

# Non-stop Remote Monitoring

## Safeguard Priceless IVF Samples

### Introduction

Sims IVF is Ireland's largest provider of assisted reproductive technologies. As part of their legislative requirements, Sims IVF must provide continuous monitoring of all aspects of the processing and storage of tissues and cells. This means monitoring the environment where patient's embryos are grown to ensure that it matches the conditions that would be expected to find inside the womb. Any deviation from this environment (temperature, CO<sub>2</sub> and O<sub>2</sub>) must be reported and reacted to 24/7, 365 days per year.

In addition, due to the nature of the samples being stored, the ability to have remote access to the monitored readings was also a necessity.

A further monitoring challenge, is the high humidity of the environment inside the incubation chambers (>85%), which must not impact upon the monitoring equipment or its readings.

Patient's samples (sperm and embryos) are preserved in long term storage (liquid nitrogen tanks) for future use and to ensure total assurance of their viability, early warning of any potential storage tank failure is key to safeguarding these precious assets and compliance with HPRA requirements.

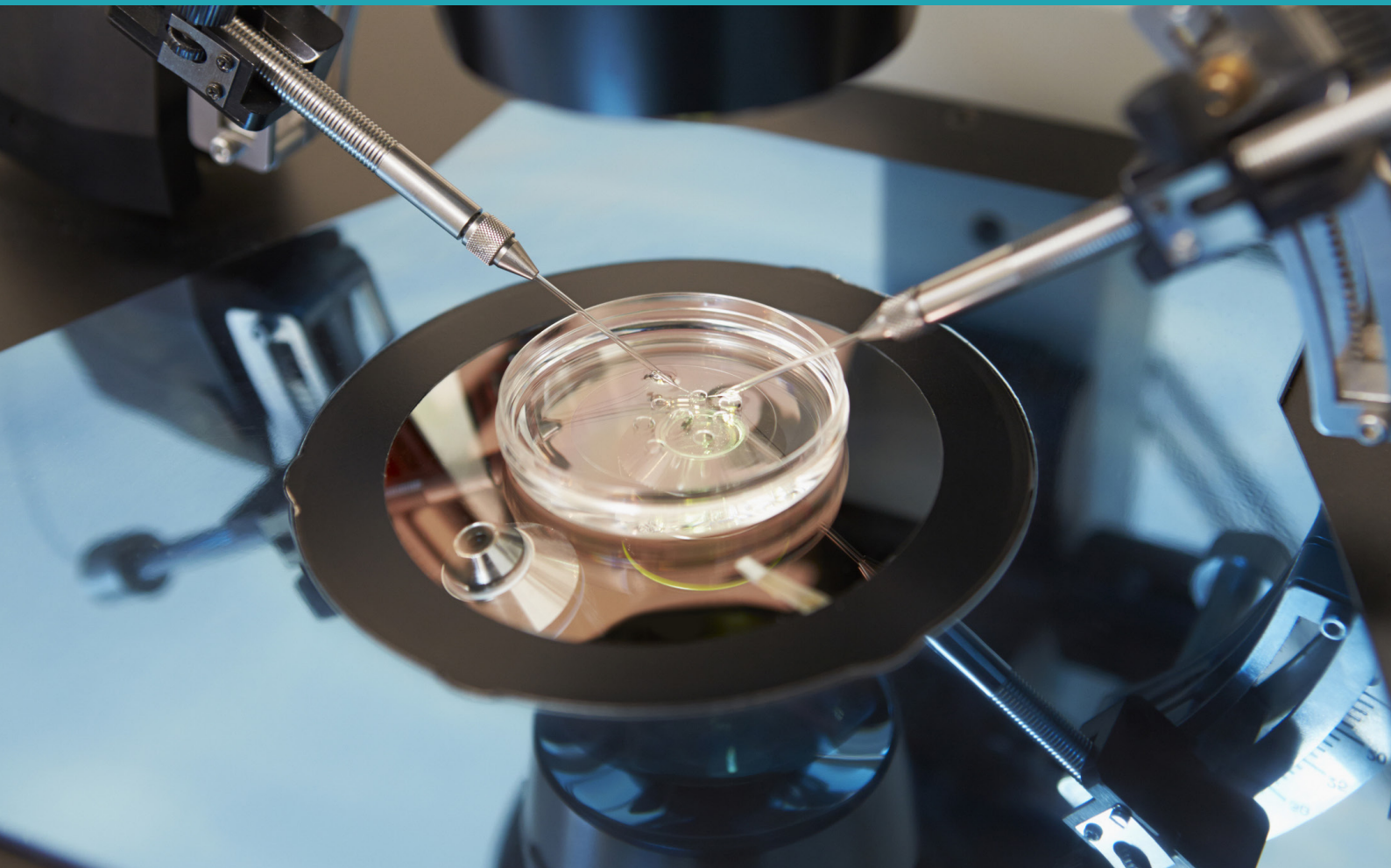
### Meeting the tightest user requirements

