CASE STUDY:

YUXIGLOBAL
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Transforming the Automation of a Group of Life Science Laboratories with Yuxi Global

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Client Overview

A group of 77 life science laboratories spread across the USA and Canada with headquarters in Cinnaminson, NJ specializes in analyzing samples for environmental purposes, including the detection of harmful substances like spores and asbestos which can impact human health. The laboratories operate in various domains, such as microbiology, asbestos, food, chemistry, and industrial hygiene.

Client Challenge

The life science laboratories faced fierce competition in a rapidly evolving market, compounded by the struggle to hire technical talent quickly. They required a proficient partner to accelerate their development pace, surmount technical obstacles, and remain competitive. Lack of software developers hired hindered their capacity to handle business demands.

Their manual strategy process based in Excel files led to error-prone scenarios, impeded competitiveness, and prevented scaling, leading to increased prices for sample tests. The laboratories needed to automate various aspects of their operations to improve accuracy, efficiency, and competitiveness in the market.

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Collaboration with Yuxi Global

Yuxi Global's collaboration with the life science laboratories began in November 2020 and encompassed multiple projects with distinct goals. **Yuxi Global played a crucial role in automating manual processes that were previously carried out in Excel.** These processes include:

Accreditation Tracking:

Automated tracking of accreditations, ensuring compliance with standards and regulations.

Result Entry:

Automation of customer sample analysis results, leading to faster delivery.

Quality Control:

Automation of quality control processes yielded more control over the process and therefore reduced errors, enhanced analysis results, and helped execute quality control as required by the accrediting bodies.

eCommerce:

Automated eCommerce processes, enabling efficient online transactions.

Yuxi Global provided flexible engagement agreements. This comprehensive partnership delivered both technological solutions and the agility required to adapt to evolving needs. Iterative processes were employed to boost output and delivery efficiency.

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Yuxi Global Stakeholders and Project Personnel

Yuxi Global's team was initially comprised of one member and later expanded to a team of 14 professionals, including frontend developers, backend developers, a software architect, a team leader, and a scrum master. Other key stakeholders include Yuxi Global decision makers, including the VP of Technology, Director of IT, and a Business Analyst Leader; the Communication Lead, Gerardo Calvo Logrono; and various project-specific stakeholders, including Pablo Díaz and Daniel Misas.

Technologies Used

Yuxi Global leveraged a range of advanced technologies to automate the laboratories' processes. These technologies include:

Azure DevOps: Used for requirement tracking, CI/CD pipelines setup, version control, and automated unit testing.

React JS: Employed to develop Single Page Applications (SPAs) for each Life Science's Lab project.

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Microsoft SQL Server: Utilized as the project database.

Internet Information Services: Web servers used to expose the software users are consuming via their browsers.

C# and ASP.Net Core: Employed for backend logic and development.

Azure Service Bus: Facilitated communication between microservices.

Azure Application Insights: For monitoring and logging web app errors and warnings.

k6.io: Utilized for load testing to simulate real-world usage scenarios.

Domain Driven Design: Applied to encapsulate domain logic and improve software design.

Command Query Request Segregation: Used to enhance performance and user experience by segregating concerns (commands and queries).

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Challenges and Lessons Learned

Yuxi Global assisted in implementing, transitioning, and aligning expectations, and success was achieved by using a critical balance of technical expertise, planning, combined with transparent and ongoing communication. A focus on Agile principles brought benefits such as improved management and early feedback. Having a dedicated Business Analyst role and segregating functional testing emerged as crucial lessons for enhancing requirements accuracy. Capturing the product vision, creating user stories, and refining requirements remained central to improvement.

IMPACT

Through Yuxi Global's efforts, the life science laboratories achieved significant improvements by automating several of their systems. Automation led to: reduced sample test/analysis prices, enhancing competitiveness in the market; streamlined operations, reduced errors, and increased efficiency; and enabled life science labs to scale its operations seamlessly, accommodating a growing customer base to improve profitability without sacrificing accuracy.

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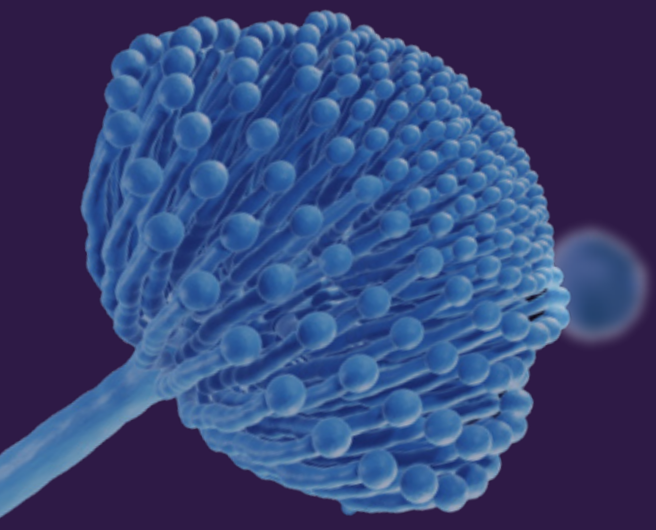
CONCLUSION

The transformative collaboration between the life science laboratories and Yuxi Global showcases the remarkable impact of automation and advanced technologies on environmental analysis processes.

Yuxi Global's expertise enabled the laboratories to overcome manual process limitations, achieve operational efficiency, enhance competitiveness, and improve customer satisfaction. This case study illustrates how the integration of cutting-edge technologies and methodologies can revolutionize the operations of scientific laboratories and similar industries.



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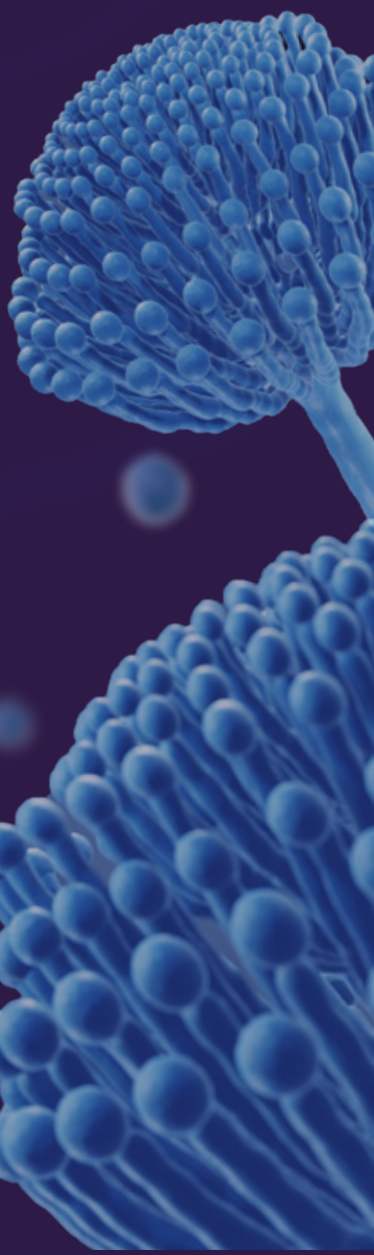

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