

Introduction

It is commonplace to state that the forms of war are constantly evolving. In the contemporary conflict environment, hybrid actors and proxy groups wage war in an asymmetric, low-intensity and irregular manner by exploiting ambiguity, strategic surprise and deception to accomplish their objectives. This conflict environment is volatile, uncertain, complex and ambiguous, in short, VUCA. This environment requires that educational and research institutions disseminate knowledge to help students of diverse academic backgrounds to perform complex tasks and duties in an efficient and effective manner. Curriculum development within higher education is a performance improvement tool that helps both lecturers and students gain cutting-edge knowledge to perform up to a certain standard or obtain the expected level of performance. This is even more important as security challenges come in many disguises. The concerns European societies face, are of unknown magnitude and the need for proper understanding and adequate policy responses is paramount. Supporting improved awareness, strengthening resilience and building the required capacity are all part of this effort. The Russo–Ukrainian war precisely/perfectly underlines the need for such capacities and capabilities. Security challenges and threats, in whatever form they may come, have the potential to undermine the security of the European Union (EU) and the very values that underpin and inspire its societies. The EU must be committed to addressing these challenges with all available means. Citizens need to have a clear understanding of the risks and threats affecting the security, resilience and sustainability of their environment, including the smaller and larger communities to which they belong. The term hybrid warfare first appeared in 2005. The underlying concept subsequently evolved to cover a multitude of actors, strategies and actions. Overcoming a uniquely military-centred point of view is at the core of hybrid warfare as it takes advantage of the disunity within organisations of political entities and the absence of a hegemon in international relations. The *Hybrid Warfare Reference Curriculum* was created within the framework of a Cooperation Partnership project of the Erasmus+ Programme. Financed by the European Union, in 2021 four European and an Israeli higher education institutes and a U.K. think tank embarked on a journey to create cutting-edge education and training material on the hybrid warfare topic. A curriculum with relevance hard to underestimate – especially after the war started in 2022 in Ukraine – but missing from European universities’ study programs. The present curriculum takes into account the diversity of actions forming part of hybrid warfare, uniting a variety of disciplines. Founding on

the academic and geographic diversity of the project partnership, the *Education and Training on Hybrid Warfare Project* recognises the responsibility of higher education institutions in contributing to stable societies. The partners' aim is to provide a conceptual framework for a better understanding of current and most likely future conflicts to a variety of key national stakeholders, ranging from government to civil society and with a specific focus on Youth. This requires a comprehensive academic and professional curriculum aimed at enhancing situational and contextual awareness and in particular, the anticipated consequences of such conflicts. The project accords with the clear requirement of the security studies institutions to become more familiar with the complexities associated with hybrid warfare and to initiate a consolidated familiarisation with a refined appreciation of the disparate risks associated with hybrid warfare. In terms of foreign and defence policy postures and capabilities, it is essential for EU members to foster a culture of common appreciation, allowing for a wider understanding and dissemination of knowledge and to support the crafting of common responses to hybrid warfare. The failure to address issues ranging from definitions and lexicon to the mechanics of force or policy posture can be detrimental to EU members' ability to work collaboratively, especially in periods of high tension and crisis. The intention behind the development of the project was to provide common study material for civilian, police and military higher education institutions to address a significant number of issues associated with the policy and operations of most forms of hybrid warfare. Through the newly developed curriculum and teaching methodology students shall gain:

- an insight into the non-military aspects of hybrid warfare, ranging from information and cyberattacks on critical network infrastructure to the nexus of public health and national security in response to the malicious use of life sciences and artificial intelligence
- a more nuanced understanding of how some hybrid warfare acts intend to destabilise communities and society, from the instigation of alternative news narratives to inciting community violence and criminality
- a deeper understanding of the decision-making process generated by hybrid warfare across a myriad of sectors to benefit from risk analysis, crisis management case studies, and simulation exercises to reinforce the contextual and situational awareness
- a better understanding of how hybrid warfare impacts today's modern military forces, in terms of doctrine, force structure, armaments, operations, command and control and training

