

Deployment and Adoption Best Practices for ProFicient™

Achieving the Excellence Loop







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Additional Resources	



Executive Summary

For beverage manufacturers, compliance with health and safety requirements is a regular part of quality efforts. But it requires extracting large volumes of data from a variety of incompatible measurement devices and systems. It is a time- and labor-intensive process.

Beverage manufacturers can streamline health and safety compliance while seeing tangible return on investment.

Beverage producers can make compliance easy by pulling all of that data into one place. With a

centralised data repository, collecting and reporting on key performance indicators (KPI) is simple. Beyond mandated compliance, you gain visibility into how quality can be improved, processes can be more efficient, and productivity can be increased. The results? Realised cost savings.

You can quickly access all of these benefits through ProFicient. With the best practices and helpful hints provided in this guide, we can ensure that your ProFicient deployment is successful, resulting in streamlined compliance and tangible return on investment.

6 Secrets to Success for Beverage Manufacturers

The 6 secrets to quick deployment with immediate results are:

Centralised Leadership. A Project Leader should be appointed who has the authority to make decisions and set direction. Having a point person on the client side helps build consensus and simplifies communication.

Fixed Scope. A clearly defined scope makes sure we are all working toward the same goals in agreed-upon time frames.

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Available Resources. When we develop your solution, we'll identify the resources needed in each deployment phase. To make sure the deployment progresses smoothly, your experts should be available when their input and help is needed.

Pilot Participation by All Departments. Involving critical departments such as quality management and IT in pilot development ensures all critical input is considered in your solution design.

System Access. Access to the relevant computers, networks and systems ensures InfinityQS' engineers can perform the necessary tasks to deploy your solution as quickly as possible.

Standardisation. Standardisation streamlines deployment efforts and promotes agreement on quality goals. Key aspects of standardisation include:

- Naming Conventions
- Measurement Device Setup
- Measurement Procedures
- Policies
- User Permissions
- Master Data

Getting Results Fast

We want you to see the benefits of ProFicient as soon as possible. A successful deployment takes only a little thought and preparation. We hope this guide will help you prepare for your ProFicient deployment and trigger some thinking about what you want to achieve.



Deployment and Adoption

Recommended Best Practice:

InfinityQS' Focused, Phased Agile Deployment Approach

Beverage manufacturers frequently target critical KPIs to ensure compliance and review performance. To support beverage manufacturers' specific quality indicators, we developed an agile deployment approach that allows us to deploy functionality in sprints. The first sprint focuses on your critical KPIs. Examples of quality measurements that our bottling and beverage clients frequently target include Brix, CO₂, Net Content, Torque, Can Seam and PET Wall Thickness. Subsequent sprints can focus on automating data collection or expanding focus on additional quality indicators as you fine-tune your quality processes.

Benefits

- See return on investment quickly by prioritising and tackling critical quality and compliance goals:
 - Focus on requirements such as Brix, CO₂, Net Content, Cap Torque, Can Seam, and PET Wall Thickness upfront
 - > Quickly deploy and scale KPI-targeted functionality to all sites
 - Expand into enhanced quality improvement when you're ready
- Identify differences in data collection and processes that can be standardised for improved efficiency
- Eliminate redundant data entry and hardware installation by establishing a central data repository for all sites
- Build on your knowledge and experience with ProFicient as the deployment progresses

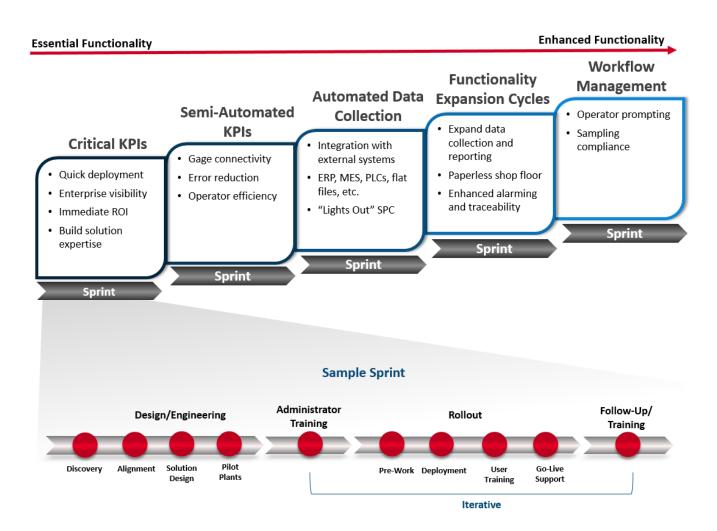


Agile Deployment Phases

Your first deployment sprint focuses on your specific KPIs to ensure your compliance goals are met. Each sprint provides a framework for requirement gathering, solution design, training and deployment.

For beverage manufacturers with more than one plant, functional modules can be deployed simultaneously to multiple plants, which means a dramatic reduction in overall time-to-completion. Our approach is shown below and a brief explanation of each phase is described on the following page.

Functional Deployment Modules for a Beverage Manufacturer





Design/Engineering. InfinityQS engineers help you develop a standardised solution that meets your critical KPIs along with project goals, scope and deliverables. During the discovery phase, InfinityQS' engineers will talk with you about your quality objectives and how to achieve them. Based on discovery findings, we develop a formal set of project goals to ensure alignment and manage expectations between your team and InfinityQS' team. Solution design is based on the discovery and alignment processes. A pilot project is conducted to test and validate system configurations.

