

EUNOMIA

European Union Horizon 2020 Program Awards EUNOMIA Consortium 2.9 Million Euro to Restore Public Trust in Social Media



Eunomia consortium partners met in London on January 10-11, 2019 at the University of Greenwich to announce the launch of a major EU funded effort to restore public trust in social media content. The project will create a social media companion that will answer three fundamental questions about any piece of social media content: Who created it? How trustworthy the creator is? Was the content changed from its initial creation to the point where it was visualized by the end-user? The project uses blockchain technologies to ensure privacy and anonymity while retaining the credibility of existing alternative social media sites, like Mastodon or Blasting News, which will visualize the trustworthiness of the content.



On any given day, while checking Facebook you may learn that spring water recently discovered in Greece is the cure to cancer, a Vermont city council has voted to exhume the bodies of all black cats from the pet cemetery to prevent them from returning as zombies, and that Liechtenstein will be the next capital of the European Union. While fictitious, the three stories are possible. Not in the real world, of course, but in the world of fake news. A topic at the forefront of an international conversation, “fake news” begs the question; where does this information come from and how does it spread? EUNOMIA, a €2.9M project funded by the [European Union research and innovation programme Horizon 2020](#) (grant agreement no: 825171), was created to address the fake news crisis. Led by scholars and business visionaries and headed by ten large European universities, research institutes, and companies, EUNOMIA seeks to shape the future of social media information. It relies on artificial intelligence, decentralized media platforms, blockchain storage, and analytic tools to create a “trust companion” for apps and platforms that disseminates social media content. The companion will signal for each unit of content how trustworthy it may be. “EUNOMIA will provide a responsible alternative to create and distribute content via social media. The user is guided and encouraged to create value and supported to make good choices in disseminating the content,” says **Otilia Bularca**, a project manager from the leading Romanian software developer SIVCO, one of the technical leaders of the project.

While the issue of “fake news” has been in the public’s attention for some time now, it is a problem that is deeper than it appears. EUNOMIA seeks to find a solution to this issue at its root. From breaches of private data to the prevalence of fake content and news, social media has been the point of entry for malevolent actors in our daily lives. Especially prevalent in the current political climate, fake news spreads quickly and relatively unchecked throughout social media sites. According to a recent Nature Communications study, during the most recent presidential election in the United States a startling 25% of 30 million tweets which contained a link to a news outlet were either fake or extremely biased¹. On Facebook alone, there are 83 million fake profiles², many sharing information as misleading as their profile. With links to

¹ <https://www.nature.com/articles/s41467-018-07761-2>

² <https://www.cnn.com/2012/08/02/tech/social-media/facebook-fake-accounts/index.html>



sometimes legitimate sounding news sources and the prevalent use of Photoshop, it can be difficult to decipher what information received via social media is reliable. Imagine if you could accurately tell at a glance if you should believe the controversial “news” update your college buddy or co-worker has shared on Facebook. EUNOMIA aims to allow you to do just that.



Eunomia will create a virtuous cycle of trust by helping citizens, organizations, and media decide what is a trustworthy piece of content or actor.

Just as its namesake, the [Greek Goddess of good order and lawful conduct](#), EUNOMIA brings the hope of verifiability via self-regulation to social media. With the help of big data analytics and artificial intelligence, EUNOMIA evaluates social media content and signals the users if it is trustworthy or not. A clever acronym, EUNOMIA (user-oriented, secure, trustful & decentralised social media) is a fully decentralized, intermediary-free, and open source method of detecting trustworthy content. “We aim to provide good content through encouraging good online behavior”, says [Dr. George Loukas](#), an Associate Professor of Computer Science at [University of Greenwich](#) in London, UK, who is the coordinator of the project. “We also help people take ownership of their content”, he added, pointing that the credibility data is not owned by a commercial company relying on the voluntary participation of the users to analyze and store it. “It is a cooperative honors-system of electronic trust checking”, describes Professor





[Sorin Adam Matei](#), the computational social science officer of the project, of the nuance brought by EUNOMIA to the world of content checking. “Instead of asking one company or organization to check the data, we all do it, while we read it.” To achieve this, EUNOMIA uses the latest blockchain technologies. These technologies, similar to peer-to-peer networks, store and process all information relying on the users’ own computers. The results of the checking and the credibility scores are always in the user’s full view.



“There is no centralized database, all the data is distributed among all the users,” says [Soulla Louca](#), the chief architect of the blockchain architecture of the project. Louca’s home institution, the [University of Nicosia](#) in Cyprus, is not at their first attempt to create decentralized trust networks. All University of Nicosia diplomas are stored on a public blockchain.

Blockchain technology is utilized to ensure transparency and accessibility in the scoring process while an ethically responsible [General Data Protection Regulation](#) compliant digital



companion running as a local app on the user’s device encourages each user’s involvement in the process. “We will use high privacy standards,” says Dr. [Pinelopi Troullinou](#), from [Trilateral Research](#), a research and technology development company that leads EUNOMIA’s work on human and societal factors. Dr. Troullinou outlines how “the project employs a privacy, social and ethical impact assessment (PIA+) approach that will be

conducted in consultation with stakeholders, for taking remedial actions as necessary in order to avoid or minimize negative impacts.” EUNOMIA will adopt a privacy-by-design approach, by which all technical decisions are meant to incorporate ethical processes that protect privacy above all else.

