

**CHALLENGING THE BOUNDARIES
OF ON-SITE FOOD SAFETY TESTING**



BRINGING EVERY MAJOR FOOD SAFETY LABORATORY TEST ON-SITE

Issues Food Safety Testing Today

Food safety professionals are limited by the number of effective tests that are available at the point-of-use and the number of devices, space, and overhead it takes to have a full lab in their production area. There is a strong need to consolidate major laboratory testing to a single, flexible Analyzer that can run comprehensive diagnostics that range from specialized contaminant panels to more routine foodborne illness tests. By detecting common contaminants and toxins within minutes of swabbing a surface or finished product, food safety professionals can better respond with the appropriate action while reducing the number (and total cost) of recalls.

These issues can be addressed with a small analyzer which can:

- ✓ Test Multiple Parameters on a Single Test Card, Including Pathogens and Allergens
- ✓ Give Fast, Actionable Results at the Farm or Production Facility
- ✓ Use Low-Cost, Fully Customizable Test Consumables
- ✓ Increase Monitoring Capabilities Throughout the Product Lifecycle



Our Vision of the Future

At Fluxergy, our goal is to provide the most comprehensive, flexible on-site testing platform for food safety professionals. We are designing a platform that can run every major test type. Fluxergy is building a future where testing is simple, the barriers to testing are reduced, and where limitless testing is accessible to everyone.

ABOUT THE FLUXERGY ANALYZER SYSTEM

Fluxergy's platform utilizes flexible and **robust sensing technologies combined with cost-effective consumables** to provide testing that is deployable across all parts of the food supply chain. With point-of-use testing in mind, it is designed to deliver test results within one hour (15-60 minutes depending on the test). The Fluxergy Testing System consists of:

- Fluxergy Card - a single-use "lab-on-chip" consumable technology
- Fluxergy Analyzer - a highly integrated detection system
- Fluxergy Works software - an analysis and cybersecure communication platform for test data



Small Footprint:
< 0.1 square
meters



Easy to Use:
Start Testing in Minutes



Easily Adaptable
Multimodal Technology



Central Data
System
Connectivity



Fluxergy Works software



Fluxergy Analyzer



Fluxergy Card

**USING THE FLUXERGY PLATFORM
FOR FOOD AND BEVERAGE TESTING**



FAST PCR: DETECT DNA OR RNA

IN ONE HOUR

The Fluxergy Analyzer System, which utilizes state-of-the-art Sample-to-Answer-RT-PCR and microfluidics technology, has been shown to identify bacteria and viruses in one hour. By using the Fluxergy Analyzer System, you can test food samples directly for targets like foodborne pathogens, waterborne pathogens, biological and chemical toxins, bacterial cell walls, parasites, and viruses.

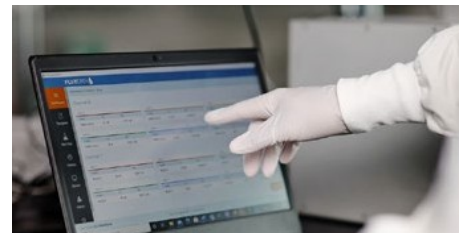
- Simple Workflow designed for rapid testing
- Minimal hands-on time per sample
- Real-Time RT-PCR, RNA extraction NOT required.
- Assay Targets: readily modified to new target genes



1 . Place Prepared Sample into Fluxergy Card



2. Insert Fluxergy Card into Fluxergy Analyzer



3. Get PCR Results in One Hour



SPECIFICATIONS: FLUXERGY TEST KIT

ENVIRONMENTAL SALMONELLA



Assay Specifications	
Test Type	RT-PCR, Direct
Time to Result	~35 minutes
Sample Preparation	8-24 hours for enrichment, ~3 min from reagent thaw*
Sample Type	Environmental Swab
Compatible Enrichments	Selenite F Broth
Required Sample Volume	14µL of post-enriched Selenite-F Broth sample.*
Gene Targets	Salmonella Spp. InvA

*Specifications subject to change

SPECIFICATIONS: FLUXERGY ANALYZER AND FLUXERGY WORKS



Platform Specifications	
Analyzer Size	26.19 cm x 13.13 cm x 25.80 cm
Analyzer Weight	6.8 kg
Power Input	12V DC, 7A
Operating Temperature	15°C - 30°C
Storage Temperature	15°C - 30°C
Operating Humidity	10%-85%
Recommended Computer Requirements	<p>Operating System: OS must be 64-bit, Windows 10 v1151 or later</p> <p>Processor: Intel Core i5 2.5GHz or equivalent Ram: 8GB DDR4</p> <p>HDD: 250GB</p> <p>Screen: 1080p</p> <p>USB: 2x2.0 port (for scanner and mouse)</p> <p>Networking: Ethernet port</p>
Data Analysis Tools	Qualitative Result Interpretation
Analyzer Price	\$4500 / 3850 €

