

## Waikato Innovation Park New Zealand

### Dairy SolutionNZ

#### Solutions for the Global Dairy Industry



New Zealand is a recognized world leader in low cost pastoral farm production systems with integrated quality control resulting in safe milk and products. New Zealand's world leading Dairy Agriculture technology companies have joined forces to assist global large scale farm operations in adopting leading low cost technologies and systems. It provides solutions for large scale land development, technology deployment, implementation and support of ongoing farm operations and dairy processing, for large Corporate and State Farmers. The result is a superior long term economically and environmentally sustainable dairy solution.

In Latin America there is a very real opportunity to be part of the new phase of transformation in the Beef and Dairy sectors. Through the adaptation of New Zealand technologies, systems, knowledge and skills to local conditions, it is possible to develop new and highly profitable dairy and beef projects in association with local investors / landowners. The Latin American region has overcome the recent global crisis and is poised to lead a new stage of industry and land development.

The region's relatively low labour and land costs provide an excellent business opportunity for the highly efficient NZ dairy and beef business model. The New Zealand dairy and beef sectors, despite their relatively high labour and land costs compete successfully with their products and services around the world - without subsidies or governmental support.

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#### SolutionNZ for the Global Dairy Industry

##### The Need

- Food Security has become a strategic issue for many nations
- Dairy food is a key protein source for developed countries and a rapidly growing source for developing countries
- A key strategic issue for dairy processors is the market's demand for quality
- Dairy Farmers need to produce consistent levels of both quantity & quality
- Systems need to be environmentally sustainable for inputs and outputs including water
- Milk production needs to be located in strategic geographic zones to minimize climatic, political and business risk
- Milk must be produced with low cost systems to ensure long term economic competitiveness
- Facilities must be scaleable to allow for growth
- A reputable provider for the design, installation and operation of a Dairy system in the target country

##### The Service

New Zealand is a recognized world leader in low cost pastoral farm production systems with integrated quality control resulting in safe milk and products. With a team of established agricultural technology providers, Waikato Innovation Park assists global large scale farm operations in adopting leading low cost technologies and systems. It provides solutions for large scale land development, technology deployment, implementation and support of ongoing farm operations, for large Corporate Farmers or State Strategy implementers, as well as Dairy Processors who are vertically integrating to secure supply.

The service is provided from a commercial consortium of NZ firms (Dairy SolutionNZ) established to assist these large enterprises in the configuration of 'best of breed' turnkey dairy farms and dairy factories, including development and operate services. Beef production is a by product of the dairy industry and is a significant value-add to any project.

The consortium has a proven track record in operating in global markets both individually and as a consortium. Reference sites are available in New Zealand, China, USA and Brazil.

## Approach

- The Dairy SolutionZ team work with the client to develop, design and implement a commercial model suitable for the stakeholders, combining operate services contracts to achieve the business case with technology acquisitions.
- A total approach to implementation including project management tools developed through previous global installations and scientific based proven operational methodologies adapted to local conditions.
- A performance bonus share of production beyond the baseline business case ensures both parties work together to strive for optimum results.
- Identifying appropriate geographic locations can be undertaken for the client.
- Close collaboration is maintained with State entities to ensure that the social outcomes from investments of this magnitude are appropriate.

The process is for a **Current State** analysis to view the key assets, systems and products of the proposed farming investment.

Following the initial visit a top level preliminary design / framework will be developed and documented by the team based in New Zealand in conjunction with the client's team using remote consultation. The preliminary design / framework intended to be the **Future State** will then be socialised with the client and adjusted as necessary.

The process of **Due Diligence** includes a team from the client travelling to New Zealand to view the partner companies and systems, validating the competency, capability and capacity of the consortia. They will also present their feedback on the preliminary design / framework 'Future State', allowing dialogue and modification of the design.

The phase of **Concept Design and Mobilisation** is developed after the Future State is approved in principle by the Client. Key resources from the 'Future State' and 'Due Diligence' phase will also need to be consistent with the following Concept Design phase.

