Making Lab Automation Actually Work

Augmenting Scientists with Transformative Technology

Manual experiment monitoring and data capture is still the status quo in most biotech and pharma labs, compromising efficiency and project timescales. But there is a better way. To accelerate scientific excellence, Reach Industries has created the visual lab intelligence platform Lumi, which leverages computer vision, voice, and machine learning to automatically capture operational data in labs. This system eliminates tedious data management and allows scientists to use transformative technology to manage laboratory operations and gain a deeper understanding of their reactions and processes. Silas Adekunle, co-founder and CEO of Bristol, UK-based Reach Industries, describes the company's vision, direction and next steps in its development to CHEManager.

Chris Beck, CTO, and Silas Adekunle, CEO, Reach Industries

CHEManager: In a nutshell, what does Reach Industries do?

Silas Adekunle: Reach Industries is at the forefront of integrating digitalization and automation into the medicines development and manufacturing process. Our pioneering visual lab intelligence platform, Lumi, is a fusion of machine learning and computer vision technology. This platform is designed to optimize operational data capture, analysis, and process automation, thereby enhancing the repeatability and productivity of laboratory and manufacturing environments within the pharmaceutical sector, allowing medicines to get to market significantly faster and more efficiently.

What sectors and market segments does your company operate in?

S. Adekunle: We operate primarily in the pharmaceutical sector, targeting all stages of medicines development, from discovery and process development to quality assurance and compliance in manufacturing. We are also exploring potential applications in biotech and biomanufacturing. This positions us across various segments of the global laboratory automation market and the pharmaceutical automation market.

What is/are Reach Industries' primary business model(s)?

S. Adekunle: Our core business model revolves around providing both hardware and software as a service — or SaaS — platform access.

What does the competitive landscape look like for Reach Industries?

S. Adekunle: We operate in a competitive market where various technologies target different aspects of the development and manufacturing value chain, ranging from audio data collection and electronic lab notebook providers to biolab robotics companies. However, we are highly distinguished due to Lumi's unique ability to offer comprehensive operational data monitoring, insights, and automation capabilities through advanced machine learning and computer vision technology.

What valuable experiences have you had in your entrepreneurial career so far?

S. Adekunle: One of the most valuable experiences for us has been during the development of Lumi's core technology. It required significant research and development in active labs, sometimes in regulated environments. This could only be achieved via a collaborative approach with some of our earliest customers such as CatSci, a leading CRO. Engaging directly with end-users early in the development process provided us with invaluable insights into the practical challenges and specific needs within the pharmaceutical industry. This collaboration not only influenced the technological development of Lumi but also helped us shape a customer-centric approach in our business model.

What are your next steps in technology and business development?

Chris Beck: We are currently focused on further enhancing Lumi's functionality, particularly for operational data capture and intelligence specific to process development and manufacturing. We're strengthening the following capabilities of the platform:

- Complete plug'n'play remote monitoring and hands-free data capture of operational data.
- Easy and secure data warehousing for analysis, sharing and exporting with full auditing and traceability.
- Easy no-code process automation and pipelines.

We also have some exciting projects in the research phase that include novel data types, we are actively recruiting additional engineers to support this development which is inline with our business goals to expand our market presence and establish new partnerships.

Personal Profiles

Silas Adekunle, CEO and co-founder of Reach Industries, is a Nigerian-British engineer, inventor and serial entrepreneur specializing in robotics & AI technology. Educated in the UK, he graduated with a First Class Honours Bachelor of Science in robotics technology from the UWE Bristol Robotics Laboratory. His achievements have been recognized with multiple honors, including Forbes 30 Under 30 in both Europe and Africa for Technology and Entrepreneurship. Adekunle's work at Reach Industries focuses on combining his technical expertise and entrepreneurial skills for business development.

Chris Beck, the CTO and co-founder of Reach Industries, is a seasoned technology leader with a strong background in AI, Robotics, and emerging technologies. He holds a Master of Science in Robotics from the University of Reading and dropped out of a Ph.D. in Computer Science, specializing in computer vision for robotics, from the University of Bristol due to the rapid growth of another start-up he co-founded.

Business Idea

Revolutionizing Pharma with Visual Intelligence

In the dynamic world of pharmaceutical research and development (R&D), Reach Industries emerges as a game-changer. Founded in 2019 and based in Bristol, UK, Reach Industries is redefining the medicines development landscape with its innovative visual lab intelligence platform, Lumi. This pioneering solution integrates machine learning and computer vision technologies to technology to automate operational data capture, insights and processes in labs, augmenting scientists so they can focus on the more creative aspects of their work.

Lumi, is a novel system comprising two core components: LabEye and the Lumi Cloud Platform. LabEye is an AI-empowered laboratory camera capable of capturing a comprehensive view of laboratory experiments and manufacturing processes. This device records crucial observations and sends the data securely to the Lumi cloud platform. The Lumi Cloud Platform is where the magic happens. It's where scientists can access and analyze the data captured by Lumi through an intuitive dashboard. The platform's machine learning algorithms offer insights by examining various user-defined parameters.

Additionally, it enhances environmental sustainability by reducing waste through improved quality control and supports social welfare by boosting worker health and safety. Its remote monitoring and automation capabilities significantly lessen workers' exposure to hazardous environments, promoting inclusivity.

The versatility of Lumi positions Reach Industries across multiple market segments in the pharmaceutical sector. From drug discovery and process development to quality assurance and compliance, Lumi is designed to cater to a broad spectrum of needs in the pharmaceutical value chain. The primary business model revolves around offering both hardware and software as a service, targeting pharmaceutical companies, research institutes, and innovative start-ups in the drug development domain.

Lumi has been deployed at various CROs and is currently undergoing trials at some of the most prestigious European and USA Pharma companies.

- Reach Industries Limited, Bristol, UK
  www.reach.industries

Elevator Pitch

Visual Lab Intelligence Platform

Reach Industries is building a visual lab intelligence platform called Lumi. Lumi visually captures, understands, analyzes and contextualizes operational information that otherwise would require human intelligence in Lab environments, with applications across all stages of medicines development, from discovery and process development to quality assurance and compliance in manufacturing.

Lumi's proven impact is:

- It automates experiment monitoring and data capture with intelligent analysis and smart alerts.
- It enhances understanding of reactions and processes for scientists.
- It makes remote collaboration & knowledge sharing significantly easier with visual and contextual operational data.
- It provides an unparalleled layer of operational and business intelligence for Pharma and BioTech companies.

Milestones

2019
- Reach Industries is founded

2020
- Reach Industries begins work on Lumi in response to various inefficiencies observed in pharma workflows and processes

2021
- Collaboration begins with CatSci, a leading CRO
- Reach Industries completes its pre-seed VC round

2022
- Lumi expands across teams at CatSci and expands to universities in the UK

2023
- Lumi begin pilot at one of the world's largest biopharma companies
- Reach Industries completes its seed VC round

Roadmap

Reach Industries is currently focused on further enhancing Lumi's functionality and is actively recruiting additional engineers to support this development. From a business perspective, it aims to expand the company's market presence and establish new partnerships, with an additional VC funding round to support its growth.

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Reach Industries is an early-stage start-up with a mission to augment scientists and make labs more efficient, so they can better and faster tackle world challenges.

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Reach Industries has developed Lumi, a visual lab intelligence platform leveraging AI & computer vision to capture and analyse experiment data safely and efficiently.