Rapid Civilian Innovation Development and Dual-Use in European Defence

Event Overview

Event Overview: This event will bring together key stakeholders from defence, security, research institutes, funding agencies, and civilian technology sectors. It aims to highlight the convergence of civilian and military uses of cutting-edge technologies, exploring the associated opportunities, challenges, and ethical issues. The event will foster discussion and cooperation for the ethical and effective development and deployment of dual-use technologies throughout Europe.

Tampere, known as the stronghold of the Finnish defence industry, has a rich history in this field. The region hosts the largest companies in Finland's defence sector, significant units of the Finnish Defence Forces, and numerous public sector actors, research, and educational organizations. Notably, the Logistics Command, Joint Systems Center, Defence Research Agency, and Satakunta Air Command are based here, playing key roles in major decisions like the recent F-35 selection.

The Tampere Region Safety and Security Cluster, a member of ENDR, is well-positioned to co-host and create an internationally appealing ENDR event. Here's why:

- Strong Connections in Civil Security and Defence Research: The cluster includes members like the Finnish Defence Forces, VTT Technical Research Centre of Finland, Tampere University community, and the Police University College.
- Robust Defence Sector Links: Members include the Finnish Defence Forces and companies such as Patria, Insta Group, Millog and Saab, among others. National outreach can be coordinated with Business Finland, while regional outreach is managed by Tampere region economic development agency Business Tampere, Tampere Chamber of Commerce & Industry, and the Federation of Pirkanmaa Region Enterprises.
- Policy Maker Engagement: The cluster is connected with policymakers through national channels, the Council of Tampere Region, and the City of Tampere.
- Broad Network: The cluster and its members are linked to various civil security and defence organizations across Finland, Scandinavia, the Baltic countries, and Europe.

The conference will leverage the cluster's extensive knowledge and networking capabilities, supported by its international partners.

Finland's Ministry of Transport and Communications has indicated their interest and support for this ENDR conference application. We have had good co-operation with the Ministry for example last Spring when the NATO Transport Group meetings were held at Tampere.

Finnish Defence Forces Logistics Command recognises the Tampere Region Safety and Security Cluster as a notable regional security promoter. Therefore, FDFLOGCOM supports this ENDR conference application.

Tampere region is exceptionally well-positioned to represent dual-use of civilian technology in military applications. Tampere is renowned as the industrial capital of Finland, with a rich history in manufacturing and engineering. This long-standing industrial base has fostered a culture of innovation and technical expertise, which is crucial for the development of dual-use technologies.

The region is home to many companies specializing in intelligent machines, ICT, and sustainable manufacturing. For example, with over 1,300 ICT companies and 4,700 experts working on AI and analytics, Tampere is a hub for cutting-edge technology. These capabilities are directly applicable to both civilian and military applications, such as advanced robotics, cybersecurity, and AI-driven systems.

The companies most interested in dual-use in the region highlight topics such as: AI and machine learning, ICT systems, IoT and communications, manufacturing and production, defence and security systems, cybersecurity, advanced materials, energy solutions, autonomous systems, robotics, simulators, hydraulics and mechanical systems, construction and infrastructure, as well as, environmental and sustainability solutions.

Institutions like Tampere University and the VTT Technical Research Centre of Finland are leaders in research and development, particularly in fields relevant to dual-use technologies such as materials science, chips, automation, and IoT. Tampere University is well positioned on technologies like advanced chip development, but also on social sciences including international politics.

The event will take stock of the first steps of the European Defence Industrial Strategy, update the industry trends, technologies, and capabilities applicable to maintenance, and identify key challenges in the context of the EU technological sovereignty.

There will be welcome and keynote speeches, matchmaking opportunities both online and face-to-face, panel discussions, B2B and pitching opportunities, a study visit, and a networking dinner.

Date: Autumn 2025 (to be adjusted in accordance with ENDR event schedule)

Location: Tampere, Finland

Venue opportunities: City of Tampere (through its subsidiaries) has full or partial ownership of venues such as Tampere Hall, Tampere Exhibition & Sports Centre and Nokia Arena. Tampere University has multiple campus locations, including centrally located event facilities in the city centre.

Event Structure Specifics

- Two-day conference
- 20+ international speakers
- Matchmaking provided online and face-to-face
- Estimated participants up to 200.