MULTIMODALITY: THE FUTURE OF THE FLUXERGY TESTING PLATFORM



TESTING MULTIPLE PARAMETERS ON A SINGLE TEST CARD

The Fluxergy Analyzer System allows facility managers, supervisors, and trained operators the ability to run sophisticated laboratory tests in a simple and easy to use manner. Environmental swabs or select food samples can be collected as prescribed by the facility's environmental monitoring plan and quickly run on the Fluxergy Analyzer on-site. The Fluxergy Analyzer is being designed to run individual or combination panels for the following test types:



Molecular tests like PCR



Immunochemistry tests
to measure proteins



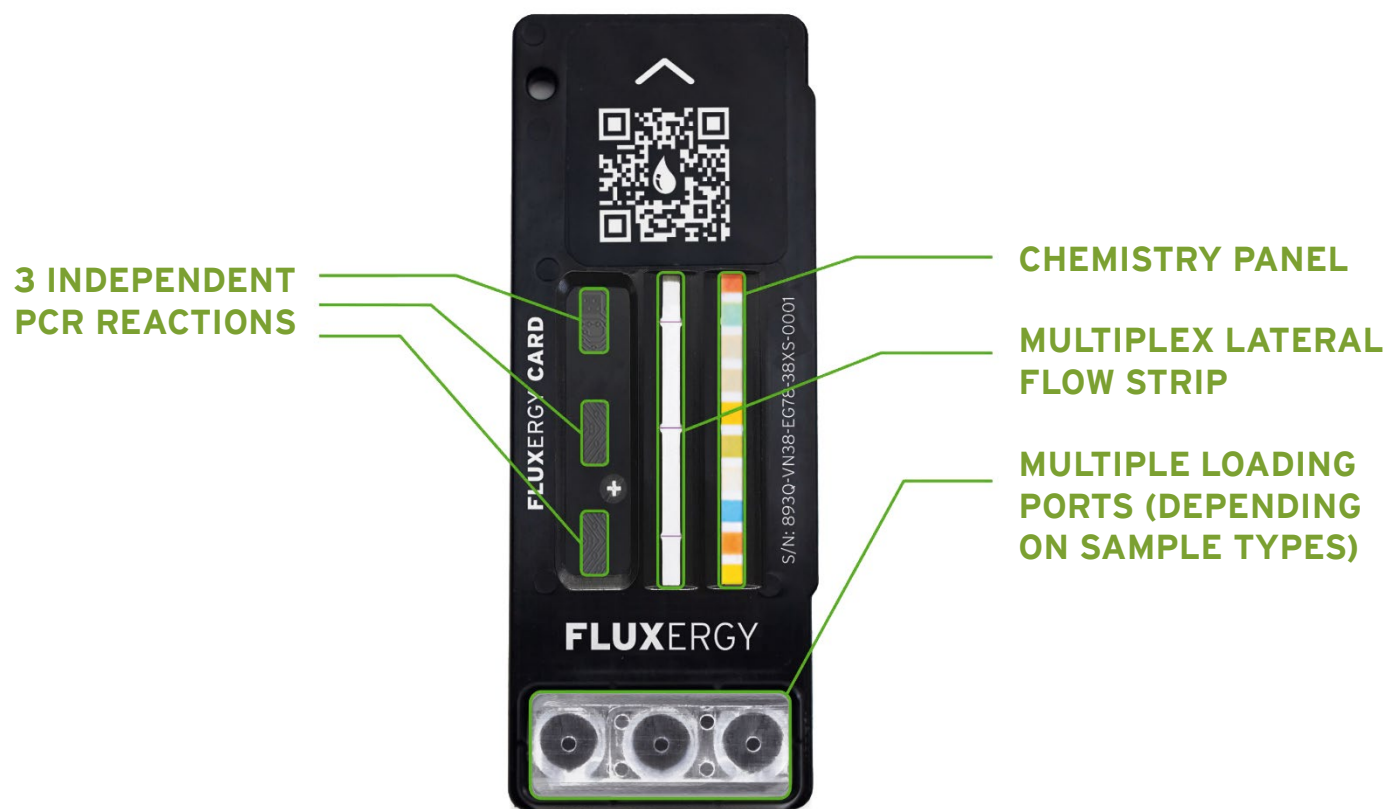
Chemistry tests for analytes
like electrolytes



Imaging cytometry tests

Measuring Multiple Types of Health Parameters at Once Can Potentially:

- Allow for continuous monitoring of product quality and profile
- Reduce cost and increase efficiency, with consolidated, on-site testing
- Create tailored testing panels for specific product and sample types
- Standardize measurements across your organization from site to site



WORK WITH US TO DEVELOP CUSTOM MULTIMODAL CARDS

The Fluxergy testing platform can be readily modified to produce custom singleplex, multiplex, and multimodal test types. If you have a specific pathogen or panel combination, we can likely develop affordable test cards, reagents, and chemistries necessary for precise detection.

