Agilent Laboratory Business Intelligence

Technical Note

Agilent Technologies

Preface

Revision

January 2017

Document Warranty

The material contained in this document is provided "as is" and is subject to change without notice, in future releases.

About this Guide

This guide provides an overview of the Laboratory Business Intelligence (LBI) application and service offering and is suitable for internal and external audiences.

Glossary

Laboratory Business Intelligence Application: The application consisting of 13 templates (front end) and database of multiple data sources (back end); Also referred to as "LBI."

Contents

Customer Challenges

The analytical laboratory is becoming increasingly complex. Globalization and consolidation drive the need to standardize and optimize to maximize productivity and lower costs.

Optimization opportunities exist but many go unrealized, overlooked, or untouched because the data is difficult to access, difficult to assemble, or difficult to interpret.

What if that data could be applied to:

- Understand and maximize laboratory instrument utilization?
- Identify and optimize capital and operating costs?
- Effectively plan, prioritize, and maintain instrument inventories and capabilities?

Agilent's Laboratory Business Intelligence (LBI) service can use your operations data to give the insights needed to achieve desired outcomes.

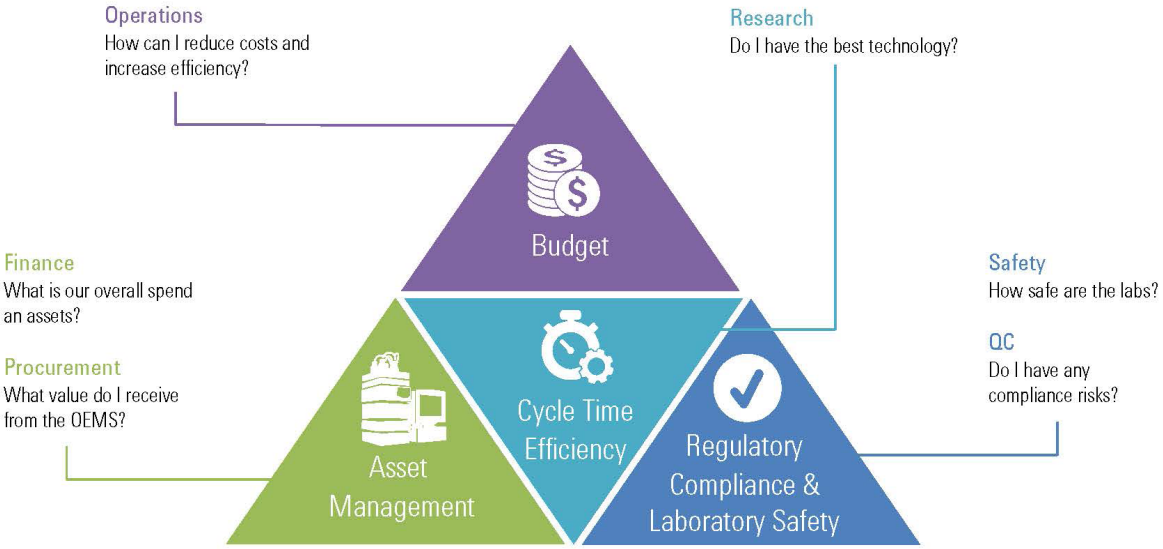


Figure 1. Customer Challenges

Laboratory Business Intelligence (LBI)

LBI is a consultative service that applies exploratory analytics to optimize laboratory operations by:

- Maximizing instrument availability
- Optimizing instrument utilization
- Improving operating spend
- Triaging instrument inventory

Agilent's laboratory operations specialists combine global experience and local knowledge with LBI's data analytics to turn everyday information into actionable insights that match up with business strategies and operational goals.

The laboratory operations specialist and the Agilent CrossLab team work to fully understand your needs, business issues, and desired outcomes. An assessment may be as simple as aligning with current plans and initiatives or be a more formal interview process involving key members of your operations. Regardless of the complexity, the laboratory operations specialists will ensure that your LBI engagement is aligned to your priorities and objectives.

Once the current situation and desired outcome has been determined, the laboratory operations specialists will develop a statement of work (SOW) documenting the deliverables and timeline for the LBI engagement. At that point, it is time to let the LBI service go to work to provide data-driven insights.

The Agilent LBI service is based on a standardized approach that uses:

- Predefined data sources
- Comprehensive data management platform
- Exploratory visualization
- Expert review

Figure 2. Laboratory Business Intelligence

Figure 3. LBI Assessment

Predefined Data Sources

Results-focused consulting requires fact-based, actionable insights. Agilent's LBI service combines all relevant but disparate laboratory data that speaks directly to the needs and questions of the enterprise.

Data is integrated from many different sources such as:

- Multivendor asset information
- Multivendor service history
- Multivendor instrument utilization
- Market and Industry information

These data sources are constantly feeding their data into LBI to ensure the latest and most up-to-date information is available without disrupting your operations.

If the data you need is not currently part of LBI, the service is fully customizable to ensure that your insights are built using the most relevant information available.

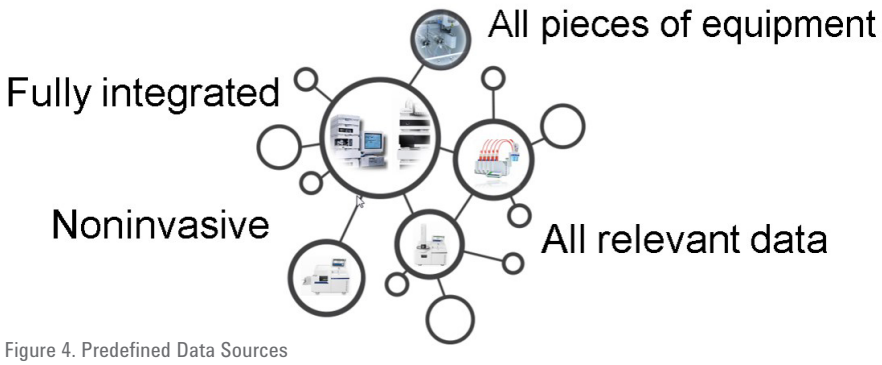


Figure 4. Predefined Data Sources

Comprehensive Data Management Platform

Agilent has created sophisticated database models and metrics to provide insight into laboratory operations, objectives, critical problems, and valuable opportunities. This data management platform utilizes an associative data indexing engine, designed to promote exploration of the data in any direction and enlighten how the data is related. Therefore, enabling more complex analysis and intuitive analytics.