During this phase, we encourage you to have at least one internal administrator attend ProFicient Fundamentals training prior to the Design/Engineering phase. The basics covered in this class will facilitate discovery conversations by giving your internal administrator a clear understanding of ProFicient and how it can be used to achieve your objectives.

Administrator Training. Your internal system administrators are trained in the use and administration of ProFicient. With this training, they can provide internal troubleshooting and support to your users, leveraging their experience and knowledge of your quality objectives.

Rollout. ProFicient on Demand is deployed to your plant(s). InfinityQS engineers provide go-live support. We conduct train-the-trainer sessions that enable your internal experts to train users.

Follow-Up Support. InfinityQS' follow-up support ensures continued adoption through reviews, which are conducted with project owners at each site. We also support managers and plant engineers with data analysis and reporting needs. We review metrics related to project goals including return-on-investment initiatives.

Subsequent Sprints. Subsequent sprints can be used to identify and design solutions for your quality objectives as they evolve. As shown in the deployment diagram above, examples of system enhancements include deploying semi-automated or

automated data collection, expansion of data collection for enhanced analysis, alarms and traceability, and workflow design that matches your current processes. We provide more detail about potential enhancements in the <u>Beyond Critical KPIs:</u> <u>Optional Enhancements</u> section.

Deployment Timeframes

When you're deploying critical KPIs in a focused, centralised environment, you can expect deployment timelines similar to those listed below. Deployment timeframes are dependent on the desired scope of the solution as well as the level of standardisation across the enterprise.

- Pre-deployment phase including discovery and initial focused solution design typically requires 3-4 weeks
- Initial deployment of focused solution requires 1-2 weeks
- Rollout deployment of focused solution across remaining plants requires 1-2 weeks

Roles and Responsibilities

Your active participation in the ProFicient deployment project is critical to its success. Based on our experience, we have identified some common roles and responsibilities that provide essential knowledge and support during deployment, which are depicted below.

Client Project Team					
InfinityQS Programme Manager	•	Reports to Leadership			
	Works closely with Quality Project Liaison				
	٠	Reports directly to Project Sponsor			
IT Project Manager	•	Serves the needs of the quality project liaison and project sponsor			
		Works closely with the InfinityQS Engineering Project Manager			
		Reports status of project budget and timeline			
	•	Coordinates internal resources			

	Client Project Team
Initiative Deployment Managers (IDMs)	 Coordinates specifics for the sites such as products, processes, & specification limits Conducts conference calls with the sites and acts as subject matter experts Interacts regularly with InfinityQS Applications Engineers
Business Analysts	 Reports to IT Project Manager Performs onsite pre-work Supports onsite go-lives Receives Help tickets as front line support
Corporate InfinityQS Administrators	 Incorporates standards specified by the Quality Project Liaison Interacts regularly with InfinityQS Application Engineers
Corporate Master Data Coordinator (if using a central corporate database to manage Master Data for sites)	 Coordinates within the client team to create new Master Data Maintains Master Data database on Corporate server
Field IT Personnel	 Provide expertise regarding servers, databases, Windows permissions, software installation, network support and other IT-related tasks Interacts regularly with corporate and site resources
	Client Leadership
Project Sponsor	 Project champion/sponsor with accountability for project success Works closely with InfinityQS Programme Manager Provides enterprise-wide system requirements
Quality Project Liaison	 Primarily responsible for deployment of corporate quality requirements Subject matter expert in quality policies, procedures and statistical methods Drives site-to-site standardisation Interacts regularly with InfinityQS Lead Applications Engineer Reports project status to senior management/stakeholders
	Client Site Support
Site InfinityQS Administrators – Quality Managers & Site Super Users	 Coordinates with Corporate InfinityQS Administrators regarding site- specific requirements, if applicable Post-deployment, helps manage the system's site-specific needs
Site Management	Ensures site-specific deployment success by providing necessary resources and access to information
Site Personnel	Provides feedback during the design phase to ensure site activities match system requirements



Support and Administration

Recommended Best Practice:

Establishing Super Users for Internal Support

During deployment, we leverage your internal expertise by training a team of at least 2 super users.

Benefits

- Independently support your users internally without needing external support
- Quickly troubleshoot problems by leveraging your internal knowledge base and understanding of unique quality objectives
- Easily administer the platform through its user-friendly interface
- Access to InfinityQS support for complex issues or connectivity problems is just a phone call away

Support Model

Your super users serve as your internal system administrators, while training and supporting the broader user base. InfinityQS' technical support team is available to super users for complex issues or connectivity problems. This model ensures your experts develop extensive system experience and enables internal troubleshooting. It also gives your team the tools to fine-tune and configure the solution as your quality objectives evolve. Our model is depicted below.



24/7 support for platform access

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Key Performance Indicators

Recommended Best Practice:

Focus on Critical Requirements First

During the initial deployment sprint, we focus on supporting the KPIs you deem most critical to your success.

