

#### **Horizon Europe Cluster 3 2026-2027**

We have sorted the calls for projects from Horizon Europe Cluster 3 2026-2027 according to the impact that microfluidics can have on the calls for projects and related topics. We are sharing our analysis in case it can help you with project funding efforts. And, of course, if our expertise can be of use to you, we would be delighted to discuss it further.



How to read the stars in terms of the % of microfluidic technologies' relevance for the call:

By microfluidic relevance, we mean the relevance of using microfluidic technologies for the topic cited. But also, to a lesser extent, what a microfluidic laboratory or SME could contribute to the topic (mainly for calls with low relevance to microfluidic technologies).

Relevance	90-100	80-89	70-79	60-69	50-59	40-49	30-39	20-29	10-19	0-9
(%)										
Relevance (*)	****	****	***	**	*	_				

#### Administrative dates per call (apply to all topics within each call):

- HORIZON-CL3-2026: Call Civil Security for Society 2026; Opening 05 May 2026; Deadline 04 Nov 2026
- HORIZON-CL3-2027: Call Civil Security for Society 2027; Opening 05 May 2027; Deadline 04 Nov 2027

(Details for all topics are provided below, ranked by microfluidic relevance)





\*\*\*\*\* HORIZON-CL3-2027-01-DRS-01 - OPEN TOPIC ON ADVANCED PROTECTIVE GEAR OPTIMIZED FOR CBRN-E (CHEMICAL, BIOLOGICAL, RADIOLOGICAL, NUCLEAR, EXPLOSIVES) ENVIRONMENTS AND NEW GENERATION OF SMART PROTECTIVE EQUIPMENT FOR DISASTER RESPONDERS

- Type of action: IA
- Budget (topic, M€): 8.00
- Expected EU contribution per project (M€): ~4.00
- Estimated number of projects: 2
- Scientific summary:
  - o Deliver next-gen **protective ensembles** and **smart PPE** for CBRN-E events.
  - o Integrate **sensing, monitoring, and decision-support** directly in gear; enhance decontamination & durability in harsh environments.
  - Support responders' operational effectiveness while reducing physiological burden and exposure risks.
  - o Validate in **operationally realistic trials** with first-responder end-users.

#### Why microfluidics:

- Skin/airborne bio-chemical exposure monitoring via lab-on-patch microfluidic cassettes integrated into garments, boots, gloves, and masks.
- On-body sweat/respiratory sampling and point-of-exposure detection (biotoxins, VOCs) with disposable polymer chips.
- Microfluidic aerosol samplers for field triage; rapid decontamination cartridges and micro-mixers for neutralizers.
- Organ-on-chip panels for material biocompatibility and decontaminant efficacy screening; microfabricated flow paths embedded in respirators.
- o Training modules for responders on microfluidic biosensing

### \*\*\*\*\* HORIZON-CL3-2026-01-FCT-06 - PREVENTION AND MITIGATION OF MISUSE OF SYNTHETIC BIOLOGY FOR BIOTERRORISM PURPOSES

- Type of action: RIA
- Budget (topic, M€): 3.00
- Estimated number of projects: 1
- Scientific summary :
  - Map bioterror risks arising from synthetic biology, gene editing, and DIY bio ecosystems.
  - Define monitoring & regulatory needs; raise dual-use awareness in the research community.



 Advance identification technologies for early, deployable bioagent detection (alongside expert-lab characterization).

#### • Why microfluidics:

- **Fieldable microfluidic bio-surveillance**: rapid nucleic-acid/protein assays on polymer chips for **early detection** and **source tracing**.
- Portable sample-to-answer devices (swab→lysis→amplification→readout) for first-responders and law enforcement.
- Biosafety-by-design testbeds on organs-on-chips to evaluate pathogenicity/toxicity pathways under controlled micro-physiology.
- Contribute to best-practice training for labs and innovation/entrepreneurship curricula on dual-use mitigation.

## \*\*\*\* HORIZON-CL3-2027-01-BM-03 - DETECTION AND CHARACTERISATION OF THREATS OR ILLEGAL/SMUGGLED GOODS IN CARGO

- Type of action: RIA
- Budget (topic, M€): 14.00
- Expected EU contribution per project (M€): ~3.50
- Estimated number of projects: 4
- Scientific summary:
  - Improve screening of cargo/containers for dual-use items, weapons, explosives, harmful liquids/powders, and illicit goods.
  - Develop sensors, machine learning, anomaly detection, and multi-modal screening workflows; emphasize real-time decisions and reduced false results.
  - Strengthen interoperability and trial solutions at borders, ports, and logistics nodes.

