

# SoftTrace MilkData

FOR ALL YOUR MILK TESTING NEEDS



**SoftTrace MilkData meets the specific milk testing requirements of the Dairy industry. It records and monitors the volume and composition of milk tanker loads and farm tanks. It caters for farmer payment, tanker, individual cow and herd recording analysis.**

SoftTrace MilkData facilitates high frequency testing, rapid results interrogation, guaranteed compliance with statutory requirements and a significantly enhanced level of service to suppliers. It increases productivity and efficiency in laboratory scheduling, testing and reporting operations and provides enhanced visibility on samples, results and payment.

SoftTrace MilkData focuses on optimum systems integration. It integrates with laboratory instruments, 3rd party systems and external regulatory systems to seamlessly integrate all critical data. The resulting fully integrated data chain and real-time reporting contributes to meeting customer's cost reduction, operating efficiency and service level objectives.

The benefits associated with being better able to process, monitor and leverage key information affords tangible levels of performance improvement in areas such as laboratory resources utilisation, farm milk reconciliations, milk purchase control, and supplier milk quality optimisation.

**Implement SoftTrace MilkData and achieve:**

- Increased productivity and efficiency with reduced running costs.
- Increased visibility on all sample test results and payments.
- Enhanced communications with suppliers, farm advisors, vets and regulatory bodies.
- Enhanced service capabilities to suppliers and customers.
- Enhanced testing and scheduling capabilities.
- Full traceability on all samples.
- Guaranteed data quality and integrity with significantly reduced compliance risk.

**We understand the Dairy industry's milk testing challenges**

Based on our in-depth knowledge of the Dairy industry, SoftTrace have included critical milk testing and herd recording functionality.

Our team of industry experts have designed SoftTrace MilkData so Dairy laboratories can easily configure it to meet their precise analysis needs. Because of this, MilkData offers a total solution for the effective, enterprise-wide automation and management of Dairy laboratory data and workflow processes. It delivers a paperless laboratory, enforces best practice, enhances traceability and ensures adherence to quality standards at all stages of the analysis process.





## It's All About Milk Testing

SoftTrace MilkData stores milk composition and quality data based on the analysis of supplier milk samples. It interfaces with laboratory milk testing instruments to automatically capture test results and facilitates manual data input, as required.

As results are made available for validation, they are cross referenced against user defined specifications, grades and limits. Out of specification and abnormal results are automatically flagged for attention. Once validated, analysis results are made available for reporting, geometric averages functionality, and transfer to 3rd party payment systems.

## Operator & Manager Interfaces

SoftTrace MilkData is deployed in two sub-modules: the Operator Module and the Manager Module:

- **MilkData Operator Module:** integrates with laboratory instruments for automatic data capture and the rapid collection and monitoring of sample results in real-time.
- **MilkData Manager Module:** incorporates sample reception and scheduling functionality and. It is used to schedule testing, manage and validate results, generate reports and enquiries, and manage farmer payments based the transfer of test results to a Milk Payment System.

- **Dynamic interfaces** to milk testing instruments, 3rd party (milk payments & ERP etc.) and external regulatory systems.
- **Meeting a range of analysis needs:** milk payment, tanker load, individual cow and herd analysis.
- **Volume, quality and composition analysis** for individual supplier collections.
- **Real-time, automated data capture and graphing** of results from laboratory instruments.
- **Supplier Enquiry Dashboard** (a comprehensive profile of individual suppliers).
- **Animal disease** testing analysis, certification, alerts and reports.
- **Full geometric management** including automatic alerts, enquiry and reporting functionality.
- **Barcode management** (for supplier, tanker and intake samples).
- **Farm quality management** system (inspections and certification).
- **Farm water** sample analysis, reports and email alerts.
- **Antibiotics** purchasing monitoring.
- **Tanker load** collection management.
- **TCM analysis, trending, certification, reports and email alerts.**
- **Brucellosis** testing management.
- **Current and historical results** by test, milk deliveries, payment grade, current geometric status and results.
- **Full supplier analysis history** cross referenced to volumes supplied.
- **Sample scheduling, sample reception,** sample date validation and variance analysis.
- **OLE links** to standard operating procedures and testing methods.
- **Automated Communications** including SMS messaging and emails.
- **Comprehensive suite of reports,** enquiries, and graphs.
- Archive system.
- Full system security.