Benefits

- Centralise data for more efficient KPI data reporting
- See tangible return on investment sooner
- Leverage critical KPI data to find additional areas for improvement
- Move beyond compliance to improved efficiency and product quality

Supporting Your KPIs

Key data points that are typically most important for beverage manufacturers – like Brix, CO₂, Cap Torque, Net Content, Can Seam, and PET Wall Thickness - are available in one central hub for access by all levels of the organisation. Online visualisation of data is available in a variety of SPC charts including Control Charts, Histograms, Box & Whisker Charts, Pareto Charts and more. System alarms notify your personnel of specification or control limit violations, so they can proactively respond. Variable (Torque, Brix, etc.) or attribute (Codes, OK/Not OK, Visual, etc.) data can come from Keyboard, Touch Screen, Barcodes, or electronic gauges.

We provide several charting examples on the following pages.

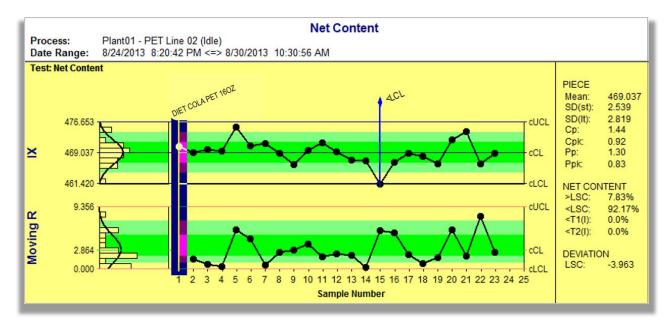
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Control Chart - Net Content. In this example, the chart's yellow background colour indicates a violation in a recent subgroup: Subgroup 15 is marked "<LCL" meaning it is below the lower control limit. For Net Content, LSC (label stated content) and T1/T2 results are shown on the right hand side.

Infinity QS

Quality Re-imagined

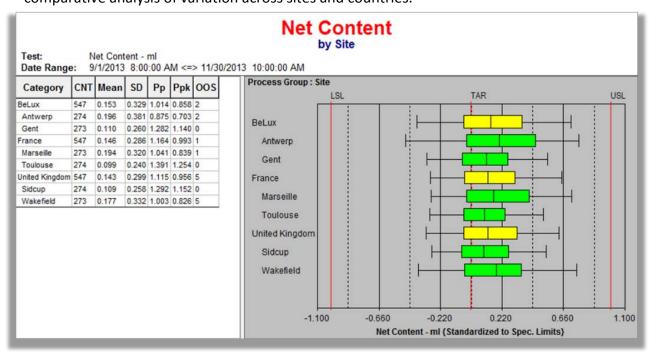


Box & Whisker Chart Example - Brix. This chart provides a comparative analysis showing relative distributions of Brix by line and flavour. Data are shown as deviations from the target and with normalised tolerances. Wider boxes mean higher variation while the position of the boxes shows centring within tolerance.

Site 01 S01 - Can Line 02 CHERRY COLA COLA FRT PUNCH JB	CNT 254 84 6 36 3	0.067 0.035	Range 2.933 1.204 0.588	0.290	1.148	Ppk		Site : Process : Flavor	LSL		TAR		USL
S01 - Can Line 02 CHERRY COLA COLA FRT PUNCH JB	84 6 36	0.035	1.204			1.071							
CHERRY COLA COLA FRT PUNCH JB	6 36	-0.039		0.144			2	Site 01					
COLA FRT PUNCH JB	36		0.588		2.313	2.232	0	S01 - Can Line 02			⊢-₽+		
FRT PUNCH JB		0.038	0.000	0.219	1.522	1.462	0	CHERRY COLA		H 			
	3	0.000	1.000	0.160	2.084	2.006	0	COLA					
OINCED ALLE		0.000	0.111	0.056	6.000	6.000	0	FRT PUNCH JB					
GINGER ALE	5	-0.027	0.267	0.112	2.988	2.908	0	GINGER ALE GRAPE					
GRAPE	4	0.150	0.200	0.091	3.651	3.104	0	LEMON LIME					
LEMON LIME	12	0.068	0.375	0.132	2.529	2.358	0	ORANGE					
ORANGE	6	0.022	0.267	0.091	3.660	3.578	0	SUPER CHERRY					
SUPER CHERRY	5	0.063	0.438	0.177	1.886	1.768	0	SUPER COLA					
SUPER COLA	4	0.044	0.118	0.056	5.919	5.658	0	TONIC					
TONIC	3	-0.024	0.071	0.041	8.083	7.890	0	S01 - Can Line 04					
S01 - Can Line 04	95	0.167	2.933	0.422	0.790	0.658	2	CHERRY					
CHERRY	4	0.387	0.750	0.354	0.940	0.576	0	COLA					
COLA	66	0.182	2.933	0.452	0.738	0.604	2	LEMON LIME		H			
LEMON LIME	25	0.094	1.188	0.340	0.981	0.889	0	S01 - PET Bottle Line	03	1 1 4			
S01 - PET Bottle Line 03	75	-0.024	0.837	0.127	2.626	2.563	0	CHERRY					
CHERRY	7	0.109	0.290	0.124	2.684	2.393	0	COLA FRUITY					
COLA	39	-0.045	0.760	0.150	2.219	2.118	0	LEMONTIME					
FRUITY	4	-0.027	0.160	0.068	4.919	4.788	0	SUPER COLA					
LEMON LIME	23	-0.028	0.319	0.062	5.334	5.185	0	Site 02					
SUPER COLA	2	-0.015	0.053	0.037	8.904	8.773	0	S02 - Can Line 03					
ite 02	138	-0.026	0.917	0.117	2.856	2.783	0	CHERRY					
S02 - Can Line 03	38	-0.111	0.717	0.128	2.608	2.319	0						
CHERRY	9	-0.044	0.450	0.159	2.097	2.003	0		-1.100	-0.660 -0.2	20 0.220 t { Standardized to Sp	0.660	1.1

