



Expression of interest

Contact details

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Short description of the organisation/researcher/research group

ARGEDOR is a leading technology company specializing in delivering cutting-edge data analytics and blockchain solutions to businesses and end-users. Our expertise lies in the realms of Web3, Metaverse, Big Data Analytics, and Artificial Intelligence technologies, allowing us to provide innovative and customized SaaS solutions that fully leverage the power of data analytics and blockchain technology.

Our comprehensive portfolio includes DeFi applications, Payment Solutions, Metaverse applications, GameFi applications, digital wallet solutions, centralized or decentralized exchange platforms, DAOs, and dApps. Designed to enable end-users and businesses to embrace the potential of blockchain, our products create a fairer and more decentralized world.

We are experts in assisting businesses in utilizing the complete potential of blockchain technology to create efficient and secure products. With extensive expertise in blockchain development across various industries, we cater to businesses at all stages. Whether you require smart contract assistance or are starting from scratch to build a new app, ARGEDOR is committed to ensuring your success. Our cutting-edge digital solutions combine technology, innovation, and expertise to serve clients of all sizes, from startups to large-scale enterprises, throughout the entire process from ideation to final execution.

Our vision is to build a decentralized future where individuals and communities have the power to govern their own digital assets and shape their destinies. We firmly believe that decentralized technology, particularly blockchain, has the potential to democratize access to resources, information, and economic opportunities. To realize this vision, we are dedicated to developing the tools and infrastructure that empower people to take control of their digital lives.

At ARGEDOR, our mission is to provide easy-to-use, accessible, and secure decentralized solutions for everyone, from individuals to enterprises. We strive to create a more equitable and decentralized world by enabling anyone, regardless of their technical expertise or financial resources, to participate in the digital economy.

In the realm of Big Data Processing, our expertise lies in handling large-scale and complex datasets. Key features of our big data processing capabilities include:

- Scalable Infrastructure: Our robust architecture allows for efficient data ingestion, storage, and processing, handling the volume, velocity, and variety of data involved in criminal investigations.
- Data Cleansing and Preprocessing: We excel in advanced data cleansing techniques, ensuring high-quality and reliable data by eliminating noise, inconsistencies, and outliers.
- Distributed Computing: Leveraging frameworks like Apache Hadoop or Apache Spark, we parallelize data processing tasks across clusters of machines, resulting in reduced processing time and optimal resource utilization.



- **Stream Processing:** Our experience in implementing stream processing systems enables real-time analysis of continuous data streams, allowing for prompt detection and response to critical events and anomalies.

When it comes to AI Solution Development, our team of skilled developers specializes in creating innovative solutions for various domains. Our AI solutions offer the following distinguishing features:

- **Deep Learning Models:** By leveraging cutting-edge deep learning architectures, such as convolutional neural networks (CNNs) and recurrent neural networks (RNNs), we extract valuable patterns and insights from complex and unstructured data sources like images, videos, and text.
- **Anomaly Detection:** We develop anomaly detection algorithms that identify unusual behaviors, suspicious patterns, or emerging trends within large datasets, enabling early detection of criminal activities and proactive intervention.
- **Predictive Analytics:** Our AI models employ advanced techniques to forecast potential crime hotspots, identify high-risk individuals, and predict the likelihood of future criminal events. These predictive capabilities aid law enforcement agencies in resource allocation and strategic planning.
- **Explainable AI:** We prioritize the interpretability of our AI models, ensuring transparent decision-making processes. Our explainable AI solutions provide insights into the reasoning behind predictions or recommendations, facilitating the legal and ethical aspects of the investigative process.

Partnering with ARGEDOR means gaining access to a leading technology company at the forefront of blockchain innovation, data analytics, and AI. Together, let's pave the way towards a decentralized future, where the possibilities are limitless, and control is in the hands of individuals and communities.