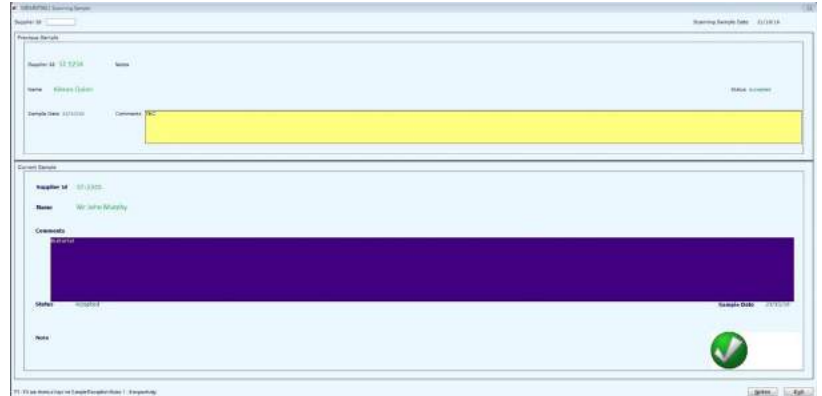
**softtrace**  
delivering traceability solutions



## Sample Scheduling & Sample Reception

The SoftTrace MilkData sample scheduling functionality allows users to assign supplier samples to a daily schedule based on user configurable rules. At sample reception, samples (manually logged or scanned into the system) are automatically assigned to the appropriate tests based on the established analysis schedule.

- Configure test schedules by area for the testing period. Assign multiple suppliers to a single area code for automatic schedule creation at the start of each test period. Schedule fulfillment can be selected at the sample reception stage.
- Integrate with 3rd party scheduling systems, as required.
- Scan all payment samples as they are received into the laboratory and automatically assign to a test schedule.
- Achieve full, real-time visibility on the progress of scheduled testing.



## Trip Management

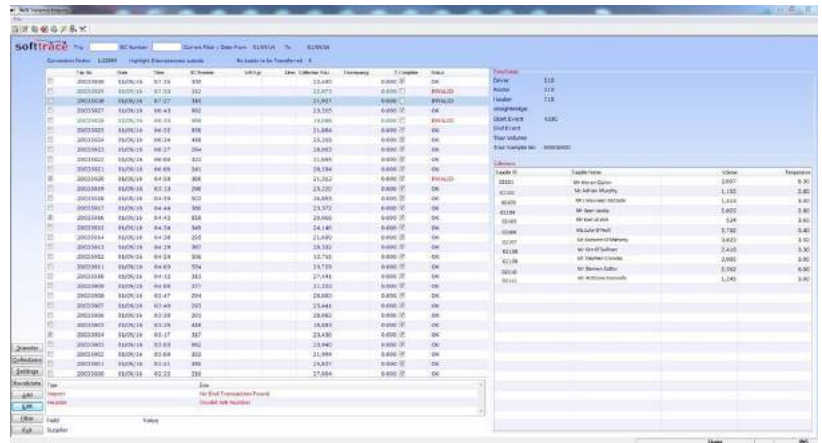
- Automatically import collection data.
- Update collection records for review and validation.
- Schedule the automatic transfer of results to the payment system.

## Data Capture & Results Monitoring

SoftTrace MilkData Operator integrates with milk laboratory milk analysis instruments for automatic test data capture and the rapid collection and monitoring of sample results in real-time. This enhances productivity, minimises compliance risk and the risk of human error by eliminating manual data entry.

For each instrument, **pilot sample monitoring and graphing** ensures that strict control of data integrity is maintained. When pilot samples are outside acceptable parameters, an automatic alert is generated to all relevant personnel via SMS or email.