The LBI data management platform organizes the data and metrics to provide insights into:

- Ensuring instrument availability
- Maximizing instrument utilization
- Optimizing service spend
- Managing instrument technologies and life cycles

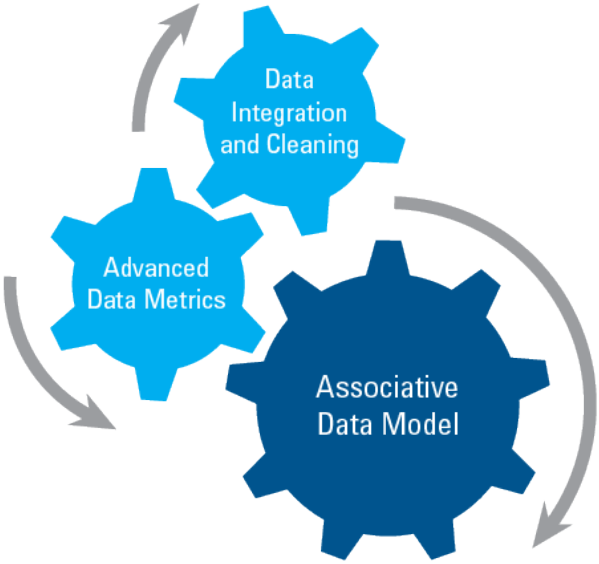


Figure 5.. Comprehensive Data Management Platform

Exploratory Visualizations

Interactive visualizations are a powerful approach for data exploration. LBI provides standard and custom visualizations with industry-leading visualization tools. A suite of defined templates allows the laboratory operations specialists to effectively explore the data to uncover key insights.

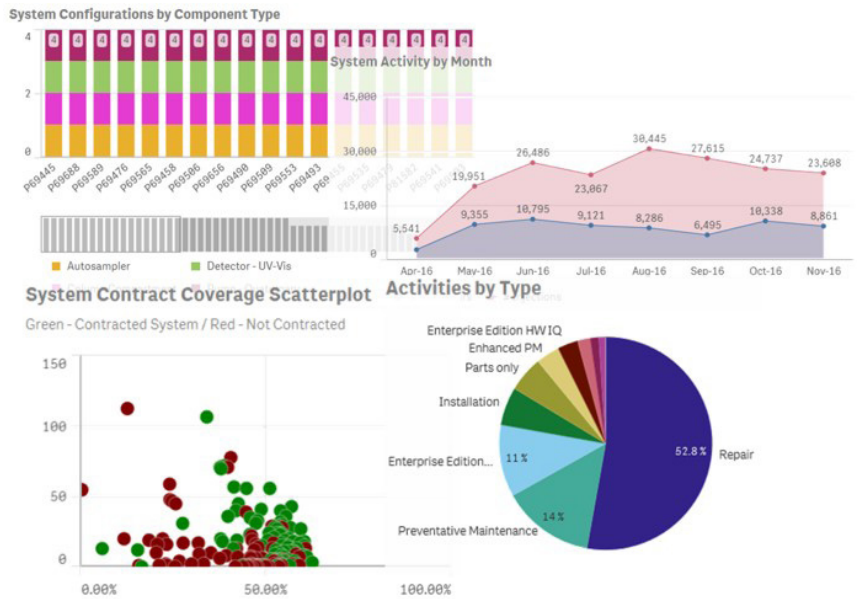


Figure 6. Exploratory Visualization

Expert Review

Creating insight is just the first step. Delivering outcomes is the real opportunity. Agilent's LBI service empowers managers to make effective business decisions-based laboratory asset and operational data.

Figure 7. Expert Review

Laboratory Business Intelligence (LBI) Standard Template Suite

There are predefined templates available to our laboratory operations specialists, each one featuring specific metrics and dashboards.

See Table 1 for Overview of the LBI templates:

Global Account Summary	Systems and assets
Repair and Downtime Analysis	Systems and assets with multiple service activities in the last 12 months
EGS Analysis	Life cycle management analysis based on End of Guaranteed Support (EGS), product introduction, and installation dates
Systems & Assets	System and asset details
Instrument Service Metrics – Repairs	Standard service Key Performance Indicators (KPI) for repair services
Instrument Service Metrics – Scheduled Services	Standard service KPIs for scheduled services
Repair Root Cause	Service activity root cause analysis and KPIs
Service Confirmation Activities	Service activities details
Utilization	Utilization and Injection data integrated with availability data (based on service downtime)
Utilization Details	Utilization, injection, and availability details
Service Coverage Summary	Systems and assets contract coverage
Service Coverage Details	Contract coverage details
System Configurations	System configuration groupings and details

Table 1 – LBI Standard Visualizations

"Global Account Summary"

Understanding the installed base is key to effective asset management and optimizing lab productivity. The global account summary report provides an overview of all systems and assets that have been registered with Agilent.

A detailed list of the systems and assets highlighted in the global account summary is provided in the systems and assets template. Multiple repair assets can be further investigated in the repair and downtime analysis template. The End of Guaranteed Support (EGS) analysis template provides detailed insight into assets that are close to or past their EGS date and how they impact productivity.

The global account summary key performance indicators featured on this template:

- Number of systems
- Number of assets
- Number of multiple repair assets in the last 12 months
- Percentage of multiple repair assets in the last 12 months
- Number of assets past their factory support life
- Percentage of assets past their factory support life
- Average years since product introduction
- Number of manufacturers

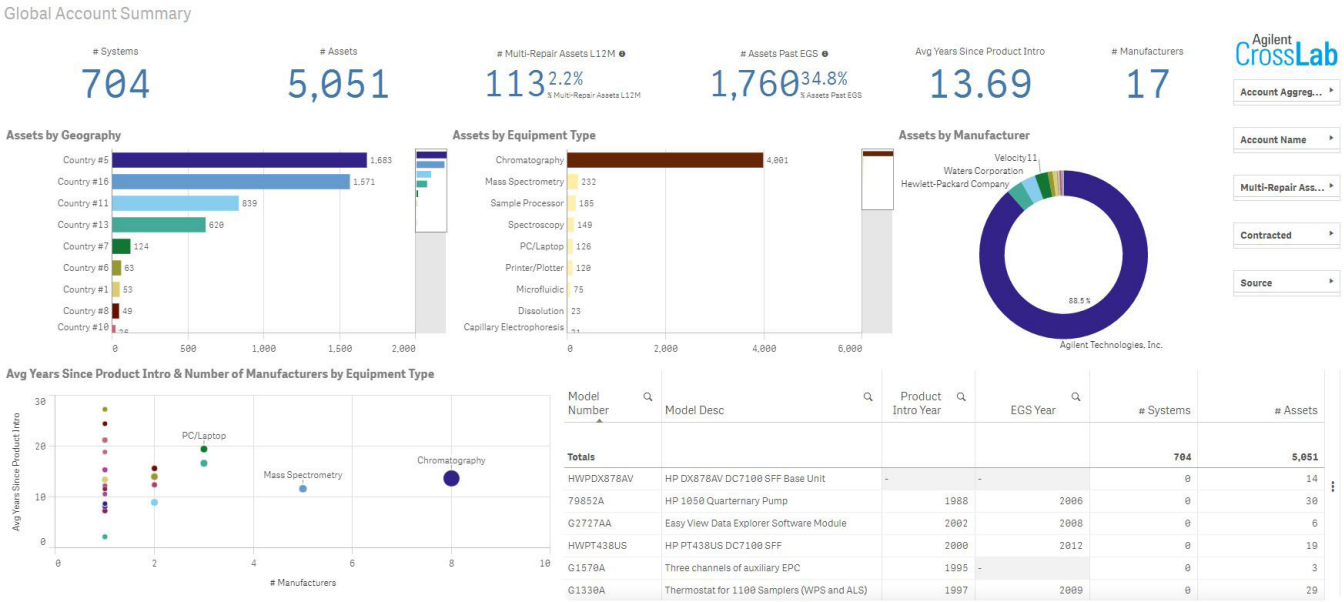


Figure 8. Global Account Summary

"Repair and Downtime Analysis"