The target is for six months to achieve an agreed comprehensive design and work plan to be able to commence implementation.

## **Benefits**

Land owners transform land use and returns through leveraging the knowledge, skills and technologies sourced largely from the Dairy SolutionNZ Team. Business cases indicate a 15% (minimum) return on assets for Dairy development in developing nations. Larger scale projects are projected to achieve still greater returns through economies of scale.

Dairy production risks are minimized through the application of sustainable practices developed over the last 60 years in New Zealand and modified to local conditions. Our customers benefit from future performance improvement derived from the community of Researchers and Developers.

Skills and knowledge are left embedded within local management to ensure long term sustainability.

## **Options**

The Dairy SolutionNZ flexible approach takes into account local conditions. Where harsh geographic or climatic conditions prevail, alternative systems including semi-feedlot, permanent housing and crop feeding will all be explored. The hybrid solution adopted will be driven by the local business case but can be fully implemented by the Dairy SolutionNZ team.

## Dairy SolutionNZ Pasture Plus Farm Concept

### AIM

- Establish a best practice commercial dairy farm model
- All milk produced meets international quality standards
- Milk production costs will be lower than any comparable in-country farm
- The farm is long term environmentally sustainable
- Develop local skills and capability

A New Zealand pasture plus farm will follow New Zealand best practice systems adapted to local conditions. The main diet will be a grass based pasture diet complemented with grass silage, maize silage and other local forages. Best New Zealand models will be available to ensure cost benefit optimisation. Minimisation of capital outlay will be the objective with low cost cow housing available only for extreme local conditions, with farm support equipment minimised.

### An example of a Pasture Plus farm output.

9000 Cows, 5 linked farms, 1800 lactating cows per farm  
5 milking parlours, 1 central equipment hub

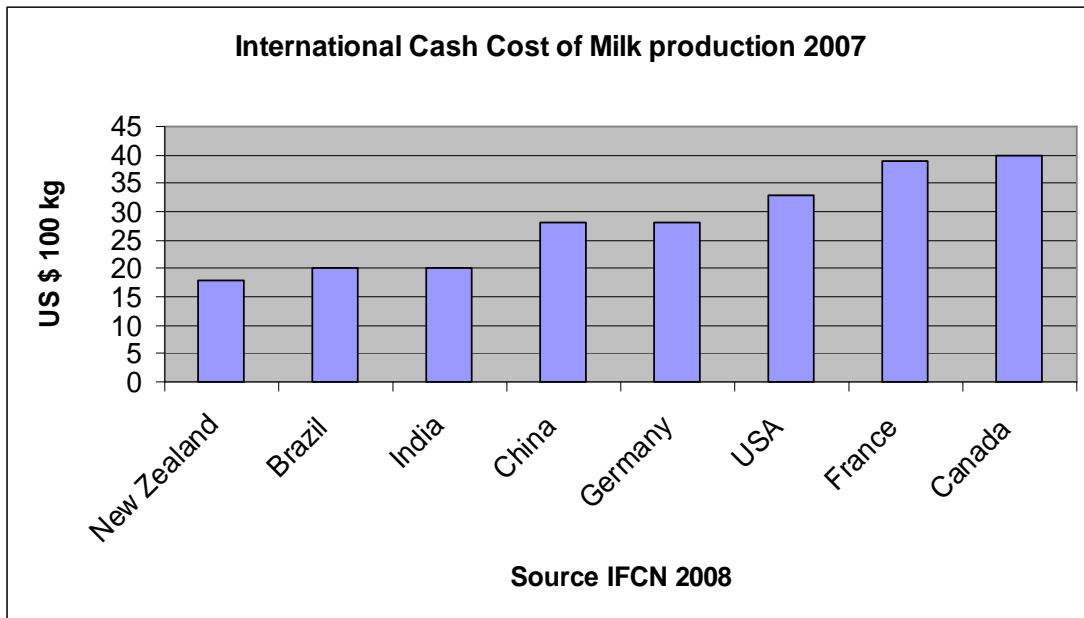
Total capital cost \$US 23 million (excluding land)

- Average 15 litres per cow per day
- 305 days lactation per year per cow
- Average 120,000 litres per day
- Annual production 4,300,000 litres
- Finishing 3600 dairy beef animals per year.
- Milk marketer quality standards complied with 100%
- Average cash cost \$US 0.15 per litre

Project size can range from 5000 cow operations to 50,000 cow operations with the ability for scale-up in phases built into the design.