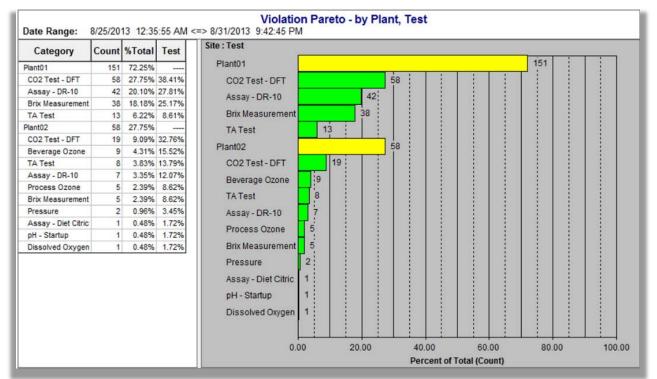


Multi-Site Box & Whisker – Net Content. This Box & Whisker Chart allows for comparative analysis of variation across sites and countries.



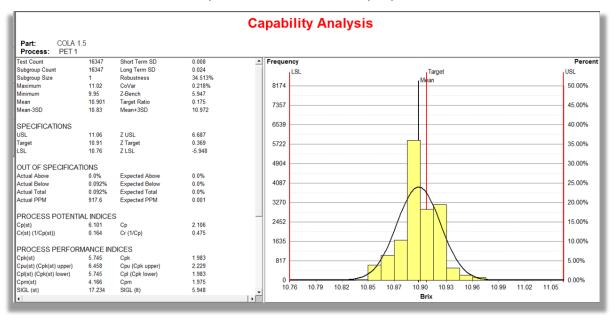
Pareto Chart Example – Test Violations including CO₂ and Brix. This Pareto Chart

provides a comparative analysis that shows occurrences of violations by both Plant and Test.

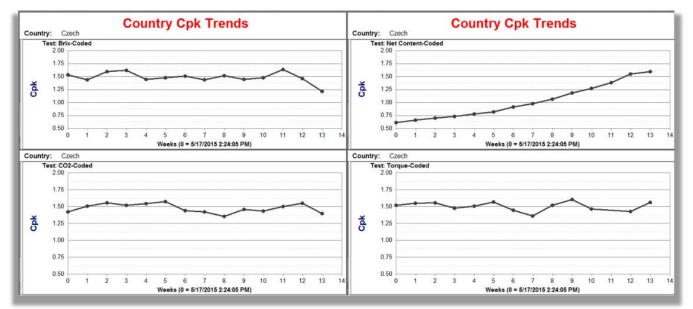




Capability Analysis - Brix. The Histogram below demonstrates process capability. Data to the left of the histogram indicates test and subgroup counts, specifications, percentages of the test count that are outside the specification limits, and Cp/Cpk.

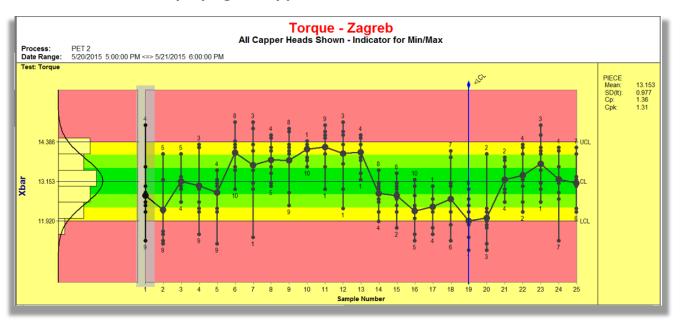


Cpk Trend Analysis. Process capability can be viewed in a number of ways. The chart below shows process capability trends for all tests (Brix, Net Content, CO₂, and Torque) for one country for the same timeframe.



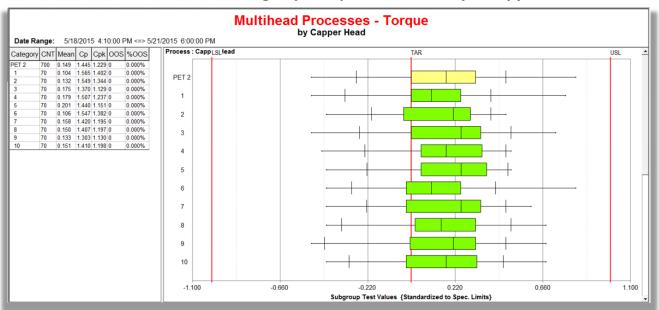


Multiple Processes and Data Streams. Multiple processes and multiple data streams (filler heads) can be captured and displayed on a single Control Chart or Box & Whisker Chart. This can give the user the ability to show min/max values or even each head as an individual stream on the chart. This is particularly useful for tests such as Net Content (by filler head) and Removal Torque (by capper head). Examples are provided below.



Control Chart displaying all capper heads with indicator for min/max value

Box & Whisker Chart showing Cap Torque across multiple capper heads





Alarming, Specification Limits, and Recording Causes. When tests violate specification limits, warning limits, or control limits, ProFicient can trigger alarms/alerts. The example below demonstrates an alarm for Net Content violating a lower specification limit (<LSL).

