



Agilent Petrochemical Case Study: Shell

Lab-Wide Instrument Services Improve Petrochemical Lab Performance

Agilent
CrossLab
From Insight to Outcome

Agilent helps Shell to simplify, optimize, and transform lab operations

The Shell Technology Center in Bangalore, India (STCB) is one of the three Technology Centers within Shell that supports both R&D and laboratories at Shell, including non-operating joint venture assets. Each technology center is comprised of several laboratories employing a multitude of different instruments necessary to provide the requested services for their internal customers in a timely manner.

The analytical laboratory at STCB observed that they were spending a lot of time and energy coordinating services with multiple vendors, each supplying and maintaining highly varied and separate systems. To address this fundamental operations issue, Shell decided to implement Agilent's Lab-Wide Instrument Services program, bringing confidence and transparency to all instrument service and maintenance, while improving performance and preventing downtime - which is mission critical for completing important projects and maintaining petrochemical production.

Agilent's Lab-Wide Instrument Services program manages the entire process end-to-end, coordinating all vendor activities and ensuring the appropriate work is completed on time. The program consists of three main components: Agilent Direct Services, Multi-vendor Instrument Services, and Managed Services, coordinating a multitude of partners and OEMs. By selecting Agilent as their strategic Lab-Wide Instrument Services provider to manage all aspects of the program, greatly simplifies vendor engagement and laboratory asset maintenance for Shell, allowing the analytical lab team to concentrate on their core competency of supporting Shell laboratories throughout the world.



The Shell Technology Center in Bangalore, India provides essential support for Research and Development and production laboratories for Shell's petrochemical production sites throughout the world

Agilent's Lab-Wide Instrument Services have become an integral part of instrument fleet management and operations performance.

"Our relationship with Agilent goes far beyond the benefits of lab-wide instrument services. As a direct consequence of our trusted partnership, we continue to find new ways of optimizing lab maintenance and performance"

Team Lead, Analytical Lab, Shell Technology Centre, Bangalore, India

Enhanced performance and productivity

The smooth implementation of the Lab-Wide Instrument Services program at STCB resulted in significant direct savings. Shell reports estimated savings of 175 worker-days in the first year alone. These savings have been achieved by the Agilent service team centrally managing all planning, scheduling, and execution of services. Availability and alignment of instrument, parts, and service engineers, ensured minimal downtime due to maintenance.

Direct time saved in worker-hours as a result of implementing lab-wide services:

Productivity Enhancement



**Total estimated time savings:
1408 hours ≈ 175 worker-days**

- **Planning, scheduling and executing all maintenance activities are being done by Agilent engineer**
Time saved: 118 instruments x 5 hours = 590 hours
- **Unburden scientists from regular follow-ups for preventive and repair maintenance**
Time saved: 118 instruments x 2 hours = 236 hours
- **All instrument precheck and PM Kits are managed by Agilent onsite engineer**
Time saved: 118 instruments x 2 hours = 236 hours
- **All Agilent engineer and partner vendors HSSE-related awareness responsibility**
Time saved: 15 vendors x 2 service engineers x 2 hours = 60 hours
- **On-site inventory building and spares maintenance**
Time saved: 118 instruments x 2 hours = 236 hours
- **iLAB base suite implementation**
Time saved: 50 hours

Additionally, Agilent took over the responsibility of ensuring Shell's HSE guidelines were clearly communicated and adhered to by both Agilent and partner vendors, resulting in a safe working environment. Implementing the Agilent iLab software for stock management further helped optimizing parts and consumable usage.

Though significant worker-days gained by implementing Agilent's CrossLab Lab-Wide Services program have translated directly into significant cost savings over time, preventing interruption of lab operation is far more important in terms of the impact and ensuring business continuity.

Optimized service strategy and implementation

Agilent's Laboratory Productivity Specialists, in close collaboration with Shell's Laboratory management, analyzed and optimized the service strategy. The original service strategy at STCB can best be described as Reactive Break-Fix. Based on an in-depth analysis of instrument criticality, usage, and age - it was decided to adjust service levels towards a more Preventive Maintenance Service strategy, improving laboratory asset uptime and ultimately reducing downstream interruption in production.