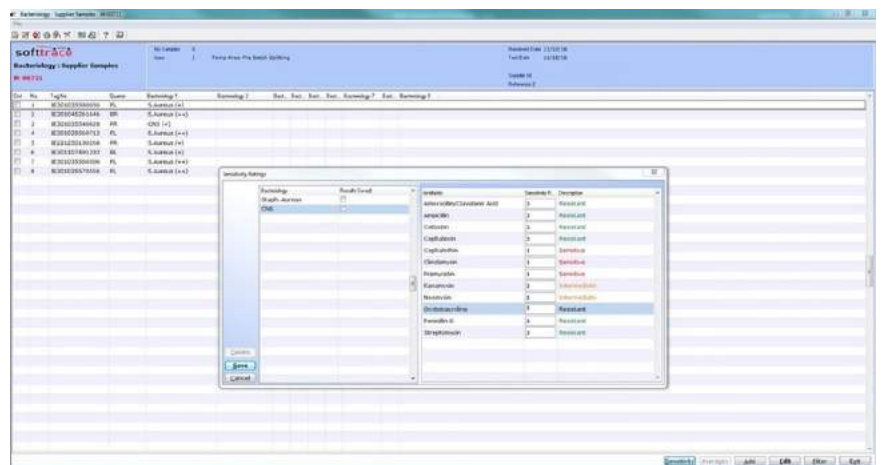
When analysis results are available for validation, the samples are automatically validated against milk collection dates to highlight anomalies - including samples without a corresponding volume. Where samples occur in a batch with an incorrect sample date, the batch is automatically split as required.





## Analysis Types

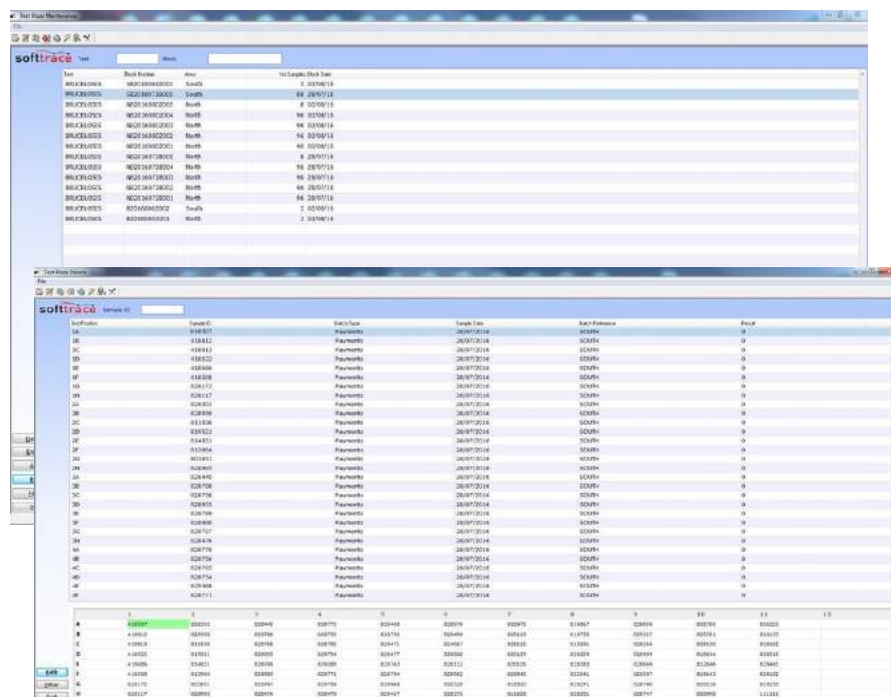
- **Tanker Load Aseptic Testing:** where a tanker sample has a high TBC count, all relevant supplier samples are automatically scheduled for TBC testing.
- **Bacteriology Testing:** full functionality to support bacteriology testing including a reports and certificates generator.
- **Farm Water Testing:** full functionality to support farm water testing including sample analysis, reports and email / SMS alerts.
- **Geometric Management:** with automatic alerts and a comprehensive enquiry and reporting system.
- **Antibiotics Testing:** full functionality to support antibiotics testing.
- **TCM:** TCM analysis, trending, certification, reports and email alerts.
- **Test Blocking:** to support brucellosis testing, antibiotics testing, and ocular interface.



## Test Blocking / Brucellosis Plating

SoftTrace MilkData includes functionality to plate samples on 96 well test blocks. This feature been designed with the flexibility to facilitate all associated analysis. It includes the ability to maintain analysis blocks, export / print block information, import / enter block well results and create MilkData batches from blocks.

When a block is selected, the user is provided with a list of wells to enter or scan sample information into. Each well stores the corresponding Sample ID, Sample Date, Batch Reference and Batch Type information. Users are provided with the option to manually enter the Sample ID or scan the sample barcode. To reduce the amount manual data entry required, the Sample Date, Batch Reference and Batch Type fields automatically default to previously entered data, which can be modified as required.





