Call for Expression of Interest (EOI)

A Smart Label for Monitoring Fluid Level in an Intravenous (IV) Fluid Bottle

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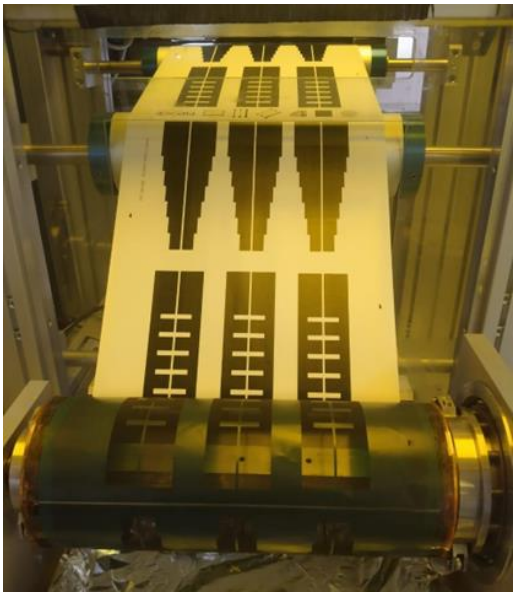
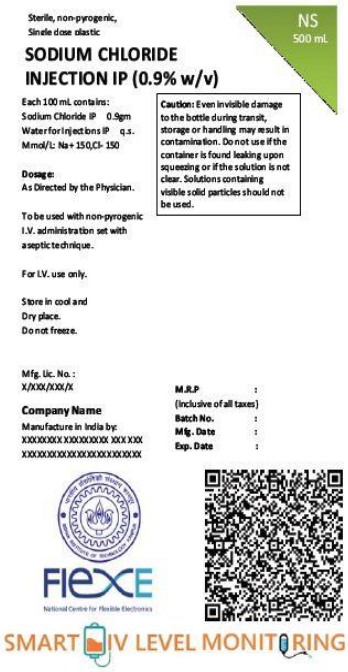
The **National Centre for Flexible Electronics (NCFlexE)** at **IIT Kanpur** invites expressions of interest (EOI) for collaboration on the development and commercialization of a **Smart Label for Monitoring Fluid Level in an Intravenous (IV) Fluid Bottle**. This innovative solution offers a cost-effective way for real-time monitoring of IV fluid levels, providing timely alerts to prevent occlusions or emptying of IV bottles, ultimately enhancing patient care.

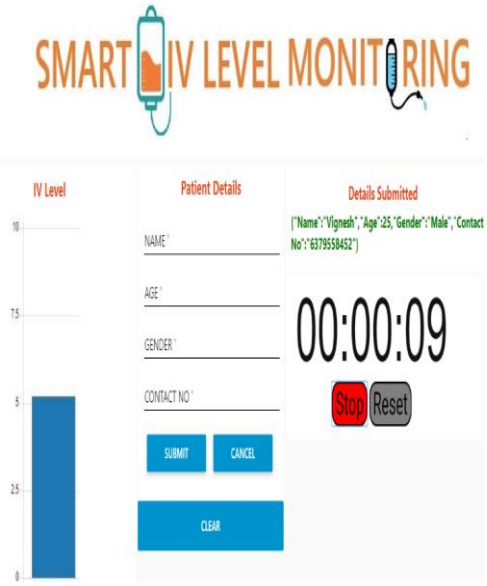
Product Overview and Commercial Readiness

This system comprises a low-cost **printed sensor label** attached to the IV bottle, paired with an external **electronic reader** that provides real-time information on fluid height. The smart label is a disposable solution that is applied externally to the bottle, ensuring non-intrusive monitoring without affecting the fluid dispensing process.



R2R Printing of Smart IV Labels





Key Features:

- **Real-Time Monitoring:** The printed sensor label continuously monitors the fluid height inside the IV bottle, ensuring precise information on the remaining fluid level.
- **Occlusion and Emptying Alerts:** The system raises an alarm in case of fluid occlusion or when the bottle is nearly empty, improving patient care.
- **Non-Intrusive Design:** The label is applied to the outside of the IV bottle, making it non-invasive and completely safe for use in a medical environment.
- **Remote Alarming Capabilities:** Alerts from the electronic reader can be sent to remote locations such as a nursing station or a mobile device, ensuring timely interventions.
- **Low Power Smart Reader**: The **smart reader** is a portable electronic device that can function continuously for extended periods using battery power or connected to an external power source. This low-power design ensures reliable and consistent operation, offering healthcare professionals a dependable solution for continuous monitoring over long shifts or during periods of high activity. It is lightweight, compact, and easy to integrate into hospital workflows.

Applications:

The **Smart Label for Monitoring Fluid Level** is ideal for:

- Hospitals and healthcare facilities where constant monitoring of IV fluid levels is critical.
- Nursing stations require real-time alerts to enhance patient safety.
- Portable and remote monitoring setups where healthcare staff are distributed over large areas, enabling them to receive alerts on their mobile devices.

Partnership Opportunity:

We invite companies, startups, and research institutions to collaborate with **NCFlexE** on the development and scaling of the **Smart Label for IV Fluid Monitoring**. This innovative solution can enhance patient care by automating IV fluid monitoring, reducing the risk of errors, and increasing efficiency in medical facilities. Early partners may receive preferential terms for collaboration.

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