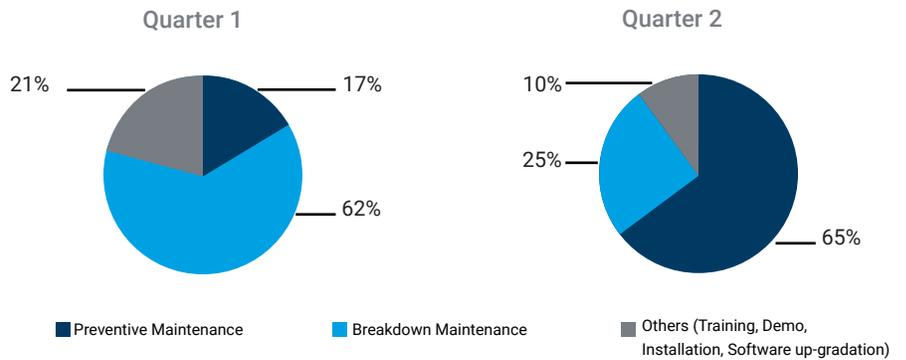
By shifting away from an inefficient breakdown repair scenario to one of prevention, results in greater operational continuity, which far outweighs preventative maintenance cost.

In essence, the effect of preventative maintenance is non-linear because every minute gained by preventing interruption to petrochemical production represents a significant amount of protected revenue for Shell.

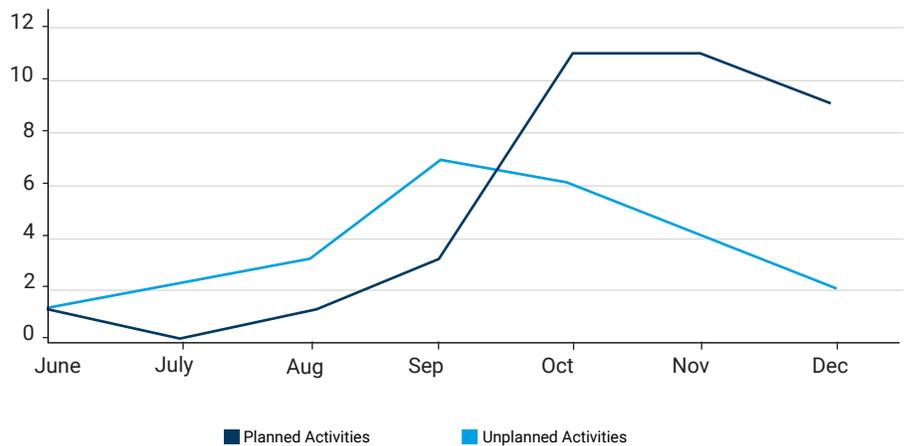
Both Shell and the Agilent realized that implementing Agilent's Lab-Wide Instrument Services program was not to be underestimated. Agilent's phased implementation approach, in combination with a well-structured communication plan, ensured a smooth transition. Agilent assigned a dedicated onsite implementation manager to ease the transition, whereby multiple project tracks ran parallel to successfully transition to Agilent's Lab-Wide Instrument Services program by the desired go-live date.

The highly collaborative manner in which the implementation was executed resulted in a mutual understanding of business goals and daily operations of STCB, which formed the basis for a trusted partnership.

