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CLARIFYING DIGITAL TERMS

NATO StratCom COE Terminology Working Group

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Introduction

Digital technologies and means of communication have become a central part of politics and social organisation. The role of AI, big data, and machine learning is growing, as are ethical, privacy, and security concerns which these technologies bring with them. The purpose of this glossary is to encourage the use of precise and simple language that bridges the terminological divide between policymakers, soldiers, tech companies, academics, and programmers. It is at the intersection of their respective fields, that digitalisation's potential for positive change as well as ensuing challenges can be recognised and addressed. Sharing a common vocabulary is the first step.

As digitalisation continues to transform our societies, it has also influenced the language used to describe this process. Terms related to the developments and possibilities brought on by digitalisation can seem confusing. Digital vs. cyber vs. online, AI and machine learning lack distinction in popular usage and understanding. An additional layer of complexity is added by the multiplicity of language communities that exist in this field: from programmers and computer scientists, to communicators, politicians, militaries, academics, and the general public.

Many terms become the subject of fashion. After all, no one goes to *cybercafes* to

do their *cybershopping* anymore. Terms initially used in a purely technical sense, and in the field of computer science, evolve and may change their meaning when they are imported into the context of political communications and conflict. Frequently, terms appear to be used interchangeably without a second thought by its user ('online'/'cyber'/'digital'). Some terms are outdated but remain in use (certain 'cyber'-compounds). Some terms require more specificity ('artificial intelligence'), while others are more useful when defined in broader terms ('attribution').

The 'Digital Terms' publication sits within the framework of thinking and follows the same methodology that has been guiding the Terminology Working Group since 2017. The definitions were deliberately kept at a general strategic communications level and do not reflect nuances that might be used or understood only in a niche language community of computer scientists.

This glossary's selection of terms and their definitions were guided by political, security, and, above all, strategic communications perspectives. As a first step, the NATO Strategic Communications Centre of Excellence's (COE's) Terminology Working Group created a comprehensive list of terms together with experts from the policymaking, commercial, technology, and military (NATO SHAPE, COE) sectors. The collection of terms was then narrowed down. Some terms were judged overly technical for the present publication. Such terms were deemed to squarely belong in the field of computer science, where they are already well-defined. The Terminology Working Group prioritised 'digital' and 'cyber' language which relates to the main concerns of the international security field; namely, power and influence. This glossary is not exhaustive, but helps clarify the language we use in our professional lives.

Glossary of Proposed Definitions

attribution, *n.* The characteristic of the human brain to connect pieces of information into a sequence of cause and effect.

algorithm, *n.* A defined set of mathematical or logical instructions for the performance of one (or several) tasks.

artificial Intelligence (AI), *n.*
Narrow (weak) AI: a programme that performs one (or a few) tasks as well or better than humans. *(e.g. Google Translate, Siri)*

Artificial general intelligence (strong AI): a programme that performs all tasks as well as humans and some tasks better than humans. *(This does not exist yet.)*

Superintelligence (radically transformative AI[1]): a programme that performs all tasks better than humans. *(This also does not exist yet.)*

Big Tech Imperialism, *n.* The expansion of economic power of supranational technology companies into politics, with potential to circumvent the sovereignty of states.

cyber, *adj.* Related to a network of physical and virtual dimensions sustained by digital technologies.

digital, *adj.*

a. Related to the use of machine-driven information technologies and systems to engage in society.

b. Related to the impact or change caused by embracing digital technologies.

digit*isation, *n. The process of changing from an analogue to a digital form.

digital*isation, *n. A societal transformation enabled by embracing digital technologies.

digital diplomacy, *n.* Conducting (public) diplomacy through digital engagement.

digital engagement, *n.* Interacting with intended audiences[2] through information technologies in order to spark and shift conversations in pursuit of strategic objectives.

digital forensics, *n.* The application of scientific knowledge and procedures to analyse data generated by information technologies when investigating a punishable offence.

digital media, n. Media transformed by digital technologies in form, content, distribution, and consumption patterns. They are characterised by increased speed and

accessibility, and heightened competition of ideas, and displacement of credibility.

data sovereignty, *n.* Supreme legal authority over data.

digital security, *n.* Protection of digital data, generated by and about users of information technologies, against efforts to harm individuals and/or society.

information sovereignty, *n.* Supreme authority to control information within a jurisdiction.

online, *adj. and adv.* Digitally connected.

organic, *adj.* Used to characterise a system as dynamic and non-linear, yet self-organising and adaptive.

n.b. In the context of digitalisation this is used in the form of:

organic marketing, *n.*

Conducted with internal resources and exhibiting the characteristics of a grass-roots activity. *(this applies to digital marketing only)*

social media, ***n.*** Online platforms characterised by user-generated content and social interaction.

social responsibility, *n.* The obligation of an organisation or individual to act for the benefit of society at large.

virtual, ***adj.*** Exhibiting spatial and imaginable features via software.

Project Objectives

This publication's collection of terms, their definitions and rationales are part of an ongoing project for improving terminology used in the context of strategic communications. The original request for 'StratCom Terminology Improvement' came from the Netherlands, one of the founding member of the NATO StratCom COE,[3] and was approved by the Steering Committee in December 2017. The Terminology Working Group held consultative sessions throughout 2018 which culminated in the project's first output: *Improving Strategic Communications Terminology* (2019) and focused on 'Elements of Communication' and 'Applying Strategic Communications'.[4] The present publication focuses on words related to cyber security and the social and communications impact of digitalisation.

The project's key objectives remain:

- Ensuring that the core terms and definitions are coherent across different areas of NATO StratCom and can be equally understood and applied by the military and civilian side.
- Creating a sense of responsibility of Strategic Communications throughout all of NATO.
- Improving the core terms and definitions to enable NATO to speak to the rest of the world in a language that is intuitive and limits potential misinterpretations.
- Contributing to the process of building a joint and future-oriented outlook of Strategic Communications within NATO.

Terminology projects are usually concerned with making communication within a specialised language community more efficient and minimising misunderstandings.[5] Improving StratCom terminology aims to unify different NATO agencies in their endeavours but also increase efficiency in planning and executing military (communications) operations.[6] NATO is a multi-national organisation with civilian and military personnel, working toward political and military objectives. A common language (in the broader sense) is one of the key success factors for effective Strategic Communications.

Terminology is linked to the political, intra-agency questions of the place of StratCom because the discursive environment in

which it operates is particularly complex. StratCom-related terms are introduced into, and used within, an institution with its own pre-existing linguistic culture.[7] When terms are used that already have a different meaning within NATO, not only can this lead to misunderstandings, but intra-institutional rivalries. NATO communications activities and capabilities include Strategic Communications (StratCom), Public Diplomacy, Public Affairs (PA), Military Public Affairs, Information Operations (Info Ops) and Psychological Operations (PSYOPS). Each of these approaches developed independently and, when considered alongside each other, reveals different understandings and interpretations of certain concepts and terms. For example, does Public Affairs inform or influence? While 'target audience' is a more neutral term in social sciences and sometimes used by politicians, in PSYOPS it has a very particular military meaning.

Terminological Tensions - Project Rationale

The Terminology Working Group intends to bring more coherence to the StratCom language used throughout NATO structures. This involves removing potential 'traps' and unnecessary constraints from existing definitions. Highly specific definitions are often too limiting when used outside a specialist domain. They can even cause misunderstandings when it is a term that no single specialised language community has exclusive ownership of.

Given that Strategic Communications is a holistic approach to communications, it should be easily understood by different communities outside the organisation that NATO tries to either affect or engage with in its Strategic Communications effort (e.g. mass media, non-governmental organisations, academia, commercial sector). Therefore, the definition needs to be as generic, simple, clear and applicable to other fields as possible.