The developed hybrid warfare reference curriculum, its supporting methodology, and massive open online course will allow blended (physical and virtual) learning methods for accredited university classes, but also allow for mass online learning, thus reaching a much wider audience. The reference curriculum shall form the basis for either the partial or entire redesign and update of courses within the curriculum of the military, police and civilian students of higher education institutions. The reference curriculum as a document reflects the combined knowledge of a multinational team of academics and policy experts drawn from European and Israeli universities and think tanks. The reference curriculum comes as the result of close cooperation between the project partners to motivate others interested in the subject. The reference curriculum also serves as an initial document for individuals or organisations looking to develop a curriculum dedicated to combating hybrid challenges, or to amend their existing curricula accordingly. The content of the hybrid warfare reference curriculum is not intended to be adopted in lockstep, but rather to fit particular needs and aspirations. Its function is to increase intellectual interoperability and foster in-depth and specific academic knowledge and professionalism in an interdisciplinary manner. It can also support interested partners in enhancing their capacities to develop their national skills and improve suitable strategies to counter or wage this sort of warfare. The reference curriculum also serves as a fundamental document to address educational institution requirements and provide helpful guidelines for relevant courses on security and defence. The reference curriculum, among others, provides an overview of underlying ideologies, motivations and methods, as well as contemporary practices and projections of future potential. As such it contributes to European and Transatlantic cooperation in security-related issues through education by offering students, professors, researchers, policy experts and the interested public a new international and interdisciplinary platform of study, and also a foundation for cutting-edge, practice-oriented knowledge. The curriculum also serves as a basis for those who intend to implement tailored versions for their distance learning or residential courses. It contributes to a student-centric environment too, as it can help train students to better understand the complex challenges posed by hybrid warfare and to respond better to it. The reference curriculum promotes critical thinking and a thorough understanding of European core values and interests. This important pedagogical objective is fostered through participatory structures and transformative education. To reach the goals set above and to exploit the synergies created by the participating institutions, the reference curriculum may

be regarded as the basis of a modular system resulting in various single or joint degree courses at a later stage. The reference curriculum contributes to a series of online and blended modules with a focus on selected security and defence issues, involving a participative and extensive simulation exercise/wargame moderated by trained staff. All recipients of the curriculum, irrespective of their previous background and knowledge, shall benefit from a range of delivery methods including:

- a cutting-edge, transdisciplinary curriculum
- a combination of presentations, tutorials, case study analysis simulation exercises and tabletop exercises
- a massive open online course on hybrid warfare to reach a much wider audience

Thus, global issues, especially security ones, are increasingly becoming the subject of policy-level deliberations, both nationally and internationally. Transnational cooperation in science deals with these issues. Cooperation in the form of various partnerships is of special importance because they possess much of the expertise, data and resources that are needed to find effective solutions. The reference curriculum makes it clear that hybrid warfare stands for issues and options that deserve the attention of scientists and researchers as they seek to design, initiate and manage collaborative research programs and projects that include both scientific and development goals. Links between science policy and the mechanisms to address raised issues already exist in EU countries. Motivations and opportunities to support scientific collaboration in the form of partnerships to strengthen research capacity have assigned a higher priority to global issues, put more emphasis on collaborative research, and moved beyond traditional knowledge transfer. The reference curriculum simply reflects the fact that scientists and policymakers are/have been increasingly turning towards desirable and even crucial partners who can provide a wide range of expertise, resources and other benefits. Some are identifying ways to organise projects that encourage the full participation of researchers who are actively building and enhancing research capacity to create and utilise the new knowledge that is essential for their development to address local and regional manifestations of global-scale challenges of which hybrid warfare is but one. Recognising the importance of global security challenges and trends and seeking to maximise the benefits of cooperation by linking science policy with science capabilities, thus contemplating new cooperative ventures to improve existing efforts. Moreover, we are living in a time when different generations