#### Why microfluidics:

- Microfluidic pre-concentrators and nano-porous chips for trace chemical/explosive/narcotic signatures in headspace and wipes.
- Lab-on-chip immuno/aptamer assays for liquids/powders; compact sample prep for heterogeneous cargos.
- o **In-line cartridge architecture** enabling **high-throughput swab-to-result**; ruggedized polymer devices for customs workflows.



### \*\*\* HORIZON-CL3-2027-01-SSRI-01 - ACCELERATING UPTAKE THROUGH OPEN PROPOSALS FOR ADVANCED SME INNOVATION

- Type of action: IA
- **Budget (topic, M€):** 4.50
- Expected EU contribution per project (M€): ~1.50
- Estimated number of projects: 3
- Scientific summary:
  - Fast-track SME security innovations to final testing/validation and nearer-to-market adoption.
  - Focus on **operational trials**, standardization/validation, and integration into practitioner workflows.
  - Address SME-specific barriers (resilience of smaller actors, solution certification).

#### Why microfluidics:

- Perfect fit for pilot-scale validation of portable biosensor/microchip platforms with first responders, police, borders.
- Support for certification, field trials, manufacturability (polymer microfabrication), and training packages.

# \*\*\* HORIZON-CL3-2026-01-DRS-03 - DEVELOPMENT OF INNOVATIVE TOOLS, PROCESSES, EQUIPMENT AND TECHNOLOGIES THROUGH RESPONSES TO DISASTERS AND EMERGENCIES FOR SEARCH AND RESCUE IN HAZARDOUS CONDITIONS

- Type of action: IA
- Budget (topic, M€): 8.00
- Expected EU contribution per project (M€): ~4.00
- Estimated number of projects: 2
- Scientific summary:
  - o Advance **S&R capabilities** (tools, processes, equipment) for **hazardous environments**.
  - Emphasize safety, speed, and reliability in rubble, contaminated zones, confined or oxygen-deprived spaces.
  - Validate with operational practitioners and interoperable command systems.

#### Why microfluidics:

- Handheld bio/chem readers and air/water micro-samplers for on-site triage in collapsed/contaminated structures.
- Disposable micro-assay chips for pathogen/toxin presence to protect teams and inform PPE/evacuation choices.





o **Training** and **lightweight diagnostic kits** deployable in rescue backpacks.

### \*\*\* HORIZON-CL3-2027-01-FCT-05 - EFFECTIVE AND EVIDENCE-BASED RESPONSES TO THE INCREASED AVAILABILITY AND USE OF SYNTHETIC DRUGS AND STIMULANTS IN EUROPE

- Type of action: IA
- **Budget (topic, M€):** 8.00
- Expected EU contribution per project (M€): ~4.00
- Estimated number of projects: 2
- Scientific summary:
  - Strengthen the evidence base for prevention, treatment, and harm-reduction for synthetic drugs/stimulants.
  - Equip police/CSOs/NGOs with tools & tech to reduce violence/offences and combat trafficking along the supply chain.
- Why microfluidics:
  - Rapid microfluidic drug profiling (street-level screening of NPS analogs) with confirmatory workflows.
  - On-site toxicology (saliva, sweat) and environmental residue mapping using portable chips.

### \*\* HORIZON-CL3-2026-01-SSRI-01 - OPEN TOPIC ON SUPPORTING DISRUPTIVE TECHNOLOGICAL INNOVATIONS FOR CIVIL SECURITY

- Type of action: RIA
- Budget (topic, M€): 4.00
- Expected EU contribution per project (M€): ~2.00
- Estimated number of projects: 2
- Scientific summary:
  - Fund disruptive security tech with clear operational impact and practitioner uptake pathway.
  - Emphasis on testing/validation, not just concept studies.

#### • Why microfluidics:

- Launch/validate novel microfluidic sensors, organs-on-chips for hazard/toxicity screening, field diagnostics
- Builds evidence for standardization and adoption by civil protection/police/border agencies.