The StratCom COE's Terminology Working Group is more ambitious than traditional terminology projects. By clarifying StratCom terminology the project hopes to improve understanding of Strategic Communications for those outside the discipline and create a greater sense of responsibility for communications throughout the NATO Command Structure. Strategic Communications should be the concern of all of NATO, not just dedicated elements and branches.

In relation to the cluster of words treated in this publication, it is important to emphasise that strategic communications is *not* simply a reaction to digitalisation and by no means a synonym for online communications campaigns which use big data. This digital terms glossary highlights the necessity of a holistic approach to communications based on values an interests that encompasses everything an actor does to achieve objectives in a contested environment.[8] It is only through a strategic communications *mindset* that we can successfully operate

in a dynamic and intensely networked information environment of criss-crossing (technological) feedback loops.

Challenges

We must consider the review cycle of NATO Alllied Joint Publications and Policies. These documents were created at different times (for example, the NATO StratCom Policy dates back to 2009, whereas NATO Military Policy on StratCom came into force in 2017) and have different review cycles. Digital technologies develop much faster, as do new terms and concepts which NATO needs to address if it is to remain contemporary. Besides, the documents observe a hierarchical order which makes it challenging to bring lower-level documents up to date unless the same changes are made to the guiding document. The glossaries used for these different NATO documents do not have a joint point of reference. Some opt for the first definition given in the Oxford English Dictionary, some propose their own definitions, and some use definitions from other NATO documents. Hence there is lack of consistency even with some of the core terms. In addition, as far as the NATO StratCom domain is concerned, there is no one joint conceptual framework for terminology, pointing out the relationships between different terms and positioning them in a certain hierarchy.

Further complications arise from the fact that NATO is a multilingual organisation and politico-military community where StratCom-related language overlaps with the language of other political institutions such as national governments and the European Union, the commercial sector, and academia as well as everyday language. In this project, the Terminology Working Group finds that **boundaries are blurred not only between the terminology of agencies within NATO but also between a NATO-specific register and wider public discourse**. This extends beyond the internal NATO community, namely between military and civilian (think of how the term 'narrative' is variously used across the member states) to the different national cultures and languages of its 29 allies. More than in the specialised discourses of medicine and science, there is significant overlap between terms used in common language and specialised StratCom language. This increases the potential for miscommunication when people refer to or access different understandings of the same term. [9] The Project's working group was in fact a great example of this phenomenon, where everyone was putting up their own national and professional interpretations and applications of different terms for discussion.

Last but not least, in any specialised field there are varying degrees of understanding and expertise. This is also the case in Strategic Communications: between NATO's military personnel and civilian employees, between political leadership and operators, and between its different branches and departments, as well as outside NATO in

national governments, media, civil society.[10] In the wider NATO community Strategic Communications has often met with a lack of interest and acceptance.[11] The Project conducted a side-experiment of interviewing militaries with little background in professional communications. It revealed that individuals did not feel that StratCom was their responsibility. This was attributed to a lack of understanding of Strategic Communications and the non-intuitive nature of some terms it uses. These findings are important since a core idea of StratCom is that Strategic Communications is everyone's business in some shape or form, and not just the concern of designated communicators.

Using terms outside NATO - What role does context play?

In running its daily business as well as particular operations, NATO is constantly engaging and communicating with the outside world. NATO's language should therefore be comprehensible to wider society, mass media, and other international organisations. As well as NGOs and commercial companies with whom NATO works to deliver its mission, and scientists and academics consulted by NATO to advance its research and innovation.

Terminologists increasingly recognise that terms and their definitions are not fixed but highly dependent on their situation of use.[12] As a result many terminologists have adopted a *dynamic* approach to terminology variation. This means that the *meaning* of a term depends on what features of the object, phenomenon, or activity it denotes are being emphasised or what other terms are being invoked in a given text.[13] So what does this mean in practice? How can a multiplicity of potential contexts be addressed in writing definitions?

While the Terminology Working Group seeks to devise widely applicable definitions, when there is a specific meaning in a particular linguistic field, this definition is included alongside the more generic one. This is the case with 'organic', a term often encountered in the context of digitalisation when trying to emphasise a process or system which distinguishes itself from more man-made, linear, static, and machine-made ones, as those based on algorithms are frequently perceived to be.

organic, *adj.* Used to characterise a system as dynamic, non-linear, yet self-organising and adaptive.
n.b. In the context of digitalisation this is used in the form of:

organic marketing, *n.* Conducted with internal resources and exhibiting the characteristics of a grass-roots activity. *(this applies to digital marketing only)*

Why terminology and not lexicography?

This section reviews the beginnings of terminology as a discipline as well as the most recent literature, and what that means for the methodology of this project.

What is lexicography?

The discipline of lexicography sits within the field of applied linguistics and is preoccupied with observing, recording, and *describing* words in a given language,[14] highlighting their most characteristic features and their meaning(s).[15] Thus, the work of lexicographers is considered to be **descriptive rather than prescriptive;** recording established language use rather than setting standards for *correct* use. [16]

Moreover, lexicography and terminology also differ in the linguistic object they study. While specialist dictionaries look at a given language (or languages) as a whole, terminologies or technical dictionaries focus on a specific subfield that is defined by a community of expertise (rather than shared linguistic features). [17] So a terminological dictionary usually deals with the language of a particular trade, profession, or academic field. **In our case, the language area under consideration is defined by: a) the institution of NATO in terms of the primary users of the outputs from this project, and b) the field of Strategic Communications in terms of the area of expert knowledge.** Both the boundaries constituting the NATO linguistic community and the extent of Strategic Communications as a field require further interrogation and definition.

Terminology versus Lexicography in Practice

In its more traditional form,[18] Terminology distinguishes itself from Lexicography in the following respects:

- **Lexicography starts with the word** and tries to **record** the most **important definitions** for that word used in a given language. This is also referred to as a semasiological approach (determining the meanings of lexical units). **Terminology**, on the other hand **starts with the concepts that are in need of definition** and tries to **identify/designate suitable terms** (an onomasiological approach). Terminology is thus much more prescriptive than lexicography.

- While the objective of the lexicographer is to help readers **interpret** texts, a

terminological project aims to help **produce** texts.

- Lexicography is more about reflecting or describing established language use. Terminology is guided by principles of clarity and efficiency in specialised communication, so prescribing and potentially wishing to change how language is used. [19]

Lexicographers sometimes compile specialised dictionaries. However, **this project deals with the language used by a specialised language community, which is part of an institution (i.e. NATO). So a terminological approach is more suitable**. Moreover, lexicographers must carefully weigh scientific objectivity against offering authoritative entries.[20] Yet this balancing act is not of central concern to this terminology project in NATO Strategic Communications. With Strategic Communications being a relatively new field of research and practice (at least under that name), there have been no comprehensive efforts to standardise the language used by strategic communicators. This leads us to another reason why this is a *terminology* rather than a *lexicography* project: it has grown out of very specific needs in the NATO community to improve communication between different branches and national governments, rather than to describe and record the current use of terms.[21]

What is terminology?

This section offers a brief overview of major developments in the discipline of terminology and how these feed into the approach chosen by this terminology project.

Early developments in Terminology

Terminology is a relatively young field of research. It only became an object of independent study in the 1930s[22] when it was first conceptualised as a discipline with the work of Austrian industrialist (and later, terminologist) Eugen Wüster (1898-1977) and his followers. His theory of Terminology was based on his experiences as an engineering expert and from compiling *The Machine Tool. An Interlingual Dictionary of Basic Concepts* (1968), a project sponsored by the OECD.[23] Given his background in engineering and entrepreneurship, it is hardly surprising that he developed a theory of Terminology where language was considered to be strictly utilitarian. Like the parts of a machine, specialised language should live up to standards of precision, efficiency, and economy.[24]

Wüster's theory of Terminology gained currency and legitimacy both in academia and the practical application and study of terminology in international institutions.[25] The fact that his ideas came to dominate the field of Terminology would be heavily criticised from the 1990s onwards.[26] But before exploring these critiques further, a closer look at Wüster's theory of Terminology is required.

