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Understanding interstate competitiveness and international security in European dual-use research

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Abstract. Dual-use (DU) technologies are both a threat to human security and an opportunity to generate economic value. This article reflects on tensions between state preferences for greater competitiveness in DU technologies and its implications for human security. These tensions are analysed through the lens of the Ethics Issues Checklists (EIC) used by the European Commission (EC) to implement upstream controls on European DU research. We show that the shift towards an economic framing of DU in the EICs privileges competitiveness at the expense of security imperatives and thereby undermines Europe's commitments to human security as agreed in multilateral treaties. Furthermore, findings show a nuanced understanding of the EC's preference for economic considerations as it combines economic growth expectations from a more competitive DU industry with a strengthening of Europe's hard power capacities via a strengthened domestic security industry.

Keywords: Dual Use, Competitiveness, Human Security.

1 Introduction

Dual-use technologies are both a threat to human security and an opportunity to generate economic value. As such, 'dual-use' (DU) refers to the possibility that research and technological developments designed to generate benefits for civilians can also be used for military or other purposes with non-peaceful intents. These include emerging technologies of immense promissory socioeconomic significance like artificial intelligence and genetics which can be easily weaponised into autonomous warfighters, agents of bioterrorism, etc. Indeed, neuromorphic computing and other biologically-inspired systems are increasingly recognized as DU areas of concern to researchers and regulators [1].

The European Commission (EC) [2] defines 'dual-use items' as:

...goods, software and technology that can be used for both civilian and military applications and/or can contribute to the proliferation of Weapons of

Mass Destruction (WMD) [and thus] ...subject to **controls** to prevent the risks that these items may pose for **international security**.¹ [bold added for emphasis]

As the term *international security* suggests, the risks of DUIs are viewed by the EC as global (beyond the confines of national borders). DUI risks are governed by multilateral treaties like the 1972 *Biological Weapons Convention* (BWC), the 1993 *Chemical Weapons Conventions* (CWC) and the 2004 *UN Security Council Resolution 1540* (amended in 2016). In turn, the *problem* of security risks posed by DUIs – according to the above definition - is resolved through *controls*. Within Europe, as in other nations, *controls* in the DUI context derive from state obligations to multilateral treaties. These typically refer to policies aimed at controlling "the export, transit and brokering of dual-use items as a key instrument contributing to international peace and human security" [2] (hereafter referred as *human security*). As a result, this trade-based approach to managing the security risks posed by DUIs - or what the EC calls a "security-related trade instrument" [2] - casts DUIs as tradable goods with all the concomitant pros and cons of trade and commerce, such as interstate competitiveness and profit-driven micro interests.

This article takes a closer look at policies for upstream control of European DU research. The aim is to understand the human security implications of policy shifts towards greater competitiveness between 2009 and 2016 in Europe's international trade in DUIs. We present an inward-looking analysis of security-trade dynamics within the European Union (EU) from the perspective of international relations theory instead of the standard cross-national comparative studies [3]. Notably, for the purposes of this paper, we consider the EU as one analytical unit (interchangeably referred to as *national*). This is because the EC's DUI Export Control policies - primarily Regulation ECR428/2009 - are centralised with the explicit aim of controlling the "export, transit and brokering" of dual-use items within the EU's *Common Commercial Policy* regulating the European single market (Article 207 in *Treaty on the Functioning of the European Union* in [2]).

1.1 DUIs and the EU economy

International trade in DUIs makes a substantial contribution to Europe's economy. In the period 2008-2014, 20% of Europe's exports (worth €900 billion) fell within the DUI export control domain¹ [4]. In approximately the same period (2008-2012), DUI and DUI-related sectors were estimated to have employed between 7 to 8.5 million people thus accounting for 14% of all export-based employment within the EU [4, p. 19]. Given the immense socioeconomic value of trade in DUIs to the European economy, sustaining the DUI sector's international competitiveness is important for Europe's long-term growth objectives [2]. A review of the existing DUI export control

¹ Including trade within EU and re-export [6], although Stewart [13] estimates the value of EU's DUI production substantially lower between €26 and €37 billion.