### \*\* HORIZON-CL3-2026-01-INFRA-02 - SECURITY CHALLENGES OF THE GREEN TRANSITION IN URBAN UND PERI-URBAN AREAS

- Type of action: RIA
- Budget (topic, M€): 4.00
- Expected EU contribution per project (M€): ~4.00
- Estimated number of projects: 1
- Scientific summary:
  - Identify new security risks linked to green-transition tech in urban/peri-urban settings.
  - Build tools to measure urban changes, examine incidents, enhance societal acceptance, and resilience.
- Why microfluidics:
  - Environmental micro-sensing (air/water) around batteries, hydrogen, waste-to-energy, etc.
  - On-site analytical chips to assess leaks/contaminants; supports risk mapping and incident forensics.

### \*\* HORIZON-CL3-2026-01-DRS-04 - OPEN TOPIC ON DRIVING INNOVATION UPTAKE OF DISASTER RISK SOLUTIONS

- Type of action: IA
- **Budget (topic, M€):** 6.00
- Expected EU contribution per project (M€): ~3.00
- Estimated number of projects: 2
- Scientific summary:
  - Accelerate deployment of existing disaster-risk solutions via demonstrations, capacity building, and procurement pathways.
- Why microfluidics:
  - Mature microfluidics devices (environmental chips, biohazard strip-tests) for civil-protection toolboxes; training for uptake.



### \*\* HORIZON-CL3-2026-01-INFRA-03 - TARGETED INNOVATIVE CAPABILITIES FOR THE RESILIENCE OF CRITICAL ENTITIES TO NATURAL AND HUMAN-INDUCED DISASTERS, INCLUDING HYBRID SCENARIOS

- Type of action: IA
- Budget (topic, M€): 10.00
- Expected EU contribution per project (M€): ~5.00
- Estimated number of projects: 2
- Scientific summary:
  - Develop/validate targeted resilience capabilities for critical entities facing hybrid/climate/tech threats.
- Why microfluidics:
  - Continuous micro-monitoring for water/gas/liquid feeds, bio-fouling, or contaminants inside critical facilities.
  - o Rapid diagnostics to support continuity plans and contamination response.

## \*\* HORIZON-CL3-2027-01-BM-01 - OPEN TOPIC ON RESEARCH AND INNOVATION FOR EFFECTIVE MANAGEMENT OF EU EXTERNAL BORDERS THAT PROMOTES FUNDAMENTAL RIGHTS AND EU VALUES

- Type of action: RIA
- Budget (topic, M€): 8.00
- Expected EU contribution per project (M€): ~4.00
- Estimated number of projects: 2
- Scientific summary:
  - Open topic to develop/test border-management innovations (surveillance, checks, customs/supply-chain, maritime/aviation) with rights-preserving design.
- Why microfluidics:
  - On-site screening of suspicious liquids/powders; trace chemical micro-assays;
    biohazard triage for seized materials.

### \*\* HORIZON-CL3-2026-01-DRS-02 - MULTI-HAZARD APPROACH AND CUMULATIVE / CASCADING IMPACTS

- Type of action: IA
- Budget (topic, M€): 8.00
- Expected EU contribution per project (M€): ~4.00
- Estimated number of projects: 2





#### Scientific summary:

Tools and models for multi-hazard risk, cascading effects, and cross-sector impacts;
 validation with authorities.

#### • Why microfluidics:

 Environmental micro-sensors feeding risk models (water/air quality, toxics) and supporting early warnings.

#### \*HORIZON-CL3-2026-01-SSRI-02 - DEMAND-LED INNOVATION IN SECURITY (PCP)

- Type of action: PCP
- Budget (topic, M€): 6.00
- Estimated number of projects: 1
- Scientific summary:
  - Pre-Commercial Procurement for end-user-driven security solutions; focus on testing and TRL progression.
- Why microfluidics:
  - Compete as supplier in PCP phases with microfluidic biodetection and rapid drug/explosive screening prototypes.

#### \*HORIZON-CL3-2027-01-SSRI-03 - DEMAND-LED INNOVATION IN SECURITY (PCP)

- Type of action: PCP
- Budget (topic, M€): 6.50
- Estimated number of projects: 1
- Scientific summary: as above, PCP instrument for end-user-defined challenges.
- Why microfluidics: Same opportunity as 2026 PCP, one year later; microfluidics can target CBRN-E detection or drug screening lots.

