



DIGIRES

Baltic Research Foundation
for Digital Resilience

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D3.1. Report on research activities of the
Baltic research foundation

D3.1. Report on research activities

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Executive Summary

This Research report provides a concentrated overview of research actions which were designed and implemented within the framework of Small Media Pilot Project (SMPP) DIGIRES – Supporting Collaborative Partnerships for Digital Resilience and Capacity Building in the Times of Disinfodemic/COVID-19.

DIGIRES is a five-partner project. All research-related tasks were performed by the team of VMU researchers. At different stages of the project, 18 researchers and assistants were engaged with different (conceptual design, experimental, data collections, reviewing, disseminating) tasks.

Initially planned as a 15-month long small-scale media (SSMP) pilot project, DIGIRES has a dual function: it is a scientific project and an Association (public organization)¹.

‘(Digital) resilience’ is a core concept that defines all activities of DIGIRES. This report examines research activities in both areas of DIGIRES: academic activities (conceptualization, methodological design, data collections, results discussion, and dissemination), and ideas behind the establishment of association for collaborative working of stakeholders.

DIGIRES operates with a goal to create and sustain an interdisciplinary team of partners and experts (academics and researchers, media and journalists, and media educators) internally organized to share their expertise to develop new methodological solutions to detect false information, curb disinformation, and develop resilience to information disorders.

In this Report, a **Conceptual Model** is presented, which takes into consideration the following:

- How the understanding of the patterns of global transformative change and sensitivity to contextual conditions can be applied to inform about deeper divisions and inequalities in a society? How the acquired knowledge can be used to discuss the “efficiency” of the information disorder?
- How ‘digital resilience’ (resilience to online disinformation) can be conceptualized? How such understanding informs about new ways to study the problem of disinformation and its potential solutions?
- What threats and disruptions in relation to emerging crises² is the media sector in Lithuania (and well as in other countries of the Baltic Sea region, namely Latvia and Estonia) experiencing?

¹ DIGIRES is registered as “Baltijos skaitmeninio atsparumo tyrimų centras” (Baltic Research Foundation for Digital Resilience), Company Code: 306186212, <http://digires.lt>.

² Aside to economic crises and disruptions, results of the pandemic and the most recent geo-political risks and disasters related to the Russian aggression and invasion in Ukraine must be taken into the account here.

- How linguistic methods and machine-enhanced tools can be applied to conceptualize complexities of ‘false information’ and inform about linguistic strategies (validation, simulation, mimicry) in online disinformation campaigns?
- How different groups of people perceive and respond to disinformation? What interventions are needed to help them to become more resilient to contemporary (information) disorders?
- How the acquired knowledge of the multifaceted conceptualizations of ‘digital resilience’ can be used to engage different stakeholder groups to inform policy and governance decisions?

Based on collected data, which is contextually sensitive³, and the conclusions made in smaller research tasks carried by teams of analysts, the following insights are presented.

First, disinformation is not a homogenous concept nor a simple phenomenon, hence this report recommends the adaptation of a complex understanding of digital resilience to online disinformation.

Second, resilience is viewed as a three-tier-model comprising macro-mezzo-micro levels, or ‘structural-representational-active’ forms, of resilience. ‘Structural resilience’ explores policy-level strategies and practical anti-disinformation steps taken by the government to fight disinformation. The actions taken on the second layer – the ‘representational’ function played by media organizations – reveal that the leading news media in Lithuania (as well as in the other Baltic countries) act like a “safety net” – filtering radical opinions from entering the information arenas. This resembles the “protectionist” function of the government, which views disinformation, most importantly, as a threat to national security. The representative function of media contributes to the development of ‘passive resilience’ of people, which, in fact, shows up in public opinion survey responses as an exceedingly casual attitude towards one’s ability to recognize and curb disinformation. Finally, the micro level refers to individual capacity to resist information manipulations.

Third, DIGIRES research and preliminary results call for policy steps to look at the threats of disinformation not only from the aspect of national security, but also from the perspective of *empowering society* to take responsibility for informational experiences (see Deliverable **D1.5. Media policy suggestions**).

Furthermore, DIGIRES accepts that ‘digital resilience’ is a complex and multi-layered phenomenon, whose comprehension requires a contextually focused, deeply engaged, and critical awareness-supported analysis backed with varied traditions of analysis and sources of expertise (see Deliverable **D1.4. Scholarly articles**). With DIGIRES association such a practical need is listed as an Advocacy approach and a Call to Action for an integrated multistakeholder cooperation focused agenda that

³ ‘Social conditions’ is a broad concept that discloses the ways in which different stakeholders (policymakers, society groups, media, people) are working and interact with each other to develop resilience against disinformation. In this report, ‘social conditions’ are analyzed through the lenses of the lack of trust, level of media literacy, the role of media, etc. Each of those factors can play a key role in how people engage with information sources and how they perceive disinformation.

enforces a joint vision of a multisectoral partnership and knowledge co-production (see Deliverable **D1.2. Sustainability action plan (SAP)**).

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1. Introduction

Disinformation poses huge challenges to democratic sustainability and creates large-scale consequences. Its effects cannot be ignored, and comprehensive approaches are required to address its root causes. Disinformation is not only a technological problem. It is a political and cultural one.

In contemporary research approaches there is a growing emphasis on the need to have focused and contextualized understanding of socio-cultural mechanisms – linguistic, attitudinal, identity/history focused – through which disinformation and fake narratives operate. It is argued that disinformation seeks to deceive by attaining some pre-planned targets, which might be political gains or remodeling of public perceptions towards some predefined thinking. No matter how it is framed, disinformation poses huge challenges to democratic sustainability. Information manipulations disrupts the process of opinion formation. Manipulations also breed doubt and dissatisfaction.

In such circumstances, the biggest challenge for information consumers is and will continue to be to learn to live with and make knowledgeable choices in an environment surrounded by disinformation and information manipulations. Therefore, in DIGIRES research, a forward-looking concept – defined as *digital resilience to online disinformation* – is advocated.

In this Report of DIGIRES research, the following questions served as guidelines:

- How the understanding of the patterns of global transformative change and sensitivity to contextual conditions can be applied to inform about deeper divisions and inequalities in a society? How the acquired knowledge can be used to discuss the “efficiency” of the information disorder?
- How ‘digital resilience’ (resilience to online disinformation) can be conceptualized? How such understanding informs about new ways to study the problem of disinformation and its potential solutions?
- What threats and disruptions in relation to emerging crises⁴ is the media sector in Lithuania (and well as in other countries of the Baltic Sea region, namely Latvia and Estonia) experiencing?

⁴ Aside to economic crises and disruptions, results of the pandemic and the most recent geo-political risks and disasters related to the Russian aggression and invasion in Ukraine must be taken into the account here.

- How linguistic methods and machine-enhanced tools can be applied to conceptualize complexities of 'false information' and inform about linguistic strategies (validation, simulation, mimicry) in online disinformation campaigns?
- How different groups of people perceive and respond to disinformation? What interventions are needed to help them to become more resilient to contemporary (information) disorders?
- How the acquired knowledge of the multifaceted conceptualizations of 'digital resilience' can be used to engage different stakeholder groups to inform policy and governance decisions?

2. The processual and socio-cultural turn in disinformation analysis

In DIGIRES research, we applied a socio-cultural perspective to disinformation analysis. We chose to explore the social conditions and the ways in which different stakeholders (policymakers, society groups, media, people) are working together and interact with each other to develop resilience against disinformation.

As known, the capacities to cope with information disruptions are country-specific and dependent on the political, economic, and media environments. Research informs that disinformation works particularly efficiently in contexts where opinions are polarized, or the mutual trust among people is not high. Hence, increasing socio-economic inequalities, growing ideological divisions in society and rising populism, as well as low confidence in news media and fragmented audiences are among the key factors limiting citizens' resilience to disinformation.

In international assessments, the three Baltic countries have been named to be resilient to Russian propaganda. This is attributed to their historical experience, which has led to skepticism towards Russian information influences. With the end of the Cold War, the Kremlin's propagandistic system did not take the Baltic countries off its informational radar. In the past years, disinformation in Lithuania has become more substantial and more complex, reflecting fake narratives that refer to older topics (historic memory)⁵, but is also consistent with the current issues, such as COVID-19 related fears and manipulations, geopolitical risks (linked with Russian aggression and war in Ukraine), economic and energy crisis, etc⁶. In short, with digitalization, disinformation has become more systematic, ubiquitous, contextually adaptable, and combining the latest technologies to augment the planned effect.

In general, we know what kind of fake narratives are circulating and who (what persons, institutions, and foreign agents) are behind these propagandistic and disinformation

⁵ Kasčiūnas, L., Vaišnys, A., et al. (2017). Rusijos propaganda: analizė, įvertinimas, rekomendacijos. *Vilnius: Rytų Europos studijų centras*.