Beef production as a by-product of the dairy industry can be a significant value-add to any Dairy project as well as being an attractive option as a stand alone investment

**The New Zealand System Advantage**



New Zealand has developed a unique pasture based system over the last 60 years which has out-performed all others on the basis of cost and environmental sustainability. Cows in New Zealand habitat outside all year round except in extreme conditions. New Zealand has developed science-based pastures, cow genetics and farm technology which operate in harmony with this year-round grazing operation. These systems are now being adopted successfully around the world in places like Chile, Brazil, Argentina, Uruguay, USA, Ireland, UK, Australia and South Africa. Adaptation to local conditions without compromising the system advantages is important.

### **The Total Farm Model value chain Dairy SolutionNZ Assurance.**

The Dairy SolutionNZ Consortium will provide a complete farm value chain assurance including but not limited to:

- Business case establishment
- Farm design
- Farm set up and construction
- Optimisation Pasture utilisation
- Farm mapping
- Electric fence utilisation
- Cow housing
- Milking Parlour construction
- Milk harvesting equipment
- Pasture Plus animal genetics
- Fertilizer optimisation
- Dairy beef finishing
- New Zealand based farm placement training
- Staff and outreach training
- Total farm management
- Integrated Quality control management, process and procedures
- Follow up supervision over extended years with in country visits.

If required, Milk Processing design, construction and operation.



World's leading research on pasture grasses and management



Strip grazing Uruguay South America



Appropriate genetics  
chosen from the  
world's best pasture  
based genetics and  
crosses proven in  
tropical and sub





