



SMART BioSense

Wearable OECT Biosensing Platform for
Electrolyte, Biomarker, and Smart Wound
Monitoring

TriSET Technologies Inc. (Canada)- Our Core Tech:



PROPOSAL INTRODUCTION (I)

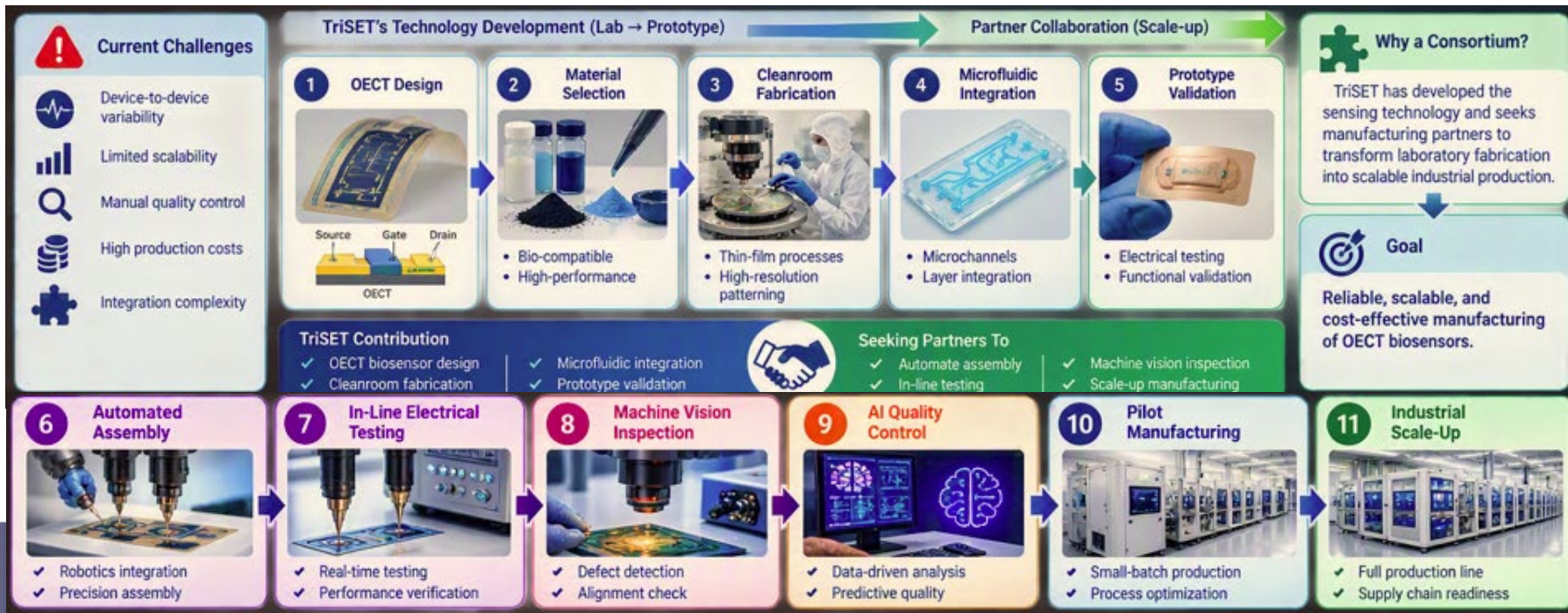
Vision

Develop an advanced manufacturing platform for Organic Electrochemical Transistor (OECT) biosensors, enabling scalable fabrication, automated quality control, and industrial production of next-generation wearable sensing devices.

Motivation

Current biosensor technologies are often developed and validated at the laboratory scale, but significant challenges remain in achieving reliable, cost-effective, and scalable manufacturing. Variability in fabrication processes, limited automation, and insufficient in-line quality control hinder industrial adoption and large-scale commercialization of advanced wearable sensing devices.

Advanced Manufacturing Challenge and Consortium Opportunity



PROPOSAL INTRODUCTION (II)

Expected Outcome:

- Scalable manufacturing process for biosensors
- Optimized cleanroom fabrication and sensor integration workflow
- In-line electrical testing and quality-control methodology
- Automated assembly and manufacturing analytics platform
- Pilot-scale manufacturing demonstration
- Industrialization and commercialization roadmap

Impacts:

- Improved manufacturing consistency and product reliability
- Reduced defect rates through advanced quality-control systems
- Faster production cycles and lower manufacturing costs
- Enhanced scalability of wearable biosensor production
- New opportunities for advanced manufacturing collaboration between Canada and Europe
- Accelerated commercialization of next-generation wearable sensing devices

Proof of concept has been completed.

Project duration: 36 months

Expected start: Q2 2027, Expected completion: Q2 2030

TriSET Technologies is looking for:

Industrial Partners

- Manufacturer for Wearable electronics
- Flexible electronics companies
- Medical device manufacturers
- Wound-care product developers

Clinical Partners

- Hospitals
- Wound-care clinics
- Healthcare providers
- Clinical validation centers

Research Partners

- Universities and research institutes
- OECT and biosensor experts
- Biomaterials specialists
- Flexible substrate and printed electronics researchers

Digital Health Partners

- AI and machine learning companies
- IoT and cloud platform developers
- Telehealth solution providers

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