⁶ Kols, R. (2022) Hybrid Threats: The Baltic Perspective https://www.csce.gov/sites/helsinkicommission.house.gov/files/RKols_Hybrid%20threats%20Baltic%20Perspective-2022.pdf; Baltics battle Russia in online disinformation war <https://learn.german.dw.com/en/baltics-battle-russia-in-online-disinformation-war/a-40828834>; Teperik, D., Senkiv, G., et al. (2020) Virtual Russian World in the Baltics <https://stratcomcoe.org/cuploads/pfiles/ncdsa-natostratcomcoe-study-3b-rus-socmedia-web-final-1.pdf>.

networks⁷. In Lithuania, a macro-level institutional awareness exists on several issues of heightened concern, for example, that social resilience is a matter not only of the quality of information, but of national security. Therefore, an active plan is being developed by the Government, which focuses on a coordinated fight against disinformation by advocating inter-institutional cooperation⁸.

Furthermore, there are strong organizations in Lithuania that are active in the fight against disinformation. Media have established strong initiatives to counter the spread of disinformation. Professional journalists and media organizations are playing a key role in this effort, while NGOs and researchers are also helping to address the problem by developing solutions for detecting and countering disinformation (see map of stakeholders, Figure 1).

⁷ The fact-checking project of DIGIRES partner Delfi.lt (“Melo detektorius”) has published a series of investigative articles titled “Sekant pinigų” (Following Money), revealing who and how finances disinformation in Lithuania. It analyzes which Russian companies control the Russian media channels available in Lithuania and explains how such channels, especially Kremlin-controlled television, spread disinformation and incite hatred; other investigations were published by the Public service broadcaster LRT and public organization DebunkEU.org collaborations (some examples): <https://www.lrt.lt/mediateka/irasas/2000214710/tyrimu-zurnaliste-apie-prokremliskos-dezinformacijos-atakas-dienos-kuriomis-jos-ivyko-pasako-viska>; <https://www.lrt.lt/mediateka/irasas/2000207840/ateities-kodas-kremliaus-kuriamos-giliosios-klastotes-ir-dezinformacija-karo-ukrainoje-kontekste>.

⁸ Lithuania builds new strategy to fight Russian disinformation (Lrt.lt): <https://www.lrt.lt/en/news-in-english/19/1846743/lithuania-builds-new-strategy-to-fight-russian-disinformation>; Kaip kovosime su išplitusia Rusijos propaganda? Vyriausybė ketina steigti naują centrą (Lrt.lt): <https://www.lrt.lt/naujienos/lietuvoje/2/1846169/kaip-kovosime-su-isplitusia-rusijos-propaganda-vyriausybe-ketina-steigti-nauja-centra>.

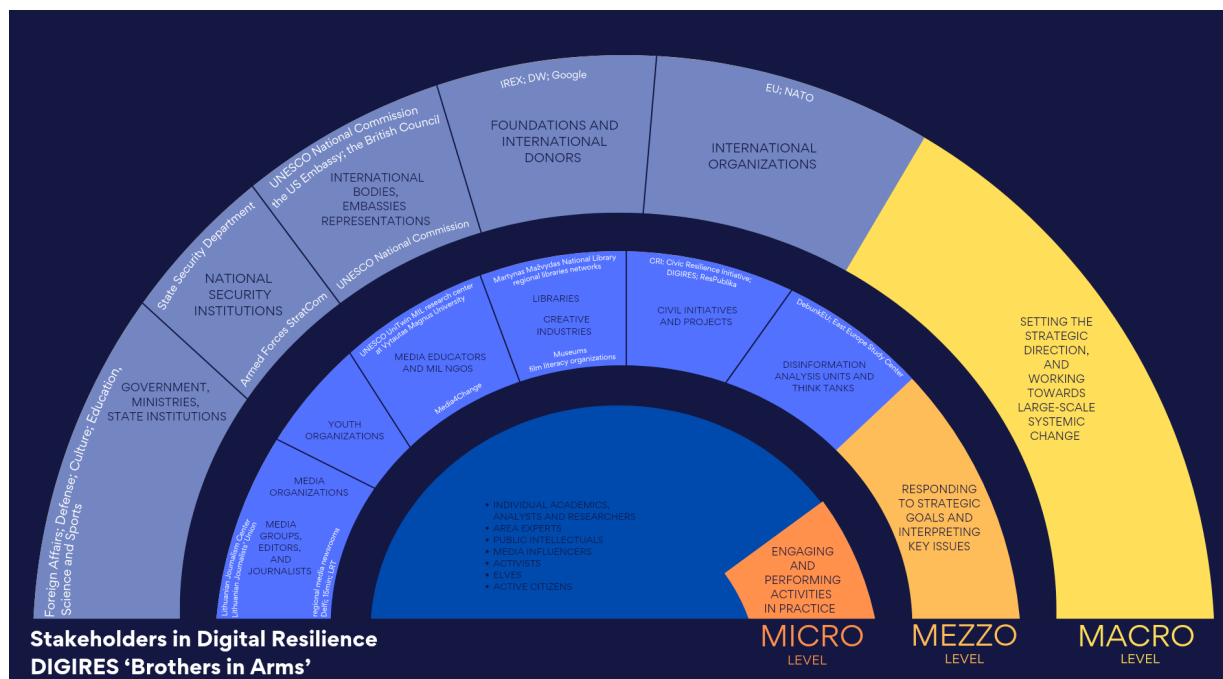


Figure 1. Macro-mezzo-micro level stakeholders in digital resilience in Lithuania.

Nevertheless, despite such an awareness on a national level, there is little analysis of the impact of the implementation of different trainings and programs (such as media literacy) have, for example. There is a lack of analysis of the impact, as well as a lack of planning for the next steps. In other words, there is a lack of effectiveness in the ways different aspects of the general anti-disinformation policy is implemented and coordinated⁹.

What is missing, is a strategically focused national policy framework that outlines, for example, how to strengthen and sustain professional media and journalism, improve media education programs in schools and informal education forms, or use library networks to reach different groups of people in regions with quality content.

To assure that citizens are competent and well-prepared to deal with digital encounters, a comprehensive policy approach that focuses on informed and educated citizenship is required.

⁹ See an extended analysis in the concluding sections of the Report “State-of-the-art: A report on current issues, methodologies, and needs in anti-disinformation actions in a small state”: <https://digires.lt/en/testtt>.

To address such a need, in this Report we argue that the phenomenon of resilience to disinformation must be explored through social lenses as a process of development that requires a rigorous contextual analysis of stakeholders, their actions and attained knowledge about information disruptions, and the development of adequate policy responses.

3. Digital resilience as multifaceted phenomenon

In the communication and political science literature, resilience to digital information threats and disruptions is often explicated as the ability of society – its institutions, organizations, and publics – to resist and counter digital information attacks and manipulations¹⁰. Specifically, social, and over-all resilience relies on faculties (i.e. capacities) that help society to *withstand* external threats¹¹.

This expectation is not without problems.

Clearly, in the face of informational threats, this type of thinking about ‘resilience’ preserves a *nostalgic aspiration* of “returning to” and “bringing back” the state of the previously attained system of social organization. There is a need to move away from a unidirectional and linear approach to resilience. Resilience development cannot be treated, which expresses an implicit longing for getting back to the state where a desirable goal is socially perceived and held as routine and known, i.e., something that is popularly understood as encompassing the imaginary idea of “the normal”.

Our idea is that a dynamic approach to resilience development is required, which builds on resources (capacities) of all stakeholders. Hence, resilience must be seen as a continuous process of adaptation, learning, and negotiation within the social system. This requires a new understanding of the relationship between stakeholders and an appreciation of a new culture, i.e. the ways in which the different aspects of the system interact with each other.

Therefore, DIGIRES advocates altering some of the current concepts underlining policy and research linked to creating resilience during times of manifold information disruptions¹². As known, the bulk of content with and instigations of these themes reaches the public through digital technologies and online practices. It is indeed very tempting to associate the profound distrust that is associated with the themes of information disruptions as instigated by digital platforms and intermediaries that deliver them.

¹⁰ Humprecht, E. et al. (2021). The sharing of disinformation in cross-national comparison: analyzing patterns of resilience. *Information, Communication & Society*, Doi: 10.1080/1369118X.2021.2006744.

¹¹ Hall, P. & Lamont, M. (2013). *Social Resilience in the Neoliberal Era*. New York: Cambridge University Press; Obrist, B. et al. (2010). Multi-layered social resilience: a new approach in mitigation research. *Progress in Development Studies*, 10, 4, pp. 283–93. Doi: 10.1177/146499340901000402.

¹² Some of examples of information disruptions: political populism and manipulations, radicalization and interventions in political processes, the spread of disinformation and fake news, instigations to conflicts, climate change denialism, the rise of ethno-nationalism, the dominance of hate speech, conspiracies, attacks, leaks, and scandals.

Indeed, digital platforms driven by algorithms underpin contemporary societal structures and shape the performances of users and are extremely important¹³. Platforms have created numerous benefits for people and companies, but they also created serious problems, the acceleration and amplifications of disinformation being just one of them. European institutions and researchers are looking for answers that would allow not only to restrict, ban the circulation of “bad”¹⁴ digital content, but also to buttress people’s rights to receive quality content¹⁵.

DIGIRES embraces the idea that all concepts pertaining to complex processes of digital information circulation and manipulations, such as disinformation but also resilience to these, should be viewed and treated as *symptoms* that signal to some deeper societal transformations such as social conflicts and chasms.

We argue that society’s digital resilience develops and fluctuates based on individual cognitive and psychological (attitudinal) features, capacities and resources of organizations involved in knowledge production and other functions dealing with disinfodemic, and finally, systemic structural and infrastructural conditions existing in an environment.