AREAS OF EXPERTISE

At ARGEDOR, we have a diverse range of expertise across various cutting-edge technologies and solutions, including:

- **Blockchain Technologies:**
 - **DeFi Solutions:** We specialize in developing decentralized finance (DeFi) solutions that revolutionize traditional financial systems, enabling secure and transparent transactions, lending, and yield farming.
 - **GameFi Solutions:** Our expertise extends to GameFi solutions, combining blockchain technology with gaming to create immersive experiences, in-game asset ownership, and play-to-earn opportunities.
 - **Payment Systems:** We design and implement blockchain-based payment systems that offer fast, secure, and cost-effective transactions, reducing reliance on traditional intermediaries.
 - **Digital Wallets:** Our team develops digital wallet solutions that provide users with secure storage and management of their digital assets, enabling seamless and convenient transactions.
- **AI/Deep Learning/Machine Learning:** Our experienced team leverages artificial intelligence, deep learning, and machine learning techniques to build intelligent systems that automate processes, enable predictive analytics, and facilitate decision-making.
- **Big Data Analytics:** We excel in extracting valuable insights from large and complex datasets. Our expertise in big data analytics allows us to identify patterns, trends, and correlations, empowering businesses to make data-driven decisions and gain a competitive edge.
- **Business Intelligence:** We offer comprehensive business intelligence solutions that help organizations gain meaningful insights into their operations, customers, and market dynamics. Through advanced analytics and data visualization, we enable informed decision-making and drive business growth.

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- **Data Mining:** Our team possesses strong data mining capabilities, utilizing advanced algorithms and techniques to extract valuable knowledge from vast datasets. We uncover hidden patterns, relationships, and trends to drive innovation and strategic decision-making.
- **Cloud-Based Platforms:** We design and develop scalable and secure cloud-based platforms that enable businesses to leverage the benefits of cloud computing. Our solutions provide flexibility, cost-efficiency, and seamless collaboration.
- **Data-Driven SaaS/PaaS Applications:** We specialize in developing data-driven Software as a Service (SaaS) and Platform as a Service (PaaS) applications. Our solutions leverage data analytics, AI, and blockchain technologies to deliver efficient, customizable, and secure applications that meet diverse business needs.

At ARGEDOR, we combine our expertise in blockchain technologies, AI, big data analytics, business intelligence, and cloud-based platforms to drive innovation, transform industries, and help businesses thrive in the digital era.

Specific skills and proposed activities related to the topic

Subject: Expression of Interest - HORIZON-CL5-2024-D2-01-05 Project

Our keen interest in this Horizon call "Horizon-cl5-2024-D2-01-05" project stems from our commitment to sustainable practices and our belief in the potential of advanced technology to drive environmental, social, and economic benefits. We recognize the importance of addressing high-risk/high-return technologies to accelerate the transition to a climate-neutral future, aligning with the EU's climate and energy targets.

At Argedor, our mission extends to the battery industry, where we're actively pioneering blockchain technologies to revolutionize the development and optimization of battery materials and interfaces. Through our innovative Digital Product Passport (DPP) systems and advanced supply chain management platforms, we are committed to increasing the competitiveness of the battery material and cell industry in Europe while simultaneously contributing to sustainability goals.

Our vision includes the creation of a fully autonomous battery-MAP (Materials Acceleration Platform) that seamlessly integrates computational modeling, materials synthesis, and characterization for both Li-ion and next-generation battery chemistries. We're not only focusing on materials but also on the interfaces within batteries, aiming to develop scale-bridging, multi-scale battery interface models that incorporate data from embedded sensors. These sensors enable proactive self-healing mechanisms, enhancing battery performance and longevity.

To facilitate these advancements, we're committed to establishing a collaborative environment within the community. This state-of-the-art collaborative space allows for data access and automated workflows, enabling integrated simulations and experiments across heterogeneous sites. By leveraging European high-performance computing architectures and collaborating with institutions like LENS and LEAPS, we're ensuring that our battery innovations are at the forefront of technological advancements.

Moreover, we're developing a robotic system capable of synthesizing various battery materials, whether inorganic, organic, or hybrid compounds. This system follows standard synthesis routes and features automated characterizations of intermediate and final products, making autonomous decisions to optimize battery material quality.