#### \*HORIZON-CL3-2026-01-SSRI-03 - PUBLIC PROCUREMENT OF INNOVATION FOR SECURITY (PPI)

- Type of action: PPI
- Budget (topic, M€): 2.00
- Estimated number of projects: 1
- Scientific summary: Purchase and deployment of innovative security tech meeting buyer-group specs.



## \*HORIZON-CL3-2026-01-DRS-05 - CLIMATE SECURITY AND CIVIL PREPAREDNESS - NEW WAYS TO DEVELOP PRE- AND POST-CRISIS CLIMATE-CHANGE-RELATED SCENARIOS FOR A MORE RESILIENT EUROPE

- Type of action: IA
- **Budget (topic, M€):** 4.50
- Estimated number of projects: 1
- Scientific summary:
  - Identify/prioritize climate-security scenarios; develop forecasting, alerts, risk-assessment tools, and post-crisis situational awareness.
  - o Strengthen stakeholder engagement and local/regional adaptation capacity.
- Why microfluidics: Environmental-quality micro-sensors (water, pollutants) feed scenario modelling; mobile lab-on-chip for rapid impact assessment.

### \*HORIZON-CL3-2027-01-SSRI-02 - OPEN GROUNDS FOR FUTURE PRE-COMMERCIAL PROCUREMENT OF INNOVATIVE SECURITY TECHNOLOGIES

- Type of action: CSA
- Budget (topic, M€): 2.00
- Estimated number of projects: 2
- Scientific summary: Prepare buyer groups & roadmaps for future PCPs; align requirements & test plans.
- Why microfluidics: Shape lots/specs so bio/chem micro-sensing challenges are represented;
  ecosystem building.

#### \*HORIZON-CL3-2026-01-FCT-03 - MISSING PERSONS: PREVENTION AND INVESTIGATION

- Type of action: IA
- Budget (topic, M€): 5.00
- Estimated number of projects: 1
- Scientific summary:
  - Improve tools/training for prevention and investigation (incl. cold cases) with modern forensic methods and cross-border cooperation.
- Why microfluidics: On-chip forensic sample prep and rapid DNA/toxin workflows aiding cold-case or field investigations.



### - HORIZON-CL3-2026-01-FCT-01 - IMPROVING CAPABILITIES OF LAW ENFORCEMENT TO COUNTER CLIMATE-RELATED CHALLENGES

- Type of action: RIA
- Budget (topic, M€): 8.00 | Expected EU/project (M€): ~4.00 | # projects: 2
- **Scientific summary: Adapted tools** to detect/mitigate **climate-related crimes**, improve LEA resources, and generate **policy recommendations**.
- Why microfluidics: Field micro-sensors to document pollutant releases/water contamination in environmental crime contexts.

### -HORIZON-CL3-2026-01-INFRA-01 - TOOLS AND PROCESSES TO SUPPORT STRESS TESTS OF CRITICAL INFRASTRUCTURE

- Type of action: IA
- Budget (topic, M€): 10.00 | Expected EU/project (M€): ~5.00 | # projects: 2
- Scientific summary: Develop protocols, tooling, and data to stress-test critical entities and inform resilience plans.
- Why microfluidics: In-situ contamination probes for stress exercises (water/air/chemical handling lines).

## -HORIZON-CL3-2027-01-DRS-03 - ENHANCING DECISION SUPPORT SYSTEM FOR DISASTER CRISES: LEVERAGING EMERGING TECHNOLOGIES FOR IMPROVED CIVIL PREPAREDNESS AND CRISIS MANAGEMENT

- Type of action: IA
- Budget (topic, M€): 9.00 | Expected EU/project (M€): ~3.00 | # projects: 3
- Scientific summary: Decision-support platforms and emerging tech integration for preparedness/response.
- Why microfluidics: Sensor feeds from microfluidic environmental/bio assays improve situational awareness layers.

### -HORIZON-CL3-2027-01-INFRA-01 - ENHANCING PHYSICAL PROTECTION OF CRITICAL INFRASTRUCTURES

- Budget (topic, M€): 12.00 | Expected EU/project (M€): ~6.00 | # projects: 2
- Scientific summary: Improve physical security (perimeter/access/sensors) against IEDs, ramming, sabotage, UAS swarms, etc.
- Why microfluidics: Low-cost leak/contaminant monitors in utility lines complement physical protections.