may see the world dramatically differently. Therefore, the experience of the 20th century must reach out to the enthusiasm of the 21st century and make a strong bond. The reference curriculum can forge a bond in the mind and soul of the young generation, among whom university students play an important role as they will form the future cohort of intellectuals and decision-makers that will need to take care of various policy and military responses to hybrid threats in the near future. The reference curriculum offers a comprehensive and interdisciplinary approach in the broadest sense, since it encompasses definitions and descriptions, addresses the hard and soft aspects of hybrid warfare, and names disciplines and subjects to make hybrid warfare studies accessible for lecturers and students alike. The project stands for a change in the institutional portfolio of the authoring partner institutions since it produces new knowledge that they institutionalise and disseminate through various social practices over time. Thus, the reference curriculum brings something new and creative to the partners involved and to the wider EU community. The partnership powers high quality and fosters innovation by exploring and considering a new concept such as hybrid warfare, and by delivering new content and methods with much value to lecturers, researchers and students. It can be seen as a descriptive, reflective and explanatory study of hybrid warfare seen from many different angles. It is descriptive in the sense that it describes hybrid warfare as a complex phenomenon posing serious threats to the stability of any political unity. It is also reflective since by approaching hybrid warfare as an intrinsically complex and multi-layered phenomenon, consistency and coherence are provided by the use of the respective scientific literature and, very often, Clausewitz's epic volume *On War*. It is explanatory since inconsistencies are discovered, the authors identify and explain the contributory factors in detail. The reference curriculum aims at developing a coherent framework that offers a novel approach to hybrid warfare by detailing the underlying attribute from multiple points of view. Since the curriculum exceeds the framework of a semester class in volume, the team of authors agreed to divide the chapters into compulsory lectures (Volume I), elective seminars (Volume II) and elective lectures (Volume III), from which lecturers may choose the most relevant topics for their classes. The present handbook is an appendix to the three volumes and offers effective teaching methods and simulation tools to address hybrid warfare to various audiences. Without the appropriate design and use of methods and tools, it is impossible to spread quality information and create a firm foundation to any course offered to students. Teaching methods and simulation contained within this handbook are the toolbox to be used in the right way – for the right job. Teaching methods, if understood and used appropriately

can make any interaction between the lecturer and the student a lot easier. Thus, the handbook attempts on the one hand to explain and demystify the world of teaching methods and simulation means, whilst on the other it seeks to provide a starting point for their use. In this, the editors are not suggesting that using teaching methods and simulation tools means things become easy, but merely that lectures and seminars on hybrid warfare can be appreciated by lecturers and students alike. The editors hope that the readers can enjoy this handbook, which reflects a wider aim to develop and improve the performance of the regeneration that will most likely have to do with hybrid warfare. This handbook aims to meaningfully address some of the persistent issues faced by civilians, and military and police personnel, and to prepare them to act in adequate manner when reacting to hybrid threat situations. The teaching methods and simulation tools contained in this handbook will allow blended i.e. physical and virtual learning for accredited university classes, but also provide a sound foundation for mass online learning, thus reaching a much wider audience. The handbook also helps tackle skill gaps and mismatches through the content of the three modules of the reference curriculum, and sets the framework for blended simulation/wargaming exercises. The methods and tools contained in this handbook are innovative and pioneering as they stand for a handful of innovative pedagogies applicable to study hybrid warfare. Thus, the handbook can be seen on the one hand as an extensive methodology manual for professors or trainers who deliver the reference curriculum and wish to achieve maximum impact by applying innovative, interactive, transdisciplinary teaching methods, including blended elements. On the other hand, it is an extensive simulation manual for professors or trainers who wish to set up a simulation exercise complementing the hybrid warfare elective course. Practical recommendations on gender perspectives and military effectiveness complement the teaching methods and simulation tools of this handbook, referring to the importance of the gender dimension. The Hybrid Warfare Project Team from the Ludovika University of Public Service in Budapest, Hungary; the “Nicolae Bălcescu” Land Forces Academy in Sibiu, Romania; the Armed Forces Academy of General Milan Rastislav Štefánik in Liptovský Mikuláš, Slovakia; the University of Turin, Italy; the Bar-Ilan University in Ramat Gan, Israel and the Centre for the Study of New Security Challenges in Edinburgh, U.K. wishes interesting and useful readings for all students, lecturers and independent learners.

*Zoltán Jobbágy – Edina Zsigmond
editors*