Lastly, we're deploying predictive hybrid physics- and data-driven models for the spatio-temporal evolution of battery interfaces. This allows us to achieve inverse design of battery materials and interfaces, optimizing their performance and efficiency.

Argedor's role in this domain is clear: we are driving innovation, reducing CO2 emissions, and tracking environmental impacts through blockchain-powered DPP and supply chain management systems. Our commitment to the battery industry underscores our dedication to creating sustainable, efficient, and competitive solutions that benefit both Europe's battery industry and the environment.

References

SAMPLE INTERNATIONAL R&D PROJECTS

HORIZON 2020 - N4C, Nature Based Solutions (NBC) for Re-Naturing Cities: Knowledge diffusion and decision support platform through new collaborative models: This project has received funding from the European Union's Horizon 2020 research and innovation programme. N4C consortium consist of 25 partners from 9 countries (France, Spain, Luxembourg, Hungary, Turkey, Italy, Austria, United Kingdom, Netherlands).

The project aims to create a web-based platform as a means to circulate knowledge on NBS, to serve as a decision-helping tool for NBS projects developers, and to enhance the links between the stakeholders of NBS projects, from citizens to local authorities to NBS solutions providers. Develop an integrated analysis framework, develop/adapt technologies for urban nature data acquisition and management.

HORIZON 2020- OptEEemAL, Spatial Ontology Language for multimedia Information Modelling: The OptEEemAL has received funding from the European Union's Horizon 2020 research and innovation programme. The OptEEemAL consortium consists of 13 partners from 8 countries (Spain, France, Italy, Greece, Turkey, Germany, Ireland and Sweden). The main project objective is the development of an Optimised Energy Efficient Design Platform to improve the energy behaviour of a districting addition to development of the project. This project will develop an optimisation module with the aim of automating the decision making process to obtain the optimal design for an energy efficient retrofitting plan at district level.

ITEA3- Medolution, Medical care evolution: The project is supported by ITEA (Information Technology for European Advancement). The consortium consists of 19 partners from 5 countries (Canada, Turkey, France, Germany, Netherlands). The project aims to apply long-term monitoring and real-time decision support in smart environments to integrate professional and user-created data. This leads to relevant information to support patients and healthcare professionals in their decision making on diagnosis, treatment and further monitoring; from reactive to preventive.

ITEA2 – INSIST, Integrated service delivery for citizens' safety and comfort: The project supported by ITEA (Information Technology for European Advancement). The consortium consists of 6 partners from 2 countries (Finland, Turkey). The INSIST project proposes an integration of these sensor based systems into a wider perspective by developing a smart connected ecosystem for public spaces, where the sensor data provided by the different INSIST sensor systems can be efficiently used for not only the proprietary infrastructure services but also to offer value added services based on data fusion from



multiple sensor systems in the business areas of smart lighting, surveillance, traffic management, advertising and atmosphere, business intelligence and building management.

ITEA3 - I-DELTA, Interoperable Distributed Ledger Technologies

Distributed Ledger Technologies (DLT) has become one of the most promising and impactful innovations in decades. It has gained broad notoriety as the technology that underpins cryptocurrencies. That said, cryptocurrencies are just the tip of the iceberg; DLT has significant utility as a revolutionary fabric for any digital application; from internet to enterprise use.

I-DELTA project aims to support new concepts of adaptation of DLT in smart communities, cities, enterprises. While adapting DLT into daily and business life. We also focus on IoT integration and interoperability between DLTs.

SOME OF OUR PRODUCTS

GAMEWIZZ.IO - *"Create your Web3 games with our all-in-one, no-code platform that supports NFTs, tokenomics, wallets, and more!"*

Gamewizz.io is a fully equipped wizard for game developers. With Gamewizz.io, an integrated platform is offered for Metaverse and Web3 Game developers. This platform provides you with a database, server-side APIs, and all of the Web3 features as NoCode as you develop your games. It also provides detailed game analytics for monitoring the performance and interaction of your games. Thanks to the features provided by Gamewizz, game developers can focus on game designs, development, and improving their games. In other words, game developers can use all their energy on the client side to develop better quality and up-to-date games. The platform also provides all the Blockchain services required for games, making it possible to develop a complete Web3 game.