A General Terminology Theory (GTT)

Eugen Wüster considered language to be an instrument for enabling the best communication. He compares language to a tool (*Werkzeug*) and a vehicle (*Fahrzeug*) carrying a load of ideas/ thought (*Gedankenlast*).[27] Central to his theory is that terminological work should start with the concept (*Begriff*).[28] The work of the terminologist, in his eyes, was to prescribe the use of terms designating concepts that are clearly distinct from one another ('one word - one meaning').[29] Critics have frequently pointed out that such an approach disregards context and the coexistence of multiple meanings for one term (polysemy), the fact that some words might be spelled alike or sound alike but have different meanings (homonymy), and that sometimes more than one word may describe a concept (synonymy.) [30] A lot of the terms discussed in the first publication of this project, indeed present definitional hurdles that these critics point out: there are multiple meanings associated with the term 'communication' for example, and likewise 'narrative' and 'story' are frequently used interchangeably. The digital terms are no different. For example, 'cyber', 'digital', and 'online' are often used synonymously although they do not carry the same meaning and connotations. For more on this, see the *Background and Rationale for Definitions* chapter.

Critics highlight further areas where the General Theory of Terminology (GTT) did not stand up to empirical data detailing how terms were used in everyday life.

- A subject field of specialised knowledge under consideration in a terminology project is not a given but is consciously defined in the course of a terminological project.
- Terms can have many meanings (polysemic) and be ambiguous.
- Concepts and terms depend on language, context, and the function they fulfil in a text.
- GTT models are better suited to defining terms that describe entities like objects, living beings, or locations, but not more abstract concepts that designate activities, properties, or relations.
- Only rarely do terminology projects start with the concept and then find the word (onomasiological approach). Frequently terminology research is based on corpora research, starting with the word then defining the concept (semasiological approach).[31]

NATO Strategic Communications terminology is living proof that these points of critique are highly justified and require a more flexible approach to terminology.

- The NATO StratCom community is not strictly separated but intermingles with other civilian and military areas of NATO,

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national and international institutions, and academia, the commercial sector, and media institutions.

- Many concepts and terms used in the NATO StratCom field are complex, fluid, and messy and have a long history of philosophical debate.

- Terms are used in a multi-lingual and multi-cultural space. At the same time words are frequently used as a means of marking inner-institutional boundaries and areas of action, e.g. the prefix *information* used widely in doctrine and policy describing NATO Info Ops and their activities.

- Finally given that this project has a practical outlook, the definition of words that currently cause confusion and misunderstanding were prioritised.

Beyond the General Terminology Theory

So what did critics of Wüster's General Terminology Theory offer instead? In reaction to the GTT, sociocognitive approaches to Terminology developed around the turn of the 21st century[32] stressing that the meaning of words is not fixed but shaped by the context in which they are used.[33] Furthermore, words in these theories are not simply tools of communication (as Wüster thought) but constitutive of worldviews. [34]

This final section will explain how these sociocognitive theories of terminology have contributed to the methodology of this project.

Inspired by Socioterminology[35] this Project does not consider concepts to exist independently of language out there in the world.[36] The use of certain terms and what concepts they are chosen to describe is strongly dependent on the professional, social, and cultural background of language users. Moreover, especially in cases where there is potential for inter-agency rivalry in NATO, terminology is sometimes used to institutionalise power relations.[37] When defining terms, the Project must remain sensitive to both these concerns.

So how can this awareness be translated into the practice of terminology? In her Communicative Theory of Terminology (CTT) Linguist and terminologist Teresa Cabré defines three key elements of the *terminological unit*.[38] Terminological units are at the same time **units of language, units of knowledge, and units of communication.**[39] Because these three elements co-exist, the analysis of oral and written discourses (in our case pre-existing NATO documents, dictionary definitions, and academic texts) and the way terminological units are used in practice (the side-study of this project) is central to a terminology methodology.

How should this analysis of existing meanings be carried out? Rita Temmerman, an expert in translation, multilingual intercultural communication, and terminology, has developed a socio-cognitive theory of terminology. She argues that language strongly informs the conception of categories and, by extension, how we make sense of the world. In her view, the fuzziness of terms should not be considered a shortcoming of language. Rather, it is an object of study through the use of corpora-based research methods.[40] This means that texts from the specialised discourse are collected in order to understand how different words are used and in what context. For her terminology involves studying a term's history, its evolution of meaning, and its use by different speech communities, in specialised as well as general discourse.[41] The **Background and Rationale for Definitions** chapter of this report intends to do just that, explaining how a term's legacy and use in different fields as well as problems associated with these different uses have led the working group to the proposed definitions given in the glossary.

How to carry out this project

What is a 'language community', 'concept', and 'term'?

NATO as a specialised language community and the Discipline of StratCom

According to terminologist Rita Temmerman "a special language can be defined as the collection of spoken and written discourse on a subject related to a discipline."[42] While this is a good start, difficulties arise when trying to identify terms related to the discipline of Strategic Communications.

The boundaries of the discipline of Strategic Communications are not clearly defined. Strategic Communications is related to the fields of Information Operations (Info Ops), Psychological Operations (PSYOPS), Political Marketing, Public Diplomacy (PD), to name but a few. The Strategic Communications

Strategic Communications Universe © 2017 Leonie Haiden

Universe graphic illustrates the complexity of defining boundaries of the Strategic Communications field.

Moreover, the question of where StratCom sits exactly in relation to other NATO structures such as Info Ops, PSYOPS, Public Affairs, and Public Diplomacy is contested within the institution. Last but not least, the peculiarities of how different nations organise StratCom in their governments should be considered. Some NATO members, like the U.S. do not always call what they do Strategic Communications. Also, according to the COE's research on the utility of Info Ops and PSYOPS in peace time, not all nations have these functions and capabilities, and if they do, then their mandate is affected by differences in national legislation and political will. Therefore it is even more difficult to streamline a single understanding of Strategic Communications within NATO.

Concept

Concepts are a way of structuring objects in the world around us to allow us to think and communicate about them. They can be concrete or abstract (e.g. house or love); describe properties (e.g. cold); identities (e.g. friends, spouse, president); or functions and activities (e.g. growth, exchange).[43]

Term

The term, then, is an expression describing a concept. It can be everything from a word, to a symbol, formula, or acronym.[44]

Basic Features and Scope

Atkins and Rundell propose some key questions that should be considered when planning a dictionary,[45] but these also apply to a terminology project, allowing us to outline basic features and scope of the project at hand:

1	**Language**	English
2	**Coverage**	StratCom domain
3	**Size**	see following paragraph
4	**Medium**	report and online
5	**Organization and Layout**	word to meaning (alphabetical order)
6	**Users' languages**	English, frequently as a second language
7	**Users' skills**	Primarily individuals working in a communications-related domain in NATO (PD, Info Ops, StratCom) but also military and civilians in NATO more generally.
8	**Intended use**	decoding (to understand the meaning of terms) and encoding (using a term correctly)

Traditionally terminologists tried to identify key concepts and study them (an onomasiological approach). It is now common to also conduct corpus-based terminology,[46] which assesses the frequency and distribution of lexical items used by the target language community (those for whom the terminology project is being created).[47] Ideally a combination of these two methodologies should be used.[48] Given the limited resources available to the project, as well as the relatively small sample of authoritative NATO documents on Strategic Communications, a manual extraction and analysis of key terms in consultation with experts in the fields was carried out to identify which terms should be prioritised.