Problem assets can sometimes go unnoticed but have a significant impact on productivity.

The repair and downtime analysis report identifies those assets that have had multiple repair activities in the last 12 months.

The multirepair systems and assets identified by the repair and downtime analysis are identified on the systems and asset template. The service activities that lead to the asset being classified as multirepair are listed in the service confirmations activities template.

The repair and downtime analysis key performance indicators featured on this template:

- Number of systems
- Number of assets
- Number of multiple repair assets in the last 12 months
- Percentage of multiple repair assets in the last 12 months
- Number of assets past their factory support life
- Percentage of assets past their factory support life
- Number of onsite repairs
- Average repair downtime (days)

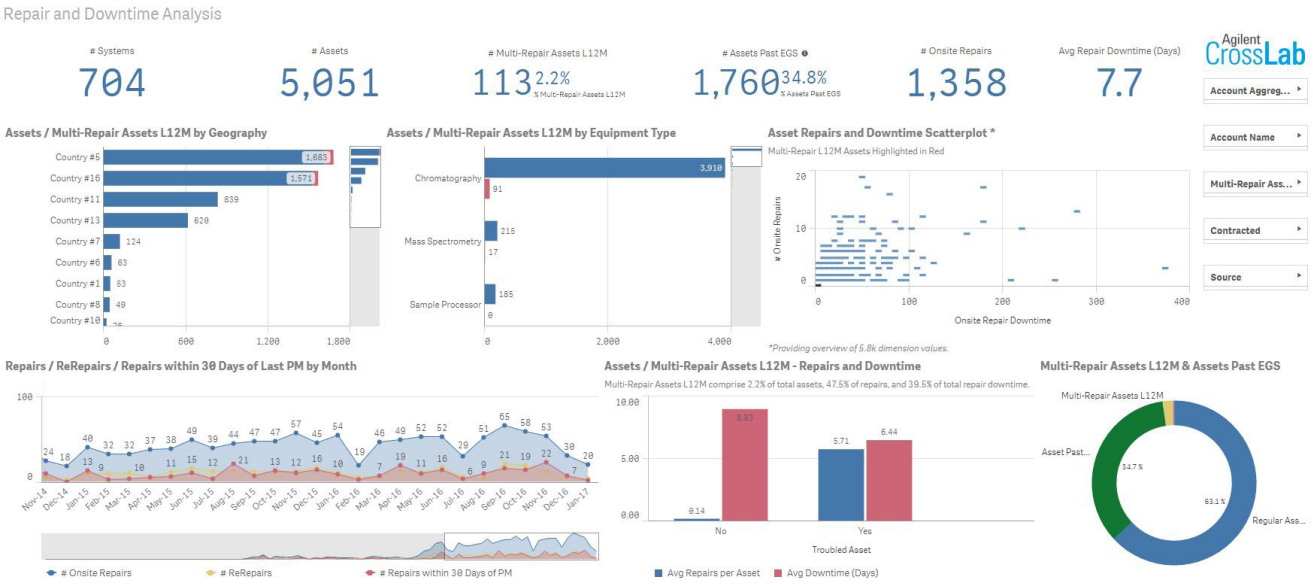


Figure 9. Repair and Downtime Analysis

"End of Guaranteed Support Analysis"

The End of Guaranteed Support (EGS) analysis report identifies those assets that are, or will be, impacted by end of guaranteed vendor support. Product introduction years are also provided for those systems without a published EGS date. Monitoring EGS facilitates equipment refresh planning and strategies. Therefore, minimizing the impact to the lab, maximizing the disposal value of the equipment, and providing opportunities to seamlessly move to newer technologies.

The systems and assets identified by the EGS analysis are called out in the systems and assets template. EGS assets can be prioritized by reliability by using the instrument service metrics – repairs template and by utilization by using the utilization template. The systems configuration analysis template shows the redundancy of the systems impacted by EGS assets.

The EGS analysis key performance indicators featured on this template:

- Number of systems
- Number of assets
- Number of multiple repair assets in the last 12 months
- Percentage of multiple repair assets in the last 12 months
- Number of assets past their factory support life
- Average years since product introduction
- Number of manufacturers

Figure 10. End of Guaranteed Support

"Systems & Assets"

Sometimes complete asset details are needed. Once systems and assets of interest have been identified, it is easy to find detailed information about them, including asset location, model, serial number, EGS, and service history.

The systems and assets report provides a detailed list of all systems and assets that have been registered with Agilent, including the systemization of the assets. The systems and assets template can be used to generate the actionable list at the end of any analysis.

Systems & Assets

City	System Model Number	System Model Descript	Device Type Descrip	Model Number	Model Desc	Serial Number	Contracted	Multi-Repair Asset	Product Introduction Date	Install Date	EGS Year	# Systems	# Assets	# Repairs in Last 12 Months	Repair Downtime in Last 12 Months
Totals												**704**	**5,051**	**531**	**2,765**
City #3	HWPDX878AV	HP DX878AV DC7100 SFF Base Unit	ASSET	HWPDX878AV	HP DX878AV DC7100 SFF Base Unit	SRN1-2XE7HV	No	No	-	06/06/2005	-	0	1	0	0
City #3	79852A	HP 1050 Quarternary Pump	ASSET	79852A	HP 1050 Quarternary Pump	SRN1-13GK-1318	No	No	1988-03-01	-	2006	0	1	0	0
City #50	G2727AA	Easy View Data Explorer Software	ASSET	G2727AA	Easy View Data Explorer Software	SRN1-2QF38O	No	No	2002-11-01	04/23/2005	2008	0	1	0	0
City #50	HWPT438US	HP PT438US DC7100 SFF	ASSET	HWPT438US	HP PT438US DC7100 SFF	SRN1-2QEOY0	No	No	2000-01-01	04/23/2005	2012	0	1	0	0
City #3	G1570A	Three channels of auxiliary EPC	ASSET	G1570A	Three channels of auxiliary EPC	SRN1-47TKNP	No	No	1995-02-01	12/20/2005	-	0	1	0	0
City #50	G1330A	Thermostat for 1100 Samplers (WPS and ALS)	ASSET	G1330A	Thermostat for 1100 Samplers	SRN1-4195OZ	No	No	1997-04-01	-	2009	0	1	0	0
City #50	G1330A	Thermostat for 1100 Samplers (WPS and ALS)	ASSET	G1330A	Thermostat for 1100 Samplers	SRN1-418ZUW	No	No	1997-04-01	-	2009	0	1	0	0
City #50	14391-001	Lid Store Hotel - 10-Position - 5V	ASSET	14391-001	Lid Store Hotel - 10-Position - 5V	SRN1-XN096L	No	No	-	12/18/2006	-	0	1	0	0
City #3	G1367A	1100 Series Well-Plate Autosampler	ASSET	G1367A	1100 Series Well-Plate Autosampler	SRN1-2DRXT6	No	No	2000-04-01	06/17/2004	2013	0	1	0	0

