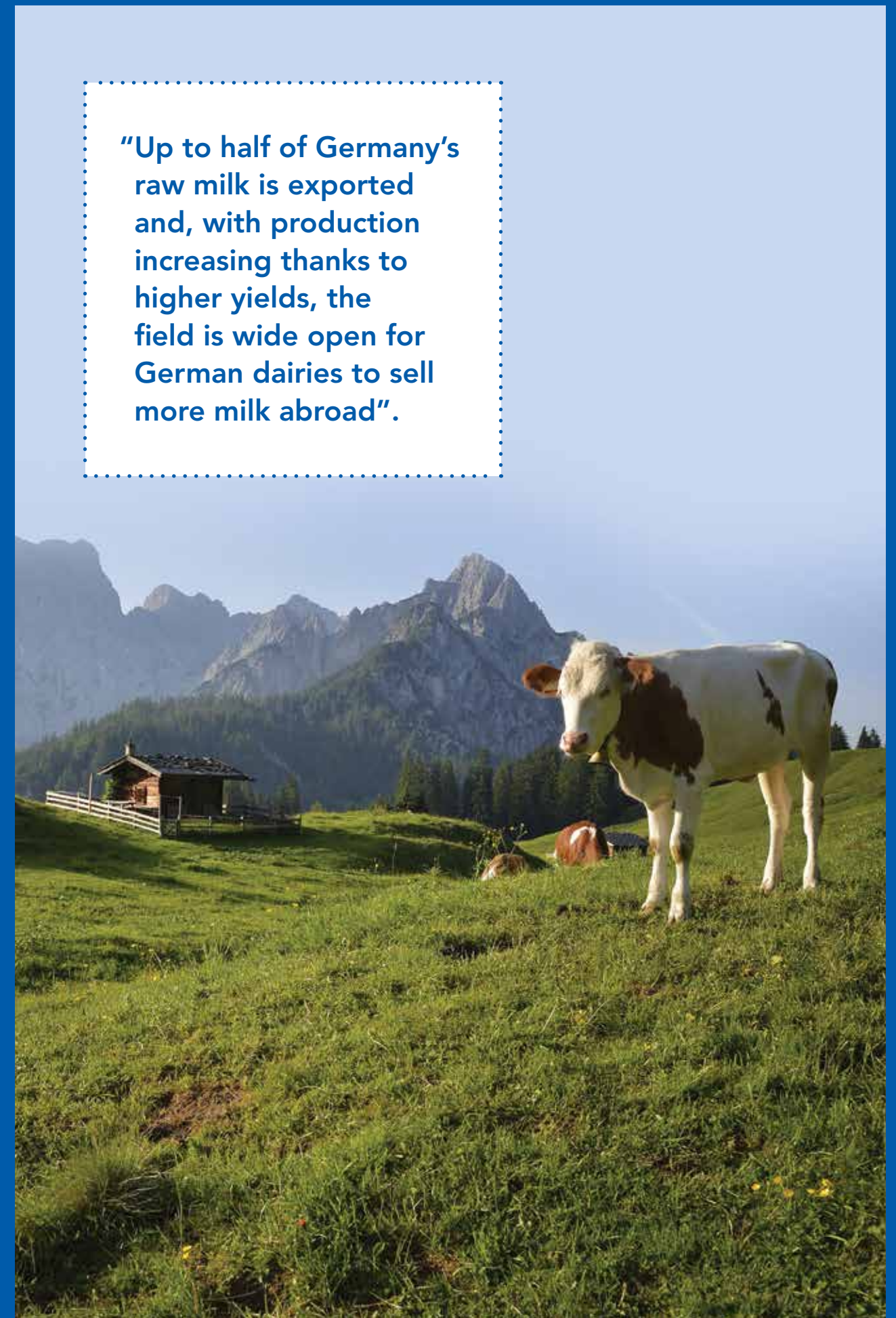
The lifting of the EU's milk quotas is expected to spur increased exports of German milk to China, particularly milk powder, UHT milk and flavoured milk, creating further opportunities for German dairies.

Germany, France, the Netherlands, Belgium and Denmark are expected to see growth of 4.5%-6% in milk exports outside the EU in 2014-2024.

Up to half of Germany's raw milk is exported and, with production increasing thanks to higher yields, the field is wide open for German dairies to sell more milk abroad.

Germany has successfully made up for declining demand at home by capitalising on the new consumption habits in other parts of the world. A future challenge for German dairy companies will be to balance export opportunities with the challenge of declining domestic demand.

"Up to half of Germany's raw milk is exported and, with production increasing thanks to higher yields, the field is wide open for German dairies to sell more milk abroad".





ABOUT THE **TETRA PAK®** **DAIRY INDEX**

The Tetra Pak Dairy Index is an annual report designed to help dairy producers identify new opportunities for growth while offering all industry watchers information on the latest facts, figures and trends related to the global dairy industry.

The data contained in this report is collected from a variety of Tetra Pak and external sources and analysed by the company's dairy market experts. The Tetra Pak Dairy Index also includes analysis of the industry based on its day-to-day work with dairy customers, governments, non-governmental organisations and local communities around the world supporting every aspect of the dairy value chain.