To better understand the specificities of the context framing resilience characteristics, we employ a macro-mezzo-micro level focused analytical approach to social resilience:

- On the macro (national) level, the emphasis is on the state’s public policy decisions (degree and forms of strategic interinstitutional cooperation, programs developed against disinformation, and regulatory steps).
- The mezzo (group) level is determined by organizational routines of different groups, for example, media and journalists expanding fact-checking and analytical activities and acting as providers of a “safety net” that disallows radical statements being injected into the public agenda.
- Lastly, the micro (individual) layer is defined by the degree of individual self-confidence, perceptions of trust and information choices.

¹³ van Dijck, J. (2021). Governing trust in European platform societies: Introduction to the special issue. *European Journal of Communication*, 36(4), 323–333. <https://doi.org/10.1177/02673231211028378>.

¹⁴ Siapera, E. (2022). Platform governance and the “infodemic”. *Javnost/The Public*. Vol. 29, No. 2, pp. 197-214.

¹⁵ Cammaerts, B., and Mansell, R. (2021). Digital Platform policy and regulation: Toward a radical democratic turn. <https://ijoc.org/index.php/ijoc/article/view/11182>.

From the tripartite model of symbiotic influences between the actors in the three layers described above, it becomes clear that digital technologies and their logic of datafication and algorithmization alone should not be blamed for the influx of disinformation and related flaws, such as instigations to conflict, group radicalization, populist polarization, and so forth.

Conversely, disinformation is a multi-faceted and complex phenomenon, which demands that it be viewed both as a socio-technological and highly instrumentalized process, and a phenomenon whose negative effects appear in local context understanding of which requires *socio-cultural sensitivity*.

DIGIRES advocates developing resilience capacities and competencies as a required goal to be attained through decision making by actors active on the following levels, namely:

- Policy strategies and programs (referring to regulatory instruments and mechanisms towards development of *structural resilience*),
- functioning media system (contributing with professional functions of journalism and providing a *representational or in-built resilience*), and
- with initiatives and responses from citizens (ideally aiming at *active civic resilience*).

To that end, DIGIRES not only explores the concept of resilience. DIGIRES structures its research to examine the situational context, which generates the conditions for disinformation to appear and spread (Figure 2).

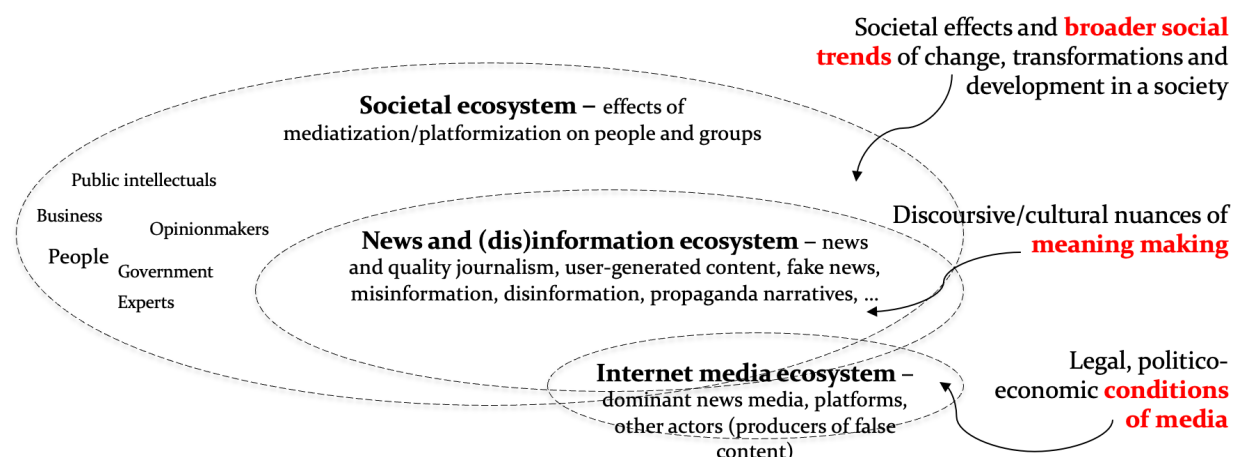


Figure 2. Situational context for disinformation analysis and effects.

4. Discussion: What do we know about information disruptions in a small state?

Lithuania represents a small news market and a linguistically restricted information space¹⁶. However, its media scene is rich, varied, and dynamic. Its media professionals and media and communications analysts have knowledge and hands-on expertise in revealing false information and cyberattacks. Public organizations and citizens, too, are engaged in countering disinformation with media literacy initiatives and vigorous digital activism¹⁷.

Still, despite a significant number of structured policies and programs countering information disruptions¹⁸, obvious gaps in knowledge on what needs to be done to advance adequate responses to changing information environments and to tame such a multi-faceted and *fluid* phenomenon as disinformation and other manipulation of information remains to be explored. Lithuania's decisive expertise in detecting and combating disinformation should be further explored with the aim of revealing additional capacities for innovative knowledge-based solutions to confront digital information disruptions.

As stated, the *representational* side of information disorder – the scope and narratives of disinformation in Lithuania and neighboring countries – is broadly discussed and publicized in media and research. That is, we are sufficiently well informed about the most popular types and sources of disinformation. However, it is still not well known how and why users respond,

¹⁶ Lithuania (territory of 65 286 km²; population 2.80 million people) is situated on the South-Eastern coast of the Baltic Sea. The official language of the country is Lithuanian. Lithuania is an ethnically homogeneous country, with Polish and Russian-speaking populations being the biggest minorities (6,6% and 5,8% respectively of the total population). There are 154 nationalities living in Lithuania (Statistics Lithuania, 2022).

¹⁷ TIME Magazine (March 2022): Meet the Lithuanian 'Elves' Fighting Russian Disinformation, <https://time.com/6155060/lithuania-russia-fighting-disinformation-ukraine/>.

¹⁸ MPM2022 (<https://cadmus.eui.eu/bitstream/handle/1814/74712/MPM2022-EN-N.pdf?sequence=1&isAllowed=y>) report selects Lithuania as an interesting case of multi-stakeholder action (rather than legal regulation) against disinformation. The legal approach to fighting against disinformation is considered unsuitable, as it tends to trigger a risk to freedom of expression. As stated in MPM2022, Lithuania was among the first EU member states to launch measures against disinformation at the national level. The Amendment of the Law on Public Information, which was adopted by the national parliament in 2019, allows, by a court decision, for the suspension of the broadcasting of TV channels because of the incitement of hatred or the dissemination of disinformation. Also, there is a significant number of varied initiatives (on a self-regulation basis, but also policies/strategies at the ministerial level, indicating strategic steps/goals in the fight against disinformation) to counter disinformation.

whether by with engagement or ignorance to fake narratives, and how they *stay unaffected* by them.

To reiterate on what was previously said, DIGIRES aims to reverse the currently dominant thinking in Lithuania which mostly accentuates how much and what kind of fake narratives circulate around towards an approach which looks at social and digital resilience development as a *symbiotic process of development* involving structural, representational, and individual (i.e., macro-mezzo-micro) capacities.

Based on the multiple data collected through the project analyses (see Table 1 above) depicting political-economic conditions for information exchanges, media operations and media use, and the conclusions made in various smaller research studies carried by teams of analysts, a number of insights are presented.

Data collection methods	Data collected
Semi-structured interviews	17 interviews with national (Lithuanian) stakeholders (policymakers, journalists, scholars, activists) ¹⁹ 5 interviews with international stakeholders (representatives from different Centers/NGOs ²⁰ with research and practical efforts focussed on disinformation detection and social resilience development issues, such as fact-checking training, digital media education, advocacy and awareness raising in digital transformation effects, etc.).
Panel study	Pilot panel survey for the assessment of public perceptions towards information disorders by the general public was designed. The questionnaire included 22 focussed questions and 123 variables on media use, perceptions of journalism and awareness of risks and challenges related to disinformation. Using quota sampling technique, a sample of 339 respondents was collected in April-May 2022.
Panels and Focus groups with stakeholders	<ul style="list-style-type: none"> Three panel cases were organized with different stakeholders (policymakers, partners from the libraries network, media) Two focus groups conducted: with regional media journalists, and selected specialists (medical professionals at the University of Health Sciences).

¹⁹ Shorter versions of conversations with interviewed people are available on <http://digires.lt>; Full list of people interviewed (their positions, expertise) is provided in Appendixes.

²⁰ Among these stakeholders are: Baltic Center for Media Excellence (BCME, Latvia), EDMO, Media and Learning (Belgium), NordMedia network, Center for Media Pluralism and Freedom (CMPFE).