Custom alarm rules can be created as well. Emails to key personnel can be triggered by alarms in real-time. In response to an alarm, an operator can identify an Assignable Cause Code (ACC) and/or a Corrective Action Code (CAC). These inputs can then be used in reporting that allow you to diagnose the most common sources of violation.

7000	Net Content - Current PO		
PO: 7002 Part: CC3 Process: PRA	30ml	2	
Date Range: 8/27/	20		
Test. Net Content-Ro	🛞 NEW ALARM GENERATED!		PIECE Mean: 328.982
¢ 7			Cp: 1.55 Cpk: 1.47
	Chart: NC-Current PO Part: CC330ml		NET CONTENT
334.348	Process: PRAG - Canning Line 1	UCL	<lsc: 61.43%<br=""><t1(i): 0.0%<br=""><t2(i): 7.14%<="" th=""></t2(i):></t1(i):></lsc:>
	Test: Net Content-Rollup		DEVIATION
338.888	PO: 7002482 Alarm: <lsl< th=""><th>LSC CL</th><th>LSC: -1.018</th></lsl<>	LSC CL	LSC: -1.018
326.485	Aldrin: <l3l< th=""><th></th><th></th></l3l<>		
326.485	You must enter the following before data collection can continue	LUL	
	ASSIGNABLE CAUSE CORRECTIVE ACTION		
1 2		23 24 25	
1	ОК		•

Assignable Cause Code. The operator can enter a reason code for the violation and add notes to explain how it was corrected or provide additional detail.

Assignable Cause of Event	Contraction of Contraction	Event - Notes: Add	Coloneau - Inform	nation			
	Filler out of adjustment	Event - Notes					
Assignable Cause	e Code:	A. Date:	09/03/15	08:51:58 PM			
A. Category:	Net Content Codes	B. Notes: Adjusted pressure to correct		ire to correct issue.			
B. Code:	Filler out of adjustment						
C. Date/Time:	09/03/15 08:50:57 PM	C. Name:	Weisbrod, Eric	*			
ОК	Cancel Help		1 1				
		ОК	Cancel				



User Experience

Recommended Best Practice:

Deployment Goals Driven by Value-Based Reporting

Deployment success depends, in part, on identifying upfront your data reporting goals. Identifying the data needed and how it will be analysed informs how the system is configured. That means you will have immediate access to meaningful, actionable data instead of sifting through loads of data points while trying to figure out what it all means.

Benefits

- Make meaningful data available for users across the organisation
- Streamline data collection and analysis by targeting your specific data collection needs
- Create standard graphs, charts, reports, etc. that provide real-time, visual updates

Reporting for Users across the Entire Organisation

Your KPI data can be reported per country, per plant, per line, per material (SKU), per package, per defined period/day/week/month/year, and per production order. These reports can be used to examine historical data as well as real-time KPIs. Rolling up the data into a single corporate database allows users to analyse data across the enterprise by the defined categories.

We have provided examples on the following pages of a single KPI across plant, line and product for a specific country, all KPIs by plant and line for a country, KPIs by region, and KPIs by container type.



Single KPI (Net Content) by line and product for a given country

Test: N	Czech Group Net Content-Coded (1/2015 12:00:00 A)15 12	:00:00 /	AM
Part	Process	Subgroups	Ср	Cpk	Actual Total
Cola 330ml	PRAG – Canning Line 1	360	0.88	0.76	2.53%
Cherry Cola 200ml	PRAG – Canning Line 1	360	0.89	0.77	1.89%
Cherry Cola 330ml	PRAG – Canning Line 1	30	1.77	1.46	0.0%
Super Cola 330ml	PRAG – Canning Line 1	30	3.24	2.9	0.0%
Orange 330ml	PRAG – Canning Line 1	360	0.87	0.75	2.71%
Lemon Lime 330ml	PRAG – Canning Line 1	30	2.57	2.51	0.0%
Super Cola 0.5L	PRAG – Canning Line 1	270	0.89	0.78	1.48%
Super Cola 2.0L	PRAG – Canning Line 1	270	0.91	0.8	1.41%
Cola 1000ml	PRAG – Canning Line 1	331	0.93	0.83	1.27%
Cherry Cola 1000ml	PRAG – Canning Line 1	360	0.94	0.83	1.31%
Cherry Cola 500ml	PRAG – Canning Line 1	360	0.92	0.81	1.53%
Orange 2.0L	PRAG – Canning Line 1	270	0.92	0.81	1.56%
Raspberry	PRAG – Canning Line 1	30	1.03	0.98	0.0%
Ginger Ale 2000ml	PRAG – Canning Line 1	30	2.52	2.27	0.0%
Apple 1500ml	PRAG – Canning Line 1	30	3.88	3.66	0.0%
Grape 1.5 L	PRAG – Canning Line 1	270	0.97	0.86	0.78%

All KPIs by plant and line for a given country

Process: Czech Group Date Range: 4/30/2015 9:00:00 PM <=> 8/18/2015 12:00:00 AM							
Process	Test	Subgroups	Ср	Cpk	Actual Total		
PRAG – Canning Line 1	Brix-Coded	1170	1.55	1.55	0.0%		
PRAG – Canning Line 1	CO2-Coded	1170	1.53	1.53	0.0%		
PRAG – Canning Line 1	Net Content-Coded	1170	0.88	0.76	2.18%		
PRAG – Canning Line 1	Brix-Coded	2191	1.47	1.47	0.0%		
PRAG – Canning Line 1	CO2-Coded	2221	1.48	1.47	0.0%		
PRAG – Canning Line 1	Net Content-Coded	2221	0.93	0.82	1.33%		
PRAG – Canning Line 1	Torque-Coded	2220	1.51	1.51	0.0%		