Then definitions were formulated (or adapted) according to agreed criteria (see section on Methodology), writing the definition in a manner most useful for the end-user.

During this process terms were also placed in categorisation frameworks to ensure that, in the overall context of Strategic Communications, definitions make sense. As the Project has not come to a strict end and will carry on in some shape or form, these frameworks will be continually expanded and revised.

Methodology: How will concepts be defined?

Best practice for writing definitions

A key aim of this project is to formulate definitions that are accessible to a wide audience; understandable outside military, academia, and politics. Thus, based on previous terminology projects, the original project proposal[49] and discussions at the first Terminology Working Group meeting,[50] definitions of terminological units should be:

Simple: the definition should be **concise**, **clear**, **avoid complicated vocabulary**[51], and be **no longer than one sentence.**[52]

Intuitive/Predictable: The definition should explain **where the concept sits in the categorisation framework** (see section 2) in this Chapter) and should be worded so it meets the needs of its users.[53]

Affirmative: The definition should **specify features that distinguish the concept** from other terms.[54] Avoiding statements such as "concept C is not concept Y". Instead, they should explain the relationship between concept C and other concepts in that domain: e.g. spouse, *n.*: "A husband or wife, or (in later use) a person joined to another in a comparable legally recognized union, considered in relation to his or her partner."[55] This also implies that the definitions are not unnecessarily limiting (as illustrated with the example with the term 'narrative' and the definition proposed by the Info Ops community discussed above).

Non-circular: Do not use (parts of) the term that is being defined in the definition.[56]

Two additional points to keep in mind:

In cases where there are **synonymous**

> In order to understand individual words, one has to understand the relations between terms in that system.

terms (several words designating the same concept) these should be included in the terminological entry. If there are synonyms for terms but subject-matter experts advise against their use, this should also be indicated in the final entry.

Different meanings of the same term should be **labelled and tagged**.[57] This is especially important in the field of Strategic Communications, where the lexical field is diverse in its applications and whose users might differ in their expertise.[58]

Methodological Assumptions

Having shown how pre-existing NATO documents shape the background of this larger project, this section will discuss the theoretical assumptions underlying the project. Three assumptions guide the formulation of definitions for concepts.[59] These principles form the basis of the methodology of this project. (1) **Reality is a context**, i.e. People inherit meaning. They do not have access to any other objective reality beyond the reality that language refers to.[60] (2) **schemas** are the basic building blocks of knowledge about this reality (3) **in-group/out-group selections** play a vital role in shaping these schemas or frames.

1. **Reality is a Context**

According to this view, based on postmodern and poststructuralist philosophy, there is no objective reality beyond language or a reality that language refers to. Signs and images are interpreted from within a conceptual framework that has already attached meanings and symbolic values to them.[61] In this project the strategic communications domain is understood to be the reality being structured and constructed through the terminology we are developing. In other words, our definitions of terms are based on an understanding of the world and information flows as seen through a Strategic Communications lens.

2. **Schemas**
These conceptual frameworks (also schemas or frames) can also be described as the templates for how we structure knowledge, i.e. how we accommodate and categorise new information into our understanding of the world.[62] It is language that activates these schemas or frames in our brain. These schemas are based on past knowledge and our physical experience of the world.[63] Furthermore, they both assimilate and are modified by new inputs.[64]

3. **In-Groups and Out-Groups**
Schemas that are particularly fundamental in shaping human understanding of the world are those which underlie group-affiliations and are thus responsible for shaping social identities (so called *in-group* (the group one considers oneself to be part of) and *out-groups* (the groups one does not consider oneself to be part of)).[65] In-group/out-group schemas usually also entail a value judgment. While empirical studies into this phenomenon have been undertaken mainly in cognitive psychology and social linguistics, the power of in-group/out-group selections has also been identified as an underlying mechanism in extremist propaganda.[66]

These three assumptions are based on post-modernist/post-structuralist philosophy[67] and might appear quite theoretical and distant from the needs of the NATO community whom this project serves. However, it was agreed that these theoretical principles would aid internal coherence of the conceptual mapping of terminological units (such as strategic, communication, information).

Nonetheless, the philosophical (post-structural) and pragmatic, utilitarian (based on pre-existing NATO language use and culture) approaches to terminology need to be kept present and in conversation throughout the project. This calls for a continual discussion and negotiation between a more purist, theoretical, and systematic understanding of StratCom concepts, and the practical reality of NATO terminology as it is (and will be) used in Doctrine (and consequently, within the whole NATO structure). Throughout the process definitions will have to be checked against and amended to their practical application in the NATO community.

Why Categorisation Frameworks?

Given the philosophical basis of the methodology of this project (context is the reality, schemas, in-group/out-groups), a Frame-Based Terminology approach is a suitable practical application of these basic assumptions. **Frame-Based Terminology (FBT)** considers words to be part of conceptual systems that underlie a specialised language field. It is based on the idea that in order to understand individual words, one has to understand the relations between terms in that system.[68]

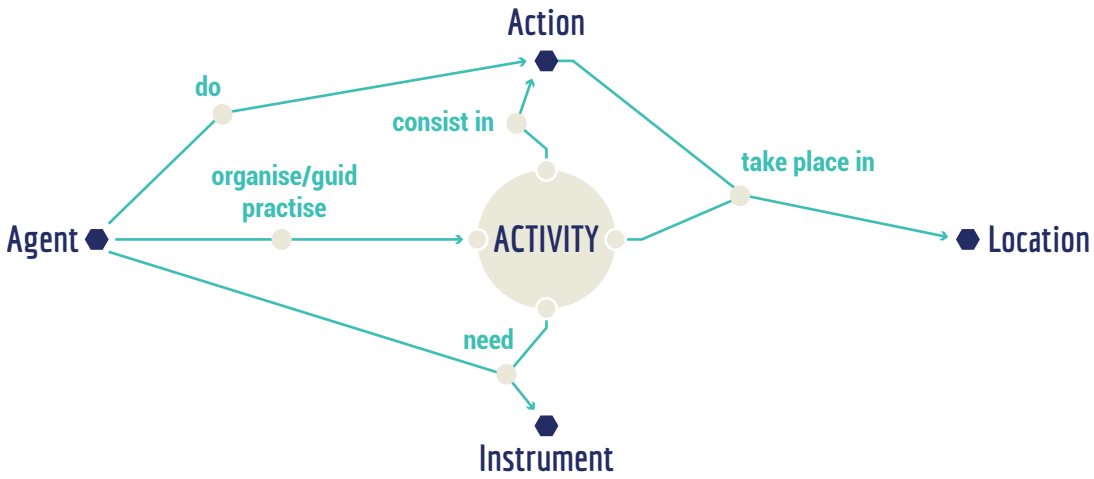
For example, for the <breakfast> concept, in English, it is necessary to understand the common practices of the culture in which this category is used in order to properly understand its meaning in context and create the corresponding prototypical framework, since the cultural reality may differ from country to country (e.g. UK and U.S. or its equivalents in Spain or Germany).[69]

Likewise, when we think of the phrase 'buying a product', a number of related concepts are activated to imagine a prototypical situation which includes terms such as 'seller', 'buyer' 'sell', 'buy', 'product'.[70] Given the need to understand how a given term relates to other terms in that field, it has become common to create a categorisation framework when defining terminological units.[71] This involves considering the different categories of terms in a given field.

Given that several of the terms under consideration (e.g. digital media, online) are also used in general language and NATO doctrine (e.g. cyber), it makes sense to define these terms in a way that clarifies where they sit in the Strategic Communications ontology.