[Nelson Escravana](#), from the Portuguese [INOV](#) research and development center which straddles the academic and business worlds, will create the technical means for guaranteeing the privacy of the data.

“INOV will contribute cryptographic protocols that will allow the users to



vote anonymously on the trustworthiness of a post, and at the same time contribute with your own reputation to the reputation of the post,” says [Escravana](#). He points, however, that “our



cryptographic method is not a way for a bad actor to hide behind their anonymity. While privacy is guaranteed, we ensure responsibility, too. All behaviors, beneficial or malevolent, are stored and evaluated, increasing or decreasing the credibility of each actor.”

[Diotima Bertel](#), who works as a researcher and project manager for [SYNYO](#), an Austrian



technology research company that focuses on solving large societal challenges, will ensure that the user experience is transparent and productive for the beneficiaries of the EUNOMIA companion. She will analyze the individual and collective behavior of users to engineer the methods which, according to her, “will help people make better choices by enhancing, rather than reducing their autonomy and choices”.

EUNOMIA uses artificial intelligence to decide what a trustworthy piece of information should look like and who should be counted as a trustworthy social media user. “We look at millions of previously posted news items and at the context in which they were posted to predict how credible they are” says [Charalampos Patrikakis](#), an Associate Professor of Electrical and Electronics Engineering at [University of West Attica](#), one of the lead researchers for the artificial intelligence unit of the project. He believes that EUNOMIA’s artificial intelligence approach will offer a “credibility litmus test” for content published on social media.



The goal of EUNOMIA is not only to create abstract measures of trust but to solve very specific issues. There are three core questions that EUNOMIA’s technology will address: which social media user is the original source of a piece of information, how it has spread and been modified through an information cascade, and how likely it is to be trustworthy. EUNOMIA’s coordinator, George Loukas, believes that “by providing the right tools, the

right infrastructure and the right conditions, EUNOMIA will help social media users take ownership of the disinformation problem.” The encompassing goal of EUNOMIA is to assist social media users in determining the trustworthiness of information with an intermediary-free



approach, combining information cascade verification with information trustworthiness scoring. As part of the co-design approach, the project will engage with end-users throughout the project to achieve this goal.

To accomplish its goals, EUNOMIA also includes the participation of emerging social media platforms, including the emerging Twitter rival Mastodon and the socially edited site "[Blasting News](#)." Created by a 24-year-old computer scientist, [Eugen Rochko](#), [Mastodon](#) does

everything Twitter can do but is owned and operated by individuals or small groups of stakeholders rather than by the platform itself. "It is the co-op of social media" announces Rochko, who has been featured in the media recently for his David strategy in addressing the Goliath-size problem of social



media. [Esquire magazine](#) believes that Mastodon and other platforms like it can lead to a mass exit from social media. In turn, [Blasting News](#) is currently one of the largest and fastest growing civic journalism platforms in the world, with thousands of authors and millions of readers every day, publishing no fewer than 20,000 texts and videos per month in 9 countries and 7 languages. What is innovative about their business model is that the platform is made both by professional journalists and passionate writers, plus the authors get paid for the news they publish - quite unusual in civic journalism. There is no editorial control on opinions and standpoints, but a very strict internal curation and fact-checking by senior contributors and an internal newsroom. As [Andrea Manfredi](#), founder and CEO of [Blasting News](#) puts it: "Contrary



to what happens in real life, we give editorial freedom to our contributors: to us, every voice matters, no matter what is the opinion expressed. This is the base for true independent information. However, this approach also increases the risk of plagiarism and fake news. To make sure the process is smooth we set strict rules for our contributors, for example every piece of news must have two reputable sources, and we created a professional internal newsroom in London that supports our senior members on the ground to



curate and fact-checks every piece of content. Up to now, however, despite the fact we are very tech based, we found out that people are able to check the reliability of content better than algorithms. EUNOMIA could help us understand other ways to assess content and sources.” The [Austrian Broadcasting Corporation](#) is also a part of the consortium, seeking new ways to engage with online audiences without falling in the trap of untruthful social media storms. **Christoph Bauer**, a media expert and archivist for the Austrian Broadcasting Corporation (ORF), believes that EUNOMIA will provide a comprehensive and reliable tool for the daily assessment of information gathered through social media channels. “I hope to be simple in terms of use and implementation while providing trust and reliability,” says Christoph.

The first project meeting took place in January 2019 in London, at University of Greenwich’s historic campus, not far from the famous Greenwich Observatory, which straddles the first meridian from which East and West longitudes are measured. This is an appropriate symbol since the project aims to find a compass for navigating cyberspace. EUNOMIA will last for three years. By 2021 it will create a new media ecosystem in which content will be checked by the users and trust scores will be attached to each unit of content on social media platforms that adopt the EUNOMIA companion, especially decentralized networks such as Mastodon, [Blasting News](#), or the emergent Facebook competitor [Diaspora](#).

About the project

Duration: 2019-2021

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List of participating organizations and individuals

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