DAOXY.IO - *"Empower DAOs with Daoxy.io - the Web3 platform for easy creation with customizable templates, automated governance, analytics, community support, and DeFi/NFT integration."*

Daoxy.io is an impressive and useful solution for Decentralized Autonomous Organizations (DAO). This platform facilitates the process of establishing and managing DAO and provides a flexible, adaptable structure where all its members can participate equally and democratically. With Daoxy.io, users gain the advantages of making all critical decisions in a decentralized structure. The platform facilitates critical operations such as the creation of DAO assets, the identification of wallets, and the initiation of voting, providing players with a secure, efficient, and easy DAO management tool.

SUPPLYWIZZ.IO - *"Blockchain-Powered Excellence in Supply Chain - Experience Efficiency, Security, and Transparency with Supplywizz.io"*

Supplywizz.io is a SaaS wizard based on Blockchain technology, designed to ensure the efficiency, reliability and security of all supply chain and production processes. It provides the necessary infrastructure for organizations to monitor the movement of goods, automate key processes, and improve security and authentication end-to-end in Supply Chain processes. Blockchain technologies are based on Smart Contracts as infrastructure. Smart contracts are self-executing contracts in which the



terms of the agreement between the buyer and the seller are written directly into the lines of code. Supplywizz.io technology similarly uses smart contracts to automate the tracking and movement of goods in a supply chain from the point of origin to the final destination. Supplywizz.io also enables the creation of a Digital Product Passport (DPP) for products. DPP is a concept that refers to the use of Blockchain technology to create a digital record of a product's history and features. DPP allows manufacturers, retailers, and consumers to access a product's origin, manufacturing process and other relevant information.

PLAYERWIZZ.IO - *"Level up your gaming with Playerwizz.io - the ultimate crypto wallet for gamers. Easily manage your assets, securely store rewards, and buy and sell NFTs with seamless integration. Join now and unleash the power of crypto in gaming!"*

Playerwizz.io revolutionizes the gaming experience by offering a comprehensive suite of features that enhance convenience, security, and enjoyment for gamers. With effortless crypto asset transfer between games, secure storage, and easy in-game payments, players can seamlessly navigate the gaming world while managing their digital assets. The platform also provides opportunities to store and access rewards, customize personal profiles, explore detailed game information, and connect with a vibrant user community. With its intuitive NFT management capabilities, players can effortlessly manage, buy, and sell NFTs, further enhancing their gaming experience. Playerwizz.io truly revolutionizes the gaming landscape, offering a holistic solution that empowers gamers to maximize their enjoyment, securely manage their assets, and connect with like-minded individuals in the gaming community.

PAYWIZZ.IO - *"Unlock the Power of Cryptocurrencies with Paywizz.io - Safe, Fast, and Easy Payments"*

Paywizz.io is the most advanced and innovative payment gateway wizard for cryptocurrencies. Paywizz.io Crypto Gateway solution is designed to provide a fast, secure and easy-to-use experience. Paywizz.io supports all cryptocurrencies and is compatible with multiple payment methods. With Paywizz.io, users can easily use cryptocurrencies and quickly perform many transactions around the world. In addition, Paywizz.io protects cryptocurrencies that are stored securely and offers end-to-end encryptions for all transactions. Users can also convert cryptocurrencies to fiat currencies through this technology solution and switch between their wallets thanks to multi-wallet support. With Paywizz.io, you can fully exploit the potential of cryptocurrencies. You will also have safe, fast and easy-to-use payment experience for all the transactions you will make.