Categorisation Frameworks in Practice

To illustrate terminology frameworks, translation and terminology specialist Durán-Muñoz and her colleagues looked at the terminology of adventure tourism[72] and came up with *Action, Agent, Activity, Location,* and *Instrument* as preliminary categories, visualised as can be seen below.[73]



Conceptualisation Framework for Adventure Tourism[74]

When devising such a framework, one should look for the following kinds of relationships:

- Hierarchical (*generic* and *specific* concepts, e.g. vegetable-broccoli; *whole-part concepts*, e.g. computer-keyboard)

- Associative (*spatial* or *temporal* link between concepts, "producer-product; action-result; action-tool; container-contents; and cause-effect."[75])

In the context of this terminology cluster related to digitalisation, relationships are more *associative*. 'Data sovereignty' and 'information sovereignty' are certainly related terms but are not in a hierarchical relationship. Digitisation (changing from an analogue to a digital form) and digitalisation (societal transformation enabled by embracing digital technologies) are linked temporally and by a cause-effect relationship: changing from an analogue to a digital format *results in* the wider societal transformations caused by digital technologies.

Background and Rationale for Definitions

attribution, *n.* The characteristic of the human brain to connect pieces of information into a sequence of cause and effect.

Background. Attribution is an important concept in cognitive psychology. It is an intrinsic part of human cognition to seek to understand the actions of those around us. Humans are psychologically disposed to look for underlying regularities in the behaviour they observe. Inferred patterns and regularities will be guided, at least in part, by the pre-existing opinions and biases of the perceiver.[76]

Psychologists have distinguished between personal and situational attribution.[77] Put simply, this speaks to whether a certain effect has been caused by a person (emotions, character traits) or circumstance. Circumstances might be both temporary (e.g. luck) or permanent (e.g. fire burns skin). Notably, we are predisposed to overestimate personal causes and underestimate situational ones. This is termed the fundamental attribution bias.[78]

In the context of international conflict and the digital environment, Professor of Strategic Studies Thomas Rid has drawn attention to how accurate attribution of cybercrimes is difficult, not only from a technical point of view. Because the Internet has become increasingly dynamic and complex, there are more ways for perpetrators to cover their tracks, albeit the Internet never forgets. Moreover, while state sovereignty is restricted to national borders, activities online are not. When a national police force traces a cybercrime, the trail of investigation may lead to an IP address of an unidentified host and owner located outside the country. To continue this forensic investigation, that police force would then depend on the cooperation of other nations. Difficulty of attribution can thus quickly become a political issue.[79] Finding the perpetrator inherently attributes responsibility and calls for sanctioning the deed which can also become a highly political issue.

Rationale. The Terminology Working Group concluded that it is important to emphasise in the definition that attribution is not a neutral, objective goal but also a psychological process influenced by biases and pre-conceptions. Especially given its central importance when proving malign intent and influence in online disinformation campaigns.

algorithm, *n.* A defined set of mathematical or logical instructions for the performance of one (or several) tasks.

n.b.: In recent years there has been increasing talk of 'ethical algorithms.' We note that that an algorithm cannot be ethical. Instead, one should speak of ***ethically designed*** algorithms or algorithms ***designed and programmed with ethical guidelines*** in mind.[80] However, even if an algorithm is designed according to ethical standards it may still be misused.[81]

n.b.: Machine learning algorithms are also covered by this definition. In that case part of the task is the learning process itself.[82]

Background. The term algorithm predates the existence of computers. Today the term is encountered in the context of computer science and coding related to AI, machine learning, and Big Data, and can therefore appear more complicated and technical than it actually is. It can conceal the underlying assumptions of the author or designer of the algorithm. Put simply, an algorithm is a set of instructions to solve a problem or carry out an operation.

Rationale. The Terminology Working Group's definition captures the basic meaning of the term. The definition foregrounds that when a set of steps is defined to complete a task or solve a problem, there is rarely just one way to do this. This is where the role of biases and pre-existing worldviews arises; at the point where algorithms are written. Concerns have been raised about the ethical implications of using machine-learning technology to make health-care decisions. What is the ultimate goal that the algorithm is meant to achieve (e.g. financial optimisation)? What if patients' health-insurance levels are factored into an algorithmic decision?[83]

artificial Intelligence (AI), n.

- Narrow (weak) AI: a programme that performs one (or a few) tasks as well or better than humans. *(e.g. Google Translate, Siri)*
- Artificial general intelligence (strong AI): a programme that performs all tasks as well as humans and some tasks better than humans. *(This does not exist yet.)*
- Superintelligence (radically transformative AI[84]): a programme that performs all tasks better than humans. *(This also does not exist yet.)*

Background. The term 'artificial intelligence' became current at a conference at Dartmouth College, USA in 1956. However, the idea and field of study predated it. Computer pioneer Alan Turing suggested the now-famous Turing Test (TT) in a *Mind* paper in 1950.[85] However, a deeper engagement with what 'artificial intelligence' is, requires us to reach back further into the history of philosophical inquiry and debates about what 'intelligence' is.

Rationale. The term 'artificial intelligence' poses fundamental questions about the nature of human intelligence.[86] Hence, some definitions of AI are circular and try to circumvent the philosophical discussions at the core of this concept. A joint report published by leading research institutes relating to AI defined it as 'the use of digital technology to create systems that are capable of performing tasks *commonly thought to require intelligence*.'[87] Consequently, the Terminology Working Group chose the pragmatic route by adopting the distinction between narrow, general, and superintelligence that has become customary among AI researchers.

This distinction is particularly useful, given there is a tendency to describe as AI only those machines that have not yet been created.[88] This would suggest we describe someone or something as intelligent when we cannot explain the process behind it. Once we have figured out how it works, e.g. image-recognition algorithms, it becomes less appealing to call it AI. The limits of AI are being pushed forward as technology develops. Current technological accomplishments may not correspond to the definition of future AI.

However, at present, a distinction between narrow AI, general AI, and superintelligence, provides language for describing different types of artificial intelligence and allows the user to classify applications such as Siri or Google Translate within the AI-family. Furthermore, reaffirming that

such technologies are 'narrow AI,' means that questions concerning the collection, storage, and processing of large sets of data - faced by developers, governments, and companies *today* - are key areas of concern in the bourgeoning field of 'AI ethics.'[89] This young field of research and policymaking is of particular importance to strategic communications which will have to 'address how we move away from a situation characterised by low levels of understanding of real AI, low levels of transparency about where and how it is being deployed, and general unease fuelled by a sense that society is not sufficiently in control of the technology.'[90]

Big Tech Imperialism, n. The expansion of economic power of supranational technology companies into politics, with potential to circumvent the sovereignty of states.

Background. This term was included to address previous attempts to describe the political implications of the growth and increasing influence of supranational technology companies in sovereign states. The companies rely on weak regulation or the political notion that maximum freedom of action is beneficial for the greater good. A related term that has been used in the academy is 'internet-industrial complex,' to describe 'the intersection between business, state, and other actors in the shaping, development, and governance of the Internet.'[91] Unlike previous terms in the same thematic area – digital imperialism,[92] digital colonialism,[93] and data colonialism[94] – our definition replaces an adjective/noun - which leaves open the question of agency - with 'Big Tech.'