Feed Bunkers for storage and handling of conserved feed and feed supplements

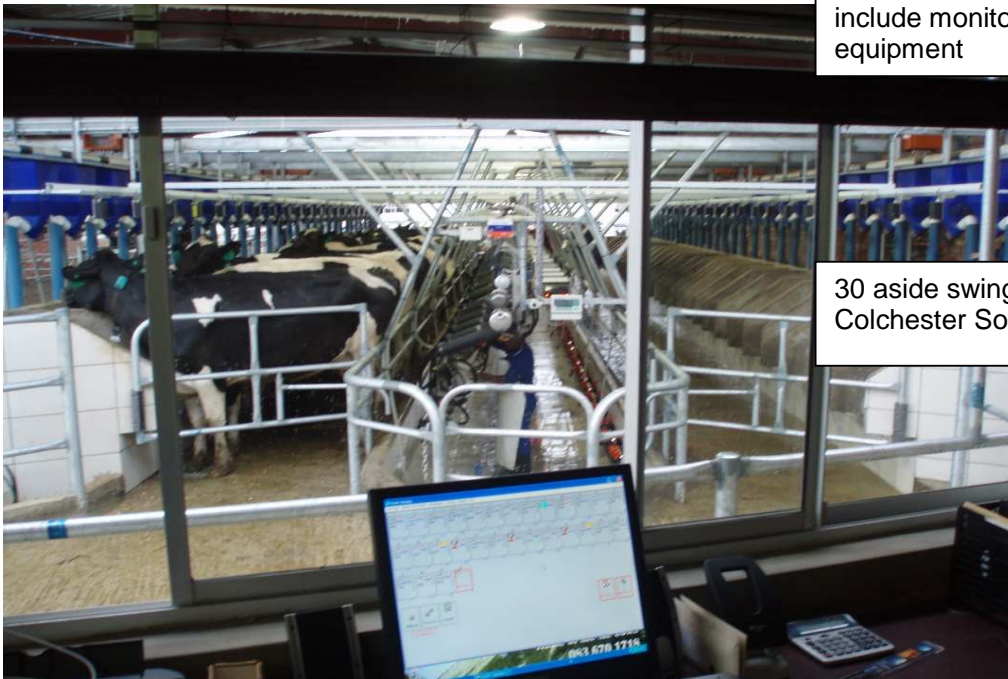


Use of Round Bales for storage and handling of conserved feed



100 bail Rotary Himeville  
South Africa

World leading milk  
harvesting technology  
appropriate for the  
location, which could  
include monitoring  
equipment



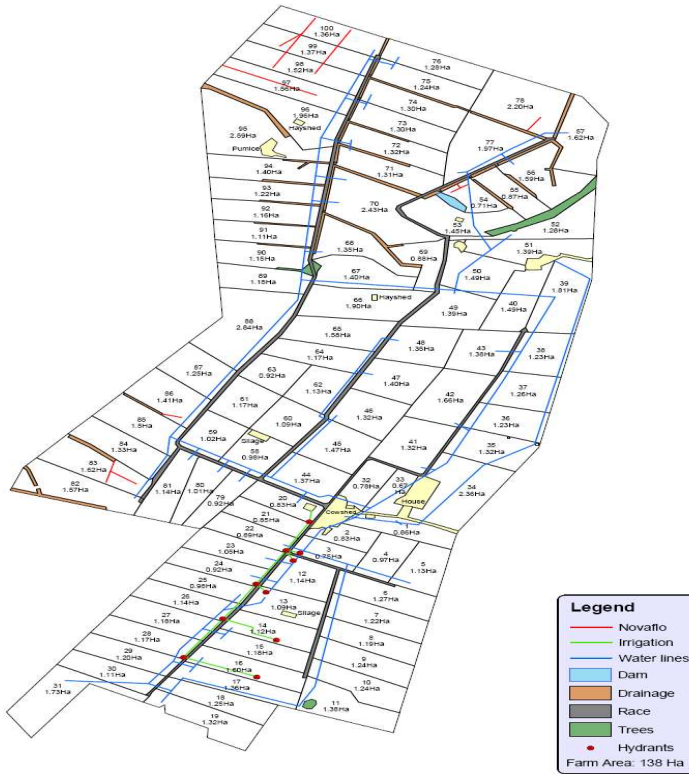
30 aside swing through  
Colchester South Africa



Fonterra China 30 aside swing through



Malaysia Double up High line 20/20



World leading animal management systems, subdivision design and fencing

Farm Mapping software to design appropriate and functional layouts for each operating farm.