Discourse analysis	40 disinformation texts and 40 factual news texts were examined both qualitatively and quantitatively. To compare and contrast discursive strategies in the two datasets, the study applied the discourse-historical approach (as conceptualized by Reisigl & Wodak 2009 ²¹) and examined legitimization strategies in the texts following the model of van Leeuwen (2007) ²² and van Leeuwen & Wodak (1999) ²³ . The analysis identified specific linguistic resources used for legitimization of fake and factual news and focused on the mimicry of factual information genres in fake news, which at least partly explains readers' susceptibility to disinformation.
Machine learning and AI methods applied and tested	For experiments to create an automatic desinformation detection solution, three setup were used: 1) an base line setup is ML based: we have used Multinomial Naive Bayes Classifier, Support Vector Machine, Random Forest Classifier, Gaussian Naive Bayes Classifier, XGBoosts classifier and TF-IDF vectorisation to give for machine enough information about global variables; 2) an advanced-1 setup is based on deep learning Long-Short-Term-Memory neural network and Fattext and TF-IDF input vectorization; 3) an advanced-2setup is is based on deep learning Transformers-based neural network and RoBerta neural language model. For training and testing we have used the data sets described below. As discovered, all three sets appear to suggest reactive rather than proactive solutions. If a training dataset for a certain domain is large enough, it deals well with the content information, but it cannot do the same with factual information without an external knowledge base. Therefore, we have limited our research to the content-based analysis. In order, to create a more proactive and language-independent solution there is a need of an ensemble method. For this reason, a set of tools was created, that extracts text style-based, semantic-based, and linguistic-based features from articles in the early stage of their spreading. The extraction of network-based features that is necessary for capturing the social context is planned for future phases of the research.
Data and corpora in the field of disinformation collected	For ML/DL methods (AI) five datasets were created. All three of them are unique for Lithuanian: 1. <i>COVID-19-T Corpus v.1</i> . Contains 380 articles from various sources on COVID-19 topic. Is well balanced: 190 articles with fake information, and 190 articles with real information. Both groups contain the same

²¹ Reisigl, M., & Wodak, R. (2009). The discourse-historical approach (DHA). In R. Wodak, & M. Meyer (Eds.), *Methods for Critical Discourse Analysis* (2nd revised edition). Sage. pp. 87-121.

²² van Leeuwen, T. (2007) Legitimation in discourse and communication. *Discourse & Communication* 1(1): 91–112.

²³ van Leeuwen, T., Wodak, R. (1999) Legitimizing immigration control: A discourse- historical analysis. *Discourse Studies* 1(1): 83–118.

	<p>amount of words. Destination: 1) analysis of text with computational linguistics and linguistics methods; 2) TF-IDF vectorisation to obtain global variables and general knowledge of domain. Format: TXT files</p> <ol style="list-style-type: none"> 2. Manually annotated data set <i>COVID-19 Desinformation Corpus v.1</i>. Created for training and testing purposes. Contains 390 articles manually annotated by human (professional fact checkers): 190 - '1' (Fake), 190- '0' (Real). Format: CSV file. 3. Corpus ARTICLES-DIGIRES_v1. Contains 500 000 words (1000000 articles) mostly provided by Delfi. Destination: 1) analysis of text with computational linguistics and linguistics methods; 2) for word embedding creation with Fasttext algorithm (for input vectorisation for deep learning methods); 3) for neural language modelling (Transformers and RoBerta). 4. Word embedding model ARTICLES-DIGIRES-FAST_v1 (based on corpus Nr. 3) created with Fasttext. Destination: text vectorisation for input into CNN and RNN neural networks 5. Neural language model ARTICLES-DIGIRES-ROB_v1 (Transformer-based, RoBerta) created from Corpus Nr. 3. Destination: encoder part for Transformer-based solutions.
Secondary data (MPM, DSP, EBU, Eurostat, Eurobarometer, ESS)	<ul style="list-style-type: none"> • Digital Society Project/V-Dem Digital Society Survey (selected indicators: Online foreign interference, polarization of society, Internet media fractionalization, etc.)²⁴ • Media Pluralism Monitor 2022 (risks to media pluralism indicators: fundamental protection, market plurality, political independence, social inclusiveness)²⁵ • Eurostat 2022²⁶ • Eurobarometer 2022²⁷

²⁴ Mechkova, V., Pemstein, D., Seim, B. & Wilson, S. (2022). *Digital Society Project Dataset v4*. <http://digitalsocietyproject.org/data/>.

²⁵ Balčytienė, A., Jastramskis, D., Juraite, K. & Kalpokas, I. (2022). Monitoring media pluralism in the digital era: application of the Media Pluralism Monitor in the European Union, Albania, Montenegro, the Republic of North Macedonia, Serbia and Turkey in the year 2021. *Country report: Lithuania*. Centre for Media Pluralism and Media Freedom (CMPF), Media Pluralism Monitor (MPM), 2022, Country Reports. <http://hdl.handle.net/1814/74696>.

²⁶ Eurostat (2022). Digital economy and society statistics - households and individuals. https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Digital_economy_and_society_statistics_-_households_and_individuals#Use_of_internet.

²⁷ Eurobarometer (2022a). Standard Eurobarometer 96 – Winter 2021-22. <https://europa.eu/eurobarometer/surveys/detail/2553>; Eurobarometer (2022b). Standard Eurobarometer 97 – Summer Eurobarometer https://data.europa.eu/data/datasets/s2693_97_5_std97_eng?locale=en.

	<ul style="list-style-type: none"> • EBU 2022²⁸ • ESS (2016, 2018, 2020)²⁹ • RSF 2022³⁰
Trainings to groups of people	Three kinds of training were organised for different groups of people: two trainings for the representatives of news media (editors, journalists, CEO); VMU public communications students.
Pre-test and post-test questionnaires	Pre-test and post-test surveys were used in VMU student trainings, which tested knowledge about the use of information sources, the use of media channels, trust in the media, the significance of journalism for democracy, and assessing one's ability to discern false information ³¹ .
Reflection reports designed for impact analysis	Reflection reports were used in student trainings only ³² .

Table 1. DIGIRES research design and types of data surveyed and/or collected.

²⁸ EBU (2022). Trust in media 2022. Public version. European Broadcasting Union Media Intelligence Service.

²⁹ ESS08 (2016) *European Social Survey Round 8 Data*. Data file edition 2.2. ESS-ERIC website. doi:10.21338/NSD-ESS8-2016.

³⁰ RSF (2022). Index. Rsf.org. <https://rsf.org/en/index>.

³¹ Selected results from this study were presented at the national conference for Youth Researchers: Balčytienė, Aukšė ir Juraitė, Kristina (2022). Kaip jaunimui nepaslysti informacinių manipuliacijų pinklėse ir išmokti gyventi su dezinformacija: Vienos medijų raštingumo „pamokos“ refleksija. Pranešimas padarytas Lietuvos jaunimo metams skirtoje konferencijoje „*Matomas nematomas jaunimas*“, lapkričio 11 d. 2022, VDU, Kaunas (Invited paper “Preventing Young People from Falling into the Traps of Information Manipulations” presented at the National Conference of youth researchers); more thorough analysis is in preparation and will be prepared for publication in 2023.

³² Selected results from this study were presented at the national conference for Youth Researchers: Balčytienė, Aukšė ir Juraitė, Kristina (2022). Kaip jaunimui nepaslysti informacinių manipuliacijų pinklėse ir išmokti gyventi su dezinformacija: Vienos medijų raštingumo „pamokos“ refleksija. Pranešimas padarytas Lietuvos jaunimo metams skirtoje konferencijoje „*Matomas nematomas jaunimas*“, lapkričio 11 d. 2022, VDU, Kaunas (Invited paper “Preventing Young People from Falling into the Traps of Information Manipulations” presented at the National Conference of youth researchers); more thorough analysis is in preparation and will be prepared for publication in 2023.

First, disinformation is not a homogenous concept nor a simple phenomenon, hence this report recommends the adaptation of a complex multifaceted understanding of resilience to online disinformation.

Second, societal resilience is viewed as a three-tier-model comprising macro-mezzo-micro levels, or structural-representational-active forms, of resilience. Structural resilience explores and explains policy-level strategies and practical anti-disinformation steps taken by the government to fight disinformation. The actions taken on the second layer – the representational function (we also refer to it as an *in-built function* which refers to professional factchecking and information verification) played by media organizations – reveal that the leading news media in Lithuania (as well as in other Baltic countries more broadly) act like a “safety net” – filtering radical opinions from entering the information arenas³³. Finally, the micro level refers to individual capacity to resist information manipulations.

The analysis of the state of transformations in the news media in Lithuania (also in Latvia, and Estonia)³⁴, and the change in public opinion³⁵ in relation to the influx of information disruptions allows for a critical evaluation of public thinking and gaps in awareness among various groups of people about actual and potential threats. Even though Lithuanian respondents demonstrate their concern about disinformation being an important national problem (78%), as well as high confidence in their ability to distinguish between the truth and lies (65%), 40% of them admitted that, for different reasons, they had shared fake news online. This could be regarded as a lack of responsibility and awareness of the risks related to online media and information use. On the other hand, we detect a growing demand for quality information during times of deep uncertainties and crises. Most of the respondents (around 80%) appreciate quality journalism, because of its key role in sustaining democracy and its importance as a source of reliable news during times of crises.

All in all, to effectively reach these groups and motivate them to become responsible users of information, DIGIRES not only addresses ‘digital skills and media literacy’, a complex and

³³ Although, as research reveals, the Internet media channels are responsibly monitored, most disinformation attacks take place in the social media.

³⁴ Balčytienė, A, Juraitė, K. (2022). Baltic Democracies: Re-configuring Media Environments and Civic Agency, *Journal of Baltic Studies*. Doi: [10.1080/01629778.2022.2117833](https://doi.org/10.1080/01629778.2022.2117833).