Rationale. While the degree of political influence of tech companies might vary, their economic influence and global pervasiveness is undeniable. The lack of transparency and accountability of some companies with a monopoly on information technologies makes state-initiated regulations of activities in the virtual environment particularly challenging. The term is not meant to imply a planned and intentional circumvention of state sovereignty on behalf of these companies. Nor does it attribute blame. Instead it points toward the (organic) restructuring of the political order through all-pervasive market capitalisation, and the extension of influence from business to politics.[95]

cyber, *adj.* Related to a network of physical and virtual dimensions sustained by digital technologies.
Related terms: cybersecurity, cyber-defence, cyberattack, cyberspace, cybercrime

Background. The term has its origin in cybernetics, which Norbert Wiener[96] popularised in his 1948 publication of the same name. It is defined as the 'field of study concerned with communication and control systems in organic organisms and machines.'[97] In the 1990s the term began to denote anything internet- or computer-related, or what was seen as futuristic e.g. cybercafe, cyberfriend, cyber-shopping, cyber-sex.[98] Today the meaning of cyber has shifted somewhat and is mainly used in the security domain referring to systems of power, command and control. Cf. U.S. Cyber Command, the UK National Cyber Security Centre, the NATO Cooperative Cyber Defence Centre of Excellence.

Rationale. Because the term is now largely adopted by government and security institutions, it tends to refer to networks that are larger or more significant than any individual user of digital technologies. We might dwell for a moment on the difference between a *hack* and a *cyberattack*.[99] The term cyberattack tends to be used when referring to an attack launched against systems of command and control, not on an individual's home computer. It foregrounds the harm done to a system or its owner, rather than to an individual. Although an attack on an individual can be part of an attack on a system, e.g. phishing attacks.

Another frequently used compound noun is *cyberspace*. Even though this 'space' is present throughout other domains (land, sea, air, and space) there is a terminological need to describe the environment created by machines, networks, the Internet, and human activity. Cf. the definition of 'cyberspace' formulated by the US National Security Council's Cyber Interagency Policy Committee: 'the complex environment resulting from the interaction of people, software and services on the Internet by means of technology devices and networks connected to it, which does not exist in any physical form.'[100] We highlight this definition here because it draws attention to the fact that cyberspace is not only made up of hardware and software but also human interactions within this same space. NATO declared cyberspace a separate domain of operations in 2016.

digital, *adj.*

- a. Related to the use of machine-driven information technologies and systems to engage in society.
- b. Related to the impact or change caused by embracing digital technologies.

Background. The technical definition of digital relates to the representation of data. According to the Oxford English Dictionary (OED) digital means: 'Of signals, information, or data: represented by a series of discrete values (commonly the numbers 0 and 1), typically for electronic storage or processing. Such data is commonly represented by discrete values of a physical quantity such as voltage or magnetic polarization, typically in binary form.'[101] In this sense, digital is defined in contrast to analogue, where analogue describes 'Of signals or data: represented by a continuously variable physical quantity, such as voltage, spatial position, etc.'[102] A good example of an analogue medium is the vinyl record. The grooves and bumps carved into the surface of the vinyl disc correspond to the frequencies and volume of the sound recorded.[103]

Rationale. The Terminology Working Group decided to define what 'digital' means not solely in technological terms (see OED definition given above), because this meaning of the term 'digital' is already clearly defined in the literature.

The Terminology Working Group observed that the term, especially in a political and security context, often refers to the *changes* and *implications* brought about by having moved to digital data, rather than the difference in representation itself. Concept areas which are frequently associated with 'digital' include: technology, revolution,[104] society, benefits of standardisation, accessibility, connectivity, low cost.

Difficulties with the term arise from societies in a transitional period where 'digital' represents the 'new normal' and it has become more practical to ask 'what does *not* have a digital component?' rather than what does. However, several compound nouns which include the term digital (digital media, digital engagement, digital diplomacy) are still in active use. This is because, as indicated above, 'digital' today acts more as an expression of the need to adopt and adapt practices suited to this new environment, characterised by networks of networks, increased speed and accessibility. One day 'digital' may fall into disuse, as has 'cyber store' when referring to Amazon.

digit*isation, *n. The process of changing from an analogue to a digital form.
***digit*alisation, n.** A societal transformation enabled by embracing digital technologies.

Background. Layers of definitions captured in the way we define 'digital' by this working group are also reflected in the terms used to describe the process of moving to this new method of representing and storing data. We encourage the use of *digit*isation and *digital*isation to describe two different processes. The inspiration for this distinction, and the definition of 'digitisation' were taken from Gartner's IT dictionary.[105]

Rationale. *Digit*isation refers purely the mechanical, technological process of converting from an analogue to a digital format.

When one talks of the *digital*isation of media, according to our definition this describes the qualitative differences brought about by this conversion; the transformation of content, distribution, technology in communications, and their character of increased speed and accessibility. It affects how people compete for ideas in a contested environment. (Cf. definition of 'digital media')

digital diplomacy, *n.* Conducting (public) diplomacy through digital engagement.

Background. While there have been a number of terms used to signal a new type of diplomacy (twiplomacy, techplomacy) these do not signify a categorically different type of diplomacy, even if increased use of information technologies in the conduct of diplomatic affairs has changed some of the techniques and tools employed.[106]

Rationale. When President Donald Trump referred to Supreme Leader of North Korea Kim Jong-Un as 'Little Rocket Man' in one of his tweets[107] he enacted different types of political communication at the same time. It was part of a domestic communications campaign and an act of international diplomacy within a strategic communications initiative. In other words, while channels of communication have changed, communications engagement or diplomatic objectives have not. It should be noted, however, that the U.S. President is not alone in engaging with foreign audiences on Twitter. See for example this tweet from the German Foreign Office when Canada lost the ice hockey semi-finals at the PyeongChang 2018 Olympic Winter Games.[108]

The Terminology Working Group included public diplomacy in the definition because we wanted to draw attention to the fact that the type of diplomacy where opportunities and benefits of digital information technologies (speed, reach, cost) are particularly impactful is in the area of public diplomacy. This is in contrast to traditional diplomatic activities (representation and intelligence gathering). As a reminder, public diplomacy can be defined as: an 'instrument used by states to understand cultures, attitudes, and behaviour; build and manage relationships; and influence thoughts and mobilise actions to advance their interests and values.'[109] The more low-key, person-to-person or government-to-government communication has also been facilitated through these technologies but the types of diplomatic interactions on this official level have not fundamentally changed.

digital engagement, *n.* Interacting with intended audiences[110] through information technologies in order to spark and shift conversations in pursuit of strategic objectives.

Background. In the private (consumer engagement) and public sector (government) the term loosely captures any type of conversation happening on the internet.[111] Sometimes this type of consumer or audience engagement is even referred to as strategic communications. However, in strategic communications, it is not enough to create social media accounts and hope for the best.

At times, the term is used to signify the types and amount of reactions received for a post on social media ('likes' and 'shares') which is a narrow interpretation of what 'engagement' could and should stand for in strategic communications. It can also result in misleading conclusions, for example due to inauthentic activity to artificially amplify a post. Looking at digital engagement from such a perspective does not give an understanding of the audiences or the discourse.

Rationale. The Terminology Working Group took a considered decision to extend the term's usefulness to strategic communications by including phrases such as 'intended audiences', 'shifting conversations' and 'strategic objectives' in its definition. These all speak to the Terminology Working Group's definition of strategic communications. Accordingly, Strategic Communications is defined as 'a *holistic* approach to communication *based on values and interests* that encompasses everything an actor does to *achieve objectives* in a *contested environment*.' [112] If one seeks to communicate strategically in a contested environment, it is necessary to understand one's audiences ('intended audiences'). Furthermore, a long-term and holistic approach to communications must focus not on momentary communications but shifting long-term discourses.

digital forensics, *n.* The application of scientific knowledge and procedures to analyse data generated by information technologies when investigating a punishable offence.

Background. The term 'forensics' is rooted in the context of legal investigations into punishable offences. This is reflected in the Oxford English Dictionary definition of *forensic* science, *n.*: 'the application of scientific knowledge and procedures in criminal investigations.'[113]

'Forensic' has also been combined into a compound noun with terms as varied as forensic *anthropology*, forensic *psychology*, forensic *linguistics*.