Figure 11. Systems & Assets

"Instrument Service Metrics – Repairs"

Unplanned downtime is disruptive to lab productivity and ensuring unplanned repairs are handled as efficiently as possible is crucial.

The instrument service metrics – repairs report highlights repair activities and helps identify opportunities for improvement.

Details for the repair activities are in the service confirmation activities template. The repair root cause template shows those repair activities that required follow-on repair activities. The utilization report shows the impact of the repair to productivity. The service configuration analysis makes it possible to look at all similarly configured systems to understand their repair history.

The instrument service metrics - repairs key performance indicators featured on this template:

- Number of activities
- Number of onsite repairs
- Percentage of onsite repair response time met
- Percentage first visit repair
- Percentage re-repair
- Percentage repairs done in one working day
- Percentage repairs done in three working days
- Percentage repairs done in five working days
- Percentage repairs done in 15 working days

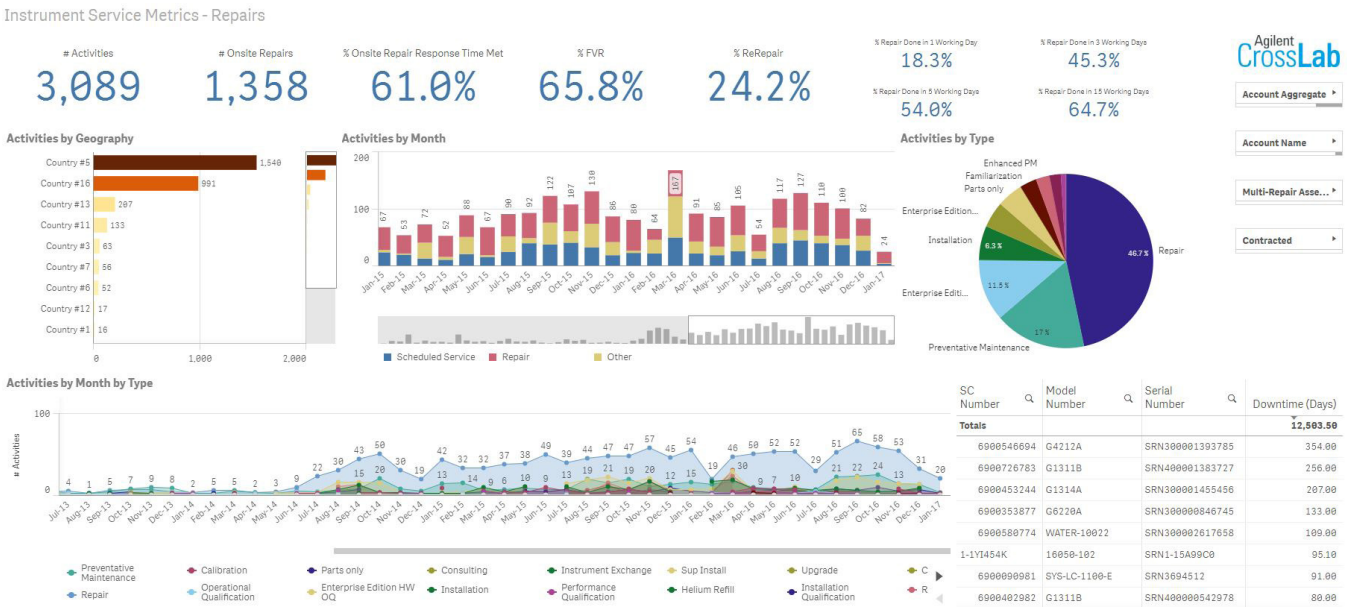


Figure 12. Instrument Service Metrics –Repairs

"Instrument Service Metrics – Scheduled Services"

Scheduled services are important for maintaining reliable and predictable performance. These services must be performed on schedule and need to be organized at times that ensure their impact to your lab is minimized.

The instrument service metrics – scheduled services report highlights scheduled service activities. To get a complete view of scheduled services, use the instrument service metrics – scheduled services report with:

- The service confirmation activities template to identify which systems those services were performed.
- The repair root cause template to show which systems had a scheduled service that resulted in a corrective service.
- The utilization template helps understand the best time to schedule services.

The instrument service metrics – scheduled services key performance indicators featured on this template:

- Number of scheduled services
- Percentage of scheduled services on-time
- Number of preventive maintenance activities
- Percentage of preventive maintenance activities on-time
- Number of operational qualifications
- Percentage of operational qualifications on-time