1 Objectives of the Event

- EU Commission Participation: Ensure strong involvement from the EU Commission to align with European defense policies and strategies.
- Foster Collaboration: Promote dialogue and partnerships between civilian and military sectors for the responsible research and development of dual-use technologies. Enhance engagement with international stakeholders in the defense market.
- Highlight Technological Innovations: Showcase emerging technologies and their potential applications in both civilian and military contexts.
- Learn from Ukraine: Incorporate lessons from the conflict in Ukraine to understand the evolving nature of warfare and technological needs.
- Provide Matchmaking Opportunities: Facilitate connections between dual-use technology companies, researchers and defense market stakeholders, including leading arms-producing and military services companies and end users.
- Address Ethical and Legal Considerations: Discuss the ethical and legal implications of dual-use technologies to ensure responsible innovation.

2 Target Audience

- Industry Leaders and Entrepreneurs - Comprises CEOs and CTOs of tech companies, startup founders, and SME representatives.
- Defense and Security Industry Professionals - Includes defense contractors, military technology developers, national security advisors, cybersecurity experts, and crisis management professionals.
- Civilian Technology Innovators - Encompasses AI and robotics developers, quantum computing researchers, and semiconductor manufacturers, etc.
- Government Officials - Involves EU policy makers, national defense representatives and local government representatives.
- Academia and Research Institutions - Consists of university researchers, research institutions, defense and technology think tanks, and innovation labs.
- Public-Private Partnership Facilitators - Includes collaboration consultants, investment strategists, and public sector liaisons.
- Ethics and Legal Experts - Comprises regulatory compliance officers, legal advisors on international law, and ethics committee members.
- International Organizations - Involves NATO representatives, EU defense agencies, and international cooperation bodies.
- Media and Analysts - Encompasses defense and technology journalists, market analysts, and industry commentators.
- Research Funding Organisations – Consists of funding agencies and organisations.

3 Preliminary list of themes (will be pruned based on speaker selection):

3.1 Policy and Governance

- European Defense policies and Defence Industry Strategy: Understanding the strategy and its implications for dual-use technologies.
- National Security Strategies: Aligning national strategies with technological advancements.
- Governance Models: Effective governance for dual-use technology development.

3.2 Technological Convergence and Dual-Use Innovations

- Emerging Technologies: Exploring AI, robotics, quantum computing, chips and semiconductors, and their dual-use potential. Exploring technologies with both dual-use and green defense potential.
- Civilian to Military Tech Transfer: Case studies and best practices, including lessons from Ukraine.
- Innovation Ecosystems: Building networks between civilian tech hubs and defense sector.
- Environments for technology development and piloting: Dual-use technologies impose new demands on pilot lines and development environments.
- Manufacturing Capability: The importance of manufacturing capability and flexible manufacturing to support emerging needs for volume production and for new innovative products.

3.3 Insights from Ukraine

- Hybrid Warfare: Understanding the role of hybrid warfare and its implications for future conflicts.
- Civilian Innovation in Conflict Zones: How civilian technologies have been adapted for military use in Ukraine.
- Resilience and Adaptability: Lessons on resilience and adaptability from Ukrainian defense and civilian sectors.

3.4 Security and Resilience

- Comprehensive Security: The Finnish concept of comprehensive security as a national approach to resilience. State of comprehensive security models across Europe.
- Scientific Security of Supply: Ensuring the availability and resilience of critical scientific resources and technologies is essential for both civilian and military applications.
- Research Security: Balance security with international collaboration in science.
- Supply Chain Resilience: Ensuring robust and secure supply chains, including the availability and logistics of key technologies such as chips and semiconductors.
- Cybersecurity: Protecting critical infrastructure and technologies, with insights from cyber warfare in Ukraine.
- Crisis Management: Innovations in disaster response and recovery, drawing from Ukraine's experiences.

3.5 Collaboration and Partnerships

- Public-Private Partnerships: Models for successful collaboration.
- International Cooperation: Strengthening ties between EU member states and beyond.
- Industry-Academia Collaboration: Leveraging academic research for defense applications.
- Role of End Users and Leading Arms-Producing and Military Services Companies: Examining the current market share and influence of established players compared to innovative SMEs trying to enter the market.

3.6 Market Dynamics and Opportunities

- Market Trends: Identifying and capitalizing on emerging opportunities.
- Investment Strategies: Attracting funding for dual-use technology development.
- SME and Startup Engagement: Supporting small and medium enterprises in the defense market.
- Changing Battlefield Dynamics: How Ukraine is demonstrating the need for rapid-cycle innovation and the use of new technological solutions, reshaping the market landscape.

3.7 Ethical and Legal Considerations

- Regulatory Frameworks: Navigating international laws and regulations.
- Ethical Dilemmas: Balancing innovation with ethical responsibilities.
- Data Privacy and Security: Ensuring compliance and protection in dual-use technologies.