Etymologically, the word derives from the Latin *forensis* meaning "of the marketplace or forum, public."[114] The connection to forensics derives from the fact that in classical Rome advocates for the defence and prosecution had to present evidence in criminal cases before a group of individuals of the public.

Rationale. 'Digital forensics' has become a fashionable term for groups that engage in OSINT, fact-checking, and investigative journalism. However, with such usage the meaning of 'forensic' may be misconstrued. The term traditionally appears in a context like this:

> 'In law enforcement, identifying a felon may begin with a report of a crime to an emergency phone operator. Next come investigators. The officers will secure the scene and interview witnesses. ***Forensic specialists*** will try to find and analyse specific artefacts, for instance matching a bullet found in the victim to a gun with fingerprints found at the crime scene. If all goes well, the evidence will be marshalled into a case presented to a jury, where the final question of attribution will be settled. Though often fraught with drama, it is a methodical, ordered, and institutionalised approach.'[115]

However, since there is no legally binding international framework for responding to offences in *cyberspace*, the legalistic aspect in digital forensics is often neglected. Some organisations and companies that describe their activities as digital forensics are engaged in such investigations independently of an overarching legal framework. Frequently, they assume implicitly that a criminal or punishable offence has been committed, skipping over the steps described in the example situation above (reporting a crime, involving investigators). The word 'forensics' in these cases is used as a synonym for scrutiny and investigation on a subject chosen by these organisations for social or political motives, instead of being a part of an actual criminal investigation.

Therefore, it is important to trace the term 'forensics' back to its origin. When the term 'forensics' is used outside of any framework of criminal investigation, it nevertheless retains the aura of justice, legitimacy, and of being on the right side of law and order. In combination with the difficulty of attributing an offence to a perpetrator when investigating offences in cyberspace, careless use of the term can be problematic because it assumes guilt before having fully investigated it.

The Latin meaning of forensics, deriving from the forum, should perhaps be kept in mind when dealing with 'digital forensics.' When Bellingcat's researchers apply digital forensics to aid its investigative journalism, it is not to prove a criminal offence, but rather to reveal certain facts to the public and offer a fuller picture of contentious or unexplained events.

digital media, n. Media transformed by digital technologies in form, content, distribution, and consumption patterns. They are characterised by increased speed and accessibility, and heightened competition for attention.

Background. The term 'digital media' is frequently used together or interchangeably with 'social media' in the context of public relations and organisational communication strategies, but the distinguishing features of the two are rarely defined. In examples of previous use, it is often unclear whether social media are a part of digital media.[116]

The *NATO ACO/ACT Digital Media Management Guide* refers to digital media as 'the medium used to create content' and social media as 'the platforms we use to communicate messaging online.'[117] The guide talks about 'digital media management' suggesting it is also an umbrella term which refers to both the digital medium and the digital platform.

The definition offered by the Centre for Digital Media, Vancouver speaks to both the technological aspect (0s and 1s) as well as the capabilities offered due to this transformation. They chose a definition for 'digital media' which looks beyond a change in format (from analogue to digital) to highlight 'two important elements that have been made possible by the combination of computers, software, and networks: interactivity and group forming.'[118]

Rationale. The Terminology Working Group sought to find a definition which extended beyond pointing to the technological and formal difference between 'digital' and 'traditional' or 'legacy' media. Crucially, the reason people talk of 'digital media' is because (as with the definition of digital more generally), they want to convey the consequences of this change. This is why the definition refers to transforming 'distribution and consumption patterns' as well as form and content.

Take, for example, a newspaper. The crucial difference is not so much that what was printed on paper before, is now visible on a screen. Rather it is the user's ability to consult diverse outlets at no extra cost and to consume news-articles shared via social networks detached from the context and body of the paper edition. With it the business model of the newspaper has had to adapt.

The Terminology Working Group included 'competition for attention' in the definition, as today 'legacy' media with a pre-digital history compete with independent or non-mainstream news websites, and index-type websites (news.google.com, news.yahoo.com).[119] This has transformed how many people consume and share news. Studies have shown that journalistic outlets with a long pre-digital history no longer rank highest in terms of their credibility. In certain contexts, information received from peers might rank equally high.[120] Media scepticism positively correlates with non-mainstream news consumption as well as online commenting and sharing behaviours.[121]

Concerns have grown around declines in trust in the news media, a deterioration of the quality of news reporting,[122] the online environment as a breeding ground for disinformation and misinformation,[123] and the potential for all these factors to harm democracy and undermine liberal values.

data sovereignty, *n.* Supreme legal authority over data.
information sovereignty, *n.* Supreme authority to control information within a jurisdiction.
digital sovereignty, *n.* see *Rationale* below.
digital security, *n.* Protection of digital data, generated by and about users of information technologies, against efforts to harm individuals and/or society.

Background. Agreement between state leaders not to violate the sovereign borders of other states was articulated at the Peace of Westphalia of 1648. Sovereignty within states is understood as common consent to vest all rights in the 'supreme authority within a territory.'[124] Both perspectives inform our understanding of these special cases of sovereignty.

Rationale. While sometimes used interchangeably we want to highlight that 'data sovereignty' and 'information sovereignty' are different concepts and should not be used synonymously.

Data sovereignty is when data generated by and about users is being managed in line with national laws and customs. It means that the state is the supreme custodian of that data; such as when a subpoena is issued for private data of individual citizens. This type of definition is also reflected in academic thinking.[125] A practical example of data sovereignty is the General Data Protection Regulation 2016/679 in the European Union law on data protection and privacy in the European Union and the European Economic Area. It regulates how personal data should be treated within these territories and also addresses its transfer outside.

Information sovereignty, on the other hand, speaks to state control of information (defined as 'processed data' according to the Terminology Working Group's glossary) within a given territory. Since the data has been processed to become 'information', a degree of interpretation was necessarily involved. This means that the state stands in a position to control which interpretations are permissible within its territory. Taken to an extreme, restrictive censorship could fall within the remit of 'information sovereignty'.

The Chinese Firewall and RU-net have been described as attempts to achieve 'cyber sovereignty' and 'network sovereignty'. Recognising that the terminology in this thematic area is ambiguous,

we opt for terminological simplicity and recommend referring to these examples as *extreme* cases of trying to establish 'information sovereignty'. The question of how to negotiate the need for a degree of 'information sovereignty' in the interest of national security without censoring more information than necessary, will continue to be an ethical and ideological issue that distinguishes democratic from authoritarian regimes.

We reject the term 'digital sovereignty' for its ambiguity and potential to mislead. According to the definitions of 'digital' above, it is inconsistent conceptually to speak of 'digital sovereignty', since digital refers to either the form of presenting information or the changes brought about by this widescale transformation.

Instead, the Terminology Working Group recommends using the term 'digital security'. The further advantage is that it is clear of associations with statehood while being appropriate for use in a commercial or NGO setting.

online, *adj. and adv.* digitally connected.

Background. Most contemporary definitions of 'online' define it as 'being connected' to the Internet.[126] However, in traditional computer technology and telecommunications, it simply applies to functional units or pieces of equipment being in a state of connectivity. 'Online' does not by necessity require a connection to the Internet.

Rationale. We adopt the latter type of definition for two reasons. First, we seek to accommodate 'online' networks which could be part of a private or internal digital network; the intranet of a company, for example. Secondly, this terminology is conscious of current developments where the digital environment is changing into an increasingly fractured and walled space such as China's Firewall. Other nations are considering measures which mirror state territoriality in their regulation of cyberspace.

organic, *adj.* Used to characterise a system as dynamic and non-linear, yet self-organising and adaptive.
n.b. In the context of digitalisation this is used in the form of:
organic marketing, ***n.*** Conducted with internal resources and exhibiting the characteristics of a grass-roots activity. *(this applies to digital marketing only)*

Background. The Oxford English Dictionary defines 'organic, adj.' as 'relating to, or derived from a living organism or organisms.'[127] While not only slightly circular, such a definition lacks a deeper engagement with the meaning of organic.