³⁵ In the framework of the DIGIRES project, a pilot survey was conducted in April-May 2022. Using a quota sampling technique, a sample of 339 respondents was collected and analysed. The survey included questions on media use, perceptions of journalism, and awareness of risks and challenges related to disinformation. Analysis prepared for *UNESCO MILID Book 2022: Informed citizenship in the times of manifold inforuptions: The Baltic-Nordic evidence for media and information literacy, civic resilience, and public good*.

multidimensional concept³⁶. In designing instructional materials and media literacy teaching interventions³⁷, DIGIRES' strategies aim at the functioning logic of digitally mediated interfaces: these are structured to explore how information is presented, and on infrastructures, i.e., data and algorithms³⁸ (more about the research-informed practical side of DIGIRES activities is presented in the following sections of this Report).

Briefly, the media's acts resemble the "protectionist" function of the government, which views disinformation, first, as a threat to national security. It appears that the representative function of the media contributes to the development of 'passive resilience' of people³⁹, which, in fact, shows up in public opinion survey responses as an exceedingly casual attitude towards one's ability to recognize and curb disinformation.

Thus, DIGIRES research informs about the need to develop and adapt a complex understanding of social resilience to online disinformation. This calls for policy steps to look at the threats of disinformation not only from the aspect of national security, which immediately provokes a defensive and deterring reaction, but also from the perspective of empowering society to take responsibility for informational experiences and cultivate 'active resilience'⁴⁰.

As previously indicated, DIGIRES has a dual (academic and practical) function, which promotes a multisectoral and interdisciplinary approach to the problem of disinformation. The scholarly account of collaborations-based networking of DIGIRES association towards development of digital resilience is outlined in the next sections.

³⁶ Tessa Jolls (report, 2022 September). Building resiliency: Media literacy as a strategic defense strategy for Transatlantic (<https://www.medialit.org/sites/default/files/announcements/JollsBuilding%20Resiliency-Media%20Literacy%20as%20a%20Strategic%20Defense%20Strategy%20for%20the%20Transatlantic%20%2810-10-2022%29%20copy.pdf>).

³⁷ See Deliverables **D3.5. Report on training to media outlets** and **D3.6. Report on media literacy assessment, campaign and events**.

³⁸ DIGIRES trainings team has prepared a ToolKit material for source verification by applying "lateral reading" strategies. It is suggested that "lateral reading" empowers media users with skills to adequately analyze content and encounter digital algorithmic architectures and platform business models, to experience aesthetic features and assess human resources required to create and sustain such type of information circulation.

³⁹ See Deliverable **D1.4. Scholarly articles**.

⁴⁰ See Deliverable **D1.5. Media policy suggestions**.

5. The practical side of DIGIRES – resilience as a co-production process

This section of the Report is dedicated to the practical side of DIGIRES, namely to the principles⁴¹ of collaborative governance in partner and stakeholder relationships management.

DIGIRES association proposes that the integrated system of resilience development needs to be viewed not only as a set of protective mechanisms, such as regulatory safeguards and policies. Instead, the evolvement of social and digital resilience must be recognized to be an *ongoing and contextually* informed process. Networking model that is proposed by DIGIRES association in its Sustainability action plan (SAP) should enable the development of collaborative approaches to resilience, and the ability to create, share and implement collective solutions. For that reason, the idea of resilience development must be explored as a *co-production process* with new forms of collaborations and *trust governance*⁴² actions among potential stakeholders, namely state institutions, organizations such as media, schools, NGOs, and citizens.

Research on democratic sustainability and co-production studies resilience through *agency* notions. As stated in previous sections of this Report, DIGIRES views resilience development as an active and ongoing process that is constantly adapting to changing conditions. Organizational structures and individual resourcefulness (agency features) can aid in the development of resilience by providing the necessary support and guidance to help communities and stakeholders better respond to any changes or disruptions (see Figure 3). DIGIRES network aims to become such a platform.

⁴¹ See Deliverable **D1.1. Sustainability action plan (SAP)**.

⁴² van Dijck, J. (2021). Governing trust in European platform societies: Introduction to the special issue. *European Journal of Communication*, 36(4), 323–333. <https://doi.org/10.1177/02673231211028378>

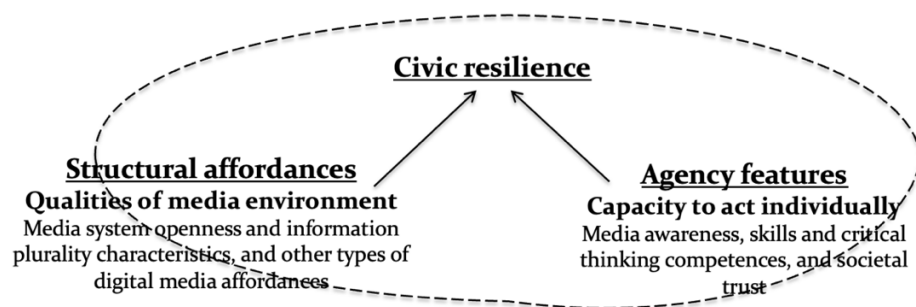


Figure 3. Civic resilience as a performative process.

DIGIRES – both as a research/analysis project⁴³ and an existent association (Baltic Research Foundation for Digital Resilience⁴⁴) – aims at *co-governed and co-produced resilience* processes:

- DIGIRES association perceives resilience development as capacities building process, which is maintained through *co-governed expertise* exchanges, *co-production of knowledge*, and “shareability” which evolves via different acts of building trust.
- With DIGIRES, resilience-building approaches are founded on the principle of common needs, i.e., the idea of *commoning* and the creation of common good between different participating actors/shareholders with required expertise⁴⁵.

Briefly, to develop sustainable future, resilience to information disruptions is threats is necessary. The diagram (Figure 4) suggests that while sustainability and resilience are interconnected, they are not synonymous. Each of those concepts define both strategies and refer to processes (with certain tools and interventions).

⁴³ DIGIRES (Supporting Collaborative Partnerships for Digital Resilience and Capacity Building in the Times of Disinfectemic/COVID-19) is 15 month duration (2021-2022) an EU Funded pilot project, Contract No. LC-01682259, <http://digires.lt>.

⁴⁴ Baltic Research Foundation for Digital Resilience was established in 2022 by the three founding partners – Vytautas Magnus University in Kaunas, UAB Delfi (news media organization), and the National Institute for Social Integration (which is an NGO).

⁴⁵ In its current form, DIGIRES needs related research and innovations are carried by scholars at Vytautas Magnus University (Intelligent Systems Lab, Department of Public Communications, UNESCO Chair on MIL for Inclusive Knowledge Societies), fact-checking at Delfi.lt and regional media (regional daily *Tauragės kurjeris*), and media literacy actions to engage different groups are managed by Media4Change NGO.

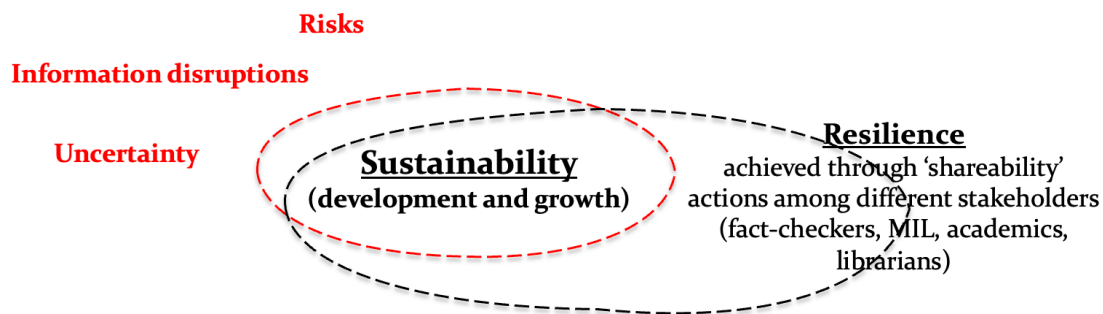


Figure 4. Resilience expands sustainability (a conceptual illustration).

To attain its ambitious goal, DIGIRES research project developed and tested some of the Pilot ideas towards the development of resilience to disinformation. Research tasks looked into contexts⁴⁶ that contribute to the effectiveness of resilience development, as well as how to develop strategies to verify and counter false discourses.

Concurrently, DIGIRES sees its activities as very practically oriented and include: (a) authentically designed resilience-focused trainings⁴⁷, which are based on required digital media literacy competencies, and give instructions on source verification strategies; (b) public talking and listening⁴⁸; (c) policy proposals⁴⁹.

⁴⁶ See Table 1 which provides information on data types (secondary data, pilot studies, experiments, and interviews) used for research.

⁴⁷ See Deliverables **D3.5. Report on training to media outlets** and **D3.6. Report on media literacy assessment, campaign and events**.

⁴⁸ See Deliverables **D1.2. Report on network development** and **D3.4. Report on communication actions**.

⁴⁹ See Deliverable **D1.5. Media policy suggestions**.

6. Multisectoral integration and multistakeholder partnerships as agents of change

DIGIRES is an ambitious pilot project (and association) that in just one year has evolved into an active player and promoter of digital resilience ideas in Lithuania, the Baltic Sea region and throughout Europe.