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> .0.8 -0.6 -0.4

Container Type:

Frequency

2520

1680

840

0

-0.8 -0.6 -0.4

Perce

25.00%

16.67%

8.33%

0.00%

0.8

-0.1 01 0.4 0.6 0.9

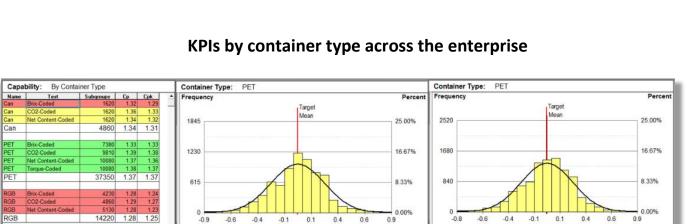
-0.1 0.1 0.4 0.6 0.8

Torque-Coded

PET

Net Content-Coded

Target Mean



0.4 0.6 0.9

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RGB

14220 1.28 1.25

-0.6 -0.4

PET

Container Type:

Frequency

2452

1635

817

0

-0.8 -0.6 -0.4 -0.1 0.1 Brix-Coded

-0.1 0.1

CO2-Coded

Target Mean

Breakdown of enterprise-wide KPI graph above: **Capability chart data**

0.4 0.6

Capa	Capability: By Container Type								
Name	Test	Subgroups	Ср	Cpk					
Can	Brix-Coded	1620	1.32	1.29					
Can	CO2-Coded	1620	1.36	1.33					
Can	Net Content-Coded	1620	1.34	1.32					
Can		4860	1.34	1.31					
PET	Brix-Coded	7380	1.33	1.33					
PET	CO2-Coded	9810	1.39	1.38					
PET	Net Content-Coded	10080	1.37	1.36					
PET	Torque-Coded	10080	1.38	1.37					
PET		37350	1.37	1.37					
RGB	Brix-Coded	4230	1.28	1.24					
RGB	CO2-Coded	4860	1.29	1.27					
RGB	Net Content-Coded	5130	1.28	1.23					
RGB		14220	1.28	1.25					

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Percen

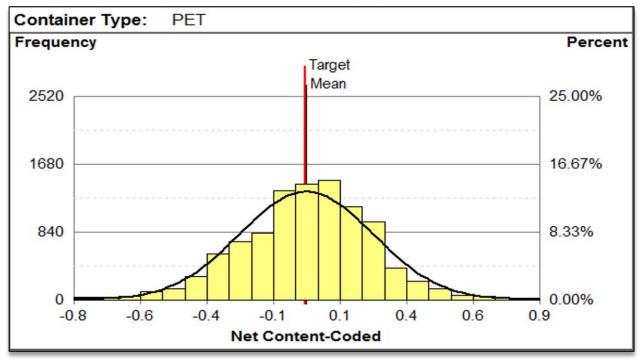
25.00%

16 67%

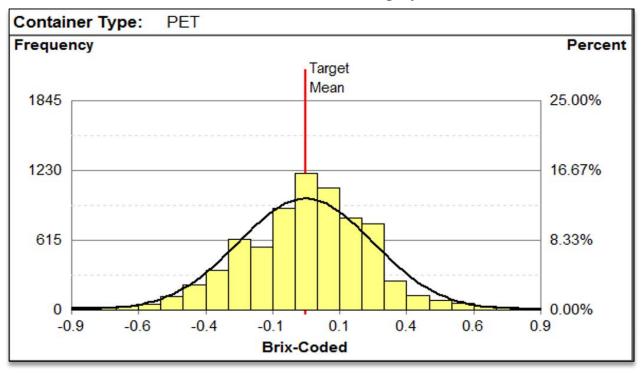
8.33%

0.00%

Breakdown of enterprise-wide KPI graph above: Brix-coded graph



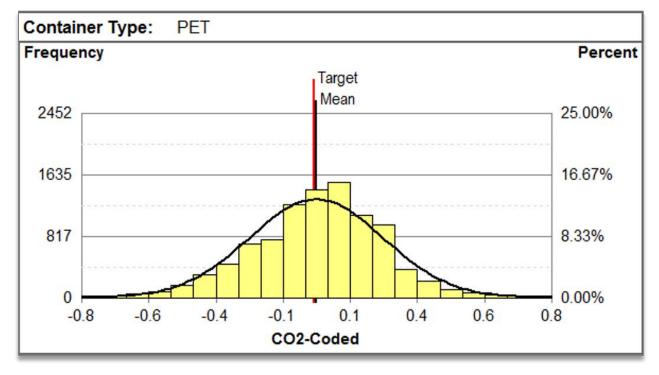
Breakdown of enterprise-wide KPI graph above: Net Content-coded graph