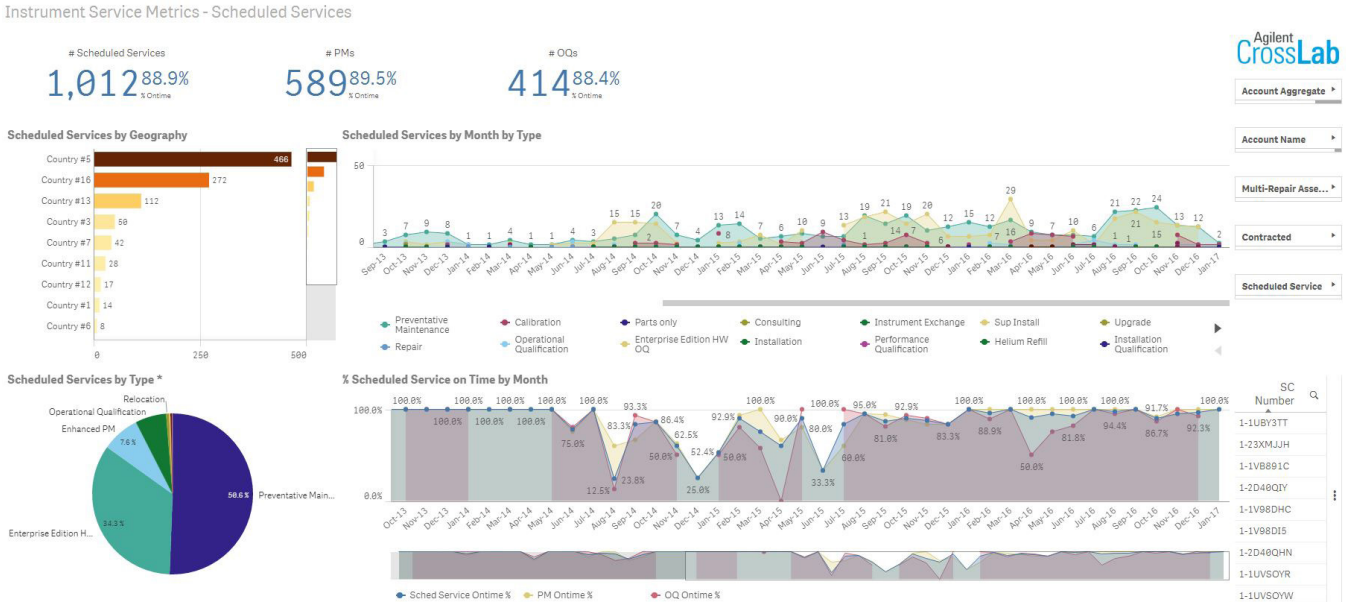


Figure 13. Instrument Service Metrics – Scheduled Services

“Repair Root Cause”

Recurring and potentially unnecessary repairs often adversely impact lab productivity. Repairs without parts often indicate application, maintenance, or training issues.

The repair root cause report provides an overview of recurring repair activities and those repair activities that closely follow other service activities. The intent of this template is to identify recurring repair activities that have the potential to be reduced or eliminated.

The repair root cause key performance indicators featured on this template:

- Number of onsite repairs
- Number of re-repairs
- Percentage of re-repairs
- Number of repairs within 30 days of the preventive maintenance
- Percentage of repairs within 30 days of the preventive maintenance
- Number of repairs with no parts
- Percentage repairs with no parts

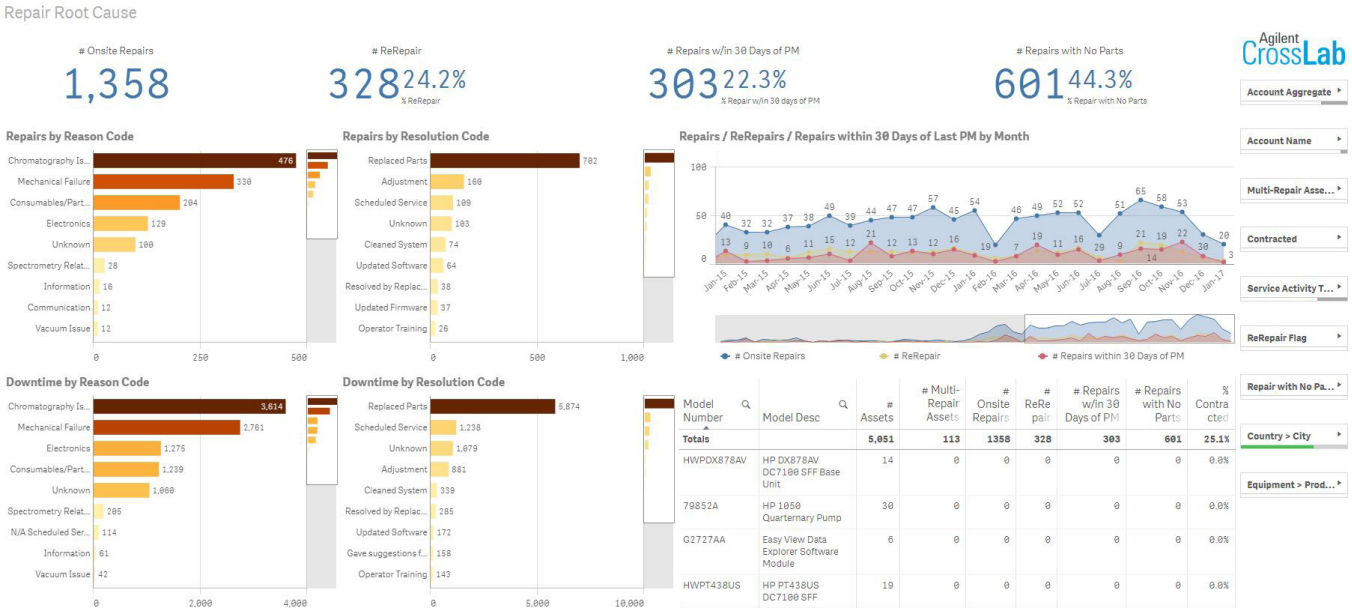


Figure 14. Repair Root Cause

"Service Confirmation Activities"

Service activity details are important to understanding service metrics.

The Service confirmation activities report provides details on all service activities managed in the Agilent service system. The report identifies details of service events, including downtime, parts used, and the notes associated with the activity.

Service Confirmation Activities

City	SC Number	Activity Type	SC Desc	Device Type Descripti	Model Number	Model Description	Serial Number	Component Type	Diagnosis Code	Reason Code	Resolution Code	SO Create Date	SC Start Date	SC End Date	ReRepair
Totals															
City #73	6900125347	Installation	Description for Service Confirmation	ASSET	G1330B	1290 Infinity Thermostat	SRN400000722195	Accessory	N/A Scheduled Service	Chromatography Issue	Scheduled Service	10/10/2014	10/23/2014	10/23/2014	No
City #73	6900498143	Repair	Description for Service Confirmation	ASSET	G1330B	1290 Infinity Thermostat	SRN300001369337	Accessory	Mechanical Parts Failure	Mechanical Failure	Resolved by Replacement	06/22/2015	06/19/2015	06/19/2015	No
City #73	7900020133	Repair	Description for Service Confirmation	ASSET	G1330B	1290 Infinity Thermostat	SRN300001443901	Accessory	Unknown	Unknown	Unknown	10/21/2014	01/14/2015	01/19/2015	No
City #73	6900125710	Repair	Description for Service Confirmation	ASSET	G1330B	1290 Infinity Thermostat	SRN300001443901	Accessory	Mechanical Parts Failure	Mechanical Failure	Replaced Parts	11/02/2014	10/27/2014	10/29/2014	No
City #69	6900915437	Customer Training	Description for Service Confirmation	ASSET	G8411A	ISIS 3 for 7900 ICP-MS	SRN400001719060	Accessory	N/A Scheduled Service	Chromatography Issue	Scheduled Service	04/28/2016	08/22/2016	08/22/2016	No
City #69	6900795692	Enterprise Edition HW OQ	Description for Service Confirmation	ASSET	G8411A	ISIS 3 for 7900 ICP-MS	SRN400001719060	Accessory	N/A Scheduled Service	Chromatography Issue	Scheduled Service	10/28/2015	05/25/2016	05/25/2016	No
City #69	6900784468	Installation	Description for Service Confirmation	ASSET	G8411A	ISIS 3 for 7900 ICP-MS	SRN400001719060	Accessory	N/A Scheduled Service	Chromatography Issue	Scheduled Service	10/28/2015	04/18/2016	04/20/2016	No
City #69	6900817900	Enterprise Edition HW IQ	Description for Service Confirmation	ASSET	G8411A	ISIS 3 for 7900 ICP-MS	SRN400001719060	Accessory	N/A Scheduled Service	Chromatography Issue	Scheduled Service	10/28/2015	04/18/2016	04/21/2016	No
City #69	6900831856	Installation	Description for Service Confirmation	ASSET	G8411A	ISIS 3 for 7900 ICP-MS	SRN400001719060	Accessory	N/A Scheduled Service	Chromatography Issue	Scheduled Service	10/28/2015	04/14/2016	04/15/2016	No
City #69	6900715522	Installation	Description for Service Confirmation	ASSET	G8411A	ISIS 3 for 7900 ICP-MS	SRN400001719060	Accessory	N/A Scheduled Service	Mechanical Failure	Scheduled Service	10/28/2015	03/14/2016	03/18/2016	No