### -HORIZON-CL3-2027-01-DRS-04 - ENHANCING PREPAREDNESS FOR LARGE-SCALE CROSS-BORDER DISASTERS

- Type of action: IA
- Budget (topic, M€): 8.00 | Expected EU/project (M€): ~4.00 | # projects: 2
- Scientific summary: Improve cross-border preparedness, interoperability, and joint response planning.
- Why microfluidics: Standardized sampling kits to harmonize cross-border contamination assessment.

### -HORIZON-CL3-2027-01-FCT-04 - OPEN TOPIC ON INCREASING SECURITY OF CITIZENS AGAINST TERRORISM, INCLUDING IN PUBLIC SPACES

- Type of action: IA
- Budget (topic, M€): 9.00 | Expected EU/project (M€): ~4.50 | # projects: 2
- Scientific summary: Enhance tools/procedures/training to counter terrorism-related problems in public spaces; harmonized solutions and curricula for Police Authorities.
- Why microfluidics: Covert liquid/powder screening modules for venue security; biotoxin strip-tests.

### -- HORIZON-CL3-2026-01-FCT-05 - ENHANCING THE SECURITY OF CITIZENS AGAINST TERRORISM AND LONE-ACTOR VIOLENCE IN CONFINED SPACES SUCH AS SCHOOLS

- Type of action: IA
- Budget (topic, M€): 10.00 | Expected EU/project (M€): ~5.00 | # projects: 2
- Scientific summary: Understand the phenomenon; early-warning for isolation/radicalisation; staff training; affordable security solutions; improved cooperation with Police Authorities—while respecting fundamental rights.
- Why microfluidics: Niche: on-site unknown-liquid testing during incidents; otherwise limited.

### -- HORIZON-CL3-2027-01-FCT-03 - OPEN TOPIC ON ENHANCED PREVENTION, DETECTION, AND DETERRENCE OF SOCIETAL ISSUES RELATED TO VARIOUS FORMS OF CRIME

- Type of action: RIA
- Budget (topic, M€): 6.00 | Expected EU/project (M€): ~3.00 | # projects: 2
- Scientific summary: Open topic framing new crime challenges, with emphasis on evidence-based tools.
- Why microfluidics: Potential sub-cases (e.g., illicit substances), but generally indirect.





### -- HORIZON-CL3-2027-01-INFRA-02 - IMPACT OF MALICIOUS USE OF OPEN-SOURCE INTELLIGENCE ON CRITICAL INFRASTRUCTURE BUSINESS CONTINUITY

- Type of action: IA
- Budget (topic, M€): 8.00 | Expected EU/project (M€): ~4.00 | # projects: 2
- **Scientific summary:** Assess/mitigate **OSINT-enabled threats** to **CI continuity**; tooling, training, and procedures.
- Why microfluidics: Minimal; micro-sensors may support forensic trails after incidents.

#### -- HORIZON-CL3-2027-01-FCT-02 - COMMUNITY POLICING IN DIVERSE SOCIETIES IN EUROPE

- Type of action: IA
- Budget: 6.00 | EU/project: ~3.00 | # projects: 2
- Scientific summary: Develop tools/training for community policing in diverse and post-conflict contexts (incl. Ukraine); cooperation with CSOs/NGOs; gender-sensitive approaches.
- Why microfluidics: Minimal; possible citizen micro-monitoring kits for engagement.

### --- HORIZON-CL3-2026-01-BM-01 - ADVANCED BORDER SURVEILLANCE AND SITUATIONAL AWARENESS

- Type of action: IA
- Budget (topic, M€): 12.00 | Expected EU/project (M€): ~6.00 | # projects: 2
- Scientific summary: Enhance border surveillance and situational awareness with interoperable capabilities and trials.
- Why microfluidics: Peripheral-cargo/liquid spot-testing at checkpoints.

### --- HORIZON-CL3-2027-01-DRS-02 - SOCIETAL RESILIENCE, ENGAGEMENT OF THE YOUNGER GENERATIONS AND DIGITAL INNOVATION FOR DISASTER RESILIENCE

- Type of action: RIA
- Budget (topic, M€): 6.00 | Expected EU/project (M€): ~3.00 | # projects: 2
- Scientific summary: Engage youth; digital innovation for societal disaster resilience.
- Why microfluidics: Limited; citizen-science micro-kits for environmental sampling could contribute.