During its first year of existence, DIGIRES association has organized trainings for more than 70 representatives and specialists, including regional journalists, librarians, health specialists, more than 150 communications students and 550 high school students; participated in public events, expert panels, and discussions that were widely broadcast by the news media⁵⁰ and social networks; presented research results at national and international conferences and events; and established solid partnerships with stakeholders in Lithuania and abroad.

As a multistakeholder network and association, DIGIRES sees its role as applying scientific knowledge and innovations in media work and digital resilience trainings for different groups of people.

Further, DIGIRES is dedicated to supporting the research and practice of digital resilience. To support resilience development:

- On macro level, the consortium will review current European Union policies⁵¹ to ensure a safe digital environment for users and to protect media pluralism, and will continue providing recommendations to the institutional stakeholders.
- On mezzo level, the consortium will support the research and practice of media and professional journalism (especially fact-checking).

⁵⁰ Some of the most popular DIGIRES panel sessions: “Diskusijų festivalis „Būtent!“ . DIGIRES – kas atsakingas už mūsų skaitmeninį atsparumą?” (2022 September 2) <https://www.delfi.lt/video/transliacijos/anonsai/diskusiju-festivalis-butent-digires-kas-atsakingas-uz-musu-skaitmenini-atsparuma.d?id=91129857>; “UNESCO Week: Diskusija „Kas atsakingas už mūsų skaitmeninį atsparumą?” (2022 September 19) <https://www.delfi.lt/video/transliacijos/anonsai/diskusija-kas-atsakingas-uz-musu-skaitmenini-atsparuma.d?id=91266249>; “DIGIRES: žinome, kaip veikia dezinformacija. O kas toliau?” (2022 December 6) <https://www.delfi.lt/video/transliacijos/anonsai/digires-zinome-kaip-veikia-dezinformacija-o-kas-toliau.d?id=91949261>.

⁵¹ The framework of documents in the European Democracy Action plan, such as the GDPR, the Audiovisual Media Services Directive, the Digital Services Act, the EMFA, the Code of Practice on Disinformation.

- On micro level, the consortium will continue to provide recommendations on how empower people to develop better digital media literacy.

DIGIRES proposes to regard the current phase of risks in the digital environment as an *eye-opening instance*.

At the core of this vision is the notion that national resilience and digital media and information literacy competencies must not be seen only as attributes of *soft power*, i.e., as if these were only “recommendatory guidelines” for individual learning instructions by some enthusiasts or initiatives proclaimed by some NGOs.

It looks like a strategy of the whole-of-society is listed in programs. What is required is a comprehensive approach that focuses on *informed and educated citizenship*: political will is required to put forward strategies that are much more strategically focused on decisive *inclusion* and not only on recommendatory *engagement*.

It is necessary to turn digital (media and information) literacy, as well as source verification acts and fact-checking, into competences of *hard power* – so that knowledge and practical doings become a sustainable, democratic resilience-oriented, and mutually empowering force that provides a decisive response to manipulations and attacks on human rights and democracy. A force that grows “from below” – from actions of citizens’ of all age groups, expertise, professions, and social standings. A force for which space for development is created by structures and institutions “from above” – those of government, IT, media, education, and cultural services.

DIGIRES suggests that a political and social *contract* is required to make such a shift a reality of the digital future in Lithuania. The question is who the actor will be who will make the first move.

7. Conclusions and recommendations

DIGIRES research develops new approaches that not only monitor certain (quantitative) indicators of the scope of disinformation, but venture into the richness of resilience as a concept and practice of sustainable democratic life⁵². Such an approach demands that capacities of different stakeholders (policymakers, media producers, media users) must be assessed not only at the micro-level of individuals and sensitive groups (literacy), but also as societal and organizational resources of policymakers and media (and other stakeholders such as schools, libraries, creative industries) to understand and combat disinformation.

The scope of thematic lines covered in academic activities of DIGIRES:

- Broader understanding of global and technologic and socio-cultural trends and contextual conditions contributing to the enduring “efficiency” of disinformation campaigns are being explored (see Deliverable **D1.4. Scholarly articles**).
- Multidimensionality and multifaceted aspects of digital resilience (defined here as structural, representational, and civic) are conceptualized and further rationalized (see Deliverable **D1.4. Scholarly articles**).
- Reconfigurations of media environments and civic agency are studied (see Deliverable **D1.4. Scholarly articles**).
- Verification strategies pertained in misleading and false discourses are outlined (see Deliverable **D1.4. Scholarly articles**).
- Discursive and other linguistic (quantitative) determinants of deliberation are conceptualized (see Deliverables **D2.1. Report on disinformation detection methodology development**, and **D1.4. Scholarly articles**).
- Policy proposals towards informed citizenship for turbulent times are prepared (see Deliverable **D1.5. Media policy suggestions**).
- Co-production applications in governance practices are being conceptualized and practically tested (see Deliverables **D1.4. Scholarly articles**, and **D1.2. Report on network development**).

⁵² State-of-the-art: A report on current issues, methodologies, and needs in anti-disinformation actions in a small state: <https://digires.lt/en/testtt>.

We should not stop questioning about how resilience against the effects of disinformation should be sought: specifically, whether and how people are deceived or remain resilient to information manipulations and attacks and what kinds of risks in these arenas must be foreseen for the future. Continued focus to these aspects can open completely new arenas for analysis and questioning of such a complex phenomenon as social resilience.

Moving forward, the DIGIRES project has made a significant input in the field of scientific and practical contributions to resilience development in Lithuania (and also in the broader **Baltic countries** region⁵³), and these activities must be continued to advocate the significance of journalism for providing accurate and trustworthy news.

⁵³ Since December 2022, DIGIRES association is expanding activities into the **BECID (Baltic Engagement Center for Combatting Information Disorders)**, <https://becid.ut.ee> Hub, i.e. the partnerings with research, media and MIL institutions in Latvia and Estonia.

Appendix: List of research activities and results disseminated at scientific conferences, research visits, seminars, discussion panels

Research results disseminated at *international* scientific conferences:

- Ivanauskaitė, Ieva, and Balčytienė, Auksė (2022). Fostering resilience to platform effects in a small and rapidly changing news market – multi-stakeholder collaborations for mitigating online disinformation. Invited paper at the International Conference “*News Media, Platform Politics, and Changing Information Order in Europe*”, organized jointly by research initiatives of EuromediApp (European Media and Platform Policy), EMRG (Euromedia Research Group) and DIGIRES projects, May 12-13, 2022, Kaunas (<https://digires.lt/vytauto-didziojo-universiteto-iniciatyva-rengiamoje-konferencijoje-dezinformacijos-tyrejai-is-viso-pasaulio/>).
- Juraitė, Kristina, and Balčytienė, Auksė (2022). Dynamics of communicative agency and the role of media literacy in a hybrid communication environment. Paper presented at the International conference of Association for Advancement of Baltic Studies (AABS) “*Baltic Countries at a Crossroads*” at University of Washington, the US (May 29, 2022).
- Juraitė, Kristina, and Balčytienė, Auksė (2022). Reinforcing communicative agency in a fluid media environment: Evidence from the Baltic states. Invited paper presented at the global conference World Journalism Education Conference (WJEC), June 30, 2022.
- Balčytienė, Auksė (2022). Baltic States: Democracy Endangered. Invited paper presented at the International Conference organized by CEDMO “*Europe Tackles Information Chaos*”, Prague, September 22-23, 2022 (<https://cedmohub.eu/cedmo-international-conference>).
- Balčytienė, Auksė (2022). The Socio-cultural Turn in the Analysis of Disinformation: Media as bearers of democratic culture and means of resilience (lessons from Lithuania). Paper presented at the International ECREA conference “*Re-Think Impact*” in Aarhus, October 20-22, 2022.

- Juraitė, Kristina, Balčytienė, Auksė, and Lauk, Epp (2022). Audience responses to disinformation: Evidence from the Baltic countries. Paper presented at the International ECREA conference “*Re-Think Impact*” in Aarhus, October 20-22, 2022.
- Balčytienė, Auksė, Horowitz, Minna, and Pantti, Mervi (2022). Similar and different: Resilience to online disinformation in Finland and Lithuania. Paper presented at the post-Conference session of the ECREA conference “*Re-Think Impact*” in Aarhus, October 24, 2022.
- Juraitė, Kristina (2022). Resisting disinfodemic: Evidence from the Baltic countries. Paper presented at the Global Media and Information Literacy Week 2022 Feature Conference “*Nurturing Trust: A Media and Information Literacy Imperative*”, Nigeria, October 24-31, 2022 (<https://www.unesco.org/en/weeks/media-information-literacy/feature-conference>).
- Balčytienė, Auksė (2023). Thematic Panel “Where does disinformation start and where does it end? The Baltic-Nordic experience in combating information disruptions – reflections from DIGIRES, BECID and NORDIS Hubs”, to be organized at the Baltic Studies in Europe Conference (BSCE) in June 15-17, 2023, Kaunas.
- Ruzaitė, Jūratė (2022). The art of mimicry and legitimization of falsehood: A discourse analytic approach to disinformation . Paper presented at the International ECREA conference “*Re-Think Impact*” in Aarhus, October 20-22, 2022.
- Ruzaitė, Jūratė (2023). Storytelling as a legitimization strategy in disinformation texts. Paper to be presented at the Baltic Studies in Europe Conference (BSCE), June 15-17, 2023, Kaunas.
- Ruzaitė, Jūratė (2023). Fake news crossing spaces and language borders: A contrastive analysis of English and Lithuanian. Paper to be presented at the pre-conference workshop “Corpora crossing language borders” at the ICAME Conference (ICAME44 - International Computer Archive of Modern and Medieval English), North-West University in Vanderbijlpark, South Africa, May 17-20, 2023.
- Kalpokas, Ignas (2022). A whole-society approach to disinformation: Anti-Vax as a symptom. Paper presented at the International ECREA conference “*Re-Think Impact*” in Aarhus, October 20-22, 2022.
- Kalpokas, Ignas (2022). Algorithmic Policing of Synthetic Media: Deepfakes to DALL-E. Keynote presentation at international conference ‘Diffusion of policing in the algorithmic society’. Oslo, November 18, 2022.