Figure 15. Service Confirmation Activities

"Utilization"

Instrument utilization identifies over/ under-utilized assets, utilization trends, and daily workloads, which can also be an indicator of lab productivity.

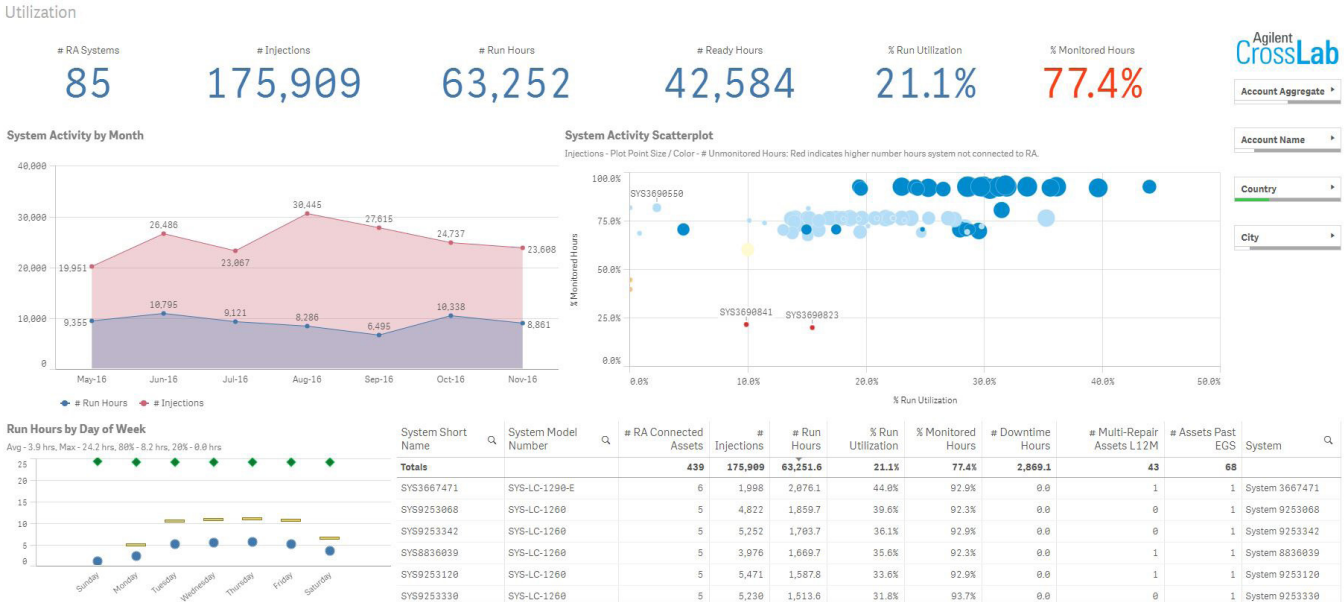
The utilization report provides a complete view of utilization, considering the impact of the

- Completeness of data
- Service activities on instrument availability
- Daily utilization variability

When used together with the system configuration template, it is possible to compare the utilization of instruments with similar configurations. This data facilitates better understanding of utilization dynamics such as workload distribution.

The utilization key performance indicators featured on this template:

- Number of systems connected to utilization monitoring
- Number of injections
- Number of run hours
- Number of ready hours
- Percentage of run utilization
- Percentage of monitored hours



System Short Name	System Model Number	# RA Connected Assets	# Injections	# Run Hours	% Run Utilization	% Monitored Hours	# Downtime Hours	# Multi-Repair Assets L12M	# Assets Past EGS	System
Totals		**439**	**175,909**	**63,251.6**	**21.1%**	**77.4%**	**2,869.1**	**43**	**68**	
SYS3667471	SYS-LC-1290-E	6	1,998	2,076.1	44.0%	92.9%	0.0	1	1	System 3667471
SYS9253068	SYS-LC-1260	5	4,822	1,859.7	39.6%	92.3%	0.0	0	1	System 9253068
SYS9253342	SYS-LC-1260	5	5,252	1,703.7	36.1%	92.9%	0.0	0	1	System 9253342
SYS8836039	SYS-LC-1260	5	3,976	1,669.7	35.6%	92.3%	0.0	1	1	System 8836039
SYS9253120	SYS-LC-1260	5	5,471	1,587.8	33.6%	92.9%	0.0	1	1	System 9253120
SYS9253330	SYS-LC-1260	5	5,230	1,513.6	31.8%	93.7%	0.0	0	1	System 9253330

Figure 16. Utilization

“Utilization Details”

The details that define instrument utilization are important for understanding the dynamics impacting instrument utilization.

The utilization details report provides insight to the various instrument operational components that go into utilization, such as run hours, ready hours, not ready hours, and error hours. Downtime days and hours help to understand the impact of instrument reliability on the utilization.