For multimodal and multiplex test types, our test card cost is nearly the same, which allows us to add additional test modalities without radically increasing the price per test. Here is how to develop a test with Fluxergy:

1. Ideate

Together with Our Team,
Identify The Target Genes
or Molecules



2. Translate

We Will Translate Off-the-
Shelf Products to the
Fluxergy Platform, or Develop
Custom Testing Solutions



3. Validate

We Will Validate Your
Custom Test and Provide to
You at High Volumes.



Different Multimodal Card Types



FUTURE COMBINATION TESTS

AND SYNDROMIC PANELS

We are developing tests that can utilize Fluxergy's first-of-its-kind multimodal technology. In addition to tests in other market verticals, we are designing the below tests for the existing Fluxergy Analyzer model. Our product development pipeline includes:



PCR, Immunochemistry, and Chemistry Fluxergy Card, and Fluxergy Analyzer Mk 1 3 Prototypes

MULTIMODALITY: THE GAMECHANGER IN POINT-OF-CARE



“The beauty of multimodality is the potential wealth of information provided to a food safety professional, an amount of information typically reserved for 3 or 4 tests from different lab platforms or even different labs. Our multimodal technology has the potential to consolidate a majority of critical lab tests to a single platform for a price point that rivals sending it out.”

—Tej Patel, Fluxergy President and Co-Founder

OUR MISSION

To transform the world of laboratory testing by building the world's first point-of-care multimodal testing platform.

**ABOUT US: MAKING LABORATORY
TESTING MORE ACCESSIBLE**



FLUXERGY'S THREE CORE TECHNOLOGIES



Fluxergy Card

Highly integrated and manufacturable single-use test cards for fast Sample-to-Answer testing.



Fluxergy Analyzer

A multisensor testing system designed to quickly detect molecules, chemicals, cells, and more.



Fluxergy Works

Our user interface capable of analyzing and disseminating data to users.

APPLICATIONS ACROSS INDUSTRIES

Fluxergy's modular testing platform is built for use across industries and application types. Various sample types can be addressed with optical and electrical detection methods.