- Nieminen, Hannu (2022) Keynote speech "The faltering utopia of liberal democracy: the public sphere and the digitalisation of inequality", in the Colloquium "Publicness and the public sphere under the threat of digital oligarchy". Slovenian Academy of Sciences and Arts, Ljubljana, December 9, 2022
- Nieminen, Hannu (2022) Invited presentation "Public Service Media: Challenges to the Arms-Length Principle in Online Environment", in the Conference "The Future of Public Service Media". Slovenian Academy of Sciences and Arts, Ljubljana, February 17, 2022.
- Nieminen, Hannu (2022) Presentation "Ontological security and epistemic rights: Reflections on Finland and NATO" in the research seminar at the Department of Media and Communications, London School of Economics and Political Science (LSE), London, 24 May 2022
- Nieminen, Hannu (2022) Presentation "Why Europe has been ineffective in regulating social media platforms" (together with Helena Sousa & Claudia Padovani), Conference on Governance of Digital Media and Platforms, University of Minho, Portugal, 3 October 2022.

Research results disseminated at *national* scientific conferences (in Lithuania and Finland):

- Balčytienė, Aukšė ir Juraitė, Kristina (2022). Visuomenės ir žiniasklaidos atsparumas platformizacijos akivaizdoje. Pranešimas pristatytas Lietuvos sociologų draugijos metinėje konferencijoje „*Visuomenė, regionai, transformacijos: ar turime scenarijus ateičiai?*“, VDU, 2022 01 14 (Paper "Societal and Media Resilience in the Era of Platformization" presented at the annual conference of the Lithuanian Sociology Society).
- Balčytienė, Aukšė (2022). Kaip atsispirti netikroms žinioms ir išmokti gyventi su dezinformacija: Pasyvaus ir aktyvaus atsparumo strategijos tokioje kasdienybėje. „*Audiovizualinės medijos Lietuvoje: tyrimai, švietimas, etika*“, simpoziumas skiriamas prof. Žygintui Pečiuliui atminti, Vilniaus universitetas, 2022 11 29 (Invited paper "Passive and Active Resilience Strategies in Everyday Life" presented at the Symposium dedicated to prof. Žygintas Pečiulis).
- Balčytienė, Aukšė ir Juraitė, Kristina (2022). Kaip jaunimui nepaslysti informacinių manipuliacijų pinklėse ir išmokti gyventi su dezinformacija: Vienos medijų raštingumo „pamokos“ refleksija. Pranešimas padarytas Lietuvos jaunimo metams skirtoje konferencijoje „*Matomas nematomas jaunimas*“, lapkričio 11 d. 2022, VDU, Kaunas

(Invited paper “Preventing Young People from Falling into the Traps of Information Manipulations” presented at the National Conference of youth researchers).

- Balčytienė, Auksė (2022). Vieneri metai su DIGIRES: Apie skaitmeninį atsparumą sužinojome daug, bet patyrėme dar ne viską. Pranešimas padarytas DIGIRES projekto ir asociacijos konferencijoje “DIGIRES: Žinome kaip veikia dezinformacija. O kas toliau?”, gruodžio 6 d. 2022, Kaunas, VDU (<https://digires.lt/akademiku-ir-zurnalistu-komanda-digires-vien-zinojimo-apie-dezinformacija-negana-diskusinio-renginio-anonsas/>) (Paper “One Year with DIGIRES: We’ve Learned a Lot about Digital Resilience, but we haven’t Experienced it All” presented as the Annual Conference of the DIGIRES initiative).
- Amilevičius, Darius (2022). Ar dirbtinis intelektas jau gali suprasti lietuvių kalbą?. Konferencija “Lietuvių kalba modernėjančiame pasaulyje”, 2022-04-22, organizatoriai: VLKK, A. Mickevičiaus viešoji biblioteka (Paper “Can artificial intelligence already understand the Lithuanian language?” presented at the Conference “Lithuanian language in the modernizing world”).
- Amilevičius, Darius (2022). Neuroninių kalbos technologijų taikymai medicinos, teisės, žiniasklaidos srityse. XXVI LITNET konferencija. 2022-08. (Paper “Applications of neural language technologies in the fields of medicine, law, and media” presented the Annual LITNET conference).
- Nieminen, Hannu (2022) Presentation "Miksi Eurooppa ei ole kyennyt sääntelemään sosiaalisen media alustoja tehokkaasti" [Why Europe has not been able to regulate social media platforms effectively], at MEVI-päivät [National Conference of Media and Communication Studies], University of Turku, Finland, 22-24 April 2022.
- Nieminen, Hannu (2022) Presentation "Has Freedom of Speech Turned Against Itself?" in seminar "Freedom of Speech and Communication Rights". Department of Media and Communication Studies, University of Helsinki, 14 February 2022.
- Nieminen, Hannu (2022) Presentation "Media and Communication Policy and the National Public Sphere" in seminar "Researching Public Life". Department of Media and Communication Studies, University of Helsinki, 17 February 2022.

Research results dissemination at student scientific conferences:

- Naujanytė, P., Kasparaitė, R., Turčinavičiūtė, A. (2022). “*Diagnosing information disequilibria: building resilience in the face of disinformation*”. Research results were

disseminated at Vytautas Magnus University students' conference "Laisvė kurti" (en. "Freedom to Create") on April 29, 2022.

- Naujanytė, P., Kasparaitė, R., Turčinavičiūtė, A. (2022). *"Information Disorder Monitoring and Response Strategies: the Lithuanian Case"*. Research results were disseminated at an international students' conference organised by the Faculty of Communication of Vilnius University, in cooperation with Vytautas Magnus University and the global organisation for development and education IREX "Solution 2022. Be part of the solution: information heatwave, media and contemporary society 2022" on May 10, 2022.
- Naujanytė, P. (2022). „Media literacy - integral part of building democratic resilience”. Research presentation at the international student scientific and practical conference "Future creators" on May 8, 2022 at the College of Social Sciences (SMK) and Kazimieras Simonavičius University (KSU).
- Kasparaitė, R., Naujanytė, P., Turčinavičiūtė, A. (2022). „Diagnosing information disequilibria: building resilience in the face of disinformation”. Pranešimas skaitytas Vilniaus universiteto organizuojamoje tarptautinėje konferencijoje „Solution 2022: Be part of the Solution: Information Heatwave, Media and contemporary society. International student conference”, gegužės 10 d. 2022 m. Vilniaus universitetas, Vilnius.
- Naujanytė, P., Turčinavičiūtė, A. (2022) Participation in the international PhD school organised by the EuromediApp project of the Jean Monnet network (www.euromediapp.org): Winter School "Quality of European News Ecology", University of Salzburg, Austria.
- Naujanytė, P., Kasparaitė, R. (2023) Participation in the international PhD school organised by the EuromediApp project of the Jean Monnet network (www.euromediapp.org): Spring School "European Democracy and Emerging Communication Orders", Isle of San Servolo, Venice, Italy.

Participation in Committee's and related policy/governance acts:

- Neringa Jurčiukonytė and Kristina Juraitė are members of the Media Council (<https://lrkm.lrv.lt/lt/struktura-ir-kontaktai/tarybos-ir-komisijos/tarybos-prie-ministerijos/mediju-taryba>). Media Council is an advisory body of the Ministry of Culture of the Republic of Lithuania providing expert opinion and recommendations on media and public information policy, including media and information literacy.

- Auksė Balčytienė is an elected member of Academia Europaea, and a Section Committee member (https://www.ae-info.org/ae/Acad_Main/Sections/Film_media_and_visual_studies). The Committee initiates activities and response proposals to identified changes and transformations in the European media and communications field.
- Kristina Juraitė is a member of UNESCO Media and Information Literacy Alliance Regional Committee - North America and Europe Chapter (<https://www.unesco.org/en/media-information-literacy/alliance/regional-chapters>). There are five regional chapters of the UNESCO MIL Alliance coordinating activities at the regional level, developing and implementing regional action plans to stimulate synergies around media and information literacy, based on the Global Framework and Action Plan of the Alliance.