Utilization Details

City	System Model Number	System Model Description	System Name	Month	# Injections	# Run Hours	# Ready Hours	# Not Ready Hours	# Error Hours	# Detail Not Available Hours	# Monitored Hours	% Run Utilization	% Run & Ready Utilization	% Monitored Hours	# Downtime Hours	# Downtime Days	# Missing Hours
Totals					**187,750**	**70,980.93**	**57,796.38**	**219,939.11**	**7,050.17**	**64303.3**	**420,072.38**	**16.9%**	**30.7%**	**70.5%**	**3685.09**	**181**	**41262.56**
City #82	SYS-LC-1290-E	1290 Infinity LC System with Enhanced LC Features	SYS3667471	Jun-16	432	651.57	0.00	0.00	4.06	59.7	715.33	91.1%	91.1%	99.5%	0	0	0
City #82	SYS-LC-1290-E	1290 Infinity LC System with Enhanced LC Features	SYS3667471	May-16	334	526.98	2.33	64.14	123.04	23.4	739.89	71.2%	71.5%	99.5%	0	0	0
City #82	SYS-LC-1290-E	1290 Infinity LC System with Enhanced LC Features	SYS3667471	Jul-16	292	477.60	13.20	113.64	0.90	119.67	724.99	65.9%	67.7%	97.4%	0	0	3.83
City #82	SYS-LC-1290	1290 Infinity LC System	SYS3667378	Oct-16	0	463.05	136.51	69.72	0.24	39.7	709.20	65.3%	84.5%	95.3%	34.73	2	27.53
City #82	SYS-LC-1290II	1290 Infinity II LC System	SYS10111100	Jun-16	0	423.65	42.33	216.83	18.00	12.66	713.51	59.4%	65.3%	99.3%	0	0	0
City #82	SYS-LC-1260	1260 Infinity LC System	SYS9253222	Jun-16	1,086	387.76	37.45	279.25	8.99	1.85	715.33	54.2%	59.4%	99.5%	0	0	0
City #82	SYS-GC-7890-E	7890 Gas Chromatograph System with Enhanced GC	SYS9506593	Jul-16	1,020	379.27	126.87	23.68	30.63	9.24	569.74	66.6%	88.8%	76.6%	0	0	158.2
City #82	SYS-LC-1260	1260 Infinity LC System	SYS9253068	Jun-16	713	362.44	55.07	296.68	0.47	0.73	715.33	50.7%	58.4%	99.5%	0	0	0
City #82	SYS-LC-1260	1260 Infinity LC System	SYS9253342	Jun-16	799	355.51	78.32	269.93	10.04	1.53	715.33	49.7%	60.6%	99.5%	0	0	0
City #82	SYS-LC-1260	1260 Infinity LC System	SYS9253342	May-16	678	352.54	28.83	357.90	0.46	0.16	739.89	47.6%	51.5%	99.5%	0	0	0
City #82	SYS-LC-1260	1260 Infinity LC System	SYS9253120	Jul-16	1,065	340.23	106.66	272.77	1.36	3.99	725.03	46.9%	61.6%	97.5%	0	0	3.83
City #82	SYS-LC-1260	1260 Infinity LC System	SYS9253120	Jun-16	919	338.15	160.94	214.06	1.87	0.3	715.33	47.3%	69.8%	99.5%	0	0	0
City #82	SYS-LC-1260	1260 Infinity LC System	SYS9253309	Jun-16	1,072	321.07	92.84	281.59	18.47	1.36	715.33	44.9%	57.9%	99.5%	0	0	0
City #82	SYS-LC-1260	1260 Infinity LC System	SYS9253342	Jul-16	1,058	321.06	37.10	362.74	3.97	0.19	724.99	44.3%	49.4%	97.4%	0	0	3.83
City #82	SYS-LC-1260	1260 Infinity LC System	SYS8826927	Nov-16	283	320.34	116.48	58.20	0.03	18.38	513.40	62.4%	85.1%	71.3%	0	0	60.9

Figure 17. Utilization Details

"Service Coverage Summary"

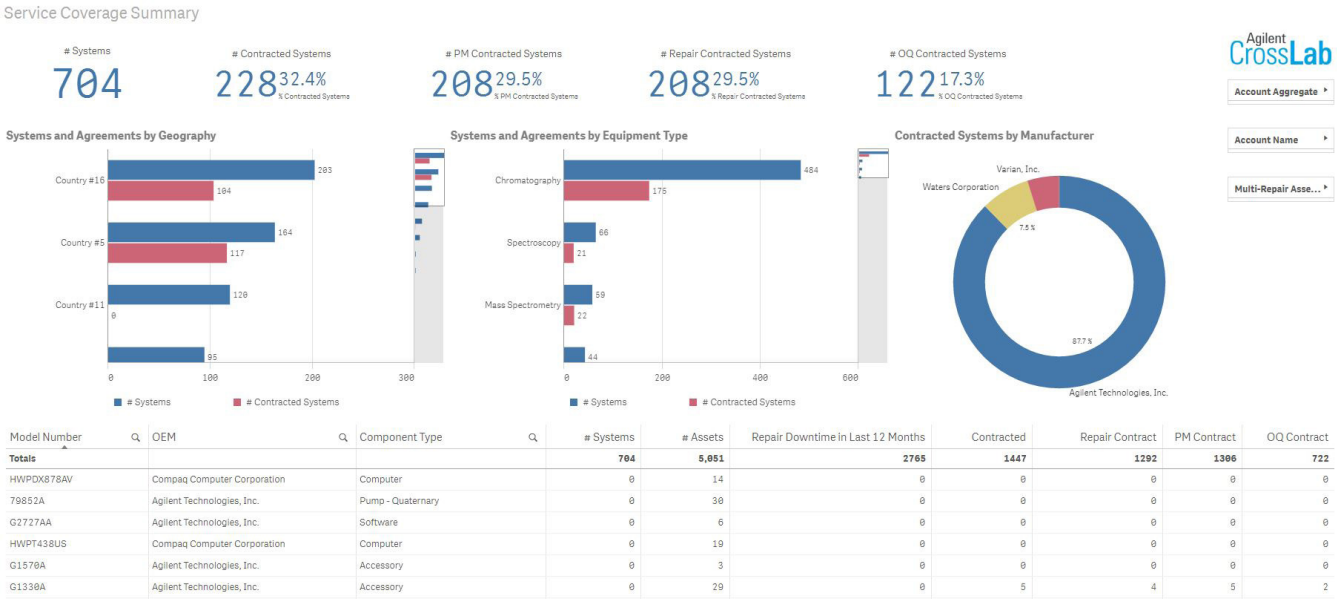
Optimizing lab operations and asset management includes understanding service coverage and the associated risk.

The service coverage summary report provides an overview of the contract coverage of all systems and assets that have been registered with Agilent.

When used together with the system configuration and repair root cause templates, it is possible to better understand that risk associated with the current service approach. Thus aiding in the development of plans that optimize the service coverage.