Low cost cow housing for extreme weather conditions

## Who are we?

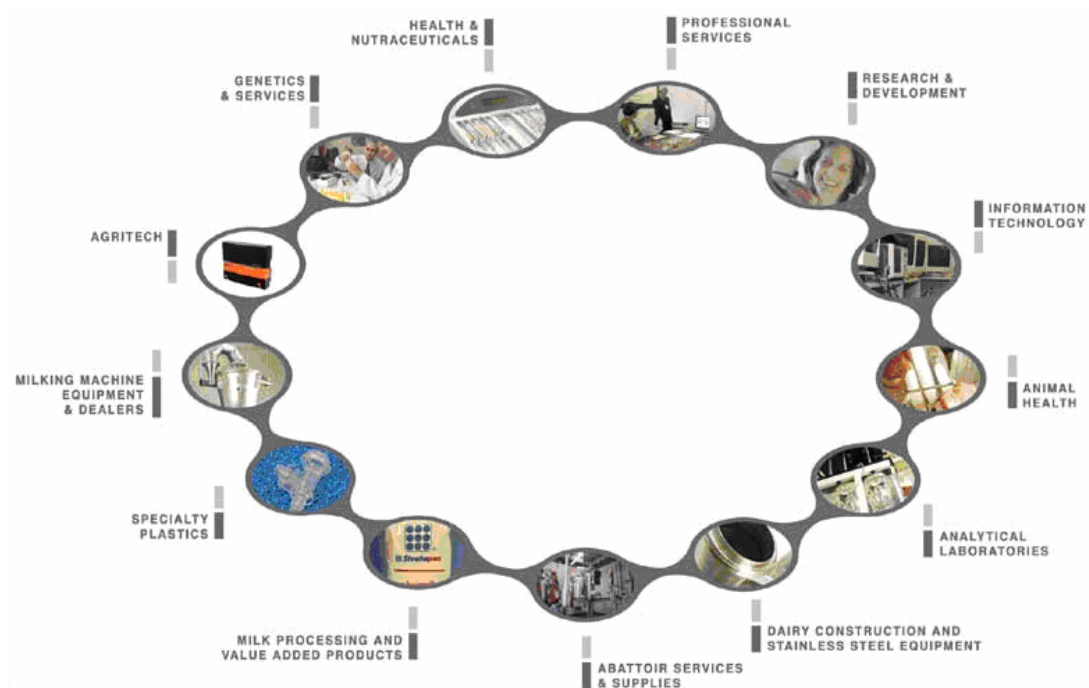
Waikato Innovation Park is a Technology Business Park focused on the Agricultural and Biotechnology (AgBio) area. We are situated in Hamilton, the capital of the Waikato Region and the centre of the Dairy Industry in New Zealand.

There are currently over 50 companies resident in the park and the next stage of growth is occurring now to accommodate the demand for space. The park is situated alongside New Zealand's Government Agriculture research centre (AgResearch), the University of Waikato and the New Zealand dairy industry research centre DairyNZ.

We are the centre of the New Zealand AgBio Cluster which is a group of companies within a particular industry who, though they may sometimes compete with each other, also work together co-operatively to deliver greater business advantages globally.

The role of Waikato Innovation Park in the Cluster is to:

- work with large scale and corporate farmers and Fund Managers to assemble the 'best of breed' technology and service providers, for their unique requirements
- facilitate collaboration between New Zealand's AgBio Companies
- lead internationalisation of New Zealand's agritech and services.



## THE PARTNERS

The Dairy SolutionZ partner firms and their core products and services are:

- [Landcorp](#) – New Zealand's Government owned and New Zealand's largest farmer at over 360,000ha, for farm development and farm operations services
- [Paul Bardoul](#) – New Zealand's highest producing farmer using the Pasture Plus system
- [LIC](#) – for New Zealand pasture genetics and farm advisory consultants
- [CRVAmbreed](#) – for globally sourced genetics, including Kiwi Holstein and in-market field services
- [ABS](#) – for access to world class embryology and genetics
- [Sexing Technologies](#) – International reputed provider of sexed semen and embryos
- [Gallagher](#) – No1 in the world for animal management systems, fencing and related technologies
- [Milfos](#) – for in-shed technologies completing 250 projects per year
- [Elite Innovations Ltd](#) – in partnership with Milfos, building a complete Dairy farm every two weeks for similar NZ based projects
- [Herd Homes® Ltd](#) – low cost herd shelter systems
- [PGGWrightson](#) – for seed and live animals, with over 30 years of (Temperate and Tropical) export experience
- [DTS](#) – (subsidiary of NDA) for installation & field service of a current 12,000 milk vats nation wide
- [TetraPak](#) – for Dairy processing development with a history of 24 factories built in NZ including the largest in the world
- [NDA](#) – for fabrication and construction of processing lines as a key sub contractor to TetraPak
- [RML](#) – for Dairy Packaging Technology
- [Wintec](#) – training for topics such as Agritechnology, Trades and English training
- [AgITO](#) – for New Zealand training of farm workers and managers
- [Lincoln University](#) – for graduate and post graduate education
- [AgResearch](#) – New Zealand's leading Government owned research institution for farm systems validation and science related problem solving.

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