University courses with classes/modules linked to DIGIRES topics:

- Medijų ir informacinis raštingumas (Media and Information Literacy, assoc. prof. Ignas Kalpokas, prof. Auksė Balčytienė, prof. Kristina Juraitė, prof. Audronė Nugaraitė)
- Democracy and Media Policy in a Changing News Ecosystem (prof. Hannu Nieminen, prof. Auksė Balčytienė)
- Komunikacijos kontekstai ir kultūros (Communications Contexts and Cultures, prof. Auksė Balčytienė)
- Mediatization of Language, Culture and Everyday Life (prof. Auksė Balčytienė, assist. Dominyka Lapelytė)
- Komunikacijos projektų valdymas (Communications Project Management, prof. Auksė Balčytienė, lect. Rūta Vainauskaitė with participation of Darius Remeika, Aistė Meidutė, Ieva Ivanauskaitė, Neringa Jurčiukonytė, Brigita Sabaliauskaitė)
- Informacinis ir kibernetinis saugumas (Information and Cyber Security, assoc. prof. Ignas Kalpokas)
- Žurnalistika dezinformacijos amžiuje / Journalism in the Age of Disinformation (assoc. prof. Rimvydas Valatka, assoc. prof. Ignas Kalpokas)
- Platformisation and Internet Geopolitics (assoc. prof. Ignas Kalpokas, prof. Hannu Nieminen, assoc. prof. Darius Amilevičius)
- Digital Communication (assoc. prof. Ignas Kalpokas, prof. Judita Kasperienė)

- Technologijų teisė (Information Technology Law, assoc.prof. Ignas Kalpokas, assist. Julija Kalpokienė)
- Interneto kultūra (Internet Culture, assoc.prof. Ignas Kalpokas, assist. Gytis Dovydaitis)
- Research and Analytics in Journalism and Media (prof. Kristina Juraitė, prof. Epp Lauk)
- Komunikacijos tyrimų metodologija (Communication Research Methodology, prof. Kristina Juraitė)
- Skaitmeninė humanitarika (Digital Humanities, assoc.prof. Andrius Utkas and assoc.prof. Darius Amilevičius)
- Discourse Analysis (BA course; Prof. Jūratė Ruzaitė)
- Research Methods in Linguistics (BA course; Prof. Jūratė Ruzaitė)
- Language in Sociocultural Context (MA course; Prof. Jūratė Ruzaitė)

Trainings organized:

- Balčytienė, Auksė (2022). The problem with information disequilibria: How to fight disinformation effectively?", paper presented at the Jean Monet project EuromediApp Winter School "Quality of European News Ecology" 21-25 February 2022 – Strobl, Austria.
- "Kaip išmokti atpažinti tiesą ir atsispirti dezinformacijai: Faktų tikrintojo receptai" (How to Recognize Truth and Learn to Discern Disinformation: Factchecker's Recipe" – a series of lectures and trainings organized by the DIGIRES trainers' team to VMU Public Communications students (Autumn semester 2022).
- „Kaip veikia dezinformacija ir ar esame atsparūs? (How disinformation works and how resilient we are?) – a series of lectures and trainings for NGO representatives, organized by National NGO coalition, provided by DIGIRES trainer Darius Remeika (November – December, 2022).
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Student (BA and MA) theses and research contributions:

VMU journalism and communications students from undergraduate and graduate programs have taken an active part joining pilot studies and produced theses.

- Kasparaitė, Rimgailė (2023). *Collaborative Governance for the Enhancement of Digital Resilience*. Master Thesis in Journalism, Vytautas Magnus University.
- Klezytė, Inga (2023). *Civic Activism in the Fight against Disinformation during the Russian Aggression in Ukraine. The Case of Cyber Elves*. Master Thesis in Communication, Vytautas Magnus University.

Research visits at other Research organizations:

- Kalpokas, Ignas (2022) Research visit at KU Leuven to conduct research on platformisation and disinformation; also gave two public lectures on platform governance, synthetic media, and the spread of disinformation (October 2022)
- Kalpokas, Ignas (2022). Research visit at Jyväskylä University to conduct research on disinformation and emerging digital technologies; also gave one closed and one public lecture on the spread of digital disinformation (November 2022)
- Nieminen, Hannu (2022) Visiting Professor, Department of Media and Communications, London School of Economics and Political Science (LSE; invitation for years 2021—25) (London 1.2.—15.5.2022)
- Nieminen, Hannu (2022) Professor Emeritus, Faculty of Social Sciences, University of Helsinki; visiting lectures on digitalisation of media and social media platforms; senior advisor, Helsinki Institute for Social Sciences and Humanities (HSSH) (contract for years 2021—2025).

Research results dissemination, and other research-related activities involving different stakeholder groups (including media and journalists, policymakers, the scientific community, the general public, and the EDMO):

- Balčytienė, Auksė (2022). Welcome speech. UNESCO World Higher Education Conference “*Communicating Media and Information Literacy Research to Wider Audiences: From Research to Impact*”, May 19, 2022.
- DIGIRES asociacijos panelis Birštono festivalyje “*BŪTENT*”, “DIGIRES – kas atsakingas už mūsų skaitmeninį atsparumą?”, Birštonas, 2022.09.02: <https://www.delfi.lt/video/transliacijos/anonsai/diskusiju-festivalis-butent-digires-kas-atsakingas-uz-musu-skaitmenini-atsparuma.d?id=91129857> (Discussion panel “Who is Responsible for our Digital Resilience?” organized at the Discussions’ Festival in Birštonas).

- DIGIRES asociacijos panelis “Kas atsakingas už mūsų skaitmeninį atsparumą?” paminint UNESCO organizacijos veiklos Lietuvoje trisdešimtmetį (2022.09.19): <https://www.delfi.lt/video/transliacijos/anonsai/diskusija-kas-atsakingas-uz-musu-skaitmenini-atsparuma.d?id=91266249> (Opening Panel organized by DIGIRES initiative in the series of events dedicated for the 30th anniversary of the National Commission of UNESCO in Lithuania).
- Balčytienė, Auksė (2022). Artimas tolimas medijų raštingumas – dabarties būklė ir žinojimo spragos. Mokslinis pranešimas padarytas renginyje “*Globali medijų ir informacinio raštingumo savaitė – Global Media and Information Literacy Week 2022*”, Vilnius, Martyno Mažvydo biblioteka, spalio 24 d. 2022 (Opening panel of the Global Media Literacy Week 2022 series of events in Lithuania).
- Balčytienė, Auksė (2022). *Takioji* komunikacija: Ar visos žinios yra bendrasis geris? Atsparumo dezinformacijai plėtotė per bendrakūrą. Mokslinis pranešimas padarytas renginyje “*Biržiškos skaitymai’22: Žinoti yra laisvė*”, gruodžio 2 d. 2022, Kaunas (Invited paper “*Liquid Communication: Is All Knowledge a Common Good?*” presented at the Annual meeting of the National Association of Librarians in Lithuania).
- Kalpokas, Ignas, Juraitė, Kristina (2022). Ar esame atsakingi informacijos vartotojai: ką galime mes, o kur reikia technologijų pagalbos? “*Globali medijų ir informacinio raštingumo savaitė – Global Media and Information Literacy Week 2022*”, Vilnius, Martyno Mažvydo biblioteka, spalio 25 d. 2022 (Panel of the Global Media Literacy Week 2022 series of events in Lithuania).

PhD Theses projects with a focus to DIGIRES related issues:

- Naujanytė, Patricija (2nd year PhD student in Communication Science at VMU, supervisor: prof. Auksė Balčytienė) “The development and role of young adolescents’ digital literacy skills in the era of platformization and disinformation”.
- Iarovyi, Dmytro (1st year PhD student in Communication and Information Science at VMU, supervisor: prof. Kristina Juraitė) “Societal resilience against information warfare in Lithuania and Ukraine: Social actors and interest groups approach”.
- Remeika, Darius (1st year PhD student in Communication and Information Science at VMU, supervisor: prof. Auksė Balčytienė) “The production of authentic news under the influence of unmoderated digital platforms: Studying preferences of media user”.

- Dambrauskas, Edgaras (1st year PhD student in Linguistics at VMU, supervisor: dr. Andrius Utkā). “Fake news detection: Creation of fake news detection model for Lithuanian using specialised corpus”.

Related research activities of DIGIRES initiative in other successfully completed scientific grant applications (all projects start in 2022/2023):

- **EDMO Hubs:** BECID (Baltic Excellence Center for Combating Information Disorders) (2022-2025, grant application writing: Aukšė Balčytienė (lead), Ieva Ivanauskaitė (deputy lead), Kristina Juraitė; people engaged: Aukšė Balčytienė, Ieva Ivanauskaitė, Kristina Juraitė, Ignas Kalpokas, Jūratė Ruzaitė, Darius Remeika, Dmytro Iarovy, Darius Amilevičius, Andrius Utkā, Kristina Berksun, Rimgailė Kasparaitė)
- **Horizon program project:** DIACOMET “Fostering capacity building for civic resilience and participation: Dialogic communication ethics and accountability” (2023-2026, grant application writing: Epp Lauk (lead), Kristina Juraitė (deputy lead), Aukšė Balčytienė, Ieva Ivanauskaitė; people engaged: Epp Lauk, Kristina Juraitė, Aukšė Balčytienė, Ieva Ivanauskaitė, Ignas Kalpokas, Kristina Berksun)
- **COST action:** CA21129 “Opinions” (2022-2026, grant application writing: Aukšė Balčytienė; people engaged in project: Aukšė Balčytienė (lead), Kristina Juraitė, Jūratė Ruzaitė, Darius Amilevičius, Andrius Utkā)