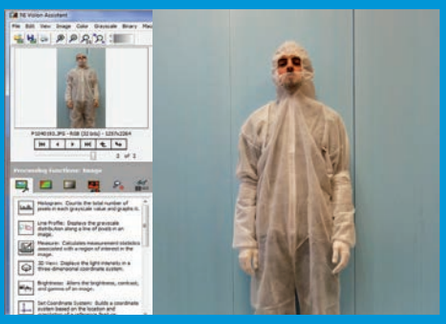
Strata Vision

Cleanroom Inspection System

Hothouse

where business meets innovation

New Technology from DIT



Automated Scanning and Fault Detection for PPE

Strata Vision is a novel automated scanning and fault detection system for Personal Protective Equipment (PPE), designed specifically for clean room compliance and anti-contamination.

Strata Vision helps to ensure that personnel entering clean rooms do not put the product at risk by not wearing protective clothing correctly. The device uses photo-recognition technology to detect faults in the protective clothing worn by personnel before entering the clean room.

The system aids in the gowning process through the use of a novel software device and camera mounted next to a full size mirror. When the worker checks their PPE in the mirror, the system automatically scans for faults in the PPE (i.e. failure to wear gloves or masks, non-compliance with cosmetic protocols, or high temperature indicating illness).

An image is collected and processed by novel image recognition software, which generates a “pass” or “fail” classification and presents this to the user. The system also displays an indicator of the affected area (e.g. hands). The system continues to scan the user and displays a “fail” result until their PPE is adjusted sufficiently to achieve a “pass” result. Each result can be logged by the system and stored for review later by the employer or employee.

Strata Vision distinguishes between permitted colours (e.g. gown and background colours) and non permitted colours (i.e. skin tones) which are highlighted by the software. This information is then processed and the affected area displayed.

Applications

Strata Vision has applications amongst companies in a range of industry sectors, particularly those with a strong dependence on high value manufacturing where clean rooms are an essential part of the production process.

The technology was developed in consideration of clean room environments within the pharmaceutical, medical device, semiconductor and food sectors but other application areas may apply.

Opportunity

The establishment of a start-up software business or a licensing agreement with a clean room services company are two possible routes to market for this technology. Industry partners will have the added benefit of a highly experienced DIT project team to help deliver the final product.

Strata Vision has featured strongly in national (Enterprise Ireland) and international (Hong Kong PU) enterprise awards.

Advantages

This technology offers a number of unique advantages:

- Improved Accuracy and Reliability - Currently no technical solution exists to aid workers in the gowning process, meaning personnel must rely on manual subjective processes which are prone to human error. Strata Vision solves this problem.
- Regulatory Compliance - Strata Vision ensures employee adherence to the strict PPE guidelines associated with certain industries (e.g. in medical devices).
- Anti-Contamination - Strata Vision significantly reduces the risk of product contamination through faulty PPE which can lead to costly problems such as production run scrapping and recall of faulty products on the market.

Stage of Development

This technology was developed by researchers at the School of Mechanical and Design Engineering in Dublin Institute of Technology (DIT).

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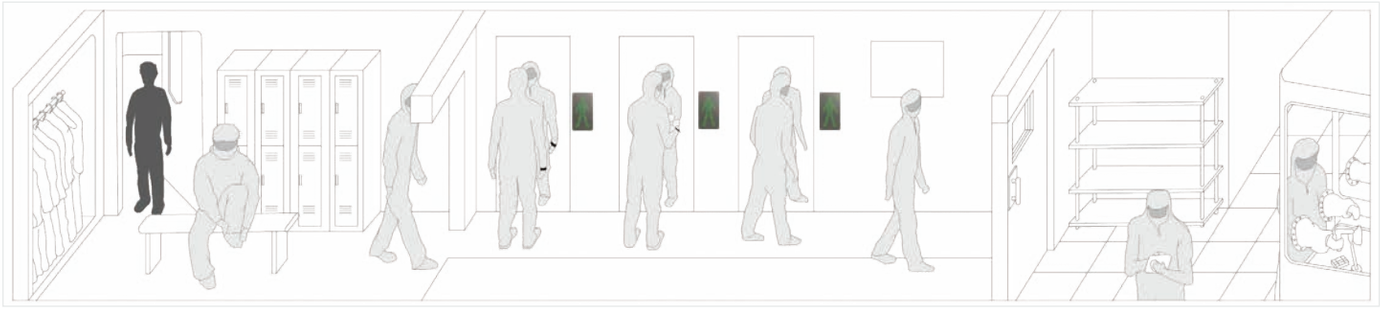
DIT Hothouse is currently seeking expressions of interest from companies interested in licensing and developing the product.

Prototype image recognition software has been adapted for the system, developed, tested and executed in order to validate the proof of concept. The system has been tested for various configurations of protective gear amongst a cross section of potential users in the Irish Pharmaceutical, Medical devices, Food and Semi-conductor industries.

A PCT patent application on 'A method and apparatus for protective clothing compliance' was filed in 2013 – PCT/EP2013/061334. This patent covers the system, processes and detection methods while the software and related source code is DIT confidential know-how.

Further development work by a licensee will likely be required on product development, engineering and commercial scale production. Branding, distribution partners and routes to market are other considerations.

Left:
The Strata Vision Display Unit Prototype



Concept Diagram of Strata Vision in Operation

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