## Animal Disease Testing

The SoftTrace MilkData animal disease testing functionality has been developed in direct collaboration with Dairy industry professionals to meet the specific analysis and communications demands of a proactive herd health screening programme. It facilitates recording, grading and reporting on bulk sample test results (screened at pre-determined intervals), along with supplier herd vaccination history and current status. Automatic plate validation of supplier testing requirements improves efficiency by eliminating the risk of performing unnecessary tests.

SoftTrace MilkData interfaces with disease testing instruments to record, grade and report on BVD, IBR, leptospirosis, johnes disease, neospora canium, salmonella, liver fluke, rumen fluke, stomach worms, mastitis bacteriology and schmallerberg virus test results. A test report, automatically generated by MilkData, can be provided to suppliers, farm advisors and veterinary practitioners via email (PDF or Excel), SMS messaging, fax, post, or secure web portal. Health screening certificates can be generated in PDF format for print and email.

### Herd Disease Screening Service

<b>Kieran Quinn</b> <b>SoftTrace Ltd</b> <b>Unit 3 Carrigrohilly Bus.</b> <b>Carrigrohilly</b> <b>Co. Cork</b>	<b>Herd Number</b> J144034X <b>Farm Dev. Advisor</b> <b>Vet</b>
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**Sample Date** 25/08/2018  
**Test Date** 27/08/2018  
**Matrix** Milk  
**Sample Type** Bulk Milk Sample  
**Sample ID** 4120478

Vaccination Status			
IBR	BVD	LEPTO	Salmonella
Yes	No	Yes	Yes

RESULTS			
Disease	Test Method	Result Reading	Grade
IBR gB (Non Vaccinating Herd)	ELISA (Antibody)		
IBR gE (Vaccinating Herd)	ELISA (Antibody)	0.260	POS
Leptospira	ELISA (Antibody)	0.539	
BVD Antibody	ELISA (Antibody)		
Neospora	ELISA (Antibody)	0.127	NEG
Salmonella	ELISA (Antibody)	5.4271	NEG
Ostertagia (Stomach Worm)	ELISA (Antibody)	0.52467	LPOS
Fasciolosis (Liver Fluke)	ELISA (Antibody)	5.953	NEG

GRADING TABLE		
Negative	Low Positive	Positive
Less than or equal to 25		Greater than 25
Greater than or equal to 0.001		Less than 0.001
Less than or equal to 0.03	0.031 to 0.100	Greater than 0.10
Greater than 80	45-80	Less than 45
Less than or equal to 0.5		Greater than 0.5
Less than 25		Greater than or equal to 25
Less than or equal to 0.099 NEG	0.4 - 0.599 LPOS	0.7 - 0.999 POS
Less than or equal to 30 NEG	30 - 80 LPOS	80 - 150 POS
		Greater than 150 HPPOS

NEG = Negative    LPOS = Low Positive    POS = Positive    HPPOS = High Positive

COMMENT: Where cows/herds are currently vaccinated for BVD, IBR, Lepto, Salmonella, results for these tests may be affected by vaccination. Results are representative of milking cows whose milk is in the bulk tank at the time of sampling and relate only to the portion of the sample tested. All results should be discussed with your Veterinary Practitioner. Antibody levels indicate previous exposure to disease and/or vaccine.

Authorised by Laboratory Manager

30 August 2018

### Herd Disease Screening Service

<b>Kieran Quinn</b> <b>SoftTrace Ltd</b> <b>Unit 3 Carrigrohilly Bus.</b> <b>Carrigrohilly</b> <b>Co. Cork</b>	<b>Sample ID</b> 4120478 <b>Herd Number</b> J144034X <b>Farm Dev. Advisor</b> <b>Vet</b>	<b>Vaccination Status</b> IBR    BVD    LEPTO    Salmonella Yes    No    Yes    Yes
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### SUMMARY RESULTS REPORT

Disease	Date	Result Reading	Grade	Date	Result Reading	Grade	Date	Result Reading	Grade
IBR gB (Non Vaccinating Herd)	25/08/18			16/08/18			07/08/18		
IBR gE (Vaccinating Herd)	0.260	POS		0.166	POS		0.166	POS	
Leptospira	0.539			0.238			1.537		
BVD Antibody				507.383	NEG				
Neospora	0.127	NEG		0.014	NEG		0.040	NEG	
Salmonella	5.4271	NEG		11.225	NEG		14.799	NEG	
Ostertagia (Stomach Worm)	0.52467	LPOS		0.72742	POS		0.55054	LPOS	
Fasciolosis (Liver Fluke)	5.953	NEG		5.965	NEG		12.93	NEG	