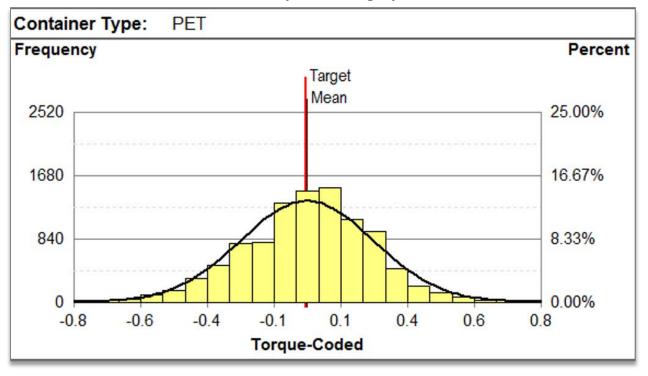
Breakdown of enterprise-wide KPI graph above: CO₂-coded graph

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Breakdown of enterprise-wide KPI graph above: Torque-coded graph



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Deployment Model and Architecture

Recommended Best Practice:

ProFicient on Demand Deployment Model

ProFicient on Demand is InfinityQS' cloud-based deployment. Working with worldclass hosting partners, we offer you an easy-to-manage platform that lets you focus on quality while we focus on availability and security.

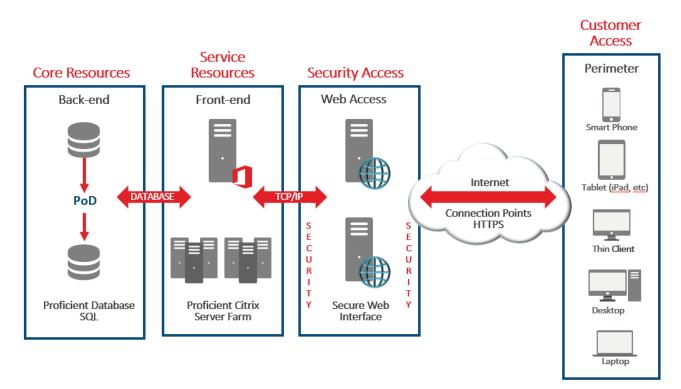
Benefits

- Easily configure and scale the platform as your organisation expands
- Access the platform at any time with 99.9% uptime service level agreement
- Reduced calls to technical support as infrastructure is managed by InfinityQS and our hosting partners
- Easy mobile access via Smart devices
- Gain tangible results with a lower total cost of ownership
- Centralise data for access by your users anywhere in the world
- Securely collect and analyse data via hosting facilities with ISO/SOC certifications
- Free up IT resources to focus on business needs:
 - > Eliminate time spent on database maintenance, installation and upgrades
 - > Quick upgrades with no disruption to business operations



Technical Infrastructure

InfinityQS' ProFicient on Demand infrastructure uses security protection technologies such as firewall, anti-virus, intrusion prevention, IPsec, and SSL VPN technologies. For additional data security, SSL Cipher Strength of 256-bit encryption is used when transmitting data. The result is unrestricted and reliable access to ProFicient at all times.



The **Core Resource Layer** houses the ProFicient on Demand database. This layer ensures continued business operations with the latest Fibre channel, highavailability hardware and virtual clustering silos.

The **Service Resource Layer** houses the ProFicient application. This layer ensures optimal performance through multiple virtual application servers.

The **Security Access Control Layer (SACL)** protects your data against blended security threats and attacks. Multi-layer hardware security devices allow only one virtual port of entry into ProFicient.

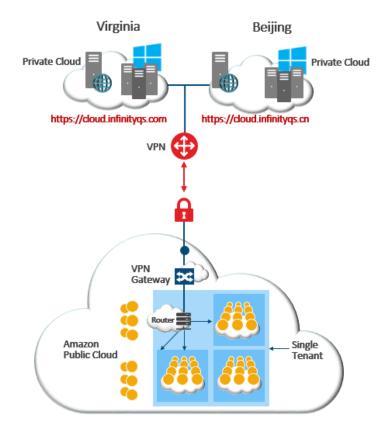
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At the **Customer Access (Extended Perimeter) Layer**, secure access privileges ensure only authorised users can access your data. Multiple, redundant direct connections to Tier 1 internet carriers ensure continued application availability. And 256-bit encryption (SSL Cipher Strength) means your data is secure in transmission.

InfinityQS' Global Hosting Support

InfinityQS' cloud services providers include Microsoft Azure, Amazon Web Services and Equinix. They are SSAE 16, ISO27001 and SOC1, SOC2 certified and use world-class Fibre Channel server farms with adaptive, dynamic load balancing that ensures availability and consistency of the application.



Colocation hosting:

Microsoft Azure (Beijing)

Equinex (Virginia)

Amazon Web Services

- North America
- South America
- Europe
- Asia
- Australia



Achieving Return on Investment

With access to real-time manufacturing intelligence, you will improve efficiency and see tangible return on investment through cost savings. Some of the most common ways our beverage manufacturing clients have achieved return on investment include:

Improving Yield. Our clients realise return on investment by leveraging statistical process control to produce beverages as close to target as possible. The result is optimal use of ingredients with minimal waste. For example, many of our clients recognise significant return on investment by targeting net content, resulting in reduced overfill.

Reducing Labelling and Bottling Events. Labelling and bottling events can cause production delays and result in wasted product that has to be discarded. Timely checks can help you proactively identify and resolve labelling or bottling issues upstream. As a result, productivity is increased and more product makes it to store shelves.