Related articles

Project acronym / starting date / Programme (H2020, national etc.)	Main objectives	Main activities	Role in the project

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<p>H2020 - 680676-OPTEEMAL- Optimised Energy Efficient Design Platform for Refurbishment at District Level The OptEEemAL has received funding from the European Union's Horizon 2020 research and innovation programme. The OptEEemAL consortium consists of 13 partners from 8 countries (Spain, France, Italy, Greece, Turkey, Germany, Ireland and Sweden).</p>	<p>OptEEemAL will deliver a systemic platform to design energy efficient retrofitting projects at building with a high potential of implementation across Europe in order to accelerate the deployment of integrated solutions fully quantified in terms of performance objectives with compliance with regulation and user-oriented expectations and constraints to significantly improve the daily life of the European Communities, increase the sustainability of buildings and improve the energy and resources efficiency while reducing the GHG emissions in urban areas. It is realistic to estimate a market penetration of at least 5% in the sector of designing retrofitting projects. OptEEemAL will enhance the utilisation of innovative and existing solutions in a holistic integration and technology transfer such as smart and eco-efficient solutions.</p>	<p>The main project objective is the development of an Optimised Energy Efficient Design Platform to improve the energy behaviour of a districting addition to development of the project. This project will develop an optimisation module with the aim of automating the decision making process to obtain the optimal design for an energy efficient retrofitting plan at district level.</p>	<p>OptEEemAL will make use of the latest innovations introduced by the partners, as well as the most recent developments in the running projects funded by the EeB PPP Initiative, where most of the partners are involved. Innovation will be achieved by providing stakeholders with an advanced platform for the design process that will ensure the presence of innovative solutions through the ECM catalogue. The OptEEemAL Platform will automatically provide optimized and advanced design solutions for refurbishment of buildings and districts through a 4-step process integrating knowledge collected in existing successful interventions. The definition of scenarios and their optimization will be based on an advanced Energy Conservation Measures catalogue, containing information about their design, construction, operation and maintenance. This platform will be connected to existing and validated catalogues and data sets. These feasible solutions will be based in key indicators calculated through innovative integration of tools and methods, ensuring their interoperability, to provide consistent and reliable data.</p>
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<p>Grant Agreement number: 730468 - Nature4Cities - H2020-SCC-2016-2017/H2020-SCC-NBS-1stage-2016 Amendment Reference No AMD-730468-46</p> <p>HORIZON 2020 - N4C, Nature Based Solutions (NBC) for Re-Naturing Cities: Knowledge diffusion and decision support platform through new collaborative models: This project has received funding from the European Union's Horizon 2020 research and innovation programme. N4C consortium consist of 25 partners from 9 countries (France, Spain, Luxembourg, Hungary, Turkey, Italy, Austria, United Kingdom, Netherlands).</p>	<p>N4C consortium consist of: • 2 leading industrial organizations in infrastructure development, civil eng. and energy efficiency (ACC, DAPP); • 8 SMEs with expertise in innovation & exploitation management (R2M), environmental assessment (EKO), citizen participation and stakeholder engagement (IIL, DW), urban modelling, satellite imaging and IT solution (ARG, TRS, COL), green infrastructure (G4C); • 5 leading Research and Technology Organizations bringing expertise in urban planning and governance (NBK, TEC), urban monitoring and image acquisition (EUT), decision support and financial modelling (LIST, CAR); • 4 universities that embrace engineering (ENSA), vegetation and soils reconstruction (AO, SZTE) and social research (METU) with a major focus on market uptake of their research results; 1 stakeholder association and 1 clusters of stakeholders (P&C, MUTK) bringing the view and expertise of the full range of stakeholders from municipalities to urban planning and landscape firms. • 4 cities (CKY, SZEG, CMM, ADH)</p>	<p>N4C will take advantage of the experience of its consertum partners in this field and of the resources offered by the most relevant organization supported by the European Commission and the building industry to provide on advanced constructed and well presented catalogue of nature based solutions for the city. The project work plan as well as communication , dissemination and explotation activities are structed in a delibrate manner to align the project within a strategic research and innovation context and to make the project results scalable ,replicable and high impact. Some of industry to use as a by-products in different processes, development of low environmental impact techniques , ecological,agriculture and optimization of processes within the food industry .</p>	<p>N4C will take advantage of the experience of its consertum partners in this field and of the resources offered by the most relevant organization supported by the European Commission and the building industry to provide on advanced constructed and well presented catalogue of nature based solutions for the city. The project work plan as well as communication , dissemination and explotation activities are structed in a delibrate manner to align the project within a strategic research and innovation context and to make the project results scalable ,replicable and high impact. Some of industry to use as a by-products in different processes, development of low environmental impact techniques , ecological,agriculture and optimization of processes within the food industry .</p>
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providing pilot sites facing real problems to be solved through N4C & NBS; The partnership of the industrial sector, SMEs/technology companies, RTOs, cities as end users and stakeholder associations/clusters will ensure that the N4C project combines business and end-user perspectives enabling the cutting edge of innovation in the area to be combined with the realities of the business and user's context. The implementation in pilot cities in southern/eastern Europe and Turkey and the involvement of various partners in key associations and platforms will ensure a wide replication potential of N4C outcomes. Project coordinator NBK, has a wide experience in successfully managing EU projects currently coordinating four Horizon 2020 projects (similar size consortia to N4C): E2VENT & BUILT2SPEC (2014-EeB), HIT2GAP (2015-EeB), INNOQUA (2015-Water). Consortium partners bring multiple skill sets to the project which enables the N4C consortium to group experts from the diverse disciplines which are required to meet the project's objectives