QoQ Performance Improvement



Planned vs. Unplanned Activities



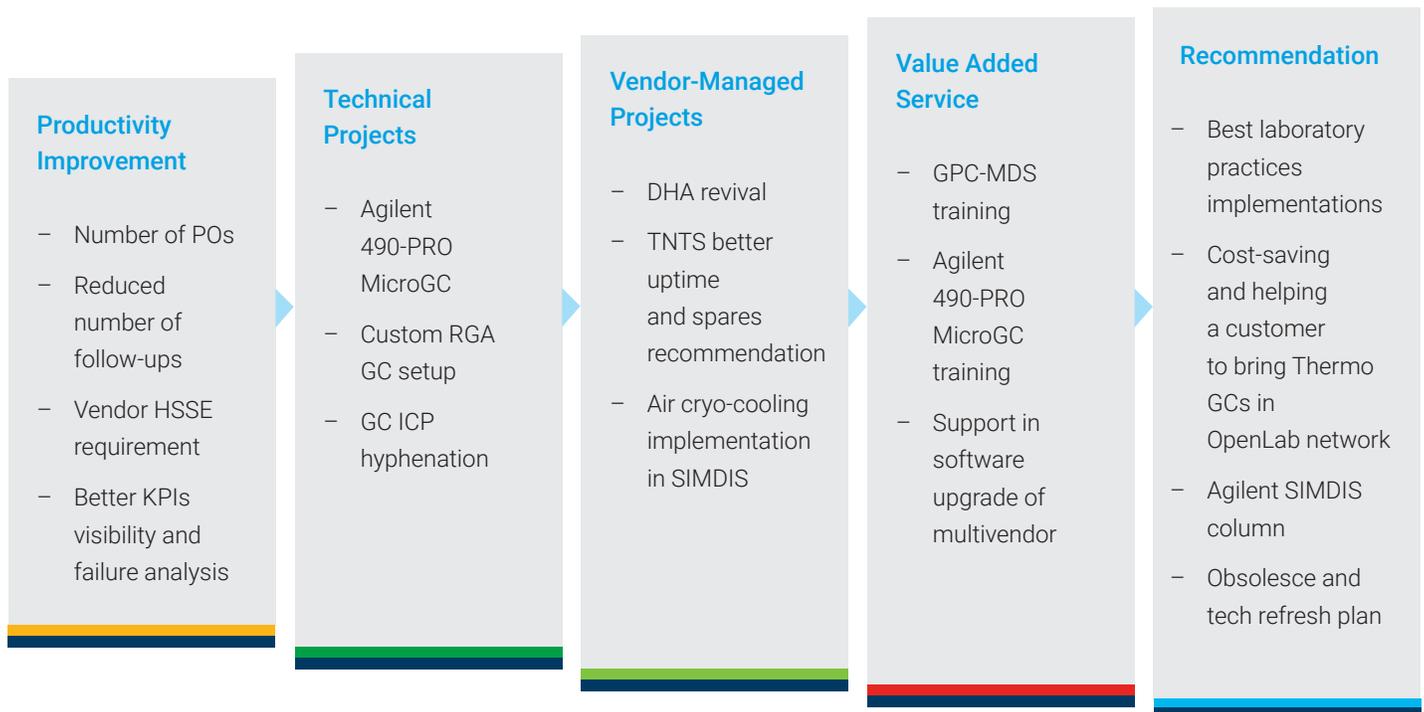
Trusted partnership and confidence

Beyond the discussed benefits of the Lab-Wide Instrument Services program, the close working relationship between Shell's separation team and the Agilent's CrossLab team has produced other significant outcomes.

For example, working together and leveraging Agilent's extensive scientific knowledge base, an essential Micro GC asset was brought online, solving a critical system integration issue. The onsite CrossLab Instrument Service program manager was able to understand the key issues and engaged with the appropriate subject matter expert at Agilent and local Field Service Engineers to successfully complete the integration. The capability of this critical asset could now be deployed, greatly enhancing output performance.

Similarly, problems with Nitrogen-Sulfur analyzers were solved by leveraging Agilent's extensive network of OEMs and specialized service providers. Ensuring remote technical know-how was made available to Shell during the global COVID-19 pandemic, resulted in quick problem resolution.

Shell Key Implementation



Having a dedicated onsite CrossLab Instrument Services program manager completely integrated within STCB laboratory operations, allows for a more proactive collaborative engagement, ensuring a successful implementation and enabling Shell to achieve its first-year savings targets.

Correctly prioritizing and resolving encountered challenges during the implementation and stabilization phase enables both Shell and Agilent to focus on anticipating and preparing for future needs, effectively transitioning from simplification to optimization, and ultimately transforming laboratory operations. By taking full advantage of Agilent scientific heritage, technical capabilities, and partner network, Shell's drive towards laboratory excellence at STCB continues to be supported by a global One Agilent team.

To learn more, visit

www.agilent.com/chem/enterprise-services

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This information is subject to change without notice.