Ensuring Overall Compliance with Quality and Safety Standards. Targeting various aspects of quality and safety such as pH, air content and torque reduces risk and limits production delays that save costs in the long run.

Fine-tuning Quality across the Enterprise. By analysing data across lines, plants and the entire enterprise, you can target opportunities for improvement that result in overall operational improvements. You can analyse line data to identify the most efficient lines for each product or run more complex products on newer lines. Or you can use data to better prioritise improvement opportunities that support your quality objectives.

The single most important tool in identifying quality improvement projects for your company is data. With ProFicient, you will have the real-time data you need to make informed decisions about where to focus your efforts and resources. The result of those informed decisions will be increased productivity, efficiency and cost-savings.



Beyond Critical KPIs: Enhancement Options

Every day, you strive to ensure the safety and quality of your products by monitoring and analysing critical KPIs. As you evolve beyond just tracking critical KPIs, ProFicient can support your expanded quality and safety initiatives such as:

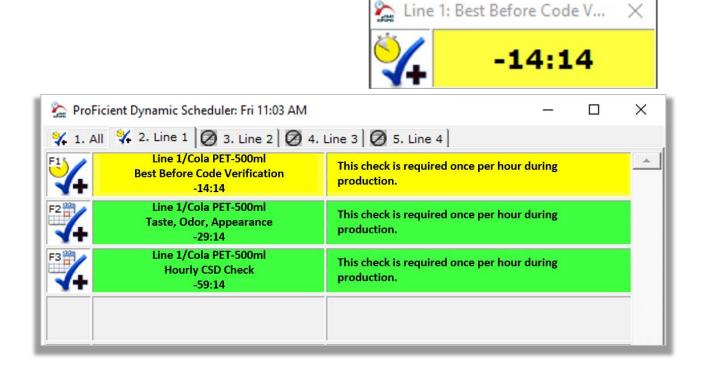
- Automated sampling from inline beverage monitoring systems (i.e. Anton Paar and Maselli)
- Integration with MES/ERP systems such as SAP
- Sampling compliance and adherence reporting using Dynamic Scheduler
- Operational checks such as:
 - Clean-in-place (CIP)
 - Steam-in-place (SIP)
 - > Water treatment
 - > Equipment checks such as filler, packer, etc.
- Date Code and label verification by auto-generating codes for comparison and blind verification
- Microbial testing for coliform, yeast, mold, etc.
- Advanced event reporting and compliance such as assignable causes and corrective actions requirements
- Process state tracking via line monitoring integration
- Instrument calibration checks

We've provided two examples of optional enhancements on the following pages.



Scheduled Quality Checks using Dynamic Scheduler. Using ProFicient's Dynamic Scheduler, you can set up automated quality check reminders to make sure data collection is performed on time. Below, reminders for Best Before Code Verification; Taste, Odor, Appearance; and Hourly CSD Checks are displayed.

Each check is accompanied by a countdown clock; the operator always knows how much time remains until the next check is due. There is no need to watch a clock and there is no risk that data collection will be forgotten. Instead, Dynamic Scheduler takes the guesswork out of monitoring quality checks and automatically notifies key personnel if data collection is not performed.





Sampling Compliance and Adherence. With Dynamic Scheduler, you can quickly produce sampling compliance and adherence reports, demonstrating compliance with regulations. The Sampling Compliance & Adherence report below depicts expected, actual and missed tests on a PET bottle.

Part:COLA-PET-16OZProcess:PET Bottle Line 03 (Idle)

Part >USL <LSL 005 Description Date/Time State Type Run Time Requirement Test Expected Actual Missed Complete Test Count 42 00:31:56 85.71% 75 0.00% 0.00% Totals ----------------36 6 0.00% Totals (Test) ------------00:20:41 Metal 5 5 0 100.00% 6 --------------------Detector Check Totals (Test) 00:15:55 Removal 3 3 0 100.00% 20 0.00% 0.00% 0.00% ----------------Torque 00:17:32 4 100.00% 25 Totals (Test) ----------------Net Content 4 0 0.00% 0.00% 0.00% ----Totals (Test) ----------------00:09:38 Pre-Op Q2 15 12 3 80% 12 ------------Totals (Test) --------00:09:38 Pre-Op Q1 15 12 80% 12 3 ----Cola-PET-16OZ 42 36 85.71% 75 0.00% 0.00% 0.00% Totals (Part) ------------00:31:56 ----6 ----00:31:56 42 36 85.71% 75 Totals (Process) 6 0.00% 0.00% 0.00% ----Data 11/8/2015 4:56:29 PM Cola-PET-16OZ Startup Start 00:00:26 Pre-Op Pre-Op Q1 1 1 0 100.00% 1 --------Data 11/8/2015 4:56:29 PM Cola-PET-16OZ Startup Start 00:00:26 Pre-Op Q2 100.00% Pre-Op 1 1 0 1 11/8/2015 4:56:55 PM Net Weight 1 5 0.00% 0.00% 0.00% Data Cola-PET-16OZ Runtime Run 00:04:49 Net Content 1 0 100.00%

Sampling Compliance

Additional Resources

Website

Please visit our website at <u>www.infinityqs.com</u>, which offers more information about ProFicient as well as resources such as:

- Case Studies
- Demos and Webinars
- White Papers
- Tech Notes
- Research and Analysis
- Videos
- Articles
- Blogs

Contact

For additional resources and information about how ProFicient can help you achieve your quality goals, contact:

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