Animal Disease Testing | Bulk Herd Testing: A-0429

Car No	Supplier ID	Supplier Name	IBR	BVD	Lepto	Neospora	Ostertagia	LiverFluke	Salmonella
1	0400242	Sap 0400242	0.879	0.0000	0.8770	0.0250	1.1949	31.5100	240.7900
2	1510555	Sap 1510555	0.805	0.0000	0.8100	0.8100	0.7611	32.2400	159.4400
3	5012152	Sap 5012152	0.587	0.0000	0.0030	0.0250	0.4252	8.8940	244.7800
4	5012210	Sap 5012210	0.137	0.0000	0.9520	0.1480	0.5893	4.6150	17.8370
5	7215222	Sap 7215222	0.802	0.0000	0.2670	0.4140	0.8207	66.1300	101.8300
6	0010009	Sap 0010009	0.511	0.0000	0.3360	0.0200	0.5118	9.6040	223.6200
7	0010197	Sap 0010197	0.034	0.0000	0.0110	0.1500	1.3317	5.6700	235.0900
8	0010235	Sap 0010235	0.202	0.0000	0.4830	0.1140	0.8569	1.2230	251.4100
9	0010256	Sap 0010256	0.202	0.0000	0.4050	0.0670	0.8051	12.2200	236.2700
10	0020031	Sap 0020031	0.809	0.0000	0.5440	0.0140	0.9194	8.8910	235.4900
11	0020073	Sap 0020073	0.489	0.0000	0.2370	0.0540	0.8784	1.4450	226.7600
12	0030145	Sap 0030145	0.841	0.0000	0.8980	0.1110	0.5038	66.8300	216.2700
13	0400033	Sap 0400033	0.305	0.0000	0.4580	0.0340	0.7450	12.2700	241.6700
14	1110602	Sap 1110602	0.229	0.0000	0.4480	0.0670	1.0943	0.5559	194.0400
15	1110626	Sap 1110626	0.114	0.0000	0.2700	0.3830	0.7543	4.3990	5.8521
16	1120704	Sap 1120704	0.457	0.0000	0.2910	0.0870	0.3362	1.1250	245.2100
17	1130643	Sap 1130643	0.379	0.0000	0.3770	0.0610	1.3482	4.6150	246.9100
18	4100030	Sap 4100030	0.237	0.0000	0.4680	0.0090	0.8061	1.0010	232.7100
19	4100412	Sap 4100412	0.825	0.0000	0.5330	0.0120	0.5774	5.4020	230.7600
20	4100448	Sap 4100448	0.828	0.0000	0.8880	0.1240	0.5915	4.5020	174.9200
21	8120478	Kieran Quinn	0.330	0.0000	0.5390	0.1270	0.5317	5.8230	5.4271
22	4120488	Sap 4120488	0.821	0.0000	0.0130	0.0040	0.7396	76.8700	27.4420
23	5012120	Sap 5012120	0.889	0.0000	0.3380	0.0930	0.8484	35.4800	175.8300
24	1011601	Sap 1011601	0.150	0.0000	0.6370	0.0930	0.7777	2.4460	96.0350
25	1011604	Sap 1011604	0.837	0.0000	0.0270	0.0070	0.5628	1.3340	218.8400
26	1011630	Sap 1011630	0.524	0.0000	0.8380	0.1760	0.8705	9.0040	214.0100
27	1011635	Sap 1011635	0.906	0.0000	0.2070	0.1680	0.6742	4.8400	179.2300
28	1011636	Sap 1011636	0.204	0.0000	0.3750	0.1450	0.4152	4.0520	251.4100
29	1011721	Sap 1011721	0.736	0.0000	0.1860	0.0220	0.7013	35.7900	148.9000
30	1011796	Sap 1011796	0.314	0.0000	0.3630	0.0200	0.5772	9.4540	245.7800
31	1011863	Sap 1011863	0.513	0.0000	0.3570	0.0430	0.8588	5.5150	33.0200
32	1047052	Sap 1047052	1.085	0.0000	0.5440	0.0670	0.3605	2.9260	96.7150
33	1050606	Sap 1050606	0.317	0.0000	0.5660	0.0250	0.8276	3.2640	29.4820
34	1050614	Sap 1050614	0.721	0.0000	0.4140	0.0090	0.6312	3.3760	245.0400
35	1050690	Sap 1050690	0.874	0.0000	0.4210	0.0200	0.8722	16.8800	220.1300
36	1050714	Sap 1050714	2.891	0.0000	0.1720	0.0670	0.8618	7.4280	246.2300
37	1070663	Sap 1070663	0.456	0.0000	0.5580	0.1810	0.8927	0.6755	238.7500