## --- HORIZON-CL3-2026-01-FCT-02 - OPEN TOPIC ON PREVENTING AND COUNTERING THE MISUSE OF EMERGING TECHNOLOGIES FOR CRIMINAL PURPOSES, INCLUDING ISSUES RELATED TO LAWFUL ACCESS TO DATA

- Type of action: RIA
- Budget (topic, M€): 9.00 | Expected EU/project (M€): ~4.50 | # projects: 2
- Scientific summary: Address criminal misuse of emerging tech; explore lawful access issues and practitioner tooling.
- Why microfluidics: Indirect, except for bio-tech misuse cases (interface with FCT-06).

### --- HORIZON-CL3-2026-01-FCT-04 - CRIME PREVENTION APPROACHES, ONLINE AND OFF-LINE, TACKLING THE NEXUS BETWEEN ADDICTIONS AND CRIME

- Type of action: RIA
- Budget (topic, M€): 6.00 | Expected EU/project (M€): ~3.00 | # projects: 2
- **Scientific summary:** Improve understanding of **addictions-crime link**; develop **prevention tools** and **training curricula**; modernize judicial approaches.
- Why microfluidics: Possible drug-screening demonstration, but overall social/behavioural focus dominates.

### --- HORIZON-CL3-2026-01-BM-03 - RELIABILITY OF AGE ASSESSMENT METHODS IN THE CONTEXT OF SECURITY AND BORDER MANAGEMENT

- Type of action: CSA
- Budget (topic, M€): 1.50 | # projects: 1
- Scientific summary: Coordinate work on age-assessment reliability and ethics in security/border contexts.
- Why microfluidics: Little direct fit; bio-marker approaches are ethically sensitive

### ---- HORIZON-CL3-2027-01-BM-02 - TRUSTED, SECURE, QUALITY FUTURE DIGITAL TRAVEL CREDENTIALS

- Type of action: RIA
- Budget (topic, M€): 8.00 | # projects: 2
- Scientific summary: Develop/test capabilities for future DTCs (issuance/validation/sharing),
  on-the-move biometrics, interoperability.
- Why microfluidics: Not aligned (digital identity).



### ----HORIZON-CL3-2027-01-FCT-01 - ONLINE HARMS DETECTION AND INVESTIGATION TOOLS USING A SHORT DEVELOPMENT CYCLE MODEL

- Type of action: IA
- Budget (topic, M€): 8.00 | # projects: 1
- Scientific summary: Rapid-cycle tooling and training for online harms detection/investigation.
- Why microfluidics: No direct link (digital forensics).

#### ----HORIZON-CL3-2026-01-BM-02 - ACCESSIBLE AND AVAILABLE TRAVEL FACILITATION

- Type of action: IA
- Budget (topic, M€): 8.00 | # projects: 2
- Scientific summary: Seamless, trusted, secure travel facilitation, reduced workload for practitioners; solutions usable across BCPs.
- Why microfluidics: Not aligned (process/UX/biometric systems topic).

### ----HORIZON-CL3-2026-01-SSRI-04 - DEVELOPMENT OF ECOSYSTEM AND NEXT-GENERATION CAPABILITIES FOR A SECURED EUROPEAN CRITICAL COMMUNICATION SYSTEM IN CIVIL SECURITY

- Type of action: IA
- Budget (topic, M€): 3.00 | # projects: 1
- Scientific summary: Develop ecosystem and next-gen capabilities for a European critical communication system.
- Why microfluidics: Out-of-scope (communications).

#### Why these are microfluidics's best bets

- CBRN-E protective gear (DRS-01-2027), biosecurity (FCT-06-2026), and cargo detection (BM-03-2027) directly require compact, robust bio/chem sensing, where lab-on-chip excels.
- Uptake instruments (SSRI, PCP/PPI/IA) are mechanisms to validate, standardize, and purchase such microfluidic solutions.
- **DRS/INFRA** topics provide the **operational testbeds** (disaster sites, critical entities) where **microfluidics chips** can prove value (speed, portability, cost).