Human



Veterinary



Food and Beverage



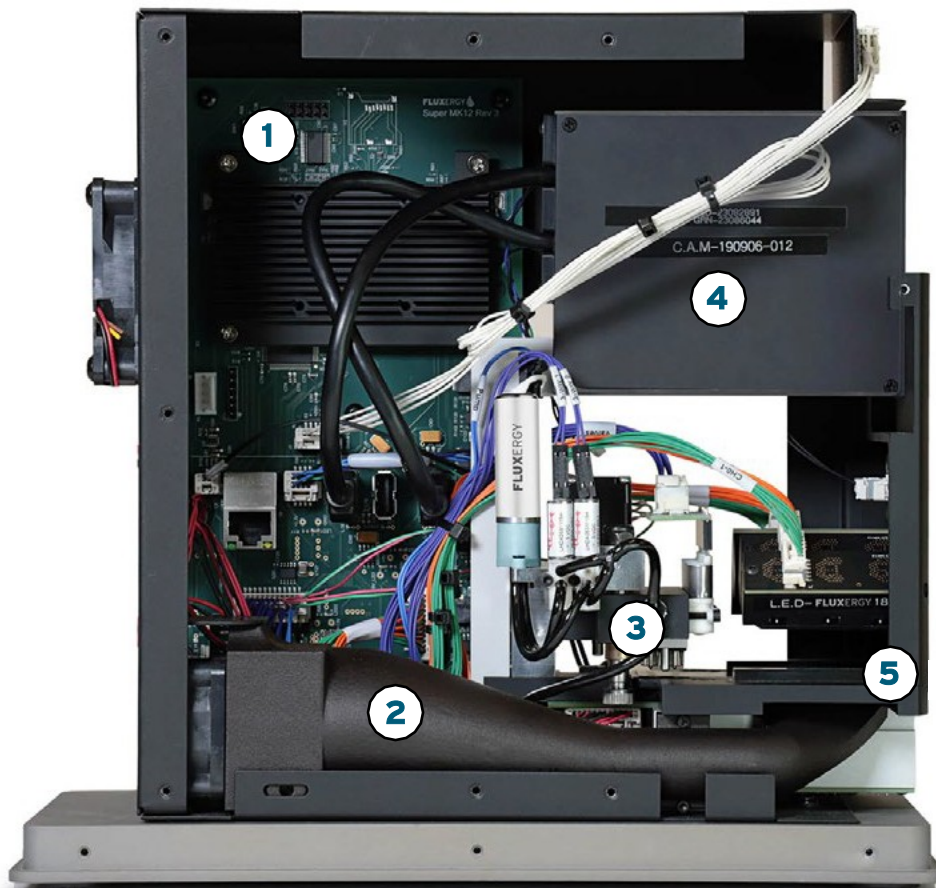
Environmental



Forensics

INSIDE THE CURRENT

FLUXERGY ANALYZER SYSTEM



- ① Proprietary Fluxergy-built Motherboard for Device Control and Connectivity
- ② Optical Sensors for Fluorescent and Active Cooling for Optimal Thermal Control
- ③ Colorimetric Detection
- ④ Image Recognition Capability with Multiple High-Resolution Cameras and Microscope
- ⑤ Insert and Power Fluxergy Cards
- ⑥ Medical-grade polycarbonate test card housing
- ⑦ Six independent PCR Reaction Zones
- ⑧ Integrated Loading Port with Lid

COMMITTED TO COMPLIANCE:

CE, ISO 13485:2016, AND MDSAP

Fluxergy has recently obtained CE marking for its one-hour COVID-19 RT-PCR test, to use by human healthcare professionals as an in vitro diagnostics (IVD) for the detection of SARS-CoV-2. The CE-mark will allow Fluxergy's innovative testing platform to enter the European Union market and any other markets that accept CE-marking as valid regulatory approval.

In December 2020, Fluxergy received dual ISO-13485:2016 and MDSAP certifications. ISO 13485:2016 is the medical device industry's most widely used international standard for quality management systems to design, develop, produce, and deliver products. MDSAP certification satisfies the quality system requirements of the regulatory authorities participating in the program, including the U.S. Food and Drug Administration (FDA), Health Canada, Brazil's Agência Nacional de Vigilância Sanitária and Australia's Therapeutic Goods Administration.

Fluxergy's is starting the process for USDA and AOAC regulatory approvals for ASRs and assay kits that can impact the veterinary and food safety industries.



"Fluxergy is dedicated to producing tools that make health and lab information accessible and available to everyone. We are focused on bringing our unique diagnostic and analytical products to market rapidly and innovatively, ensuring our end-users always have a product with the latest technology while maintaining the highest level of quality. We do this through a data-driven process that focuses on continuous improvement. Fluxergy is seeking commercial partnerships with industry leaders and potential international go-to-market partners in Europe, Asia, and Australia"

- Dr. Ali Tinazli, Chief Commercial Officer

OUR VISION TO DEMOCRATIZE THE WORLD OF LABORATORY TESTING

Fluxergy started 10 years ago by Ryan Revilla and Tej Patel with a vision to democratize the world of laboratory testing, by making testing more accessible and affordable. Fluxergy's platform technology enables us to understand our world and our health in ways which were never possible before. Fluxergy's core guiding principles are:

Automation

All the technologies we build are scalable and accessible. Reducing price barriers and democratizing laboratory testing is key to our future.

Modularity

We want to do every lab test you can imagine in the palm of your hand, enabling anyone the ability to understand their world better.

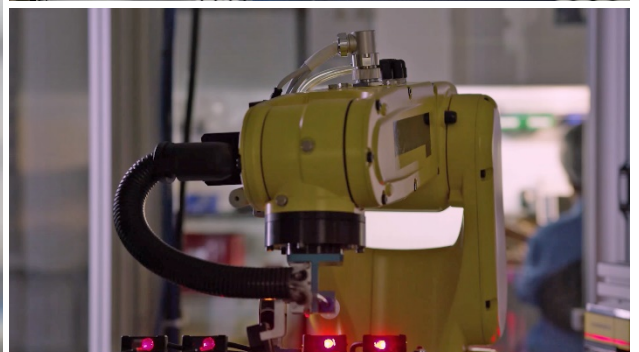
Connectivity

Doing more tests faster lets us collect data to better understand the world around us. We want to help make sense of all that information.

Kingston Technology co-founder John Tu joined the Fluxergy team as the primary investor allowing Fluxergy to leverage his team's knowledge and experience in the semiconductor industry to support Fluxergy's scale up, enabling our ability to create scalable low-cost technologies anyone can use.

OUR MANUFACTURING CENTER

Since Fluxergy has started, we have grown from a team of three in a garage to 80+ employees at Fluxergy's technology and manufacturing campus totaling 70,000 sq. ft, cGMP-compliant and ISO13485:2016/MDSAP-certified. Our combined 27,000 sq. ft. state-of-the-art manufacturing facility and 16,000 sq. ft. innovation development facility allow Fluxergy to continually develop new and exciting technologies that bring the lab closer to you.





Fluxergy's Manufacturing Center



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