## Results Validation & Communication

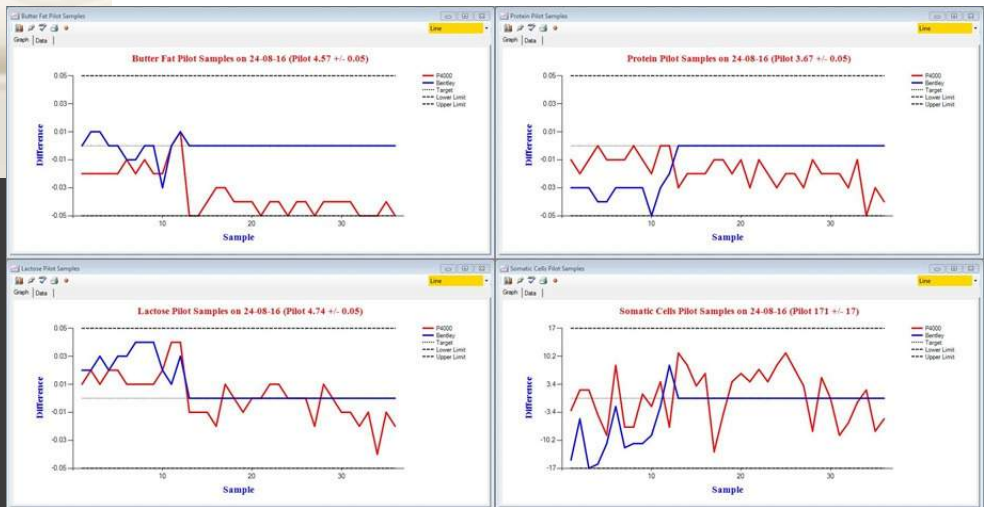
As analysis results are transferred to the MilkData Manager module from the Operator module, they are validated against user defined specifications. Out-of-specification results are automatically highlighted on the system. In addition, a standard enquiry allows the Laboratory Manager to review rejected results and trend the results against individual supplier histories.

Herd analysis results are automatically emailed to suppliers and advisors, reducing the number of queries received. The rapid provision of herd investigation results ensures that advisors are in a position to provide timely advice to suppliers on individual cows that are adversely affecting their results and payments.

The SoftTrace MilkData SMS functionality provides the laboratory with the option to automatically send supplier results directly to their mobile phones for instant results notification. This functionality can also be used to send bulk marketing messages or individual messages as required.

SoftTrace MilkData allows for the import of results from external laboratories and the production of regulatory documentation. For example, TCM results can be automatically imported and the required certificates printed and / or emailed to the supplier. Similarly, farm water testing, animal disease testing and brucellosis plating (documentation) is fully supported.

Real-time pilot sample graphing affords strict control over data integrity with automatic SMS and email alerts generated outside acceptable parameters.



## Geometric Management

SoftTrace MilkData includes full Geometric Management functionality, including the ability to predict the test results required to meet the milk standards applicable. User configurable warning and rejection notices can be generated automatically from the system. The Geometric rules and winter factors applicable can be configured for ranges of suppliers. Results can be marked as “advisory”, and automatically excluded from transfer to payment and geometric calculations.





## Reporting

SoftTrace MilkData provides a comprehensive suite of standard and user-defined reports, enquiries and SPC graphs to meet internal and external reporting requirements. Customised reports can be provided to meet all requirements. Report data can be generated in multiple formats for email, print, and export to other applications - including in Excel and PDF format.

- Supplier History - monthly results
- Payment averages from individual tests
- Percentage variations
- Individual exceptions
- Herd Investigation screening
- Lactose Exception report
- Farm advisors web portal

## Supplier Enquiry Dashboard

SoftTrace MilkData Supplier Enquiry Dashboard is fully configurable and provides the Laboratory Manager with comprehensive and actionable data on individual supplier quality results, at a glance. It provides a summary view of all results and volumes for individual suppliers, with the ability to drill down to view full volume details, herd testing results, batch details, supplier details, SMS logs and geometric details. Drag and drop functionality facilitates the display of individual supplier test results alongside collection data for a selected period:

- Add and modify results.
- View a list of all samples logged and scheduled for testing.
- View a range of reports, e.g. Herd Investigation, Geometrics, Variances, Individual Cow, Trip Management, Batches tested etc.