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which include: i) Citizen's engagement, behaviour monitoring & stakeholder participation (DW, IIL, MUTK, P&C, ENSA); ii) Social acceptance & environmental psychology (METU, ENSA); iii) Data acquisition & processing (COL, EUT, TRS); iv) ICT / Technology providers (CAR, IIL, EKO, ARG, TRS, COL, DAPP); v) Life-cycle, sustainability & risk assessment (DAPP, EKO, LIST); vi) Urban planning, landscaping, modelling & thermal comfort (NBK, TEC, ENSA, P&C); vii) Green & normal infrastructure (DAPP, ACC, G4C); viii) Business, financial & governance models of NBS & environmental justice (DW, COL, TEC, LIST, ACC, METU); ix) Vegetation, soils, water, climate & environmental expertise (ENSA, AO, SZTE); x) Technology transfer & exploitation (R2M); xi) Communication & dissemination (P&C, R2M, MUTK, G4C, NBK other partner through their PR); xii) Urban planning departments of municipalities (ADH, CMM, CKY, SZEG). Field testing N4C indicators, tools & platform in operational environments together with partner cities' urban planning departments will be directly backed up by project partnerships

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from local technical corresponding "pairs": Cankaya: EKO (N4C field-test manager); Milano Metropolitan Area: R2M; Szeged: MUTK; Alcala de Henares: TEC. The expertise demanded by the N4C requires a strong consortium with diverse skill sets required to meet its objectives impossible to find in a single country including (section 1.4): technological expertise and knowledge of various NBS needs and markets, country-related policies and regulations along with social science expertise to address citizen's engagement embracing a EU perspective enabling broad exploitation of N4C results. Middle East Technical University ; Determination of the factors/barriers for societal acceptance of NBS and consumer citizen's behaviour regarding NBS consumption ? Innovative governance, business and financing models for NBS projects ? Elicitation of stakeholders requirements Personnel . University of Szeged; definition of a typology of NBS and building of a NBS database • Participation in WP2 : definition of urban performance indicators, urban climate and bio-climate modeling,

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	contribution to expert modeling toolbox and simplified performance assessment tool Personnel		
	The project aims to create a web-based platform as a means to circulate knowledge on NBS, to serve as a decision-helping tool for NBS projects developers, and to enhance the links between the stakeholders of NBS projects, from citizens to local authorities to NBS solutions providers. Develop an integrated analysis framework, develop/adapt technologies for urban nature data acquisition and management.		

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