Within the facility, the main work takes place inside of a clean-room environment, so a monitoring system is required that is unobtrusive, could be installed with the minimum of disruption and did not itself impact on the conditions it was there to monitor.

Related back to the original URS, Tutela proved to be the only system which ticked all of the boxes. Other systems were considered which were similar, but either they were not fully wireless, or they failed to provide some of Tutela's core functionality including back filling of data after system failure, live monitoring, on-line audit trail vs paper with old system, better reliability of O<sub>2</sub> sensors.



**“The Tutela system  
delivers 100%  
compliance with all  
legislative requirements”**



### Simple, elegant system installation

To serve the single laboratory within in a clean-room environment at Sims IVF, a single Tutela WARP was sufficient to monitor the compliment of 73 sensors. These sensors monitor a wide variety of applications within the lab, including 20 LN2 cryo-tanks, combinations of temperature/O<sub>2</sub>/CO<sub>2</sub>/door contact for 12 incubators, ambient temperature, differential pressure and O<sub>2</sub> depletion sensors.

All sensors are enabled for continuous live temperature monitoring and alarm verification.

The high humidity if the environment inside the incubation chambers (> 85%), provided an additional challenge to monitoring in that it must not have any impact upon the monitoring sensors or their readings. This was a big problem with the previous system that required O<sub>2</sub> sensors be replaced at 6 monthly intervals resulting in high in service costs.

The wireless Tutela monitoring system was installed without any downtime in the laboratory.

### Compliance and Financial Security

The Tutela system delivers 100% compliance with all legislative requirements regarding continuous monitoring in the laboratory. Staff adapted easily to the straightforward web based interface, and there have been few concerns with its use. The in-house quality team are delighted that they can also remotely log in and view alarms and corrective actions with full traceability at any time. This has meant prompter reporting of non-conformances from the laboratory team.

The reliability and stability of the monitoring has generated greater confidence, within the laboratory team, that optimum environmental conditions are maintained for the samples. Human embryos are some of the most precious laboratory samples there are, and the Tutela monitoring system allows SIMS IVF, as a business, to mitigate the patient risk, and it gives them a high level of financial security.



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*“From enquiry though to installation and aftersales service, the team from Tutela systems, from engineers to CEO have been responsive and a pleasure to deal with. The system itself is first class and Tutela together with our local distributor, Medical Supply Company, have ensured that delivery, installation and validation went smoothly, with ongoing support fast and responsive. I would thoroughly recommend the Tutela system for any business that requires monitoring of critical areas.”*

**Graham Coull – Laboratory Director**

## **Mitigating Patient and Financial Risk**

Whilst a cost (aside from the associated emotional costs) cannot be placed on an embryo, the physical cost to repeat a patient's treatment to replace a set of embryos would on average be €5,500. One storage tank may contain the embryos of up to 180 patients, so if a tank failed, the cost to the business is close to 1 million euro, purely to replace the samples. The Tutela system gives the peace of mind that an early warning of any potential failure would be received in time to prevent any loss of samples.

### **Key Points**

- Protects irreplaceable sample inventory
- Secure, comprehensive data and alarm audit trail
- Elegant non-intrusive installation
- Vital component of compliance management
- Robust proven monitoring system
- Protects against financial loss



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