Date	Volume	WFA	Protein	Lactose	SCC	TEC	SMC	Abund	Urea	D-lactose	Round	Status	UREA
20/11/13	4,268	4.38	3.55	4.65	188						24		27
20/11/13	4,257	4.38	3.55	4.65	188						24		27
20/11/13	4,899	4.44	3.58	4.89	205						24		28
20/11/13	4,888	4.25	3.56	4.87	197	11					24		27
17/11/13	4,238	4.22	3.59	4.79	183						24		18
16/11/13	3,733	4.25	3.57	4.85	176						24		30
11/11/13	3,812	4.08	3.59	4.84	179						24		18
06/11/13	3,689												
05/11/13	3,848	4.11	3.56	4.67	189						24		21
01/11/13	3,817	4.28	3.55	4.91	192	12					24		18
20/10/13	3,712	4.11	3.57	4.89	174						24		18
27/10/13	3,797	4.18	3.56	4.87	173						24		28
24/10/13	3,879	4.26	3.55	4.88	189						24		28
21/10/13	3,875	4.25	3.75	4.88	182						24		25
18/10/13	3,784	4.25	3.75	4.79	182	7					24		18
15/10/13	3,797												
12/10/13	3,816	4.17	3.66	4.78	188						24		18
09/10/13	3,838	4.28	3.63	4.72	229	9					24		28
06/10/13	3,812	4.18	3.65	4.74	175						24		30
03/10/13	3,842												
30/09/13	3,885	4.18	3.66	4.71	171						24		26
27/09/13	3,901	4.27	3.66	4.75	189						24		42
24/09/13	3,947	4.24	3.68	4.86	171						24		40
21/09/13	3,978	4.12	3.65	4.77	183						24		28
18/09/13	3,968	4.17	3.53	4.89	169						24		41
15/09/13	3,892	4.14	3.64	4.78	167	8					24		17
12/09/13	3,868	4.12	3.61	4.83	167						24		42
09/09/13	3,891	3.92	3.64	4.87	167						24		37
06/09/13	3,288												
03/09/13	3,238	4.06	3.59	4.86	168	4					24		32

## Instrument & Systems Integration

SoftTrace MilkData can be rapidly and cost effectively deployed to integrate seamlessly with your existing laboratory infrastructure. It facilitates the automatic, real-time transfer of up to 20 results per sample to and from analytical instruments, average weights checkers, 3rd party systems, and external laboratories. This flexible, customisable dynamic interface and data transfer functionality delivers significant productivity gains, maximises resource utilisation and maintains data integrity.



## Security & Compliance

SoftTrace MilkData supports Dairy industry users in meeting regulatory and accreditation needs. It conforms with GAMP, ISO 17025, GLP, HOKLAS, EN requirements for audit trails, security via multiple levels of permissions, data integrity, sample ID and tracking, corrective actions, control methodologies, access to SOPs, and data archiving. This includes compliance with CFR 21 Part 11 requirements for integrated security features, electronic records, and signatures.

## Expert Support Services

- Technical and business consultancy
- Risk analysis and needs assessment
- Project management and implementation
- Software customisation
- Hardware implementation
- Customised training and on-going technical support

## SoftTrace Systems Technology

To meet the technological challenges of today's business environment, the SoftTrace modules have been developed using the latest object oriented, rapid application development (RAD) technology. This facilitates efficient and rapid new product development. This means that we have the ability to easily customise and configure aspects of the SoftTrace modules for new customers, and efficiently provide updates to existing customers. The Client/Server, open systems architecture guarantees:

- High performance
- Superior data management capabilities
- Data access security
- Easy integration with 3rd party systems - ERP, process automation, laboratory instruments etc.
- The adaptability to meet evolving business needs

Designed and tested to meet rigorous Windows standards, SoftTrace provides users with a consistent, intuitive working environment incorporating:

- Windows compliance
- Client / server distributed networking
- Availability on a number of platforms
- Open databases - Oracle, MS-SQL, MySQL etc.



**softtrace**  
delivering traceability solutions

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