regime has been underway since 2011 to make the DUI sector more competitive by optimising the balance between "ensuring security and competitiveness in a changing world" [2, p. 5]. However, Stewart & Bauer [6, p. 23] have suggested that it was the USA's review and reform of its DUI export regime in 2009 (to make it more competitive) that escalated Europe's competitive concerns. This triggered the EC's DUI review process, which was backed by the European DUI industry's calls for relaxing the EU's stricter standards as compared to the USA and emerging competitors like China and India [see e.g. *European Commission's Impact Assessment Report* of 2016 in [5, p. 7] [6]. The question is: does the framing of the European DUI review process with competitiveness as a policy target (at par with security risks) suggest a state preference for economic goals at the expense of human security goals?

2 Method and Methodology

To understand the co-existence of state preferences for specific economic (i.e. trade) and security goals [7], we draw on the specific case of upstream DU controls imposed on European research via the mechanism of *Ethics Issue Checklists*. According to Europe's key dual-use regulation ECR 428/2009, applicants for EC research funding are required to self-assess the dual use and potential misuses of their proposed research by completing an *Ethics Issues Checklist* (EIC). Informed by concepts from international relations theory [7-11], we conducted discourse and content analysis of a) the changes to the EIC over the period 2009 - 2016; b) accompanying guidance notes for EIC applicants; and c) related policy documents to understand the tensions between state preferences for competitiveness and human security in the European DU domain.

3 Findings

Findings showed considerable variances in the content and intent of EICs issued between 2009 and 2016 towards an economic framing of DU regulations. This privileges the EC's unitary economic considerations at the expense of Europe's commitment to human and international security as agreed in multilateral treaties like the BWC and CWC. Furthermore, our analysis suggests a nuanced understanding of the EU's preference for economic considerations as it combines economic growth expectations from a stronger European DU innovation and industry along with a strengthening of the EU's hard power capacities via a strengthened domestic security industry.

4 Discussion

Findings showed that the shift towards economic considerations between the 2014 and 2016 EICs was underpinned by the EC's strategic shift towards incentivising the defence sector to diversify into the civilian sector. This is done via the quick innovation route of adapting DU defence technologies to civilian-use products aimed at creating wealth, jobs and growth for the aggregate European economy. The notion that

this shift was motivated by, and in the interests of, a few industry and private actors rather than the aggregate was unfounded. However, the 2016 EIC's silence on the questions of human rights and military ethics were concerning. One reason for these lack of human rights and ethics protections may have been motivated by the desire to smooth the defence sector's foray into the civilian sector; to bolster European DU innovation and industry with the expectation that it would contribute both to the EU's economic growth as well as its hard power via a strong European security industry.

Furthermore, findings showed that the 2014 EIC's strategy of discursively fragmenting the DU domain into good and bad to commercialise the *good DU* (like trade in DUs) and prohibit *bad DU* or *misuses* like terrorist abuse, created ambiguous outcomes in the 2016 EIC. In the 2016 EIC, *good DU* was expected to bolster research collaboration between defence-civilian sectors, eventually leading to a strong indigenous defence-security sector. In reality, the economistic framing of DUs weakened the 2016 EIC to a tokenistic exercise of checking boxes about human security without "clear and enforceable safeguards" to ensure it [12].

5 Conclusion

The discursive fragmentation of the DU domain into *good* and *bad DU* to serve economic goals, - although understandable from the perspective of the relative benefits for the imagined aggregate European society - casts the EIC as a transaction cost or 'Administrative burden' [according to DU review clause 1.1.5 & 6 in 4]. This is challenging for international security, for it hollows out the intent and content of security and rights protections agreed with other states and enshrined in multilateral agreements towards greater competitiveness in international trade in DUs. As history has shown, if other nations choose to enhance competitiveness following the example of the EC, it would suggest a global weakening of the protections against bioterrorism - especially in emerging biologically-inspired dual use technologies such as artificial intelligence and robotics. To avoid this global race to the bottom, it is thus imperative that the EIC - as a basic tool for controlling DUs - should be strengthened, beginning with a re-reframing of its purpose as a protective mechanism.

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