The service coverage key performance indicators featured on this template:

- Number of systems
- Number of contracted systems
- Percentage of contracted systems
- Number of preventive maintenance contracted systems
- Percentage of preventive maintenance contracted systems
- Number of repairs contracted systems
- Percentage of repair contracted systems
- Number of operational qualification contracted systems
- Percentage of operational qualification contracted systems



Model Number	OEM	Component Type	# Systems	# Assets	Repair Downtime in Last 12 Months	Contracted	Repair Contract	PM Contract	OQ Contract
Totals			**704**	**5,051**	**2765**	**1447**	**1292**	**1306**	**722**
HWPDX878AV	Compaq Computer Corporation	Computer	0	14	0	0	0	0	0
79852A	Agilent Technologies, Inc.	Pump - Quaternary	0	30	0	0	0	0	0
G2727AA	Agilent Technologies, Inc.	Software	0	6	0	0	0	0	0
HWPT438US	Compaq Computer Corporation	Computer	0	19	0	0	0	0	0
G1570A	Agilent Technologies, Inc.	Accessory	0	3	0	0	0	0	0
G1330A	Agilent Technologies, Inc.	Accessory	0	29	0	5	4	5	2

Figure 18. Service Coverage Summary

“Service Coverage Details”

The details that define service coverage are often important in optimizing lab operations and asset management.

The service coverage report provides an overview of the contract coverage of all systems and assets that have been registered with Agilent. You can look at specific coverages for individual instruments as well as the different levels of coverage on similar instruments and assets. You can even see the types of coverages on the most reliable and least reliable instruments.

Service Coverage Details

City	System Model Number	System Model Descript	Model Number	Serial Number	Model Description	# Systems	# Assets	Repair Downtime in Last 12	Contracted	Contract Transaction Number	Contract Material	Contract Material Descripti	Contract Start Date	Contract End Date	Repair Contract	PM Contract	OQ Contract
Totals						**704**	**5,051**	**2,765**	**1,447**						**1,292**	**1,306**	**722**
City #73	SYS-GC-6890A-E	6890A Gas Chromatograph System with	G1530A	SRN30000145 5197	6890A GC System - 6980 Plus GC	0	1	2	1	5000220739	R-20L-999	CROSSLAB PM - EXTENDED	02/01/2016	01/31/2017	0	0	0
City #73	SYS-GC-6890A-E	6890A Gas Chromatograph System with	G1530A	SRN30000145 5197	6890A GC System - 6980 Plus GC	0	1	2	1	5000220739	R-28D-999	REPAIR SERVICE - EXTENDED	02/01/2016	01/31/2017	0	0	0
City #73	SYS-GM-5975D	5975 Diffusion GC/MS System	G3170A	SRN30000145 3580	5975C VL Inert MSD - EI Diffusion	0	1	2	1	5000220739	R-18E-501	CROSSLAB GOLD	02/01/2016	01/31/2017	1	1	0
City #73	SYS-GC-6890A-E	6890A Gas Chromatograph System with	G2613A	SRN30000143 8296	7683 Automatic Injector	0	1	0	1	5000220739	R-20L-999	CROSSLAB PM - EXTENDED	02/01/2016	01/31/2017	0	0	0
City #73	SYS-GC-6890A-E	6890A Gas Chromatograph System with	G2613A	SRN30000143 8296	7683 Automatic Injector	0	1	0	1	5000220739	R-28D-999	REPAIR SERVICE - EXTENDED	02/01/2016	01/31/2017	0	0	0
City #73	SYS-GM-5975D	5975 Diffusion GC/MS System	G1530N	SRN30000145 5198	6890N Network GC System	0	1	0	1	5000220739	R-18E-501	CROSSLAB GOLD	02/01/2016	01/31/2017	1	1	0
City #73	SYS-GM-5975D	5975 Diffusion GC/MS System	G2614A	SRN30000143 8298	7683 Automatic Injector Tray	0	1	0	1	5000220739	R-18E-501	CROSSLAB GOLD	02/01/2016	01/31/2017	1	1	0
City #73	SYS-GC-6890A-E	6890A Gas Chromatograph System with	G2614A	SRN40000080 3355	7683 Automatic Injector Tray	0	1	0	1	5000220739	R-20L-999	CROSSLAB PM - EXTENDED	02/01/2016	01/31/2017	0	0	0
City #73	SYS-GC-6890A-E	6890A Gas Chromatograph System with	G2614A	SRN40000080 3355	7683 Automatic Injector Tray	0	1	0	1	5000220739	R-28D-999	REPAIR SERVICE - EXTENDED	02/01/2016	01/31/2017	0	0	0
City #73	SYS-GM-5975D	5975 Diffusion GC/MS System	G2913A	SRN30000145 3579	7683B Automatic Injector	0	1	0	1	5000220739	R-18E-501	CROSSLAB GOLD	02/01/2016	01/31/2017	1	1	0

Figure 19. Service Coverage Details

"System Configuration Analysis"

It is often important to get a full picture of the instrument installed base: how many redundant (or identical configurations) exist or how many unique configurations exist. It is also important to understand how many different vendors' systems are in the lab for each technique.

This information is crucial when developing life-cycle management and technology refresh plans, for optimizing instrument utilization and laboratory operating expenses or for maximizing instrument availability.

The system configuration analysis template provides the complete configuration details that are needed to effectively manage the laboratory installed base. This template therefore supports you in addressing many laboratory operations objectives.

This report can be used alone, but is often used with repair root cause analysis, service coverage details, and utilization reports to provide a complete view of the problem or objective being addressed.

Figure 20. Service Configuration Analysis

Laboratory Business Intelligence (LBI) Custom Services

Agilent's LBI service is based on a proven solution that is designed to meet your needs. However, there may be times when something unique is required, such as a different data source, specific metrics, or custom templates. Our worldwide team of data analytics and laboratory operations experts will work with you to create a custom solution for your laboratory.

Agilent CrossLab Service and Support

As your laboratory operations partner, Agilent brings you the business insight, operational rigor, thought leadership, and over 60 years of experience serving the laboratory community with high-quality products and services. Agilent can take your lab to new levels of productivity and innovation. Our engineers and laboratory operations advisors are the most qualified in the industry. They are highly trained and fully committed to helping your organization achieve operational excellence. This experience and dedication has made Agilent the preferred lab-wide service provider with customers of all sizes, including 12 out of the world's top 15 pharmaceutical companies.

From multivendor instrument repair and maintenance to enterprise asset management, Agilent offers a continuum of service and support options tailored to your operational needs. As a customer, Agilent will help you identify and implement the optimal service and support model to maintain your equipment, qualify your instruments, educate your staff, manage your equipment inventory, deliver business insight, and advice.

Agilent Laboratory Business Intelligence Service

The world is moving faster. Those who react earliest often recognize the greatest opportunity and advantage. Effective decisions must be informed decisions.

Agilent's LBI service, driven by laboratory operations specialists and specific data from your own lab, unlocks the wealth of information and opportunity within the data that can no longer afford to remain hidden away.

To learn more about how the Laboratory Business Intelligence service can help you maximize productivity and optimize the efficiency of your lab, contact your Agilent representative today or visit us online at www.agilent.com/crosslab.

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