It has to be noted that in the US military and in NATO it is common to use the term 'organic' to describe organisational or functional affiliations of assets and capabilities, e.g. 'frigate's organic helo' meaning a frigate's own shipborne helicopter.

Cultural theorist Raymond Williams is one of few thinkers who has given the term's rich etymology more sustained attention.[128] Based on the word 'organ' to describe musical instruments, the term entered the English language in the 13th century. It was only in the early 15th century that 'organ' was used to refer to a body part: the eye as 'the seeing instrument' or the ear as 'the hearing instrument'. By the 16th century the word has required whole array of meanings: (musical) instrument, engine, agent, body part.[129] As a result, it was not uncommon, but from today's perspective quite counterintuitively, for 'mechanical' and 'organical' to be used synonymously.

An understanding of 'organic' as we know it today, used to refer to living and growing things, began with the development of biology and life sciences. Simultaneously, the increased importance of machines in light of the industrial revolution led to a split in the meaning of 'organic' and 'mechanical' in the 18th century. The legacy of the term was also influenced by nature philosophers of the Romantic Movement. The poet Samuel Coleridge describes those structures as 'organic' where the whole is greater than its individual parts. An 'inorganic' whole, by contrast, is just the collection of individual parts. This comes close to the definition suggested by the Terminology Working Group which emphasises the dynamics of non-linearity, adaptation, and emergence.

Rationale. An unusual sight in a glossary of digitalisation and cyberspace, the rationale for including this term is threefold:

Firstly, it is important to not only consider terms synonymously ('cyber', 'digital', 'online') but also those terms which profess to describe the opposite ('organic'). Besides, terms that are commonly understood as describing opposing concepts are frequently used together in a context. This can be illustrated in the term 'organic campaigns'. In the term 'organic campaigns' the word 'organic' is used to make strategically planned campaign appear as self-generating and authentic.

Organic campaigns are wrought with ethical dilemmas, in the way they potentially imitate real grassroots activities on the ground. Then the question arises, how this differs from Russia's Internet Research Agency (IRA) and its conduct with paid trolls. 'Organic' implies a sense of authenticity and purity which can be quite far from the means and ends associated with such campaigns.

Secondly, the term 'organic' allows us to define and specify what we mean when referring to a complex environment. Namely, a system that is in constant movement and flux, defined by permeable boundaries and which adapts to changes in its environment. Note that these are features exhibited by entities as small as single-celled organisms but also entire populations.

Finally, 'organic' has not only been used as an antonym for 'top-down' or 'artificial' (in the context of marketing) but also as an antonym of 'virtual'. For example, Van Dijk speak of virtual and 'organic' (that is real-life) communities.[130]

social media, ***n.*** Online platforms characterised by user-generated content and social interaction.

Background. The definition given above approximates to the longer description found in the Oxford Dictionary of Media & Communication: '1. Loosely, a reference to social networking sites, or 'content distribution' platforms such as Facebook and Twitter. 2. (social media tools) More broadly, the online and mobile technologies or platforms people use to interact and share content, including social networking sites, social bookmarking and social news sites, blogs, online forums, file-sharing and media-sharing sites, social gaming sites, social commerce sites, virtual worlds, and wikis. In public relations, one of the four media forms in the media cloverleaf, enabling public engagement with influencers.' [131] Favouring a more compact and concise definition, the Terminology Working Group chose to focus on two key characteristics found across different definitions of social media: user-generated content and social interaction. Cf the Oxford English Dictionary's definition: 'websites and applications which enable users to create and share content or to participate in social networking.'[132]

Rationale. Our definition speaks of 'online platforms,' also found in the Oxford Dictionary of Media & Communication's definition quoted above. We define 'online' as 'digitally connected' (see p. 39). Using it in this form serves to reinforce the point that what makes social media 'social' is the connection between users; rather than this platform necessarily existing on the Internet. Moreover, a social media network might exist within an organisation's intranet, not necessarily on the World Wide Web. We are witnessing the walling of virtual spaces and the emergence of multiple Internets.

social responsibility, *n.* The obligation of an organisation or individual to act for the benefit of society at large.

Background. The Terminology Working Group decided to include a definition of this term in the context of language related to digitalisation. There is increasing pressure from civil society and policymakers for supranational information technology companies to recognise their influence over and within society, and to make decisions based on more than profit maximisation.

Rationale. 'Society at large' in the definition addresses this concept; namely, the consideration of what consequences decisions might have on wider society (e.g. the problem of online radicalisation or disinformation).

In terms of 'obligation', at the moment of issuing this publication it depends on a moral rather than legal bound and commitment, as the discussion of legally binding commercial companies to be socially responsible is ongoing. A legal rather than only moral obligation will give prerogative to those players on the digital communications market who have placed responsible usership and social learning at the heart of their platform design.[133]

virtual, ***adj.*** Exhibiting spatial and imaginable features via software.
e.g.: virtual ward, virtual classroom, virtual marketspace, virtual reality.

Background. For the purposes of this glossary and in the context of digitalisation as understood in strategic communications, we focus on the meaning of 'virtual' in computing. According to the Oxford English Dictionary, virtual is 'a computerised or digitised simulation of something; *spec.* (esp. in earlier use) simulated in virtual reality.'[134] While this is close to the meaning agreed by the Terminology Working Group, 'simulation of something' was deemed to lack specificity.

Rationale. The creation of imaginary objects always requires (imaginary) space. However, this virtual space does not have to follow the laws of physics of our known universe. Hence the definition "exhibiting spatial and imaginable features."

A note on virtual and its relation to 'digital'. Everything that is virtual as defined above, is digital but not all that is digital is virtual. So digital is an overarching category.

How can we test the project? (*Impact and verifiability*)

The main deliverable of this project is a glossary of terms related to digitalisation and cyber security used in the Strategic Communications space with definitions arrived at through a standardised and structured methodology.[135] Entries for terms in this collection should record and potentially resolve conflicting definitions with the goal of improving the transfer of knowledge of Strategic Communications in NATO and avoiding misunderstandings. It should enable an up-to-date way of speaking about the qualities, benefits, and threats posed by a society in which social networks and digital networks can no longer meaningfully be thought of as separate. To achieve this, the final glossary of terms as well as this report will be circulated within NATO as well as in commercial, academic, and political communities outside the Alliance.

The positive benefit of this project will be 1) generally, to increase awareness among the NATO community of the importance of a common Strategic Communications language. 2) specifically, to offer a vocabulary and discussion which allow for a more precise way of speaking about how digitalisation has changed the way we govern and communicate: 'Cyber', 'digital', and 'online' do not carry the same meaning and connotations and should not be used synonymously. 'Artificial intelligence' may be used to refer to 'narrow AI' (which has already been developed in applications such as Siri or Google Translate) or forms of artificial intelligence which do not exist yet (strong AI and radically transformative AI). Depending on whether we wish to talk about the process or the effect of the transformation from an analogue to a digital form, we should use either *digit*isation or *digital*isation.

Ultimate success for this project, in the context of NATO would take the form of improved definitions successfully being included in policies and doctrines that come under review or are developed anew.[136] After a certain time, it might then be possible to assess whether these definitions have been used in other official NATO documents thereafter. Ideally, these definitions would eventually be included in the NATO Term database, operated by the NATO Standardisation Board.

Endnotes

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26 Cabré, 'Theories of Terminology,' 172.

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